

OCF Resource Type Specification

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CONTACT admin@openconnectivity.org

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1559		

1560 **1 Scope**

1561 This document specifies the Resources that have been defined by OCF that may be exposed by
1562 an OCF Device.

1563 Application profile device documents (for example those created for Smart Home or Healthcare)
1564 specify device types appropriate to the profile; such documents use Resource Type definitions from
1565 this document.

1566 This document is built on top of ISO/IEC 30118-1:2018. ISO/IEC 30118-1:2018 specifies the OCF
1567 Framework that enables the implementation of profiles for IoT usages and ecosystems. The OCF
1568 Core Framework is scalable to support simple devices (constrained device) and more capable
1569 devices (smart device).

1570 **2 Normative references**

1571 The following documents are referred to in the text in such a way that some or all of their content
1572 constitutes requirements of this document. For dated references, only the edition cited applies. For
1573 undated references, the latest edition of the referenced document (including any amendments)
1574 applies.

1575 ISO/IEC 30118-1:2018 Information technology -- Open Connectivity Foundation (OCF)
1576 Specification -- Part 1: Core specification
1577 <https://www.iso.org/standard/53238.html>
1578 Latest version available at: https://openconnectivity.org/specs/OCF_Core_Specification.pdf

1579 OpenAPI specification, fka *Swagger RESTful API Documentation Specification*, Version 2.0
1580 <https://github.com/OAI/OpenAPI-Specification/blob/master/versions/2.0.md>

1581 **3 Terms, definitions, and abbreviated terms**

1582 For the purposes of this document, the terms and definitions given in ISO/IEC 30118-1:2018 and
1583 the following apply.

1584 ISO and IEC maintain terminological databases for use in standardization at the following
1585 addresses:

- 1586 – ISO Online browsing platform: available at <https://www.iso.org/obp>
- 1587 – IEC Electropedia: available at <http://www.electropedia.org/>

1588 **3.1 Terms and definitions**

1589 **3.1.1**

1590 **actuator**

1591 resource with support of the UPDATE operation

1592 **3.1.2**

1593 **Composite Resource Type**

1594 a Resource Type defined as an OCF Collection of other Resource Types

1595 **3.1.3**

1596 **sensor**

1597 resource without support of the UPDATE operation

1598 **3.2 Abbreviated terms**

1599 **3.2.1**

1600 **CRUDN**

1601 Create Retrieve Update Delete Notify

1602 This is an acronym indicating which operations are possible on the Resource.

1603 **4 Document conventions and organization**

1604 **4.1 Conventions**

1605 In this document a number of terms, conditions, mechanisms, sequences, parameters, events,
1606 states, or similar terms are printed with the first letter of each word in uppercase and the rest
1607 lowercase (e.g., Resource Type). Any lowercase uses of these words have the normal technical
1608 English meaning.

1609 **4.2 Notation**

1610 In this document, features are described as required, recommended, allowed or DEPRECATED as
1611 follows:

1612 Required (or shall or mandatory).

1613 These basic features shall be implemented to comply with OCF Resource Type Specification.
1614 The phrases "shall not", and "PROHIBITED" indicate behaviour that is prohibited, i.e. that if
1615 performed means the implementation is not in compliance.

1616 Recommended (or should).

1617 These features add functionality supported by the OCF Resource Type Specification and should
1618 be implemented. Recommended features take advantage of the capabilities of the OCF
1619 Resource Type Specification, usually without imposing major increase of complexity. Notice
1620 that for compliance testing, if a recommended feature is implemented, it shall meet the specified
1621 requirements to be in compliance with these guidelines. Some recommended features could
1622 become requirements in the future. The phrase "should not" indicates behaviour that is
1623 permitted but not recommended.

1624 Allowed (or allowed).

1625 These features are neither required nor recommended by OCF Resource Type Specification,
1626 but if the feature is implemented, it shall meet the specified requirements to be in compliance
1627 with these guidelines.

1628 DEPRECATED

1629 Although these features are still described in this document, they should not be implemented
1630 except for backward compatibility. The occurrence of a deprecated feature during operation of
1631 an implementation compliant with the current document has no effect on the implementation's
1632 operation and does not produce any error conditions. Backward compatibility may require that
1633 a feature is implemented and functions as specified but it shall never be used by
1634 implementations compliant with this document.

1635 Conditionally allowed (CA)

1636 The definition or behaviour depends on a condition. If the specified condition is met, then the
1637 definition or behaviour is allowed, otherwise it is not allowed.

1638 Conditionally required (CR)

1639 The definition or behaviour depends on a condition. If the specified condition is met, then the
1640 definition or behaviour is required. Otherwise the definition or behaviour is allowed as default
1641 unless specifically defined as not allowed.

1642 Strings that are to be taken literally are enclosed in "double quotes".

1643 Words that are emphasized are printed in *italic*.

1644 **5 Baseline Model Constructs**

1645 **5.1 URI**

1646 The URIs mentioned in this document are non-normative, they may be vendor defined.

1647 An Instance of a Resource is indicated by the URI. When more than one instance of the same
1648 Resource Type is used in an OCF Device, different URIs for the different Resource instances shall
1649 be used.

1650 An implementation shall follow the requirements defined in ISO/IEC 30118-1:2018 with respect to
1651 population of the URI. Please refer to the ISO/IEC 30118-1:2018 clauses 6.2 and 6.3 for specific
1652 details.

1653 **5.2 Interfaces**

1654 **5.2.1 Introduction**

1655 ISO/IEC 30118-1:2018 specifies that all Resource Types have associated with them at least one
1656 Interface; this Interface is advertised during Resource discovery. In addition ISO/IEC 30118-1:2018
1657 defines a number of Interfaces that can be applied to an instance of a Resource Type.

1658 The difference between using sensor/actuator and read/write interfaces is due to the fact that a
1659 sensor/actuator interface describes an action that has immediate effect on the device, either by
1660 reading the sensed value and putting the value on the wire, or as an UPDATE action that something
1661 needs to happen (e.g. actuate) on the device. The read/write interface is typically used to set a
1662 settings value on the device that might be used later when an action occurs. A typical example is
1663 setting the coffee strength that will be used when the coffee is brewed.

1664 **5.2.2 Restricting Interface Functionality**

1665 Note that the functionality associated with, or visibility of, an instance of any Resource exposed by
1666 a Device may be restricted depending upon local (per country or legislative region) regulatory
1667 requirements or other restrictions (e.g. with respect to Binary Switch in some jurisdictions the ability
1668 to remotely power on a connected device is restricted; a lock status could be read-only depending
1669 on the context).

1670 The actual implementation of a resource can be limited by:

- 1671 – Not implementing the optional properties defined in the payload of a CRUDN operation.
- 1672 – Removing CRUDN operations

1673 If an UPDATE operation of a resource that can be actuated is not implemented, this change in
1674 behaviour is indicated by changing the interfaces accordingly.

1675 When the resource is defined with the interface "oic.if.a", and the UPDATE operation is removed
1676 then the interface listed is "oic.if.s".

1677 When the resource is defined with the interface "oic.if.rw", and the UPDATE operation is removed
1678 then the interface listed is "oic.if.r".

1679 **5.3 OpenAPI Specification 2.0 definition**

1680 The OpenAPI Specification 2.0 definitions provided in clause 6 in this document are normative.

1681 The OpenAPI Specification 2.0 definitions are used to describe the payloads of the CRUDN
1682 operations on the specified Resource Type. The CRUDN operations are defined in ISO/IEC 30118-
1683 1:2018. ISO/IEC 30118-1:2018 also specifies additional Properties in the payloads of the CRUDN
1684 operations. The OpenAPI Specification 2.0 definitions in this document are not of themselves
1685 sufficient to create an implementation, additional Properties defined in ISO/IEC 30118-1:2018 need
1686 to be added to create a compliant implementation. This document makes use of a subset of the

1687 responses supported by OpenAPI Specification 2.0, specifics on the use of these responses are
 1688 defined in Table 4. Note that the actual values of success and error conditions are defined in
 1689 ISO/IEC 30118-1:2018.

1690 The OpenAPI Specification 2.0 definitions map the OCF CRUDN behaviour to the OpenAPI
 1691 Specification 2.0 as defined in Table 1.

1692 **Table 1 – Conversion between OCF CRUDN and OpenAPI Specification 2.0 definitions¹**

Resource	Create	Retrieve	Update	Delete	Notify
/example	post	get	post	delete	N/A

1693 Notify is not part of an OpenAPI Specification 2.0 definition but is defined in ISO/IEC 30118-1:2018.
 1694 All Resource Types defined in this document support notification via the use of observe as defined
 1695 in ISO/IEC 30118-1:2018 clause 11.4.2.

1696 **5.4 Property definition**

1697 **5.4.1 Common Properties**

1698 ISO/IEC 30118-1:2018 specifies a number of Properties that may be defined for OCF Resources.
 1699 The Common Properties “if” and “rt” shall be specified for all Resource Types defined in this
 1700 document; they are exposed within the ISO/IEC 30118-1:2018 defined “/oic/res/” Resource Type
 1701 through which the OCF Server and its available Resources are discovered. The Common
 1702 Properties “id” and “n” may be specified for all Resource Types defined in this document. Table 2
 1703 lists all of the noted Common Properties.

1704 If an OCF Client requires that these Properties be included in a Resource representation that is
 1705 provided in response to a RETRIEVE operation then the client shall select the ISO/IEC 30118-
 1706 1:2018 defined baseline interface (oic.if.baseline) by specifying this in a query parameter.

1707 **Table 2 – Common Properties for OCF Resources**

Property Name	Property Title	Property Value	Value Type	Access Modes	Description
if	Interface	See ISO/IEC 30118-1:2018 clause 7.6.2	Array of string	Readonly	Core defined; Interface(s) supported by the Resource
rt	Resource type	See ISO/IEC 30118-1:2018 clause 7.4	Array of string	Readonly	Core defined; Resource type. The Resource Types are defined in this document. See clause 6
n	Name	See ISO/IEC 30118-1:2018 clause 7.3.2.5	String	Readonly	Core defined; human understandable name for the Resource.
id	Resource Identity	See ISO/IEC 30118-1:2018 clause 7.3.2.6	String	Readonly	Core defined; Unique identifier of the Resource (over all Resources in the OCF device)

¹ Please refer to ISO/IEC 30118-1:2018 Table 26 for detailed semantics around the appropriate use of CoAP request methods.

1708

1709 5.4.2 Resource Properties

1710 5.4.2.1 Introduction

1711 The Properties against which the CRUDN operations are specified are defined as part of an
1712 OpenAPI Specification 2.0 definition.

1713 A basic Resource Type is formulated around one single value denoting a physical property.

1714 Such a Resource Type is specified with the Properties as defined Table 3. Mandatory in the table
1715 means that the Property shall be defined as part of the overall Resource Type schema; actual
1716 inclusion of the Property as part of a returned or generated payload is dependent upon the schema
1717 that applies to the operation being invoked.

1718 **Table 3 – Property definitions of a Resource Type in the OpenAPI Specification 2.0 file**

Property Name	Friendly Alias Name	Property Value	Value Type	Value Rules	Access Modes	Mandatory	Description
<value>, name may change dependent on the Resource	<value>, name may change dependent on the Resource	Dependent on the Resource	Dependent on the Resource	Dependent on the Resource	Dependent on the Resource	yes	The current value of the Resource
range	Range	[Min,Max]	array of integers or numbers	Linear range	Read-only	no	Range of input values, specified as a two element array. See clause 5.4.2.2.
step	Step	Dependent on the Resource	Integer or Number	Dependent on the Resource	Read-only	no	Step value across the defined range. See clause 5.4.2.3.
precision	Precision	Dependent on the Resource	Number	Dependent on the Resource	Read-only	no	Accuracy granularity of the exposed value. See clause 5.4.2.4.

1719

1720 For Resources, which by their nature have more than one physical parameter, the value Property
1721 can be replaced with multiple Properties specifying the different physical parameters, or with further
1722 structures such as arrays of Properties, objects, or Collections. The type of the value shall be
1723 indicated in the OpenAPI Specification 2.0 definition of the Resource Type and should be suitable
1724 for the conveyed value. All Property Names and Property Values defined in this document are case
1725 sensitive.

1726 **5.4.2.2 "range" Property**

1727 The "range" defines the valid range for the Property in the Resource as a two element array. This
1728 is either an integer or a number range. The first value in the array is the minimum value, the second
1729 value in the array is the maximum value.

1730 **5.4.2.3 "step" Property**

1731 The "step" defines the step value across the defined "range" as either an integer or a number. This
1732 is the increment for valid values across the range. For example, for the integer case if the "range"
1733 is 0..10 and "step" is 2 then valid values are 0,2,4,6,8,10; for the number case if the "range" is
1734 0.0..10.0 and "step" is 2.5 then valid values are 0.0,2.5,5.0,7.5,10.0.

1735 **5.4.2.4 "precision" Property**

1736 When exposed the value in "precision" provides a +/- tolerance against the Properties in the
1737 Resource. Thus if a Property is UPDATED to a value and that Property then RETRIEVED, the
1738 RETRIEVED value is valid if in the range of the set value +/- precision

1739 **5.4.3 Basic Resource Schema**

1740 All Resource Types defined herein are represented as previously noted by OpenAPI Specification
1741 2.0 files.

1742 **5.4.4 CRUDN Operation Response Codes**

1743 A Resource can be created or updated depending on the Resource Type definition and the allowed
1744 CRUDN operations. The operation may have different response codes with different meanings.
1745 This is explained in Table 4.

1746 **Table 4 – Return codes behaviour in OpenAPI Specification 2.0**

Response Code	Meaning
200	Payload of the response will confirm the change. The OpenAPI Specification 2.0 definition will contain a schema to define the payload.
201	Payload is the URL of the Resource that was created by the server as a result of a CREATE operation. The OpenAPI Specification 2.0 definition will contain schema to define the payload.
204	Ok, everything went well, no payload provided. The OpenAPI Specification 2.0 definition does not contain a schema. The OpenAPI Specification 2.0 definition may even omit this value, since it is regarded as default behaviour of an OCF Server.
403	Case 1: In the case of a RETRIEVE on a Resource with the use of a query parameter selecting specific Property values; if the server does not support the values provided then this response should be returned. The response payload should include the allowed values for the query parameter. Case 2: The server could not CREATE or UPDATE the Resource due to a problem with the provided payload. For an UPDATE, unless otherwise stated in the Resource Type definition, the response payload should include the same schema defined for a 200; indicating the current Resource Property value(s).

1747

1748 **5.5 Example Resource Definitions**

1749 Please see the OCF Resource Types in Clause 6 for examples of Resource Definitions. For an
1750 example Resource Type that models an actuator refer to the definition of Dimming; for an example
1751 Resource Type that models a sensor refer to the definition of an Illuminance Sensor.

1752 **5.6 Observable Resource Types**

1753 **5.6.1 Introduction**

1754 ISO/IEC 30118-1:2018 defines a mechanism by which Resources can advertise themselves as
1755 “Observable” to an OCF Client. All Resource Types defined in this document may be observed.
1756 Whether or not a Resource Type is made observable via use of the Policy Link Parameter is entirely
1757 implementation dependent.

1758 **5.6.2 Conditional Notification**

1759 **5.6.2.1 General**

1760 All observable Resources may apply conditions to the generation of notifications that result from
1761 the observe action, these conditions can be time based or value based or time and value based.
1762 This is achieved by composing the Conditional Notification (oic.r.value.conditional) Resource Type
1763 with an instance of an observable Resource; that is the Resource that is exposed by the Server
1764 has an “rt” of “[“oic.r.<resource>”,“oic.r.value.conditional”]”.

1765 **5.6.2.2 Conditional Notification Property Summary**

1766 Table 5 summarizes the Properties provided by the Conditional Notification Resource Type. At
1767 least one Property from the table shall be present in an instance of the Resource Type.

1768 **Table 5 – Conditional Notification Properties**

Name	Type	R/W	Required	Description
threshold	number	RW	No	Amount by which the observed value changes before a notification is generated
minnotifyperiod	integer	RW	No	Minimum elapsed time in ms before a notification may be sent
maxnotifyperiod	integer	RW	No	Maximum elapsed time in ms after which a notification is sent

1769

1770 All Properties if exposed shall be set with initial values. All Properties may be exposed with a value
1771 of “0” (zero); this indicates that the functionality associated with the Property is not active. Any
1772 Client may update the exposed values subject to any ACL restrictions; such changes are global
1773 and apply to all notifications that are sent to all observers. A notifier may reject an update to the
1774 Property values; in such cases a diagnostic payload should be included in the rejection response
1775 indicating the valid ranges for the Properties.

1776 **5.6.2.3 Property Definition: threshold**

1777 Minimum value change between two notifications. A notification shall be sent (within the constraints
1778 of “minnotifyperiod”) when the change since the last notification is greater than or equal to this
1779 value. The measurement is done against the value in the last notification that was sent; thus all
1780 notifications (within any “maxnotifyperiod” constraints that may be present) will carry values that
1781 differ by at least “threshold”. A “threshold” value of “0” means that no “threshold” is applied.

1782 **5.6.2.4 Property Definition: minnotifyperiod**

1783 Minimum time (in ms) that shall occur between notifications. If a value change condition is met
1784 (“threshold” equalled or exceeded or any change in value if threshold is not present) before
1785 expiration the notification shall not be sent till the period expires. If the Property is present and set
1786 to “0” then no minimum notify period timer is run; if the Property is present and with a value greater
1787 than “0” then a minimum notify period timer shall be run equal to the value. The Property value
1788 itself is initially populated by the notifier. If the Property is not present, the minimum notify period
1789 is up to the notifier. The timer shall be reset each time a notification is sent.

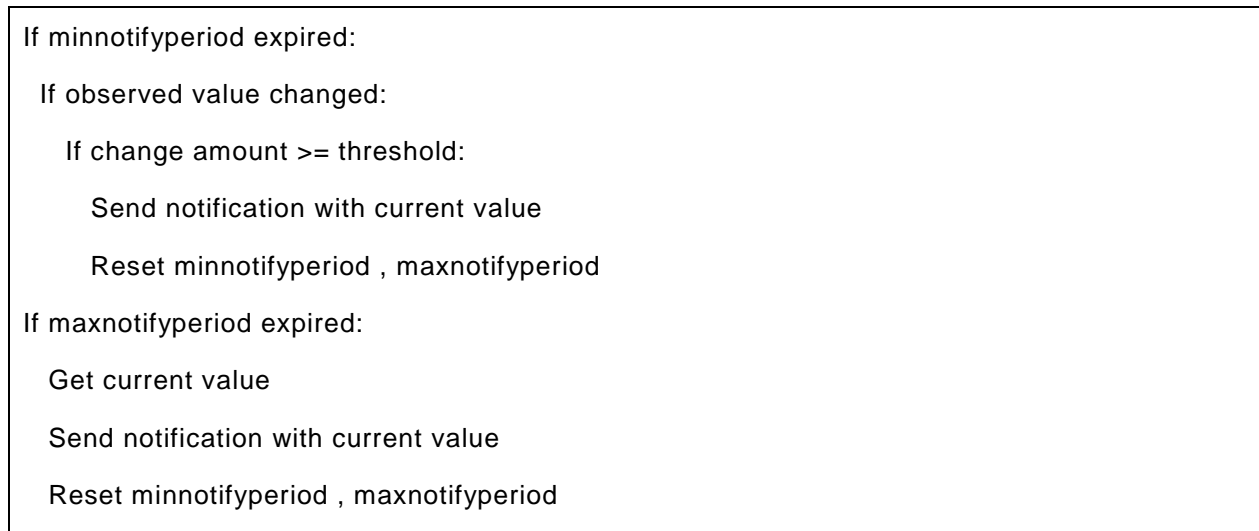
1790 **5.6.2.5 Property Definition: maxnotifyperiod**

1791 Maximum time (in ms) that the notifier shall not exceed between notifications. When the timer
1792 expires a notification shall be sent. If present and set to “0” then no maximum notify period timer
1793 is run; if present and with a value greater than 0 then a maximum notify period timer shall be run
1794 equal to the value. The Property value itself shall be initially populated by the notifier. When both
1795 “minnotifyperiod” and “maxnotifyperiod” are present and both are non-zero the value of
1796 “maxnotifyperiod” shall be larger than the “minnotifyperiod”. If not present, the value shall be set
1797 by the notifier. The timer shall be reset each time a notification is sent.

1798 **5.6.2.6 Governing State Machine**

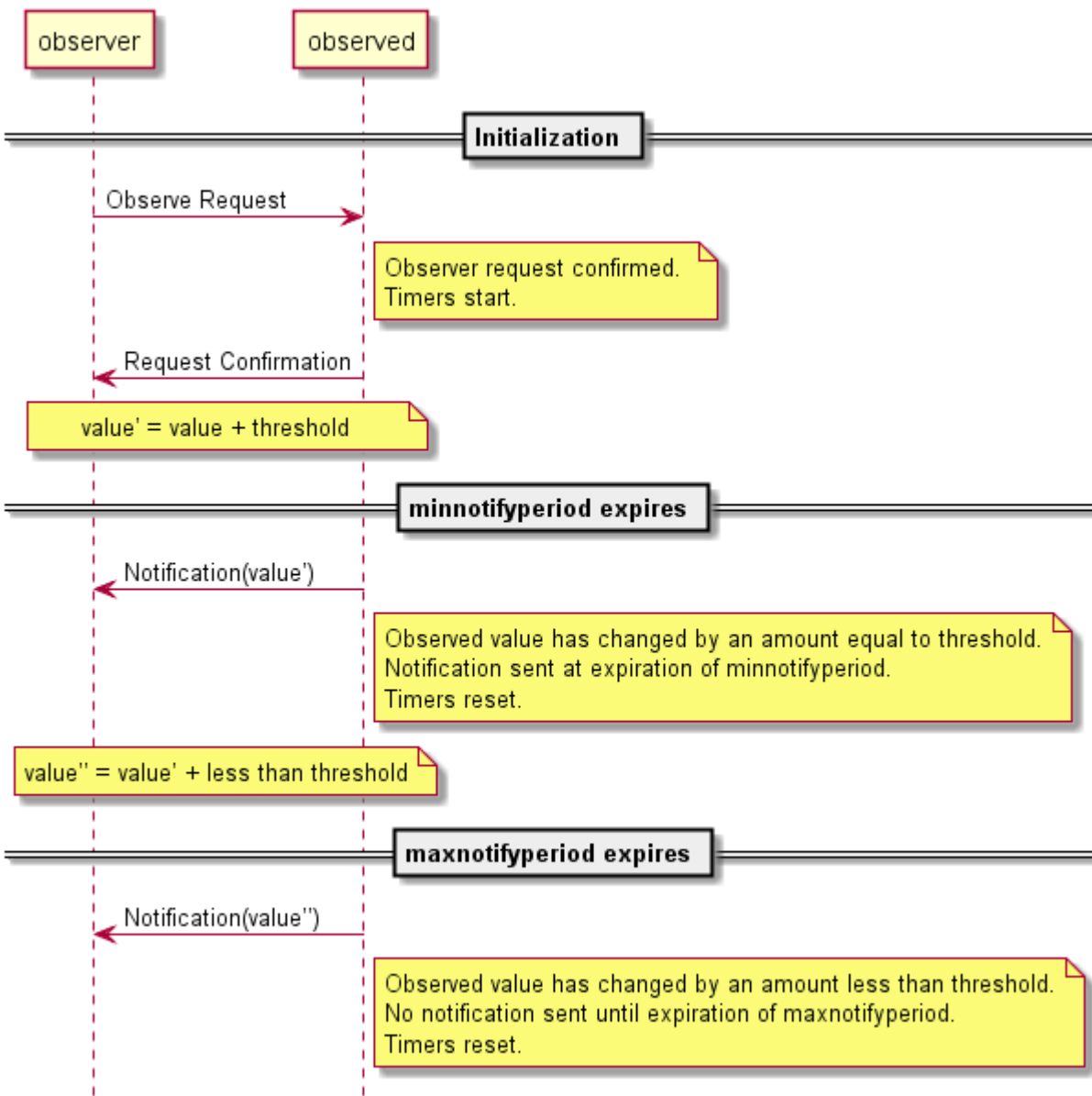
1799 The “minnotifyperiod” and “maxnotifyperiod” timers are restarted each time a notification is sent
1800 (response to the Observe). A notification is sent when value change condition (threshold) and
1801 “minnotifyperiod” are both met if both are present. If the observed Property value subsequently
1802 drops beneath threshold before the expiration of “minnotifyperiod” the notifier may take no action
1803 or a notification may be sent on expiration of “minnotifyperiod” containing the current observed
1804 Property value (at the time of the notification). If there are no timer constraints; then notifications
1805 are sent whenever the observed Property value has changed by an amount greater than or equal
1806 to “threshold”.

1807 Overall logic is defined in Figure 1. Figure 2 provides an illustrative sequence.



1808 **Figure 1 – Overall conditional notification logic**

1809



1810

1811

Figure 2 – Conditional Notification Example Flow

1812

1813 5.7 Composite Resource Types

1814 Composite Resource Types are Resources that comprises of one or more single or other composite
 1815 Resource Types, an example of which is shown in Figure 3. The Composite Resource Type can be
 1816 viewed upon as a new single Resource Type. The Composite Resource Type mechanism is a
 1817 powerful concept since it uses existing Resource Types in a new combination to express more
 1818 contexts to a Resource without specifying new single unit Resource Types.

1819 Composite Resource Types are defined by linking the referenced existing Resource values in to a
 1820 Collection.

1821 The linking is done by using an array of Links; refer to ISO/IEC 30118-1:2018 clause 7.8.2 for more
1822 details. Note that the example in Figure 3 contains a partial schema of this definition as it is for
1823 descriptive purpose only. The Property name of the array in the example is “resources”.

1824 The contents of the listed Resources can be achieved in a single operation by using the ISO/IEC
1825 30118-1:2018 defined oic.if.b interface.

```
{
  "swagger": "2.0",
  "info": {
    "title": "Compsite Example",
    "version": "v1.1.0-2018",
  },
  "schemes": ["http"],
  "consumes": ["application/json"],
  "produces": ["application/json"],
  "paths": {
    "/CompositeResURI?if=oic.if.baseline" : {
      "get": {
        "description": "Composite Resource.\n",
        "parameters": [
          {"$ref": "#/parameters/interface-baseline"}
        ],
        "responses": {
          "200": {
            "description": "Success path response for the Resource",
            "x-example": {
              "rt": ["oic.r.example"],
              "if": ["oic.if.ll", "oic.if.b", "oic.if.baseline"],
              "id": "unique_example_id",
              "resources": [
                {
                  "href": "/TimeIntervalResURI",
                  "rt": ["oic.r.time.period"],
                  "if": ["oic.if.a", "oic.if.baseline"],
                  "eps": [{"ep": "coaps://[fe80::b1d6]:1122"}]
                },
                {
                  "href": "/GasConsumptionResURI",
                  "rt": ["oic.r.gas.consumption"],
                  "if": ["oic.if.s", "oic.if.baseline"],
                  "eps": [{"ep": "coaps://[fe80::b1d6]:1122"}]
                }
              ]
            },
            "schema": {"$ref": "#/definitions/composite"}
          }
        }
      }
    }
  }
}
```

Figure 3 – Composite Resource Example

1826 **5.8 Document Version**

1827 Devices conformant to this document version shall add the string “ocf.res.1.3.0” to the dmV Property
1828 in “oic.wk.d”. This Property is for legacy Device support only and will no longer be revised in
1829 alignment with document versions.
1830

1831 **5.9 Data types**

1832 This document adopts the types defined in ISO/IEC 30118-1:2018 with the exceptions defined in
1833 this clause

1834 All Properties in this document that are defined as JSON number type shall be transmitted encoded
 1835 as floating point values and not integer values. Reception of Properties defined as JSON number
 1836 type shall be as defined in ISO/IEC 30118-1:2018. See ISO/IEC 30118-1:2018 clause 12.4 for
 1837 specifics.

1838 **6 Resource Type definitions**

1839 **6.1 Introduction**

1840 This clause contains definitions for all Resource Types; the complete set is listed in Table 6 –
 1841 Alphabetical list of Resource Types.

1842 All Resource Types shall be created in accordance with ISO/IEC 30118-1:2018 clause 7.4. All
 1843 comparisons against a Resource Type shall be case insensitive.

1844 All Resource Types in this document are prefixed with “oic.r” denoting that it is an OCF defined
 1845 Resource Type.

1846 **Table 6 – Alphabetical list of Resource Types**

Friendly Name (informative)	Resource Type (rt)	Clause
3D Printer	oic.r.printer.3d	6.88
Acceleration Sensor	oic.r.sensor.acceleration	6.56
Activity	oic.r.activity	6.127
Activity Count	oic.r.sensor.activity.count	6.24
Activity Tracker Atomic Measurement	oic.r.activitytracker-am	6.128
Air Flow	oic.r.airflow	6.2
Air Flow Control	oic.r.airflowcontrol	6.3
Air Quality	oic.r.airquality	6.66
Air Quality Collection	oic.r.airqualitycollection	6.67
Alarm	oic.r.alarm	6.129
Altimeter	oic.r.altimeter	6.61
Atmospheric Pressure	oic.r.sensor.atmosphericpressure	6.25
Audio Controls	oic.r.audio	6.26
Auto Focus	oic.r.autofocus	6.27
Automatic Document Feeder	oic.r.automaticdocumentfeeder	6.28
Auto White Balance	oic.r.colour.autowhitebalance	6.32
Battery	oic.r.energy.battery	6.4
Battery Material	oic.r.batterymaterial	6.79
Binary switch	oic.r.switch.binary	6.5
Blood Pressure	oic.r.blood.pressure	6.89
Blood Pressure Monitor Atomic Measurement	oic.r.bloodpressuremonitor-am	6.90
BMI	oic.r.bmi	6.91
Body Fat	oic.r.body.fat	6.92
Body Fat Free Mass	oic.r.body.ffm	6.93
Body Location Temperature	oic.r.body.location.temperature	6.94
Body Scale Atomic Measurement	oic.r.body.scale-am	6.95

Body Soft Lean Mass	oic.r.body.slm	6.96
Body Thermometer Atomic Measurement	oic.r.bodythermometer-am	6.97
Body Water	oic.r.body.water	6.98
Brewing	oic.r.brewing	6.80
Brightness	oic.r.light.brightness	6.6
Button Switch	oic.r.button	6.29
Cadence	oic.r.cadence	6.144
Calibrate for Continuous Glucose Meter (CGM)	oic.r.cgm.calibrate	6.131
Calorific Value	oic.r.calorificvalue	6.116
Carbon Dioxide Sensor	oic.r.sensor.carbondioxide	6.30
Carbon Monoxide Sensor	oic.r.sensor.carbonmonoxide	6.31
Circuit Breaker (IEC 61850)	oic.r.circuitbreaker	6.145
Clock	oic.r.clock	6.62
Colour Chroma	oic.r.colour.chroma	6.7
Colour Hue Saturation	oic.r.colour.hs	6.78
Colour RGB	oic.r.colour.rgb	6.8
Colour Saturation	oic.r.colour.saturation	6.33
Colour Space Coordinates	oic.r.colour.csc	6.76
Colour Temperature	oic.r.colour.colourtemperature	6.77
Consumable	oic.r.consumable	6.68
Consumable Collection	oic.r.consumablecollection	6.69
Contact Sensor	oic.r.sensor.contact	6.34
Continuous Glucose Meter (CGM) Atomic Measurement	oic.r.cgm-am	6.130
Conversion Factor	oic.r.conversionfactor	6.117
Cycling Power	oic.r.cyclingpower	6.146
Delay Defrost	oic.r.delaydefrost	6.70
Demand Response Load Control (DRLC)	oic.r.energy.drlc	6.35
Deodorization	oic.r.deodorization	6.152
Dimming	oic.r.light.dimming	6.9
Door	oic.r.door	6.10
Ecomode	oic.r.ecomode	6.71
Electric Vehicle Connector	oic.r.vehicle.connector	6.86
Electrical Energy	oic.r.energy.electrical	6.81
Energy Consumption	oic.r.energy.consumption	6.11
Energy Generation	oic.r.energy.generation	6.82
Energy Overload/Circuit Breaker	oic.r.energy.overload	6.36
Energy Usage	oic.r.energy.usage	6.12
Gas Consumption	oic.r.gas.consumption	6.118
Gas Usage	oic.r.gas.usage	6.119

Foaming	oic.r.foaming	6.83
Generic Sensor	oic.r.sensor	6.37
Geolocation Sensor	oic.r.sensor.geolocation	6.63
Glass Break Sensor	oic.r.sensor.glassbreak	6.38
Glucose	oic.r.glucose	6.99
Glucose Meter Complex Carbohydrates	oic.r.glucose.carb	6.100
Glucose Meter Exercise	oic.r.glucose.exercise	6.101
Glucose Meter HbA1c	oic.r.glucose.hba1c	6.102
Glucose Meter Context Health	oic.r.glucose.health	6.103
Glucose Meter Context Meal	oic.r.glucose.meal	6.104
Glucose Meter Context Medication	oic.r.glucose.medication	6.105
Glucose Meter Atomic Measurement	oic.r.glucosemeter-am	6.106
Glucose Meter Context Sample Location	oic.r.glucose.samplelocation	6.107
Glucose Meter Context Tester	oic.r.glucose.tester	6.108
Grinder	oic.r.grinder	6.84
Heart Rate	oic.r.heartrate	6.136
Heart Rate Monitor Atomic Measurement Representation	oic.r.heartratemonitor-am	6.137
Heart Rate Zone Sensor	oic.r.sensor.heart.zone	6.39
Heating Zone	oic.r.heatingzone	6.72
Heating Zone Collection	oic.r.heatingzonecollection	6.73
Height	oic.r.height	6.64
Humidity	oic.r.humidity	6.13
IAS Zone Info	oic.r.iaszoneinfo	6.124
IAS Zone Collection	oic.r.iaszone	6.125
Icemaker	oic.r.icemaker	6.14
Illuminance Sensor	oic.r.sensor.illuminance	6.40
Impact Sensor	oic.r.impactsensor	6.120
Inverter (IEC 61850)	oic.r.inverter	6.147
KeyCard Switch	oic.r.keycardswitch	6.153
Keypad Character	oic.r.keypadchar	6.121
Liquid Level	oic.r.liquid.level	6.85
Lock	oic.r.lock.status	6.15
Lock Code	oic.r.lock.code	6.16
Magnetic Field Direction	oic.r.sensor.magneticfielddirection	6.41
Media	oic.r.media	6.42
Media Source	oic.r.mediasource	6.43
Media Source List	oic.r.mediasourcelist	6.44
Media Source Input	oic.r.media.input	6.45
Media Source Output	oic.r.media.output	6.46

Mode	oic.r.mode	6.17
Movement	oic.r.movement.linear	6.57
Motion Sensor	oic.r.sensor.motion	6.47
Muscle Oxygen Saturation	oic.r.muscleoxygensaturation	6.154
Night Mode	oic.r.nightmode	6.48
Opaque Data	oic.r.opaquedata	6.122
Open Level	oic.r.openlevel	6.18
Operational State	oic.r.operational.state	6.19
Optical RFID Station	oic.r.orfid.station	6.109
Optical RFID Tag	oic.r.orfid.tag	6.110
Pan Tilt Zoom Movement	oic.r.ptz	6.50
Power Source	oic.r.powersource	6.111
Presence Sensor	oic.r.sensor.presence	6.49
Print Queue	oic.r.printer.queue	6.112
Pulsatile Characteristic for Pulse Oximeter	oic.r.pulsatilecharacteristic	6.138
Pulsatile Occurrence for Pulse Oximeter	oic.r.pulsatileoccurrence	6.139
Pulse Oximeter Atomic Measurement Representation	oic.r.pulseoximeter-am	6.140
Pulse Rate	oic.r.pulserate	6.113
PV array system connection terminal (IEC 61850)	oic.r.pvconnectionterminal	6.148
Ramp Time	oic.r.light.ramptime	6.20
Refrigeration	oic.r.refrigeration	6.21
Sampling Interface for Continuous Glucose Meter (CGM)	oic.r.cgm.samplinginterval	6.132
Selectable Levels	oic.r.selectablelevels	6.74
Sensor for Continuous Glucose Meter (CGM)	oic.r.cgm.sensor	6.133
Sensor Properties	oic.r.sensor.props	6.114
Signal Strength	oic.r.signalstrength	6.51
Sleep	oic.r.sleep	6.141
Sleep Monitor Atomic Measurement Batch Representation	oic.r.sleepmonitor-am	6.142
Sleep Sensor	oic.r.sensor.sleep	6.58
Smoke Sensor	oic.r.sensor.smoke	6.59
Speech Synthesis	oic.r.speech.tts	6.52
Speed	oic.r.speed	6.149
SpO2 for Pulse Oximeter	oic.r.spo2	6.143
Status for Continuous Glucose Meter (CGM)	oic.r.cgm.status	6.134
Temperature	oic.r.temperature	6.22
Three Axis Sensor	oic.r.sensor.threeaxis	6.60

Threshold for Continuous Glucose Meter (CGM)	oic.r.cgm.threshold	6.135
Time Period	oic.r.time.period	6.23
Time Stamp	oic.r.time.stamp	6.87
Torque	oic.r.torque	6.150
Touch Sensor	oic.r.sensor.touch	6.53
UV Radiation	oic.r.sensor.radiation.uv	6.54
User ID	oic.r.userid	6.115
User Info for Application Layer	oic.r.userinfo	6.123
Value Conditional	oic.r.value.conditional	6.75
Water Info	oic.r.waterinfo	6.151
Water Sensor	oic.r.sensor.water	6.55
Weight	oic.r.weight	6.65
Window Covering	oic.r.windowcovering	6.126

1847

1848 **6.2 Air Flow**

1849 **6.2.1 Introduction**

1850 This Resource describes Properties associated with air flow.

1851 The Property "supporteddirections" is the set of valid values for the direction property for a
1852 particular instance of this Resource Type.

1853 The Property "direction" is the directionality of the air flow if applicable, if Property
1854 "supporteddirections" is also present it must be a value from that set.

1855 The values of Property "direction" are dependent on the capabilities of the unit.

1856 The Property "speed" is an integer representing the current speed level for the unit.

1857 The Property "range" is an array of the min,max values for the speed level. If not present the
1858 "range" defaults to [0,100].

1859 Property "automode" is the status of the automode feature; Off means automode is not enabled,
1860 On means automode is active and the speed is automatically controlled by the Device.

1861 **6.2.2 Example URI**

1862 /AirFlowResURI

1863 **6.2.3 Resource type**

1864 The Resource Type is defined as: "oic.r.airflow".

1865 **6.2.4 OpenAPI 2.0 definition**

```

1866 {
1867   "swagger": "2.0",
1868   "info": {
1869     "title": "Air Flow",
1870     "version": "20190215",
1871     "license": {
1872       "name": "OCF Data Model License",
1873       "url":
1874         "https://github.com/openconnectivityfoundation/core/blob/e28a9e0a92e17042ba3e83661e4c0fbce8bdc4ba/LI
1875         CENSE.md",
1876       "x-copyright": "copyright 2016-2017, 2019 Open Connectivity Foundation, Inc. All rights
1877       reserved."
1878     },
1879     "termsOfService": "https://openconnectivityfoundation.github.io/core/DISCLAIMER.md"
1880   },
1881   "schemes": ["http"],
1882   "consumes": ["application/json"],

```

```

1883     "produces": ["application/json"],
1884     "paths": {
1885         "/AirFlowResURI" : {
1886             "get": {
1887                 "description": "This Resource describes Properties associated with air flow.\nThe Property
1888                 \n\"supporteddirections\" is the set of valid values for the direction property for a particular
1889                 instance of this Resource Type.\nThe Property \"direction\" is the directionality of the air flow if
1890                 applicable, if Property \"supporteddirections\" is also present it must be a value from that set.\n
1891                 The values of Property \"direction\" are dependent on the capabilities of the unit.\nThe Property
1892                 \"speed\" is an integer representing the current speed level for the unit.\nThe Property \"range\"
1893                 is an array of the min,max values for the speed level. If not present the \"range\" defaults to
1894                 [0,100].\nProperty \"automode\" is the status of the automode feature; Off means automode is not
1895                 enabled, On means automode is active and the speed is automatically controlled by the Device.",
1896                 "parameters": [
1897                     {"$ref": "#/parameters/interface"}
1898                 ],
1899                 "responses": {
1900                     "200": {
1901                         "description": "",
1902                         "x-example":
1903                         {
1904                             "rt": ["oic.r.airflow"],
1905                             "if": ["oic.if.a", "oic.if.baseline"],
1906                             "supporteddirections": ["left", "right", "centre"],
1907                             "direction": "left",
1908                             "speed": 5,
1909                             "range": [1, 7],
1910                             "automode": "Off"
1911                         },
1912                         "schema": { "$ref": "#/definitions/AirFlow" }
1913                     }
1914                 }
1915             },
1916             "post": {
1917                 "description": "When \"automode\" is set to true, \"direction\" and \"speed\" are not
1918                 utilized by the device.",
1919                 "parameters": [
1920                     {"$ref": "#/parameters/interface"},
1921                     {
1922                         "name": "body",
1923                         "in": "body",
1924                         "required": true,
1925                         "schema": { "$ref": "#/definitions/AirFlow" },
1926                         "x-example":
1927                         {
1928                             "direction": "right",
1929                             "speed": 3
1930                         }
1931                     }
1932                 ],
1933                 "responses": {
1934                     "200": {
1935                         "description": "",
1936                         "x-example":
1937                         {
1938                             "direction": "right",
1939                             "speed": 3
1940                         },
1941                         "schema": {"$ref": "#/definitions/AirFlow" }
1942                     },
1943                     "403": {
1944                         "description": "This response is generated by the OCF Server when the client sends:\n
1945                         An UPDATE with an invalid Property value for direction.\n An UPDATE with an out of range property
1946                         value for speed.\nThe server may respond with the current resource representation.\n",
1947                         "x-example":
1948                         {
1949                             "supporteddirections": ["left", "right", "centre"],
1950                             "direction": "right",
1951                             "speed": 3
1952                         },
1953                         "schema": { "$ref": "#/definitions/AirFlow" }
1954                     }
1955                 }
1956             }
1957         }
1958     }

```

```

1955     }
1956   }
1957 }
1958 },
1959 "parameters": {
1960   "interface" : {
1961     "in": "query",
1962     "name": "if",
1963     "type": "string",
1964     "enum": ["oic.if.a", "oic.if.baseline"]
1965   }
1966 },
1967 "definitions": {
1968   "AirFlow" : {
1969     "properties": {
1970       "rt" : {
1971         "description": "The Resource Type",
1972         "items": {
1973           "enum": ["oic.r.airflow"],
1974           "maxLength": 64,
1975           "type": "string"
1976         },
1977         "minItems": 1,
1978         "uniqueItems": true,
1979         "readOnly": true,
1980         "type": "array"
1981       },
1982       "speed" : {
1983         "description": "The current speed level.",
1984         "type": "integer"
1985       },
1986       "direction" : {
1987         "description": "The directionality of the air flow, a value indicated by
1988 \supporteddirections\".",
1989         "type": "string"
1990       },
1991       "automode" : {
1992         "description": "The status of the automode feature, if on speed is set by the Device.",
1993         "enum": [
1994           "On",
1995           "Off"
1996         ],
1997         "type": "string"
1998       },
1999       "supporteddirections" : {
2000         "description": "The array of possible direction settings for this instance of the Resource
2001 Type.",
2002         "items": {
2003           "minItems": 1,
2004           "type": "string",
2005           "uniqueItems": true
2006         },
2007         "readOnly": true,
2008         "type": "array"
2009       },
2010       "n": {
2011         "$ref":
2012 "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
2013 schema.json#/definitions/n"
2014       },
2015       "id": {
2016         "$ref":
2017 "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
2018 schema.json#/definitions/id"
2019       },
2020       "range": {
2021         "$ref":
2022 "https://openconnectivityfoundation.github.io/IoTDataModels/schemas/oic.baseresource.properties-
2023 schema.json#/definitions/range_integer"
2024       },
2025       "step": {
2026         "$ref":

```

```

2027 "https://openconnectivityfoundation.github.io/IoTDataModels/schemas/oic.baseresource.properties-
2028 schema.json#/definitions/step_integer"
2029 },
2030 "if": {
2031   "description": "The OCF Interface set supported by this Resource.",
2032   "items": {
2033     "enum": [
2034       "oic.if.a",
2035       "oic.if.baseline"
2036     ],
2037     "type": "string"
2038   },
2039   "minItems": 2,
2040   "uniqueItems": true,
2041   "readOnly": true,
2042   "type": "array"
2043 }
2044 },
2045 "type": "object",
2046 "required": ["speed"]
2047 }
2048 }
2049 }
2050

```

2051 **6.2.5 Property definition**

2052 Table 7 defines the Properties that are part of the "oic.r.airflow" Resource Type.

2053 **Table 7 – The Property definitions of the Resource with type "rt" = "oic.r.airflow".**

Property name	Value type	Mandatory	Access mode	Description
rt	array: see schema	No	Read Only	The Resource Type
speed	integer	Yes	Read Write	The current speed level.
direction	string	No	Read Write	The directionality of the air flow, a value indicated by "supporteddirections".
automode	string	No	Read Write	The status of the automode feature, if on speed is set by the Device.
supporteddirections	array: see schema	No	Read Only	The array of possible direction settings for this instance of the Resource Type.
n	multiple types: see schema	No	Read Write	
id	multiple types: see schema	No	Read Write	
range	multiple types: see schema	No	Read Write	
step	multiple types: see schema	No	Read Write	
if	array: see schema	No	Read Only	The OCF Interface set supported by this Resource.

2054 **6.2.6 CRUDN behaviour**

2055 Table 8 defines the CRUDN operations that are supported on the "oic.r.airflow" Resource Type.

2056 **Table 8 – The CRUDN operations of the Resource with type "rt" = "oic.r.airflow".**

Create	Read	Update	Delete	Notify
	get	post		observe

2057 **6.3 Air Flow Control**

2058 **6.3.1 Introduction**

2059 This Resource describes the attributes associated with control of air flow,
 2060 for example as modelled by a Thermostat (fan), Room A/C or other device.

2061 The Resource is a Collection of:

- 2062 AirFlow Resource
- 2063 BinarySwitch Resource

2064

2065 **6.3.2 Example URI**

2066 /AirFlowControlResURI

2067 **6.3.3 Resource type**

2068 The Resource Type is defined as: "oic.r.airflowcontrol".

2069 **6.3.4 OpenAPI 2.0 definition**

```

2070 {
2071   "swagger": "2.0",
2072   "info": {
2073     "title": "Air Flow Control",
2074     "version": "20190307",
2075     "license": {
2076       "name": "OCF Data Model License",
2077       "url":
2078         "https://github.com/openconnectivityfoundation/core/blob/e28a9e0a92e17042ba3e83661e4c0fbce8bdc4ba/LI
2079         CENSE.md",
2080       "x-copyright": "copyright 2016-2019 Open Connectivity Foundation, Inc. All rights reserved."
2081     },
2082     "termsOfService": "https://openconnectivityfoundation.github.io/core/DISCLAIMER.md"
2083   },
2084   "schemes": ["http"],
2085   "consumes": ["application/json"],
2086   "produces": ["application/json"],
2087   "paths": {
2088     "/AirFlowControlResURI?if=oic.if.ll" : {
2089       "get": {
2090         "description": "This Resource describes the attributes associated with control of air
2091         flow,\nfor example as modelled by a Thermostat (fan), Room A/C or other device.\nThe Resource is a
2092         Collection of:\n AirFlow Resource\n BinarySwitch Resource\n",
2093         "parameters": [
2094           {"$ref": "#/parameters/interface-all"}
2095         ],
2096         "responses": {
2097           "200": {
2098             "description": "",
2099             "x-example": [
2100               {"href": "/BinarySwitchResURI", "rt":["oic.r.switch.binary"],
2101               "if":["oic.if.a","oic.if.baseline"], "eps": [{"ep": "coaps://[fe80:b1d6]:1122"}]},
2102               {"href": "/AirFlowResURI", "rt":["oic.r.airflow"],
2103               "if":["oic.if.a","oic.if.baseline"], "eps": [{"ep": "coaps://[fe80:b1d6]:1122"}]}
2104             ],
2105             "schema": { "$ref": "#/definitions/AirFlowControl-ll" }
2106           }
2107         }
2108       }
2109     },
2110     "/AirFlowControlResURI?if=oic.if.b": {
2111       "get": {
2112         "description": "This Resource describes the attributes associated with control of air
  
```

```

2113 flow,\nfor example as modelled by a Thermostat (fan), Room A/C or other device.\nThe Resource is a
2114 Collection of:\n AirFlow Resource\n BinarySwitch Resource\n,
2115   "parameters": [
2116     {"$ref": "#/parameters/interface-all"}
2117   ],
2118   "responses": {
2119     "200": {
2120       "description" : "",
2121       "x-example": [
2122         {
2123           "href": "/BinarySwitchResURI",
2124           "rep": {
2125             "value": true
2126           }
2127         },
2128         {
2129           "href": "/AirFlowResURI",
2130           "rep": {
2131             "supporteddirections": ["left","right","centre"],
2132             "direction": "right",
2133             "speed": 3,
2134             "range": [1,7],
2135             "automode": "Off"
2136           }
2137         }
2138       ],
2139       "schema": { "$ref": "#/definitions/AirFlowControlBatch-Retrieve" }
2140     }
2141   },
2142 },
2143 "post": {
2144   "description": "Sets the current air flow control values using the batch OCF Interface\n",
2145   "parameters": [
2146     {"$ref": "#/parameters/interface-b"},
2147     {
2148       "name": "body",
2149       "in": "body",
2150       "required": true,
2151       "schema": { "$ref": "#/definitions/AirFlowControlBatch-Update" },
2152       "x-example": [
2153         {
2154           "href": "/AirFlowResURI",
2155           "rep": {
2156             "direction": "left",
2157             "speed": 4
2158           }
2159         }
2160       ]
2161     }
2162   ],
2163   "responses": {
2164     "200": {
2165       "description" : "",
2166       "x-example": [
2167         {
2168           "href": "/BinarySwitchResURI",
2169           "rep": {
2170             "value": true
2171           }
2172         },
2173         {
2174           "href": "/AirFlowResURI",
2175           "rep": {
2176             "supporteddirections": ["left","right","centre"],
2177             "direction": "left",
2178             "speed": 4,
2179             "range": [1,7],
2180             "automode": "Off"
2181           }
2182         }
2183       ],
2184       "schema": { "$ref": "#/definitions/AirFlowControlBatch-Retrieve" }

```

```

2185     }
2186   }
2187 }
2188 },
2189 "/AirFlowControlResURI?if=oic.if.baseline" : {
2190   "get": {
2191     "description": "This Resource describes the attributes associated with control of air
2192 flow,\nfor example as modelled by a Thermostat (fan), Room A/C or other device.\nThe Resource is a
2193 Collection of:\n AirFlow Resource\n BinarySwitch Resource\n",
2194     "parameters": [
2195       {"$ref": "#/parameters/interface-all"}
2196     ],
2197     "responses": {
2198       "200": {
2199         "description": "",
2200         "x-example": {
2201           "rt": ["oic.r.airflowcontrol"],
2202           "rts": ["oic.r.airflow","oic.r.switch.binary"],
2203           "if": ["oic.if.ll","oic.if.b","oic.if.baseline"],
2204           "links": [
2205             {"href": "/BinarySwitchResURI", "rt":["oic.r.switch.binary"],
2206 "if":["oic.if.a","oic.if.baseline"], "eps": [{"ep": "coaps://[fe80:bld6]:1122"}]},
2207             {"href": "/AirFlowResURI", "rt":["oic.r.airflow"],
2208 "if":["oic.if.a","oic.if.baseline"], "eps": [{"ep": "coaps://[fe80:bld6]:1122"}]}
2209           ]
2210         },
2211         "schema": { "$ref": "#/definitions/AirFlowControl-baseline" }
2212       }
2213     }
2214   }
2215 },
2216 },
2217 "parameters": {
2218   "interface-b" : {
2219     "in" : "query",
2220     "name" : "if",
2221     "type" : "string",
2222     "enum" : ["oic.if.b"]
2223   },
2224   "interface-all" : {
2225     "in" : "query",
2226     "name" : "if",
2227     "type" : "string",
2228     "enum" : ["oic.if.ll", "oic.if.b", "oic.if.baseline"]
2229   }
2230 },
2231 "definitions": {
2232   "AirFlowControl-ll" : {
2233     "type": "array",
2234     "minItems": 2,
2235     "uniqueItems": true,
2236     "readOnly": true,
2237     "items": {
2238       "$ref": "#/definitions/oic.oic-link"
2239     }
2240   },
2241   "oic.oic-link": {
2242     "type": "object",
2243     "properties": {
2244       "anchor": {
2245         "$ref":
2246 "https://openconnectivityfoundation.github.io/core/schemas/oic.links.properties.core-
2247 schema.json#/definitions/anchor"
2248       },
2249       "di": {
2250         "$ref":
2251 "https://openconnectivityfoundation.github.io/core/schemas/oic.links.properties.core-
2252 schema.json#/definitions/di"
2253       },
2254       "eps": {
2255         "$ref":
2256 "https://openconnectivityfoundation.github.io/core/schemas/oic.links.properties.core-

```

```

2257 schema.json#/definitions/eps"
2258     },
2259     "href": {
2260         "$ref":
2261         "https://openconnectivityfoundation.github.io/core/schemas/oic.links.properties.core-
2262         schema.json#/definitions/href"
2263     },
2264     "ins": {
2265         "$ref":
2266         "https://openconnectivityfoundation.github.io/core/schemas/oic.links.properties.core-
2267         schema.json#/definitions/ins"
2268     },
2269     "p": {
2270         "$ref":
2271         "https://openconnectivityfoundation.github.io/core/schemas/oic.links.properties.core-
2272         schema.json#/definitions/p"
2273     },
2274     "rel": {
2275         "$ref":
2276         "https://openconnectivityfoundation.github.io/core/schemas/oic.links.properties.core-
2277         schema.json#/definitions/rel_array"
2278     },
2279     "title": {
2280         "$ref":
2281         "https://openconnectivityfoundation.github.io/core/schemas/oic.links.properties.core-
2282         schema.json#/definitions/title"
2283     },
2284     "type": {
2285         "$ref":
2286         "https://openconnectivityfoundation.github.io/core/schemas/oic.links.properties.core-
2287         schema.json#/definitions/type"
2288     },
2289     "if": {
2290         "description": "The OCF Interfaces supported by the target Resource",
2291         "items": {
2292             "enum": [
2293                 "oic.if.a",
2294                 "oic.if.baseline"
2295             ],
2296             "type": "string",
2297             "maxLength": 64
2298         },
2299         "minItems": 2,
2300         "uniqueItems": true,
2301         "type": "array",
2302         "readOnly": true
2303     },
2304     "rt": {
2305         "description": "Resource Type of the target Resource",
2306         "items": {
2307             "maxLength": 64,
2308             "type": "string",
2309             "enum": ["oic.r.switch.binary", "oic.r.airflow"]
2310         },
2311         "minItems": 1,
2312         "type": "array",
2313         "uniqueItems": true,
2314         "readOnly": true
2315     }
2316 },
2317 "required": [
2318     "href",
2319     "rt",
2320     "if"
2321 ]
2322 },
2323 "AirFlowControl-baseline" : {
2324     "properties": {
2325         "n": {
2326             "$ref" :
2327             "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
2328             schema.json#/definitions/n"

```

```

2329     },
2330     "id": {
2331         "$ref" :
2332         "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
2333         schema.json#/definitions/id"
2334     },
2335     "rt": {
2336         "description": "Resource Type of this Resource",
2337         "items": {
2338             "maxLength": 64,
2339             "type": "string",
2340             "enum": ["oic.r.airflowcontrol"]
2341         },
2342         "minItems": 1,
2343         "uniqueItems": true,
2344         "readOnly": true,
2345         "type": "array"
2346     },
2347     "rts": {
2348         "items": {
2349             "type": "string",
2350             "enum": ["oic.r.airflow", "oic.r.switch.binary"],
2351             "maxLength": 64
2352         },
2353         "minItems": 1,
2354         "type": "array",
2355         "uniqueItems": true,
2356         "readOnly": true
2357     },
2358     "if": {
2359         "description": "The OCF Interfaces supported by this Resource",
2360         "items": {
2361             "enum": [
2362                 "oic.if.ll",
2363                 "oic.if.b",
2364                 "oic.if.baseline"
2365             ],
2366             "type": "string",
2367             "maxLength": 64
2368         },
2369         "minItems": 1,
2370         "readOnly": true,
2371         "uniqueItems": true,
2372         "type": "array"
2373     },
2374     "links": {
2375         "description": "A set of simple or individual OCF Links.",
2376         "items": {
2377             "$ref": "#/definitions/oic.oic-link"
2378         },
2379         "type": "array",
2380         "minItems": 2,
2381         "uniqueItems": true,
2382         "readOnly": true
2383     },
2384 },
2385 "type" : "object",
2386 "required": ["rt", "rts", "if", "links"]
2387 },
2388 "AirFlowControlBatch-Retrieve" : {
2389     "type": "array",
2390     "minItems": 2,
2391     "uniqueItems": true,
2392     "items": {
2393         "type": "object",
2394         "additionalProperties": true,
2395         "properties": {
2396             "href": {
2397                 "$ref":
2398                 "https://openconnectivityfoundation.github.io/core/schemas/oic.links.properties.core-
2399                 schema.json#/definitions/href"
2400             },

```

```

2401         "rep": {
2402             "anyOf": [
2403                 {"$ref":
2404 "https://openconnectivityfoundation.github.io/IoTDataModels/AirFlowResURI.swagger.json#/definitions/
2405 AirFlow"},
2406                 {"$ref":
2407 "https://openconnectivityfoundation.github.io/IoTDataModels/BinarySwitchResURI.swagger.json#/definit
2408 ions/BinarySwitch"}
2409             ]
2410         },
2411     },
2412     "required": [
2413         "href",
2414         "rep"
2415     ]
2416 }
2417 },
2418 "AirFlowControlBatch-Update" : {
2419     "type": "array",
2420     "minItems": 1,
2421     "uniqueItems": true,
2422     "items": {
2423         "type": "object",
2424         "additionalProperties": true,
2425         "properties": {
2426             "href": {
2427                 "$ref":
2428 "https://openconnectivityfoundation.github.io/core/schemas/oic.links.properties.core-
2429 schema.json#/definitions/href"
2430             },
2431             "rep": {
2432                 "anyOf": [
2433                     {"$ref":
2434 "https://openconnectivityfoundation.github.io/IoTDataModels/AirFlowResURI.swagger.json#/definitions/
2435 AirFlow"},
2436                     {"$ref":
2437 "https://openconnectivityfoundation.github.io/IoTDataModels/BinarySwitchResURI.swagger.json#/definit
2438 ions/BinarySwitch"}
2439                 ]
2440             }
2441         },
2442         "required": [
2443             "href",
2444             "rep"
2445         ]
2446     }
2447 }
2448 }
2449 }
2450

```

2451 6.3.5 Property definition

2452 Table 9 defines the Properties that are part of the "oic.r.airflowcontrol" Resource Type.

2453 **Table 9 – The Property definitions of the Resource with type "rt" = "oic.r.airflowcontrol".**

Property name	Value type	Mandatory	Access mode	Description
anchor	multiple types: see schema	No	Read Write	
di	multiple types: see schema	No	Read Write	
eps	multiple types: see schema	No	Read Write	
href	multiple types: see schema	Yes	Read Write	
ins	multiple types: see schema	No	Read Write	

p	multiple types: see schema	No	Read Write	
rel	multiple types: see schema	No	Read Write	
title	multiple types: see schema	No	Read Write	
type	multiple types: see schema	No	Read Write	
if	array: see schema	Yes	Read Only	The OCF Interfaces supported by the target Resource
rt	array: see schema	Yes	Read Only	Resource Type of the target Resource
n	multiple types: see schema	No	Read Write	
id	multiple types: see schema	No	Read Write	
rt	array: see schema	Yes	Read Only	Resource Type of this Resource
rts	array: see schema	Yes	Read Only	
if	array: see schema	Yes	Read Only	The OCF Interfaces supported by this Resource
links	array: see schema	Yes	Read Only	A set of simple or individual OCF Links.
href	multiple types: see schema	Yes	Read Write	
rep	multiple types: see schema	Yes	Read Write	
href	multiple types: see schema	Yes	Read Write	
rep	multiple types: see schema	Yes	Read Write	

2454 **6.3.6 CRUDN behaviour**

2455 Table 10 defines the CRUDN operations that are supported on the "oic.r.airflowcontrol" Resource
2456 Type.

2457 **Table 10 – The CRUDN operations of the Resource with type "rt" = "oic.r.airflowcontrol".**

Create	Read	Update	Delete	Notify
	get			observe

2458 **6.4 Battery**

2459 **6.4.1 Introduction**

2460 This Resource describes the attributes associated with a battery. The Property "charge" is an
2461 integer showing the current battery charge level as a percentage in the range 0 (fully discharged)
2462 to 100 (fully charged). The Property "capacity" represents the total capacity of battery in Amp
2463 Hours (Ah). The "charging" status and "discharging" status are represented by boolean values set
2464 to "true" indicating enabled and "false" indicating disabled. Low battery status is represented by a
2465 boolean value set to "true" indicating low charge level and "false" indicating otherwise, based
2466 upon the battery threshold represented as a percentage.

2467 6.4.2 Example URI

2468 /BatteryResURI

2469 6.4.3 Resource type

2470 The Resource Type is defined as: "oic.r.energy.battery".

2471 6.4.4 OpenAPI 2.0 definition

```
2472 {
2473   "swagger": "2.0",
2474   "info": {
2475     "title": "Battery",
2476     "version": "20190618",
2477     "license": {
2478       "name": "OCF Data Model License",
2479       "url":
2480 "https://github.com/openconnectivityfoundation/core/blob/e28a9e0a92e17042ba3e83661e4c0fbce8bdc4ba/LI
2481 CENSE.md",
2482       "x-copyright": "Copyright 2018-2019 Open Connectivity Foundation, Inc. All rights reserved."
2483     },
2484     "termsOfService": "https://openconnectivityfoundation.github.io/core/DISCLAIMER.md"
2485   },
2486   "schemes": ["http"],
2487   "consumes": ["application/json"],
2488   "produces": ["application/json"],
2489   "paths": {
2490     "/BatteryResURI" : {
2491       "get": {
2492         "description": "This Resource describes the attributes associated with a battery. The
2493 Property \"charge\" is an integer showing the current battery charge level as a percentage in the
2494 range 0 (fully discharged) to 100 (fully charged). The Property \"capacity\" represents the total
2495 capacity of battery in Amp Hours (Ah). The \"charging\" status and \"discharging\" status are
2496 represented by boolean values set to \"true\" indicating enabled and \"false\" indicating disabled.
2497 Low battery status is represented by a boolean value set to \"true\" indicating low charge level and
2498 \"false\" indicating otherwise, based upon the battery threshold represented as a percentage.",
2499         "parameters": [
2500           { "$ref": "#/parameters/interface" }
2501         ],
2502         "responses": {
2503           "200": {
2504             "description" : "",
2505             "x-example":
2506             {
2507               "rt": ["oic.r.energy.battery"],
2508               "if": ["oic.if.rw", "oic.if.baseline"],
2509               "charge": 50,
2510               "capacity": 3000,
2511               "charging": true,
2512               "discharging": false,
2513               "lowbattery": false,
2514               "batterythreshold": 20,
2515               "defect": false,
2516               "timestamp": "2015-11-05T14:30:00.20Z"
2517             },
2518             "schema": { "$ref": "#/definitions/Battery" }
2519           }
2520         },
2521       },
2522       "post": {
2523         "description": "Sets current battery values\n",
2524         "parameters": [
2525           { "$ref": "#/parameters/interface" },
2526           {
2527             "name": "body",
2528             "in": "body",
2529             "required": true,
2530             "schema": { "$ref": "#/definitions/BatteryUpdate" },
2531             "x-example":
2532             {
2533               "batterythreshold": 20
```



```

2534     }
2535   }
2536 ],
2537 "responses": {
2538   "200": {
2539     "description": "",
2540     "x-example":
2541     {
2542       "batterythreshold": 20
2543     },
2544     "schema": { "$ref": "#/definitions/BatteryUpdate" }
2545   }
2546 }
2547 }
2548 },
2549 },
2550 "parameters": {
2551   "interface": {
2552     "in": "query",
2553     "name": "if",
2554     "type": "string",
2555     "enum": ["oic.if.rw", "oic.if.baseline"]
2556   },
2557 },
2558 "definitions": {
2559   "Battery": {
2560     "properties": {
2561       "rt": {
2562         "description": "The Resource Type.",
2563         "items": {
2564           "enum": ["oic.r.energy.battery"],
2565           "maxLength": 64,
2566           "type": "string"
2567         },
2568         "minItems": 1,
2569         "uniqueItems": true,
2570         "readOnly": true,
2571         "type": "array"
2572       },
2573       "discharging": {
2574         "description": "The status of discharging.",
2575         "readOnly": true,
2576         "type": "boolean"
2577       },
2578       "lowbattery": {
2579         "description": "The status of the low battery warning based upon the defined threshold.",
2580         "readOnly": true,
2581         "type": "boolean"
2582       },
2583       "capacity": {
2584         "description": "The total capacity in Amp-hours (Ah).",
2585         "readOnly": true,
2586         "type": "number"
2587       },
2588       "batterythreshold": {
2589         "description": "The threshold percentage for the low battery warning.",
2590         "maximum": 100,
2591         "minimum": 0,
2592         "type": "integer"
2593       },
2594       "charge": {
2595         "description": "The current charge percentage.",
2596         "maximum": 100,
2597         "minimum": 0,
2598         "readOnly": true,
2599         "type": "integer"
2600       },
2601       "charging": {
2602         "description": "The status of charging.",
2603         "readOnly": true,
2604         "type": "boolean"
2605     },

```

```

2606     "defect": {
2607         "description": "Battery defect detected. True = defect, False = no defect",
2608         "readOnly": true,
2609         "type": "boolean"
2610     },
2611     "timestamp": {
2612         "description": "An RFC3339 formatted time indicating when the data was observed (e.g.:
2613 2016-02-15T09:19Z, 1996-12-19T16:39:57-08:00). Note that 1/100 time resolution should be used.",
2614         "format": "date-time",
2615         "readOnly": true,
2616         "type": "string"
2617     },
2618     "n": {
2619         "$ref":
2620 "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
2621 schema.json#/definitions/n"
2622     },
2623     "id": {
2624         "$ref":
2625 "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
2626 schema.json#/definitions/id"
2627     },
2628     "if": {
2629         "description": "The OCF Interface set supported by this Resource.",
2630         "items": {
2631             "enum": [
2632                 "oic.if.rw",
2633                 "oic.if.baseline"
2634             ],
2635             "type": "string"
2636         },
2637         "minItems": 2,
2638         "uniqueItems": true,
2639         "readOnly": true,
2640         "type": "array"
2641     }
2642 },
2643 "type" : "object",
2644 "required": ["charge"]
2645 },
2646 "BatteryUpdate": {
2647     "properties": {
2648         "batterythreshold": {
2649             "description": "The threshold percentage for the low battery warning.",
2650             "maximum": 100,
2651             "minimum": 0,
2652             "type": "integer"
2653         }
2654     },
2655     "type" : "object",
2656     "required": ["batterythreshold"]
2657 }
2658 }
2659 }
2660

```

2661 6.4.5 Property definition

2662 Table 11 defines the Properties that are part of the "oic.r.energy.battery" Resource Type.

2663 **Table 11 – The Property definitions of the Resource with type "rt" = "oic.r.energy.battery".**

Property name	Value type	Mandatory	Access mode	Description
rt	array: see schema	No	Read Only	The Resource Type.
discharging	boolean	No	Read Only	The status of discharging.
lowbattery	boolean	No	Read Only	The status of the low battery warning

				based upon the defined threshold.
capacity	number	No	Read Only	The total capacity in Amp-hours (Ah).
batterythreshold	integer	No	Read Write	The threshold percentage for the low battery warning.
charge	integer	Yes	Read Only	The current charge percentage.
charging	boolean	No	Read Only	The status of charging.
defect	boolean	No	Read Only	Battery defect detected. True = defect, False = no defect
timestamp	string	No	Read Only	An RFC3339 formatted time indicating when the data was observed (e.g.: 2016-02-15T09:19Z, 1996-12-19T16:39:57-08:00). Note that 1/100 time resolution should be used.
n	multiple types: see schema	No	Read Write	
id	multiple types: see schema	No	Read Write	
if	array: see schema	No	Read Only	The OCF Interface set supported by this Resource.
batterythreshold	integer	Yes	Read Write	The threshold percentage for the low battery warning.

2664 **6.4.6 CRUDN behaviour**

2665 Table 12 defines the CRUDN operations that are supported on the "oic.r.energy.battery" Resource
2666 Type.

2667 **Table 12 – The CRUDN operations of the Resource with type "rt" = "oic.r.energy.battery".**

Create	Read	Update	Delete	Notify
	get	post		observe

2668 **6.5 Binary Switch**

2669 **6.5.1 Introduction**

2670 This Resource describes a binary switch (on/off).

2671 The Property "value" is a boolean.

2672 A value of 'true' means that the switch is on.

2673 A value of 'false' means that the switch is off.

2674

2675 **6.5.2 Example URI**

2676 /BinarySwitchResURI

2677 6.5.3 Resource type

2678 The Resource Type is defined as: "oic.r.switch.binary".

2679 6.5.4 OpenAPI 2.0 definition

```
2680 {
2681   "swagger": "2.0",
2682   "info": {
2683     "title": "Binary Switch",
2684     "version": "20190222",
2685     "license": {
2686       "name": "OCF Data Model License",
2687       "url":
2688         "https://github.com/openconnectivityfoundation/core/blob/e28a9e0a92e17042ba3e83661e4c0fbce8bdc4ba/LI
2689         CENSE.md",
2690       "x-copyright": "Copyright 2018-2019 Open Connectivity Foundation, Inc. All rights reserved."
2691     },
2692     "termsOfService": "https://openconnectivityfoundation.github.io/core/DISCLAIMER.md"
2693   },
2694   "schemes": ["http"],
2695   "consumes": ["application/json"],
2696   "produces": ["application/json"],
2697   "paths": {
2698     "/BinarySwitchResURI" : {
2699       "get": {
2700         "description": "This Resource describes a binary switch (on/off).\nThe Property \"value\" is
2701         a boolean.\nA value of 'true' means that the switch is on.\nA value of 'false' means that the switch
2702         is off.\n",
2703         "parameters": [
2704           { "$ref": "#/parameters/interface" }
2705         ],
2706         "responses": {
2707           "200": {
2708             "description": "",
2709             "x-example":
2710               {
2711                 "rt": ["oic.r.switch.binary"],
2712                 "if": ["oic.if.a", "oic.if.baseline"],
2713                 "value": false
2714               },
2715             "schema": { "$ref": "#/definitions/BinarySwitch" }
2716           }
2717         }
2718       },
2719       "post": {
2720         "description": "",
2721         "parameters": [
2722           { "$ref": "#/parameters/interface" },
2723           {
2724             "name": "body",
2725             "in": "body",
2726             "required": true,
2727             "schema": { "$ref": "#/definitions/BinarySwitch" },
2728             "x-example":
2729               {
2730                 "value": true
2731               }
2732           }
2733         ],
2734         "responses": {
2735           "200": {
2736             "description": "",
2737             "x-example":
2738               {
2739                 "value": true
2740               },
2741             "schema": { "$ref": "#/definitions/BinarySwitch" }
2742           }
2743         }
2744       }
2745     }
2746   }
2747 }
```

```

2746 },
2747 "parameters": {
2748   "interface": {
2749     "in": "query",
2750     "name": "if",
2751     "type": "string",
2752     "enum": ["oic.if.a", "oic.if.baseline"]
2753   }
2754 },
2755 "definitions": {
2756   "BinarySwitch": {
2757     "properties": {
2758       "rt": {
2759         "description": "The Resource Type.",
2760         "items": {
2761           "enum": ["oic.r.switch.binary"],
2762           "maxLength": 64,
2763           "type": "string"
2764         },
2765         "minItems": 1,
2766         "uniqueItems": true,
2767         "readOnly": true,
2768         "type": "array"
2769       },
2770       "value": {
2771         "description": "The status of the switch.",
2772         "type": "boolean"
2773       },
2774       "n": {
2775         "$ref":
2776         "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
2777         schema.json#/definitions/n"
2778       },
2779       "id": {
2780         "$ref":
2781         "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
2782         schema.json#/definitions/id"
2783       },
2784       "if": {
2785         "description": "The OCF Interface set supported by this Resource.",
2786         "items": {
2787           "enum": [
2788             "oic.if.a",
2789             "oic.if.baseline"
2790           ],
2791           "type": "string"
2792         },
2793         "minItems": 2,
2794         "uniqueItems": true,
2795         "readOnly": true,
2796         "type": "array"
2797       }
2798     },
2799     "type": "object",
2800     "required": ["value"]
2801   }
2802 }
2803 }
2804

```

2805 6.5.5 Property definition

2806 Table 13 defines the Properties that are part of the "oic.r.switch.binary" Resource Type.

2807 **Table 13 – The Property definitions of the Resource with type "rt" = "oic.r.switch.binary".**

Property name	Value type	Mandatory	Access mode	Description
rt	array: see schema	No	Read Only	The Resource Type.
value	boolean	Yes	Read Write	The status of the switch.

n	multiple types: see schema	No	Read Write	
id	multiple types: see schema	No	Read Write	
if	array: see schema	No	Read Only	The OCF Interface set supported by this Resource.

2808 **6.5.6 CRUDN behaviour**

2809 Table 14 defines the CRUDN operations that are supported on the "oic.r.switch.binary" Resource
2810 Type.

2811 **Table 14 – The CRUDN operations of the Resource with type "rt" = "oic.r.switch.binary".**

Create	Read	Update	Delete	Notify
	get	post		observe

2812 **6.6 Brightness**

2813 **6.6.1 Introduction**

2814 This Resource describes the brightness of a light or lamp.
2815 The Property "brightness" is an integer showing the current brightness level as a quantized
2816 representation in the range 0-100.
2817 A brightness of 0 is the minimum for the resource.
2818 A brightness of 100 is the maximum for the resource.

2819 **6.6.2 Example URI**

2820 /BrightnessResURI

2821 **6.6.3 Resource type**

2822 The Resource Type is defined as: "oic.r.light.brightness".

2823 **6.6.4 OpenAPI 2.0 definition**

```
2824 {
2825   "swagger": "2.0",
2826   "info": {
2827     "title": "Brightness",
2828     "version": "20190222",
2829     "license": {
2830       "name": "OCF Data Model License",
2831       "url":
2832         "https://github.com/openconnectivityfoundation/core/blob/e28a9e0a92e17042ba3e83661e4c0fbce8bdc4ba/LI
2833         CENSE.md",
2834       "x-copyright": "Copyright 2018-2019 Open Connectivity Foundation, Inc. All rights reserved."
2835     },
2836     "termsOfService": "https://openconnectivityfoundation.github.io/core/DISCLAIMER.md"
2837   },
2838   "schemes": ["http"],
2839   "consumes": ["application/json"],
2840   "produces": ["application/json"],
2841   "paths": {
2842     "/BrightnessResURI" : {
2843       "get": {
2844         "description": "This Resource describes the brightness of a light or lamp.\nThe Property
2845         \"brightness\" is an integer showing the current brightness level as a quantized representation in
2846         the range 0-100.\nA brightness of 0 is the minimum for the resource.\nA brightness of 100 is the
2847         maximum for the resource.",
2848         "parameters": [
2849           {"$ref": "#/parameters/interface"}
2850         ],
2851         "responses": {
2852           "200": {
```

```

2853         "description" : "",
2854         "x-example":
2855             {
2856                 "rt": ["oic.r.light.brightness"],
2857                 "if": ["oic.if.a", "oic.if.baseline"],
2858                 "brightness": 50
2859             },
2860         "schema": { "$ref": "#/definitions/Brightness" }
2861     }
2862 },
2863 },
2864 "post": {
2865     "description": "Sets the desired brightness level.\n",
2866     "parameters": [
2867         { "$ref": "#/parameters/interface" },
2868         {
2869             "name": "body",
2870             "in": "body",
2871             "required": true,
2872             "schema": { "$ref": "#/definitions/Brightness" },
2873             "x-example":
2874                 {
2875                     "brightness": 10
2876                 }
2877         }
2878     ],
2879     "responses": {
2880         "200": {
2881             "description": "Indicates that the brightness was changed.\nThe new brightness level
2882 is provided in the response.\n",
2883             "x-example":
2884                 {
2885                     "brightness": 10
2886                 },
2887             "schema": { "$ref": "#/definitions/Brightness" }
2888         }
2889     }
2890 }
2891 },
2892 },
2893 "parameters": {
2894     "interface" : {
2895         "in": "query",
2896         "name": "if",
2897         "type": "string",
2898         "enum": ["oic.if.a", "oic.if.baseline"]
2899     }
2900 },
2901 "definitions": {
2902     "Brightness" : {
2903         "properties": {
2904             "rt": {
2905                 "description": "The Resource Type.",
2906                 "items": {
2907                     "enum": ["oic.r.light.brightness"],
2908                     "maxLength": 64,
2909                     "type": "string"
2910                 },
2911                 "minItems": 1,
2912                 "uniqueItems": true,
2913                 "readOnly": true,
2914                 "type": "array"
2915             },
2916             "brightness": {
2917                 "description": "The Quantized representation in the range 0-100 of the current sensed or
2918 set value for Brightness.",
2919                 "maximum": 100,
2920                 "minimum": 0,
2921                 "type": "integer"
2922             },
2923             "n": {
2924                 "$ref":

```

```

2925 "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
2926 schema.json#/definitions/n"
2927 },
2928 "id": {
2929   "$ref":
2930 "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
2931 schema.json#/definitions/id"
2932 },
2933 "if": {
2934   "description": "The OCF Interface set supported by this Resource.",
2935   "items": {
2936     "enum": [
2937       "oic.if.a",
2938       "oic.if.baseline"
2939     ],
2940     "type": "string"
2941   },
2942   "minItems": 2,
2943   "uniqueItems": true,
2944   "readOnly": true,
2945   "type": "array"
2946 },
2947 },
2948 "type": "object",
2949 "required": ["brightness"]
2950 }
2951 }
2952 }
2953

```

2954 **6.6.5 Property definition**

2955 Table 15 defines the Properties that are part of the "oic.r.light.brightness" Resource Type.

2956 **Table 15 – The Property definitions of the Resource with type "rt" =**
 2957 **"oic.r.light.brightness".**

Property name	Value type	Mandatory	Access mode	Description
rt	array: see schema	No	Read Only	The Resource Type.
brightness	integer	Yes	Read Write	The Quantized representation in the range 0-100 of the current sensed or set value for Brightness.
n	multiple types: see schema	No	Read Write	
id	multiple types: see schema	No	Read Write	
if	array: see schema	No	Read Only	The OCF Interface set supported by this Resource.

2958 **6.6.6 CRUDN behaviour**

2959 Table 16 defines the CRUDN operations that are supported on the "oic.r.light.brightness" Resource
 2960 Type.

2961 **Table 16 – The CRUDN operations of the Resource with type "rt" = "oic.r.light.brightness".**

Create	Read	Update	Delete	Notify
	get	post		observe

2962 6.7 Colour Chroma

2963 6.7.1 Introduction

2964 This Resource describes the colour using chroma conventions.

2965 Properties are "hue", "saturation", "csc", and "ct".

2966 The Property "hue" is the hue angle, it is an integer value as defined by the CIECAM02 model
2967 definition (see reference [CIE CIE159:2004]).

2968 The Property "saturation" is an integer value as defined by the CIECAM02 model definition (see
2969 reference [CIE CIE159:2004]).

2970 The Property "maximumsaturation" is the upper bound on the saturation supported by the Device.
2971 If not present the maximum value for "saturation" is 32767.

2972 The Property "csc" is the colour space coordinates in CIE colour space.

2973 The first item in the array is the X coordinate.

2974 The second item in the array is the Y coordinate.

2975 The Property "nct" is the Mired colour temperature.

2976 The Resource provides the colour using chroma conventions.

2977 6.7.2 Example URI

2978 /example/ColourChromaResURI

2979 6.7.3 Resource type

2980 The Resource Type is defined as: "oic.r.colour.chroma".

2981 6.7.4 OpenAPI 2.0 definition

```
2982 {
2983   "swagger": "2.0",
2984   "info": {
2985     "title": "Colour Chroma",
2986     "version": "20190215",
2987     "license": {
2988       "name": "OCF Data Model License",
2989       "url":
2990         "https://github.com/openconnectivityfoundation/core/blob/e28a9e0a92e17042ba3e83661e4c0fbce8bdc4ba/LI
2991         CENSE.md",
2992       "x-copyright": "copyright 2016-2017, 2019 Open Connectivity Foundation, Inc. All rights
2993       reserved."
2994     },
2995     "termsOfService": "https://openconnectivityfoundation.github.io/core/DISCLAIMER.md"
2996   },
2997   "schemes": ["http"],
2998   "consumes": ["application/json"],
2999   "produces": ["application/json"],
3000   "paths": {
3001     "/example/ColourChromaResURI" : {
3002       "get": {
3003         "description": "This Resource describes the colour using chroma conventions.\nProperties are
3004         \"hue\", \"saturation\", \"csc\", and \"ct\".\n\nThe Property \"hue\" is the hue angle, it is an
3005         integer value as defined by the CIECAM02 model definition (see reference [CIE CIE159:2004]).\n\nThe
3006         Property \"saturation\" is an integer value as defined by the CIECAM02 model definition (see
3007         reference [CIE CIE159:2004]).\n\nThe Property \"maximumsaturation\" is the upper bound on the
3008         saturation supported by the Device.\n\nIf not present the maximum value for \"saturation\" is
3009         32767.\n\nThe Property \"csc\" is the colour space coordinates in CIE colour space.\n\n The first item
3010         in the array is the X coordinate.\n\n The second item in the array is the Y coordinate.\n\nThe Property
3011         \"nct\" is the Mired colour temperature.\n\nThe Resource provides the colour using chroma
3012         conventions.",
3013         "parameters": [
3014           {"$ref": "#/parameters/interface"}
3015         ],
3016         "responses": {
3017           "200": {
3018             "description": "",
3019             "x-example":
3020               {
3021                 "rt": ["oic.r.colour.chroma"],
3022                 "if": [ "oic.if.a", "oic.if.baseline"],
```

```

3023         "hue": 256.0,
3024         "saturation": 212,
3025         "maximumsaturation": 1000,
3026         "csc": [0.41, 0.51],
3027         "ct": 457
3028     },
3029     "schema": { "$ref": "#/definitions/ColourChroma" }
3030 }
3031 },
3032 },
3033 "post": {
3034     "description": "Sets current colour chroma values\n",
3035     "parameters": [
3036         { "$ref": "#/parameters/interface" },
3037         {
3038             "name": "body",
3039             "in": "body",
3040             "required": true,
3041             "schema": { "$ref": "#/definitions/ColourChroma" },
3042             "x-example":
3043                 {
3044                     "hue": 300.0,
3045                     "saturation": 212,
3046                     "csc": [0.41, 0.51],
3047                     "ct": 457
3048                 }
3049         }
3050     ],
3051     "responses": {
3052         "200": {
3053             "description": "",
3054             "x-example":
3055                 {
3056                     "hue": 300.0,
3057                     "saturation": 212,
3058                     "csc": [0.41, 0.51],
3059                     "ct": 467
3060                 },
3061             "schema": { "$ref": "#/definitions/ColourChroma" }
3062         }
3063     }
3064 },
3065 },
3066 },
3067 "parameters": {
3068     "interface": {
3069         "in": "query",
3070         "name": "if",
3071         "type": "string",
3072         "enum": ["oic.if.a", "oic.if.baseline"]
3073     }
3074 },
3075 "definitions": {
3076     "ColourChroma": {
3077         "properties": {
3078             "rt": {
3079                 "description": "The Resource Type.",
3080                 "items": {
3081                     "enum": ["oic.r.colour.chroma"],
3082                     "maxLength": 64,
3083                     "type": "string"
3084                 },
3085                 "minItems": 1,
3086                 "uniqueItems": true,
3087                 "readOnly": true,
3088                 "type": "array"
3089             },
3090             "ct": {
3091                 "description": "The Mired colour temperature.",
3092                 "minimum": 0,
3093                 "type": "integer"
3094             },

```

```

3095     "hue" : {
3096         "description": "The hue angle as defined by the CIECAM02 model definition.",
3097         "maximum": 360.0,
3098         "minimum": 0.0,
3099         "type": "number"
3100     },
3101     "saturation" : {
3102         "description": "The saturation as defined by the CIECAM02 model definition.",
3103         "maximum": 32767,
3104         "minimum": 0,
3105         "type": "integer"
3106     },
3107     "maximumsaturation" : {
3108         "description": "The maximum supported value of \"saturation\" for this Device.",
3109         "maximum": 32767,
3110         "minimum": 0,
3111         "readOnly": true,
3112         "type": "integer"
3113     },
3114     "csc" : {
3115         "description": "The X and Y coordinates of the colour in CIE colour space",
3116         "items": {
3117             "maximum": 1,
3118             "minimum": 0,
3119             "type": "number"
3120         },
3121         "maxItems": 2,
3122         "minItems": 2,
3123         "type": "array"
3124     },
3125     "n": {
3126         "$ref":
3127         "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
3128         schema.json#/definitions/n"
3129     },
3130     "id": {
3131         "$ref":
3132         "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
3133         schema.json#/definitions/id"
3134     },
3135     "if" : {
3136         "description": "The OCF Interface set supported by this Resource.",
3137         "items": {
3138             "enum": [
3139                 "oic.if.a",
3140                 "oic.if.baseline"
3141             ],
3142             "maxLength": 64,
3143             "type": "string"
3144         },
3145         "minItems": 2,
3146         "uniqueItems": true,
3147         "readOnly": true,
3148         "type": "array"
3149     }
3150 },
3151 "type" : "object",
3152 "required": ["hue", "saturation", "csc"]
3153 }
3154 }
3155 }
3156

```

3157 6.7.5 Property definition

3158 Table 17 defines the Properties that are part of the "oic.r.colour.chroma" Resource Type.

3159 **Table 17 – The Property definitions of the Resource with type "rt" = "oic.r.colour.chroma".**

Property name	Value type	Mandatory	Access mode	Description
rt	array: see schema	No	Read Only	The Resource Type.

ct	integer	No	Read Write	The Mired colour temperature.
hue	number	Yes	Read Write	The hue angle as defined by the CIECAM02 model definition.
saturation	integer	Yes	Read Write	The saturation as defined by the CIECAM02 model definition.
maximumsaturation	integer	No	Read Only	The maximum supported value of "saturation" for this Device.
csc	array: see schema	Yes	Read Write	The X and Y coordinates of the colour in CIE colour space
n	multiple types: see schema	No	Read Write	
id	multiple types: see schema	No	Read Write	
if	array: see schema	No	Read Only	The OCF Interface set supported by this Resource.

3160 **6.7.6 CRUDN behaviour**

3161 Table 18 defines the CRUDN operations that are supported on the "oic.r.colour.chroma" Resource
3162 Type.

3163 **Table 18 – The CRUDN operations of the Resource with type "rt" = "oic.r.colour.chroma".**

Create	Read	Update	Delete	Notify
	get	post		observe

3164 **6.8 Colour RGB**

3165 **6.8.1 Introduction**

3166 This Resource specifies the actual colour in the RGB space represented as an array of integers.

3167 Each colour value is described with a Red, Green, Blue component.

3168 These colour values are encoded as an array of integer values ([R,G,B]).

3169 The minimum and maximum colour value per component may be described by the Property
3170 "range".

3171 When "range" is omitted, then the "range" is [0,255].

3172 **6.8.2 Example URI**

3173 /ColourRGBResURI

3174 **6.8.3 Resource type**

3175 The Resource Type is defined as: "oic.r.colour.rgb".

3176 **6.8.4 OpenAPI 2.0 definition**

```
3177 {
3178   "swagger": "2.0",
3179   "info": {
3180     "title": "Colour RGB",
3181     "version": "20190215",
3182     "license": {
```

```

3183         "name": "OCF Data Model License",
3184         "url":
3185 "https://github.com/openconnectivityfoundation/core/blob/e28a9e0a92e17042ba3e83661e4c0fbce8bdc4ba/LI
3186 CENSE.md",
3187         "x-copyright": "copyright 2016-2017, 2019 Open Connectivity Foundation, Inc. All rights
3188 reserved.",
3189     },
3190     "termsOfService": "https://openconnectivityfoundation.github.io/core/DISCLAIMER.md"
3191 },
3192 "schemes": ["http"],
3193 "consumes": ["application/json"],
3194 "produces": ["application/json"],
3195 "paths": {
3196     "/ColourRGBResURI" : {
3197         "get": {
3198             "description": "This Resource specifies the actual colour in the RGB space represented as an
3199 array of integers.\nEach colour value is described with a Red, Green, Blue component.\nThese colour
3200 values are encoded as an array of integer values ([R,G,B]).\nThe minimum and maximum colour value
3201 per component may be described by the Property \"range\".\nWhen \"range\" is omitted, then the
3202 \"range\" is [0,255].",
3203             "parameters": [
3204                 {"$ref": "#/parameters/interface"}
3205             ],
3206             "responses": {
3207                 "200": {
3208                     "description": "",
3209                     "x-example":
3210                     {
3211                         "rt": ["oic.r.colour.rgb"],
3212                         "if": ["oic.if.a", "oic.if.baseline"],
3213                         "rgbValue": [255, 255, 255],
3214                         "range": [0, 255]
3215                     },
3216                     "schema": { "$ref": "#/definitions/ColourRGB" }
3217                 }
3218             }
3219         },
3220         "post": {
3221             "description": "Sets the current colourRGB value\n",
3222             "parameters": [
3223                 {"$ref": "#/parameters/interface"},
3224                 {
3225                     "name": "body",
3226                     "in": "body",
3227                     "required": true,
3228                     "schema": { "$ref": "#/definitions/ColourRGB" },
3229                     "x-example":
3230                     {
3231                         "rgbValue": [255, 0, 0]
3232                     }
3233                 }
3234             ],
3235             "responses": {
3236                 "200": {
3237                     "description": "",
3238                     "x-example":
3239                     {
3240                         "rgbValue": [255, 0, 0]
3241                     },
3242                     "schema": { "$ref": "#/definitions/ColourRGB" }
3243                 }
3244             }
3245         }
3246     },
3247     "parameters": {
3248         "interface" : {
3249             "in": "query",
3250             "name": "if",
3251             "type": "string",
3252             "enum": ["oic.if.a", "oic.if.baseline"]
3253         }
3254     }

```

```

3255 },
3256 "definitions": {
3257   "ColourRGB" : {
3258     "properties": {
3259       "rt": {
3260         "description": "The Resource Type.",
3261         "items": {
3262           "enum": ["oic.r.colour.rgb"],
3263           "maxLength": 64,
3264           "type": "string"
3265         },
3266         "minItems": 1,
3267         "uniqueItems": true,
3268         "readOnly": true,
3269         "type": "array"
3270       },
3271       "rgbValue": {
3272         "description": "The RGB value; the first item is the R, second the G, third the B.",
3273         "items": {
3274           "type": "integer"
3275         },
3276         "maxItems": 3,
3277         "minItems": 3,
3278         "type": "array"
3279       },
3280       "n": {
3281         "$ref":
3282         "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
3283         schema.json#/definitions/n"
3284       },
3285       "id": {
3286         "$ref":
3287         "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
3288         schema.json#/definitions/id"
3289       },
3290       "range": {
3291         "$ref":
3292         "https://openconnectivityfoundation.github.io/IoTDataModels/schemas/oic.baseresource.properties-
3293         schema.json#/definitions/range_integer"
3294       },
3295       "step": {
3296         "$ref":
3297         "https://openconnectivityfoundation.github.io/IoTDataModels/schemas/oic.baseresource.properties-
3298         schema.json#/definitions/step_integer"
3299       },
3300       "if": {
3301         "description": "The OCF Interface set supported by this Resource.",
3302         "items": {
3303           "enum": [
3304             "oic.if.a",
3305             "oic.if.baseline"
3306           ],
3307           "type": "string"
3308         },
3309         "minItems": 2,
3310         "uniqueItems": true,
3311         "readOnly": true,
3312         "type": "array"
3313       }
3314     },
3315     "type": "object",
3316     "required": ["rgbValue"]
3317   }
3318 }
3319 }
3320

```

3321 6.8.5 Property definition

3322 Table 19 defines the Properties that are part of the "oic.r.colour.rgb" Resource Type.

3323

Table 19 – The Property definitions of the Resource with type "rt" = "oic.r.colour.rgb".

Property name	Value type	Mandatory	Access mode	Description
rt	array: see schema	No	Read Only	The Resource Type.
rgbValue	array: see schema	Yes	Read Write	The RGB value; the first item is the R, second the G, third the B.
n	multiple types: see schema	No	Read Write	
id	multiple types: see schema	No	Read Write	
range	multiple types: see schema	No	Read Write	
step	multiple types: see schema	No	Read Write	
if	array: see schema	No	Read Only	The OCF Interface set supported by this Resource.

3324 6.8.6 CRUDN behaviour

3325 Table 20 defines the CRUDN operations that are supported on the "oic.r.colour.rgb" Resource Type.

3326 **Table 20 – The CRUDN operations of the Resource with type "rt" = "oic.r.colour.rgb".**

Create	Read	Update	Delete	Notify
	get	post		observe

3327 6.9 Dimming

3328 6.9.1 Introduction

3329 This Resource describes a dimming function.

3330 The Property "dimmingSetting" is an integer showing the current dimming level.

3331 If Property "step" is present then it represents the increment between dimmer values.

3332 When the Property "range" is omitted, then the range is [0,100].

3333 A value of 0 means total dimming; a value of 100 means no dimming.

3334 6.9.2 Example URI

3335 /DimmingResURI

3336 6.9.3 Resource type

3337 The Resource Type is defined as: "oic.r.light.dimming".

3338 6.9.4 OpenAPI 2.0 definition

```

3339 {
3340   "swagger": "2.0",
3341   "info": {
3342     "title": "Dimming",
3343     "version": "20190215",
3344     "license": {
3345       "name": "OCF Data Model License",
3346       "url":
3347         "https://github.com/openconnectivityfoundation/core/blob/e28a9e0a92e17042ba3e83661e4c0fbce8bdc4ba/LI
3348         CENSE.md",
3349       "x-copyright": "copyright 2016-2017, 2019 Open Connectivity Foundation, Inc. All rights
3350 reserved."
3351     },
3352     "termsOfService": "https://openconnectivityfoundation.github.io/core/DISCLAIMER.md"

```

```

3353     },
3354     "schemes": ["http"],
3355     "consumes": ["application/json"],
3356     "produces": ["application/json"],
3357     "paths": {
3358         "/DimmingResURI" : {
3359             "get": {
3360                 "description": "This Resource describes a dimming function.\n\nThe Property \"dimmingSetting\"
3361 is an integer showing the current dimming level.\n\nIf Property \"step\" is present then it represents
3362 the increment between dimmer values.\n\nWhen the Property \"range\" is omitted, then the range is
3363 [0,100].\n\nA value of 0 means total dimming; a value of 100 means no dimming.",
3364                 "parameters": [
3365                     { "$ref": "#/parameters/interface" }
3366                 ],
3367                 "responses": {
3368                     "200": {
3369                         "description": "",
3370                         "x-example":
3371                         {
3372                             "rt": ["oic.r.light.dimming"],
3373                             "if": ["oic.if.a", "oic.if.baseline"],
3374                             "dimmingSetting": 30,
3375                             "step": 5,
3376                             "range": [0, 100]
3377                         },
3378                         "schema": { "$ref": "#/definitions/Dimming" }
3379                     }
3380                 }
3381             },
3382             "post": {
3383                 "description": "Sets the desired dimming level.\n\n",
3384                 "parameters": [
3385                     { "$ref": "#/parameters/interface" },
3386                     {
3387                         "name": "body",
3388                         "in": "body",
3389                         "required": true,
3390                         "schema": { "$ref": "#/definitions/Dimming" },
3391                         "x-example":
3392                         {
3393                             "dimmingSetting": 40
3394                         }
3395                     }
3396                 ],
3397                 "responses": {
3398                     "200": {
3399                         "description": "Indicates that the dimming was changed.\n\nThe new dimming level is
3400 provided in the response.\n\n",
3401                         "x-example":
3402                         {
3403                             "dimmingSetting": 40
3404                         },
3405                         "schema": { "$ref": "#/definitions/Dimming" }
3406                     },
3407                     "403": {
3408                         "description": "This response is generated by the OCF Server when the client sends:\n\n
3409 An update with an out of range property value for dimmingSetting.\n\nThe server responds with the
3410 current resource representation.\n\n",
3411                         "x-example":
3412                         {
3413                             "dimmingSetting": 40
3414                         },
3415                         "schema": { "$ref": "#/definitions/Dimming" }
3416                     }
3417                 }
3418             }
3419         }
3420     },
3421     "parameters": {
3422         "interface": {
3423             "in": "query",
3424             "name": "if",

```



```

3425     "type": "string",
3426     "enum": ["oic.if.a", "oic.if.baseline"]
3427   },
3428 },
3429 "definitions": {
3430   "Dimming": {
3431     "properties": {
3432       "rt": {
3433         "description": "The Resource Type.",
3434         "items": {
3435           "enum": ["oic.r.light.dimming"],
3436           "maxLength": 64,
3437           "type": "string"
3438         },
3439         "minItems": 1,
3440         "uniqueItems": true,
3441         "readOnly": true,
3442         "type": "array"
3443       },
3444       "dimmingSetting": {
3445         "description": "The current dimming value.",
3446         "type": "integer"
3447       },
3448       "n": {
3449         "$ref":
3450         "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
3451         schema.json#/definitions/n"
3452       },
3453       "id": {
3454         "$ref":
3455         "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
3456         schema.json#/definitions/id"
3457       },
3458       "range": {
3459         "$ref":
3460         "https://openconnectivityfoundation.github.io/IoTDataModels/schemas/oic.baseresource.properties-
3461         schema.json#/definitions/range_integer"
3462       },
3463       "step": {
3464         "$ref":
3465         "https://openconnectivityfoundation.github.io/IoTDataModels/schemas/oic.baseresource.properties-
3466         schema.json#/definitions/step_integer"
3467       },
3468       "if": {
3469         "description": "The OCF Interface set supported by this Resource.",
3470         "items": {
3471           "enum": [
3472             "oic.if.a",
3473             "oic.if.baseline"
3474           ],
3475           "type": "string"
3476         },
3477         "minItems": 2,
3478         "uniqueItems": true,
3479         "readOnly": true,
3480         "type": "array"
3481       }
3482     },
3483     "type": "object",
3484     "required": ["dimmingSetting"]
3485   }
3486 }
3487 }
3488

```

3489 6.9.5 Property definition

3490 Table 21 defines the Properties that are part of the "oic.r.light.dimming" Resource Type.

3491 **Table 21 – The Property definitions of the Resource with type "rt" = "oic.r.light.dimming".**

Property name	Value type	Mandatory	Access mode	Description
rt	array: see schema	No	Read Only	The Resource Type.
dimmingSetting	integer	Yes	Read Write	The current dimming value.
n	multiple types: see schema	No	Read Write	
id	multiple types: see schema	No	Read Write	
range	multiple types: see schema	No	Read Write	
step	multiple types: see schema	No	Read Write	
if	array: see schema	No	Read Only	The OCF Interface set supported by this Resource.

3492 **6.9.6 CRUDN behaviour**

3493 Table 22 defines the CRUDN operations that are supported on the "oic.r.light.dimming" Resource
 3494 Type.

3495 **Table 22 – The CRUDN operations of the Resource with type "rt" = "oic.r.light.dimming".**

Create	Read	Update	Delete	Notify
	get	post		observe

3496 **6.10 Door**

3497 **6.10.1 Introduction**

3498 This Resource describes the open state of the door.
 3499 A door is modelled by means of openState (Open/Closed), openDuration (ISO 8601 Time), and
 3500 openAlarm (boolean).
 3501 For Property "openState", the value 'Open' indicates the door is open.
 3502 The value 'Closed' indicates the door is closed.
 3503 The type of Property "openDuration" is an RFC Time encoded string.
 3504 The Property "openAlarm" value 'true' indicates that the open alarm is active.
 3505 The openAlarm value 'false' indicates that open alarm is not active.
 3506 retrieves the state of the Door.

3507 **6.10.2 Example URI**

3508 /DoorResURI

3509 **6.10.3 Resource type**

3510 The Resource Type is defined as: "oic.r.door".

3511 **6.10.4 OpenAPI 2.0 definition**

```

3512 {
3513   "swagger": "2.0",
3514   "info": {
3515     "title": "Door",
3516     "version": "20190215",
3517     "license": {
3518       "name": "OCF Data Model License",
3519       "url":
3520 "https://github.com/openconnectivityfoundation/core/blob/e28a9e0a92e17042ba3e83661e4c0fbce8bdc4ba/LI
3521 CENSE.md",

```

```

3522         "x-copyright": "copyright 2016-2017, 2019 Open Connectivity Foundation, Inc. All rights
3523 reserved."
3524     },
3525     "termsOfService": "https://openconnectivityfoundation.github.io/core/DISCLAIMER.md"
3526 },
3527 "schemes": ["http"],
3528 "consumes": ["application/json"],
3529 "produces": ["application/json"],
3530 "paths": {
3531     "/DoorResURI" : {
3532         "get": {
3533             "description": "This Resource describes the open state of the door.\nA door is modelled by
3534 means of openState (Open/Closed), openDuration (ISO 8601 Time), and openAlarm (boolean).\nFor
3535 Property \"openState\", the value 'Open' indicates the door is open.\nThe value 'Closed' indicates
3536 the door is closed.\nThe type of Property \"openDuration\" is an RFC Time encoded string.\nThe
3537 Property \"openAlarm\" value 'true' indicates that the open alarm is active.\nThe openAlarm value
3538 'false' indicates that open alarm is not active.\nretrieves the state of the Door.",
3539             "parameters": [
3540                 {"$ref": "#/parameters/interface"}
3541             ],
3542             "responses": {
3543                 "200": {
3544                     "description": "",
3545                     "x-example": {
3546                         "rt": ["oic.r.door"],
3547                         "if": ["oic.if.a", "oic.if.baseline"],
3548                         "openState": "Open",
3549                         "openDuration": "P0Y0M0DT2H25M5S",
3550                         "openAlarm": true
3551                     },
3552                     "schema": { "$ref": "#/definitions/Door" }
3553                 }
3554             }
3555         },
3556         "post": {
3557             "description": "Sets the current Door properties.\nThe only property that can be set as part
3558 of an update operation is\n the openAlarm.\nThis can be made active (true) or inactive (false)\n",
3559             "parameters": [
3560                 {"$ref": "#/parameters/interface"},
3561                 {
3562                     "name": "body",
3563                     "in": "body",
3564                     "required": true,
3565                     "schema": { "$ref": "#/definitions/DoorUpdate" },
3566                     "x-example": {
3567                         "openAlarm": false
3568                     }
3569                 }
3570             ],
3571             "responses": {
3572                 "200": {
3573                     "description": "",
3574                     "x-example": {
3575                         "openAlarm": false
3576                     },
3577                     "schema": { "$ref": "#/definitions/DoorUpdate" }
3578                 }
3579             }
3580         }
3581     }
3582 },
3583 "parameters": {
3584     "interface": {
3585         "in": "query",
3586         "name": "if",
3587         "type": "string",
3588         "enum": ["oic.if.a", "oic.if.baseline"]
3589     }
3590 },
3591 "definitions": {
3592     "Door" : {
3593         "properties": {

```

```

3594     "rt": {
3595         "description": "The Resource Type.",
3596         "items": {
3597             "enum": ["oic.r.door"],
3598             "maxLength": 64,
3599             "type": "string"
3600         },
3601         "minItems": 1,
3602         "uniqueItems": true,
3603         "readOnly": true,
3604         "type": "array"
3605     },
3606     "openDuration": {
3607         "$ref": "https://openconnectivityfoundation.github.io/core/schemas/oic.types-
3608 schema.json#/definitions/duration"
3609     },
3610     "openState": {
3611         "description": "The state of the door (open or closed).",
3612         "enum": [
3613             "Open",
3614             "Closed"
3615         ],
3616         "readOnly": true,
3617         "type": "string"
3618     },
3619     "openAlarm": {
3620         "description": "The state of the door open alarm.",
3621         "type": "boolean"
3622     },
3623     "n": {
3624         "$ref":
3625 "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
3626 schema.json#/definitions/n"
3627     },
3628     "id": {
3629         "$ref":
3630 "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
3631 schema.json#/definitions/id"
3632     },
3633     "if": {
3634         "description": "The OCF Interface set supported by this Resource.",
3635         "items": {
3636             "enum": [
3637                 "oic.if.a",
3638                 "oic.if.baseline"
3639             ],
3640             "type": "string"
3641         },
3642         "minItems": 2,
3643         "uniqueItems": true,
3644         "readOnly": true,
3645         "type": "array"
3646     }
3647 },
3648 "type": "object",
3649 "required": ["openState"]
3650 },
3651 "DoorUpdate" : {
3652     "properties": {
3653         "openAlarm": {
3654             "description": "The state of the door open alarm.",
3655             "type": "boolean"
3656         }
3657     },
3658     "type": "object",
3659     "required": ["openAlarm"]
3660 }
3661 }
3662 }
3663

```

3664 **6.10.5 Property definition**

3665 Table 23 defines the Properties that are part of the "oic.r.door" Resource Type.

3666 **Table 23 – The Property definitions of the Resource with type "rt" = "oic.r.door".**

Property name	Value type	Mandatory	Access mode	Description
rt	array: see schema	No	Read Only	The Resource Type.
openDuration	multiple types: see schema	No	Read Write	
openState	string	Yes	Read Only	The state of the door (open or closed).
openAlarm	boolean	No	Read Write	The state of the door open alarm.
n	multiple types: see schema	No	Read Write	
id	multiple types: see schema	No	Read Write	
if	array: see schema	No	Read Only	The OCF Interface set supported by this Resource.
openAlarm	boolean	Yes	Read Write	The state of the door open alarm.

3667 **6.10.6 CRUDN behaviour**

3668 Table 24 defines the CRUDN operations that are supported on the "oic.r.door" Resource Type.

3669 **Table 24 – The CRUDN operations of the Resource with type "rt" = "oic.r.door".**

Create	Read	Update	Delete	Notify
	get	post		observe

3670 **6.11 Energy Consumption**

3671 **6.11.1 Introduction**

3672 This Resource describes the energy consumed by the Device since power up (the energy value is
3673 in Watt Hours [Wh])

3674 and the instantaneous power draw of the device (the power value is in Watts [W]) at the time the
3675 resource was queried.

3676 The Property "power" value is in Watts [W].

3677 The Property "energy" value is in Watt Hours [Wh].

3678 The Resource provides the current power draw and cumulative energy usage.

3679 **6.11.2 Example URI**

3680 /EnergyConsumptionResURI

3681 **6.11.3 Resource type**

3682 The Resource Type is defined as: "oic.r.energy.consumption".

3683 **6.11.4 OpenAPI 2.0 definition**

```
3684 {
3685   "swagger": "2.0",
3686   "info": {
3687     "title": "Energy Consumption",
3688     "version": "20190215",
3689     "license": {
3690       "name": "OCF Data Model License",
```

```

3691         "url":
3692         "https://github.com/openconnectivityfoundation/core/blob/e28a9e0a92e17042ba3e83661e4c0fbce8bdc4ba/LI
3693         CENSE.md",
3694         "x-copyright": "copyright 2016-2017, 2019 Open Connectivity Foundation, Inc. All rights
3695         reserved."
3696     },
3697     "termsOfService": "https://openconnectivityfoundation.github.io/core/DISCLAIMER.md"
3698 },
3699 "schemes": ["http"],
3700 "consumes": ["application/json"],
3701 "produces": ["application/json"],
3702 "paths": {
3703     "/EnergyConsumptionResURI" : {
3704         "get": {
3705             "description": "This Resource describes the energy consumed by the Device since power up
3706             (the energy value is in Watt Hours [Wh]) \nand the instantaneous power draw of the device (the power
3707             value is in Watts [W]) at the time the resource was queried.\nThe Property \"power\" value is in
3708             Watts [W].\nThe Property \"energy\" value is in Watt Hours [Wh].\nThe Resource provides the current
3709             power draw and cumulative energy usage.",
3710             "parameters": [
3711                 {"$ref": "#/parameters/interface"}
3712             ],
3713             "responses": {
3714                 "200": {
3715                     "description": "",
3716                     "x-example":
3717                     {
3718                         "rt": ["oic.r.energy.consumption"],
3719                         "if": ["oic.if.s", "oic.if.baseline"],
3720                         "power": 2000.1,
3721                         "energy": 3500.4
3722                     },
3723                     "schema": { "$ref": "#/definitions/Consumption" }
3724                 }
3725             }
3726         }
3727     }
3728 },
3729 "parameters": {
3730     "interface" : {
3731         "in" : "query",
3732         "name" : "if",
3733         "type" : "string",
3734         "enum" : ["oic.if.s", "oic.if.baseline"]
3735     }
3736 },
3737 "definitions": {
3738     "Consumption" : {
3739         "properties": {
3740             "rt": {
3741                 "description": "The Resource Type.",
3742                 "items": {
3743                     "enum": ["oic.r.energy.consumption"],
3744                     "maxLength": 64,
3745                     "type": "string"
3746                 },
3747                 "minItems": 1,
3748                 "uniqueItems": true,
3749                 "readOnly": true,
3750                 "type": "array"
3751             },
3752             "power": {
3753                 "description": "The instantaneous Power.",
3754                 "readOnly": true,
3755                 "type": "number"
3756             },
3757             "energy": {
3758                 "description": "The energy consumed.",
3759                 "readOnly": true,
3760                 "type": "number"
3761             },
3762             "n": {

```

```

3763         "$ref":
3764         "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
3765         schema.json#/definitions/n"
3766     },
3767     "id": {
3768         "$ref":
3769         "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
3770         schema.json#/definitions/id"
3771     },
3772     "if": {
3773         "description": "The OCF Interface set supported by this Resource.",
3774         "items": {
3775             "enum": [
3776                 "oic.if.s",
3777                 "oic.if.baseline"
3778             ],
3779             "type": "string"
3780         },
3781         "minItems": 2,
3782         "uniqueItems": true,
3783         "readOnly": true,
3784         "type": "array"
3785     }
3786 },
3787 "type": "object",
3788 "required": ["power", "energy"]
3789 }
3790 }
3791 }
3792

```

3793 6.11.5 Property definition

3794 Table 25 defines the Properties that are part of the "oic.r.energy.consumption" Resource Type.

3795 **Table 25 – The Property definitions of the Resource with type "rt" =**
3796 **"oic.r.energy.consumption".**

Property name	Value type	Mandatory	Access mode	Description
rt	array: see schema	No	Read Only	The Resource Type.
power	number	Yes	Read Only	The instantaneous Power.
energy	number	Yes	Read Only	The energy consumed.
n	multiple types: see schema	No	Read Write	
id	multiple types: see schema	No	Read Write	
if	array: see schema	No	Read Only	The OCF Interface set supported by this Resource.

3797 6.11.6 CRUDN behaviour

3798 Table 26 defines the CRUDN operations that are supported on the "oic.r.energy.consumption"
3799 Resource Type.

3800 **Table 26 – The CRUDN operations of the Resource with type "rt" =**
3801 **"oic.r.energy.consumption".**

Create	Read	Update	Delete	Notify
	get			observe

3802 **6.12 Energy Usage**

3803 **6.12.1 Introduction**

3804 This Resource describes a cumulative time-based energy usage query..

3805 The Resource is a Collection of:

3806 TimePeriod Resource

3807 EnergyConsumption Resource

3808

3809 **6.12.2 Example URI**

3810 /EnergyUsageResURI

3811 **6.12.3 Resource type**

3812 The Resource Type is defined as: "oic.r.energy.usage".

3813 **6.12.4 OpenAPI 2.0 definition**

```
3814 {
3815   "swagger": "2.0",
3816   "info": {
3817     "title": "Energy Usage",
3818     "version": "20190307",
3819     "license": {
3820       "name": "OCF Data Model License",
3821       "url":
3822         "https://github.com/openconnectivityfoundation/core/blob/e28a9e0a92e17042ba3e83661e4c0fbce8bdc4ba/LI
3823         CENSE.md",
3824       "x-copyright": "copyright 2016-2019 Open Connectivity Foundation, Inc. All rights reserved."
3825     },
3826     "termsOfService": "https://openconnectivityfoundation.github.io/core/DISCLAIMER.md"
3827   },
3828   "schemes": ["http"],
3829   "consumes": ["application/json"],
3830   "produces": ["application/json"],
3831   "paths": {
3832     "/EnergyUsageResURI?if=oic.if.ll": {
3833       "get": {
3834         "description": "This Resource describes a cumulative time-based energy usage query.\n\nThe
3835         Resource is a Collection of:\n\n TimePeriod Resource\n\n EnergyConsumption Resource\n",
3836         "parameters": [
3837           {"$ref": "#/parameters/interface"}
3838         ],
3839         "responses": {
3840           "200": {
3841             "description": "",
3842             "x-example":
3843               [
3844                 {"href": "/TimePeriodResURI", "rt":["oic.r.time.period"],
3845                 "if":["oic.if.a","oic.if.baseline"], "eps":[{"ep": "coaps://[fe80::b1d6]:1122"}]},
3846                 {"href": "/EnergyConsumptionResURI", "rt":["oic.r.energy.consumption"],
3847                 "if":["oic.if.s","oic.if.baseline"], "eps":[{"ep": "coaps://[fe80::b1d6]:1122"}]}
3848               ],
3849             "schema": { "$ref": "#/definitions/Usage-ll" }
3850           }
3851         }
3852       }
3853     },
3854     "/EnergyUsageResURI?if=oic.if.b" : {
3855       "get": {
3856         "description": "This Resource describes a cumulative time-based energy usage query.\n\nThe
3857         Resource is a Collection of:\n\n TimePeriod Resource\n\n EnergyConsumption Resource\n",
3858         "parameters": [
3859           {"$ref": "#/parameters/interface"}
3860         ],
3861         "responses": {
3862           "200": {
3863             "description": "",
3864             "x-example": [
```



```

3865         {
3866             "href": "/TimePeriodResURI",
3867             "rep": {
3868                 "startTime": "2015-01-09T14:30Z",
3869                 "stopTime": "2015-01-09T14:45Z"
3870             }
3871         },
3872         {
3873             "href": "/EnergyConsumptionResURI",
3874             "rep": {
3875                 "power": 2000.1,
3876                 "energy": 3500.4
3877             }
3878         }
3879     ],
3880     "schema": { "$ref": "#/definitions/EnergyUsageBatch-Retrieve" }
3881 }
3882 },
3883 "post": {
3884     "description": "Sets the timer period of the query using the batch OCF Interface\n",
3885     "parameters": [
3886         { "$ref": "#/parameters/interface-b" },
3887         {
3888             "name": "body",
3889             "in": "body",
3890             "required": true,
3891             "schema": { "$ref": "#/definitions/EnergyUsageBatch-Update" },
3892             "x-example": [
3893                 {
3894                     "href": "/TimePeriodResURI",
3895                     "rep": {
3896                         "startTime": "2015-03-15T10:30Z",
3897                         "stopTime": "2015-03-15T10:45Z"
3898                     }
3899                 }
3900             ]
3901         }
3902     ],
3903     "responses": {
3904         "200": {
3905             "description": "",
3906             "x-example": [
3907                 {
3908                     "href": "/TimePeriodResURI",
3909                     "rep": {
3910                         "startTime": "2015-03-15T10:30Z",
3911                         "stopTime": "2015-03-15T10:45Z"
3912                     }
3913                 },
3914                 {
3915                     "href": "/EnergyConsumptionResURI",
3916                     "rep": {
3917                         "power": 1500.1,
3918                         "energy": 2200.4
3919                     }
3920                 }
3921             ]
3922         },
3923         "schema": { "$ref": "#/definitions/EnergyUsageBatch-Retrieve" }
3924     }
3925 }
3926 },
3927 "/EnergyUsageResURI?if=oic.if.baseline" : {
3928     "get": {
3929         "description": "This Resource describes a cumulative time-based energy usage query..\n\nThe
3930 Resource is a Collection of:\n TimePeriod Resource\n EnergyConsumption Resource\n",
3931         "parameters": [
3932             { "$ref": "#/parameters/interface" }
3933         ],
3934         "responses": {
3935             "200": {

```

```

3937         "description" : "",
3938         "x-example":
3939             {
3940                 "rt": ["oic.r.energy.usage"],
3941                 "if": ["oic.if.ll","oic.if.b","oic.if.baseline"],
3942                 "rts": ["oic.r.time.period","oic.r.energy.consumption"],
3943                 "links": [
3944                     { "href": "/TimePeriodResURI", "rt":["oic.r.time.period"],
3945 "if":["oic.if.a","oic.if.baseline"], "eps":[{"ep": "coaps://[fe80::b1d6]:1122}"}},
3946                     { "href": "/EnergyConsumptionResURI", "rt":["oic.r.energy.consumption"],
3947 "if":["oic.if.s","oic.if.baseline"], "eps":[{"ep": "coaps://[fe80::b1d6]:1122}"}
3948                 ]
3949             },
3950         "schema": { "$ref": "#/definitions/Usage-baseline" }
3951     }
3952 }
3953 }
3954 }
3955 },
3956 "parameters": {
3957     "interface" : {
3958         "in" : "query",
3959         "name" : "if",
3960         "type" : "string",
3961         "enum" : ["oic.if.ll", "oic.if.b", "oic.if.baseline"]
3962     },
3963     "interface-b" : {
3964         "in" : "query",
3965         "name" : "if",
3966         "type" : "string",
3967         "enum" : ["oic.if.b"]
3968     }
3969 },
3970 "definitions": {
3971     "Usage-ll": {
3972         "items": {
3973             "$ref": "#/definitions/oic.oic-link"
3974         },
3975         "type": "array"
3976     },
3977     "oic.oic-link": {
3978         "type": "object",
3979         "properties": {
3980             "anchor": {
3981                 "$ref":
3982 "https://openconnectivityfoundation.github.io/core/schemas/oic.links.properties.core-
3983 schema.json#/definitions/anchor"
3984             },
3985             "di": {
3986                 "$ref":
3987 "https://openconnectivityfoundation.github.io/core/schemas/oic.links.properties.core-
3988 schema.json#/definitions/di"
3989             },
3990             "eps": {
3991                 "$ref":
3992 "https://openconnectivityfoundation.github.io/core/schemas/oic.links.properties.core-
3993 schema.json#/definitions/eps"
3994             },
3995             "href": {
3996                 "$ref":
3997 "https://openconnectivityfoundation.github.io/core/schemas/oic.links.properties.core-
3998 schema.json#/definitions/href"
3999             },
4000             "ins": {
4001                 "$ref":
4002 "https://openconnectivityfoundation.github.io/core/schemas/oic.links.properties.core-
4003 schema.json#/definitions/ins"
4004             },
4005             "p": {
4006                 "$ref":
4007 "https://openconnectivityfoundation.github.io/core/schemas/oic.links.properties.core-
4008 schema.json#/definitions/p"

```

```

4009     },
4010     "rel": {
4011         "$ref":
4012         "https://openconnectivityfoundation.github.io/core/schemas/oic.links.properties.core-
4013         schema.json#/definitions/rel_array"
4014     },
4015     "title": {
4016         "$ref":
4017         "https://openconnectivityfoundation.github.io/core/schemas/oic.links.properties.core-
4018         schema.json#/definitions/title"
4019     },
4020     "type": {
4021         "$ref":
4022         "https://openconnectivityfoundation.github.io/core/schemas/oic.links.properties.core-
4023         schema.json#/definitions/type"
4024     },
4025     "if": {
4026         "description": "The OCF Interfaces supported by the target Resource",
4027         "items": {
4028             "enum": [
4029                 "oic.if.a",
4030                 "oic.if.s",
4031                 "oic.if.baseline"
4032             ],
4033             "type": "string",
4034             "maxLength": 64
4035         },
4036         "minItems": 2,
4037         "uniqueItems": true,
4038         "type": "array",
4039         "readOnly": true
4040     },
4041     "rt": {
4042         "description": "Resource Type of the target Resource",
4043         "items": {
4044             "maxLength": 64,
4045             "type": "string",
4046             "enum": ["oic.r.time.period", "oic.r.energy.consumption"]
4047         },
4048         "minItems": 1,
4049         "type": "array",
4050         "uniqueItems": true,
4051         "readOnly": true
4052     },
4053     },
4054     "required": [
4055         "href",
4056         "rt",
4057         "if"
4058     ]
4059 },
4060 "Usage-baseline": {
4061     "properties": {
4062         "rt": {
4063             "description": "Resource Type of this Resource",
4064             "items": {
4065                 "maxLength": 64,
4066                 "type": "string",
4067                 "enum": ["oic.r.energy.usage"]
4068             },
4069             "minItems": 1,
4070             "readOnly": true,
4071             "uniqueItems": true,
4072             "type": "array"
4073         },
4074         "rts": {
4075             "items": {
4076                 "enum": [
4077                     "oic.r.time.period",
4078                     "oic.r.energy.consumption"
4079                 ],
4080                 "type": "string",

```

```

4081         "maxLength": 64
4082     },
4083     "minItems": 1,
4084     "type": "array",
4085     "readOnly": true,
4086     "uniqueItems": true
4087 },
4088 "links": {
4089     "description": "A set of simple or individual OCF Links.",
4090     "type": "array",
4091     "items": {
4092         "$ref": "#/definitions/oic.oic-link"
4093     }
4094 },
4095 "n": {
4096     "$ref" :
4097 "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
4098 schema.json#/definitions/n"
4099 },
4100 "id": {
4101     "$ref" :
4102 "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
4103 schema.json#/definitions/id"
4104 },
4105 "if": {
4106     "description": "The OCF Interfaces supported by this Resource",
4107     "items": {
4108         "enum": [
4109             "oic.if.ll",
4110             "oic.if.b",
4111             "oic.if.baseline"
4112         ],
4113         "type": "string",
4114         "maxLength": 64
4115     },
4116     "minItems": 1,
4117     "readOnly": true,
4118     "uniqueItems": true,
4119     "type": "array"
4120 }
4121 },
4122 "type": "object",
4123 "required": ["rt", "if", "links"]
4124 },
4125 "EnergyUsageBatch-Retrieve" : {
4126     "type": "array",
4127     "minItems": 2,
4128     "uniqueItems": true,
4129     "items": {
4130         "type": "object",
4131         "additionalProperties": true,
4132         "properties": {
4133             "href": {
4134                 "$ref":
4135 "https://openconnectivityfoundation.github.io/core/schemas/oic.links.properties.core-
4136 schema.json#/definitions/href"
4137             },
4138             "rep": {
4139                 "anyOf": [
4140                     {"$ref":
4141 "https://openconnectivityfoundation.github.io/IoTDataModels/TimePeriodResURI.swagger.json#/definitio
4142 ns/TimePeriod"},
4143                     {"$ref":
4144 "https://openconnectivityfoundation.github.io/IoTDataModels/EnergyConsumptionResURI.swagger.json#/de
4145 finitions/Consumption"}
4146                 ]
4147             }
4148         },
4149         "required": [
4150             "href",
4151             "rep"
4152         ]

```

```

4153     }
4154   },
4155   "EnergyUsageBatch-Update" : {
4156     "type": "array",
4157     "minItems": 1,
4158     "uniqueItems": true,
4159     "items": {
4160       "type": "object",
4161       "additionalProperties": true,
4162       "properties": {
4163         "href": {
4164           "$ref":
4165           "https://openconnectivityfoundation.github.io/core/schemas/oic.links.properties.core-
4166           schema.json#/definitions/href"
4167         },
4168         "rep": {
4169           "anyOf": [
4170             {
4171               "$ref":
4172               "https://openconnectivityfoundation.github.io/IoTDataModels/TimePeriodResURI.swagger.json#/definitio
4173               ns/TimePeriod"
4174             }
4175           ],
4176           "required": [
4177             "href",
4178             "rep"
4179           ]
4180         }
4181       }
4182     }
4183   }
4184 }

```

4185 6.12.5 Property definition

4186 Table 27 defines the Properties that are part of the "oic.r.energy.usage" Resource Type.

4187 **Table 27 – The Property definitions of the Resource with type "rt" = "oic.r.energy.usage".**

Property name	Value type	Mandatory	Access mode	Description
anchor	multiple types: see schema	No	Read Write	
di	multiple types: see schema	No	Read Write	
eps	multiple types: see schema	No	Read Write	
href	multiple types: see schema	Yes	Read Write	
ins	multiple types: see schema	No	Read Write	
p	multiple types: see schema	No	Read Write	
rel	multiple types: see schema	No	Read Write	
title	multiple types: see schema	No	Read Write	
type	multiple types: see schema	No	Read Write	
if	array: see schema	Yes	Read Only	The OCF Interfaces supported by the target Resource
rt	array: see schema	Yes	Read Only	Resource Type of the target Resource

rt	array: see schema	Yes	Read Only	Resource Type of this Resource
rts	array: see schema	No	Read Only	
links	array: see schema	Yes	Read Write	A set of simple or individual OCF Links.
n	multiple types: see schema	No	Read Write	
id	multiple types: see schema	No	Read Write	
if	array: see schema	Yes	Read Only	The OCF Interfaces supported by this Resource
href	multiple types: see schema	Yes	Read Write	
rep	multiple types: see schema	Yes	Read Write	
href	multiple types: see schema	Yes	Read Write	
rep	multiple types: see schema	Yes	Read Write	

4188 **6.12.6 CRUDN behaviour**

4189 Table 28 defines the CRUDN operations that are supported on the "oic.r.energy.usage" Resource
4190 Type.

4191 **Table 28 – The CRUDN operations of the Resource with type "rt" = "oic.r.energy.usage".**

Create	Read	Update	Delete	Notify
	get			observe

4192 **6.13 Humidity**

4193 **6.13.1 Introduction**

4194 This Resource describes a sensed or desired humidity.
4195 The Property "humidity" is an integer describing the percentage measured relative humidity.
4196 The Property "desiredHumidity" is an integer showing the desired target relative humidity.

4197 **6.13.2 Example URI**

4198 /HumidityResURI

4199 **6.13.3 Resource type**

4200 The Resource Type is defined as: "oic.r.humidity".

4201 **6.13.4 OpenAPI 2.0 definition**

```
4202 {
4203   "swagger": "2.0",
4204   "info": {
4205     "title": "Humidity",
4206     "version": "20190215",
4207     "license": {
4208       "name": "OCF Data Model License",
4209       "url":
4210         "https://github.com/openconnectivityfoundation/core/blob/e28a9e0a92e17042ba3e83661e4c0fbce8bdc4ba/LI
4211         CENSE.md",
4212       "x-copyright": "copyright 2016-2017, 2019 Open Connectivity Foundation, Inc. All rights
4213         reserved."
4214     },

```

```

4215     "termsOfService": "https://openconnectivityfoundation.github.io/core/DISCLAIMER.md"
4216   },
4217   "schemes": ["http"],
4218   "consumes": ["application/json"],
4219   "produces": ["application/json"],
4220   "paths": {
4221     "/HumidityResURI" : {
4222       "get": {
4223         "description": "This Resource describes a sensed or desired humidity.\nThe Property
4224 \\"humidity\" is an integer describing the percentage measured relative humidity.\nThe Property
4225 \\"desiredHumidity\" is an integer showing the desired target relative humidity.",
4226         "parameters": [
4227           { "$ref": "#/parameters/interface" }
4228         ],
4229         "responses": {
4230           "200": {
4231             "description": "RETRIEVES the current (relative) humidity level.",
4232             "x-example":
4233               {
4234                 "rt": ["oic.r.humidity"],
4235                 "if": ["oic.if.a", "oic.if.baseline"],
4236                 "humidity": 40,
4237                 "desiredHumidity": 40
4238               },
4239             "schema": { "$ref": "#/definitions/Humidity" }
4240           }
4241         }
4242       },
4243       "post": {
4244         "description": "Sets the desired relative humidity level.",
4245         "parameters": [
4246           { "$ref": "#/parameters/interface" },
4247           {
4248             "name": "body",
4249             "in": "body",
4250             "required": true,
4251             "schema": { "$ref": "#/definitions/HumidityUpdate" },
4252             "x-example":
4253               {
4254                 "desiredHumidity" : 45
4255               }
4256           }
4257         ],
4258         "responses": {
4259           "200": {
4260             "description": "Indicates that the relative humidity level was changed.\nThe new
4261 relative humidity level is provided in the response.",
4262             "x-example":
4263               {
4264                 "desiredHumidity": 45
4265               },
4266             "schema": { "$ref": "#/definitions/HumidityUpdate" }
4267           }
4268         }
4269       }
4270     }
4271   },
4272   "parameters": {
4273     "interface": {
4274       "in": "query",
4275       "name": "if",
4276       "type": "string",
4277       "enum": ["oic.if.a", "oic.if.s", "oic.if.baseline"]
4278     }
4279   },
4280   "definitions": {
4281     "Humidity" : {
4282       "properties": {
4283         "rt": {
4284           "description": "The Resource Type.",
4285           "items": {
4286             "enum": ["oic.r.humidity"],

```

```

4287         "maxLength": 64,
4288         "type": "string"
4289     },
4290     "minItems": 1,
4291     "uniqueItems": true,
4292     "readOnly": true,
4293     "type": "array"
4294 },
4295 "desiredHumidity": {
4296     "description": "The desired value for humidity.",
4297     "maximum": 100,
4298     "minimum": 0,
4299     "type": "integer"
4300 },
4301 "humidity": {
4302     "description": "The current sensed value for humidity.",
4303     "maximum": 100,
4304     "minimum": 0,
4305     "readOnly": true,
4306     "type": "integer"
4307 },
4308 "n": {
4309     "$ref":
4310 "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
4311 schema.json#/definitions/n"
4312 },
4313 "id": {
4314     "$ref":
4315 "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
4316 schema.json#/definitions/id"
4317 },
4318 "if": {
4319     "description": "The OCF Interface set supported by this Resource.",
4320     "items": {
4321         "enum": [
4322             "oic.if.a",
4323             "oic.if.s",
4324             "oic.if.baseline"
4325         ],
4326         "type": "string"
4327     },
4328     "minItems": 2,
4329     "uniqueItems": true,
4330     "readOnly": true,
4331     "type": "array"
4332 }
4333 },
4334 "type": "object",
4335 "required": ["humidity"]
4336 },
4337 "HumidityUpdate" : {
4338     "properties": {
4339         "desiredHumidity": {
4340             "description": "Desired value for Humidity",
4341             "maximum": 100,
4342             "minimum": 0,
4343             "type": "integer"
4344         }
4345     },
4346     "type": "object",
4347     "required": ["desiredHumidity"]
4348 }
4349 }
4350 }
4351

```

4352 6.13.5 Property definition

4353 Table 29 defines the Properties that are part of the "oic.r.humidity" Resource Type.

4354 **Table 29 – The Property definitions of the Resource with type "rt" = "oic.r.humidity".**

Property name	Value type	Mandatory	Access mode	Description
rt	array: see schema	No	Read Only	The Resource Type.
desiredHumidity	integer	No	Read Write	The desired value for humidity.
humidity	integer	Yes	Read Only	The current sensed value for humidity.
n	multiple types: see schema	No	Read Write	
id	multiple types: see schema	No	Read Write	
if	array: see schema	No	Read Only	The OCF Interface set supported by this Resource.
desiredHumidity	integer	Yes	Read Write	Desired value for Humidity

4355 **6.13.6 CRUDN behaviour**

4356 Table 30 defines the CRUDN operations that are supported on the "oic.r.humidity" Resource Type.

4357 **Table 30 – The CRUDN operations of the Resource with type "rt" = "oic.r.humidity".**

Create	Read	Update	Delete	Notify
	get	post		observe

4358 **6.14 Ice Maker**

4359 **6.14.1 Introduction**

4360 This Resource describes an the operational state of an Ice Maker.

4361 The Property "status" is a string containing a value from the set of possible ice maker statuses.

4362 The possible statuses are defined by the enumeration ["on", "off", "full"]

4363 A status of "on" means that the Ice Maker is operating.

4364 A status of "off" means that the Ice Maker is not operating.

4365 A status of "full" means that the ice collection bin is full (Ice Maker is operating).

4366 **6.14.2 Example URI**

4367 /IceMakerResURI

4368 **6.14.3 Resource type**

4369 The Resource Type is defined as: "oic.r.icemaker".

4370 **6.14.4 OpenAPI 2.0 definition**

```

4371 {
4372   "swagger": "2.0",
4373   "info": {
4374     "title": "Ice Maker",
4375     "version": "20190215",
4376     "license": {
4377       "name": "OCF Data Model License",
4378       "url":
4379 "https://github.com/openconnectivityfoundation/core/blob/e28a9e0a92e17042ba3e83661e4c0fbce8bdc4ba/LI
4380 CENSE.md",
4381       "x-copyright": "copyright 2016-2017, 2019 Open Connectivity Foundation, Inc. All rights
4382 reserved."
4383     },
4384     "termsOfService": "https://openconnectivityfoundation.github.io/core/DISCLAIMER.md"
4385   },

```

```

4386     "schemes": ["http"],
4387     "consumes": ["application/json"],
4388     "produces": ["application/json"],
4389     "paths": {
4390         "/IceMakerResURI" : {
4391             "get": {
4392                 "description": "This Resource describes an the operational state of an Ice Maker.\nThe
4393 Property \"status\" is a string containing a value from the set of possible ice maker statuses.\nThe
4394 possible statuses are defined by the enumeration [\"on\", \"off\", \"full\"]\nA status of \"on\"
4395 means that the Ice Maker is operating.\nA status of \"off\" means that the Ice Maker is not
4396 operating.\nA status of \"full\" means that the ice collection bin is full (Ice Maker is
4397 operating).",
4398                 "parameters": [
4399                     { "$ref": "#/parameters/interface" }
4400                 ],
4401                 "responses": {
4402                     "200": {
4403                         "description": "RETRIEVES the current Ice Maker status.",
4404                         "x-example":
4405                             {
4406                                 "rt": ["oic.r.icemaker"],
4407                                 "if": ["oic.if.a", "oic.if.baseline"],
4408                                 "status": "on"
4409                             },
4410                         "schema": { "$ref": "#/definitions/IceMaker" }
4411                     }
4412                 }
4413             },
4414             "post": {
4415                 "description": "Sets the desired Ice Maker status.\nOnly valid settings for \"status\" in a
4416 UPDATE shall be \"on\" or \"off\".",
4417                 "parameters": [
4418                     { "$ref": "#/parameters/interface" },
4419                     {
4420                         "name": "body",
4421                         "in": "body",
4422                         "required": true,
4423                         "schema": { "$ref": "#/definitions/IceMakerUpdate" },
4424                         "x-example":
4425                             {
4426                                 "status": "off"
4427                             }
4428                     }
4429                 ],
4430                 "responses": {
4431                     "200": {
4432                         "description": "Indicates that the Ice Maker status was changed.\nThe new status is
4433 provided in the response.\n",
4434                         "x-example":
4435                             {
4436                                 "status": "off"
4437                             },
4438                         "schema": { "$ref": "#/definitions/IceMakerUpdate" }
4439                     },
4440                     "403": {
4441                         "description": "This response is generated by the OCF Server when the client sends:\n
4442 An UPDATE with an invalid property value for \"status\".\nThe OCF Server responds with the current
4443 resource representation.\n",
4444                         "x-example":
4445                             {
4446                                 "status": "off"
4447                             },
4448                         "schema": { "$ref": "#/definitions/IceMakerUpdate" }
4449                     }
4450                 }
4451             }
4452         }
4453     },
4454     "parameters": {
4455         "interface": {
4456             "in": "query",
4457             "name": "if",

```

```

4458     "type": "string",
4459     "enum": ["oic.if.a", "oic.if.baseline"]
4460   },
4461 },
4462 "definitions": {
4463   "IceMaker" : {
4464     "properties": {
4465       "rt": {
4466         "description": "The Resource Type.",
4467         "items": {
4468           "enum": ["oic.r.icemaker"],
4469           "maxLength": 64,
4470           "type": "string"
4471         },
4472         "minItems": 1,
4473         "uniqueItems": true,
4474         "readOnly": true,
4475         "type": "array"
4476       },
4477       "status": {
4478         "description": "The status of the Ice Maker.",
4479         "enum": [
4480           "on",
4481           "off",
4482           "full"
4483         ],
4484         "type": "string"
4485       },
4486       "n": {
4487         "$ref":
4488         "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
4489         schema.json#/definitions/n"
4490       },
4491       "id": {
4492         "$ref":
4493         "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
4494         schema.json#/definitions/id"
4495       },
4496       "if": {
4497         "description": "The OCF Interface set supported by this Resource.",
4498         "items": {
4499           "enum": [
4500             "oic.if.a",
4501             "oic.if.baseline"
4502           ],
4503           "type": "string"
4504         },
4505         "minItems": 2,
4506         "uniqueItems": true,
4507         "readOnly": true,
4508         "type": "array"
4509       }
4510     },
4511     "type": "object",
4512     "required": ["status"]
4513   },
4514   "IceMakerUpdate" : {
4515     "properties": {
4516       "status": {
4517         "description": "Set the status of the Ice Maker.",
4518         "enum": [
4519           "on",
4520           "off"
4521         ]
4522       }
4523     },
4524     "type": "object",
4525     "required": ["status"]
4526   }
4527 }
4528 }
4529

```

4530 **6.14.5 Property definition**

4531 Table 31 defines the Properties that are part of the "oic.r.icemaker" Resource Type.

4532 **Table 31 – The Property definitions of the Resource with type "rt" = "oic.r.icemaker".**

Property name	Value type	Mandatory	Access mode	Description
rt	array: see schema	No	Read Only	The Resource Type.
status	string	Yes	Read Write	The status of the Ice Maker.
n	multiple types: see schema	No	Read Write	
id	multiple types: see schema	No	Read Write	
if	array: see schema	No	Read Only	The OCF Interface set supported by this Resource.
status	multiple types: see schema	Yes	Read Write	Set the status of the Ice Maker.

4533 **6.14.6 CRUDN behaviour**

4534 Table 32 defines the CRUDN operations that are supported on the "oic.r.icemaker" Resource Type.

4535 **Table 32 – The CRUDN operations of the Resource with type "rt" = "oic.r.icemaker".**

Create	Read	Update	Delete	Notify
	get	post		observe

4536 **6.15 Lock**

4537 **6.15.1 Introduction**

4538 The Resource describing a lock.

4539 The Property "lockState" is a string. The value 'Locked' indicates that the door is Locked.

4540 The value 'Unlocked' indicates that the door is Unlocked.

4541 **6.15.2 Example URI**

4542 /LockStatusResURI

4543 **6.15.3 Resource type**

4544 The Resource Type is defined as: "oic.r.lock.status".

4545 **6.15.4 OpenAPI 2.0 definition**

```

4546 {
4547   "swagger": "2.0",
4548   "info": {
4549     "title": "Lock",
4550     "version": "20190215",
4551     "license": {
4552       "name": "OCF Data Model License",
4553       "url":
4554         "https://github.com/openconnectivityfoundation/core/blob/e28a9e0a92e17042ba3e83661e4c0fbce8bdc4ba/LI
4555         CENSE.md",
4556       "x-copyright": "copyright 2016-2017, 2019 Open Connectivity Foundation, Inc. All rights
4557         reserved."
4558     },
4559     "termsOfService": "https://openconnectivityfoundation.github.io/core/DISCLAIMER.md"
4560   },
4561   "schemes": ["http"],
4562   "consumes": ["application/json"],

```

```

4563     "produces": ["application/json"],
4564     "paths": {
4565         "/LockStatusResURI" : {
4566             "get": {
4567                 "description": "The Resource describing a lock.\n\nThe Property \"lockState\" is a string. The
4568 value 'Locked' indicates that the door is Locked.\n\nThe value 'Unlocked' indicates that the door is
4569 Unlocked.",
4570                 "parameters": [
4571                     { "$ref": "#/parameters/interface" }
4572                 ],
4573                 "responses": {
4574                     "200": {
4575                         "description": "RETRIEVES the state of the lock.",
4576                         "x-example":
4577                         {
4578                             "rt": ["oic.r.lock.status"],
4579                             "if": ["oic.if.a", "oic.if.baseline"],
4580                             "lockState": "Locked"
4581                         },
4582                         "schema": { "$ref": "#/definitions/Lock" }
4583                     }
4584                 },
4585             },
4586             "post": {
4587                 "description": "Sets the current lock state.\n\n",
4588                 "parameters": [
4589                     { "$ref": "#/parameters/interface" },
4590                     {
4591                         "name": "body",
4592                         "in": "body",
4593                         "required": true,
4594                         "schema": { "$ref": "#/definitions/Lock" },
4595                         "x-example":
4596                         {
4597                             "lockState": "Unlocked"
4598                         }
4599                     }
4600                 ],
4601                 "responses": {
4602                     "200": {
4603                         "description": "",
4604                         "x-example":
4605                         {
4606                             "lockState": "Unlocked"
4607                         },
4608                         "schema": { "$ref": "#/definitions/Lock" }
4609                     },
4610                     "403": {
4611                         "description": "This response is generated by the OCF Server when the client sends:\n
4612 An UPDATE with an invalid property value for \"lockState\".\n\nThe server responds with the current
4613 resource representation.\n\n",
4614                         "x-example":
4615                         {
4616                             "lockState": "Unlocked"
4617                         },
4618                         "schema": { "$ref": "#/definitions/Lock" }
4619                     }
4620                 }
4621             }
4622         },
4623     },
4624     "parameters": {
4625         "interface" : {
4626             "in" : "query",
4627             "name" : "if",
4628             "type" : "string",
4629             "enum" : ["oic.if.a", "oic.if.baseline"]
4630         }
4631     },
4632     "definitions": {
4633         "Lock" : {
4634             "properties": {

```

```

4635     "rt": {
4636         "description": "Resource Type",
4637         "items": {
4638             "enum": ["oic.r.lock.status"],
4639             "maxLength": 64,
4640             "type": "string"
4641         },
4642         "minItems": 1,
4643         "uniqueItems": true,
4644         "readOnly": true,
4645         "type": "array"
4646     },
4647     "lockState": {
4648         "description": "The state of the lock.",
4649         "enum": [
4650             "Locked",
4651             "Unlocked"
4652         ],
4653         "type": "string"
4654     },
4655     "n": {
4656         "$ref":
4657         "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
4658         schema.json#/definitions/n"
4659     },
4660     "id": {
4661         "$ref":
4662         "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
4663         schema.json#/definitions/id"
4664     },
4665     "if": {
4666         "description": "The OCF Interface set supported by this Resource.",
4667         "items": {
4668             "enum": [
4669                 "oic.if.a",
4670                 "oic.if.baseline"
4671             ],
4672             "type": "string"
4673         },
4674         "minItems": 2,
4675         "uniqueItems": true,
4676         "readOnly": true,
4677         "type": "array"
4678     }
4679 },
4680 "type": "object",
4681 "required": ["lockState"]
4682 }
4683 }
4684 }
4685

```

4686 6.15.5 Property definition

4687 Table 33 defines the Properties that are part of the "oic.r.lock.status" Resource Type.

4688 **Table 33 – The Property definitions of the Resource with type "rt" = "oic.r.lock.status".**

Property name	Value type	Mandatory	Access mode	Description
rt	array: see schema	No	Read Only	Resource Type
lockState	string	Yes	Read Write	The state of the lock.
n	multiple types: see schema	No	Read Write	
id	multiple types: see schema	No	Read Write	

if	array: see schema	No	Read Only	The OCF Interface set supported by this Resource.
----	-------------------	----	-----------	---

4689 **6.15.6 CRUDN behaviour**

4690 Table 34 defines the CRUDN operations that are supported on the "oic.r.lock.status" Resource
4691 Type.

4692 **Table 34 – The CRUDN operations of the Resource with type "rt" = "oic.r.lock.status".**

Create	Read	Update	Delete	Notify
	get	post		observe

4693 **6.16 Lock Code**

4694 **6.16.1 Introduction**

4695 The Resource describing a lock code.
4696 The Property "lockCodeList" is an array of possible codes that may be associated with a lock.
4697 The codes are all presented as strings.

4698 **6.16.2 Example URI**

4699 /LockCodeResURI

4700 **6.16.3 Resource type**

4701 The Resource Type is defined as: "oic.r.lock.code".

4702 **6.16.4 OpenAPI 2.0 definition**

```

4703 {
4704   "swagger": "2.0",
4705   "info": {
4706     "title": "Lock Code",
4707     "version": "20190215",
4708     "license": {
4709       "name": "OCF Data Model License",
4710       "url":
4711 "https://github.com/openconnectivityfoundation/core/blob/e28a9e0a92e17042ba3e83661e4c0fbce8bdc4ba/LI
4712 CENSE.md",
4713       "x-copyright": "copyright 2016-2017, 2019 Open Connectivity Foundation, Inc. All rights
4714 reserved."
4715     },
4716     "termsOfService": "https://openconnectivityfoundation.github.io/core/DISCLAIMER.md"
4717   },
4718   "schemes": ["http"],
4719   "consumes": ["application/json"],
4720   "produces": ["application/json"],
4721   "paths": {
4722     "/LockCodeResURI" : {
4723       "get": {
4724         "description": "The Resource describing a lock code.\nThe Property \"lockCodeList\" is an
4725 array of possible codes that may be associated with a lock.\nThe codes are all presented as
4726 strings.",
4727         "parameters": [
4728           { "$ref": "#/parameters/interface" }
4729         ],
4730         "responses": {
4731           "200": {
4732             "description": "RETRIEVES the current lock code values.",
4733             "x-example":
4734             {
4735               "rt": ["oic.r.lock.code"],
4736               "if": ["oic.if.a", "oic.if.baseline"],
4737               "lockCodeList": ["012345", "112233"]
4738             },
4739             "schema": { "$ref": "#/definitions/LockCode" }

```

```

4740     }
4741   },
4742 },
4743 "post": {
4744   "description": "Updates the current lock code values. e.g. all value in the property
4745   \"lockCodeList\",
4746   "parameters": [
4747     { "$ref": "#/parameters/interface" },
4748     {
4749       "name": "body",
4750       "in": "body",
4751       "required": true,
4752       "schema": { "$ref": "#/definitions/LockCode" },
4753       "x-example":
4754         {
4755           "lockCodeList": ["543210", "332211"]
4756         }
4757     }
4758   ],
4759   "responses": {
4760     "200": {
4761       "description": "",
4762       "x-example":
4763         {
4764           "lockCodeList": ["543210", "332211"]
4765         },
4766       "schema": { "$ref": "#/definitions/LockCode" }
4767     }
4768   }
4769 },
4770 },
4771 },
4772 "parameters": {
4773   "interface": {
4774     "in": "query",
4775     "name": "if",
4776     "type": "string",
4777     "enum": ["oic.if.a", "oic.if.baseline"]
4778   }
4779 },
4780 "definitions": {
4781   "LockCode": {
4782     "properties": {
4783       "rt": {
4784         "description": "The Resource Type.",
4785         "items": {
4786           "enum": ["oic.r.lock.code"],
4787           "maxLength": 64,
4788           "type": "string"
4789         },
4790         "minItems": 1,
4791         "uniqueItems": true,
4792         "readOnly": true,
4793         "type": "array"
4794       },
4795       "lockCodeList": {
4796         "items": {
4797           "description": "The value for the lock code.",
4798           "type": "string"
4799         },
4800         "type": "array"
4801       },
4802       "n": {
4803         "$ref":
4804         "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
4805         schema.json#/definitions/n"
4806       },
4807       "id": {
4808         "$ref":
4809         "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
4810         schema.json#/definitions/id"
4811       }
4812     }
4813   }
4814 }

```



```

4812     "if": {
4813         "description": "The OCF Interface set supported by this Resource.",
4814         "items": {
4815             "enum": [
4816                 "oic.if.a",
4817                 "oic.if.baseline"
4818             ],
4819             "type": "string"
4820         },
4821         "minItems": 2,
4822         "uniqueItems": true,
4823         "readOnly": true,
4824         "type": "array"
4825     }
4826 },
4827 "type": "object",
4828 "required": ["lockCodeList"]
4829 }
4830 }
4831 }
4832

```

4833 6.16.5 Property definition

4834 Table 35 defines the Properties that are part of the "oic.r.lock.code" Resource Type.

4835 **Table 35 – The Property definitions of the Resource with type "rt" = "oic.r.lock.code".**

Property name	Value type	Mandatory	Access mode	Description
rt	array: see schema	No	Read Only	The Resource Type.
lockCodeList	array: see schema	Yes	Read Write	
n	multiple types: see schema	No	Read Write	
id	multiple types: see schema	No	Read Write	
if	array: see schema	No	Read Only	The OCF Interface set supported by this Resource.

4836 6.16.6 CRUDN behaviour

4837 Table 36 defines the CRUDN operations that are supported on the "oic.r.lock.code" Resource Type.

4838 **Table 36 – The CRUDN operations of the Resource with type "rt" = "oic.r.lock.code".**

Create	Read	Update	Delete	Notify
	get	post		observe

4839 6.17 Mode

4840 6.17.1 Introduction

4841 This Resource describes the modes of operation that a Device can provide.

4842 The mode can be read or set.

4843 The Property "supportedModes" is an array of possible modes the device supports.

4844 The Property "modes" is an array of the currently active mode(s).

4845 6.17.2 Example URI

4846 /ModeResURI

4847 6.17.3 Resource type

4848 The Resource Type is defined as: "oic.r.mode".

4849 6.17.4 OpenAPI 2.0 definition

```
4850 {
4851   "swagger": "2.0",
4852   "info": {
4853     "title": "Mode",
4854     "version": "20190215",
4855     "license": {
4856       "name": "OCF Data Model License",
4857       "url":
4858         "https://github.com/openconnectivityfoundation/core/blob/e28a9e0a92e17042ba3e83661e4c0fbce8bdc4ba/LI
4859         CENSE.md",
4860       "x-copyright": "copyright 2016-2017, 2019 Open Connectivity Foundation, Inc. All rights
4861         reserved."
4862     },
4863     "termsOfService": "https://openconnectivityfoundation.github.io/core/DISCLAIMER.md"
4864   },
4865   "schemes": ["http"],
4866   "consumes": ["application/json"],
4867   "produces": ["application/json"],
4868   "paths": {
4869     "/ModeResURI" : {
4870       "get": {
4871         "description": "This Resource describes the modes of operation that a Device can
4872         provide.\n\nThe mode can be read or set.\n\nThe Property \"supportedModes\" is an array of possible
4873         modes the device supports.\n\nThe Property \"modes\" is an array of the currently active mode(s).",
4874         "parameters": [
4875           { "$ref": "#/parameters/interface" }
4876         ],
4877         "responses": {
4878           "200": {
4879             "description": "RETRIEVES the current mode.",
4880             "x-example":
4881               {
4882                 "rt": ["oic.r.mode"],
4883                 "if": ["oic.if.a", "oic.if.baseline"],
4884                 "supportedModes": ["active", "armedAway", "armedStay", "armedInstant"],
4885                 "modes": ["active"]
4886               },
4887             "schema": { "$ref": "#/definitions/Mode" }
4888           }
4889         },
4890       },
4891       "post": {
4892         "description": "Sets the desired mode.",
4893         "parameters": [
4894           { "$ref": "#/parameters/interface" },
4895           {
4896             "name": "body",
4897             "in": "body",
4898             "required": true,
4899             "schema": { "$ref": "#/definitions/ModeUpdate" },
4900             "x-example":
4901               {
4902                 "modes": ["armedAway"]
4903               }
4904           }
4905         ],
4906         "responses": {
4907           "200": {
4908             "description": "",
4909             "x-example":
4910               {
4911                 "modes": ["armedAway"]
4912               }
4913           },
4914           "403": {
4915             "description": "This response is generated by the OCF Server when the client sends:\n
4916             An UPDATE with an value for \"modes\" that is not found in \"supportedModes\".\n\nThe server responds
4917             with the current resource representation.\n",
```

```

4920         "x-example":
4921             {
4922                 "supportedModes": ["active", "armedAway", "armedStay", "armedInstant"],
4923                 "modes": ["active"]
4924             },
4925         "schema": { "$ref": "#/definitions/Mode" }
4926     }
4927 }
4928 }
4929 }
4930 },
4931 "parameters": {
4932     "interface": {
4933         "in": "query",
4934         "name": "if",
4935         "type": "string",
4936         "enum": ["oic.if.a", "oic.if.baseline"]
4937     }
4938 },
4939 "definitions": {
4940     "Mode" : {
4941         "properties": {
4942             "rt": {
4943                 "description": "The Resource Type.",
4944                 "items": {
4945                     "enum": ["oic.r.mode"],
4946                     "maxLength": 64,
4947                     "type": "string"
4948                 },
4949                 "minItems": 1,
4950                 "uniqueItems": true,
4951                 "readOnly": true,
4952                 "type": "array"
4953             },
4954             "modes": {
4955                 "description": "The array of the currently active mode(s).",
4956                 "items": {
4957                     "type": "string"
4958                 },
4959                 "type": "array"
4960             },
4961             "supportedModes": {
4962                 "description": "The array of possible modes the device supports.",
4963                 "items": {
4964                     "type": "string"
4965                 },
4966                 "readOnly": true,
4967                 "type": "array"
4968             },
4969             "n": {
4970                 "$ref":
4971 "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
4972 schema.json#/definitions/n"
4973             },
4974             "id": {
4975                 "$ref":
4976 "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
4977 schema.json#/definitions/id"
4978             },
4979             "if": {
4980                 "description": "The OCF Interface set supported by this Resource.",
4981                 "items": {
4982                     "enum": [
4983                         "oic.if.a",
4984                         "oic.if.baseline"
4985                     ],
4986                     "type": "string"
4987                 },
4988                 "minItems": 2,
4989                 "uniqueItems": true,
4990                 "readOnly": true,
4991                 "type": "array"

```

```

4992     }
4993   },
4994   "type": "object",
4995   "required": ["supportedModes", "modes"]
4996 },
4997 "ModeUpdate" : {
4998   "properties": {
4999     "modes": {
5000       "description": "Desired mode",
5001       "items": {
5002         "type": "string"
5003       },
5004       "type": "array"
5005     }
5006   },
5007   "type": "object",
5008   "required": ["modes"]
5009 }
5010 }
5011 }
5012

```

5013 6.17.5 Property definition

5014 Table 37 defines the Properties that are part of the "oic.r.mode" Resource Type.

5015 **Table 37 – The Property definitions of the Resource with type "rt" = "oic.r.mode".**

Property name	Value type	Mandatory	Access mode	Description
rt	array: see schema	No	Read Only	The Resource Type.
modes	array: see schema	Yes	Read Write	The array of the currently active mode(s).
supportedModes	array: see schema	Yes	Read Only	The array of possible modes the device supports.
n	multiple types: see schema	No	Read Write	
id	multiple types: see schema	No	Read Write	
if	array: see schema	No	Read Only	The OCF Interface set supported by this Resource.
modes	array: see schema	Yes	Read Write	Desired mode

5016 6.17.6 CRUDN behaviour

5017 Table 38 defines the CRUDN operations that are supported on the "oic.r.mode" Resource Type.

5018 **Table 38 – The CRUDN operations of the Resource with type "rt" = "oic.r.mode".**

Create	Read	Update	Delete	Notify
	get	post		observe

5019 6.18 Open Level

5020 6.18.1 Introduction

5021 This Resource describes how open or ajar an entity such as a window, door, blind or shutter is.

5022 The Property "openLevel" can be read (acting as a sensor).

5023 The "openLevel" can also be set (acting as an actuator).

5024 The "openLevel" is device dependent across the range provided.

5025 When the Property "range" is omitted then 0 to 100 is assumed where 0 means closed, 100 means fully open.

5027 If a "range" is provided then the lower bound=closed, upper bound=open.
5028 If Property "step" is present then it represents the increment between possible values; if not
5029 provided 1 is assumed.

5030 6.18.2 Example URI

5031 /OpenLevelResURI

5032 6.18.3 Resource type

5033 The Resource Type is defined as: "oic.r.openlevel".

5034 6.18.4 OpenAPI 2.0 definition

```
5035 {  
5036   "swagger": "2.0",  
5037   "info": {  
5038     "title": "Open Level",  
5039     "version": "20190215",  
5040     "license": {  
5041       "name": "OCF Data Model License",  
5042       "url":  
5043         "https://github.com/openconnectivityfoundation/core/blob/e28a9e0a92e17042ba3e83661e4c0fbce8bdc4ba/LI  
5044         CENSE.md",  
5045       "x-copyright": "copyright 2016-2017, 2019 Open Connectivity Foundation, Inc. All rights  
5046       reserved."  
5047     },  
5048     "termsOfService": "https://openconnectivityfoundation.github.io/core/DISCLAIMER.md"  
5049   },  
5050   "schemes": ["http"],  
5051   "consumes": ["application/json"],  
5052   "produces": ["application/json"],  
5053   "paths": {  
5054     "/OpenLevelResURI" : {  
5055       "get": {  
5056         "description": "This Resource describes how open or ajar an entity such as a window, door,  
5057         blind or shutter is.\n\nThe Property \"openLevel\" can be read (acting as a sensor).\n\nThe  
5058         \"openLevel\" can also be set (acting as an actuator).\n\nThe \"openLevel\" is device dependent across  
5059         the range provided.\n\nWhen the Property \"range\" is omitted then 0 to 100 is assumed where 0 means  
5060         closed, 100 means fully open.\n\nIf a \"range\" is provided then the lower bound=closed, upper  
5061         bound=open.\n\nIf Property \"step\" is present then it represents the increment between possible  
5062         values; if not provided 1 is assumed.",  
5063         "parameters": [  
5064           { "$ref": "#/parameters/interface" }  
5065         ],  
5066         "responses": {  
5067           "200": {  
5068             "description": "RETRIEVES the current openLevel.",  
5069             "x-example":  
5070               {  
5071                 "rt": ["oic.r.openlevel"],  
5072                 "if": ["oic.if.a", "oic.if.baseline"],  
5073                 "openLevel": 50,  
5074                 "step": 2,  
5075                 "range": [0, 100]  
5076               },  
5077             "schema": { "$ref": "#/definitions/OpenLevel" }  
5078           }  
5079         }  
5080       },  
5081       "post": {  
5082         "description": "Sets the desired openLevel.",  
5083         "parameters": [  
5084           { "$ref": "#/parameters/interface" },  
5085           {  
5086             "name": "body",  
5087             "in": "body",  
5088             "required": true,  
5089             "schema": { "$ref": "#/definitions/OpenLevel" },  
5090             "x-example":  
5091               {
```

```

5092         "openLevel": 0
5093     }
5094 }
5095 ],
5096 "responses": {
5097     "200": {
5098         "description": "",
5099         "x-example":
5100         {
5101             "openLevel": 0
5102         },
5103         "schema": { "$ref": "#/definitions/OpenLevel" }
5104     },
5105     "403": {
5106         "description": "This response is generated by the OCF Server when the client sends:\n
5107 An UPDATE with an out of range property value for \"openLevel\".\n
5108 The OCF Server responds with the
5109 current resource representation.\n",
5110         "x-example":
5111         {
5112             "openLevel": 50,
5113             "step": 2,
5114             "range": [0, 100]
5115         },
5116         "schema": { "$ref": "#/definitions/OpenLevel" }
5117     }
5118 }
5119 }
5120 },
5121 "parameters": {
5122     "interface": {
5123         "in": "query",
5124         "name": "if",
5125         "type": "string",
5126         "enum": ["oic.if.a", "oic.if.baseline"]
5127     }
5128 },
5129 "definitions": {
5130     "OpenLevel": {
5131         "properties": {
5132             "rt": {
5133                 "description": "The Resource Type.",
5134                 "items": {
5135                     "maxLength": 64,
5136                     "type": "string",
5137                     "enum": ["oic.r.openlevel"]
5138                 },
5139                 "minItems": 1,
5140                 "uniqueItems": true,
5141                 "readOnly": true,
5142                 "type": "array"
5143             },
5144             "openLevel": {
5145                 "description": "How open or ajar the entity is.",
5146                 "type": "integer"
5147             },
5148             "n": {
5149                 "$ref":
5150 "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
5151 schema.json#/definitions/n"
5152             },
5153             "id": {
5154                 "$ref":
5155 "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
5156 schema.json#/definitions/id"
5157             },
5158             "range": {
5159                 "$ref":
5160 "https://openconnectivityfoundation.github.io/IoTDataModels/schemas/oic.baseresource.properties-
5161 schema.json#/definitions/range_integer"
5162             },
5163             "step": {

```

```

5164         "$ref":
5165         "https://openconnectivityfoundation.github.io/IoTDataModels/schemas/oic.baseresource.properties-
5166         schema.json#/definitions/step_integer"
5167     },
5168     "if": {
5169         "description": "The OCF Interface set supported by this Resource.",
5170         "items": {
5171             "enum": [
5172                 "oic.if.a",
5173                 "oic.if.baseline"
5174             ],
5175             "type": "string"
5176         },
5177         "minItems": 2,
5178         "uniqueItems": true,
5179         "readOnly": true,
5180         "type": "array"
5181     }
5182 },
5183 "type": "object",
5184 "required": ["openLevel"]
5185 }
5186 }
5187 }
5188

```

5189 6.18.5 Property definition

5190 Table 39 defines the Properties that are part of the "oic.r.openlevel" Resource Type.

5191 **Table 39 – The Property definitions of the Resource with type "rt" = "oic.r.openlevel".**

Property name	Value type	Mandatory	Access mode	Description
rt	array: see schema	No	Read Only	The Resource Type.
openLevel	integer	Yes	Read Write	How open or ajar the entity is.
n	multiple types: see schema	No	Read Write	
id	multiple types: see schema	No	Read Write	
range	multiple types: see schema	No	Read Write	
step	multiple types: see schema	No	Read Write	
if	array: see schema	No	Read Only	The OCF Interface set supported by this Resource.

5192 6.18.6 CRUDN behaviour

5193 Table 40 defines the CRUDN operations that are supported on the "oic.r.openlevel" Resource Type.

5194 **Table 40 – The CRUDN operations of the Resource with type "rt" = "oic.r.openlevel".**

Create	Read	Update	Delete	Notify
	get	post		observe

5195 6.19 Operational State

5196 6.19.1 Introduction

5197 This Resource describes the operational and job states on a device.

5198 The states can be read or set, setting indicates a desired state.

5199 A device may reject an attempt to set a state that would result

5200 in adverse operational characteristics.
 5201 The Property "machineStates" is an array of the possible operational states.
 5202 The Property "currentMachineState" is the current state of operation of the device.
 5203 The Property "jobStates" is an array of the possible job states.
 5204 The Property "currentJobState" is the currently active jobState.
 5205 The Property "runningTime" is the ISO8601 encoded elapsed time in the current operational
 5206 state.
 5207 The Property "remainingTime" is the ISO8601 encoded time till completion of the current
 5208 operational state.
 5209 The Property "progressPercentage" is the percentage completeness of the current jobState.

5210 6.19.2 Example URI

5211 /OperationalStateResURI

5212 6.19.3 Resource type

5213 The Resource Type is defined as: "oic.r.operational.state".

5214 6.19.4 OpenAPI 2.0 definition

```

5215 {
5216   "swagger": "2.0",
5217   "info": {
5218     "title": "Operational State",
5219     "version": "20190215",
5220     "license": {
5221       "name": "OCF Data Model License",
5222       "url":
5223         "https://github.com/openconnectivityfoundation/core/blob/e28a9e0a92e17042ba3e83661e4c0fbc8e8bdc4ba/LI
5224         CENSE.md",
5225       "x-copyright": "copyright 2016-2017, 2019 Open Connectivity Foundation, Inc. All rights
5226         reserved."
5227     },
5228     "termsOfService": "https://openconnectivityfoundation.github.io/core/DISCLAIMER.md"
5229   },
5230   "schemes": ["http"],
5231   "consumes": ["application/json"],
5232   "produces": ["application/json"],
5233   "paths": {
5234     "/OperationalStateResURI": {
5235       "get": {
5236         "description": "This Resource describes the operational and job states on a device.\nThe
5237         states can be read or set, setting indicates a desired state.\nA device may reject an attempt to set
5238         a state that would result\nin adverse operational characteristics.\n\nThe Property \"machineStates\"
5239         is an array of the possible operational states.\n\nThe Property \"currentMachineState\" is the current
5240         state of operation of the device.\n\nThe Property \"jobStates\" is an array of the possible job
5241         states.\n\nThe Property \"currentJobState\" is the currently active jobState.\n\nThe Property
5242         \"runningTime\" is the ISO8601 encoded elapsed time in the current operational state.\n\nThe Property
5243         \"remainingTime\" is the ISO8601 encoded time till completion of the current operational state.\n\nThe
5244         Property \"progressPercentage\" is the percentage completeness of the current jobState.",
5245         "parameters": [
5246           {"$ref": "#/parameters/interface"}
5247         ],
5248         "responses": {
5249           "200": {
5250             "description": "RETRIEVES the current operational and job states.",
5251             "x-example": {
5252               "rt": ["oic.r.operational.state"],
5253               "if": ["oic.if.a", "oic.if.baseline"],
5254               "machineStates": ["pause", "stopped", "idle", "active"],
5255               "currentMachineState": "active",
5256               "jobStates": ["preWash", "wash", "rinse", "spin", "dry", "airDry", "wrinklePrevent"],
5257               "currentJobState": "rinse",
5258               "runningTime": "PT15M20S",
5259               "remainingTime": "PT10M40S",
5260               "progressPercentage": 75
5261             },
5262           },
5263         },
5264         "schema": {"$ref": "#/definitions/Operation"}
5265       }
5266     }
5267   }

```



```

5263     }
5264   },
5265 },
5266 "post": {
5267   "description": "Sets the desired operational or job state.",
5268   "parameters": [
5269     { "$ref": "#/parameters/interface" },
5270     {
5271       "name": "body",
5272       "in": "body",
5273       "required": true,
5274       "schema": { "$ref": "#/definitions/OperationUpdate" },
5275       "x-example": {
5276         "currentMachineState": "pause",
5277         "currentJobState": "wash"
5278       }
5279     }
5280   ],
5281   "responses": {
5282     "200": {
5283       "description": "",
5284       "x-example": {
5285         "currentMachineState": "pause",
5286         "currentJobState": "wash"
5287       },
5288       "schema": { "$ref": "#/definitions/OperationUpdate" }
5289     },
5290     "403": {
5291       "description": "This response is generated by the OCF Server when the client sends:\n
5292 An UPDATE with an value for \"currentMachineState\" that is not found in \"machineStates\".\n
5293 An UPDATE with an value for \"currentJobState\" that is not found in \"jobStates\".\n
5294 The OCF Server responds with the current resource representation.\n",
5295       "x-example": {
5296         "machineStates": ["pause", "stopped", "idle", "active"],
5297         "currentMachineState": "active",
5298         "jobStates": ["preWash", "wash", "rinse", "spin", "dry", "airDry", "wrinklePrevent"],
5299         "currentJobState": "rinse",
5300         "runningTime": "PT15M20S",
5301         "remainingTime": "PT10M40S",
5302         "progressPercentage": 75
5303       },
5304       "schema": { "$ref": "#/definitions/Operation" }
5305     }
5306   }
5307 },
5308 },
5309 },
5310 "parameters": {
5311   "interface": {
5312     "in": "query",
5313     "name": "if",
5314     "type": "string",
5315     "enum": ["oic.if.a", "oic.if.baseline"]
5316   }
5317 },
5318 "definitions": {
5319   "Operation": {
5320     "properties": {
5321       "rt": {
5322         "description": "The Resource Type.",
5323         "items": {
5324           "enum": ["oic.r.operational.state"],
5325           "maxLength": 64,
5326           "type": "string"
5327         },
5328         "minItems": 1,
5329         "uniqueItems": true,
5330         "readOnly": true,
5331         "type": "array"
5332       },
5333       "currentMachineState": {
5334         "description": "The current state of operation of the device.",

```

```

5335         "type": "string"
5336     },
5337     "currentJobState": {
5338         "description": "The currently active jobState.",
5339         "type": "string"
5340     },
5341     "machineStates": {
5342         "description": "The array of the possible operational states.",
5343         "items": {
5344             "type": "string"
5345         },
5346         "readOnly": true,
5347         "type": "array"
5348     },
5349     "runningTime": {
5350         "$ref": "https://openconnectivityfoundation.github.io/core/schemas/oic.types-
5351 schema.json#/definitions/duration"
5352     },
5353     "remainingTime": {
5354         "$ref": "https://openconnectivityfoundation.github.io/core/schemas/oic.types-
5355 schema.json#/definitions/duration"
5356     },
5357     "progressPercentage": {
5358         "description": "The percentage completeness of the current jobState.",
5359         "maximum": 100,
5360         "minimum": 0,
5361         "readOnly": true,
5362         "type": "integer"
5363     },
5364     "jobStates": {
5365         "description": "The Array of the possible job states.",
5366         "items": {
5367             "type": "string"
5368         },
5369         "readOnly": true,
5370         "type": "array"
5371     },
5372     "n": {
5373         "$ref":
5374 "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
5375 schema.json#/definitions/n"
5376     },
5377     "id": {
5378         "$ref":
5379 "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
5380 schema.json#/definitions/id"
5381     },
5382     "if": {
5383         "description": "The OCF Interface set supported by this Resource.",
5384         "items": {
5385             "enum": [
5386                 "oic.if.a",
5387                 "oic.if.baseline"
5388             ],
5389             "type": "string"
5390         },
5391         "minItems": 2,
5392         "uniqueItems": true,
5393         "readOnly": true,
5394         "type": "array"
5395     }
5396 },
5397 "type": "object",
5398 "required": ["machineStates", "currentMachineState"]
5399 },
5400 "OperationUpdate" : {
5401     "properties": {
5402         "currentMachineState": {
5403             "description": "The current state of operation of the device.",
5404             "type": "string"
5405         },
5406         "currentJobState": {

```

```

5407         "description": "The currently active jobState.",
5408         "type": "string"
5409     },
5410 },
5411 "type": "object"
5412 }
5413 }
5414 }
5415

```

5416 **6.19.5 Property definition**

5417 Table 41 defines the Properties that are part of the "oic.r.operational.state" Resource Type.

5418 **Table 41 – The Property definitions of the Resource with type "rt" =**
5419 **"oic.r.operational.state".**

Property name	Value type	Mandatory	Access mode	Description
rt	array: see schema	No	Read Only	The Resource Type.
currentMachineState	string	Yes	Read Write	The current state of operation of the device.
currentJobState	string	No	Read Write	The currently active jobState.
machineStates	array: see schema	Yes	Read Only	The array of the possible operational states.
runningTime	multiple types: see schema	No	Read Write	
remainingTime	multiple types: see schema	No	Read Write	
progressPercentage	integer	No	Read Only	The percentage completeness of the current jobState.
jobStates	array: see schema	No	Read Only	The Array of the possible job states.
n	multiple types: see schema	No	Read Write	
id	multiple types: see schema	No	Read Write	
if	array: see schema	No	Read Only	The OCF Interface set supported by this Resource.
currentMachineState	string		Read Write	The current state of operation of the device.
currentJobState	string		Read Write	The currently active jobState.

5420 **6.19.6 CRUDN behaviour**

5421 Table 42 defines the CRUDN operations that are supported on the "oic.r.operational.state"
5422 Resource Type.

5423 **Table 42 – The CRUDN operations of the Resource with type "rt" = "oic.r.operational.state".**

Create	Read	Update	Delete	Notify
	get	post		observe

5424 6.20 Ramp Time

5425 6.20.1 Introduction

5426 This Resource that describes the ramp time of a dimming function.
5427 It specifies the actual speed of changing between 2 dimming values.
5428 The Property "ramptime" is specified in milliseconds [ms].
5429 When range is omitted the maximum value is 100 ms.
5430 The ramp time of 0ms indicates the minimal delay possible by the implementation.

5431 6.20.2 Example URI

5432 /RampTimeResURI

5433 6.20.3 Resource type

5434 The Resource Type is defined as: "oic.r.light.ramptime".

5435 6.20.4 OpenAPI 2.0 definition

```
5436 {
5437   "swagger": "2.0",
5438   "info": {
5439     "title": "Ramp Time",
5440     "version": "20190215",
5441     "license": {
5442       "name": "OCF Data Model License",
5443       "url":
5444         "https://github.com/openconnectivityfoundation/core/blob/e28a9e0a92e17042ba3e83661e4c0fbce8bdc4ba/LI
5445         CENSE.md",
5446       "x-copyright": "copyright 2016-2017, 2019 Open Connectivity Foundation, Inc. All rights
5447         reserved."
5448     },
5449     "termsOfService": "https://openconnectivityfoundation.github.io/core/DISCLAIMER.md"
5450   },
5451   "schemes": ["http"],
5452   "consumes": ["application/json"],
5453   "produces": ["application/json"],
5454   "paths": {
5455     "/RampTimeResURI" : {
5456       "get": {
5457         "description": "This Resource that describes the ramp time of a dimming function.\nIt
5458         specifies the actual speed of changing between 2 dimming values.\nThe Property \"ramptime\" is
5459         specified in milliseconds [ms].\nWhen range is omitted the maximum value is 100 ms.\nThe ramp time
5460         of 0ms indicates the minimal delay possible by the implementation.",
5461         "parameters": [
5462           {"$ref": "#/parameters/interface"}
5463         ],
5464         "responses": {
5465           "200": {
5466             "description": "RETRIEVES the current RampTime.",
5467             "x-example":
5468               {
5469                 "rt": ["oic.r.light.ramptime"],
5470                 "if": ["oic.if.a", "oic.if.baseline"],
5471                 "rampTime": 40,
5472                 "range": [0, 100]
5473               },
5474             "schema": { "$ref": "#/definitions/RampTime" }
5475           }
5476         }
5477       },
5478       "post": {
5479         "description": "Sets the current RampTime.\n",
5480         "parameters": [
5481           {"$ref": "#/parameters/interface"},
5482           {
5483             "name": "body",
5484             "in": "body",
5485             "required": true,
5486             "schema": { "$ref": "#/definitions/RampTime" },
```

```

5487         "x-example":
5488             {
5489                 "rampTime": 50
5490             }
5491     },
5492 ],
5493 "responses": {
5494     "200": {
5495         "description": "This response is generated by the OCF Server when the client sends an
5496 UPDATE with an in range Property value for \"rampTime\". The OCF Server responds with the current
5497 resource representation.",
5498         "x-example":
5499             {
5500                 "rampTime": 50,
5501                 "range": [0, 100]
5502             },
5503         "schema": { "$ref": "#/definitions/RampTime" }
5504     },
5505     "403": {
5506         "description": "Error response. This response is generated by the OCF Server when the
5507 client sends an UPDATE with an out of range Property value for \"rampTime\".",
5508         "x-example":
5509             {
5510                 "rampTime": 40,
5511                 "range": [0, 100]
5512             },
5513         "schema": { "$ref": "#/definitions/RampTime" }
5514     }
5515 }
5516 },
5517 },
5518 },
5519 "parameters": {
5520     "interface": {
5521         "in": "query",
5522         "name": "if",
5523         "type": "string",
5524         "enum": ["oic.if.a", "oic.if.baseline"]
5525     }
5526 },
5527 "definitions": {
5528     "RampTime" : {
5529         "properties": {
5530             "rt": {
5531                 "description": "The Resource Type.",
5532                 "items": {
5533                     "enum": ["oic.r.light.ramptime"],
5534                     "maxLength": 64,
5535                     "type": "string"
5536                 },
5537                 "minItems": 1,
5538                 "uniqueItems": true,
5539                 "readOnly": true,
5540                 "type": "array"
5541             },
5542             "rampTime" :
5543                 {
5544                     "description": "The actual speed of changing between 2 dimming values.",
5545                     "type": "integer"
5546                 },
5547             "n": {
5548                 "$ref":
5549 "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
5550 schema.json#/definitions/n"
5551             },
5552             "id": {
5553                 "$ref":
5554 "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
5555 schema.json#/definitions/id"
5556             },
5557             "range": {
5558                 "$ref":

```

```

5559 "https://openconnectivityfoundation.github.io/IoTDataModels/schemas/oic.baseresource.properties-
5560 schema.json#/definitions/range_integer"
5561     },
5562     "step": {
5563         "$ref":
5564         "https://openconnectivityfoundation.github.io/IoTDataModels/schemas/oic.baseresource.properties-
5565         schema.json#/definitions/step_integer"
5566     },
5567     "precision": {
5568         "$ref":
5569         "https://openconnectivityfoundation.github.io/IoTDataModels/schemas/oic.baseresource.properties-
5570         schema.json#/definitions/precision"
5571     },
5572     "if": {
5573         "description": "The OCF Interface set supported by this Resource.",
5574         "items": {
5575             "enum": [
5576                 "oic.if.a",
5577                 "oic.if.baseline"
5578             ],
5579             "type": "string"
5580         },
5581         "minItems": 2,
5582         "uniqueItems": true,
5583         "readOnly": true,
5584         "type": "array"
5585     }
5586 },
5587 "type": "object",
5588 "required": ["rampTime"]
5589 }
5590 }
5591 }
5592

```

5593 **6.20.5 Property definition**

5594 Table 43 defines the Properties that are part of the "oic.r.light.ramptime" Resource Type.

5595 **Table 43 – The Property definitions of the Resource with type "rt" = "oic.r.light.ramptime".**

Property name	Value type	Mandatory	Access mode	Description
rt	array: see schema	No	Read Only	The Resource Type.
rampTime	integer	Yes	Read Write	The actual speed of changing between 2 dimming values.
n	multiple types: see schema	No	Read Write	
id	multiple types: see schema	No	Read Write	
range	multiple types: see schema	No	Read Write	
step	multiple types: see schema	No	Read Write	
precision	multiple types: see schema	No	Read Write	
if	array: see schema	No	Read Only	The OCF Interface set supported by this Resource.

5596 **6.20.6 CRUDN behaviour**

5597 Table 44 defines the CRUDN operations that are supported on the "oic.r.light.ramptime" Resource
5598 Type.

5599 **Table 44 – The CRUDN operations of the Resource with type "rt" = "oic.r.light.ramptime".**

Create	Read	Update	Delete	Notify
	get	post		observe

5600 **6.21 Refrigeration**

5601 **6.21.1 Introduction**

5602 This Resource describes a refrigeration function.
 5603 The Property "filter" is a read-only value providing the percentage life time remaining for the
 5604 water filter.
 5605 The Property "rapidFreeze" is a boolean that controls the rapid freeze capability if present.
 5606 The Property "rapidCool" is a boolean that controls the rapid cool capability if present.
 5607 The Property "defrost" is a boolean that controls the defrost cycle if present.
 5608 At least one of the listed Properties shall be present in a Resource Instance.

5609 **6.21.2 Example URI**

5610 /RefrigerationResURI

5611 **6.21.3 Resource type**

5612 The Resource Type is defined as: "oic.r.refrigeration".

5613 **6.21.4 OpenAPI 2.0 definition**

```

5614 {
5615   "swagger": "2.0",
5616   "info": {
5617     "title": "Refrigeration",
5618     "version": "20190215",
5619     "license": {
5620       "name": "OCF Data Model License",
5621       "url":
5622         "https://github.com/openconnectivityfoundation/core/blob/e28a9e0a92e17042ba3e83661e4c0fbce8bdc4ba/LI
5623         CENSE.md",
5624       "x-copyright": "copyright 2016-2017, 2019 Open Connectivity Foundation, Inc. All rights
5625         reserved."
5626     },
5627     "termsOfService": "https://openconnectivityfoundation.github.io/core/DISCLAIMER.md"
5628   },
5629   "schemes": ["http"],
5630   "consumes": ["application/json"],
5631   "produces": ["application/json"],
5632   "paths": {
5633     "/RefrigerationResURI" : {
5634       "get": {
5635         "description": "This Resource describes a refrigeration function.\n\nThe Property \"filter\"
5636         is a read-only value providing the percentage life time remaining for the water filter.\n\nThe
5637         Property \"rapidFreeze\" is a boolean that controls the rapid freeze capability if present.\n\nThe
5638         Property \"rapidCool\" is a boolean that controls the rapid cool capability if present.\n\nThe
5639         Property \"defrost\" is a boolean that controls the defrost cycle if present.\n\nAt least one of the
5640         listed Properties shall be present in a Resource Instance.",
5641         "parameters": [
5642           { "$ref": "#/parameters/interface" }
5643         ],
5644         "responses": {
5645           "200": {
5646             "description": "Retrieves the current Refrigeration function status; all Properties
5647             supported by the Device are returned.",
5648             "x-example":
5649               {
5650                 "rt": ["oic.r.refrigeration"],
5651                 "if": ["oic.if.a", "oic.if.baseline"],
5652                 "filter": 75,
5653                 "rapidFreeze": false,
5654                 "rapidCool": false,
5655                 "defrost": true

```

```

5656         },
5657         "schema": { "$ref": "#/definitions/Refrigeration" }
5658     }
5659 }
5660 },
5661 "post": {
5662     "description": "Activates the desired Refrigeration functions.\nSuported values are
5663 \\"rapidFreeze\\", \\"rapidCool\\" and \\"defrost\\".\nAt least on of the supported values shall be
5664 provided.\n",
5665     "parameters": [
5666         { "$ref": "#/parameters/interface" },
5667         {
5668             "name": "body",
5669             "in": "body",
5670             "required": true,
5671             "schema": { "$ref": "#/definitions/RefrigerationUpdate" },
5672             "x-example":
5673                 {
5674                     "rapidFreeze": true
5675                 }
5676         }
5677     ],
5678     "responses": {
5679         "200": {
5680             "description": "Indicates that the Refrigeration function was changed.\nThe new
5681 status can be provided in the response.\n",
5682             "x-example":
5683                 {
5684                     "rapidFreeze": true
5685                 },
5686             "schema": { "$ref": "#/definitions/RefrigerationUpdate" }
5687         }
5688     }
5689 }
5690 },
5691 "parameters": {
5692     "interface": {
5693         "in": "query",
5694         "name": "if",
5695         "type": "string",
5696         "enum": ["oic.if.a", "oic.if.baseline"]
5697     }
5698 },
5699 },
5700 "definitions": {
5701     "Refrigeration" : {
5702         "properties": {
5703             "rt": {
5704                 "description": "The Resource Type.",
5705                 "items": {
5706                     "enum": ["oic.r.refrigeration"],
5707                     "maxLength": 64,
5708                     "type": "string"
5709                 },
5710                 "minItems": 1,
5711                 "uniqueItems": true,
5712                 "readOnly": true,
5713                 "type": "array"
5714             },
5715             "rapidFreeze": {
5716                 "description": "Indicates whether the unit has a rapid freeze capability active.",
5717                 "type": "boolean"
5718             },
5719             "defrost": {
5720                 "description": "Indicates whether a defrost cycle is currently active.",
5721                 "type": "boolean"
5722             },
5723             "filter": {
5724                 "description": "Percentage life time remaining for the water filter.",
5725                 "maximum": 100,
5726                 "minimum": 0,
5727                 "readOnly": true,

```



```

5728         "type": "integer"
5729     },
5730     "rapidCool": {
5731         "description": "Indicates whether the unit has a rapid cool capability active.",
5732         "type": "boolean"
5733     },
5734     "n": {
5735         "$ref":
5736         "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
5737         schema.json#/definitions/n"
5738     },
5739     "id": {
5740         "$ref":
5741         "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
5742         schema.json#/definitions/id"
5743     },
5744     "if": {
5745         "description": "The OCF Interface set supported by this Resource.",
5746         "items": {
5747             "enum": [
5748                 "oic.if.a",
5749                 "oic.if.baseline"
5750             ],
5751             "type": "string"
5752         },
5753         "minItems": 2,
5754         "readOnly": true,
5755         "type": "array"
5756     }
5757 },
5758 "anyOf": [
5759     {
5760         "required": ["filter"]
5761     },
5762     {
5763         "required": ["rapidFreeze"]
5764     },
5765     {
5766         "required": ["rapidCool"]
5767     },
5768     {
5769         "required": ["defrost"]
5770     }
5771 ],
5772 "type": "object"
5773 },
5774 "RefrigerationUpdate": {
5775     "properties": {
5776         "rapidFreeze": {
5777             "description": "Indicates whether the unit has a rapid freeze capability active.",
5778             "type": "boolean"
5779         },
5780         "defrost": {
5781             "description": "Indicates whether a defrost cycle is currently active.",
5782             "type": "boolean"
5783         },
5784         "rapidCool": {
5785             "description": "Indicates whether the unit has a rapid cool capability active.",
5786             "type": "boolean"
5787         }
5788     },
5789     "anyOf": [
5790         {
5791             "required": ["rapidFreeze"]
5792         },
5793         {
5794             "required": ["rapidCool"]
5795         },
5796         {
5797             "required": ["defrost"]
5798         }
5799     ]

```

```

5800     "type": "object"
5801     }
5802   }
5803 }
5804

```

5805 **6.21.5 Property definition**

5806 Table 45 defines the Properties that are part of the "oic.r.refrigeration" Resource Type.

5807 **Table 45 – The Property definitions of the Resource with type "rt" = "oic.r.refrigeration".**

Property name	Value type	Mandatory	Access mode	Description
rt	array: see schema	No	Read Only	The Resource Type.
rapidFreeze	boolean	No	Read Write	Indicates whether the unit has a rapid freeze capability active.
defrost	boolean	Yes	Read Write	Indicates whether a defrost cycle is currently active.
filter	integer	No	Read Only	Percentage life time remaining for the water filter.
rapidCool	boolean	No	Read Write	Indicates whether the unit has a rapid cool capability active.
n	multiple types: see schema	No	Read Write	
id	multiple types: see schema	No	Read Write	
if	array: see schema	No	Read Only	The OCF Interface set supported by this Resource.
rapidFreeze	boolean	No	Read Write	Indicates whether the unit has a rapid freeze capability active.
defrost	boolean	Yes	Read Write	Indicates whether a defrost cycle is currently active.
rapidCool	boolean	No	Read Write	Indicates whether the unit has a rapid cool capability active.

5808 **6.21.6 CRUDN behaviour**

5809 Table 46 defines the CRUDN operations that are supported on the "oic.r.refrigeration" Resource
 5810 Type.

5811 **Table 46 – The CRUDN operations of the Resource with type "rt" = "oic.r.refrigeration".**

Create	Read	Update	Delete	Notify
	get	post		observe

5812 6.22 Temperature

5813 6.22.1 Introduction

5814 This Resource describes a sensed or actuated Temperature value.
5815 The Property "temperature" describes the current value measured.
5816 The Property "units" is a single value that is one of "C", "F" or "K".
5817 It provides the unit of measurement for the "temperature" value.
5818 It is a read-only value that is provided by the server.
5819 If the "units" Property is missing the default is Celsius [C].
5820 When the Property "range" is omitted the default is +/- MAXINT.
5821 A client can specify the units for the requested temperature by use of a query parameter.
5822 If no query parameter is provided the server provides its default measure or set value.
5823 It is recommended to return always the units Property in the result.

5824 6.22.2 Example URI

5825 /TemperatureResURI

5826 6.22.3 Resource type

5827 The Resource Type is defined as: "oic.r.temperature".

5828 6.22.4 OpenAPI 2.0 definition

```
5829 {  
5830   "swagger": "2.0",  
5831   "info": {  
5832     "title": "Temperature",  
5833     "version": "20190215",  
5834     "license": {  
5835       "name": "OCF Data Model License",  
5836       "url":  
5837         "https://github.com/openconnectivityfoundation/core/blob/e28a9e0a92e17042ba3e83661e4c0fbce8bdc4ba/LI  
5838         CENSE.md",  
5839       "x-copyright": "copyright 2016-2017, 2019 Open Connectivity Foundation, Inc. All rights  
5840       reserved."  
5841     },  
5842     "termsOfService": "https://openconnectivityfoundation.github.io/core/DISCLAIMER.md"  
5843   },  
5844   "schemes": ["http"],  
5845   "consumes": ["application/json"],  
5846   "produces": ["application/json"],  
5847   "paths": {  
5848     "/TemperatureResURI" : {  
5849       "get": {  
5850         "description": "This Resource describes a sensed or actuated Temperature value.\n\nThe  
5851         Property \"temperature\" describes the current value measured.\n\nThe Property \"units\" is a single  
5852         value that is one of \"C\", \"F\" or \"K\".\n\nIt provides the unit of measurement for the  
5853         \"temperature\" value.\n\nIt is a read-only value that is provided by the server.\n\nIf the \"units\"  
5854         Property is missing the default is Celsius [C].\n\nWhen the Property \"range\" is omitted the default  
5855         is +/- MAXINT.\n\nA client can specify the units for the requested temperature by use of a query  
5856         parameter.\n\nIf no query parameter is provided the server provides its default measure or set  
5857         value.\n\nIt is recommended to return always the units Property in the result.",  
5858         "parameters": [  
5859           {"$ref": "#/parameters/interface"},  
5860           {"$ref": "#/parameters/unit"}  
5861         ],  
5862         "responses": {  
5863           "200": {  
5864             "description": "Retrieves the current temperature value.",  
5865             "x-example":  
5866               {  
5867                 "rt": ["oic.r.temperature"],  
5868                 "if": [ "oic.if.a", "oic.if.baseline"],  
5869                 "temperature": 20.0,  
5870                 "units": "C"  
5871               }  
5872           },  
5873           "schema": { "$ref": "#/definitions/Temperature" }  
5874         }  
5875       }  
5876     }  
5877   }  
5878 }
```

```

5874     },
5875     "403": {
5876       "description": "This response is generated by the OCF Server when the client sends:\n
5877 A RETRIEVE with queryParameter indicating a unit that the server does not support.\n
5878 The server responds with the current resource representation including the\n\n\"units\" property illustrating the
5879 supported units and the error.",
5880       "x-example":
5881         {
5882           "temperature": 20.0,
5883           "units": "C"
5884         },
5885       "schema": { "$ref": "#/definitions/Temperature" }
5886     }
5887   },
5888 },
5889 "post": {
5890   "description": "Sets the desired temperature value.\nIf a \"unit\" is included and the
5891 server may not support the unit indicated the request will fail.\nIf the units are omitted value is
5892 taken to be in C.",
5893   "parameters": [
5894     { "$ref": "#/parameters/interface",
5895       {
5896         "name": "body",
5897         "in": "body",
5898         "required": true,
5899         "schema": { "$ref": "#/definitions/Temperature" },
5900         "x-example":
5901           {
5902             "temperature": 18.0,
5903             "units": "F"
5904           }
5905       }
5906     ],
5907   "responses": {
5908     "200": {
5909       "description": "",
5910       "x-example":
5911         {
5912           "temperature": 18.0,
5913           "units": "F"
5914         }
5915       ,
5916       "schema": { "$ref": "#/definitions/Temperature" }
5917     },
5918     "403": {
5919       "description": "This response is generated by the OCF Server when the client sends:\n
5920 An UPDATE with an out of range property value for temperature.\n An UPDATE with an unsupported unit
5921 for this server.\n
5922 The OCF Server responds with the current resource representation including\n
5923 the \"range\" property illustrating the supported range and the error.",
5924       "x-example":
5925         {
5926           "temperature": 20.0,
5927           "units": "C"
5928         }
5929       ,
5930       "schema": { "$ref": "#/definitions/Temperature" }
5931     }
5932   }
5933 },
5934 },
5935 "parameters": {
5936   "interface": {
5937     "in": "query",
5938     "name": "if",
5939     "type": "string",
5940     "enum": ["oic.if.a", "oic.if.s", "oic.if.baseline"]
5941   },
5942   "unit": {
5943     "in": "query",
5944     "description": "Units",
5945     "type": "string",

```

```

5946         "enum": ["C", "F", "K"],
5947         "name": "units",
5948         "x-queryexample" : "/TemperatureResURI?units=C"
5949     }
5950 },
5951 "definitions": {
5952     "Temperature": {
5953         "properties": {
5954             "rt": {
5955                 "description": "The Resource Type.",
5956                 "items": {
5957                     "maxLength": 64,
5958                     "type": "string",
5959                     "enum": ["oic.r.temperature"]
5960                 },
5961                 "minItems": 1,
5962                 "uniqueItems": true,
5963                 "readOnly": true,
5964                 "type": "array"
5965             },
5966             "temperature": {
5967                 "description": "The current temperature setting or measurement.",
5968                 "type": "number"
5969             },
5970             "units": {
5971                 "description": "The unit for the conveyed temperature value, Note that when doing an
5972 UPDATE, the unit on the device does NOT change, it only indicates the unit of the conveyed value
5973 during the UPDATE operation.",
5974                 "enum": [
5975                     "C",
5976                     "F",
5977                     "K"
5978                 ],
5979                 "type": "string"
5980             },
5981             "n": {
5982                 "$ref":
5983 "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
5984 schema.json#/definitions/n"
5985             },
5986             "id": {
5987                 "$ref":
5988 "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
5989 schema.json#/definitions/id"
5990             },
5991             "range": {
5992                 "$ref":
5993 "https://openconnectivityfoundation.github.io/IoTDataModels/schemas/oic.baseresource.properties-
5994 schema.json#/definitions/range_number"
5995             },
5996             "step": {
5997                 "$ref":
5998 "https://openconnectivityfoundation.github.io/IoTDataModels/schemas/oic.baseresource.properties-
5999 schema.json#/definitions/step_number"
6000             },
6001             "precision": {
6002                 "$ref":
6003 "https://openconnectivityfoundation.github.io/IoTDataModels/schemas/oic.baseresource.properties-
6004 schema.json#/definitions/precision"
6005             },
6006             "if": {
6007                 "description": "The OCF Interface set supported by this Resource.",
6008                 "items": {
6009                     "enum": [
6010                         "oic.if.baseline",
6011                         "oic.if.s",
6012                         "oic.if.a"
6013                     ],
6014                     "maxLength": 64,
6015                     "type": "string"
6016                 },
6017                 "minItems": 2,

```

```

6018         "uniqueItems": true,
6019         "readOnly": true,
6020         "type": "array"
6021     },
6022 },
6023     "type" : "object",
6024     "required": ["temperature"]
6025 }
6026 }
6027 }

```

6028 **6.22.5 Property definition**

6029 Table 47 defines the Properties that are part of the "oic.r.temperature" Resource Type.

6030 **Table 47 – The Property definitions of the Resource with type "rt" = "oic.r.temperature".**

Property name	Value type	Mandatory	Access mode	Description
rt	array: see schema	No	Read Only	The Resource Type.
temperature	number	Yes	Read Write	The current temperature setting or measurement.
units	string	No	Read Write	The unit for the conveyed temperature value, Note that when doing an UPDATE, the unit on the device does NOT change, it only indicates the unit of the conveyed value during the UPDATE operation.
n	multiple types: see schema	No	Read Write	
id	multiple types: see schema	No	Read Write	
range	multiple types: see schema	No	Read Write	
step	multiple types: see schema	No	Read Write	
precision	multiple types: see schema	No	Read Write	
if	array: see schema	No	Read Only	The OCF Interface set supported by this Resource.

6031 **6.22.6 CRUDN behaviour**

6032 Table 48 defines the CRUDN operations that are supported on the "oic.r.temperature" Resource
6033 Type.

6034 **Table 48 – The CRUDN operations of the Resource with type "rt" = "oic.r.temperature".**

Create	Read	Update	Delete	Notify
	get	post		observe

6035 **6.23 Time Period**

6036 **6.23.1 Introduction**

6037 This Resource describes the time period over which any additionally provided information is
6038 derived or bounded.

6039 The Property "startTime" and "stopTime" are RFC3339 encoded strings. The Property "startTime"
6040 must be present.

6041 The interval is the interval of the time period in minutes, if present this value must be no less than
6042 0 minute.

6043 The intervalsecond is the interval of the time period in seconds, if present this value must be
6044 numerical zero or greater.

6045 The repeat is the number of the time period's iteration, which means how many times to repeat
6046 the time period. The Property "repeat" accepts only negative one, numerical zero, and positive
6047 number. When this value is numerical zero, the time period will be repeated infinitely until a client
6048 makes it stop by inputting negative one for the value.

6049 The Property "stoptime" and "interval" are mutually exclusive; both Properties cannot be present
6050 in a Resource instance.

6051 The Property "intervalsecond" cannot be presented with the Property "stopTime". In case of both
6052 the Property "interval" and "intervalsecond" are presented together, the total time interval is the
6053 sum of "interval" and "intervalsecond".

6054 The Resource defines a time period for information retrieval, action or other behaviour.

6055 **6.23.2 Example URI**

6056 /TimePeriodResURI

6057 **6.23.3 Resource type**

6058 The Resource Type is defined as: "oic.r.time.period".

6059 **6.23.4 OpenAPI 2.0 definition**

```
6060 {
6061   "swagger": "2.0",
6062   "info": {
6063     "title": "Time Period",
6064     "version": "20190327",
6065     "license": {
6066       "name": "OCF Data Model License",
6067       "url":
6068         "https://github.com/openconnectivityfoundation/core/blob/e28a9e0a92e17042ba3e83661e4c0fbce8bdc4ba/LI
6069         CENSE.md",
6070       "x-copyright": "copyright 2016-2017, 2019 Open Connectivity Foundation, Inc. All rights
6071       reserved."
6072     },
6073     "termsOfService": "https://openconnectivityfoundation.github.io/core/DISCLAIMER.md"
6074   },
6075   "schemes": ["http"],
6076   "consumes": ["application/json"],
6077   "produces": ["application/json"],
6078   "paths": {
6079     "/TimePeriodResURI" : {
6080       "get": {
6081         "description": "This Resource describes the time period over which any additionally provided
6082         information is derived or bounded.\nThe Property \"startTime\" and \"stopTime\" are RFC3339 encoded
6083         strings. The Property \"startTime\" must be present.\nThe interval is the interval of the time
6084         period in minutes, if present this value must be no less than 0 minute.\nThe intervalsecond is the
6085         interval of the time period in seconds, if present this value must be numerical zero or
6086         greater.\nThe repeat is the number of the time period's iteration, which means how many times to
6087         repeat the time period. The Property \"repeat\" accepts only negative one, numerical zero, and
6088         positive number. When this value is numerical zero, the time period will be repeated infinitely
6089         until a client makes it stop by inputting negative one for the value.\nThe Property \"stoptime\" and
6090         \"interval\" are mutually exclusive; both Properties cannot be present in a Resource instance.\nThe
6091         Property \"intervalsecond\" cannot be presented with the Property \"stopTime\". In case of both the
6092         Property \"interval\" and \"intervalsecond\" are presented together, the total time interval is the
6093         sum of \"interval\" and \"intervalsecond\".\nThe Resource defines a time period for information
```

```

6094 retrieval, action or other behaviour.",
6095     "parameters": [
6096         {"$ref": "#/parameters/interface"}
6097     ],
6098     "responses": {
6099         "200": {
6100             "description": "",
6101             "x-example":
6102                 {
6103                     "rt": ["oic.r.time.period"],
6104                     "if": ["oic.if.a", "oic.if.baseline"],
6105                     "startTime": "2015-01-09T14:30:00Z",
6106                     "stopTime": "2015-01-09T14:45:00Z"
6107                 },
6108             "schema": { "$ref": "#/definitions/TimePeriod" }
6109         }
6110     },
6111 },
6112 "post": {
6113     "description": "Sets or updates a time period for information retrieval, action or other
6114 behavior.",
6115     "parameters": [
6116         {"$ref": "#/parameters/interface"},
6117         {
6118             "name": "body",
6119             "in": "body",
6120             "required": true,
6121             "schema": { "$ref": "#/definitions/TimePeriod" },
6122             "x-example":
6123                 {
6124                     "startTime": "2015-01-09T14:30:00Z",
6125                     "stopTime": "2015-01-09T14:45:00Z"
6126                 }
6127         }
6128     ],
6129     "responses": {
6130         "200": {
6131             "description": "",
6132             "x-example":
6133                 {
6134                     "startTime": "2015-01-09T14:30:00Z",
6135                     "stopTime": "2015-01-09T14:45:00Z"
6136                 },
6137             "schema": { "$ref": "#/definitions/TimePeriod" }
6138         }
6139     }
6140 },
6141 },
6142 },
6143 "parameters": {
6144     "interface": {
6145         "in": "query",
6146         "name": "if",
6147         "type": "string",
6148         "enum": ["oic.if.a", "oic.if.baseline"]
6149     }
6150 },
6151 "definitions": {
6152     "TimePeriod": {
6153         "properties": {
6154             "rt": {
6155                 "description": "The Resource Type.",
6156                 "items": {
6157                     "enum": ["oic.r.time.period"],
6158                     "maxLength": 64,
6159                     "type": "string"
6160                 },
6161                 "minItems": 1,
6162                 "uniqueItems": true,
6163                 "readOnly": true,
6164                 "type": "array"
6165             },

```



```

6166     "interval": {
6167         "description": "The time interval in minutes after the \"startTime\", if present the
6168 Property \"stopTime\" cannot be present.",
6169         "type": "integer",
6170         "minimum": 0
6171     },
6172     "intervalsecond": {
6173         "description": "The time interval in seconds after the \"startTime\", if present the
6174 Property \"stopTime\" cannot be present.",
6175         "type": "integer",
6176         "minimum": 0
6177     },
6178     "stopTime": {
6179         "description": "The stop time for the time period, if present the Property \"interval\" or
6180 \"intervalsecond\" cannot be present.",
6181         "type": "string",
6182         "format": "date-time"
6183     },
6184     "startTime": {
6185         "description": "The start time for the time period.",
6186         "type": "string",
6187         "format": "date-time"
6188     },
6189     "repeat": {
6190         "description": "The number of times to repeat the time period",
6191         "type": "integer",
6192         "minimum": -1
6193     },
6194     "n": {
6195         "$ref":
6196 "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
6197 schema.json#/definitions/n"
6198     },
6199     "id": {
6200         "$ref":
6201 "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
6202 schema.json#/definitions/id"
6203     },
6204     "if": {
6205         "description": "The OCF Interface set supported by this Resource.",
6206         "items": {
6207             "enum": [
6208                 "oic.if.a",
6209                 "oic.if.baseline"
6210             ],
6211             "type": "string"
6212         },
6213         "minItems": 2,
6214         "uniqueItems": true,
6215         "readOnly": true,
6216         "type": "array"
6217     }
6218 },
6219 "type": "object",
6220 "required": ["startTime"]
6221 }
6222 }
6223 }
6224

```

6.23.5 Property definition

Table 49 defines the Properties that are part of the "oic.r.time.period" Resource Type.

Table 49 – The Property definitions of the Resource with type "rt" = "oic.r.time.period".

Property name	Value type	Mandatory	Access mode	Description
rt	array: see schema	No	Read Only	The Resource Type.
interval	integer	No	Read Write	The time interval in minutes after the

				"startTime", if present the Property "stopTime" cannot be present.
intervalsecond	integer	No	Read Write	The time interval in seconds after the "startTime", if present the Property "stopTime" cannot be present.
stopTime	string	No	Read Write	The stop time for the time period, if present the Property "interval" or "intervalsecond" cannot be present.
startTime	string	Yes	Read Write	The start time for the time period.
repeat	integer	No	Read Write	The number of times to repeat the time period
n	multiple types: see schema	No	Read Write	
id	multiple types: see schema	No	Read Write	
if	array: see schema	No	Read Only	The OCF Interface set supported by this Resource.

6228 **6.23.6 CRUDN behaviour**

6229 Table 50 defines the CRUDN operations that are supported on the "oic.r.time.period" Resource
6230 Type.

6231 **Table 50 – The CRUDN operations of the Resource with type "rt" = "oic.r.time.period".**

Create	Read	Update	Delete	Notify
	get	post		observe

6232 **6.24 Activity Count**

6233 **6.24.1 Introduction**

6234 This Resource specifies an activity count.

6235 The Resource can be readonly (oic.if.s interface) in which instance it represents a count.

6236 The Resource can be readwrite (oic.if.a interface) in which instance it represents a goal or target
6237 for a count.

6238 The Property "count" is an integer representing either the current count or goal value.

6239 **6.24.2 Example URI**

6240 /ActivityCountResURI

6241 **6.24.3 Resource type**

6242 The Resource Type is defined as: "oic.r.sensor.activity.count".

6243 **6.24.4 OpenAPI 2.0 definition**

```
6244 {
6245   "swagger": "2.0",
6246   "info": {
6247     "title": "Activity Count",
6248     "version": "20190222",
```

```

6249     "license": {
6250         "name": "OCF Data Model License",
6251         "url":
6252 "https://github.com/openconnectivityfoundation/core/blob/e28a9e0a92e17042ba3e83661e4c0fbce8bdc4ba/LI
6253 CENSE.md",
6254         "x-copyright": "Copyright 2018-2019 Open Connectivity Foundation, Inc. All rights reserved."
6255     },
6256     "termsOfService": "https://openconnectivityfoundation.github.io/core/DISCLAIMER.md"
6257 },
6258     "schemes": ["http"],
6259     "consumes": ["application/json"],
6260     "produces": ["application/json"],
6261     "paths": {
6262         "/ActivityCountResURI" : {
6263             "get": {
6264                 "description": "This Resource specifies an activity count.\n
6265 (oic.if.s interface) in which instance it represents a count.\n
6266 The Resource can be readonly
6267 (oic.if.a interface) in which instance it represents a goal or target for a count.\n
6268 The Property
6269 \"count\" is an integer representing either the current count or goal value.",
6270                 "parameters": [
6271                     { "$ref": "#/parameters/interface" }
6272                 ],
6273                 "responses": {
6274                     "200": {
6275                         "description": "",
6276                         "x-example":
6277                         {
6278                             "rt": ["oic.r.sensor.activity.count"],
6279                             "if": ["oic.if.a", "oic.if.baseline"],
6280                             "count": 2500
6281                         },
6282                         "schema": { "$ref": "#/definitions/Count" }
6283                     }
6284                 },
6285                 "post": {
6286                     "description": "Sets the \"count\" target.",
6287                     "parameters": [
6288                         { "$ref": "#/parameters/interface" },
6289                         {
6290                             "name": "body",
6291                             "in": "body",
6292                             "required": true,
6293                             "schema": { "$ref": "#/definitions/Count" },
6294                             "x-example":
6295                             {
6296                                 "count": 5000
6297                             }
6298                         }
6299                     ],
6300                     "responses": {
6301                         "200": {
6302                             "description": "",
6303                             "x-example":
6304                             {
6305                                 "count": 5000
6306                             },
6307                             "schema": { "$ref": "#/definitions/Count" }
6308                         }
6309                     }
6310                 }
6311             }
6312         },
6313         "parameters": {
6314             "interface" : {
6315                 "in": "query",
6316                 "name": "if",
6317                 "type": "string",
6318                 "enum": ["oic.if.a", "oic.if.s", "oic.if.baseline"]
6319             }
6320         },
6321         "definitions": {

```

```

6321     "Count" : {
6322       "properties": {
6323         "rt": {
6324           "description": "The Resource Type.",
6325           "items": {
6326             "maxLength": 64,
6327             "type": "string",
6328             "enum": ["oic.r.sensor.activity.count"]
6329           },
6330           "minItems": 1,
6331           "uniqueItems": true,
6332           "readOnly": true,
6333           "type": "array"
6334         },
6335         "count": {
6336           "description": "The current or Target count.",
6337           "type": "integer"
6338         },
6339         "n": {
6340           "$ref":
6341 "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
6342 schema.json#/definitions/n"
6343         },
6344         "id": {
6345           "$ref":
6346 "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
6347 schema.json#/definitions/id"
6348         },
6349         "range": {
6350           "$ref":
6351 "https://openconnectivityfoundation.github.io/IoTDataModels/schemas/oic.baseresource.properties-
6352 schema.json#/definitions/range_integer"
6353         },
6354         "step": {
6355           "$ref":
6356 "https://openconnectivityfoundation.github.io/IoTDataModels/schemas/oic.baseresource.properties-
6357 schema.json#/definitions/step_integer"
6358         },
6359         "if": {
6360           "description": "The OCF Interface set supported by this Resource.",
6361           "items": {
6362             "enum": [
6363               "oic.if.a",
6364               "oic.if.s",
6365               "oic.if.baseline"
6366             ],
6367             "type": "string"
6368           },
6369           "minItems": 2,
6370           "readOnly": true,
6371           "uniqueItems": true,
6372           "type": "array"
6373         }
6374       },
6375       "type": "object",
6376       "required": ["count"]
6377     }
6378   }
6379 }
6380

```

6381 **6.24.5 Property definition**

6382 Table 51 defines the Properties that are part of the "oic.r.sensor.activity.count" Resource Type.

6383 **Table 51 – The Property definitions of the Resource with type "rt" =**
6384 **"oic.r.sensor.activity.count".**

Property name	Value type	Mandatory	Access mode	Description
rt	array: see schema	No	Read Only	The Resource Type.

count	integer	Yes	Read Write	The current or Target count.
n	multiple types: see schema	No	Read Write	
id	multiple types: see schema	No	Read Write	
range	multiple types: see schema	No	Read Write	
step	multiple types: see schema	No	Read Write	
if	array: see schema	No	Read Only	The OCF Interface set supported by this Resource.

6385 **6.24.6 CRUDN behaviour**

6386 Table 52 defines the CRUDN operations that are supported on the "oic.r.sensor.activity.count"
6387 Resource Type.

6388 **Table 52 – The CRUDN operations of the Resource with type "rt" =**
6389 **"oic.r.sensor.activity.count".**

Create	Read	Update	Delete	Notify
	get	post		observe

6390 **6.25 Atmospheric Pressure Sensor**

6391 **6.25.1 Introduction**

6392 This Resource provides a measurement of Mean Sea Level Pressure experienced at the
6393 measuring point expressed in millibars.
6394 The Property "atmosphericPressure" is a float which describes the atmospheric pressure in hPa
6395 (hectoPascals).
6396 Note that hPa and the also commonly used unit of millibars (mbar) are numerically equivalent.

6397 **6.25.2 Example URI**

6398 /AtmosphericPressureResURI

6399 **6.25.3 Resource type**

6400 The Resource Type is defined as: "oic.r.sensor.atmosphericpressure".

6401 **6.25.4 OpenAPI 2.0 definition**

```
6402 {
6403   "swagger": "2.0",
6404   "info": {
6405     "title": "Atmospheric Pressure Sensor",
6406     "version": "20190225",
6407     "license": {
6408       "name": "OCF Data Model License",
6409       "url":
6410 "https://github.com/openconnectivityfoundation/core/blob/e28a9e0a92e17042ba3e83661e4c0fbce8bdc4ba/LI
6411 CENSE.md",
6412       "x-copyright": "copyright 2016-2017, 2019 Open Connectivity Foundation, Inc. All rights
6413 reserved."
6414     },
6415     "termsOfService": "https://openconnectivityfoundation.github.io/core/DISCLAIMER.md"
6416   },
6417   "schemes": ["http"],
6418   "consumes": ["application/json"],
6419   "produces": ["application/json"],
6420   "paths": {
6421     "/AtmosphericPressureResURI" : {
```

```

6422     "get": {
6423         "description": "This Resource provides a measurement of Mean Sea Level Pressure experienced
6424 at the measuring point expressed in millibars.\nThe Property \"atmosphericPressure\" is a float
6425 which describes the atmospheric pressure in hPa (hectoPascals).\nNote that hPa and the also commonly
6426 used unit of millibars (mbar) are numerically equivalent.",
6427         "parameters": [
6428             { "$ref": "#/parameters/interface" }
6429         ],
6430         "responses": {
6431             "200": {
6432                 "description": "",
6433                 "x-example":
6434                 {
6435                     "rt": ["oic.r.sensor.atmosphericpressure"],
6436                     "if": ["oic.if.s", "oic.if.baseline"],
6437                     "atmosphericPressure": 1000.4
6438                 },
6439                 "schema": { "$ref": "#/definitions/atmosphericPressure" }
6440             }
6441         }
6442     }
6443 },
6444 "parameters": {
6445     "interface" : {
6446         "in": "query",
6447         "name": "if",
6448         "type": "string",
6449         "enum": ["oic.if.s", "oic.if.baseline"]
6450     }
6451 },
6452 "definitions": {
6453     "atmosphericPressure" : {
6454         "properties": {
6455             "rt" : {
6456                 "description": "The Resource Type.",
6457                 "items": {
6458                     "enum": ["oic.r.sensor.atmosphericpressure"],
6459                     "maxLength": 64,
6460                     "type": "string"
6461                 },
6462                 "minItems": 1,
6463                 "uniqueItems": true,
6464                 "readOnly": true,
6465                 "type": "array"
6466             },
6467             "atmosphericPressure": {
6468                 "description": "The current atmospheric pressure in hPa.",
6469                 "readOnly": true,
6470                 "type": "number"
6471             },
6472             "n": {
6473                 "$ref":
6474                 "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
6475 schema.json#/definitions/n"
6476             },
6477             "id": {
6478                 "$ref":
6479                 "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
6480 schema.json#/definitions/id"
6481             },
6482             "precision": {
6483                 "$ref":
6484                 "https://openconnectivityfoundation.github.io/IoTDataModels/schemas/oic.baseresource.properties-
6485 schema.json#/definitions/precision"
6486             },
6487             "range": {
6488                 "$ref":
6489                 "https://openconnectivityfoundation.github.io/IoTDataModels/schemas/oic.baseresource.properties-
6490 schema.json#/definitions/range_number"
6491             },
6492             "step": {

```

```

6494         "$ref":
6495         "https://openconnectivityfoundation.github.io/IoTDataModels/schemas/oic.baseresource.properties-
6496         schema.json#/definitions/step_number"
6497     },
6498     "if": {
6499         "description": "The OCF Interface set supported by this Resource.",
6500         "items": {
6501             "enum": [
6502                 "oic.if.s",
6503                 "oic.if.baseline"
6504             ],
6505             "type": "string"
6506         },
6507         "minItems": 2,
6508         "uniqueItems": true,
6509         "readOnly": true,
6510         "type": "array"
6511     }
6512 },
6513 "type": "object",
6514 "required": ["atmosphericPressure"]
6515 }
6516 }
6517 }
6518

```

6519 **6.25.5 Property definition**

6520 Table 53 defines the Properties that are part of the "oic.r.sensor.atmosphericpressure" Resource
6521 Type.

6522 **Table 53 – The Property definitions of the Resource with type "rt" =**
6523 **"oic.r.sensor.atmosphericpressure".**

Property name	Value type	Mandatory	Access mode	Description
rt	array: see schema	No	Read Only	The Resource Type.
atmosphericPressure	number	Yes	Read Only	The current atmospheric pressure in hPa.
n	multiple types: see schema	No	Read Write	
id	multiple types: see schema	No	Read Write	
precision	multiple types: see schema	No	Read Write	
range	multiple types: see schema	No	Read Write	
step	multiple types: see schema	No	Read Write	
if	array: see schema	No	Read Only	The OCF Interface set supported by this Resource.

6524 **6.25.6 CRUDN behaviour**

6525 Table 54 defines the CRUDN operations that are supported on the
6526 "oic.r.sensor.atmosphericpressure" Resource Type.

6527 **Table 54 – The CRUDN operations of the Resource with type "rt" =**
6528 **"oic.r.sensor.atmosphericpressure".**

Create	Read	Update	Delete	Notify
	get			observe

6529 **6.26 Audio Controls**

6530 **6.26.1 Introduction**

6531 This Resource defines basic audio control functions.
6532 The Property "volume" is an integer containing a percentage [0,100].
6533 A volume of 0 (zero) means no sound produced.
6534 A volume of 100 means maximum sound production.
6535 The Property "mute" is implemented as a boolean.
6536 A mute value of true means that the device is muted (no audio).
6537 A mute value of false means that the device is not muted (audio).

6538 **6.26.2 Example URI**

6539 /AudioResURI

6540 **6.26.3 Resource type**

6541 The Resource Type is defined as: "oic.r.audio".

6542 **6.26.4 OpenAPI 2.0 definition**

```
6543 {
6544   "swagger": "2.0",
6545   "info": {
6546     "title": "Audio Controls",
6547     "version": "20190620",
6548     "license": {
6549       "name": "OCF Data Model License",
6550       "url":
6551 "https://github.com/openconnectivityfoundation/core/blob/e28a9e0a92e17042ba3e83661e4c0fbce8bdc4ba/LI
6552 CENSE.md",
6553     "x-copyright": "copyright 2016-2017, 2019 Open Connectivity Foundation, Inc. All rights
6554 reserved."
6555   },
6556   "termsOfService": "https://openconnectivityfoundation.github.io/core/DISCLAIMER.md"
6557 },
6558   "schemes": ["http"],
6559   "consumes": ["application/json"],
6560   "produces": ["application/json"],
6561   "paths": {
6562     "/AudioResURI" : {
6563       "get": {
6564         "description": "This Resource defines basic audio control functions.\nThe Property
6565 \volume\" is an integer containing a percentage [0,100].\nA volume of 0 (zero) means no sound
6566 produced.\nA volume of 100 means maximum sound production.\nThe Property \mute\" is implemented as
6567 a boolean.\nA mute value of true means that the device is muted (no audio).\nA mute value of false
6568 means that the device is not muted (audio).",
6569         "parameters": [
6570           {"$ref": "#/parameters/interface"}
6571         ],
6572         "responses": {
6573           "200": {
6574             "description": "",
6575             "x-example":
6576             {
6577               "rt": ["oic.r.audio"],
6578               "if": ["oic.if.a", "oic.if.baseline"],
6579               "volume": 50,
6580               "mute": false
6581             },
6582             "schema": { "$ref": "#/definitions/Audio" }
6583           }
6584         }
6585       },
6586       "post": {
6587         "description": "",
6588         "parameters": [
6589           {"$ref": "#/parameters/interface"}
6590         ]
6591       }
6592     }
6593   }
6594 }
```



```

6591         "name": "body",
6592         "in": "body",
6593         "required": true,
6594         "schema": { "$ref": "#/definitions/Audio-update" },
6595         "x-example":
6596             {
6597                 "volume": 75
6598             }
6599     },
6600 ],
6601     "responses": {
6602         "200": {
6603             "description": "",
6604             "x-example":
6605                 {
6606                     "volume": 75,
6607                     "mute": false
6608                 },
6609             "schema": { "$ref": "#/definitions/Audio" }
6610         }
6611     }
6612 },
6613 },
6614 },
6615 "parameters": {
6616     "interface" : {
6617         "in": "query",
6618         "name": "if",
6619         "type": "string",
6620         "enum": ["oic.if.a", "oic.if.baseline"]
6621     },
6622 },
6623 "definitions": {
6624     "Audio" : {
6625         "properties": {
6626             "rt": {
6627                 "description": "The Resource Type.",
6628                 "items": {
6629                     "enum": ["oic.r.audio"],
6630                     "maxLength": 64,
6631                     "type": "string"
6632                 },
6633                 "minItems": 1,
6634                 "uniqueItems": true,
6635                 "readOnly": true,
6636                 "type": "array"
6637             },
6638             "mute": {
6639                 "description": "The mute setting of an audio rendering device.",
6640                 "type": "boolean"
6641             },
6642             "volume": {
6643                 "description": "The volume setting of an audio rendering device.",
6644                 "maximum": 100,
6645                 "minimum": 0,
6646                 "type": "integer"
6647             },
6648             "n": {
6649                 "$ref":
6650 "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
6651 schema.json#/definitions/n"
6652             },
6653             "id": {
6654                 "$ref":
6655 "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
6656 schema.json#/definitions/id"
6657             },
6658             "range": {
6659                 "$ref":
6660 "https://openconnectivityfoundation.github.io/IoTDataModels/schemas/oic.baseresource.properties-
6661 schema.json#/definitions/range_integer"
6662             },

```

```

6663         "step": {
6664             "$ref":
6665             "https://openconnectivityfoundation.github.io/IoTDataModels/schemas/oic.baseresource.properties-
6666             schema.json#/definitions/step_integer"
6667         },
6668         "if": {
6669             "description": "The OCF Interface set supported by this Resource.",
6670             "items": {
6671                 "enum": [
6672                     "oic.if.a",
6673                     "oic.if.baseline"
6674                 ],
6675                 "type": "string"
6676             },
6677             "minItems": 2,
6678             "uniqueItems": true,
6679             "readOnly": true,
6680             "type": "array"
6681         }
6682     },
6683     "type": "object",
6684     "required": ["volume", "mute"]
6685 },
6686 "Audio-update" : {
6687     "properties": {
6688         "mute": {
6689             "description": "The mute setting of an audio rendering device.",
6690             "type": "boolean"
6691         },
6692         "volume": {
6693             "description": "The volume setting of an audio rendering device.",
6694             "maximum": 100,
6695             "minimum": 0,
6696             "type": "integer"
6697         }
6698     }
6699 }
6700 }
6701 }
6702

```

6703 6.26.5 Property definition

6704 Table 55 defines the Properties that are part of the "oic.r.audio" Resource Type.

6705 **Table 55 – The Property definitions of the Resource with type "rt" = "oic.r.audio".**

Property name	Value type	Mandatory	Access mode	Description
rt	array: see schema	No	Read Only	The Resource Type.
mute	boolean	Yes	Read Write	The mute setting of an audio rendering device.
volume	integer	Yes	Read Write	The volume setting of an audio rendering device.
n	multiple types: see schema	No	Read Write	
id	multiple types: see schema	No	Read Write	
range	multiple types: see schema	No	Read Write	
step	multiple types: see schema	No	Read Write	

if	array: see schema	No	Read Only	The OCF Interface set supported by this Resource.
mute	boolean		Read Write	The mute setting of an audio rendering device.
volume	integer		Read Write	The volume setting of an audio rendering device.

6706 **6.26.6 CRUDN behaviour**

6707 Table 56 defines the CRUDN operations that are supported on the "oic.r.audio" Resource Type.

6708 **Table 56 – The CRUDN operations of the Resource with type "rt" = "oic.r.audio".**

Create	Read	Update	Delete	Notify
	get	post		observe

6709 **6.27 Auto Focus**

6710 **6.27.1 Introduction**

6711 This Resource describes an auto focus on/off feature.

6712 The Property "autoFocus" is a boolean.

6713 An "autoFocus" value of 'true' means that the auto focus feature is on.

6714 An "autoFocus" value of 'false' means that the auto focus feature is off.

6715 Note that when Pan Tilt Zoom (see 'Pan Tilt Zoom' Resource definition) is used the autofocus works only in the selected area.

6717 **6.27.2 Example URI**

6718 /AutoFocusResURI

6719 **6.27.3 Resource type**

6720 The Resource Type is defined as: "oic.r.autofocus".

6721 **6.27.4 OpenAPI 2.0 definition**

```

6722 {
6723   "swagger": "2.0",
6724   "info": {
6725     "title": "Auto Focus",
6726     "version": "20190222",
6727     "license": {
6728       "name": "OCF Data Model License",
6729       "url":
6730 "https://github.com/openconnectivityfoundation/core/blob/e28a9e0a92e17042ba3e83661e4c0fbce8bdc4ba/LI
6731 CENSE.md",
6732       "x-copyright": "Copyright 2018-2019 Open Connectivity Foundation, Inc. All rights reserved."
6733     },
6734     "termsOfService": "https://openconnectivityfoundation.github.io/core/DISCLAIMER.md"
6735   },
6736   "schemes": ["http"],
6737   "consumes": ["application/json"],
6738   "produces": ["application/json"],
6739   "paths": {
6740     "/AutoFocusResURI" : {
6741       "get": {
6742         "description": "This Resource describes an auto focus on/off feature.\nThe Property
6743 \n\"autoFocus\" is a boolean.\nAn \"autoFocus\" value of 'true' means that the auto focus feature is
6744 on.\nAn \"autoFocus\" value of 'false' means that the auto focus feature is off.\nNote that when Pan
6745 Tilt Zoom (see 'Pan Tilt Zoom' Resource definition) is used the autofocus works only in the selected
6746 area.",
6747         "parameters": [
6748           {"$ref": "#/parameters/interface"}

```

```

6749     ],
6750     "responses": {
6751         "200": {
6752             "description": "",
6753             "x-example":
6754                 {
6755                     "rt": ["oic.r.autofocus"],
6756                     "if": ["oic.if.a", "oic.if.baseline"],
6757                     "autoFocus": false
6758                 },
6759             "schema": { "$ref": "#/definitions/AutoFocus" }
6760         }
6761     },
6762 },
6763 "post": {
6764     "description": "",
6765     "parameters": [
6766         { "$ref": "#/parameters/interface" },
6767         {
6768             "name": "body",
6769             "in": "body",
6770             "required": true,
6771             "schema": { "$ref": "#/definitions/AutoFocus" },
6772             "x-example":
6773                 {
6774                     "autoFocus": true
6775                 }
6776         }
6777     ],
6778     "responses": {
6779         "200": {
6780             "description": "",
6781             "x-example":
6782                 {
6783                     "autoFocus": true
6784                 },
6785             "schema": { "$ref": "#/definitions/AutoFocus" }
6786         }
6787     }
6788 },
6789 },
6790 },
6791 "parameters": {
6792     "interface": {
6793         "in": "query",
6794         "name": "if",
6795         "type": "string",
6796         "enum": ["oic.if.a", "oic.if.baseline"]
6797     }
6798 },
6799 "definitions": {
6800     "AutoFocus": {
6801         "properties": {
6802             "rt": {
6803                 "description": "The Resource Type.",
6804                 "items": {
6805                     "enum": ["oic.r.autofocus"],
6806                     "maxLength": 64,
6807                     "type": "string"
6808                 },
6809                 "minItems": 1,
6810                 "uniqueItems": true,
6811                 "readOnly": true,
6812                 "type": "array"
6813             },
6814             "autoFocus": {
6815                 "description": "The status of the Auto Focus feature.",
6816                 "type": "boolean"
6817             },
6818             "n": {
6819                 "$ref":
6820     "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-

```

```

6821 schema.json#/definitions/n"
6822     },
6823     "id": {
6824         "$ref":
6825         "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
6826         schema.json#/definitions/id"
6827     },
6828     "if": {
6829         "description": "The OCF Interface set supported by this Resource.",
6830         "items": {
6831             "enum": [
6832                 "oic.if.a",
6833                 "oic.if.baseline"
6834             ],
6835             "type": "string"
6836         },
6837         "minItems": 2,
6838         "readOnly": true,
6839         "uniqueItems": true,
6840         "type": "array"
6841     }
6842 },
6843 "type": "object",
6844 "required": ["autoFocus"]
6845 }
6846 }
6847 }
6848

```

6849 6.27.5 Property definition

6850 Table 57 defines the Properties that are part of the "oic.r.autofocus" Resource Type.

6851 **Table 57 – The Property definitions of the Resource with type "rt" = "oic.r.autofocus".**

Property name	Value type	Mandatory	Access mode	Description
rt	array: see schema	No	Read Only	The Resource Type.
autoFocus	boolean	Yes	Read Write	The status of the Auto Focus feature.
n	multiple types: see schema	No	Read Write	
id	multiple types: see schema	No	Read Write	
if	array: see schema	No	Read Only	The OCF Interface set supported by this Resource.

6852 6.27.6 CRUDN behaviour

6853 Table 58 defines the CRUDN operations that are supported on the "oic.r.autofocus" Resource Type.

6854 **Table 58 – The CRUDN operations of the Resource with type "rt" = "oic.r.autofocus".**

Create	Read	Update	Delete	Notify
	get	post		observe

6855 6.28 Automatic Document Feeder

6856 6.28.1 Introduction

6857 This Resource describes the state of an automatic document feeder, typically used with a scanner.

6858 The Property "adfstates" and "currentAdfState" are read only.

6860 The Property "adfStates" is an array of the possible operational states.

6861 The Property "adfProcessing" is the OK state, other states are errors or require 'user attention'.
6862 The currentAdfState is the current value of the ADF state on the device.

6863 6.28.2 Example URI

6864 /AutomaticDocumentFeederResURI

6865 6.28.3 Resource type

6866 The Resource Type is defined as: "oic.r.automaticdocumentfeeder".

6867 6.28.4 OpenAPI 2.0 definition

```
6868 {
6869   "swagger": "2.0",
6870   "info": {
6871     "title": "Automatic Document Feeder",
6872     "version": "20190222",
6873     "license": {
6874       "name": "OCF Data Model License",
6875       "url":
6876         "https://github.com/openconnectivityfoundation/core/blob/e28a9e0a92e17042ba3e83661e4c0fbce8bdc4ba/LI
6877         CENSE.md",
6878       "x-copyright": "Copyright 2018-2019 Open Connectivity Foundation, Inc. All rights reserved."
6879     },
6880     "termsOfService": "https://openconnectivityfoundation.github.io/core/DISCLAIMER.md"
6881   },
6882   "schemes": ["http"],
6883   "consumes": ["application/json"],
6884   "produces": ["application/json"],
6885   "paths": {
6886     "/AutomaticDocumentFeederResURI" : {
6887       "get": {
6888         "description": "This Resource describes the state of an automatic document feeder, typically
6889         used with a scanner.\n\nThe Property \"adfstates\" and \"currentAdfState\" are read only.\n\nThe
6890         Property \"adfStates\" is an array of the possible operational states.\n\nThe Property
6891         \"adfProcessing\" is the OK state, other states are errors or require 'user attention'.\n\nThe
6892         currentAdfState is the current value of the ADF state on the device.",
6893         "parameters": [
6894           { "$ref": "#/parameters/interface" }
6895         ],
6896         "responses": {
6897           "200": {
6898             "description": "",
6899             "x-example":
6900               {
6901                 "rt": ["oic.r.automaticdocumentfeeder"],
6902                 "if": ["oic.if.s", "oic.if.baseline"],
6903                 "adfStates": ["adfProcessing", "adfEmpty", "adfJam", "adfLoaded", "adfMispick",
6904                 "adfHatchOpen", "adfDuplexPageTooShort", "adfDuplexPageTooLong", "adfMultipickDetected",
6905                 "adfInputTrayFailed", "adfInputTrayOverloaded"],
6906                 "currentAdfState": "adfProcessing"
6907               },
6908             "schema": { "$ref": "#/definitions/AutomaticDocumentFeeder" }
6909           }
6910         }
6911       }
6912     }
6913   },
6914   "parameters": {
6915     "interface" : {
6916       "in": "query",
6917       "name": "if",
6918       "type": "string",
6919       "enum": ["oic.if.s", "oic.if.baseline"]
6920     }
6921   },
6922   "definitions": {
6923     "AutomaticDocumentFeeder" : {
6924       "properties": {
6925         "rt": {
```

```

6926     "description": "The Resource Type.",
6927     "items": {
6928       "enum": ["oic.r.automaticdocumentfeeder"],
6929       "maxLength": 64,
6930       "type": "string"
6931     },
6932     "minItems": 1,
6933     "uniqueItems": true,
6934     "readOnly": true,
6935     "type": "array"
6936   },
6937   "adfStates": {
6938     "description": "The array of the possible adf states.",
6939     "items": {
6940       "type": "string"
6941     },
6942     "readOnly": true,
6943     "uniqueItems": true,
6944     "type": "array"
6945   },
6946   "currentAdfState": {
6947     "description": "The current adf state.",
6948     "readOnly": true,
6949     "type": "string"
6950   },
6951   "n": {
6952     "$ref":
6953     "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
6954     schema.json#/definitions/n"
6955   },
6956   "id": {
6957     "$ref":
6958     "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
6959     schema.json#/definitions/id"
6960   },
6961   "if": {
6962     "description": "The OCF Interface set supported by this Resource.",
6963     "items": {
6964       "enum": [
6965         "oic.if.s",
6966         "oic.if.baseline"
6967       ],
6968       "type": "string"
6969     },
6970     "minItems": 2,
6971     "uniqueItems": true,
6972     "readOnly": true,
6973     "type": "array"
6974   }
6975 },
6976 "type": "object",
6977 "required": ["adfStates", "currentAdfState"]
6978 }
6979 }
6980 }
6981

```

6982 6.28.5 Property definition

6983 Table 59 defines the Properties that are part of the "oic.r.automaticdocumentfeeder" Resource
6984 Type.

6985 **Table 59 – The Property definitions of the Resource with type "rt" =**
6986 **"oic.r.automaticdocumentfeeder".**

Property name	Value type	Mandatory	Access mode	Description
rt	array: see schema	No	Read Only	The Resource Type.
adfStates	array: see schema	Yes	Read Only	The array of the possible adf states.

currentAdfState	string	Yes	Read Only	The current adf state.
n	multiple types: see schema	No	Read Write	
id	multiple types: see schema	No	Read Write	
if	array: see schema	No	Read Only	The OCF Interface set supported by this Resource.

6987 **6.28.6 CRUDN behaviour**

6988 Table 60 defines the CRUDN operations that are supported on the "oic.r.automaticdocumentfeeder"
6989 Resource Type.

6990 **Table 60 – The CRUDN operations of the Resource with type "rt" =**
6991 **"oic.r.automaticdocumentfeeder".**

Create	Read	Update	Delete	Notify
	get			observe

6992 **6.29 Button Switch**

6993 **6.29.1 Introduction**

6994 This Resource describes the operation of a button style switch.
6995 The Property "value" is a boolean.
6996 A value of 'true' means that the button is being pushed/pressed.
6997 A value of 'false' means that the button is not being pushed/pressed.

6998 **6.29.2 Example URI**

6999 /ButtonResURI

7000 **6.29.3 Resource type**

7001 The Resource Type is defined as: "oic.r.button".

7002 **6.29.4 OpenAPI 2.0 definition**

```
7003 {
7004   "swagger": "2.0",
7005   "info": {
7006     "title": "Button Switch",
7007     "version": "20190222",
7008     "license": {
7009       "name": "OCF Data Model License",
7010       "url":
7011         "https://github.com/openconnectivityfoundation/core/blob/e28a9e0a92e17042ba3e83661e4c0fbce8bdc4ba/LI
7012         CENSE.md",
7013       "x-copyright": "Copyright 2018-2019 Open Connectivity Foundation, Inc. All rights reserved."
7014     },
7015     "termsOfService": "https://openconnectivityfoundation.github.io/core/DISCLAIMER.md"
7016   },
7017   "schemes": ["http"],
7018   "consumes": ["application/json"],
7019   "produces": ["application/json"],
7020   "paths": {
7021     "/ButtonResURI" : {
7022       "get": {
7023         "description": "This Resource describes the operation of a button style switch.\nThe
7024         Property \"value\" is a boolean.\nA value of 'true' means that the button is being
7025         pushed/pressed.\nA value of 'false' means that the button is not being pushed/pressed.",
7026         "parameters": [
7027           {"$ref": "#/parameters/interface"}
7028         ],

```



```

7029     "responses": {
7030         "200": {
7031             "description": "",
7032             "x-example":
7033                 {
7034                     "rt": ["oic.r.button"],
7035                     "if": ["oic.if.s", "oic.if.baseline"],
7036                     "value": true
7037                 }
7038             ,
7039             "schema": { "$ref": "#/definitions/Button" }
7040         }
7041     }
7042 },
7043 },
7044 },
7045 "parameters": {
7046     "interface": {
7047         "in": "query",
7048         "name": "if",
7049         "type": "string",
7050         "enum": ["oic.if.s", "oic.if.baseline"]
7051     }
7052 },
7053 "definitions": {
7054     "Button": {
7055         "properties": {
7056             "rt": {
7057                 "description": "The Resource Type.",
7058                 "items": {
7059                     "enum": ["oic.r.button"],
7060                     "maxLength": 64,
7061                     "type": "string"
7062                 },
7063                 "minItems": 1,
7064                 "uniqueItems": true,
7065                 "readOnly": true,
7066                 "type": "array"
7067             },
7068             "value": {
7069                 "description": "The status of the button",
7070                 "readOnly": true,
7071                 "type": "boolean"
7072             },
7073             "n": {
7074                 "$ref":
7075                 "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
7076                 schema.json#/definitions/n"
7077             },
7078             "id": {
7079                 "$ref":
7080                 "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
7081                 schema.json#/definitions/id"
7082             },
7083             "if": {
7084                 "description": "The OCF Interface set supported by this Resource.",
7085                 "items": {
7086                     "enum": [
7087                         "oic.if.s",
7088                         "oic.if.baseline"
7089                     ],
7090                     "type": "string"
7091                 },
7092                 "minItems": 2,
7093                 "uniqueItems": true,
7094                 "readOnly": true,
7095                 "type": "array"
7096             }
7097         },
7098         "type": "object",
7099         "required": ["value"]
7100     }

```

7101 }
 7102 }
 7103

7104 **6.29.5 Property definition**

7105 Table 61 defines the Properties that are part of the "oic.r.button" Resource Type.

7106 **Table 61 – The Property definitions of the Resource with type "rt" = "oic.r.button".**

Property name	Value type	Mandatory	Access mode	Description
rt	array: see schema	No	Read Only	The Resource Type.
value	boolean	Yes	Read Only	The status of the button
n	multiple types: see schema	No	Read Write	
id	multiple types: see schema	No	Read Write	
if	array: see schema	No	Read Only	The OCF Interface set supported by this Resource.

7107 **6.29.6 CRUDN behaviour**

7108 Table 62 defines the CRUDN operations that are supported on the "oic.r.button" Resource Type.

7109 **Table 62 – The CRUDN operations of the Resource with type "rt" = "oic.r.button".**

Create	Read	Update	Delete	Notify
	get			observe

7110 **6.30 Carbon Dioxide Sensor**

7111 **6.30.1 Introduction**

7112 This Resource describes whether carbon dioxide has been sensed or not.

7113 The Property "value" is a boolean.

7114 A value of 'true' means that carbon dioxide has been detected.

7115 A value of 'false' means that carbon dioxide has not been detected.

7116 **6.30.2 Example URI**

7117 /CarbonDioxideResURI

7118 **6.30.3 Resource type**

7119 The Resource Type is defined as: "oic.r.sensor.carbondioxide".

7120 **6.30.4 OpenAPI 2.0 definition**

```

7121 {
7122   "swagger": "2.0",
7123   "info": {
7124     "title": "Carbon Dioxide Sensor",
7125     "version": "20191118",
7126     "license": {
7127       "name": "OCF Data Model License",
7128       "url":
7129         "https://github.com/openconnectivityfoundation/core/blob/e28a9e0a92e17042ba3e83661e4c0fbce8bdc4ba/LI
7130         CENSE.md",
7131       "x-copyright": "Copyright 2019 Open Connectivity Foundation, Inc. All rights reserved."
7132     },
7133     "termsOfService": "https://openconnectivityfoundation.github.io/core/DISCLAIMER.md"
7134   },
7135   "schemes": ["http"],

```

```

7136     "consumes": ["application/json"],
7137     "produces": ["application/json"],
7138     "paths": {
7139         "/CarbonDioxideResURI" : {
7140             "get": {
7141                 "description": "This Resource describes whether carbon dioxide has been sensed or not.\n\nThe
7142 Property \"value\" is a boolean.\n\nA value of 'true' means that carbon dioxide has been detected.\n\nA
7143 value of 'false' means that carbon dioxide has not been detected.",
7144                 "parameters": [
7145                     { "$ref": "#/parameters/interface" }
7146                 ],
7147                 "responses": {
7148                     "200": {
7149                         "description": "",
7150                         "x-example":
7151                             {
7152                                 "rt": ["oic.r.sensor.carbondioxide"],
7153                                 "id": "unique_example_id",
7154                                 "value": true
7155                             },
7156                         "schema": { "$ref": "#/definitions/CO2" }
7157                     }
7158                 }
7159             }
7160         },
7161     },
7162     "parameters": {
7163         "interface" : {
7164             "in" : "query",
7165             "name" : "if",
7166             "type" : "string",
7167             "enum" : ["oic.if.s", "oic.if.baseline"]
7168         }
7169     },
7170     "definitions": {
7171         "CO2": {
7172             "properties": {
7173                 "rt": {
7174                     "description": "The Resource Type",
7175                     "items": {
7176                         "maxLength": 64,
7177                         "type": "string",
7178                         "enum": ["oic.r.sensor.carbondioxide"]
7179                     },
7180                     "minItems": 1,
7181                     "readOnly": true,
7182                     "uniqueItems": true,
7183                     "type": "array"
7184                 },
7185                 "value": {
7186                     "description": "The carbon dioxide indicator, true = sensed, false = not sensed.",
7187                     "readOnly": true,
7188                     "type": "boolean"
7189                 },
7190                 "measurement": {
7191                     "type": "number",
7192                     "description": "Measured value for this sensor, units are in ppm",
7193                     "readOnly": true
7194                 },
7195                 "precision": {
7196                     "$ref":
7197 "https://openconnectivityfoundation.github.io/IoTDataModels/schemas/oic.baseresource.properties-
7198 schema.json#/definitions/precision"
7199                 },
7200                 "n": {
7201                     "$ref":
7202 "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
7203 schema.json#/definitions/n"
7204                 },
7205                 "range": {
7206                     "$ref":
7207 "https://openconnectivityfoundation.github.io/IoTDataModels/schemas/oic.baseresource.properties-

```

```

7208 schema.json#/definitions/range_number"
7209     },
7210     "step": {
7211       "$ref":
7212       "https://openconnectivityfoundation.github.io/IoTDataModels/schemas/oic.baseresource.properties-
7213       schema.json#/definitions/step_number"
7214     },
7215     "id": {
7216       "$ref":
7217       "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
7218       schema.json#/definitions/id"
7219     },
7220     "if": {
7221       "description": "The OCF Interface set supported by this Resource",
7222       "items": {
7223         "enum": [
7224           "oic.if.baseline",
7225           "oic.if.s"
7226         ],
7227         "maxLength": 64,
7228         "type": "string"
7229       },
7230       "minItems": 2,
7231       "readOnly": true,
7232       "uniqueItems": true,
7233       "type": "array"
7234     }
7235   },
7236   "type" : "object",
7237   "required": ["value"]
7238 }
7239 }
7240 }
7241

```

7242 **6.30.5 Property definition**

7243 Table 63 defines the Properties that are part of the "oic.r.sensor.carbondioxide" Resource Type.

7244 **Table 63 – The Property definitions of the Resource with type "rt" =**
7245 **"oic.r.sensor.carbondioxide".**

Property name	Value type	Mandatory	Access mode	Description
rt	array: see schema	No	Read Only	The Resource Type
value	boolean	Yes	Read Only	The carbon dioxide indicator, true = sensed, false = not sensed.
measurement	number	No	Read Only	Measured value for this sensor, units are in ppm
precision	multiple types: see schema	No	Read Write	
n	multiple types: see schema	No	Read Write	
range	multiple types: see schema	No	Read Write	
step	multiple types: see schema	No	Read Write	
id	multiple types: see schema	No	Read Write	
if	array: see schema	No	Read Only	The OCF Interface set supported by this Resource

7246 **6.30.6 CRUDN behaviour**

7247 Table 64 defines the CRUDN operations that are supported on the "oic.r.sensor.carbondioxide"
7248 Resource Type.

7249 **Table 64 – The CRUDN operations of the Resource with type "rt" =**
7250 **"oic.r.sensor.carbondioxide".**

Create	Read	Update	Delete	Notify
	get			observe

7251 **6.31 Carbon Monoxide Sensor**

7252 **6.31.1 Introduction**

7253 This Resource describes whether carbon monoxide has been sensed or not.

7254 The Property "value" is a boolean.

7255 A value of 'true' means that carbon monoxide has been detected.

7256 A value of 'false' means that carbon monoxide has not been detected.

7257 **6.31.2 Example URI**

7258 /CarbonMonoxideResURI

7259 **6.31.3 Resource type**

7260 The Resource Type is defined as: "oic.r.sensor.carbonmonoxide".

7261 **6.31.4 OpenAPI 2.0 definition**

```

7262 {
7263   "swagger": "2.0",
7264   "info": {
7265     "title": "Carbon Monoxide Sensor",
7266     "version": "20191118",
7267     "license": {
7268       "name": "OCF Data Model License",
7269       "url":
7270 "https://github.com/openconnectivityfoundation/core/blob/e28a9e0a92e17042ba3e83661e4c0fbce8bdc4ba/LI
7271 CENSE.md",
7272       "x-copyright": "copyright 2016-2017, 2019 Open Connectivity Foundation, Inc. All rights
7273 reserved."
7274     },
7275     "termsOfService": "https://openconnectivityfoundation.github.io/core/DISCLAIMER.md"
7276   },
7277   "schemes": ["http"],
7278   "consumes": ["application/json"],
7279   "produces": ["application/json"],
7280   "paths": {
7281     "/CarbonMonoxideResURI" : {
7282       "get": {
7283         "description": "This Resource describes whether carbon monoxide has been sensed or not.\nThe
7284 Property \"value\" is a boolean.\nA value of 'true' means that carbon monoxide has been detected.\nA
7285 value of 'false' means that carbon monoxide has not been detected.",
7286         "parameters": [
7287           {"$ref": "#/parameters/interface"}
7288         ],
7289         "responses": {
7290           "200": {
7291             "description": "",
7292             "x-example":
7293               {
7294                 "rt": ["oic.r.sensor.carbonmonoxide"],
7295                 "id": "unique_example_id",
7296                 "value": true
7297               },
7298             "schema": { "$ref": "#/definitions/CO" }
7299           }
7300         }
7301       }
7302     }

```

```

7301     }
7302   }
7303 },
7304 "parameters": {
7305   "interface" : {
7306     "in" : "query",
7307     "name" : "if",
7308     "type" : "string",
7309     "enum" : ["oic.if.s", "oic.if.baseline"]
7310   }
7311 },
7312 "definitions": {
7313   "CO": {
7314     "properties": {
7315       "rt": {
7316         "description": "Resource Type",
7317         "items": {
7318           "maxLength": 64,
7319           "type": "string",
7320           "enum": ["oic.r.sensor.carbonmonoxide"]
7321         },
7322         "minItems": 1,
7323         "readOnly": true,
7324         "uniqueItems": true,
7325         "type": "array"
7326       },
7327       "value": {
7328         "description": "The carbon monoxide indicator, true = sensed, false = not sensed.",
7329         "readOnly": true,
7330         "type": "boolean"
7331       },
7332       "measurement": {
7333         "type": "number",
7334         "description": "Measured value for this sensor, units are in ppm",
7335         "readOnly": true
7336       },
7337       "precision": {
7338         "$ref":
7339 "https://openconnectivityfoundation.github.io/IoTDataModels/schemas/oic.baseresource.properties-
7340 schema.json#/definitions/precision"
7341       },
7342       "n": {
7343         "$ref":
7344 "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
7345 schema.json#/definitions/n"
7346       },
7347       "range": {
7348         "$ref":
7349 "https://openconnectivityfoundation.github.io/IoTDataModels/schemas/oic.baseresource.properties-
7350 schema.json#/definitions/range_number"
7351       },
7352       "step": {
7353         "$ref":
7354 "https://openconnectivityfoundation.github.io/IoTDataModels/schemas/oic.baseresource.properties-
7355 schema.json#/definitions/step_number"
7356       },
7357       "id": {
7358         "$ref":
7359 "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
7360 schema.json#/definitions/id"
7361       },
7362       "if": {
7363         "description": "The OCF Interface set supported by this Resource",
7364         "items": {
7365           "enum": [
7366             "oic.if.baseline",
7367             "oic.if.s"
7368           ],
7369           "maxLength": 64,
7370           "type": "string"
7371         },
7372         "minItems": 1,

```

```

7373         "uniqueItems": true,
7374         "readOnly": true,
7375         "type": "array"
7376     }
7377 },
7378     "type" : "object",
7379     "required": ["value"]
7380 }
7381 }
7382 }
7383

```

7384 **6.31.5 Property definition**

7385 Table 65 defines the Properties that are part of the "oic.r.sensor.carbonmonoxide" Resource Type.

7386 **Table 65 – The Property definitions of the Resource with type "rt" =**
7387 **"oic.r.sensor.carbonmonoxide".**

Property name	Value type	Mandatory	Access mode	Description
rt	array: see schema	No	Read Only	Resource Type
value	boolean	Yes	Read Only	The carbon monoxide indicator, true = sensed, false = not sensed.
measurement	number	No	Read Only	Measured value for this sensor, units are in ppm
precision	multiple types: see schema	No	Read Write	
n	multiple types: see schema	No	Read Write	
range	multiple types: see schema	No	Read Write	
step	multiple types: see schema	No	Read Write	
id	multiple types: see schema	No	Read Write	
if	array: see schema	No	Read Only	The OCF Interface set supported by this Resource

7388 **6.31.6 CRUDN behaviour**

7389 Table 66 defines the CRUDN operations that are supported on the "oic.r.sensor.carbonmonoxide"
7390 Resource Type.

7391 **Table 66 – The CRUDN operations of the Resource with type "rt" =**
7392 **"oic.r.sensor.carbonmonoxide".**

Create	Read	Update	Delete	Notify
	get			observe

7393 **6.32 Auto White Balance**

7394 **6.32.1 Introduction**

7395 This Resource describes an auto balance on/off feature.

7396 The Property "autoWhiteBalance" is a boolean.

7397 An AutoWhiteBalance value of 'true' means that the auto white balance feature is on.

7398 An AutoWhiteBalance value of 'false' means that the auto white balance feature is off.

7399

7400 6.32.2 Example URI

7401 /AutoWhiteBalanceResURI

7402 6.32.3 Resource type

7403 The Resource Type is defined as: "oic.r.colour.autowhitebalance".

7404 6.32.4 OpenAPI 2.0 definition

```
7405 {
7406   "swagger": "2.0",
7407   "info": {
7408     "title": "Auto White Balance",
7409     "version": "20190222",
7410     "license": {
7411       "name": "OCF Data Model License",
7412       "url":
7413         "https://github.com/openconnectivityfoundation/core/blob/e28a9e0a92e17042ba3e83661e4c0fbce8bdc4ba/LI
7414         CENSE.md",
7415       "x-copyright": "Copyright 2018-2019 Open Connectivity Foundation, Inc. All rights reserved."
7416     },
7417     "termsOfService": "https://openconnectivityfoundation.github.io/core/DISCLAIMER.md"
7418   },
7419   "schemes": ["http"],
7420   "consumes": ["application/json"],
7421   "produces": ["application/json"],
7422   "paths": {
7423     "/AutoWhiteBalanceResURI" : {
7424       "get": {
7425         "description": "This Resource describes an auto balance on/off feature.\n\nThe Property
7426         \autoWhiteBalance\" is a boolean.\n\nAn AutoWhiteBalance value of 'true' means that the auto white
7427         balance feature is on.\n\nAn AutoWhiteBalance value of 'false' means that the auto white balance
7428         feature is off.\n\n",
7429         "parameters": [
7430           {"$ref": "#/parameters/interface"}
7431         ],
7432         "responses": {
7433           "200": {
7434             "description": "",
7435             "x-example":
7436               {
7437                 "rt": ["oic.r.colour.autowhitebalance"],
7438                 "if": ["oic.if.a", "oic.if.baseline"],
7439                 "autoWhiteBalance": false
7440               },
7441             "schema": { "$ref": "#/definitions/AutoWhiteBalance" }
7442           }
7443         }
7444       },
7445       "post": {
7446         "description": "",
7447         "parameters": [
7448           {"$ref": "#/parameters/interface"},
7449           {
7450             "name": "body",
7451             "in": "body",
7452             "required": true,
7453             "schema": { "$ref": "#/definitions/AutoWhiteBalance" },
7454             "x-example":
7455               {
7456                 "autoWhiteBalance": true
7457               }
7458           }
7459         ],
7460         "responses": {
7461           "200": {
7462             "description": "",
7463             "x-example":
7464               {
7465                 "autoWhiteBalance": true
7466               },

```



```

7467         "schema": { "$ref": "#/definitions/AutoWhiteBalance" }
7468     }
7469 }
7470 }
7471 }
7472 },
7473 "parameters": {
7474     "interface" : {
7475         "in": "query",
7476         "name": "if",
7477         "type": "string",
7478         "enum": ["oic.if.a", "oic.if.baseline"]
7479     }
7480 },
7481 "definitions": {
7482     "AutoWhiteBalance" : {
7483         "properties": {
7484             "rt": {
7485                 "description": "The Resource Type.",
7486                 "items": {
7487                     "enum": ["oic.r.colour.autowhitebalance"],
7488                     "maxLength": 64,
7489                     "type": "string"
7490                 },
7491                 "minItems": 1,
7492                 "uniqueItems": true,
7493                 "readOnly": true,
7494                 "type": "array"
7495             },
7496             "autoWhiteBalance": {
7497                 "description": "The status of the Auto White balance feature.",
7498                 "type": "boolean"
7499             },
7500             "n": {
7501                 "$ref":
7502 "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
7503 schema.json#/definitions/n"
7504             },
7505             "id": {
7506                 "$ref":
7507 "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
7508 schema.json#/definitions/id"
7509             },
7510             "if": {
7511                 "description": "The OCF Interface set supported by this Resource.",
7512                 "items": {
7513                     "enum": [
7514                         "oic.if.a",
7515                         "oic.if.baseline"
7516                     ],
7517                     "type": "string"
7518                 },
7519                 "minItems": 2,
7520                 "uniqueItems": true,
7521                 "readOnly": true,
7522                 "type": "array"
7523             }
7524         },
7525         "type": "object",
7526         "required": ["autoWhiteBalance"]
7527     }
7528 }
7529 }
7530

```

7531 6.32.5 Property definition

7532 Table 67 defines the Properties that are part of the "oic.r.colour.autowhitebalance" Resource Type.

7533
7534

Table 67 – The Property definitions of the Resource with type "rt" = "oic.r.colour.autowhitebalance".

Property name	Value type	Mandatory	Access mode	Description
rt	array: see schema	No	Read Only	The Resource Type.
autoWhiteBalance	boolean	Yes	Read Write	The status of the Auto White balance feature.
n	multiple types: see schema	No	Read Write	
id	multiple types: see schema	No	Read Write	
if	array: see schema	No	Read Only	The OCF Interface set supported by this Resource.

7535 **6.32.6 CRUDN behaviour**

7536 Table 68 defines the CRUDN operations that are supported on the "oic.r.colour.autowhitebalance"
7537 Resource Type.

Table 68 – The CRUDN operations of the Resource with type "rt" = "oic.r.colour.autowhitebalance".

Create	Read	Update	Delete	Notify
	get	post		observe

7540 **6.33 Colour Saturation**

7541 **6.33.1 Introduction**

7542 This Resource describes a Colour saturation value.
7543 The Property "colourSaturation" is an integer.
7544 A "colourSaturation" has a range of [0,100].
7545 A "colourSaturation" value of 0 means producing black and white images.
7546 A "colourSaturation" value of 50 means producing device specific normal colour images.
7547 A "colourSaturation" value of 100 means producing device very full colour images.
7548

7549 **6.33.2 Example URI**

7550 /ColourSaturationResURI

7551 **6.33.3 Resource type**

7552 The Resource Type is defined as: "oic.r.colour.saturation".

7553 **6.33.4 OpenAPI 2.0 definition**

```

7554 {
7555   "swagger": "2.0",
7556   "info": {
7557     "title": "Colour Saturation",
7558     "version": "20190215",
7559     "license": {
7560       "name": "OCF Data Model License",
7561       "url":
7562         "https://github.com/openconnectivityfoundation/core/blob/e28a9e0a92e17042ba3e83661e4c0fbc8ebdc4ba/LI
7563         CENSE.md",
7564       "x-copyright": "copyright 2016-2017, 2019 Open Connectivity Foundation, Inc. All rights
7565         reserved."
7566     },
7567     "termsOfService": "https://openconnectivityfoundation.github.io/core/DISCLAIMER.md"
7568   },

```

```

7569     "schemes": ["http"],
7570     "consumes": ["application/json"],
7571     "produces": ["application/json"],
7572     "paths": {
7573         "/ColourSaturationResURI" : {
7574             "get": {
7575                 "description": "This Resource describes a Colour saturation value.\n\nThe Property
7576 \colourSaturation\ is an integer.\n\n\colourSaturation\ has a range of [0,100].\n\n
7577 \colourSaturation\ value of 0 means producing black and white images.\n\n\colourSaturation\
7578 value of 50 means producing device specific normal colour images.\n\n\colourSaturation\ value of
7579 100 means producing device very full colour images.\n",
7580                 "parameters": [
7581                     {"$ref": "#/parameters/interface"}
7582                 ],
7583                 "responses": {
7584                     "200": {
7585                         "description": "",
7586                         "x-example":
7587                             {
7588                                 "rt": ["oic.r.colour.saturation"],
7589                                 "if": ["oic.if.a", "oic.if.baseline"],
7590                                 "colourSaturation": 50
7591                             },
7592                     "schema": { "$ref": "#/definitions/Saturation" }
7593                 }
7594             },
7595             "post": {
7596                 "description": "",
7597                 "parameters": [
7598                     {"$ref": "#/parameters/interface"},
7599                     {
7600                         "name": "body",
7601                         "in": "body",
7602                         "required": true,
7603                         "schema": { "$ref": "#/definitions/Saturation" },
7604                         "x-example":
7605                             {
7606                                 "colourSaturation": 60
7607                             }
7608                     }
7609                 ],
7610                 "responses": {
7611                     "200": {
7612                         "description": "",
7613                         "x-example":
7614                             {
7615                                 "colourSaturation": 60
7616                             }
7617                     },
7618                     "schema": { "$ref": "#/definitions/Saturation" }
7619                 }
7620             }
7621         }
7622     },
7623 },
7624 "parameters": {
7625     "interface" : {
7626         "in": "query",
7627         "name": "if",
7628         "type": "string",
7629         "enum": ["oic.if.a", "oic.if.baseline"]
7630     }
7631 },
7632 "definitions": {
7633     "Saturation" : {
7634         "properties": {
7635             "rt": {
7636                 "description": "The Resource Type.",
7637                 "items": {
7638                     "enum": ["oic.r.colour.saturation"],
7639                     "maxLength": 64,

```

```

7641         "type": "string"
7642     },
7643     "minItems": 1,
7644     "uniqueItems": true,
7645     "readOnly": true,
7646     "type": "array"
7647 },
7648 "colourSaturation": {
7649     "description": "The colour saturation value.",
7650     "maximum": 100,
7651     "minimum": 0,
7652     "type": "integer"
7653 },
7654 "n": {
7655     "$ref":
7656 "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
7657 schema.json#/definitions/n"
7658 },
7659 "id": {
7660     "$ref":
7661 "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
7662 schema.json#/definitions/id"
7663 },
7664 "if": {
7665     "description": "The OCF Interface set supported by this Resource.",
7666     "items": {
7667         "enum": [
7668             "oic.if.a",
7669             "oic.if.baseline"
7670         ],
7671         "type": "string"
7672     },
7673     "minItems": 2,
7674     "uniqueItems": true,
7675     "readOnly": true,
7676     "type": "array"
7677 }
7678 },
7679 "type": "object",
7680 "required": ["colourSaturation"]
7681 }
7682 }
7683 }
7684

```

6.33.5 Property definition

Table 69 defines the Properties that are part of the "oic.r.colour.saturation" Resource Type.

Table 69 – The Property definitions of the Resource with type "rt" = "oic.r.colour.saturation".

Property name	Value type	Mandatory	Access mode	Description
rt	array: see schema	No	Read Only	The Resource Type.
colourSaturation	integer	Yes	Read Write	The colour saturation value.
n	multiple types: see schema	No	Read Write	
id	multiple types: see schema	No	Read Write	
if	array: see schema	No	Read Only	The OCF Interface set supported by this Resource.

7689 **6.33.6 CRUDN behaviour**

7690 Table 70 defines the CRUDN operations that are supported on the "oic.r.colour.saturation"
7691 Resource Type.

7692 **Table 70 – The CRUDN operations of the Resource with type "rt" =**
7693 **"oic.r.colour.saturation".**

Create	Read	Update	Delete	Notify
	get	post		observe

7694 **6.34 Contact Sensor**

7695 **6.34.1 Introduction**

7696 This Resource describes whether a contact sensor has been tripped or not.

7697 Typical use case is in Security Systems detecting window or door open.

7698 The Property "value" is a boolean.

7699 A value of 'true' means that contact has been broken (open).

7700 A value of 'false' means that contact is in place (closed).

7701

7702 **6.34.2 Example URI**

7703 /ContactResURI

7704 **6.34.3 Resource type**

7705 The Resource Type is defined as: "oic.r.sensor.contact".

7706 **6.34.4 OpenAPI 2.0 definition**

```
7707 {  
7708   "swagger": "2.0",  
7709   "info": {  
7710     "title": "Contact Sensor",  
7711     "version": "20190215",  
7712     "license": {  
7713       "name": "OCF Data Model License",  
7714       "url":  
7715       "https://github.com/openconnectivityfoundation/core/blob/e28a9e0a92e17042ba3e83661e4c0fbce8bdc4ba/LI  
7716       CENSE.md",  
7717       "x-copyright": "copyright 2016-2017, 2019 Open Connectivity Foundation, Inc. All rights  
7718       reserved."  
7719     },  
7720     "termsOfService": "https://openconnectivityfoundation.github.io/core/DISCLAIMER.md"  
7721   },  
7722   "schemes": ["http"],  
7723   "consumes": ["application/json"],  
7724   "produces": ["application/json"],  
7725   "paths": {  
7726     "/ContactResURI" : {  
7727       "get": {  
7728         "description": "This Resource describes whether a contact sensor has been tripped or  
7729         not.\nTypical use case is in Security Systems detecting window or door open.\nThe Property \"value\  
7730         is a boolean.\nA value of 'true' means that contact has been broken (open).\nA value of 'false'  
7731         means that contact is in place (closed).\n",  
7732         "parameters": [  
7733           {"$ref": "#/parameters/interface"}  
7734         ],  
7735         "responses": {  
7736           "200": {  
7737             "description": "",  
7738             "x-example":  
7739             {  
7740               "rt": ["oic.r.sensor.contact"],  
7741               "if": ["oic.if.s", "oic.if.baseline"],  
7742               "value": true  
7743             },  
7744           }  
7745         }  
7746       }  
7747     }  
7748   }  
7749 }
```

```

7744         "schema": { "$ref": "#/definitions/Contact" }
7745     }
7746 }
7747 }
7748 }
7749 },
7750 "parameters": {
7751     "interface" : {
7752         "in": "query",
7753         "name": "if",
7754         "type": "string",
7755         "enum": ["oic.if.s", "oic.if.baseline"]
7756     }
7757 },
7758 "definitions": {
7759     "Contact" : {
7760         "properties": {
7761             "rt": {
7762                 "description": "The Resource Type.",
7763                 "items": {
7764                     "enum": ["oic.r.sensor.contact"],
7765                     "maxLength": 64,
7766                     "type": "string"
7767                 },
7768                 "minItems": 1,
7769                 "uniqueItems": true,
7770                 "readOnly": true,
7771                 "type": "array"
7772             },
7773             "value": {
7774                 "description": "The contact indication, true = broken (open), false = in place (closed).",
7775                 "readOnly": true,
7776                 "type": "boolean"
7777             },
7778             "n": {
7779                 "$ref":
7780 "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
7781 schema.json#/definitions/n"
7782             },
7783             "id": {
7784                 "$ref":
7785 "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
7786 schema.json#/definitions/id"
7787             },
7788             "if": {
7789                 "description": "The OCF Interface set supported by this Resource.",
7790                 "items": {
7791                     "enum": [
7792                         "oic.if.s",
7793                         "oic.if.baseline"
7794                     ],
7795                     "type": "string"
7796                 },
7797                 "minItems": 2,
7798                 "uniqueItems": true,
7799                 "readOnly": true,
7800                 "type": "array"
7801             }
7802         },
7803         "type": "object",
7804         "required": ["value"]
7805     }
7806 }
7807 }
7808

```

7809 6.34.5 Property definition

7810 Table 71 defines the Properties that are part of the "oic.r.sensor.contact" Resource Type.

7811 **Table 71 – The Property definitions of the Resource with type "rt" = "oic.r.sensor.contact".**

Property name	Value type	Mandatory	Access mode	Description
rt	array: see schema	No	Read Only	The Resource Type.
value	boolean	Yes	Read Only	The contact indication, true = broken (open), false = in place (closed).
n	multiple types: see schema	No	Read Write	
id	multiple types: see schema	No	Read Write	
if	array: see schema	No	Read Only	The OCF Interface set supported by this Resource.

7812 **6.34.6 CRUDN behaviour**

7813 Table 72 defines the CRUDN operations that are supported on the "oic.r.sensor.contact" Resource
7814 Type.

7815 **Table 72 – The CRUDN operations of the Resource with type "rt" = "oic.r.sensor.contact".**

Create	Read	Update	Delete	Notify
	get			observe

7816 **6.35 Demand Response Load Control (DRLC).**

7817 **6.35.1 Introduction**

7818 This Resource describes any to be applied or currently being applied DRLC signal.
7819 The Property "DRType" is the ApplianceLoadReductionType defined in Zigbee/HA Smart Energy
7820 Profile 2.0.
7821 The Property "start" is a string containing an RFC3339 encoded start time.
7822 The Property "duration" value is in minutes.
7823 The Property "Override" indicates whether the consumer has overridden the request (true) or not
7824 (false).
7825 The Resource provides the current DRLC action that is being applied.
7826 A duration of 0 (zero) means that no DRLC is currently active.

7827 **6.35.2 Example URI**

7828 /DRLCResURI

7829 **6.35.3 Resource type**

7830 The Resource Type is defined as: "oic.r.energy.drlc".

7831 **6.35.4 OpenAPI 2.0 definition**

```
7832 {
7833   "swagger": "2.0",
7834   "info": {
7835     "title": "Demand Response Load Control (DRLC).",
7836     "version": "20190709",
7837     "license": {
7838       "name": "OCF Data Model License",
7839       "url":
7840         "https://github.com/openconnectivityfoundation/core/blob/e28a9e0a92e17042ba3e83661e4c0fbce8bdc4ba/LI
7841         CENSE.md",
7842       "x-copyright": "copyright 2016-2017, 2019 Open Connectivity Foundation, Inc. All rights
7843         reserved."
7844     },
7845     "termsOfService": "https://openconnectivityfoundation.github.io/core/DISCLAIMER.md"
```

```

7846     },
7847     "schemes": ["http"],
7848     "consumes": ["application/json"],
7849     "produces": ["application/json"],
7850     "paths": {
7851         "/DRLCResURI" : {
7852             "get": {
7853                 "description": "This Resource describes any to be applied or currently being applied DRLC
7854 signal.\nThe Property \"DRType\" is the ApplianceLoadReductionType defined in Zigbee/HA Smart Energy
7855 Profile 2.0.\nThe Property \"start\" is a string containing an RFC3339 encoded start time.\nThe
7856 Property \"duration\" value is in minutes.\nThe Property \"Override\" indicates whether the consumer
7857 has overridden the request (true) or not (false).\nThe Resource provides the current DRLC action
7858 that is being applied.\nA duration of 0 (zero) means that no DRLC is currently active.",
7859                 "parameters": [
7860                     {"$ref": "#/parameters/interface"}
7861                 ],
7862                 "responses": {
7863                     "200": {
7864                         "description": "",
7865                         "x-example":
7866                         {
7867                             "rt": ["oic.r.energy.drlc"],
7868                             "if": ["oic.if.a", "oic.if.baseline"],
7869                             "DRType": 1,
7870                             "start": "2015-01-09T16:45:00Z",
7871                             "duration": 10,
7872                             "override": false,
7873                             "drlevel": 2,
7874                             "mandate": true
7875                         },
7876                     "schema": { "$ref": "#/definitions/DRLC" }
7877                 }
7878             }
7879         },
7880         "post": {
7881             "description": "Provides the DRLC action to be applied to the device or updates an existing
7882 action.",
7883             "parameters": [
7884                 {"$ref": "#/parameters/interface"},
7885                 {
7886                     "name": "body",
7887                     "in": "body",
7888                     "required": true,
7889                     "schema": {"$ref": "#/definitions/DRLC"},
7890                     "x-example": {
7891                         "DRType": 1,
7892                         "start": "2015-01-09T17:00:00Z",
7893                         "duration": 10
7894                     }
7895                 }
7896             ],
7897             "responses": {
7898                 "200": {
7899                     "description": "Indicates that the target DRLC resource was changed.\nThe new resource
7900 attributes are provided in the response.",
7901                     "x-example": {
7902                         "DRType": 1,
7903                         "start": "2015-01-09T17:00:00Z",
7904                         "duration": 15,
7905                         "override": false
7906                     },
7907                     "schema": {"$ref": "#/definitions/DRLC"}
7908                 }
7909             }
7910         }
7911     }
7912 },
7913 "parameters": {
7914     "interface" : {
7915         "in" : "query",
7916         "name" : "if",
7917         "type" : "string",

```



```

7918     "enum" : ["oic.if.a", "oic.if.baseline"]
7919   }
7920 },
7921 "definitions": {
7922   "DRLC" : {
7923     "properties": {
7924       "rt": {
7925         "description": "The Resource Type.",
7926         "items": {
7927           "enum": ["oic.r.energy.drlic"],
7928           "maxLength": 64,
7929           "type": "string"
7930         },
7931         "minItems": 1,
7932         "uniqueItems": true,
7933         "readOnly": true,
7934         "type": "array"
7935       },
7936       "start": {
7937         "description": "The start time for the application of DR.",
7938         "type": "string",
7939         "format": "date-time"
7940       },
7941       "duration": {
7942         "description": "The duration of the to be applied DR type in minutes. A value of 0 means
7943 no applied DR.",
7944         "type": "integer",
7945         "minimum": 0
7946       },
7947       "override": {
7948         "description": "Whether the consumer has overridden the application of DR.",
7949         "type": "boolean"
7950       },
7951       "DRType": {
7952         "description": "The to be applied demand-response type.",
7953         "type": "integer"
7954       },
7955       "drlevel": {
7956         "type": "integer",
7957         "minimum": 0,
7958         "maximum": 3,
7959         "description": "Indicator of the strength of the DR response that is requested; 0-0%, 1-
7960 30%, 2-50%, 3-70%"
7961       },
7962       "mandate" : {
7963         "type": "boolean",
7964         "description": "Whether overriding the DR request by the consumer is allowed"
7965       },
7966       "n": {
7967         "$ref":
7968 "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
7969 schema.json#/definitions/n"
7970       },
7971       "id": {
7972         "$ref":
7973 "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
7974 schema.json#/definitions/id"
7975       },
7976       "if": {
7977         "description": "The OCF Interface set supported by this Resource.",
7978         "items": {
7979           "enum": [
7980             "oic.if.a",
7981             "oic.if.baseline"
7982           ],
7983           "type": "string"
7984         },
7985         "minItems": 2,
7986         "uniqueItems": true,
7987         "readOnly": true,
7988         "type": "array"
7989       }

```

```

7990     },
7991     "type": "object",
7992     "required": ["DRType"]
7993   }
7994 }
7995 }
7996

```

7997 **6.35.5 Property definition**

7998 Table 73 defines the Properties that are part of the "oic.r.energy.drlc" Resource Type.

7999 **Table 73 – The Property definitions of the Resource with type "rt" = "oic.r.energy.drlc".**

Property name	Value type	Mandatory	Access mode	Description
rt	array: see schema	No	Read Only	The Resource Type.
start	string	No	Read Write	The start time for the application of DR.
duration	integer	No	Read Write	The duration of the to be applied DR type in minutes. A value of 0 means no applied DR.
override	boolean	No	Read Write	Whether the consumer has overridden the application of DR.
DRType	integer	Yes	Read Write	The to be applied demand-response type.
drlevel	integer	No	Read Write	Indicator of the strength of the DR response that is requested; 0-0%, 1-30%, 2-50%, 3-70%
mandate	boolean	No	Read Write	Whether overriding the DR request by the consumer is allowed
n	multiple types: see schema	No	Read Write	
id	multiple types: see schema	No	Read Write	
if	array: see schema	No	Read Only	The OCF Interface set supported by this Resource.

8000 **6.35.6 CRUDN behaviour**

8001 Table 74 defines the CRUDN operations that are supported on the "oic.r.energy.drlc" Resource
 8002 Type.

8003 **Table 74 – The CRUDN operations of the Resource with type "rt" = "oic.r.energy.drlc".**

Create	Read	Update	Delete	Notify
	get	post		observe

8004 **6.36 Energy Overload/Circuit Breaker**

8005 **6.36.1 Introduction**

8006 This Resource describes whether an energy overload detector/circuit breaker is currently tripped.

8007 The Property "value" is a boolean.

8008 A value of 'true' means that energy overload has been tripped.

8009 A value of 'false' means that energy overload has not been tripped.

8010

8011 **6.36.2 Example URI**

8012 /EnergyOverloadResURI

8013 **6.36.3 Resource type**

8014 The Resource Type is defined as: "oic.r.energy.overload".

8015 **6.36.4 OpenAPI 2.0 definition**

```
8016 {
8017   "swagger": "2.0",
8018   "info": {
8019     "title": "Energy Overload/Circuit Breaker",
8020     "version": "20190215",
8021     "license": {
8022       "name": "OCF Data Model License",
8023       "url":
8024         "https://github.com/openconnectivityfoundation/core/blob/e28a9e0a92e17042ba3e83661e4c0fbce8bdc4ba/LI
8025         CENSE.md",
8026       "x-copyright": "copyright 2016-2017, 2019 Open Connectivity Foundation, Inc. All rights
8027         reserved."
8028     },
8029     "termsOfService": "https://openconnectivityfoundation.github.io/core/DISCLAIMER.md"
8030   },
8031   "schemes": ["http"],
8032   "consumes": ["application/json"],
8033   "produces": ["application/json"],
8034   "paths": {
8035     "/EnergyOverloadResURI" : {
8036       "get": {
8037         "description": "This Resource describes whether an energy overload detector/circuit breaker
8038         is currently tripped.\n\nThe Property \"value\" is a boolean.\n\nA value of 'true' means that energy
8039         overload has been tripped.\n\nA value of 'false' means that energy overload has not been tripped.\n\n",
8040         "parameters": [
8041           {"$ref": "#/parameters/interface"}
8042         ],
8043         "responses": {
8044           "200": {
8045             "description": "",
8046             "x-example":
8047               {
8048                 "rt": ["oic.r.energy.overload"],
8049                 "if": ["oic.if.s", "oic.if.baseline"],
8050                 "value": true
8051               },
8052             "schema": { "$ref": "#/definitions/EnergyOverload" }
8053           }
8054         }
8055       }
8056     }
8057   },
8058   "parameters": {
8059     "interface": {
8060       "in": "query",
8061       "name": "if",
8062       "type": "string",
8063       "enum": ["oic.if.s", "oic.if.baseline"]
8064     }
8065   },
8066   "definitions": {
```

```

8067 "EnergyOverload" : {
8068   "properties": {
8069     "rt": {
8070       "description": "The Resource Type.",
8071       "items": {
8072         "enum": ["oic.r.energy.overload"],
8073         "maxLength": 64,
8074         "type": "string"
8075       },
8076       "minItems": 1,
8077       "uniqueItems": true,
8078       "readOnly": true,
8079       "type": "array"
8080     },
8081     "value": {
8082       "description": "The energy overload indication,true = tripped, false = not tripped.",
8083       "readOnly": true,
8084       "type": "boolean"
8085     },
8086     "n": {
8087       "$ref":
8088       "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
8089       schema.json#/definitions/n"
8090     },
8091     "id": {
8092       "$ref":
8093       "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
8094       schema.json#/definitions/id"
8095     },
8096     "if": {
8097       "description": "The OCF Interface set supported by this Resource.",
8098       "items": {
8099         "enum": [
8100           "oic.if.s",
8101           "oic.if.baseline"
8102         ],
8103         "type": "string"
8104       },
8105       "minItems": 2,
8106       "uniqueItems": true,
8107       "readOnly": true,
8108       "type": "array"
8109     }
8110   },
8111   "type": "object",
8112   "required": ["value"]
8113 }
8114 }
8115 }
8116

```

8117 **6.36.5 Property definition**

8118 Table 75 defines the Properties that are part of the "oic.r.energy.overload" Resource Type.

8119 **Table 75 – The Property definitions of the Resource with type "rt" =**
8120 **"oic.r.energy.overload".**

Property name	Value type	Mandatory	Access mode	Description
rt	array: see schema	No	Read Only	The Resource Type.
value	boolean	Yes	Read Only	The energy overload indication,true = tripped, false = not tripped.
n	multiple types: see schema	No	Read Write	
id	multiple types: see schema	No	Read Write	

if	array: see schema	No	Read Only	The OCF Interface set supported by this Resource.
----	-------------------	----	-----------	---

8121 **6.36.6 CRUDN behaviour**

8122 Table 76 defines the CRUDN operations that are supported on the "oic.r.energy.overload"
8123 Resource Type.

8124 **Table 76 – The CRUDN operations of the Resource with type "rt" = "oic.r.energy.overload".**

Create	Read	Update	Delete	Notify
	get			observe

8125 **6.37 Generic Sensor**

8126 **6.37.1 Introduction**

8127 This Resource describes whether some value or property or entity has been sensed or not.
8128 The Property "value" is a boolean.
8129 A value of 'true' means that the target has been sensed.
8130 A value of 'false' means that the target has not been sensed.

8131 **6.37.2 Example URI**

8132 /GenericSensorResURI

8133 **6.37.3 Resource type**

8134 The Resource Type is defined as: "oic.r.sensor".

8135 **6.37.4 OpenAPI 2.0 definition**

```
8136 {
8137   "swagger": "2.0",
8138   "info": {
8139     "title": "Generic Sensor",
8140     "version": "20191118",
8141     "license": {
8142       "name": "OCF Data Model License",
8143       "url":
8144         "https://github.com/openconnectivityfoundation/core/blob/e28a9e0a92e17042ba3e83661e4c0fbce8bdc4ba/LI
8145         CENSE.md",
8146       "x-copyright": "copyright 2016-2017, 2019 Open Connectivity Foundation, Inc. All rights
8147         reserved."
8148     },
8149     "termsOfService": "https://openconnectivityfoundation.github.io/core/DISCLAIMER.md"
8150   },
8151   "schemes": ["http"],
8152   "consumes": ["application/json"],
8153   "produces": ["application/json"],
8154   "paths": {
8155     "/GenericSensorResURI" : {
8156       "get": {
8157         "description": "This Resource describes whether some value or property or entity has been
8158         sensed or not.\n\nThe Property \"value\" is a boolean.\n\nA value of 'true' means that the target has
8159         been sensed.\n\nA value of 'false' means that the target has not been sensed.",
8160         "parameters": [
8161           {"$ref": "#/parameters/interface"}
8162         ],
8163         "responses": {
8164           "200": {
8165             "description" : "",
8166             "x-example": {
8167               "rt": ["oic.r.sensor"],
8168               "id": "unique_example_id",
8169               "value": true
8170             },
8171             "schema": {"$ref": "#/definitions/Sensor" }
8172           }
8173         }
8174       }
8175     }
8176   }
8177 }
```

```

8172     }
8173   }
8174 }
8175 },
8176 },
8177 "parameters": {
8178   "interface": {
8179     "in": "query",
8180     "name": "if",
8181     "type": "string",
8182     "enum": ["oic.if.s", "oic.if.baseline"]
8183   }
8184 },
8185 "definitions": {
8186   "Sensor": {
8187     "properties": {
8188       "rt": {
8189         "description": "The Resource Type",
8190         "items": {
8191           "maxLength": 64,
8192           "type": "string",
8193           "enum": ["oic.r.sensor"]
8194         },
8195         "minItems": 1,
8196         "uniqueItems": true,
8197         "readOnly": true,
8198         "type": "array"
8199       },
8200       "value": {
8201         "description": "true = sensed, false = not sensed.",
8202         "readOnly": true,
8203         "type": "boolean"
8204       },
8205       "measurement": {
8206         "type": "number",
8207         "description": "Measured value for this sensor, units depend on the specific type of
8208 sensor",
8209         "readOnly": true
8210       },
8211       "precision": {
8212         "$ref":
8213 "https://openconnectivityfoundation.github.io/IoTDataModels/schemas/oic.baseresource.properties-
8214 schema.json#/definitions/precision"
8215       },
8216       "n": {
8217         "$ref":
8218 "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
8219 schema.json#/definitions/n"
8220       },
8221       "range": {
8222         "$ref":
8223 "https://openconnectivityfoundation.github.io/IoTDataModels/schemas/oic.baseresource.properties-
8224 schema.json#/definitions/range_number"
8225       },
8226       "step": {
8227         "$ref":
8228 "https://openconnectivityfoundation.github.io/IoTDataModels/schemas/oic.baseresource.properties-
8229 schema.json#/definitions/step_number"
8230       },
8231       "id": {
8232         "$ref":
8233 "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
8234 schema.json#/definitions/id"
8235       },
8236       "if": {
8237         "description": "The OCF Interface set supported by this Resource",
8238         "items": {
8239           "enum": [
8240             "oic.if.baseline",
8241             "oic.if.s"
8242           ],
8243           "maxLength": 64,

```

```

8244         "type": "string"
8245     },
8246     "minItems": 1,
8247     "uniqueItems": true,
8248     "readOnly": true,
8249     "type": "array"
8250 }
8251 },
8252 "type" : "object",
8253 "required": ["value"]
8254 }
8255 }
8256 }
8257

```

8258 **6.37.5 Property definition**

8259 Table 77 defines the Properties that are part of the "oic.r.sensor" Resource Type.

8260 **Table 77 – The Property definitions of the Resource with type "rt" = "oic.r.sensor".**

Property name	Value type	Mandatory	Access mode	Description
rt	array: see schema	No	Read Only	The Resource Type
value	boolean	Yes	Read Only	true = sensed, false = not sensed.
measurement	number	No	Read Only	Measured value for this sensor, units depend on the specific type of sensor
precision	multiple types: see schema	No	Read Write	
n	multiple types: see schema	No	Read Write	
range	multiple types: see schema	No	Read Write	
step	multiple types: see schema	No	Read Write	
id	multiple types: see schema	No	Read Write	
if	array: see schema	No	Read Only	The OCF Interface set supported by this Resource

8261 **6.37.6 CRUDN behaviour**

8262 Table 78 defines the CRUDN operations that are supported on the "oic.r.sensor" Resource Type.

8263 **Table 78 – The CRUDN operations of the Resource with type "rt" = "oic.r.sensor".**

Create	Read	Update	Delete	Notify
	get			observe

8264 **6.38 Glass Break Sensor**

8265 **6.38.1 Introduction**

8266 This Resource describes a glass break sensor.

8267 The Property "value" is a boolean.

8268 A value of 'true' means that glass break has been sensed.

8269 A value of 'false' means that glass break not been sensed.

8270 **6.38.2 Example URI**

8271 /GlassBreakResURI

8272 **6.38.3 Resource type**

8273 The Resource Type is defined as: "oic.r.sensor.glassbreak".

8274 **6.38.4 OpenAPI 2.0 definition**

```
8275 {
8276   "swagger": "2.0",
8277   "info": {
8278     "title": "Glass Break Sensor",
8279     "version": "20190215",
8280     "license": {
8281       "name": "OCF Data Model License",
8282       "url":
8283         "https://github.com/openconnectivityfoundation/core/blob/e28a9e0a92e17042ba3e83661e4c0fbce8bdc4ba/LI
8284         CENSE.md",
8285       "x-copyright": "copyright 2016-2017, 2019 Open Connectivity Foundation, Inc. All rights
8286         reserved."
8287     },
8288     "termsOfService": "https://openconnectivityfoundation.github.io/core/DISCLAIMER.md"
8289   },
8290   "schemes": ["http"],
8291   "consumes": ["application/json"],
8292   "produces": ["application/json"],
8293   "paths": {
8294     "/GlassBreakResURI" : {
8295       "get": {
8296         "description": "This Resource describes a glass break sensor.\n\nThe Property \"value\" is a
8297         boolean.\n\nA value of 'true' means that glass break has been sensed.\n\nA value of 'false' means that
8298         glass break not been sensed.",
8299         "parameters": [
8300           {"$ref": "#/parameters/interface"}
8301         ],
8302         "responses": {
8303           "200": {
8304             "description": "",
8305             "x-example":
8306               {
8307                 "rt": ["oic.r.sensor.glassbreak"],
8308                 "if": ["oic.if.s", "oic.if.baseline"],
8309                 "value": true
8310               },
8311             "schema": { "$ref": "#/definitions/GlassBreak" }
8312           }
8313         }
8314       }
8315     }
8316   },
8317   "parameters": {
8318     "interface": {
8319       "in": "query",
8320       "name": "if",
8321       "type": "string",
8322       "enum": ["oic.if.s", "oic.if.baseline"]
8323     }
8324   },
8325   "definitions": {
8326     "GlassBreak" : {
8327       "properties": {
8328         "rt": {
8329           "description": "The Resource Type.",
8330           "items": {
8331             "enum": ["oic.r.sensor.glassbreak"],
8332             "maxLength": 64,
8333             "type": "string"
8334           },
8335           "minItems": 1,
8336           "uniqueItems": true,
```



```

8337         "readOnly": true,
8338         "type": "array"
8339     },
8340     "value": {
8341         "description": "The glassbreak indication, true = glass break sensed, false = glass break
8342 not sensed.",
8343         "readOnly": true,
8344         "type": "boolean"
8345     },
8346     "n": {
8347         "$ref":
8348 "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
8349 schema.json#/definitions/n"
8350     },
8351     "id": {
8352         "$ref":
8353 "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
8354 schema.json#/definitions/id"
8355     },
8356     "if": {
8357         "description": "The OCF Interface set supported by this Resource.",
8358         "items": {
8359             "enum": [
8360                 "oic.if.s",
8361                 "oic.if.baseline"
8362             ],
8363             "type": "string"
8364         },
8365         "minItems": 2,
8366         "uniqueItems": true,
8367         "readOnly": true,
8368         "type": "array"
8369     }
8370 },
8371 "type": "object",
8372 "required": ["value"]
8373 }
8374 }
8375 }
8376

```

8377 6.38.5 Property definition

8378 Table 79 defines the Properties that are part of the "oic.r.sensor.glassbreak" Resource Type.

8379 **Table 79 – The Property definitions of the Resource with type "rt" =**
8380 **"oic.r.sensor.glassbreak".**

Property name	Value type	Mandatory	Access mode	Description
rt	array: see schema	No	Read Only	The Resource Type.
value	boolean	Yes	Read Only	The glassbreak indication, true = glass break sensed, false = glass break not sensed.
n	multiple types: see schema	No	Read Write	
id	multiple types: see schema	No	Read Write	
if	array: see schema	No	Read Only	The OCF Interface set supported by this Resource.

8381 6.38.6 CRUDN behaviour

8382 Table 80 defines the CRUDN operations that are supported on the "oic.r.sensor.glassbreak"
8383 Resource Type.

8384
8385

Table 80 – The CRUDN operations of the Resource with type "rt" = "oic.r.sensor.glassbreak".

Create	Read	Update	Delete	Notify
	get			observe

8386 **6.39 Heart Rate Zone**

8387 **6.39.1 Introduction**

8388 This Resource describes a measured heart rate by the current Zone using the Zoladz method.
8389 The Zoladz method defines Zones based on maximum heart rate; Zone 1 is the lowest, Zone 5 is
8390 the highest.

8391 The heartRateZone is an enumeration containing one of: "Zone1", "Zone2", "Zone3", "Zone4",
8392 and "Zone5".
8393

8394 **6.39.2 Example URI**

8395 /HeartRateZoneResURI

8396 **6.39.3 Resource type**

8397 The Resource Type is defined as: "oic.r.sensor.heart.zone".

8398 **6.39.4 OpenAPI 2.0 definition**

```
8399 {  
8400   "swagger": "2.0",  
8401   "info": {  
8402     "title": "Heart Rate Zone",  
8403     "version": "2019-03-28",  
8404     "license": {  
8405       "name": "OCF Data Model License",  
8406       "url":  
8407         "https://github.com/openconnectivityfoundation/core/blob/e28a9e0a92e17042ba3e83661e4c0fbce8bdc4ba/LI  
8408         CENSE.md",  
8409       "x-copyright": "copyright 2016-2017, 2019 Open Connectivity Foundation, Inc. All rights  
8410       reserved."  
8411     },  
8412     "termsOfService": "https://openconnectivityfoundation.github.io/core/DISCLAIMER.md"  
8413   },  
8414   "schemes": ["http"],  
8415   "consumes": ["application/json"],  
8416   "produces": ["application/json"],  
8417   "paths": {  
8418     "/HeartRateZoneResURI" : {  
8419       "get": {  
8420         "description": "This Resource describes a measured heart rate by the current Zone using the  
8421         Zoladz method. The Zoladz method defines Zones based on maximum heart rate; Zone 1 is the lowest,  
8422         Zone 5 is the highest.\n\nThe heartRateZone is an enumeration containing one of: \"Zone1\", \"Zone2\",  
8423         \"Zone3\", \"Zone4\", and \"Zone5\".\n\n",  
8424         "parameters": [  
8425           { "$ref": "#/parameters/interface" }  
8426         ],  
8427         "responses": {  
8428           "200": {  
8429             "description": "",  
8430             "x-example":  
8431               {  
8432                 "rt": ["oic.r.sensor.heart.zone"],  
8433                 "heartRateZone": "Zone3"  
8434               },  
8435             "schema": { "$ref": "#/definitions/heartRateZone" }  
8436           }  
8437         }  
8438       }  
8439     }  
8440   },
```

```

8441     "parameters": {
8442       "interface" : {
8443         "in" : "query",
8444         "name" : "if",
8445         "type" : "string",
8446         "enum" : ["oic.if.s", "oic.if.baseline"]
8447       }
8448     },
8449     "definitions": {
8450       "heartRateZone" : {
8451         "properties": {
8452           "rt": {
8453             "description": "Resource Type",
8454             "items": {
8455               "enum": ["oic.r.sensor.heart.zone"],
8456               "maxLength": 64,
8457               "type": "string"
8458             },
8459             "minItems": 1,
8460             "readOnly": true,
8461             "uniqueItems": true,
8462             "type": "array"
8463           },
8464           "n": {
8465             "$ref":
8466 "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
8467 schema.json#/definitions/n"
8468           },
8469           "id": {
8470             "$ref":
8471 "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
8472 schema.json#/definitions/id"
8473           },
8474           "heartRateZone": {
8475             "description": "Current heart rate zone based on the Zoladz system.",
8476             "enum": [
8477               "Zone1",
8478               "Zone2",
8479               "Zone3",
8480               "Zone4",
8481               "Zone5"
8482             ],
8483             "readOnly": true,
8484             "type": "string"
8485           },
8486           "if": {
8487             "description": "The OCF Interface set supported by this Resource",
8488             "items": {
8489               "enum": [
8490                 "oic.if.s",
8491                 "oic.if.baseline"
8492               ],
8493               "type": "string",
8494               "maxLength": 64
8495             },
8496             "minItems": 1,
8497             "readOnly": true,
8498             "uniqueItems": true,
8499             "type": "array"
8500           }
8501         },
8502         "type" : "object",
8503         "required": ["heartRateZone"]
8504       }
8505     }
8506   }
8507

```

8508 6.39.5 Property definition

8509 Table 81 defines the Properties that are part of the "oic.r.sensor.heart.zone" Resource Type.

8510
8511

Table 81 – The Property definitions of the Resource with type "rt" = "oic.r.sensor.heart.zone".

Property name	Value type	Mandatory	Access mode	Description
rt	array: see schema	No	Read Only	Resource Type
n	multiple types: see schema	No	Read Write	
id	multiple types: see schema	No	Read Write	
heartRateZone	string	Yes	Read Only	Current heart rate zone based on the Zoladz system.
if	array: see schema	No	Read Only	The OCF Interface set supported by this Resource

8512 **6.39.6 CRUDN behaviour**

8513 Table 82 defines the CRUDN operations that are supported on the "oic.r.sensor.heart.zone"
8514 Resource Type.

Table 82 – The CRUDN operations of the Resource with type "rt" = "oic.r.sensor.heart.zone".

8515
8516

Create	Read	Update	Delete	Notify
	get			observe

8517 **6.40 Illuminance Sensor**

8518 **6.40.1 Introduction**

8519 This Resource describes an illuminance sensor.
8520 The Property "illuminance" is a float and represents the sensed luminous flux per unit area in lux.

8521 **6.40.2 Example URI**

8522 /IlluminanceSensorResURI

8523 **6.40.3 Resource type**

8524 The Resource Type is defined as: "oic.r.sensor.illuminance".

8525 **6.40.4 OpenAPI 2.0 definition**

```

8526 {
8527     "swagger": "2.0",
8528     "info": {
8529         "title": "Illuminance Sensor",
8530         "version": "20190808",
8531         "license": {
8532             "name": "OCF Data Model License",
8533             "url":
8534 "https://github.com/openconnectivityfoundation/core/blob/e28a9e0a92e17042ba3e83661e4c0fbce8bdc4ba/LI
8535 CENSE.md",
8536             "x-copyright": "copyright 2016-2017, 2019 Open Connectivity Foundation, Inc.
8537 All rights reserved."
8538         },
8539         "termsOfService": "https://openconnectivityfoundation.github.io/core/DISCLAIMER.md"
8540     },
8541     "schemes": ["http"],
8542     "consumes": ["application/json"],
8543     "produces": ["application/json"],
8544     "paths": {
8545         "/IlluminanceSensorResURI": {
8546             "get": {

```

```

8547         "description": "This Resource describes an illuminance sensor.\nThe
8548 Property \"illuminance\" is a float and represents the sensed luminous flux per unit area in lux.",
8549         "parameters": [
8550             { "$ref": "#/parameters/interface" }
8551         ],
8552         "responses": {
8553             "200": {
8554                 "description": "",
8555                 "x-example": {
8556                     "rt": ["oic.r.sensor.illuminance"],
8557                     "if": ["oic.if.s", "oic.if.baseline"],
8558                     "illuminance": 450.0,
8559                     "range": [100.0, 500.0]
8560                 },
8561                 "schema": { "$ref": "#/definitions/Illuminance" }
8562             }
8563         }
8564     }
8565 },
8566 "parameters": {
8567     "interface": {
8568         "in": "query",
8569         "name": "if",
8570         "type": "string",
8571         "enum": ["oic.if.s", "oic.if.baseline"]
8572     }
8573 },
8574 "definitions": {
8575     "Illuminance": {
8576         "properties": {
8577             "rt": {
8578                 "description": "The Resource Type.",
8579                 "items": {
8580                     "enum": ["oic.r.sensor.illuminance"],
8581                     "maxLength": 64,
8582                     "type": "string"
8583                 },
8584                 "minItems": 1,
8585                 "uniqueItems": true,
8586                 "readOnly": true,
8587                 "type": "array"
8588             },
8589             "illuminance": {
8590                 "description": "The sensed luminous flux per unit area in
8591 lux.",
8592                 "readOnly": true,
8593                 "type": "number"
8594             },
8595             "n": {
8596                 "$ref":
8597 "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
8598 schema.json#/definitions/n"
8599             },
8600             "id": {
8601                 "$ref":
8602 "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
8603 schema.json#/definitions/id"
8604             },
8605             "range": {
8606                 "$ref":
8607 "https://openconnectivityfoundation.github.io/IoTDataModels/schemas/oic.baseresource.properties-
8608 schema.json#/definitions/range_number"
8609             },
8610             "if": {
8611                 "description": "The OCF Interface set supported by this
8612 Resource.",
8613                 "items": {
8614                     "enum": [
8615                         "oic.if.s",
8616                         "oic.if.baseline"
8617                     ],
8618                 },

```

```

8619         "type": "string"
8620     },
8621     "minItems": 2,
8622     "uniqueItems": true,
8623     "readOnly": true,
8624     "type": "array"
8625 }
8626 },
8627 "type": "object",
8628 "required": ["illuminance"]
8629 }
8630 }
8631 }

```

8632 6.40.5 Property definition

8633 Table 83 defines the Properties that are part of the "oic.r.sensor.illuminance" Resource Type.

8634 **Table 83 – The Property definitions of the Resource with type "rt" =**
8635 **"oic.r.sensor.illuminance".**

Property name	Value type	Mandatory	Access mode	Description
rt	array: see schema	No	Read Only	The Resource Type.
illuminance	number	Yes	Read Only	The sensed luminous flux per unit area in lux.
n	multiple types: see schema	No	Read Write	
id	multiple types: see schema	No	Read Write	
range	multiple types: see schema	No	Read Write	
if	array: see schema	No	Read Only	The OCF Interface set supported by this Resource.

8636 6.40.6 CRUDN behaviour

8637 Table 84 defines the CRUDN operations that are supported on the "oic.r.sensor.illuminance"
8638 Resource Type.

8639 **Table 84 – The CRUDN operations of the Resource with type "rt" =**
8640 **"oic.r.sensor.illuminance".**

Create	Read	Update	Delete	Notify
	get			observe

8641 6.41 Magnetic Field Direction Sensor

8642 6.41.1 Introduction

8643 This Resource describes the direction of the Earth's magnetic field at the observer's current point
8644 in space.

8645 Typical use case includes measurement of compass readings on a personal device.

8646 The Property "value" is an array containing Hx, Hy, Hz (in that order) each of which are floats.

8647 Each of Hx, Hy and Hz are expressed in A/m (Amperes per metre).

8648 6.41.2 Example URI

8649 /MagneticFieldDirectionResURI

8650 6.41.3 Resource type

8651 The Resource Type is defined as: "oic.r.sensor.magneticfielddirection".

8652 6.41.4 OpenAPI 2.0 definition

```
8653 {
8654   "swagger": "2.0",
8655   "info": {
8656     "title": "Magnetic Field Direction Sensor",
8657     "version": "20190215",
8658     "license": {
8659       "name": "OCF Data Model License",
8660       "url":
8661         "https://github.com/openconnectivityfoundation/core/blob/e28a9e0a92e17042ba3e83661e4c0fbce8bdc4ba/LI
8662         CENSE.md",
8663       "x-copyright": "copyright 2016-2017, 2019 Open Connectivity Foundation, Inc. All rights
8664       reserved."
8665     },
8666     "termsOfService": "https://openconnectivityfoundation.github.io/core/DISCLAIMER.md"
8667   },
8668   "schemes": ["http"],
8669   "consumes": ["application/json"],
8670   "produces": ["application/json"],
8671   "paths": {
8672     "/MagneticFieldDirectionResURI" : {
8673       "get": {
8674         "description": "This Resource describes the direction of the Earth's magnetic field at the
8675         observer's current point in space.\nTypical use case includes measurement of compass readings on a
8676         personal device.\nThe Property \"value\" is an array containing Hx, Hy, Hz (in that order) each of
8677         which are floats.\nEach of Hx, Hy and Hz are expressed in A/m (Amperes per metre).",
8678         "parameters": [
8679           { "$ref": "#/parameters/interface" }
8680         ],
8681         "responses": {
8682           "200": {
8683             "description": "",
8684             "x-example":
8685               {
8686                 "rt": ["oic.r.sensor.magneticfielddirection"],
8687                 "if": ["oic.if.s", "oic.if.baseline"],
8688                 "value": [100.0, 15.0, 90.0]
8689               },
8690             "schema": { "$ref": "#/definitions/magneticFieldDirection" }
8691           }
8692         }
8693       }
8694     }
8695   },
8696   "parameters": {
8697     "interface" : {
8698       "in" : "query",
8699       "name" : "if",
8700       "type" : "string",
8701       "enum" : ["oic.if.s", "oic.if.baseline"]
8702     }
8703   },
8704   "definitions": {
8705     "magneticFieldDirection" : {
8706       "properties": {
8707         "rt": {
8708           "description": "The Resource Type.",
8709           "items": {
8710             "enum": ["oic.r.sensor.magneticfielddirection"],
8711             "maxLength": 64,
8712             "type": "string"
8713           },
8714           "minItems": 1,
8715           "uniqueItems": true,
8716           "readOnly": true,
8717           "type": "array"
8718         }
8719       }
8720     }
8721   }
8722 }
```

```

8719     "value": {
8720       "description": "The array containing Hx, Hy, Hz.",
8721       "items": {
8722         "type": "number"
8723       },
8724       "maxItems": 3,
8725       "minItems": 3,
8726       "readOnly": true,
8727       "type": "array"
8728     },
8729     "n": {
8730       "$ref":
8731 "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
8732 schema.json#/definitions/n"
8733     },
8734     "id": {
8735       "$ref":
8736 "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
8737 schema.json#/definitions/id"
8738     },
8739     "if": {
8740       "description": "The OCF Interface set supported by this Resource.",
8741       "items": {
8742         "enum": [
8743           "oic.if.s",
8744           "oic.if.baseline"
8745         ],
8746         "type": "string"
8747       },
8748       "minItems": 2,
8749       "uniqueItems": true,
8750       "readOnly": true,
8751       "type": "array"
8752     }
8753   },
8754   "type": "object",
8755   "required": ["value"]
8756 }
8757 }
8758 }
8759

```

8760 **6.41.5 Property definition**

8761 Table 85 defines the Properties that are part of the "oic.r.sensor.magneticfielddirection" Resource
8762 Type.

8763 **Table 85 – The Property definitions of the Resource with type "rt" =**
8764 **"oic.r.sensor.magneticfielddirection".**

Property name	Value type	Mandatory	Access mode	Description
rt	array: see schema	No	Read Only	The Resource Type.
value	array: see schema	Yes	Read Only	The array containing Hx, Hy, Hz.
n	multiple types: see schema	No	Read Write	
id	multiple types: see schema	No	Read Write	
if	array: see schema	No	Read Only	The OCF Interface set supported by this Resource.

8765 **6.41.6 CRUDN behaviour**

8766 Table 86 defines the CRUDN operations that are supported on the
8767 "oic.r.sensor.magneticfielddirection" Resource Type.

8768
8769

Table 86 – The CRUDN operations of the Resource with type "rt" = "oic.r.sensor.magneticfielddirection".

Create	Read	Update	Delete	Notify
	get			observe

8770 **6.42 Media**

8771 **6.42.1 Introduction**

8772 This Resource specifies the media types that an OCF Server supports.
 8773 The resource is an array of media elements. Each element contains:
 8774 A URL at which the specified media type can be accessed.
 8775 A string array containing the definition of the media using SDP.
 8776 Each entry in the sdp array is an SDP line.
 8777 Each line shall follow the SDP description syntax as defined in the SDP specification.
 8778 The SDP specification can be found at <http://tools.ietf.org/html/rfc4566>.

8779 **6.42.2 Example URI**

8780 /MediaResURI

8781 **6.42.3 Resource type**

8782 The Resource Type is defined as: "oic.r.media".

8783 **6.42.4 OpenAPI 2.0 definition**

```

8784 {
8785   "swagger": "2.0",
8786   "info": {
8787     "title": "Media",
8788     "version": "20190508",
8789     "license": {
8790       "name": "OCF Data Model License",
8791       "url":
8792         "https://github.com/openconnectivityfoundation/core/blob/e28a9e0a92e17042ba3e83661e4c0fbce8bdc4ba/LI
8793         CENSE.md",
8794       "x-copyright": "copyright 2016-2017, 2019 Open Connectivity Foundation, Inc. All rights
8795       reserved."
8796     },
8797     "termsOfService": "https://openconnectivityfoundation.github.io/core/DISCLAIMER.md"
8798   },
8799   "schemes": ["http"],
8800   "consumes": ["application/json"],
8801   "produces": ["application/json"],
8802   "paths": {
8803     "/MediaResURI" : {
8804       "get": {
8805         "description": "This Resource specifies the media types that an OCF Server supports.\n
8806         The resource is an array of media elements. Each element contains:\n
8807         A URL at which the specified media type can be accessed.\n
8808         A string array containing the definition of the media using SDP.\n
8809         Each entry in the sdp array is an SDP line.\n
8810         Each line shall follow the SDP description syntax as defined in the SDP specification.\n
8811         The SDP specification can be found at http://tools.ietf.org/html/rfc4566.",
8812         "parameters": [
8813           {"$ref": "#/parameters/interface"}
8814         ],
8815         "responses": {
8816           "200": {
8817             "description": "RETRIEVES the current media resource.",
8818             "x-example":
8819               {
8820                 "rt": ["oic.r.media"],
8821                 "if": ["oic.if.a", "oic.if.baseline"],
8822                 "media": [
8823                   {
8824                     "url": "some example url",

```

```

8825         "m=video 1 RTP/AVP 96",
8826         "a=rtpmap:96 H264/9000",
8827         "a=fmtp:96 profile-level-id=42A028;packetization-mode=1"
8828     ]
8829     },
8830     {
8831         "url": "some other example1 url",
8832         "sdp": [
8833             "m=audio 2 RTP/AVP 97",
8834             "a=rtpmap:97 MP4A-LATM/90000"
8835         ]
8836     },
8837     {
8838         "url": "some other example2 url",
8839         "sdp": [
8840             "m=video 3 RTP/AVP 98",
8841             "a=rtpmap:98 jpeg/90000",
8842             "a=fmtp:98 sampling=YCbCr-4:2:0;width=256;height=256"
8843         ]
8844     }
8845 ]
8846 },
8847 "schema": { "$ref": "#/definitions/Media" }
8848 }
8849 }
8850 ],
8851 "post": {
8852     "description": "This is to change the URL that can be played back by the device. Note that
8853 some devices do not have the capability to set the URL to be played back",
8854     "parameters": [
8855         { "$ref": "#/parameters/interface" },
8856         {
8857             "name": "body",
8858             "in": "body",
8859             "required": true,
8860             "schema": { "$ref": "#/definitions/Media" },
8861             "x-example":
8862             {
8863                 "media": [
8864                     {
8865                         "url": "new example url for playback",
8866                         "sdp": [
8867                             "m=video 1 RTP/AVP 100",
8868                             "a=rtpmap:100 H264/9000",
8869                             "a=fmtp:100 profile-level-id=42A028;packetization-mode=1"
8870                         ]
8871                     }
8872                 ]
8873             }
8874         }
8875     ],
8876     "responses": {
8877         "200": {
8878             "description": "The current media resource.",
8879             "x-example":
8880             {
8881                 "rt": ["oic.r.media"],
8882                 "if": ["oic.if.a", "oic.if.baseline"],
8883                 "media": [
8884                     {
8885                         "url": "new example url for playback",
8886                         "sdp": [
8887                             "m=video 1 RTP/AVP 100",
8888                             "a=rtpmap:100 H264/9000",
8889                             "a=fmtp:100 profile-level-id=42A028;packetization-mode=1"
8890                         ]
8891                     }
8892                 ]
8893             },
8894             "schema": { "$ref": "#/definitions/Media" }
8895         }
8896     }

```

```

8897     }
8898   }
8899 },
8900 "parameters": {
8901   "interface": {
8902     "in": "query",
8903     "name": "if",
8904     "type": "string",
8905     "enum": ["oic.if.a", "oic.if.baseline"]
8906   }
8907 },
8908 "definitions": {
8909   "Media": {
8910     "properties": {
8911       "rt": {
8912         "description": "The Resource Type.",
8913         "items": {
8914           "enum": ["oic.r.media"],
8915           "maxLength": 64,
8916           "type": "string"
8917         },
8918         "minItems": 1,
8919         "uniqueItems": true,
8920         "readOnly": true,
8921         "type": "array"
8922       },
8923       "media": {
8924         "items": {
8925           "properties": {
8926             "sdp": {
8927               "description": "The array of strings, one per SDP line.",
8928               "items": {
8929                 "description": "SDP media or attribute line",
8930                 "type": "string"
8931               },
8932               "type": "array"
8933             },
8934             "url": {
8935               "description": "The url for the media instance.",
8936               "type": "string"
8937             }
8938           },
8939           "type": "object"
8940         },
8941         "type": "array"
8942       },
8943       "n": {
8944         "$ref":
8945 "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
8946 schema.json#/definitions/n"
8947       },
8948       "id": {
8949         "$ref":
8950 "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
8951 schema.json#/definitions/id"
8952       },
8953       "if": {
8954         "description": "The OCF Interface set supported by this Resource.",
8955         "items": {
8956           "enum": [
8957             "oic.if.a",
8958             "oic.if.s",
8959             "oic.if.baseline"
8960           ],
8961           "type": "string"
8962         },
8963         "minItems": 2,
8964         "uniqueItems": true,
8965         "readOnly": true,
8966         "type": "array"
8967       }
8968     },

```

```

8969     "type": "object",
8970     "required": ["media"]
8971   }
8972 }
8973 }
8974

```

8975 6.42.5 Property definition

8976 Table 87 defines the Properties that are part of the "oic.r.media" Resource Type.

8977 **Table 87 – The Property definitions of the Resource with type "rt" = "oic.r.media".**

Property name	Value type	Mandatory	Access mode	Description
rt	array: see schema	No	Read Only	The Resource Type.
media	array: see schema	Yes	Read Write	
n	multiple types: see schema	No	Read Write	
id	multiple types: see schema	No	Read Write	
if	array: see schema	No	Read Only	The OCF Interface set supported by this Resource.

8978 6.42.6 CRUDN behaviour

8979 Table 88 defines the CRUDN operations that are supported on the "oic.r.media" Resource Type.

8980 **Table 88 – The CRUDN operations of the Resource with type "rt" = "oic.r.media".**

Create	Read	Update	Delete	Notify
	get	post		observe

8981 6.43 Media Source

8982 6.43.1 Introduction

8983 This Resource defines a single media source that exists on a device.

8984 The source can be an input source or output source, this resource is agnostic of that.

8985 The Property "sourceName" specifies a pre-defined media input or output (e.g. "HDMI", "DVI").

8986 The Property "sourceNumber" is a label to specify the instance (e.g. "PC", "1").

8987 The Property "sourceType" is an enumeration defining whether the source is audio, video or both.

8988 The Property "status" is a boolean that determines if the specific source instance is selected or not.

8990 A status of true means that the source instance is selected.

8991 A status of false means that the source instance is not selected.

8992 6.43.2 Example URI

8993 /mediaSourceResURI

8994 6.43.3 Resource type

8995 The Resource Type is defined as: "oic.r.mediasource".

8996 6.43.4 OpenAPI 2.0 definition

```

8997 {
8998   "swagger": "2.0",
8999   "info": {
9000     "title": "Media Source",
9001     "version": "20190215",
9002     "license": {
9003       "name": "OCF Data Model License",

```

```

9004         "url":
9005         "https://github.com/openconnectivityfoundation/core/blob/e28a9e0a92e17042ba3e83661e4c0fbce8bdc4ba/LI
9006         CENSE.md",
9007         "x-copyright": "copyright 2016-2017, 2019 Open Connectivity Foundation, Inc. All rights
9008         reserved."
9009     },
9010     "termsOfService": "https://openconnectivityfoundation.github.io/core/DISCLAIMER.md"
9011 },
9012 "schemes": ["http"],
9013 "consumes": ["application/json"],
9014 "produces": ["application/json"],
9015 "paths": {
9016     "/mediaSourceResURI" : {
9017         "get": {
9018             "description": "This Resource defines a single media source that exists on a device.\nThe
9019             source can be an input source or output source, this resource is agnostic of that.\nThe Property
9020             \"sourceName\" specifies a pre-defined media input or output (e.g.\n\"HDMI\", \"DVI\").\nThe Property
9021             \"sourceNumber\" is a label to specify the instance (e.g. \"PC\", \"1\").\nThe Property
9022             \"sourceType\" is an enumeration defining whether the source is audio, video or both.\nThe Property
9023             \"status\" is a boolean that determines if the specific source instance is selected or not.\n A
9024             status of true means that the source instance is selected.\n A status of false means that the source
9025             instance is not selected.",
9026             "parameters": [
9027                 { "$ref": "#/parameters/interface" }
9028             ],
9029             "responses": {
9030                 "200": {
9031                     "description": "",
9032                     "x-example":
9033                     {
9034                         "rt": ["oic.r.mediasource"],
9035                         "if": ["oic.if.a", "oic.if.baseline"],
9036                         "sourceName": "HDMI-CEC",
9037                         "sourceNumber": "1",
9038                         "sourceType": "audioPlusVideo",
9039                         "status": true
9040                     },
9041                     "schema": { "$ref": "#/definitions/mediaSource" }
9042                 }
9043             }
9044         },
9045         "post": {
9046             "description": "Changes the status of the source.\nAllows changes of the \"sourceName\" and
9047             the \"status\".",
9048             "parameters": [
9049                 { "$ref": "#/parameters/interface" },
9050                 {
9051                     "name": "body",
9052                     "in": "body",
9053                     "required": true,
9054                     "schema": { "$ref": "#/definitions/mediaSource" },
9055                     "x-example":
9056                     {
9057                         "sourceName": "my new name",
9058                         "status": true
9059                     }
9060                 }
9061             ],
9062             "responses": {
9063                 "200": {
9064                     "description": "",
9065                     "x-example":
9066                     {
9067                         "sourceName": "my new name",
9068                         "sourceNumber": "1",
9069                         "sourceType": "audioPlusVideo",
9070                         "status": true
9071                     },
9072                     "schema": { "$ref": "#/definitions/mediaSource" }
9073                 }
9074             }
9075         }
9076     }
9077 }

```

```

9076     }
9077   },
9078   "parameters": {
9079     "interface": {
9080       "in": "query",
9081       "name": "if",
9082       "type": "string",
9083       "enum": ["oic.if.a", "oic.if.baseline"]
9084     }
9085   },
9086   "definitions": {
9087     "mediaSource": {
9088       "properties": {
9089         "rt": {
9090           "description": "The Resource Type.",
9091           "items": {
9092             "enum": ["oic.r.mediasource"],
9093             "maxLength": 64,
9094             "type": "string"
9095           },
9096           "minItems": 1,
9097           "uniqueItems": true,
9098           "readOnly": true,
9099           "type": "array"
9100         },
9101         "status": {
9102           "description": "Specifies if the specific source instance is selected or not.",
9103           "type": "boolean"
9104         },
9105         "sourceType": {
9106           "description": "Specifies the type of the source.",
9107           "enum": [
9108             "audioOnly",
9109             "videoOnly",
9110             "audioPlusVideo"
9111           ],
9112           "readOnly": true,
9113           "type": "string"
9114         },
9115         "sourceName": {
9116           "description": "Specifies a pre-defined media input or output.",
9117           "type": "string"
9118         },
9119         "sourceNumber": {
9120           "description": "Label to specify the instance.",
9121           "type": "string"
9122         },
9123         "n": {
9124           "$ref":
9125             "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
9126             schema.json#/definitions/n"
9127         },
9128         "id": {
9129           "$ref":
9130             "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
9131             schema.json#/definitions/id"
9132         },
9133         "if": {
9134           "description": "The OCF Interface set supported by this Resource.",
9135           "items": {
9136             "enum": [
9137               "oic.if.a",
9138               "oic.if.baseline"
9139             ],
9140             "type": "string"
9141           },
9142           "minItems": 2,
9143           "uniqueItems": true,
9144           "readOnly": true,
9145           "type": "array"
9146         }
9147       }

```

```

9148     "type": "object",
9149     "required": ["sourceName", "status"]
9150   }
9151 }
9152 }
9153

```

9154 **6.43.5 Property definition**

9155 Table 89 defines the Properties that are part of the "oic.r.mediasource" Resource Type.

9156 **Table 89 – The Property definitions of the Resource with type "rt" = "oic.r.mediasource".**

Property name	Value type	Mandatory	Access mode	Description
rt	array: see schema	No	Read Only	The Resource Type.
status	boolean	Yes	Read Write	Specifies if the specific source instance is selected or not.
sourceType	string	No	Read Only	Specifies the type of the source.
sourceName	string	Yes	Read Write	Specifies a pre-defined media input or output.
sourceNumber	string	No	Read Write	Label to specify the instance.
n	multiple types: see schema	No	Read Write	
id	multiple types: see schema	No	Read Write	
if	array: see schema	No	Read Only	The OCF Interface set supported by this Resource.

9157 **6.43.6 CRUDN behaviour**

9158 Table 90 defines the CRUDN operations that are supported on the "oic.r.mediasource" Resource
 9159 Type.

9160 **Table 90 – The CRUDN operations of the Resource with type "rt" = "oic.r.mediasource".**

Create	Read	Update	Delete	Notify
	get	post		observe

9161 **6.44 Media Source List**

9162 **6.44.1 Introduction**

9163 This Resource provides the list of all media sources available on the Device (input and/or output).
 9164 The sources are an array of mediaSource(s) as separately defined see Resource Type
 9165 "oic.r.mediasource"

9166 **6.44.2 Example URI**

9167 /mediaSourceListResURI

9168 **6.44.3 Resource type**

9169 The Resource Type is defined as: "oic.r.mediasourcelist".

9170 6.44.4 OpenAPI 2.0 definition

```
9171 {
9172   "swagger": "2.0",
9173   "info": {
9174     "title": "Media Source List",
9175     "version": "20190729",
9176     "license": {
9177       "name": "OCF Data Model License",
9178       "url":
9179         "https://github.com/openconnectivityfoundation/core/blob/e28a9e0a92e17042ba3e83661e4c0fbce8bdc4ba/LI
9180 CENSE.md",
9181       "x-copyright": "copyright 2016-2017, 2019 Open Connectivity Foundation, Inc. All rights
9182 reserved."
9183     },
9184     "termsOfService": "https://openconnectivityfoundation.github.io/core/DISCLAIMER.md"
9185   },
9186   "schemes": ["http"],
9187   "consumes": ["application/json"],
9188   "produces": ["application/json"],
9189   "paths": {
9190     "/mediaSourceListResURI" : {
9191       "get": {
9192         "description": "This Resource provides the list of all media sources available on the Device
9193 (input and/or output).\nThe sources are an array of mediaSource(s) as separately defined see
9194 Resource Type \"oic.r.mediasource\",
9195         "parameters": [
9196           { "$ref": "#/parameters/interface" }
9197         ],
9198         "responses": {
9199           "200": {
9200             "description": "",
9201             "x-example":
9202               {
9203                 "rt": ["oic.r.mediasourcelist"],
9204                 "if": ["oic.if.a", "oic.if.baseline"],
9205                 "sources": [
9206                   {
9207                     "sourceName": "HDMI-CEC",
9208                     "sourceNumber": "1",
9209                     "sourceType": "audioPlusVideo",
9210                     "status": true
9211                   },
9212                   {
9213                     "sourceName": "dualRCA",
9214                     "sourceNumber": "1",
9215                     "sourceType": "audioOnly",
9216                     "status": false
9217                   }
9218                 ]
9219               },
9220             "schema": { "$ref": "#/definitions/mediaSourceList" }
9221           }
9222         }
9223       },
9224       "post": {
9225         "description": "Changes the status of the source(s).\nAllows changes of the sourceName and
9226 the status.",
9227         "parameters": [
9228           { "$ref": "#/parameters/interface" },
9229           {
9230             "name": "body",
9231             "in": "body",
9232             "required": true,
9233             "schema": { "$ref": "#/definitions/mediaSourceList" },
9234             "x-example":
9235               {
9236                 "sources": [
9237                   {
9238                     "sourceName": "my new name",
9239                     "status": true
9240                   }
9241                 ],

```



```

9241         {
9242             "sourceName": "dualRCA"
9243         }
9244     ]
9245 }
9246 },
9247 ],
9248 "responses": {
9249     "200": {
9250         "description": "",
9251         "x-example":
9252             {
9253                 "sources": [
9254                     {
9255                         "sourceName": "my new name",
9256                         "sourceNumber": "1",
9257                         "sourceType": "audioPlusVideo",
9258                         "status": true
9259                     },
9260                     {
9261                         "sourceName": "dualRCA",
9262                         "sourceNumber": "1",
9263                         "sourceType": "audioOnly",
9264                         "status": false
9265                     }
9266                 ]
9267             },
9268         "schema": { "$ref": "#/definitions/mediaSourceList" }
9269     }
9270 }
9271 }
9272 }
9273 },
9274 "parameters": {
9275     "interface": {
9276         "in": "query",
9277         "name": "if",
9278         "type": "string",
9279         "enum": ["oic.if.a", "oic.if.baseline"]
9280     }
9281 },
9282 "definitions": {
9283     "mediaSourceList" : {
9284         "properties": {
9285             "rt": {
9286                 "description": "The Resource Type.",
9287                 "items": {
9288                     "enum": ["oic.r.mediasourcelist"],
9289                     "maxLength": 64,
9290                     "type": "string"
9291                 },
9292                 "minItems": 1,
9293                 "uniqueItems": true,
9294                 "readOnly": true,
9295                 "type": "array"
9296             },
9297             "sources": {
9298                 "items": {
9299                     "properties": {
9300                         "sourceName": {
9301                             "description": "Specifies a pre-defined media input or output.",
9302                             "type": "string"
9303                         },
9304                         "sourceNumber": {
9305                             "description": "Label to specify the instance.",
9306                             "readOnly": true,
9307                             "type": "string"
9308                         },
9309                         "sourceType": {
9310                             "description": "Specifies the type of the source.",
9311                             "enum": [
9312                                 "audioOnly",

```

```

9313         "videoOnly",
9314         "audioPlusVideo"
9315     ],
9316     "readOnly": true,
9317     "type": "string"
9318 },
9319     "status": {
9320         "description": "Specifies if the specific source instance is selected or not.",
9321         "type": "boolean"
9322     }
9323 },
9324     "type": "object"
9325 },
9326     "type": "array"
9327 },
9328     "n": {
9329         "$ref":
9330 "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
9331 schema.json#/definitions/n"
9332     },
9333     "id": {
9334         "$ref":
9335 "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
9336 schema.json#/definitions/id"
9337     },
9338     "if": {
9339         "description": "The OCF Interface set supported by this Resource.",
9340         "items": {
9341             "enum": [
9342                 "oic.if.a",
9343                 "oic.if.baseline"
9344             ],
9345             "type": "string"
9346         },
9347         "minItems": 2,
9348         "uniqueItems": true,
9349         "readOnly": true,
9350         "type": "array"
9351     }
9352 },
9353     "type": "object",
9354     "required": ["sources"]
9355 }
9356 }
9357 }
9358

```

9359 **6.44.5 Property definition**

9360 Table 91 defines the Properties that are part of the "oic.r.mediasourcelist" Resource Type.

9361 **Table 91 – The Property definitions of the Resource with type "rt" =**
9362 **"oic.r.mediasourcelist".**

Property name	Value type	Mandatory	Access mode	Description
rt	array: see schema	No	Read Only	The Resource Type.
sources	array: see schema	Yes	Read Write	
n	multiple types: see schema	No	Read Write	
id	multiple types: see schema	No	Read Write	
if	array: see schema	No	Read Only	The OCF Interface set supported by this Resource.

9363 **6.44.6 CRUDN behaviour**

9364 Table 92 defines the CRUDN operations that are supported on the "oic.r.mediasourcelist" Resource
9365 Type.

9366 **Table 92 – The CRUDN operations of the Resource with type "rt" = "oic.r.mediasourcelist".**

Create	Read	Update	Delete	Notify
	get	post		observe

9367 **6.45 Media Source Input**

9368 **6.45.1 Introduction**

9369 This Resource provides the list of input media sources available on the device.
9370 The sources are an array of Media Source(s) see Resource Type "oic.r.mediasource"
9371

9372 **6.45.2 Example URI**

9373 /mediaSourceInputResURI

9374 **6.45.3 Resource type**

9375 The Resource Type is defined as: "oic.r.media.input".

9376 **6.45.4 OpenAPI 2.0 definition**

```

9377 {
9378   "swagger": "2.0",
9379   "info": {
9380     "title": "Media Source Input",
9381     "version": "20190729",
9382     "license": {
9383       "name": "OCF Data Model License",
9384       "url":
9385         "https://github.com/openconnectivityfoundation/core/blob/e28a9e0a92e17042ba3e83661e4c0fbce8bdc4ba/LI
9386         CENSE.md",
9387       "x-copyright": "copyright 2016-2017, 2019 Open Connectivity Foundation, Inc. All rights
9388         reserved."
9389     },
9390     "termsOfService": "https://openconnectivityfoundation.github.io/core/DISCLAIMER.md"
9391   },
9392   "schemes": ["http"],
9393   "consumes": ["application/json"],
9394   "produces": ["application/json"],
9395   "paths": {
9396     "/mediaSourceInputResURI" : {
9397       "get": {
9398         "description": "This Resource provides the list of input media sources available on the
9399         device.\n\nThe sources are an array of Media Source(s) see Resource Type \"oic.r.mediasource\"\n\n",
9400         "parameters": [
9401           { "$ref": "#/parameters/interface" }
9402         ],
9403         "responses": {
9404           "200": {
9405             "description" : "",
9406             "x-example": {
9407               "rt": ["oic.r.media.input"],
9408               "if": ["oic.if.a", "oic.if.baseline"],
9409               "sources": [
9410                 {
9411                   "sourceName": "HDMI-CEC",
9412                   "sourceNumber": "1",
9413                   "sourceType": "audioPlusVideo",
9414                   "status": true
9415                 },
9416                 {
9417                   "sourceName": "dualRCA",
9418                   "sourceNumber": "1",

```

```

9419         "sourceType": "audioOnly",
9420         "status": false
9421     }
9422     ],
9423 },
9424     "schema": { "$ref": "#/definitions/mediaSourceList" }
9425 }
9426 },
9427 },
9428     "post": {
9429         "description": "Changes the status of the source(s).\nAllows changes of the sourceName and
9430 the status.",
9431         "parameters": [
9432             { "$ref": "#/parameters/interface" },
9433             {
9434                 "name": "body",
9435                 "in": "body",
9436                 "required": true,
9437                 "schema": { "$ref": "#/definitions/mediaSourceList" },
9438                 "x-example": {
9439                     "sources": [
9440                         {
9441                             "sourceName": "my new name",
9442                             "status": true
9443                         },
9444                         {
9445                             "sourceName": "dualRCA"
9446                         }
9447                     ]
9448                 }
9449             }
9450         ],
9451         "responses": {
9452             "200": {
9453                 "description": "",
9454                 "x-example": {
9455                     "sources": [
9456                         {
9457                             "sourceName": "my new name",
9458                             "sourceNumber": "1",
9459                             "sourceType": "audioPlusVideo",
9460                             "status": true
9461                         },
9462                         {
9463                             "sourceName": "dualRCA",
9464                             "sourceNumber": "1",
9465                             "sourceType": "audioOnly",
9466                             "status": false
9467                         }
9468                     ]
9469                 },
9470                 "schema": { "$ref": "#/definitions/mediaSourceList" }
9471             }
9472         }
9473     }
9474 },
9475 },
9476     "parameters": {
9477         "interface": {
9478             "in": "query",
9479             "name": "if",
9480             "type": "string",
9481             "enum": ["oic.if.a", "oic.if.baseline"]
9482         }
9483     },
9484     "definitions": {
9485         "mediaSourceList" : {
9486             "properties": {
9487                 "rt": {
9488                     "description": "Resource Type",
9489                     "items": {
9490                         "enum": ["oic.r.media.input"],

```

```

9491         "maxLength": 64,
9492         "type": "string"
9493     },
9494     "minItems": 1,
9495     "uniqueItems": true,
9496     "readOnly": true,
9497     "type": "array"
9498 },
9499 "sources": {
9500     "items": {
9501         "properties": {
9502             "sourceName": {
9503                 "description": "Specifies a pre-defined media input or output",
9504                 "type": "string"
9505             },
9506             "sourceNumber": {
9507                 "description": "Label to specify the instance",
9508                 "readOnly": true,
9509                 "type": "string"
9510             },
9511             "sourceType": {
9512                 "description": "Specifies the type of the source",
9513                 "enum": [
9514                     "audioOnly",
9515                     "videoOnly",
9516                     "audioPlusVideo"
9517                 ],
9518                 "readOnly": true,
9519                 "type": "string"
9520             },
9521             "status": {
9522                 "description": "Specifies if the specific source instance is selected or not",
9523                 "type": "boolean"
9524             }
9525         },
9526         "type": "object"
9527     },
9528     "type": "array"
9529 },
9530 "n": {
9531     "$ref":
9532     "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
9533     schema.json#/definitions/n"
9534 },
9535 "id": {
9536     "$ref":
9537     "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
9538     schema.json#/definitions/id"
9539 },
9540 "if": {
9541     "description": "The OCF Interface set supported by this Resource",
9542     "items": {
9543         "enum": [
9544             "oic.if.a",
9545             "oic.if.baseline"
9546         ],
9547         "type": "string"
9548     },
9549     "minItems": 2,
9550     "uniqueItems": true,
9551     "readOnly": true,
9552     "type": "array"
9553 }
9554 },
9555 "type": "object",
9556 "required": ["sources"]
9557 }
9558 }
9559 }
9560

```

9561 **6.45.5 Property definition**

9562 Table 93 defines the Properties that are part of the "oic.r.media.input" Resource Type.

9563 **Table 93 – The Property definitions of the Resource with type "rt" = "oic.r.media.input".**

Property name	Value type	Mandatory	Access mode	Description
rt	array: see schema	No	Read Only	Resource Type
sources	array: see schema	Yes	Read Write	
n	multiple types: see schema	No	Read Write	
id	multiple types: see schema	No	Read Write	
if	array: see schema	No	Read Only	The OCF Interface set supported by this Resource

9564 **6.45.6 CRUDN behaviour**

9565 Table 94 defines the CRUDN operations that are supported on the "oic.r.media.input" Resource
9566 Type.

9567 **Table 94 – The CRUDN operations of the Resource with type "rt" = "oic.r.media.input".**

Create	Read	Update	Delete	Notify
	get	post		observe

9568 **6.46 Media Source Output**

9569 **6.46.1 Introduction**

9570 This Resource provides the list of output media sources available on the device.
9571 The sources are an array of Media Source(s) see Resource Type "oic.r.mediasource"
9572

9573 **6.46.2 Example URI**

9574 /mediaSourceOutputResURI

9575 **6.46.3 Resource type**

9576 The Resource Type is defined as: "oic.r.media.output".

9577 **6.46.4 OpenAPI 2.0 definition**

```

9578 {
9579   "swagger": "2.0",
9580   "info": {
9581     "title": "Media Source Output",
9582     "version": "20190729",
9583     "license": {
9584       "name": "OCF Data Model License",
9585       "url":
9586         "https://github.com/openconnectivityfoundation/core/blob/e28a9e0a92e17042ba3e83661e4c0fbce8bdc4ba/LI
9587         CENSE.md",
9588       "x-copyright": "copyright 2016-2017, 2019 Open Connectivity Foundation, Inc. All rights
9589       reserved."
9590     },
9591     "termsOfService": "https://openconnectivityfoundation.github.io/core/DISCLAIMER.md"
9592   },
9593   "schemes": ["http"],
9594   "consumes": ["application/json"],
9595   "produces": ["application/json"],
9596   "paths": {
9597     "/mediaSourceOutputResURI" : {

```

```

9598     "get": {
9599         "description": "This Resource provides the list of output media sources available on the
9600 device.\n\nThe sources are an array of Media Source(s) see Resource Type \"oic.r.mediasource\"\n",
9601         "parameters": [
9602             { "$ref": "#/parameters/interface" }
9603         ],
9604         "responses": {
9605             "200": {
9606                 "description" : "",
9607                 "x-example": {
9608                     "rt": ["oic.r.media.output"],
9609                     "if": ["oic.if.a", "oic.if.baseline"],
9610                     "sources": [
9611                         {
9612                             "sourceName": "HDMI-CEC",
9613                             "sourceNumber": "1",
9614                             "sourceType": "audioPlusVideo",
9615                             "status": true
9616                         },
9617                         {
9618                             "sourceName": "dualRCA",
9619                             "sourceNumber": "1",
9620                             "sourceType": "audioOnly",
9621                             "status": false
9622                         }
9623                     ]
9624                 },
9625                 "schema": { "$ref": "#/definitions/mediaSourceList" }
9626             }
9627         },
9628     },
9629     "post": {
9630         "description": "Changes the status of the source(s).\n\nAllows changes of the sourceName and
9631 the status.",
9632         "parameters": [
9633             { "$ref": "#/parameters/interface" },
9634             {
9635                 "name": "body",
9636                 "in": "body",
9637                 "required": true,
9638                 "schema": { "$ref": "#/definitions/mediaSourceList" },
9639                 "x-example": {
9640                     "sources": [
9641                         {
9642                             "sourceName": "my new name",
9643                             "status": true
9644                         },
9645                         {
9646                             "sourceName": "dualRCA"
9647                         }
9648                     ]
9649                 }
9650             }
9651         ],
9652         "responses": {
9653             "200": {
9654                 "description" : "",
9655                 "x-example": {
9656                     "sources": [
9657                         {
9658                             "sourceName": "my new name",
9659                             "sourceNumber": "1",
9660                             "sourceType": "audioPlusVideo",
9661                             "status": true
9662                         },
9663                         {
9664                             "sourceName": "dualRCA",
9665                             "sourceNumber": "1",
9666                             "sourceType": "audioOnly",
9667                             "status": false
9668                         }
9669                     ]

```

```

9670         },
9671         "schema": { "$ref": "#/definitions/mediaSourceList" }
9672     }
9673 }
9674 }
9675 }
9676 },
9677 "parameters": {
9678     "interface": {
9679         "in": "query",
9680         "name": "if",
9681         "type": "string",
9682         "enum": ["oic.if.a", "oic.if.baseline"]
9683     }
9684 },
9685 "definitions": {
9686     "mediaSourceList" : {
9687         "properties": {
9688             "rt": {
9689                 "description": "Resource Type",
9690                 "items": {
9691                     "enum": ["oic.r.media.output"],
9692                     "maxLength": 64,
9693                     "type": "string"
9694                 },
9695                 "minItems": 1,
9696                 "uniqueItems": true,
9697                 "readOnly": true,
9698                 "type": "array"
9699             },
9700             "sources": {
9701                 "items": {
9702                     "properties": {
9703                         "sourceName": {
9704                             "description": "Specifies a pre-defined media input or output",
9705                             "type": "string"
9706                         },
9707                         "sourceNumber": {
9708                             "description": "Label to specify the instance",
9709                             "readOnly": true,
9710                             "type": "string"
9711                         },
9712                         "sourceType": {
9713                             "description": "Specifies the type of the source",
9714                             "enum": [
9715                                 "audioOnly",
9716                                 "videoOnly",
9717                                 "audioPlusVideo"
9718                             ],
9719                             "readOnly": true,
9720                             "type": "string"
9721                         },
9722                         "status": {
9723                             "description": "Specifies if the specific source instance is selected or not",
9724                             "type": "boolean"
9725                         }
9726                     },
9727                     "type": "object"
9728                 },
9729                 "type": "array"
9730             },
9731             "n": {
9732                 "$ref":
9733 "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
9734 schema.json#/definitions/n"
9735             },
9736             "id": {
9737                 "$ref":
9738 "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
9739 schema.json#/definitions/id"
9740             },
9741             "if": {

```



```

9742         "description": "The OCF Interface set supported by this Resource",
9743         "items": {
9744             "enum": [
9745                 "oic.if.a",
9746                 "oic.if.baseline"
9747             ],
9748             "type": "string"
9749         },
9750         "minItems": 2,
9751         "uniqueItems": true,
9752         "readOnly": true,
9753         "type": "array"
9754     }
9755 },
9756 "type": "object",
9757 "required": ["sources"]
9758 }
9759 }
9760 }
9761

```

9762 **6.46.5 Property definition**

9763 Table 95 defines the Properties that are part of the "oic.r.media.output" Resource Type.

9764 **Table 95 – The Property definitions of the Resource with type "rt" = "oic.r.media.output".**

Property name	Value type	Mandatory	Access mode	Description
rt	array: see schema	No	Read Only	Resource Type
sources	array: see schema	Yes	Read Write	
n	multiple types: see schema	No	Read Write	
id	multiple types: see schema	No	Read Write	
if	array: see schema	No	Read Only	The OCF Interface set supported by this Resource

9765 **6.46.6 CRUDN behaviour**

9766 Table 96 defines the CRUDN operations that are supported on the "oic.r.media.output" Resource
9767 Type.

9768 **Table 96 – The CRUDN operations of the Resource with type "rt" = "oic.r.media.output".**

Create	Read	Update	Delete	Notify
	get	post		observe

9769 **6.47 Motion Sensor**

9770 **6.47.1 Introduction**

9771 This Resource describes whether motion has been sensed or not.

9772 The Property "value" is a boolean.

9773 A value of 'true' means that motion has been sensed.

9774 A value of 'false' means that motion not been sensed.

9775

9776 **6.47.2 Example URI**

9777 /MotionResURI

9778 **6.47.3 Resource type**

9779 The Resource Type is defined as: "oic.r.sensor.motion".

9780 6.47.4 OpenAPI 2.0 definition

```
9781 {
9782   "swagger": "2.0",
9783   "info": {
9784     "title": "Motion Sensor",
9785     "version": "20190215",
9786     "license": {
9787       "name": "OCF Data Model License",
9788       "url":
9789         "https://github.com/openconnectivityfoundation/core/blob/e28a9e0a92e17042ba3e83661e4c0fbce8bdc4ba/LI
9790         CENSE.md",
9791       "x-copyright": "copyright 2016-2017, 2019 Open Connectivity Foundation, Inc. All rights
9792       reserved."
9793     },
9794     "termsOfService": "https://openconnectivityfoundation.github.io/core/DISCLAIMER.md"
9795   },
9796   "schemes": ["http"],
9797   "consumes": ["application/json"],
9798   "produces": ["application/json"],
9799   "paths": {
9800     "/MotionResURI" : {
9801       "get": {
9802         "description": "This Resource describes whether motion has been sensed or not.\n\nThe Property
9803         \"value\" is a boolean.\n\nA value of 'true' means that motion has been sensed.\n\nA value of 'false'
9804         means that motion not been sensed.\n\n",
9805         "parameters": [
9806           { "$ref": "#/parameters/interface" }
9807         ],
9808         "responses": {
9809           "200": {
9810             "description": "",
9811             "x-example":
9812               {
9813                 "rt": ["oic.r.sensor.motion"],
9814                 "if": ["oic.if.s", "oic.if.baseline"],
9815                 "value": true
9816               },
9817             "schema": { "$ref": "#/definitions/Motion" }
9818           }
9819         }
9820       }
9821     }
9822   },
9823   "parameters": {
9824     "interface" : {
9825       "in" : "query",
9826       "name" : "if",
9827       "type" : "string",
9828       "enum" : ["oic.if.s", "oic.if.baseline"]
9829     }
9830   },
9831   "definitions": {
9832     "Motion" : {
9833       "properties": {
9834         "rt": {
9835           "description": "The Resource Type.",
9836           "items": {
9837             "enum": ["oic.r.sensor.motion"],
9838             "maxLength": 64,
9839             "type": "string"
9840           },
9841           "minItems": 1,
9842           "uniqueItems": true,
9843           "readOnly": true,
9844           "type": "array"
9845         },
9846         "value": {
9847           "description": "The motion sensor, true = motion sensed, false = motion not sensed.",
9848           "readOnly": true,
9849           "type": "boolean"
9850         }
9851       }
9852     }
9853   }
9854 }
```

```

9851     "n": {
9852         "$ref":
9853         "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
9854         schema.json#/definitions/n"
9855     },
9856     "id": {
9857         "$ref":
9858         "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
9859         schema.json#/definitions/id"
9860     },
9861     "if": {
9862         "description": "The OCF Interface set supported by this Resource.",
9863         "items": {
9864             "enum": [
9865                 "oic.if.s",
9866                 "oic.if.baseline"
9867             ],
9868             "type": "string"
9869         },
9870         "minItems": 2,
9871         "uniqueItems": true,
9872         "readOnly": true,
9873         "type": "array"
9874     }
9875 },
9876 "type": "object",
9877 "required": ["value"]
9878 }
9879 }
9880 }
9881

```

9882 **6.47.5 Property definition**

9883 Table 97 defines the Properties that are part of the "oic.r.sensor.motion" Resource Type.

9884 **Table 97 – The Property definitions of the Resource with type "rt" = "oic.r.sensor.motion".**

Property name	Value type	Mandatory	Access mode	Description
rt	array: see schema	No	Read Only	The Resource Type.
value	boolean	Yes	Read Only	The motion sensor, true = motion sensed, false = motion not sensed.
n	multiple types: see schema	No	Read Write	
id	multiple types: see schema	No	Read Write	
if	array: see schema	No	Read Only	The OCF Interface set supported by this Resource.

9885 **6.47.6 CRUDN behaviour**

9886 Table 98 defines the CRUDN operations that are supported on the "oic.r.sensor.motion" Resource
 9887 Type.

9888 **Table 98 – The CRUDN operations of the Resource with type "rt" = "oic.r.sensor.motion".**

Create	Read	Update	Delete	Notify
	get			observe

9889 6.48 Night Mode

9890 6.48.1 Introduction

9891 This Resource describes a night mode on/off feature.
9892 A nightMode value of 'true' means that the feature is on.
9893 A nightMode value of 'false' means that the feature is off.

9894 6.48.2 Example URI

9895 /NightModeResURI

9896 6.48.3 Resource type

9897 The Resource Type is defined as: "oic.r.nightmode".

9898 6.48.4 OpenAPI 2.0 definition

```
9899 {
9900   "swagger": "2.0",
9901   "info": {
9902     "title": "Night Mode",
9903     "version": "20190215",
9904     "license": {
9905       "name": "OCF Data Model License",
9906       "url":
9907         "https://github.com/openconnectivityfoundation/core/blob/e28a9e0a92e17042ba3e83661e4c0fbce8bdc4ba/LI
9908         CENSE.md",
9909       "x-copyright": "copyright 2016-2017, 2019 Open Connectivity Foundation, Inc. All rights
9910         reserved."
9911     },
9912     "termsOfService": "https://openconnectivityfoundation.github.io/core/DISCLAIMER.md"
9913   },
9914   "schemes": ["http"],
9915   "consumes": ["application/json"],
9916   "produces": ["application/json"],
9917   "paths": {
9918     "/NightModeResURI" : {
9919       "get": {
9920         "description": "This Resource describes a night mode on/off feature.\nA nightMode value of
9921         'true' means that the feature is on.\nA nightMode value of 'false' means that the feature is off.",
9922         "parameters": [
9923           { "$ref": "#/parameters/interface" }
9924         ],
9925         "responses": {
9926           "200": {
9927             "description": "",
9928             "x-example":
9929               {
9930                 "rt": ["oic.r.nightmode"],
9931                 "if": ["oic.if.a", "oic.if.baseline"],
9932                 "nightMode": false
9933               },
9934             "schema": { "$ref": "#/definitions/NightMode" }
9935           }
9936         }
9937       },
9938       "post": {
9939         "description": "",
9940         "parameters": [
9941           { "$ref": "#/parameters/interface" },
9942           {
9943             "name": "body",
9944             "in": "body",
9945             "required": true,
9946             "schema": { "$ref": "#/definitions/NightMode" },
9947             "x-example":
9948               {
9949                 "nightMode": true
9950               }
9951           }
9952         ],

```

```

9953     "responses": {
9954         "200": {
9955             "description": "",
9956             "x-example":
9957                 {
9958                     "nightMode": true
9959                 },
9960             "schema": { "$ref": "#/definitions/NightMode" }
9961         }
9962     }
9963 }
9964 },
9965 },
9966 "parameters": {
9967     "interface": {
9968         "in": "query",
9969         "name": "if",
9970         "type": "string",
9971         "enum": ["oic.if.a", "oic.if.baseline"]
9972     }
9973 },
9974 "definitions": {
9975     "NightMode": {
9976         "properties": {
9977             "rt": {
9978                 "description": "The Resource Type.",
9979                 "items": {
9980                     "enum": ["oic.r.nightmode"],
9981                     "maxLength": 64,
9982                     "type": "string"
9983                 },
9984                 "minItems": 1,
9985                 "uniqueItems": true,
9986                 "readOnly": true,
9987                 "type": "array"
9988             },
9989             "nightMode": {
9990                 "description": "The status of the Night Mode.",
9991                 "type": "boolean"
9992             },
9993             "n": {
9994                 "$ref":
9995     "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
9996     schema.json#/definitions/n"
9997             },
9998             "id": {
9999                 "$ref":
10000     "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
10001     schema.json#/definitions/id"
10002             },
10003             "if": {
10004                 "description": "The OCF Interface set supported by this Resource.",
10005                 "items": {
10006                     "enum": [
10007                         "oic.if.a",
10008                         "oic.if.baseline"
10009                     ],
10010                     "type": "string"
10011                 },
10012                 "minItems": 2,
10013                 "uniqueItems": true,
10014                 "readOnly": true,
10015                 "type": "array"
10016             }
10017         },
10018         "type": "object",
10019         "required": ["nightMode"]
10020     }
10021 }
10022 }
10023

```

10024 **6.48.5 Property definition**

10025 Table 99 defines the Properties that are part of the "oic.r.nightmode" Resource Type.

10026 **Table 99 – The Property definitions of the Resource with type "rt" = "oic.r.nightmode".**

Property name	Value type	Mandatory	Access mode	Description
rt	array: see schema	No	Read Only	The Resource Type.
nightMode	boolean	Yes	Read Write	The status of the Night Mode.
n	multiple types: see schema	No	Read Write	
id	multiple types: see schema	No	Read Write	
if	array: see schema	No	Read Only	The OCF Interface set supported by this Resource.

10027 **6.48.6 CRUDN behaviour**

10028 Table 100 defines the CRUDN operations that are supported on the "oic.r.nightmode" Resource Type.

10030 **Table 100 – The CRUDN operations of the Resource with type "rt" = "oic.r.nightmode".**

Create	Read	Update	Delete	Notify
	get	post		observe

10031 **6.49 Presence Sensor**

10032 **6.49.1 Introduction**

10033 This Resource describes whether presence has been sensed or not.

10034 The Property "value" is a boolean.

10035 A value of 'true' means that presence has been sensed.

10036 A value of 'false' means that presence not been sensed.

10037 **6.49.2 Example URI**

10038 /PresenceResURI

10039 **6.49.3 Resource type**

10040 The Resource Type is defined as: "oic.r.sensor.presence".

10041 **6.49.4 OpenAPI 2.0 definition**

```

10042 {
10043   "swagger": "2.0",
10044   "info": {
10045     "title": "Presence Sensor",
10046     "version": "20190215",
10047     "license": {
10048       "name": "OCF Data Model License",
10049       "url":
10050 "https://github.com/openconnectivityfoundation/core/blob/e28a9e0a92e17042ba3e83661e4c0fbce8bdc4ba/LI
10051 CENSE.md",
10052       "x-copyright": "copyright 2016-2017, 2019 Open Connectivity Foundation, Inc. All rights
10053 reserved."
10054     },
10055     "termsOfService": "https://openconnectivityfoundation.github.io/core/DISCLAIMER.md"
10056   },
10057   "schemes": ["http"],
10058   "consumes": ["application/json"],
10059   "produces": ["application/json"],

```

```

10060     "paths": {
10061         "/PresenceResURI" : {
10062             "get": {
10063                 "description": "This Resource describes whether presence has been sensed or not.\nThe
10064 Property \"value\" is a boolean.\nA value of 'true' means that presence has been sensed.\nA value of
10065 'false' means that presence not been sensed.",
10066                 "parameters": [
10067                     {"$ref": "#/parameters/interface"}
10068                 ],
10069                 "responses": {
10070                     "200": {
10071                         "description": "",
10072                         "x-example":
10073                             {
10074                                 "rt": ["oic.r.sensor.presence"],
10075                                 "if": ["oic.if.s", "oic.if.baseline"],
10076                                 "value": true
10077                             },
10078                     "schema": { "$ref": "#/definitions/Presence" }
10079                 }
10080             }
10081         }
10082     },
10083 },
10084 "parameters": {
10085     "interface": {
10086         "in": "query",
10087         "name": "if",
10088         "type": "string",
10089         "enum": ["oic.if.s", "oic.if.baseline"]
10090     }
10091 },
10092 "definitions": {
10093     "Presence" : {
10094         "properties": {
10095             "rt": {
10096                 "description": "The Resource Type.",
10097                 "items": {
10098                     "enum": ["oic.r.sensor.presence"],
10099                     "maxLength": 64,
10100                     "type": "string"
10101                 },
10102                 "minItems": 1,
10103                 "uniqueItems": true,
10104                 "readOnly": true,
10105                 "type": "array"
10106             },
10107             "value": {
10108                 "description": "The presences sensor, true = precense sensed, false = precensenot
10109 sensed.",
10110                 "readOnly": true,
10111                 "type": "boolean"
10112             },
10113             "n": {
10114                 "$ref":
10115 "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
10116 schema.json#/definitions/n"
10117             },
10118             "id": {
10119                 "$ref":
10120 "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
10121 schema.json#/definitions/id"
10122             },
10123             "if": {
10124                 "description": "The OCF Interface set supported by this Resource.",
10125                 "items": {
10126                     "enum": [
10127                         "oic.if.s",
10128                         "oic.if.baseline"
10129                     ],
10130                     "type": "string"
10131                 }

```

```

10132         "minItems": 2,
10133         "uniqueItems": true,
10134         "readOnly": true,
10135         "type": "array"
10136     },
10137 },
10138 "type": "object",
10139 "required": ["value"]
10140 }
10141 }
10142 }
10143

```

10144 **6.49.5 Property definition**

10145 Table 101 defines the Properties that are part of the "oic.r.sensor.presence" Resource Type.

10146 **Table 101 – The Property definitions of the Resource with type "rt" =**
10147 **"oic.r.sensor.presence".**

Property name	Value type	Mandatory	Access mode	Description
rt	array: see schema	No	Read Only	The Resource Type.
value	boolean	Yes	Read Only	The presences sensor, true = precense sensed, false = precensenot sensed.
n	multiple types: see schema	No	Read Write	
id	multiple types: see schema	No	Read Write	
if	array: see schema	No	Read Only	The OCF Interface set supported by this Resource.

10148 **6.49.6 CRUDN behaviour**

10149 Table 102 defines the CRUDN operations that are supported on the "oic.r.sensor.presence"
10150 Resource Type.

10151 **Table 102 – The CRUDN operations of the Resource with type "rt" =**
10152 **"oic.r.sensor.presence".**

Create	Read	Update	Delete	Notify
	get			observe

10153 **6.50 Pan Tilt Zoom Movement**

10154 **6.50.1 Introduction**

10155 This Resource specifies the pan tilt and zoom capabilities of a device.
10156 The Resource Type is dynamic and reflects whether the values apply to
10157 physical movement of the device or digital/virtual enhancements to the image.
10158 For physical movement the Resource Type is "oic.r.movement.ptz".
10159 For digital/virtual image enhancements the Resource Type is "oic.r.image.ptz".
10160 The Properties "pan" and "tilt" are specified in degrees.
10161 The Property "zoomFactor" is a value in the range 1-100 for linear (optical) zoom.
10162 The zoom factor is a value in the range [1x, 2x, 4x, 8x, 16x, 32x] for digital zoom.
10163 If there is no zoom value to set the zoom factor shall be '1x'.
10164 The value 0 degrees means neutral, this is a vendor defined setting.
10165 Note that this resource also can be used to create an offset for physical movement.
10166 When that is the case, the Resource Type value is: "oic.r.movement.offset.ptz"

10167 Note that this resource also can be used to create an offset for image movement.
 10168 When that is the case, the Resource Type value is: "oic.r.image.offset.ptz".
 10169 When the Property "pan_range" value is omitted, then the range is [-180.0,180.0].
 10170 If "pan" is not supported then the range shall be [0.0,0.0]
 10171 When the Property "tilt_range" value is omitted, then the range is [-180.0,180.0].
 10172 If "tilt" is not supported then the range shall be [0.0,0.0].

10173 6.50.2 Example URI

10174 /PanTiltZoomResURI

10175 6.50.3 Resource type

10176 The Resource Type is defined as: "oic.r.ptz".

10177 6.50.4 OpenAPI 2.0 definition

```

10178 {
10179   "swagger": "2.0",
10180   "info": {
10181     "title": "Pan Tilt Zoom Movement",
10182     "version": "20190215",
10183     "license": {
10184       "name": "OCF Data Model License",
10185       "url":
10186         "https://github.com/openconnectivityfoundation/core/blob/e28a9e0a92e17042ba3e83661e4c0fbce8bdc4ba/LI
10187         CENSE.md",
10188       "x-copyright": "copyright 2016-2017, 2019 Open Connectivity Foundation, Inc. All rights
10189         reserved."
10190     },
10191     "termsOfService": "https://openconnectivityfoundation.github.io/core/DISCLAIMER.md"
10192   },
10193   "schemes": ["http"],
10194   "consumes": ["application/json"],
10195   "produces": ["application/json"],
10196   "paths": {
10197     "/PanTiltZoomResURI" : {
10198       "get": {
10199         "description": "This Resource specifies the pan tilt and zoom capabilities of a device.\nThe
10200         Resource Type is dynamic and reflects whether the values apply to\n physical movement of the device
10201         or digital/virtual enhancements to the image.\nFor physical movement the Resource Type is
10202         \"oic.r.movement.ptz\".\nFor digital/virtual image enhancements the Resource Type is
10203         \"oic.r.image.ptz\".\nThe Properties \"pan\" and \"tilt\" are specified in degrees.\nThe Property
10204         \"zoomFactor\" is a value in the range 1-100 for linear (optical) zoom.\nThe zoom factor is a value
10205         in the range [1x, 2x, 4x, 8x, 16x, 32x] for digital zoom.\nIf there is no zoom value to set the zoom
10206         factor shall be '1x'.\nThe value 0 degrees means neutral, this is a vendor defined setting.\nNote
10207         that this resource also can be used to create an offset for physical movement.\nWhen that is the
10208         case, the Resource Type value is: \"oic.r.movement.offset.ptz\"\nNote that this resource also can be
10209         used to create an offset for image movement.\nWhen that is the case, the Resource Type value is:
10210         \"oic.r.image.offset.ptz\".\nWhen the Property \"pan_range\" value is omitted, then the range is [-
10211         180.0,180.0].\nIf \"pan\" is not supported then the range shall be [0.0,0.0]\nWhen the Property
10212         \"tilt_range\" value is omitted, then the range is [-180.0,180.0].\nIf \"tilt\" is not supported
10213         then the range shall be [0.0,0.0].",
10214         "parameters": [
10215           { "$ref": "#/parameters/interface" }
10216         ],
10217         "responses": {
10218           "200": {
10219             "description": "Retrieves the current pan, tilt and zoom setting.",
10220             "x-example":
10221               {
10222                 "rt": ["oic.r.ptz"],
10223                 "if": ["oic.if.a", "oic.if.baseline"],
10224                 "pan": 0.0,
10225                 "tilt": 0.0,
10226                 "zoomFactor": "2x"
10227               },
10228             "schema": { "$ref": "#/definitions/PanTiltZoom" }
10229           }
10230         }
10231       }
10232     }
  
```

```

10231 },
10232 "post": {
10233   "description": "Sets the current pan, tilt and zoom value.",
10234   "parameters": [
10235     { "$ref": "#/parameters/interface" },
10236     {
10237       "name": "body",
10238       "in": "body",
10239       "required": true,
10240       "schema": { "$ref": "#/definitions/PanTiltZoom" },
10241       "x-example":
10242         {
10243           "pan": 10.0,
10244           "tilt": -10.0,
10245           "zoomFactor": "4x"
10246         }
10247     }
10248   ],
10249   "responses": {
10250     "200": {
10251       "description": "",
10252       "x-example":
10253         {
10254           "pan": 10.0,
10255           "tilt": -10.0,
10256           "zoomFactor": "4x"
10257         },
10258       "schema": { "$ref": "#/definitions/PanTiltZoom" }
10259     }
10260   }
10261 },
10262 },
10263 },
10264 "parameters": {
10265   "interface": {
10266     "in": "query",
10267     "name": "if",
10268     "type": "string",
10269     "enum": ["oic.if.a", "oic.if.baseline"]
10270   }
10271 },
10272 "definitions": {
10273   "PanTiltZoom": {
10274     "properties": {
10275       "rt": {
10276         "description": "The Resource Type.",
10277         "items": {
10278           "enum": ["oic.r.ptz"],
10279           "maxLength": 64,
10280           "type": "string"
10281         },
10282         "minItems": 1,
10283         "uniqueItems": true,
10284         "readOnly": true,
10285         "type": "array"
10286       },
10287       "tilt_range": {
10288         "$ref":
10289           "https://openconnectivityfoundation.github.io/IoTDataModels/schemas/oic.baseresource.properties-
10290           schema.json#/definitions/range_number"
10291       },
10292       "zoomFactor": {
10293         "description": "The zoom factor value.",
10294         "type": "string"
10295       },
10296       "tilt": {
10297         "description": "The vertical tilt in degrees.",
10298         "type": "number"
10299       },
10300       "precision": {
10301         "$ref":
10302           "https://openconnectivityfoundation.github.io/IoTDataModels/schemas/oic.baseresource.properties-

```

```

10303 schema.json#/definitions/precision"
10304     },
10305     "pan_range": {
10306         "$ref":
10307         "https://openconnectivityfoundation.github.io/IoTDataModels/schemas/oic.baseresource.properties-
10308         schema.json#/definitions/range_number"
10309     },
10310     "zoomFactorRange": {
10311         "description": "The allowed Zoom Factor values. Linear equates to a 1-100 min/max.",
10312         "enum": [
10313             "linear",
10314             "1x",
10315             "2x",
10316             "4x",
10317             "8x",
10318             "16x",
10319             "32x"
10320         ],
10321         "readOnly": true,
10322         "type": "string"
10323     },
10324     "pan": {
10325         "description": "The horizontal pan in degrees.",
10326         "type": "number"
10327     },
10328     "n": {
10329         "$ref":
10330         "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
10331         schema.json#/definitions/n"
10332     },
10333     "id": {
10334         "$ref":
10335         "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
10336         schema.json#/definitions/id"
10337     },
10338     "if": {
10339         "description": "The OCF Interface set supported by this Resource.",
10340         "items": {
10341             "enum": [
10342                 "oic.if.a",
10343                 "oic.if.baseline"
10344             ],
10345             "type": "string"
10346         },
10347         "minItems": 2,
10348         "uniqueItems": true,
10349         "readOnly": true,
10350         "type": "array"
10351     }
10352 },
10353 "type": "object",
10354 "required": ["pan", "tilt", "zoomFactor"]
10355 }
10356 }
10357 }
10358

```

10359 6.50.5 Property definition

10360 Table 103 defines the Properties that are part of the "oic.r.ptz" Resource Type.

10361 **Table 103 – The Property definitions of the Resource with type "rt" = "oic.r.ptz".**

Property name	Value type	Mandatory	Access mode	Description
rt	array: see schema	No	Read Only	The Resource Type.
tilt_range	multiple types: see schema	No	Read Write	
zoomFactor	string	Yes	Read Write	The zoom factor value.

tilt	number	Yes	Read Write	The vertical tilt in degrees.
precision	multiple types: see schema	No	Read Write	
pan_range	multiple types: see schema	No	Read Write	
zoomFactorRange	string	No	Read Only	The allowed Zoom Factor values. Linear equates to a 1-100 min/max.
pan	number	Yes	Read Write	The horizontal pan in degrees.
n	multiple types: see schema	No	Read Write	
id	multiple types: see schema	No	Read Write	
if	array: see schema	No	Read Only	The OCF Interface set supported by this Resource.

10362 **6.50.6 CRUDN behaviour**

10363 Table 104 defines the CRUDN operations that are supported on the "oic.r.ptz" Resource Type.

10364 **Table 104 – The CRUDN operations of the Resource with type "rt" = "oic.r.ptz".**

Create	Read	Update	Delete	Notify
	get	post		observe

10365 **6.51 Signal Strength**

10366 **6.51.1 Introduction**

10367 This Resource describes the strength of a signal by means of lqi and rssi.
 10368 The Property "lqi" is a floating point number that represents Link Quality Indicator.
 10369 The Property "rssi" is a floating point number that represents the received signal strength
 10370 indicator.

10371 **6.51.2 Example URI**

10372 /SignalStrengthResURI

10373 **6.51.3 Resource type**

10374 The Resource Type is defined as: "oic.r.signalstrength".

10375 **6.51.4 OpenAPI 2.0 definition**

```

10376 {
10377   "swagger": "2.0",
10378   "info": {
10379     "title": "Signal Strength",
10380     "version": "20190215",
10381     "license": {
10382       "name": "OCF Data Model License",
10383       "url":
10384         "https://github.com/openconnectivityfoundation/core/blob/e28a9e0a92e17042ba3e83661e4c0fbce8bdc4ba/LI
10385         CENSE.md",
10386       "x-copyright": "copyright 2016-2017, 2019 Open Connectivity Foundation, Inc. All rights
10387       reserved."
10388     },
10389     "termsOfService": "https://openconnectivityfoundation.github.io/core/DISCLAIMER.md"
10390   },
10391   "schemes": ["http"],

```

```

10392     "consumes": ["application/json"],
10393     "produces": ["application/json"],
10394     "paths": {
10395         "/SignalStrengthResURI" : {
10396             "get": {
10397                 "description": "This Resource describes the strength of a signal by means of lqi and
10398 rssi.\nThe Property \"lqi\" is a floating point number that represents Link Quality Indicator.\nThe
10399 Property \"rssi\" is a floating point number that represents the received signal strength
10400 indicator.",
10401                 "parameters": [
10402                     {"$ref": "#/parameters/interface"}
10403                 ],
10404                 "responses": {
10405                     "200": {
10406                         "description": "",
10407                         "x-example":
10408                             {
10409                                 "rt": ["oic.r.signalstrength"],
10410                                 "if": ["oic.if.s", "oic.if.baseline"],
10411                                 "lqi": 10.0,
10412                                 "rssi": 55.0
10413                             }
10414                         ,
10415                         "schema": { "$ref": "#/definitions/SignalStrength" }
10416                     }
10417                 }
10418             }
10419         }
10420     },
10421     "parameters": {
10422         "interface": {
10423             "in": "query",
10424             "name": "if",
10425             "type": "string",
10426             "enum": ["oic.if.s", "oic.if.baseline"]
10427         }
10428     },
10429     "definitions": {
10430         "SignalStrength" : {
10431             "properties": {
10432                 "rt": {
10433                     "description": "The Resource Type.",
10434                     "items": {
10435                         "enum": ["oic.r.signalstrength"],
10436                         "maxLength": 64,
10437                         "type": "string"
10438                     },
10439                     "minItems": 1,
10440                     "uniqueItems": true,
10441                     "readOnly": true,
10442                     "type": "array"
10443                 },
10444                 "lqi": {
10445                     "description": "The current value of Link Quality Indicator.",
10446                     "readOnly": true,
10447                     "type": "number"
10448                 },
10449                 "rssi": {
10450                     "description": "The current value of Received Signal Strength Indicator.",
10451                     "readOnly": true,
10452                     "type": "number"
10453                 },
10454                 "n": {
10455                     "$ref":
10456 "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
10457 schema.json#/definitions/n"
10458                 },
10459                 "id": {
10460                     "$ref":
10461 "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
10462 schema.json#/definitions/id"
10463                 }
10464             }
10465         }
10466     }

```

```

10464     "if": {
10465         "description": "The OCF Interface set supported by this Resource.",
10466         "items": {
10467             "enum": [
10468                 "oic.if.s",
10469                 "oic.if.baseline"
10470             ],
10471             "type": "string"
10472         },
10473         "minItems": 2,
10474         "uniqueItems": true,
10475         "readOnly": true,
10476         "type": "array"
10477     }
10478 },
10479 "type": "object",
10480 "required": ["lqi", "rssi"]
10481 }
10482 }
10483 }
10484

```

10485 **6.51.5 Property definition**

10486 Table 105 defines the Properties that are part of the "oic.r.signalstrength" Resource Type.

10487 **Table 105 – The Property definitions of the Resource with type "rt" = "oic.r.signalstrength".**

Property name	Value type	Mandatory	Access mode	Description
rt	array: see schema	No	Read Only	The Resource Type.
lqi	number	Yes	Read Only	The current value of Link Quality Indicator.
rssi	number	Yes	Read Only	The current value of Received Signal Strength Indicator.
n	multiple types: see schema	No	Read Write	
id	multiple types: see schema	No	Read Write	
if	array: see schema	No	Read Only	The OCF Interface set supported by this Resource.

10488 **6.51.6 CRUDN behaviour**

10489 Table 106 defines the CRUDN operations that are supported on the "oic.r.signalstrength" Resource Type.

10491 **Table 106 – The CRUDN operations of the Resource with type "rt" = "oic.r.signalstrength".**

Create	Read	Update	Delete	Notify
	get			observe

10492 **6.52 Speech Synthesis-TTS**

10493 **6.52.1 Introduction**

10494 This Resource may be created on the OCF Server that is capable of rendering speech by an OCF Client and allows the client to provide an SSML document with text to render

10495 or may be created on the OIC Server by some resident application.

10496 The audio rendered is at this stage local to the Server (i.e. not streamed).

10497 The utterance is an SSML document.

10498 The supportedLanguages is an array of the RFC5646 defined language tags that are supported.

10500 The supportedVoices is an SSML document fragment indicating the voices that are supported.
10501 Utterance in the example shall be a properly escaped (JSON rules) SSML document. An
10502 example:

```
10503 "<?xml version="1.0" encoding="ISO-8859-1"?>  
10504  
10505 <spek version="1.1" xmlns="http://www.w3.org/2001/10/synthesis"  
10506  
10507  
10508     xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"  
10509  
10510     xsi:schemaLocation="http://www.w3.org/2001/10/synthesis  
10511  
10512     http://www.w3.org/TR/speech-synthesis11/synthesis.xsd"  
10513  
10514     xml:lang="en-US">  
10515  
10516  
10517  
10518  
10519  
10520  
10521  
10522  
10523     The title of the movie is:  
10524  
10525  
10526     "Monty Pythons The Meaning of Life"  
10527  
10528  
10529     which is directed by Terry Jones.  
10530  
10531  
10532  
10533 </spek"  
10534
```

10535 **6.52.2 Example URI**

10536 /SpeechTTSResURI

10537 **6.52.3 Resource type**

10538 The Resource Type is defined as: "oic.r.speech.tts".

10539 **6.52.4 OpenAPI 2.0 definition**

```
10540 {  
10541   "swagger": "2.0",  
10542   "info": {  
10543     "title": "Speech Synthesis-TTS",  
10544     "version": "20190215",  
10545     "license": {  
10546       "name": "OCF Data Model License",  
10547       "url":  
10548       "https://github.com/openconnectivityfoundation/core/blob/e28a9e0a92e17042ba3e83661e4c0fbce8bdc4ba/LI  
10549       CENSE.md",  
10550       "x-copyright": "copyright 2016-2017, 2019 Open Connectivity Foundation, Inc. All rights  
10551       reserved."  
10552     },  
10553     "termsOfService": "https://openconnectivityfoundation.github.io/core/DISCLAIMER.md"  
10554   },  
10555   "schemes": ["http"],  
10556   "consumes": ["application/json"],
```

```

10557     "produces": ["application/json"],
10558     "paths": {
10559         "/SpeechTTSResURI" : {
10560             "get": {
10561                 "description": "This Resource may be created on the OCF Server that is capable of rendering
10562 speech by an OCF Client and allows the client to provide an SSML document with text to render\n or
10563 may be created on the OIC Server by some resident application.\nThe audio rendered is at this stage
10564 local to the Server (i.e. not streamed).\nThe utterance is an SSML document.\nThe supportedLanguages
10565 is an array of the RFC5646 defined language tags that are supported.\nThe supportedVoices is an SSML
10566 document fragment indicating the voices that are supported.\nUtterance in the example shall be a
10567 properly escaped (JSON rules) SSML document. An example:\n \n<?xml version=\"1.0\" encoding=\"ISO-
10568 8859-1\"?>\n\r\n <speech version=\"1.1\" xmlns=\"http://www.w3.org/2001/10/synthesis\" \n\r\n
10569 \txmlns:xsi=\"http://www.w3.org/2001/XMLSchema-instance\" \n\r\n
10570 \txsi:schemaLocation=\"http://www.w3.org/2001/10/synthesis\n\r\n
10571 \thttp://www.w3.org/TR/speech-synthesis11/synthesis.xsd\" \n\r\n \txml:lang=\"en-US\">\n\r\n
10572 \n\r\n \tThe title of the movie is:\n\r\n \t\"Monty Pythons The Meaning of Life\" \n\r\n \twhich
10573 is directed by Terry Jones.\n\r\n </speech\" \n\",
10574         "parameters": [
10575             { "$ref": "#/parameters/interface" }
10576         ],
10577         "responses": {
10578             "200": {
10579                 "description": "",
10580                 "x-example":
10581                 {
10582                     "rt": ["oic.r.speech.tts"],
10583                     "if": ["oic.if.a", "oic.if.baseline"],
10584                     "utterance": "Strange women lying in ponds distributing swords is no basis for a
10585 system of government.",
10586                     "supportedLanguages": ["en-US", "en-GB", "fr-CA"],
10587                     "supportedVoices": "<voice gender=\"female\" variant=\"2\"></voice>\n\r<voice
10588 name=\"Mike\"></voice>"
10589                 },
10590                 "schema": { "$ref": "#/definitions/Speech" }
10591             }
10592         },
10593     },
10594     "post": {
10595         "description": "Changes the utterance being rendered.\nExample shows a change in language
10596 selected.\n",
10597         "parameters": [
10598             { "$ref": "#/parameters/interface" },
10599             {
10600                 "name": "body",
10601                 "in": "body",
10602                 "required": true,
10603                 "schema": { "$ref": "#/definitions/Speech" },
10604                 "x-example":
10605                 {
10606                     "utterance": "Alright, but apart from the sanitation, the medicine, education, wine,
10607 public order, irrigation, roads, the fresh-water system, and public health, what have the Romans
10608 ever done for us?"
10609                 }
10610             }
10611         ],
10612         "responses": {
10613             "200": {
10614                 "description": "",
10615                 "x-example":
10616                 {
10617                     "utterance": "Alright, but apart from the sanitation, the medicine, education,
10618 wine, public order, irrigation, roads, the fresh-water system, and public health, what have the
10619 Romans ever done for us?"
10620                 },
10621                 "schema": { "$ref": "#/definitions/Speech" }
10622             }
10623         }
10624     }
10625 },
10626 },
10627 "parameters": {
10628     "interface": {

```



```

10629     "in": "query",
10630     "name": "if",
10631     "type": "string",
10632     "enum": ["oic.if.a", "oic.if.baseline"]
10633   }
10634 },
10635   "definitions": {
10636     "Speech": {
10637       "properties": {
10638         "rt": {
10639           "description": "The Resource Type.",
10640           "items": {
10641             "enum": ["oic.r.speech.tts"],
10642             "maxLength": 64,
10643             "type": "string"
10644           },
10645           "minItems": 1,
10646           "uniqueItems": true,
10647           "readOnly": true,
10648           "type": "array"
10649         },
10650         "supportedLanguages": {
10651           "description": "The array of supported language tags.",
10652           "items": {
10653             "type": "string"
10654           },
10655           "readOnly": true,
10656           "type": "array"
10657         },
10658         "supportedVoices": {
10659           "description": "The SSML document fragment indicating supported voices.",
10660           "readOnly": true,
10661           "maxLength": 1024,
10662           "type": "string"
10663         },
10664         "utterance": {
10665           "description": "The SSML document including the speech body.",
10666           "maxLength": 1024,
10667           "type": "string"
10668         },
10669         "n": {
10670           "$ref":
10671             "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
10672             schema.json#/definitions/n"
10673         },
10674         "id": {
10675           "$ref":
10676             "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
10677             schema.json#/definitions/id"
10678         },
10679         "if": {
10680           "description": "The OCF Interface set supported by this Resource.",
10681           "items": {
10682             "enum": [
10683               "oic.if.a",
10684               "oic.if.baseline"
10685             ],
10686             "type": "string"
10687           },
10688           "minItems": 2,
10689           "uniqueItems": true,
10690           "readOnly": true,
10691           "type": "array"
10692         }
10693       },
10694       "type": "object",
10695       "required": ["utterance"]
10696     }
10697   }
10698 }
10699

```

10700 **6.52.5 Property definition**

10701 Table 107 defines the Properties that are part of the "oic.r.speech.tts" Resource Type.

10702 **Table 107 – The Property definitions of the Resource with type "rt" = "oic.r.speech.tts".**

Property name	Value type	Mandatory	Access mode	Description
rt	array: see schema	No	Read Only	The Resource Type.
supportedLanguages	array: see schema	No	Read Only	The array of supported language tags.
supportedVoices	string	No	Read Only	The SSML document fragment indicating supported voices.
utterance	string	Yes	Read Write	The SSML document including the speech body.
n	multiple types: see schema	No	Read Write	
id	multiple types: see schema	No	Read Write	
if	array: see schema	No	Read Only	The OCF Interface set supported by this Resource.

10703 **6.52.6 CRUDN behaviour**

10704 Table 108 defines the CRUDN operations that are supported on the "oic.r.speech.tts" Resource
10705 Type.

10706 **Table 108 – The CRUDN operations of the Resource with type "rt" = "oic.r.speech.tts".**

Create	Read	Update	Delete	Notify
	get	post		observe

10707 **6.53 Touch Sensor**

10708 **6.53.1 Introduction**

10709 This Resource describes whether a touch has been sensed or not.

10710 The Property "value" is a boolean.

10711 A value of 'true' means that touch has been sensed.

10712 A value of 'false' means that touch not been sensed.

10713

10714 **6.53.2 Example URI**

10715 /TouchResURI

10716 **6.53.3 Resource type**

10717 The Resource Type is defined as: "oic.r.sensor.touch".

10718 **6.53.4 OpenAPI 2.0 definition**

```
10719 {
10720   "swagger": "2.0",
10721   "info": {
10722     "title": "Touch Sensor",
10723     "version": "20190215",
10724     "license": {
10725       "name": "OCF Data Model License",
10726       "url":
```

```

10727 "https://github.com/openconnectivityfoundation/core/blob/e28a9e0a92e17042ba3e83661e4c0fbce8bdc4ba/LI
10728 CENSE.md",
10729 "x-copyright": "copyright 2016-2017, 2019 Open Connectivity Foundation, Inc. All rights
10730 reserved."
10731 },
10732 "termsOfService": "https://openconnectivityfoundation.github.io/core/DISCLAIMER.md"
10733 },
10734 "schemes": ["http"],
10735 "consumes": ["application/json"],
10736 "produces": ["application/json"],
10737 "paths": {
10738   "/TouchResURI" : {
10739     "get": {
10740       "description": "This Resource describes whether a touch has been sensed or not.\nThe
10741 Property \"value\" is a boolean.\nA value of 'true' means that touch has been sensed.\nA value of
10742 'false' means that touch not been sensed.\n",
10743       "parameters": [
10744         {"$ref": "#/parameters/interface"}
10745       ],
10746       "responses": {
10747         "200": {
10748           "description": "",
10749           "x-example":
10750             {
10751               "rt": ["oic.r.sensor.touch"],
10752               "if": ["oic.if.s", "oic.if.baseline"],
10753               "value": true
10754             },
10755           "schema": { "$ref": "#/definitions/Touch" }
10756         }
10757       }
10758     }
10759   }
10760 },
10761 "parameters": {
10762   "interface" : {
10763     "in" : "query",
10764     "name" : "if",
10765     "type" : "string",
10766     "enum" : ["oic.if.s", "oic.if.baseline"]
10767   }
10768 },
10769 "definitions": {
10770   "Touch" : {
10771     "properties": {
10772       "rt": {
10773         "description": "The Resource Type.",
10774         "items": {
10775           "enum": ["oic.r.sensor.touch"],
10776           "maxLength": 64,
10777           "type": "string"
10778         },
10779         "minItems": 1,
10780         "uniqueItems": true,
10781         "readOnly": true,
10782         "type": "array"
10783       },
10784       "value": {
10785         "description": "The touch sensor, true = sensed, false = not sensed.",
10786         "readOnly": true,
10787         "type": "boolean"
10788       },
10789       "n": {
10790         "$ref":
10791 "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
10792 schema.json#/definitions/n"
10793       },
10794       "id": {
10795         "$ref":
10796 "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
10797 schema.json#/definitions/id"
10798       },

```

```

10799     "if": {
10800         "description": "The OCF Interface set supported by this Resource.",
10801         "items": {
10802             "enum": [
10803                 "oic.if.s",
10804                 "oic.if.baseline"
10805             ],
10806             "type": "string"
10807         },
10808         "minItems": 2,
10809         "uniqueItems": true,
10810         "readOnly": true,
10811         "type": "array"
10812     }
10813 },
10814 "type": "object",
10815 "required": ["value"]
10816 }
10817 }
10818 }
10819

```

10820 **6.53.5 Property definition**

10821 Table 109 defines the Properties that are part of the "oic.r.sensor.touch" Resource Type.

10822 **Table 109 – The Property definitions of the Resource with type "rt" = "oic.r.sensor.touch".**

Property name	Value type	Mandatory	Access mode	Description
rt	array: see schema	No	Read Only	The Resource Type.
value	boolean	Yes	Read Only	The touch sensor, true = sensed, false = not sensed.
n	multiple types: see schema	No	Read Write	
id	multiple types: see schema	No	Read Write	
if	array: see schema	No	Read Only	The OCF Interface set supported by this Resource.

10823 **6.53.6 CRUDN behaviour**

10824 Table 110 defines the CRUDN operations that are supported on the "oic.r.sensor.touch" Resource
 10825 Type.

10826 **Table 110 – The CRUDN operations of the Resource with type "rt" = "oic.r.sensor.touch".**

Create	Read	Update	Delete	Notify
	get			observe

10827 **6.54 UV Radiation**

10828 **6.54.1 Introduction**

10829 This Resource specifies UV radiation measurement.
 10830 The Property "measurement" is the current measured UV Index

10831 **6.54.2 Example URI**

10832 /UVRadiationResURI

10833 **6.54.3 Resource type**

10834 The Resource Type is defined as: "oic.r.sensor.radiation.uv".

10835 6.54.4 OpenAPI 2.0 definition

```
10836 {
10837   "swagger": "2.0",
10838   "info": {
10839     "title": "UV Radiation",
10840     "version": "20190215",
10841     "license": {
10842       "name": "OCF Data Model License",
10843       "url":
10844         "https://github.com/openconnectivityfoundation/core/blob/e28a9e0a92e17042ba3e83661e4c0fbce8bdc4ba/LI
10845         CENSE.md",
10846       "x-copyright": "copyright 2016-2017, 2019 Open Connectivity Foundation, Inc. All rights
10847         reserved."
10848     },
10849     "termsOfService": "https://openconnectivityfoundation.github.io/core/DISCLAIMER.md"
10850   },
10851   "schemes": ["http"],
10852   "consumes": ["application/json"],
10853   "produces": ["application/json"],
10854   "paths": {
10855     "/UVRadiationResURI" : {
10856       "get": {
10857         "description": "This Resource specifies UV radiation measurement.\nThe Property
10858         \"measurement\" is the current measured UV Index",
10859         "parameters": [
10860           {"$ref": "#/parameters/interface"}
10861         ],
10862         "responses": {
10863           "200": {
10864             "description": "",
10865             "x-example":
10866               {
10867                 "rt": ["oic.r.sensor.radiation.uv"],
10868                 "if": ["oic.if.s", "oic.if.baseline"],
10869                 "measurement": 3.5
10870               }
10871             ,
10872             "schema": { "$ref": "#/definitions/UVRadiation" }
10873           }
10874         }
10875       }
10876     },
10877   },
10878   "parameters": {
10879     "interface": {
10880       "in": "query",
10881       "name": "if",
10882       "type": "string",
10883       "enum": ["oic.if.s", "oic.if.baseline"]
10884     }
10885   },
10886   "definitions": {
10887     "UVRadiation" : {
10888       "properties": {
10889         "rt": {
10890           "description": "The Resource Type.",
10891           "items": {
10892             "enum": ["oic.r.sensor.radiation.uv"],
10893             "maxLength": 64,
10894             "type": "string"
10895           },
10896           "minItems": 1,
10897           "uniqueItems": true,
10898           "readOnly": true,
10899           "type": "array"
10900         },
10901         "measurement": {
10902           "description": "The measured UV Index.",
10903           "readOnly": true,
10904           "type": "number"
10905         }
10906       }
10907     }
10908   }
10909 }
```

```

10906         "n": {
10907             "$ref":
10908             "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
10909             schema.json#/definitions/n"
10910         },
10911         "id": {
10912             "$ref":
10913             "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
10914             schema.json#/definitions/id"
10915         },
10916         "if" :
10917         {
10918             "description": "The OCF Interface set supported by this Resource.",
10919             "items": {
10920                 "enum": [
10921                     "oic.if.s",
10922                     "oic.if.baseline"
10923                 ],
10924                 "type": "string"
10925             },
10926             "minItems": 2,
10927             "uniqueItems": true,
10928             "readOnly": true,
10929             "type": "array"
10930         }
10931     },
10932     "type": "object",
10933     "required": ["measurement"]
10934 }
10935 }
10936 }
10937

```

10938 **6.54.5 Property definition**

10939 Table 111 defines the Properties that are part of the "oic.r.sensor.radiation.uv" Resource Type.

10940 **Table 111 – The Property definitions of the Resource with type "rt" =**
10941 **"oic.r.sensor.radiation.uv".**

Property name	Value type	Mandatory	Access mode	Description
rt	array: see schema	No	Read Only	The Resource Type.
measurement	number	Yes	Read Only	The measured UV Index.
n	multiple types: see schema	No	Read Write	
id	multiple types: see schema	No	Read Write	
if	array: see schema	No	Read Only	The OCF Interface set supported by this Resource.

10942 **6.54.6 CRUDN behaviour**

10943 Table 112 defines the CRUDN operations that are supported on the "oic.r.sensor.radiation.uv"
10944 Resource Type.

10945 **Table 112 – The CRUDN operations of the Resource with type "rt" =**
10946 **"oic.r.sensor.radiation.uv".**

Create	Read	Update	Delete	Notify
	get			observe

10947 **6.55 Water Sensor**

10948 **6.55.1 Introduction**

10949 This Resource describes whether water has been sensed or not.

10950 The Property "value" is a boolean.

10951 A value of 'true' means that water has been sensed.

10952 A value of 'false' means that water not been sensed.

10953 **6.55.2 Example URI**

10954 /WaterResURI

10955 **6.55.3 Resource type**

10956 The Resource Type is defined as: "oic.r.sensor.water".

10957 **6.55.4 OpenAPI 2.0 definition**

```
10958 {
10959   "swagger": "2.0",
10960   "info": {
10961     "title": "Water Sensor",
10962     "version": "20191118",
10963     "license": {
10964       "name": "OCF Data Model License",
10965       "url":
10966         "https://github.com/openconnectivityfoundation/core/blob/e28a9e0a92e17042ba3e83661e4c0fbce8bdc4ba/LI
10967         CENSE.md",
10968       "x-copyright": "copyright 2016-2017, 2019 Open Connectivity Foundation, Inc. All rights
10969         reserved."
10970     },
10971     "termsOfService": "https://openconnectivityfoundation.github.io/core/DISCLAIMER.md"
10972   },
10973   "schemes": ["http"],
10974   "consumes": ["application/json"],
10975   "produces": ["application/json"],
10976   "paths": {
10977     "/WaterResURI" : {
10978       "get": {
10979         "description": "This Resource describes whether water has been sensed or not.\n\nThe Property
10980         \"value\" is a boolean.\n\nA value of 'true' means that water has been sensed.\n\nA value of 'false'
10981         means that water not been sensed.",
10982         "parameters": [
10983           { "$ref": "#/parameters/interface" }
10984         ],
10985         "responses": {
10986           "200": {
10987             "description" : "",
10988             "x-example": {
10989               "rt": ["oic.r.sensor.water"],
10990               "id": "unique_example_id",
10991               "value": true
10992             },
10993             "schema": { "$ref": "#/definitions/Water" }
10994           }
10995         }
10996       }
10997     }
10998   },
10999   "parameters": {
11000     "interface" : {
11001       "in" : "query",
11002       "name" : "if",
11003       "type" : "string",
11004       "enum" : ["oic.if.s", "oic.if.baseline"]
11005     }
11006   },
11007   "definitions": {
11008     "Water": {
11009       "properties": {
```

```

11010     "rt": {
11011         "description": "The Resource Type",
11012         "items": {
11013             "maxLength": 64,
11014             "type": "string",
11015             "enum": ["oic.r.sensor.water"]
11016         },
11017         "minItems": 1,
11018         "uniqueItems": true,
11019         "readOnly": true,
11020         "type": "array"
11021     },
11022     "value": {
11023         "description": "true = sensed, false = not sensed.",
11024         "readOnly": true,
11025         "type": "boolean"
11026     },
11027     "measurement": {
11028         "type": "number",
11029         "description": "Measured value for this sensor in units of litres/hr",
11030         "readOnly": true
11031     },
11032     "precision": {
11033         "$ref":
11034         "https://openconnectivityfoundation.github.io/IoTDataModels/schemas/oic.baseresource.properties-
11035         schema.json#/definitions/precision"
11036     },
11037     "n": {
11038         "$ref":
11039         "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
11040         schema.json#/definitions/n"
11041     },
11042     "range": {
11043         "$ref":
11044         "https://openconnectivityfoundation.github.io/IoTDataModels/schemas/oic.baseresource.properties-
11045         schema.json#/definitions/range_number"
11046     },
11047     "step": {
11048         "$ref":
11049         "https://openconnectivityfoundation.github.io/IoTDataModels/schemas/oic.baseresource.properties-
11050         schema.json#/definitions/step_number"
11051     },
11052     "id": {
11053         "$ref":
11054         "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
11055         schema.json#/definitions/id"
11056     },
11057     "if": {
11058         "description": "The OCF Interface set supported by this Resource",
11059         "items": {
11060             "enum": [
11061                 "oic.if.baseline",
11062                 "oic.if.s"
11063             ],
11064             "maxLength": 64,
11065             "type": "string"
11066         },
11067         "minItems": 1,
11068         "uniqueItems": true,
11069         "readOnly": true,
11070         "type": "array"
11071     }
11072 },
11073 "type" : "object",
11074 "required": ["value"]
11075 }
11076 }
11077 }
11078

```

11079 6.55.5 Property definition

11080 Table 113 defines the Properties that are part of the "oic.r.sensor.water" Resource Type.
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11081 **Table 113 – The Property definitions of the Resource with type "rt" = "oic.r.sensor.water".**

Property name	Value type	Mandatory	Access mode	Description
rt	array: see schema	No	Read Only	The Resource Type
value	boolean	Yes	Read Only	true = sensed, false = not sensed.
measurement	number	No	Read Only	Measured value for this sensor in units of litres/hr
precision	multiple types: see schema	No	Read Write	
n	multiple types: see schema	No	Read Write	
range	multiple types: see schema	No	Read Write	
step	multiple types: see schema	No	Read Write	
id	multiple types: see schema	No	Read Write	
if	array: see schema	No	Read Only	The OCF Interface set supported by this Resource

11082 **6.55.6 CRUDN behaviour**

11083 Table 114 defines the CRUDN operations that are supported on the "oic.r.sensor.water" Resource
11084 Type.

11085 **Table 114 – The CRUDN operations of the Resource with type "rt" = "oic.r.sensor.water".**

Create	Read	Update	Delete	Notify
	get			observe

11086 **6.56 Acceleration Sensor**

11087 **6.56.1 Introduction**

11088 This Resource provides a measure of proper acceleration (g force) as opposed to co-ordinate
11089 acceleration (which is dependent on the co-ordinate system and the observer).
11090 The Property "value" is a float which describes the acceleration experienced by the object in "g".

11091 **6.56.2 Example URI**

11092 /AccelerationResURI

11093 **6.56.3 Resource type**

11094 The Resource Type is defined as: "oic.r.sensor.acceleration".

11095 **6.56.4 OpenAPI 2.0 definition**

```

11096 {
11097   "swagger": "2.0",
11098   "info": {
11099     "title": "Acceleration Sensor",
11100     "version": "20190215",
11101     "license": {
11102       "name": "OCF Data Model License",
11103       "url":
11104         "https://github.com/openconnectivityfoundation/core/blob/e28a9e0a92e17042ba3e83661e4c0fbce8bdc4ba/LI
11105         CENSE.md",
11106       "x-copyright": "Copyright 2018-2019 Open Connectivity Foundation, Inc. All rights reserved."

```

```

11107     },
11108     "termsOfService": "https://openconnectivityfoundation.github.io/core/DISCLAIMER.md"
11109   },
11110   "schemes": ["http"],
11111   "consumes": ["application/json"],
11112   "produces": ["application/json"],
11113   "paths": {
11114     "/AccelerationResURI" : {
11115       "get": {
11116         "description": "This Resource provides a measure of proper acceleration (g force) as opposed
11117 to co-ordinate acceleration (which is dependent on the co-ordinate system and the observer).\nThe
11118 Property \"value\" is a float which describes the acceleration experienced by the object in \"g\".",
11119         "parameters": [
11120           { "$ref": "#/parameters/interface" }
11121         ],
11122         "responses": {
11123           "200": {
11124             "description": "",
11125             "x-example":
11126               {
11127                 "rt": ["oic.r.sensor.acceleration"],
11128                 "if": ["oic.if.s", "oic.if.baseline"],
11129                 "acceleration": 0.5
11130               },
11131             "schema": { "$ref": "#/definitions/acceleration" }
11132           }
11133         }
11134       }
11135     }
11136   },
11137   "parameters": {
11138     "interface" : {
11139       "in": "query",
11140       "name": "if",
11141       "type": "string",
11142       "enum": ["oic.if.s", "oic.if.baseline"]
11143     }
11144   },
11145   "definitions": {
11146     "acceleration" : {
11147       "properties": {
11148         "rt": {
11149           "description": "Resource Type",
11150           "items": {
11151             "maxLength": 64,
11152             "type": "string",
11153             "enum": ["oic.r.sensor.acceleration"]
11154           },
11155           "minItems": 1,
11156           "uniqueItems": true,
11157           "readOnly": true,
11158           "type": "array"
11159         },
11160         "acceleration": {
11161           "description": "The sensed acceleration experienced in 'g'.",
11162           "readOnly": true,
11163           "type": "number"
11164         },
11165         "n": {
11166           "$ref":
11167             "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
11168             schema.json#/definitions/n"
11169         },
11170         "id": {
11171           "$ref":
11172             "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
11173             schema.json#/definitions/id"
11174         },
11175         "range": {
11176           "$ref":
11177             "https://openconnectivityfoundation.github.io/IoTDataModels/schemas/oic.baseresource.properties-
11178             schema.json#/definitions/range_number"

```

```

11179     },
11180     "step": {
11181       "$ref":
11182       "https://openconnectivityfoundation.github.io/IoTDataModels/schemas/oic.baseresource.properties-
11183       schema.json#/definitions/step_number"
11184     },
11185     "precision": {
11186       "$ref":
11187       "https://openconnectivityfoundation.github.io/IoTDataModels/schemas/oic.baseresource.properties-
11188       schema.json#/definitions/precision"
11189     },
11190     "if": {
11191       "description": "The OCF Interface set supported by this Resource.",
11192       "items": {
11193         "enum": [
11194           "oic.if.s",
11195           "oic.if.baseline"
11196         ],
11197         "type": "string"
11198       },
11199       "minItems": 2,
11200       "readOnly": true,
11201       "uniqueItems": true,
11202       "type": "array"
11203     }
11204   },
11205   "type": "object",
11206   "required": ["acceleration"]
11207 }
11208 }
11209 }
11210

```

11211 **6.56.5 Property definition**

11212 Table 115 defines the Properties that are part of the "oic.r.sensor.acceleration" Resource Type.

11213 **Table 115 – The Property definitions of the Resource with type "rt" =**
11214 **"oic.r.sensor.acceleration".**

Property name	Value type	Mandatory	Access mode	Description
rt	array: see schema	No	Read Only	Resource Type
acceleration	number	Yes	Read Only	The sensed acceleration experienced in 'g'.
n	multiple types: see schema	No	Read Write	
id	multiple types: see schema	No	Read Write	
range	multiple types: see schema	No	Read Write	
step	multiple types: see schema	No	Read Write	
precision	multiple types: see schema	No	Read Write	
if	array: see schema	No	Read Only	The OCF Interface set supported by this Resource.

11215 **6.56.6 CRUDN behaviour**

11216 Table 116 defines the CRUDN operations that are supported on the "oic.r.sensor.acceleration"
11217 Resource Type.

11218
11219

Table 116 – The CRUDN operations of the Resource with type "rt" = "oic.r.sensor.acceleration".

Create	Read	Update	Delete	Notify
	get			observe

11220 **6.57 Movement**

11221 **6.57.1 Introduction**

11222 This Resource specifies linear movement.
 11223 The Property "movementSettings" is an array of strings containing possible movement values
 11224 (e.g. spin, stop, left, right).
 11225 The Property "movement" is the currently selected movement value.
 11226 The Property "movementModifier" is a modifier to the movement value (e.g. "spin", "90")
 11227

11228 **6.57.2 Example URI**

11229 /MovementResURI

11230 **6.57.3 Resource type**

11231 The Resource Type is defined as: "oic.r.movement.linear".

11232 **6.57.4 OpenAPI 2.0 definition**

```

11233 {
11234   "swagger": "2.0",
11235   "info": {
11236     "title": "Movement",
11237     "version": "20190215",
11238     "license": {
11239       "name": "OCF Data Model License",
11240       "url":
11241         "https://github.com/openconnectivityfoundation/core/blob/e28a9e0a92e17042ba3e83661e4c0fbce8bdc4ba/LI
11242         CENSE.md",
11243       "x-copyright": "copyright 2016-2017, 2019 Open Connectivity Foundation, Inc. All rights
11244       reserved."
11245     },
11246     "termsOfService": "https://openconnectivityfoundation.github.io/core/DISCLAIMER.md"
11247   },
11248   "schemes": ["http"],
11249   "consumes": ["application/json"],
11250   "produces": ["application/json"],
11251   "paths": {
11252     "/MovementResURI" : {
11253       "get": {
11254         "description": "This Resource specifies linear movement.\n\nThe Property \"movementSettings\"
11255         is an array of strings containing possible movement values (e.g. spin, stop, left, right).\n\nThe
11256         Property \"movement\" is the currently selected movement value.\n\nThe Property \"movementModifier\"
11257         is a modifier to the movement value (e.g. \"spin\", \"90\")\n",
11258         "parameters": [
11259           {"$ref": "#/parameters/interface"}
11260         ],
11261         "responses": {
11262           "200": {
11263             "description": "",
11264             "x-example":
11265             {
11266               "rt": ["oic.r.movement.linear"],
11267               "if": ["oic.if.s", "oic.if.baseline"],
11268               "movementSettings": ["stop", "left", "right", "rotate", "forward", "backward"],
11269               "movement": "rotate",
11270               "movementModifier": "90"
11271             },
11272             "schema": {"$ref": "#/definitions/movement"}
11273           }
11274         }
11275       }
11276     }
11277   }

```

```

11275     },
11276     "post": {
11277         "description": "Sets the current device movement.",
11278         "parameters": [
11279             { "$ref": "#/parameters/interface" },
11280             {
11281                 "name": "body",
11282                 "in": "body",
11283                 "required": true,
11284                 "schema": { "$ref": "#/definitions/movement" },
11285                 "x-example":
11286                 {
11287                     "movementSettings": ["stop", "left", "right", "rotate", "forward", "backward"],
11288                     "movement": "stop"
11289                 }
11290             }
11291         ],
11292         "responses": {
11293             "200": {
11294                 "description": "",
11295                 "x-example":
11296                 {
11297                     "movementSettings": ["stop", "left", "right", "rotate", "forward", "backward"],
11298                     "movement": "stop"
11299                 },
11300                 "schema": { "$ref": "#/definitions/movement" }
11301             }
11302         }
11303     }
11304 },
11305 },
11306 "parameters": {
11307     "interface": {
11308         "in": "query",
11309         "name": "if",
11310         "type": "string",
11311         "enum": ["oic.if.s", "oic.if.baseline"]
11312     }
11313 },
11314 "definitions": {
11315     "movement": {
11316         "properties": {
11317             "rt": {
11318                 "description": "The Resource Type.",
11319                 "items": {
11320                     "enum": ["oic.r.movement.linear"],
11321                     "maxLength": 64,
11322                     "type": "string"
11323                 },
11324                 "minItems": 1,
11325                 "uniqueItems": true,
11326                 "readOnly": true,
11327                 "type": "array"
11328             },
11329             "movementSettings": {
11330                 "description": "The array of possible movement values.",
11331                 "items": {
11332                     "type": "string"
11333                 },
11334                 "readOnly": true,
11335                 "type": "array"
11336             },
11337             "movementModifier": {
11338                 "description": "The modifier to the movement value (e.g. spin-90, left-20), units are
11339 device dependent.",
11340                 "type": "string"
11341             },
11342             "movement": {
11343                 "description": "The current movement value.",
11344                 "type": "string"
11345             },
11346             "n": {

```

```

11347         "$ref":
11348         "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
11349         schema.json#/definitions/n"
11350     },
11351     "id": {
11352         "$ref":
11353         "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
11354         schema.json#/definitions/id"
11355     },
11356     "if": {
11357         "description": "The OCF Interface set supported by this Resource.",
11358         "items": {
11359             "enum": [
11360                 "oic.if.s",
11361                 "oic.if.baseline"
11362             ],
11363             "type": "string"
11364         },
11365         "minItems": 2,
11366         "uniqueItems": true,
11367         "readOnly": true,
11368         "type": "array"
11369     }
11370 },
11371 "type": "object",
11372 "required": ["movementSettings", "movement"]
11373 }
11374 }
11375 }
11376

```

11377 6.57.5 Property definition

11378 Table 117 defines the Properties that are part of the "oic.r.movement.linear" Resource Type.

11379 **Table 117 – The Property definitions of the Resource with type "rt" =**
11380 **"oic.r.movement.linear".**

Property name	Value type	Mandatory	Access mode	Description
rt	array: see schema	No	Read Only	The Resource Type.
movementSettings	array: see schema	Yes	Read Only	The array of possible movement values.
movementModifier	string	No	Read Write	The modifier to the movement value (e.g. spin-90, left-20), units are device dependent.
movement	string	Yes	Read Write	The current movement value.
n	multiple types: see schema	No	Read Write	
id	multiple types: see schema	No	Read Write	
if	array: see schema	No	Read Only	The OCF Interface set supported by this Resource.

11381 6.57.6 CRUDN behaviour

11382 Table 118 defines the CRUDN operations that are supported on the "oic.r.movement.linear"
11383 Resource Type.

11384
11385

Table 118 – The CRUDN operations of the Resource with type "rt" = "oic.r.movement.linear".

Create	Read	Update	Delete	Notify
	get	post		observe

11386 **6.58 Sleep Sensor**

11387 **6.58.1 Introduction**

11388 This Resource describes whether human sleep has been sensed or not.

11389 The Property "value" is a boolean.

11390 A value of 'true' means that sleep has been sensed.

11391 A value of 'false' means that sleep not been sensed.

11392

11393 **6.58.2 Example URI**

11394 /SleepSensorResURI

11395 **6.58.3 Resource type**

11396 The Resource Type is defined as: "oic.r.sensor.sleep".

11397 **6.58.4 OpenAPI 2.0 definition**

```
11398 {
11399   "swagger": "2.0",
11400   "info": {
11401     "title": "Sleep Sensor",
11402     "version": "20190215",
11403     "license": {
11404       "name": "OCF Data Model License",
11405       "url":
11406         "https://github.com/openconnectivityfoundation/core/blob/e28a9e0a92e17042ba3e83661e4c0fbce8bdc4ba/LI
11407         CENSE.md",
11408       "x-copyright": "copyright 2016-2017, 2019 Open Connectivity Foundation, Inc. All rights
11409       reserved."
11410     },
11411     "termsOfService": "https://openconnectivityfoundation.github.io/core/DISCLAIMER.md"
11412   },
11413   "schemes": ["http"],
11414   "consumes": ["application/json"],
11415   "produces": ["application/json"],
11416   "paths": {
11417     "/SleepSensorResURI" : {
11418       "get": {
11419         "description": "This Resource describes whether human sleep has been sensed or not.\nThe
11420         Property \"value\" is a boolean.\nA value of 'true' means that sleep has been sensed.\nA value of
11421         'false' means that sleep not been sensed.\n",
11422         "parameters": [
11423           { "$ref": "#/parameters/interface" }
11424         ],
11425         "responses": {
11426           "200": {
11427             "description": "",
11428             "x-example":
11429               {
11430                 "rt": ["oic.r.sensor.sleep"],
11431                 "if": ["oic.if.s", "oic.if.baseline"],
11432                 "value": true
11433               },
11434             "schema": { "$ref": "#/definitions/sleep" }
11435           }
11436         }
11437       }
11438     }
11439   },
11440   "parameters": {
```

```

11441     "interface": {
11442       "in": "query",
11443       "name": "if",
11444       "type": "string",
11445       "enum": ["oic.if.s", "oic.if.baseline"]
11446     }
11447   },
11448   "definitions": {
11449     "sleep": {
11450       "properties": {
11451         "rt": {
11452           "description": "The Resource Type.",
11453           "items": {
11454             "enum": ["oic.r.sensor.sleep"],
11455             "maxLength": 64,
11456             "type": "string"
11457           },
11458           "minItems": 1,
11459           "uniqueItems": true,
11460           "readOnly": true,
11461           "type": "array"
11462         },
11463         "value": {
11464           "description": "The sleep sensor, true = sleep sensed, false = sleep not sensed.",
11465           "readOnly": true,
11466           "type": "boolean"
11467         },
11468         "n": {
11469           "$ref":
11470           "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
11471           schema.json#/definitions/n"
11472         },
11473         "id": {
11474           "$ref":
11475           "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
11476           schema.json#/definitions/id"
11477         },
11478         "if": {
11479           "description": "The OCF Interface set supported by this Resource.",
11480           "items": {
11481             "enum": [
11482               "oic.if.s",
11483               "oic.if.baseline"
11484             ],
11485             "type": "string"
11486           },
11487           "minItems": 2,
11488           "uniqueItems": true,
11489           "readOnly": true,
11490           "type": "array"
11491         }
11492       },
11493       "type": "object",
11494       "required": ["value"]
11495     }
11496   }
11497 }
11498

```

11499 6.58.5 Property definition

11500 Table 119 defines the Properties that are part of the "oic.r.sensor.sleep" Resource Type.

11501 **Table 119 – The Property definitions of the Resource with type "rt" = "oic.r.sensor.sleep".**

Property name	Value type	Mandatory	Access mode	Description
rt	array: see schema	No	Read Only	The Resource Type.
value	boolean	Yes	Read Only	The sleep sensor, true = sleep sensed,

				false = sleep not sensed.
n	multiple types: see schema	No	Read Write	
id	multiple types: see schema	No	Read Write	
if	array: see schema	No	Read Only	The OCF Interface set supported by this Resource.

11502 **6.58.6 CRUDN behaviour**

11503 Table 120 defines the CRUDN operations that are supported on the "oic.r.sensor.sleep" Resource
 11504 Type.

11505 **Table 120 – The CRUDN operations of the Resource with type "rt" = "oic.r.sensor.sleep".**

Create	Read	Update	Delete	Notify
	get			observe

11506 **6.59 Smoke Sensor**

11507 **6.59.1 Introduction**

11508 This Resource describes whether smoke has been sensed or not.
 11509 The Property "value" is a boolean.
 11510 A value of 'true' means that smoke has been sensed.
 11511 A value of 'false' means that smoke not been sensed.

11512 **6.59.2 Example URI**

11513 /SmokeSensorResURI

11514 **6.59.3 Resource type**

11515 The Resource Type is defined as: "oic.r.sensor.smoke".

11516 **6.59.4 OpenAPI 2.0 definition**

```

11517 {
11518   "swagger": "2.0",
11519   "info": {
11520     "title": "Smoke Sensor",
11521     "version": "20191118",
11522     "license": {
11523       "name": "OCF Data Model License",
11524       "url":
11525         "https://github.com/openconnectivityfoundation/core/blob/e28a9e0a92e17042ba3e83661e4c0fbce8bdc4ba/LI
11526         CENSE.md",
11527       "x-copyright": "copyright 2016-2017, 2019 Open Connectivity Foundation, Inc. All rights
11528       reserved."
11529     },
11530     "termsOfService": "https://openconnectivityfoundation.github.io/core/DISCLAIMER.md"
11531   },
11532   "schemes": ["http"],
11533   "consumes": ["application/json"],
11534   "produces": ["application/json"],
11535   "paths": {
11536     "/SmokeSensorResURI" : {
11537       "get": {
11538         "description": "This Resource describes whether smoke has been sensed or not.\nThe Property
11539         \"value\" is a boolean.\nA value of 'true' means that smoke has been sensed.\nA value of 'false'
11540         means that smoke not been sensed.",
11541         "parameters": [
11542           {"$ref": "#/parameters/interface"}
11543         ],
11544         "responses": {

```

```

11545         "200": {
11546             "description" : "",
11547             "x-example": {
11548                 "rt": ["oic.r.sensor.smoke"],
11549                 "id": "unique_example_id",
11550                 "value": true
11551             },
11552             "schema": { "$ref": "#/definitions/smoke" }
11553         }
11554     }
11555 }
11556 }
11557 },
11558 "parameters": {
11559     "interface" : {
11560         "in" : "query",
11561         "name" : "if",
11562         "type" : "string",
11563         "enum" : ["oic.if.s", "oic.if.baseline"]
11564     }
11565 },
11566 "definitions": {
11567     "smoke": {
11568         "properties": {
11569             "rt": {
11570                 "description": "The Resource Type",
11571                 "items": {
11572                     "maxLength": 64,
11573                     "type": "string",
11574                     "enum": ["oic.r.sensor.smoke"]
11575                 },
11576                 "minItems": 1,
11577                 "uniqueItems": true,
11578                 "readOnly": true,
11579                 "type": "array"
11580             },
11581             "value": {
11582                 "description": "The smoke indicator, true = sensed, false = not sensed.",
11583                 "readOnly": true,
11584                 "type": "boolean"
11585             },
11586             "measurement": {
11587                 "type": "number",
11588                 "description": "Measured value for this sensor, this is a percentage",
11589                 "readOnly": true
11590             },
11591             "precision": {
11592                 "$ref":
11593 "https://openconnectivityfoundation.github.io/IoTDataModels/schemas/oic.baseresource.properties-
11594 schema.json#/definitions/precision"
11595             },
11596             "n": {
11597                 "$ref":
11598 "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
11599 schema.json#/definitions/n"
11600             },
11601             "range": {
11602                 "$ref":
11603 "https://openconnectivityfoundation.github.io/IoTDataModels/schemas/oic.baseresource.properties-
11604 schema.json#/definitions/range_number"
11605             },
11606             "step": {
11607                 "$ref":
11608 "https://openconnectivityfoundation.github.io/IoTDataModels/schemas/oic.baseresource.properties-
11609 schema.json#/definitions/step_number"
11610             },
11611             "id": {
11612                 "$ref":
11613 "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
11614 schema.json#/definitions/id"
11615             },
11616             "if": {

```

```

11617         "description": "The OCF Interface set supported by this Resource",
11618         "items": {
11619             "enum": [
11620                 "oic.if.baseline",
11621                 "oic.if.s"
11622             ],
11623             "type": "string",
11624             "maxLength": 64
11625         },
11626         "minItems": 1,
11627         "readOnly": true,
11628         "uniqueItems": true,
11629         "type": "array"
11630     }
11631 },
11632 "type" : "object",
11633 "required": ["value"]
11634 }
11635 }
11636 }
11637

```

11638 6.59.5 Property definition

11639 Table 121 defines the Properties that are part of the "oic.r.sensor.smoke" Resource Type.

11640 **Table 121 – The Property definitions of the Resource with type "rt" = "oic.r.sensor.smoke".**

Property name	Value type	Mandatory	Access mode	Description
rt	array: see schema	No	Read Only	The Resource Type
value	boolean	Yes	Read Only	The smoke indicator, true = sensed, false = not sensed.
measurement	number	No	Read Only	Measured value for this sensor, this is a percentage
precision	multiple types: see schema	No	Read Write	
n	multiple types: see schema	No	Read Write	
range	multiple types: see schema	No	Read Write	
step	multiple types: see schema	No	Read Write	
id	multiple types: see schema	No	Read Write	
if	array: see schema	No	Read Only	The OCF Interface set supported by this Resource

11641 6.59.6 CRUDN behaviour

11642 Table 122 defines the CRUDN operations that are supported on the "oic.r.sensor.smoke" Resource
 11643 Type.

11644 **Table 122 – The CRUDN operations of the Resource with type "rt" = "oic.r.sensor.smoke".**

Create	Read	Update	Delete	Notify
	get			observe

11645 **6.60 Three Axis Sensor**

11646 **6.60.1 Introduction**

11647 This Resource provides a representation of the measurement from a three-axis sensor.
11648 The Property "orientation" is an array of numbers representing x-plane, y-plane and z-plane
11649 values.

11650 The unit of measurement for each pane is 'g'.

11651 **6.60.2 Example URI**

11652 /ThreeAxisResURI

11653 **6.60.3 Resource type**

11654 The Resource Type is defined as: "oic.r.sensor.threeaxis".

11655 **6.60.4 OpenAPI 2.0 definition**

```
11656 {
11657   "swagger": "2.0",
11658   "info": {
11659     "title": "Three Axis Sensor",
11660     "version": "20190215",
11661     "license": {
11662       "name": "OCF Data Model License",
11663       "url":
11664         "https://github.com/openconnectivityfoundation/core/blob/e28a9e0a92e17042ba3e83661e4c0fbc8ebdc4ba/LI
11665         CENSE.md",
11666       "x-copyright": "copyright 2016-2017, 2019 Open Connectivity Foundation, Inc. All rights
11667         reserved."
11668     },
11669     "termsOfService": "https://openconnectivityfoundation.github.io/core/DISCLAIMER.md"
11670   },
11671   "schemes": ["http"],
11672   "consumes": ["application/json"],
11673   "produces": ["application/json"],
11674   "paths": {
11675     "/ThreeAxisResURI" : {
11676       "get": {
11677         "description": "This Resource provides a representation of the measurement from a three-axis
11678         sensor.\n\nThe Property \"orientation\" is an array of numbers representing x-plane, y-plane and z-
11679         plane values.\n\nThe unit of measurement for each pane is 'g'.",
11680         "parameters": [
11681           { "$ref": "#/parameters/interface" }
11682         ],
11683         "responses": {
11684           "200": {
11685             "description": "",
11686             "x-example":
11687               {
11688                 "rt": ["oic.r.sensor.threeaxis"],
11689                 "if": ["oic.if.s", "oic.if.baseline"],
11690                 "orientation": [0.7, 1.1, -0.2]
11691               },
11692             "schema": { "$ref": "#/definitions/threeAxis" }
11693           }
11694         }
11695       }
11696     }
11697   },
11698   "parameters": {
11699     "interface": {
11700       "in": "query",
11701       "name": "if",
11702       "type": "string",
11703       "enum": ["oic.if.s", "oic.if.baseline"]
11704     }
11705   },
11706   "definitions": {
11707     "threeAxis" : {
```

```

11708     "properties": {
11709       "rt": {
11710         "description": "The Resource Type.",
11711         "items": {
11712           "enum": ["oic.r.sensor.threeaxis"],
11713           "maxLength": 64,
11714           "type": "string"
11715         },
11716         "minItems": 1,
11717         "uniqueItems": true,
11718         "readOnly": true,
11719         "type": "array"
11720       },
11721       "orientation": {
11722         "description": "The array containing x-plane, y-plane and z-plane orientation in 'g'.",
11723         "items": {
11724           "type": "number"
11725         },
11726         "maxItems": 3,
11727         "minItems": 3,
11728         "readOnly": true,
11729         "type": "array"
11730       },
11731       "n": {
11732         "$ref":
11733         "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
11734         schema.json#/definitions/n"
11735       },
11736       "id": {
11737         "$ref":
11738         "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
11739         schema.json#/definitions/id"
11740       },
11741       "if": {
11742         "description": "The OCF Interface set supported by this Resource.",
11743         "items": {
11744           "enum": [
11745             "oic.if.s",
11746             "oic.if.baseline"
11747           ],
11748           "type": "string"
11749         },
11750         "minItems": 2,
11751         "uniqueItems": true,
11752         "readOnly": true,
11753         "type": "array"
11754       }
11755     },
11756     "type": "object",
11757     "required": ["orientation"]
11758   }
11759 }
11760 }
11761

```

11762 6.60.5 Property definition

11763 Table 123 defines the Properties that are part of the "oic.r.sensor.threeaxis" Resource Type.

11764 **Table 123 – The Property definitions of the Resource with type "rt" =**
11765 **"oic.r.sensor.threeaxis".**

Property name	Value type	Mandatory	Access mode	Description
rt	array: see schema	No	Read Only	The Resource Type.
orientation	array: see schema	Yes	Read Only	The array containing x-plane, y-plane and z-plane orientation in 'g'.

n	multiple types: see schema	No	Read Write	
id	multiple types: see schema	No	Read Write	
if	array: see schema	No	Read Only	The OCF Interface set supported by this Resource.

11766 **6.60.6 CRUDN behaviour**

11767 Table 124 defines the CRUDN operations that are supported on the "oic.r.sensor.threeaxis"
11768 Resource Type.

11769 **Table 124 – The CRUDN operations of the Resource with type "rt" =**
11770 **"oic.r.sensor.threeaxis".**

Create	Read	Update	Delete	Notify
	get			observe

11771 **6.61 Altimeter**

11772 **6.61.1 Introduction**

11773 This Resource describes the properties associated with altimeter.
11774 The Property "alt" is the distance (metres) above or below 'local' sea-level.

11775 **6.61.2 Example URI**

11776 /AltimeterResURI

11777 **6.61.3 Resource type**

11778 The Resource Type is defined as: "oic.r.altimeter".

11779 **6.61.4 OpenAPI 2.0 definition**

```

11780 {
11781   "swagger": "2.0",
11782   "info": {
11783     "title": "Altimeter",
11784     "version": "20190225",
11785     "license": {
11786       "name": "OCF Data Model License",
11787       "url":
11788         "https://github.com/openconnectivityfoundation/core/blob/e28a9e0a92e17042ba3e83661e4c0fbce8bdc4ba/LI
11789         CENSE.md",
11790       "x-copyright": "copyright 2016-2017, 2019 Open Connectivity Foundation, Inc. All rights
11791         reserved."
11792     },
11793     "termsOfService": "https://openconnectivityfoundation.github.io/core/DISCLAIMER.md"
11794   },
11795   "schemes": ["http"],
11796   "consumes": ["application/json"],
11797   "produces": ["application/json"],
11798   "paths": {
11799     "/AltimeterResURI" : {
11800       "get": {
11801         "description": "This Resource describes the properties associated with altimeter.\nThe
11802         Property \"alt\" is the distance (metres) above or below 'local' sea-level.",
11803         "parameters": [
11804           {"$ref": "#/parameters/interface"}
11805         ],
11806         "responses": {
11807           "200": {
11808             "description": "RETRIEVES the current the distance (metres) above or below 'local'
11809             sea-level.",
11810             "x-example":
11811             {

```

```

11812         "rt": ["oic.r.altimeter"],
11813         "if": ["oic.if.s", "oic.if.baseline"],
11814         "alt": 1500.0
11815     },
11816     "schema": { "$ref": "#/definitions/Altimeter" }
11817 }
11818 }
11819 }
11820 }
11821 },
11822 "parameters": {
11823     "interface": {
11824         "in": "query",
11825         "name": "if",
11826         "type": "string",
11827         "enum": ["oic.if.s", "oic.if.baseline"]
11828     }
11829 },
11830 "definitions": {
11831     "Altimeter": {
11832         "properties": {
11833             "rt": {
11834                 "description": "The Resource Type.",
11835                 "items": {
11836                     "enum": ["oic.r.altimeter"],
11837                     "maxLength": 64,
11838                     "type": "string"
11839                 },
11840                 "minItems": 1,
11841                 "uniqueItems": true,
11842                 "readOnly": true,
11843                 "type": "array"
11844             },
11845             "alt": {
11846                 "description": "The current distance (metres) above or below 'local' sea-level.",
11847                 "readOnly": true,
11848                 "type": "number"
11849             },
11850             "n": {
11851                 "$ref":
11852                 "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
11853                 schema.json#/definitions/n"
11854             },
11855             "id": {
11856                 "$ref":
11857                 "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
11858                 schema.json#/definitions/id"
11859             },
11860             "precision": {
11861                 "$ref":
11862                 "https://openconnectivityfoundation.github.io/IoTDataModels/schemas/oic.baseresource.properties-
11863                 schema.json#/definitions/precision"
11864             },
11865             "range": {
11866                 "$ref":
11867                 "https://openconnectivityfoundation.github.io/IoTDataModels/schemas/oic.baseresource.properties-
11868                 schema.json#/definitions/range_number"
11869             },
11870             "step": {
11871                 "$ref":
11872                 "https://openconnectivityfoundation.github.io/IoTDataModels/schemas/oic.baseresource.properties-
11873                 schema.json#/definitions/step_number"
11874             },
11875             "if": {
11876                 "description": "The OCF Interface set supported by this Resource.",
11877                 "items": {
11878                     "enum": [
11879                         "oic.if.s",
11880                         "oic.if.baseline"
11881                     ],
11882                     "type": "string"

```

```

11884     },
11885     "minItems": 2,
11886     "uniqueItems": true,
11887     "readOnly": true,
11888     "type": "array"
11889   }
11890 },
11891 "type": "object",
11892 "required": ["alt"]
11893 }
11894 }
11895 }
11896

```

11897 **6.61.5 Property definition**

11898 Table 125 defines the Properties that are part of the "oic.r.altimeter" Resource Type.

11899 **Table 125 – The Property definitions of the Resource with type "rt" = "oic.r.altimeter".**

Property name	Value type	Mandatory	Access mode	Description
rt	array: see schema	No	Read Only	The Resource Type.
alt	number	Yes	Read Only	The current distance (metres) above or below 'local' sea-level.
n	multiple types: see schema	No	Read Write	
id	multiple types: see schema	No	Read Write	
precision	multiple types: see schema	No	Read Write	
range	multiple types: see schema	No	Read Write	
step	multiple types: see schema	No	Read Write	
if	array: see schema	No	Read Only	The OCF Interface set supported by this Resource.

11900 **6.61.6 CRUDN behaviour**

11901 Table 126 defines the CRUDN operations that are supported on the "oic.r.altimeter" Resource Type.

11902 **Table 126 – The CRUDN operations of the Resource with type "rt" = "oic.r.altimeter".**

Create	Read	Update	Delete	Notify
	get			observe

11903 **6.62 Clock**

11904 **6.62.1 Introduction**

11905 This Resource describes the properties associated with clock and time.

11906 Clock is a time information.

11907 The Property "datetime" is using RFC3339 datetime format (e.g: "2007-04-05T14:30Z")

11908 (Time+Date+Timezone)

11909 The Property "countdown" is the desired total seconds for countdown.

11910 **6.62.2 Example URI**

11911 /ClockResURI

11912 **6.62.3 Resource type**

11913 The Resource Type is defined as: "oic.r.clock".

11914 **6.62.4 OpenAPI 2.0 definition**

```
11915 {
11916   "swagger": "2.0",
11917   "info": {
11918     "title": "Clock",
11919     "version": "20190327",
11920     "license": {
11921       "name": "OCF Data Model License",
11922       "url":
11923         "https://github.com/openconnectivityfoundation/core/blob/e28a9e0a92e17042ba3e83661e4c0fbce8bdc4ba/LI
11924         CENSE.md",
11925       "x-copyright": "copyright 2016-2017, 2019 Open Connectivity Foundation, Inc. All rights
11926         reserved."
11927     },
11928     "termsOfService": "https://openconnectivityfoundation.github.io/core/DISCLAIMER.md"
11929   },
11930   "schemes": ["http"],
11931   "consumes": ["application/json"],
11932   "produces": ["application/json"],
11933   "paths": {
11934     "/ClockResURI" : {
11935       "get": {
11936         "description": "This Resource describes the properties associated with clock and
11937         time.\nClock is a time information.\nThe Property \"datetime\" is using RFC3339 datetime format
11938         (e.g: \"2007-04-05T14:30Z\") (Time+Date+Timezone)\nThe Property \"countdown\" is the desired total
11939         seconds for countdown.",
11940         "parameters": [
11941           { "$ref": "#/parameters/interface" }
11942         ],
11943         "responses": {
11944           "200": {
11945             "description": "",
11946             "x-example":
11947               {
11948                 "rt": ["oic.r.clock"],
11949                 "if": ["oic.if.a", "oic.if.baseline"],
11950                 "datetime": "2015-11-05T14:30:00Z",
11951                 "countdown": 0.0
11952               },
11953             "schema": { "$ref": "#/definitions/Clock" }
11954           }
11955         }
11956       },
11957       "post": {
11958         "description": "Sets the desired datetime.\n",
11959         "parameters": [
11960           { "$ref": "#/parameters/interface" },
11961           {
11962             "name": "body",
11963             "in": "body",
11964             "required": true,
11965             "schema": { "$ref": "#/definitions/Clock" },
11966             "x-example":
11967               {
11968                 "datetime": "2015-11-05T14:30:00Z",
11969                 "countdown": 0.0
11970               }
11971           }
11972         ],
11973         "responses": {
11974           "200": {
11975             "description": "Indicates that the datetime value was successfully changed.\nThe new
11976             datetime value is provided in the response.\n",
11977             "x-example":
11978               {
11979                 "datetime": "2015-11-05T14:30:00Z",
11980                 "countdown": 0.0

```

```

11981         }
11982     },
11983     "schema": { "$ref": "#/definitions/Clock" }
11984 },
11985 "403": {
11986     "description": "Indicates that OIC client sent an invalid property value to the
11987 server.\nThe server responds with the required input representation.\n",
11988     "x-example":
11989     {
11990         "datetime": "2015-11-05T14:30:00Z",
11991         "countdown": 0.0
11992     }
11993 },
11994     "schema": { "$ref": "#/definitions/Clock" }
11995 }
11996 }
11997 }
11998 },
11999 },
12000 "parameters": {
12001     "interface" : {
12002         "in": "query",
12003         "name": "if",
12004         "type": "string",
12005         "enum": ["oic.if.a", "oic.if.baseline"]
12006     }
12007 },
12008 "definitions": {
12009     "Clock": {
12010         "properties": {
12011             "rt": {
12012                 "description": "The Resource Type.",
12013                 "items": {
12014                     "enum": ["oic.r.clock"],
12015                     "maxLength": 64,
12016                     "type": "string"
12017                 },
12018                 "minItems": 1,
12019                 "readOnly": true,
12020                 "type": "array"
12021             },
12022             "countdown": {
12023                 "description": "The desired total seconds for countdown.",
12024                 "minimum": 0,
12025                 "type": "number"
12026             },
12027             "datetime": {
12028                 "description": "Rhe date time using RFC3339 datetime format (e.g: 2007-04-05T14:30:00Z,
12029 2007-04-05T14:30:00+09:00).",
12030                 "type": "string",
12031                 "format" : "date-time"
12032             },
12033             "n": {
12034                 "$ref":
12035 "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
12036 schema.json#/definitions/n"
12037             },
12038             "id": {
12039                 "$ref":
12040 "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
12041 schema.json#/definitions/id"
12042             },
12043             "if": {
12044                 "description": "The OCF Interface set supported by this Resource.",
12045                 "items": {
12046                     "enum": [
12047                         "oic.if.a",
12048                         "oic.if.baseline"
12049                     ],
12050                     "type": "string"
12051                 },
12052                 "minItems": 2,

```

```

12053         "uniqueItems": true,
12054         "readOnly": true,
12055         "type": "array"
12056     }
12057 },
12058     "type": "object",
12059     "required": ["datetime"]
12060 }
12061 }
12062 }
12063

```

12064 6.62.5 Property definition

12065 Table 127 defines the Properties that are part of the "oic.r.clock" Resource Type.

12066 **Table 127 – The Property definitions of the Resource with type "rt" = "oic.r.clock".**

Property name	Value type	Mandatory	Access mode	Description
rt	array: see schema	No	Read Only	The Resource Type.
countdown	number	No	Read Write	The desired total seconds for countdown.
datetime	string	Yes	Read Write	Rhe date time using RFC3339 datetime format (e.g: 2007-04-05T14:30:00Z, 2007-04-05T14:30:00+09:00).
n	multiple types: see schema	No	Read Write	
id	multiple types: see schema	No	Read Write	
if	array: see schema	No	Read Only	The OCF Interface set supported by this Resource.

12067 6.62.6 CRUDN behaviour

12068 Table 128 defines the CRUDN operations that are supported on the "oic.r.clock" Resource Type.

12069 **Table 128 – The CRUDN operations of the Resource with type "rt" = "oic.r.clock".**

Create	Read	Update	Delete	Notify
	get	post		observe

12070 6.63 Geolocation

12071 6.63.1 Introduction

12072 This Resource describes the properties associated with the current geolocation coordinate.

12073 Geolocation is a geolocation coordinate data.

12074 The Property "latitude" is a device's current Latitude coordinate (degrees).

12075 The Property "longitude" is a device's current Longitude coordinate (degrees).

12076 The Property "alt" is a device's current distance (metres) above or below 'local' sea-level.

12077 The Property "accuracy" is the accuracy level of the latitude and longitude coordinates (metres).

12078 The Property "altitudeAccuracy" is the accuracy level of the altitude coordinates (metres).

12079 The Property "heading" is a direction of travel of device (degree).

12080 The Property "speed" is a device's current velocity (metres per second).

12081 6.63.2 Example URI

12082 /GeolocationResURI

12083 **6.63.3 Resource type**

12084 The Resource Type is defined as: "oic.r.sensor.geolocation".

12085 **6.63.4 OpenAPI 2.0 definition**

```
12086 {
12087   "swagger": "2.0",
12088   "info": {
12089     "title": "Geolocation",
12090     "version": "20190215",
12091     "license": {
12092       "name": "OCF Data Model License",
12093       "url":
12094         "https://github.com/openconnectivityfoundation/core/blob/e28a9e0a92e17042ba3e83661e4c0fbce8bdc4ba/LI
12095         CENSE.md",
12096       "x-copyright": "copyright 2016-2017, 2019 Open Connectivity Foundation, Inc. All rights
12097         reserved."
12098     },
12099     "termsOfService": "https://openconnectivityfoundation.github.io/core/DISCLAIMER.md"
12100   },
12101   "schemes": ["http"],
12102   "consumes": ["application/json"],
12103   "produces": ["application/json"],
12104   "paths": {
12105     "/GeolocationResURI" : {
12106       "get": {
12107         "description": "This Resource describes the properties associated with the current
12108         geolocation coordinate.\nGeolocation is a geolocation coordinate data.\nThe Property \"latitude\" is
12109         a device's current Latitude coordinate (degrees).\nThe Property \"longitude\" is a device's current
12110         Longitude coordinate (degrees).\nThe Property \"alt\" is a device's current distance (metres) above
12111         or below 'local' sea-level.\nThe Property \"accuracy\" is the accuracy level of the latitude and
12112         longitude coordinates (metres).\nThe Property \"altitudeAccuracy\" is the accuracy level of the
12113         altitude coordinates (metres).\nThe Property \"heading\" is a direction of travel of device
12114         (degree).\nThe Property \"speed\" is a device's current velocity (metres per second).",
12115         "parameters": [
12116           { "$ref": "#/parameters/interface" }
12117         ],
12118         "responses": {
12119           "200": {
12120             "description": "RETRIEVES the current geolocation coordinates.",
12121             "x-example":
12122               {
12123                 "rt": ["oic.r.sensor.geolocation"],
12124                 "if": ["oic.if.s", "oic.if.baseline"],
12125                 "latitude": 55.070859,
12126                 "longitude": -3.60512,
12127                 "alt": 12.07,
12128                 "accuracy": 65.0,
12129                 "altitudeAccuracy": 0.0,
12130                 "heading": 90.0,
12131                 "speed": 0.0
12132               },
12133             "schema": { "$ref": "#/definitions/Geolocation" }
12134           }
12135         }
12136       }
12137     }
12138   },
12139   "parameters": {
12140     "interface": {
12141       "in": "query",
12142       "name": "if",
12143       "type": "string",
12144       "enum": ["oic.if.s", "oic.if.baseline"]
12145     }
12146   },
12147   "definitions": {
12148     "Geolocation" : {
12149       "properties": {
12150         "rt": {
12151           "description": "The Resource Type.",
```

```

12152         "items": {
12153             "enum": ["oic.r.sensor.geolocation"],
12154             "maxLength": 64,
12155             "type": "string"
12156         },
12157         "minItems": 1,
12158         "uniqueItems": true,
12159         "readOnly": true,
12160         "type": "array"
12161     },
12162     "longitude": {
12163         "description": "The Device's Current Longitude coordinate (degrees).",
12164         "readOnly": true,
12165         "type": "number"
12166     },
12167     "heading": {
12168         "description": "The direction of travel of the Device (degree).",
12169         "maximum": 360,
12170         "minimum": 0,
12171         "readOnly": true,
12172         "type": "number"
12173     },
12174     "latitude": {
12175         "description": "The Device's Current Latitude coordinate (degrees).",
12176         "readOnly": true,
12177         "type": "number"
12178     },
12179     "altitudeAccuracy": {
12180         "description": "The accuracy level of the altitude coordinates (metres).",
12181         "minimum": 0,
12182         "readOnly": true,
12183         "type": "number"
12184     },
12185     "alt": {
12186         "description": "The current distance (metres) above or below 'local' sea-level.",
12187         "readOnly": true,
12188         "type": "number"
12189     },
12190     "accuracy": {
12191         "description": "The accuracy level of the latitude and longitude coordinates (metres).",
12192         "minimum": 0,
12193         "readOnly": true,
12194         "type": "number"
12195     },
12196     "speed": {
12197         "description": "The Device's current velocity (metres per second).",
12198         "minimum": 0,
12199         "readOnly": true,
12200         "type": "number"
12201     },
12202     "n": {
12203         "$ref":
12204         "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
12205         schema.json#/definitions/n"
12206     },
12207     "id": {
12208         "$ref":
12209         "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
12210         schema.json#/definitions/id"
12211     },
12212     "if": {
12213         "description": "The OCF Interface set supported by this Resource.",
12214         "items": {
12215             "enum": [
12216                 "oic.if.s",
12217                 "oic.if.baseline"
12218             ],
12219             "type": "string"
12220         },
12221         "minItems": 2,
12222         "uniqueItems": true,
12223         "readOnly": true,

```

```

12224         "type": "array"
12225     },
12226 },
12227     "type": "object",
12228     "required": ["latitude", "longitude", "alt"]
12229 }
12230 }
12231 }
12232

```

12233 **6.63.5 Property definition**

12234 Table 129 defines the Properties that are part of the "oic.r.sensor.geolocation" Resource Type.

12235 **Table 129 – The Property definitions of the Resource with type "rt" =**
12236 **"oic.r.sensor.geolocation".**

Property name	Value type	Mandatory	Access mode	Description
rt	array: see schema	No	Read Only	The Resource Type.
longitude	number	Yes	Read Only	The Device's Current Longitude coordinate (degrees).
heading	number	No	Read Only	The direction of travel of the Device (degree).
latitude	number	Yes	Read Only	The Device's Current Latitude coordinate (degrees).
altitudeAccuracy	number	No	Read Only	The accuracy level of the altitude coordinates (metres).
alt	number	Yes	Read Only	The current distance (metres) above or below 'local' sea-level.
accuracy	number	No	Read Only	The accuracy level of the latitude and longitude coordinates (metres).
speed	number	No	Read Only	The Device's current velocity (metres per second).
n	multiple types: see schema	No	Read Write	
id	multiple types: see schema	No	Read Write	
if	array: see schema	No	Read Only	The OCF Interface set supported by this Resource.

12237 **6.63.6 CRUDN behaviour**

12238 Table 130 defines the CRUDN operations that are supported on the "oic.r.sensor.geolocation"
12239 Resource Type.

12240
12241

Table 130 – The CRUDN operations of the Resource with type "rt" = "oic.r.sensor.geolocation".

Create	Read	Update	Delete	Notify
	get			observe

12242 **6.64 Height**

12243 **6.64.1 Introduction**

12244 This Resource describes the Properties associated with height of an object's physical size.
12245 The unit is a single value that is one of m, cm, ft or in.
12246 If the unit Property is missing the default is meters [m].
12247 The unit Property is a read-only value that is provided by the server.
12248 When range is omitted the default is 0 to +MAXFLOAT.

12249 **6.64.2 Example URI**

12250 /HeightResURI

12251 **6.64.3 Resource type**

12252 The Resource Type is defined as: "oic.r.height".

12253 **6.64.4 OpenAPI 2.0 definition**

```
12254 {  
12255   "swagger": "2.0",  
12256   "info": {  
12257     "title": "Height",  
12258     "version": "2019-03-22",  
12259     "license": {  
12260       "name": "OCF Data Model License",  
12261       "url":  
12262       "https://github.com/openconnectivityfoundation/core/blob/e28a9e0a92e17042ba3e83661e4c0fbce8bdc4ba/LI  
12263       CENSE.md",  
12264       "x-copyright": "Copyright 2016-2019 Open Connectivity Foundation, Inc. All rights reserved."  
12265     },  
12266     "termsOfService": "https://openconnectivityfoundation.github.io/core/DISCLAIMER.md"  
12267   },  
12268   "schemes": [  
12269     "http"  
12270   ],  
12271   "consumes": [  
12272     "application/json"  
12273   ],  
12274   "produces": [  
12275     "application/json"  
12276   ],  
12277   "paths": {  
12278     "/HeightResURI": {  
12279       "get": {  
12280         "description": "This Resource describes the Properties associated with height of an object's  
12281         physical size.\n\nThe unit is a single value that is one of m, cm, ft or in.\n\nIf the unit Property is  
12282         missing the default is meters [m].\n\nThe unit Property is a read-only value that is provided by the  
12283         server.\n\nWhen range is omitted the default is 0 to +MAXFLOAT.",  
12284         "parameters": [  
12285           {  
12286             "$ref": "#/parameters/interface"  
12287           }  
12288         ],  
12289         "responses": {  
12290           "200": {  
12291             "description": "",  
12292             "x-example": {  
12293               "rt": [  
12294                 "oic.r.height"  
12295               ],  
12296               "height": 1.8,  

```

```

12297         "units": "m"
12298     },
12299     "schema": {
12300         "$ref": "#/definitions/Height"
12301     }
12302 }
12303 }
12304 },
12305 "post": {
12306     "description": "Sets the height.",
12307     "parameters": [
12308         {
12309             "$ref": "#/parameters/interface"
12310         },
12311         {
12312             "name": "body",
12313             "in": "body",
12314             "required": true,
12315             "schema": {
12316                 "$ref": "#/definitions/Height"
12317             },
12318             "x-example": {
12319                 "height": 1.75,
12320                 "units": "m"
12321             }
12322         }
12323     ],
12324     "responses": {
12325         "200": {
12326             "description": "Indicates that the height was successfully changed.\n\nThe new height is
12327 provided in the response.",
12328             "x-example": {
12329                 "height": 1.75,
12330                 "units": "m"
12331             },
12332             "schema": {
12333                 "$ref": "#/definitions/Height"
12334             }
12335         },
12336         "403": {
12337             "description": "Indicates that OCF Client sent an invalid Property value to the
12338 Server.\n\nThe Server responds with the current Resource representation.",
12339             "x-example": {
12340                 "height": 1.8,
12341                 "units": "m"
12342             },
12343             "schema": {
12344                 "$ref": "#/definitions/Height"
12345             }
12346         }
12347     }
12348 }
12349 }
12350 },
12351 "parameters": {
12352     "interface": {
12353         "in": "query",
12354         "name": "if",
12355         "type": "string",
12356         "enum": [
12357             "oic.if.a",
12358             "oic.if.s",
12359             "oic.if.baseline"
12360         ]
12361     }
12362 },
12363 "definitions": {
12364     "Height": {
12365         "properties": {
12366             "rt": {
12367                 "description": "Resource Type",
12368                 "items": {

```



```

12369         "enum": [
12370             "oic.r.height"
12371         ],
12372         "type": "string",
12373         "maxLength": 64
12374     },
12375     "minItems": 1,
12376     "uniqueItems": true,
12377     "readOnly": true,
12378     "type": "array"
12379 },
12380 "height": {
12381     "description": "Height of an object",
12382     "minimum": 0,
12383     "type": "number"
12384 },
12385 "units": {
12386     "description": "Height unit",
12387     "enum": [
12388         "m",
12389         "cm",
12390         "ft",
12391         "in"
12392     ],
12393     "readOnly": true,
12394     "type": "string",
12395     "default": "m"
12396 },
12397 "range": {
12398     "$ref":
12399 "https://openconnectivityfoundation.github.io/IoTDataModels/schemas/oic.baseresource.properties-
12400 schema.json#/definitions/range_number"
12401 },
12402 "step": {
12403     "$ref":
12404 "https://openconnectivityfoundation.github.io/IoTDataModels/schemas/oic.baseresource.properties-
12405 schema.json#/definitions/step_number"
12406 },
12407 "precision": {
12408     "$ref":
12409 "https://openconnectivityfoundation.github.io/IoTDataModels/schemas/oic.baseresource.properties-
12410 schema.json#/definitions/precision"
12411 },
12412 "n": {
12413     "$ref":
12414 "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
12415 schema.json#/definitions/n"
12416 },
12417 "id": {
12418     "$ref":
12419 "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
12420 schema.json#/definitions/id"
12421 },
12422 "if": {
12423     "description": "The OCF Interface set supported by this Resource",
12424     "items": {
12425         "enum": [
12426             "oic.if.a",
12427             "oic.if.s",
12428             "oic.if.baseline"
12429         ],
12430         "type": "string",
12431         "maxLength": 64
12432     },
12433     "minItems": 1,
12434     "readOnly": true,
12435     "uniqueItems": true,
12436     "type": "array"
12437 }
12438 },
12439 "type": "object",
12440 "required": [

```

```

12441     "height"
12442   ]
12443 }
12444 }
12445 }
12446

```

12447 6.64.5 Property definition

12448 Table 131 defines the Properties that are part of the "oic.r.height" Resource Type.

12449 **Table 131 – The Property definitions of the Resource with type "rt" = "oic.r.height".**

Property name	Value type	Mandatory	Access mode	Description
rt	array: see schema	No	Read Only	Resource Type
height	number	Yes	Read Write	Height of an object
units	string	No	Read Only	Height unit
range	multiple types: see schema	No	Read Write	
step	multiple types: see schema	No	Read Write	
precision	multiple types: see schema	No	Read Write	
n	multiple types: see schema	No	Read Write	
id	multiple types: see schema	No	Read Write	
if	array: see schema	No	Read Only	The OCF Interface set supported by this Resource

12450 6.64.6 CRUDN behaviour

12451 Table 132 defines the CRUDN operations that are supported on the "oic.r.height" Resource Type.

12452 **Table 132 – The CRUDN operations of the Resource with type "rt" = "oic.r.height".**

Create	Read	Update	Delete	Notify
	get	post		observe

12453 6.65 Weight

12454 6.65.1 Introduction

12455 This Resource describes the Properties associated with weight of an object.

12456 The unit is a single value that is one of kg, g, lb or oz.

12457 If the unit Property is missing the default is kilograms [kg].

12458 The unit Property is a read-only value that is provided by the server.

12459 When range is omitted the default is 0 to +MAXFLOAT.

12460 6.65.2 Example URI

12461 /WeightResURI

12462 6.65.3 Resource type

12463 The Resource Type is defined as: "oic.r.weight".

12464 6.65.4 OpenAPI 2.0 definition

```

12465 {
12466   "swagger": "2.0",

```

```

12467     "info": {
12468         "title": "Weight",
12469         "version": "2019-03-22",
12470         "license": {
12471             "name": "OCF Data Model License",
12472             "url":
12473 "https://github.com/openconnectivityfoundation/core/blob/e28a9e0a92e17042ba3e83661e4c0fbce8bdc4ba/LI
12474 CENSE.md",
12475         "x-copyright": "Copyright 2016-2019 Open Connectivity Foundation, Inc. All rights reserved."
12476         },
12477         "termsOfService": "https://openconnectivityfoundation.github.io/core/DISCLAIMER.md"
12478     },
12479     "schemes": [
12480         "http"
12481     ],
12482     "consumes": [
12483         "application/json"
12484     ],
12485     "produces": [
12486         "application/json"
12487     ],
12488     "paths": {
12489         "/WeightResURI": {
12490             "get": {
12491                 "description": "This Resource describes the Properties associated with weight of an
12492 object.\nThe unit is a single value that is one of kg, g, lb or oz.\nIf the unit Property is missing
12493 the default is kilograms [kg].\nThe unit Property is a read-only value that is provided by the
12494 server.\nWhen range is omitted the default is 0 to +MAXFLOAT.",
12495                 "parameters": [
12496                     {
12497                         "$ref": "#/parameters/interface"
12498                     }
12499                 ],
12500                 "responses": {
12501                     "200": {
12502                         "description": "",
12503                         "x-example": {
12504                             "rt": [
12505                                 "oic.r.weight"
12506                             ],
12507                             "weight": 80.0,
12508                             "units": "kg"
12509                         },
12510                         "schema": {
12511                             "$ref": "#/definitions/Weight"
12512                         }
12513                     }
12514                 }
12515             },
12516             "post": {
12517                 "description": "Sets the Weight.",
12518                 "parameters": [
12519                     {
12520                         "$ref": "#/parameters/interface"
12521                     },
12522                     {
12523                         "name": "body",
12524                         "in": "body",
12525                         "required": true,
12526                         "schema": {
12527                             "$ref": "#/definitions/Weight"
12528                         },
12529                         "x-example": {
12530                             "weight": 75.0,
12531                             "units": "kg"
12532                         }
12533                     }
12534                 ],
12535                 "responses": {
12536                     "200": {
12537                         "description": "Indicates that the weight was successfully changed.\nThe new weight is
12538 provided in the response.",

```

```

12539         "x-example": {
12540             "weight": 75.0,
12541             "units": "kg"
12542         },
12543         "schema": {
12544             "$ref": "#/definitions/Weight"
12545         }
12546     },
12547     "403": {
12548         "description": "Indicates that OCF client sent an invalid Property value to the
Server.\nThe Server responds with the current resource representation.",
12549         "x-example": {
12550             "weight": 80.0,
12551             "units": "kg"
12552         },
12553         "schema": {
12554             "$ref": "#/definitions/Weight"
12555         }
12556     }
12557 }
12558 }
12559 }
12560 },
12561 "parameters": {
12562     "interface": {
12563         "in": "query",
12564         "name": "if",
12565         "type": "string",
12566         "enum": [
12567             "oic.if.s",
12568             "oic.if.a",
12569             "oic.if.baseline"
12570         ]
12571     }
12572 },
12573 "definitions": {
12574     "Weight": {
12575         "properties": {
12576             "rt": {
12577                 "description": "Resource Type",
12578                 "items": {
12579                     "enum": [
12580                         "oic.r.weight"
12581                     ],
12582                     "type": "string",
12583                     "maxLength": 64
12584                 },
12585                 "minItems": 1,
12586                 "uniqueItems": true,
12587                 "readOnly": true,
12588                 "type": "array"
12589             },
12590             "weight": {
12591                 "description": "Weight of an object",
12592                 "minimum": 0.0,
12593                 "type": "number"
12594             },
12595             "units": {
12596                 "description": "Weight unit",
12597                 "enum": [
12598                     "kg",
12599                     "g",
12600                     "lb",
12601                     "oz"
12602                 ],
12603                 "readOnly": true,
12604                 "type": "string",
12605                 "default": "kg"
12606             },
12607             "range": {
12608                 "$ref":
12609 "https://openconnectivityfoundation.github.io/IoTDataModels/schemas/oic.baseresource.properties-
12610

```

```

12611 schema.json#/definitions/range_number"
12612     },
12613     "step": {
12614         "$ref":
12615         "https://openconnectivityfoundation.github.io/IoTDataModels/schemas/oic.baseresource.properties-
12616         schema.json#/definitions/step_number"
12617     },
12618     "precision": {
12619         "$ref":
12620         "https://openconnectivityfoundation.github.io/IoTDataModels/schemas/oic.baseresource.properties-
12621         schema.json#/definitions/precision"
12622     },
12623     "n": {
12624         "$ref":
12625         "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
12626         schema.json#/definitions/n"
12627     },
12628     "id": {
12629         "$ref":
12630         "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
12631         schema.json#/definitions/id"
12632     },
12633     "if": {
12634         "description": "The OCF Interface set supported by this Resource",
12635         "items": {
12636             "enum": [
12637                 "oic.if.s",
12638                 "oic.if.a",
12639                 "oic.if.baseline"
12640             ],
12641             "type": "string",
12642             "maxLength": 64
12643         },
12644         "minItems": 1,
12645         "readOnly": true,
12646         "uniqueItems": true,
12647         "type": "array"
12648     }
12649 },
12650 "type": "object",
12651 "required": [
12652     "weight",
12653     "units"
12654 ]
12655 }
12656 }
12657 }
12658

```

12659 **6.65.5 Property definition**

12660 Table 133 defines the Properties that are part of the "oic.r.weight" Resource Type.

12661 **Table 133 – The Property definitions of the Resource with type "rt" = "oic.r.weight".**

Property name	Value type	Mandatory	Access mode	Description
rt	array: see schema	No	Read Only	Resource Type
weight	number	Yes	Read Write	Weight of an object
units	string	Yes	Read Only	Weight unit
range	multiple types: see schema	No	Read Write	
step	multiple types: see schema	No	Read Write	
precision	multiple types: see schema	No	Read Write	

n	multiple types: see schema	No	Read Write	
id	multiple types: see schema	No	Read Write	
if	array: see schema	No	Read Only	The OCF Interface set supported by this Resource

12662 **6.65.6 CRUDN behaviour**

12663 Table 134 defines the CRUDN operations that are supported on the "oic.r.weight" Resource Type.

12664 **Table 134 – The CRUDN operations of the Resource with type "rt" = "oic.r.weight".**

Create	Read	Update	Delete	Notify
	get	post		observe

12665 **6.66 Air Quality**

12666 **6.66.1 Introduction**

12667 This Resource describes a qualitative or measured contaminant that can be used to infer Air
12668 Quality.

12669 The Property "valueType" indicates a qualitative or measured reading within the
12670 contaminantvalue Property.

12671 The Property "contaminantvalue" can contain the actual sensed value with units per contaminant
12672 type.

12673 Qualitative is a representative value within the range provided where the minimum value is
12674 minimum contamination and maximum value is maximum contamination for the specific
12675 contaminant.

12676 The Property "contaminantvalue" contains the actual measured or qualitative level.

12677 The Property "range" contains the allowed range for the value that is being reported.

12678 If valueType is 'Measured' then the units for the contaminant types are as follows:

12679 Methanol (also known as Formaldehyde): CH₂O (ug/m³),

12680 Carbon Dioxide: CO₂ (ppm),

12681 Carbon Monoxide: CO (ppm),

12682 Particulate Matter (less than 1 micron in diameter): PM₁ (ug/m³),

12683 Particulate Matter (less than 2.5 microns in diameter): PM_{2.5} (ug/m³),

12684 Particulate Matter (less than 10 microns in diameter): PM₁₀ (ug/m³),

12685 Volatile Organic Compounds: VOC (ug/m³).

12686 **6.66.2 Example URI**

12687 /AirQualityResURI

12688 **6.66.3 Resource type**

12689 The Resource Type is defined as: "oic.r.airquality".

12690 **6.66.4 OpenAPI 2.0 definition**

```

12691 {
12692   "swagger": "2.0",
12693   "info": {
12694     "title": "Air Quality",
12695     "version": "20190613",
12696     "license": {
12697       "name": "OCF Data Model License",
12698       "url":
12699         "https://github.com/openconnectivityfoundation/core/blob/e28a9e0a92e17042ba3e83661e4c0fbce8bdc4ba/LI
12700 CENSE.md",
12701     "x-copyright": "copyright 2016-2017, 2019 Open Connectivity Foundation, Inc. All rights
12702 reserved."
12703   },

```

```

12704     "termsOfService": "https://openconnectivityfoundation.github.io/core/DISCLAIMER.md"
12705   },
12706   "schemes": ["http"],
12707   "consumes": ["application/json"],
12708   "produces": ["application/json"],
12709   "paths": {
12710     "/AirQualityResURI" : {
12711       "get": {
12712         "description": "This Resource describes a qualitative or measured contaminant that can be
12713 used to infer Air Quality.\nThe Property \"valueType\" indicates a qualitative or measured reading
12714 within the contaminantvalue Property.\nThe Property \"contaminantvalue\" can contain the actual
12715 sensed value with units per contaminant type.\nQualitative is a representative value within the
12716 range provided where the minimum value is minimum contamination and maximum value is maximum
12717 contamination for the specific contaminant.\nThe Property \"contaminantvalue\" contains the actual
12718 measured or qualitative level.\nThe Property \"range\" contains the allowed range for the value that
12719 is being reported.\nIf valueType is 'Measured' then the units for the contaminant types are as
12720 follows:\n Methanol (also known as Formaldehyde): CH2O (ug/m^3),\n Carbon Dioxide: CO2 (ppm),\n
12721 Carbon Monoxide: CO (ppm),\n Particulate Matter (less than 1 micron in diameter): PM1 (ug/m^3),\n
12722 Particulate Matter (less than 2.5 microns in diameter): PM2.5 (ug/m^3),\n Particulate Matter (less
12723 than 10 microns in diameter): PM10 (ug/m^3),\n Volatile Organic Compounds: VOC (ug/m^3).",
12724         "parameters": [
12725           { "$ref": "#/parameters/interface" }
12726         ],
12727         "responses": {
12728           "200": {
12729             "description": "",
12730             "x-example":
12731               {
12732                 "rt": ["oic.r.airquality"],
12733                 "if": ["oic.if.s", "oic.if.baseline"],
12734                 "contaminanttype": "CO",
12735                 "valuetype": "Measured",
12736                 "contaminantvalue": 10,
12737                 "range": [0,500]
12738               },
12739             "schema": { "$ref": "#/definitions/AirQuality" }
12740           }
12741         }
12742       }
12743     }
12744   },
12745   "parameters": {
12746     "interface" : {
12747       "in" : "query",
12748       "name" : "if",
12749       "type" : "string",
12750       "enum" : ["oic.if.s", "oic.if.baseline"]
12751     }
12752   },
12753   "definitions": {
12754     "AirQuality" : {
12755       "properties": {
12756         "rt" : {
12757           "description": "The Resource Type.",
12758           "items": {
12759             "enum": ["oic.r.airquality"],
12760             "maxLength": 64,
12761             "type": "string"
12762           },
12763           "minItems": 1,
12764           "uniqueItems": true,
12765           "readOnly": true,
12766           "type": "array"
12767         },
12768         "contaminanttype": {
12769           "description": "The contaminant being measured.",
12770           "enum": [
12771             "CH2O",
12772             "CO2",
12773             "CO",
12774             "PM1",
12775             "PM2.5",

```

```

12776         "PM10",
12777         "VOC",
12778         "Smoke",
12779         "Odor",
12780         "AirPollution"
12781     ],
12782     "readOnly": true,
12783     "type": "string"
12784 },
12785     "valuetype": {
12786         "description": "The property that indicates whether the provided value is qualitative or
12787 measured.",
12788         "enum": [
12789             "Qualitative",
12790             "Measured"
12791         ],
12792         "readOnly": true,
12793         "type": "string"
12794     },
12795     "contaminantvalue": {
12796         "description": "The measured or qualitative value for the contaminant.",
12797         "readOnly": true,
12798         "type": "integer"
12799     },
12800     "n": {
12801         "$ref":
12802 "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
12803 schema.json#/definitions/n"
12804     },
12805     "id": {
12806         "$ref":
12807 "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
12808 schema.json#/definitions/id"
12809     },
12810     "range": {
12811         "$ref":
12812 "https://openconnectivityfoundation.github.io/IoTDataModels/schemas/oic.baseresource.properties-
12813 schema.json#/definitions/range_integer"
12814     },
12815     "if" : {
12816         "description": "The OCF Interface set supported by this Resource.",
12817         "items": {
12818             "enum": [
12819                 "oic.if.s",
12820                 "oic.if.baseline"
12821             ],
12822             "type": "string"
12823         },
12824         "minItems": 2,
12825         "uniqueItems": true,
12826         "readOnly": true,
12827         "type": "array"
12828     }
12829 },
12830     "type": "object",
12831     "required": ["contaminantvalue", "contaminanttype", "valuetype"]
12832 }
12833 }
12834 }
12835

```

12836 6.66.5 Property definition

12837 Table 135 defines the Properties that are part of the "oic.r.airquality" Resource Type.

12838 **Table 135 – The Property definitions of the Resource with type "rt" = "oic.r.airquality".**

Property name	Value type	Mandatory	Access mode	Description
rt	array: see schema	No	Read Only	The Resource Type.

contaminanttype	string	Yes	Read Only	The contaminant being measured.
valuetype	string	Yes	Read Only	The property that indicates whether the provided value is qualitative or measured.
contaminantvalue	integer	Yes	Read Only	The measured or qualitative value for the contaminant.
n	multiple types: see schema	No	Read Write	
id	multiple types: see schema	No	Read Write	
range	multiple types: see schema	No	Read Write	
if	array: see schema	No	Read Only	The OCF Interface set supported by this Resource.

12839 **6.66.6 CRUDN behaviour**

12840 Table 136 defines the CRUDN operations that are supported on the "oic.r.airquality" Resource
12841 Type.

12842 **Table 136 – The CRUDN operations of the Resource with type "rt" = "oic.r.airquality".**

Create	Read	Update	Delete	Notify
	get			observe

12843 **6.67 Air Quality Collection**

12844 **6.67.1 Introduction**

12845 This resource describes a sensor that provides the qualitative or measured Air Quality.
12846 The resource is a collection of instances of oic.r.airquality detailing the individual exposed
12847 contaminant measures
12848 There is one collection entry per contaminant type supported by the device. A device must
12849 expose at least one measured or qualitative value.
12850 Retrieves the current air quality.
12851

12852 **6.67.2 Example URI**

12853 /AirQualityCollectionResURI

12854 **6.67.3 Resource type**

12855 The Resource Type is defined as: "oic.r.airqualitycollection, oic.wk.col".

12856 **6.67.4 OpenAPI 2.0 definition**

```
12857 {
12858   "swagger": "2.0",
12859   "info": {
12860     "title": "Air Quality Collection",
12861     "version": "20190307",
12862     "license": {
12863       "name": "OCF Data Model License",
12864       "url":
12865         "https://github.com/openconnectivityfoundation/core/blob/e28a9e0a92e17042ba3e83661e4c0fbce8bdc4ba/LI
12866         CENSE.md",
12867       "x-copyright": "copyright 2016-2019 Open Connectivity Foundation, Inc. All rights reserved."
12868     }
12869   },
```

```

12869     "termsOfService": "https://openconnectivityfoundation.github.io/core/DISCLAIMER.md"
12870   },
12871   "schemes": ["http"],
12872   "consumes": ["application/json"],
12873   "produces": ["application/json"],
12874   "paths": {
12875     "/AirQualityCollectionResURI?if=oic.if.ll" : {
12876       "get": {
12877         "description": "This resource describes a sensor that provides the qualitative or measured
12878 Air Quality.\nThe resource is a collection of instances of oic.r.airquality detailing the individual
12879 exposed contaminant measures\nThere is one collection entry per contaminant type supported by the
12880 device. A device must expose at least one measured or qualitative value.\nRetrieves the current air
12881 quality.\n",
12882         "parameters": [
12883           {"$ref": "#/parameters/interface-all"}
12884         ],
12885         "responses": {
12886           "200": {
12887             "description": "",
12888             "x-example":
12889               [
12890                 {"href": "/myCOMeasureResURI", "rt": ["oic.r.airquality"], "if":
12891 ["oic.if.s", "oic.if.baseline"], "eps": [{"ep": "coaps://[fe80::b1d6]:1122"}]},
12892                 {"href": "/myCO2ResURI", "rt": ["oic.r.airquality"], "if":
12893 ["oic.if.s", "oic.if.baseline"], "eps": [{"ep": "coaps://[fe80::b1d6]:1122"}]}
12894               ],
12895             "schema": {"$ref": "#/definitions/AirQuality-ll" }
12896           }
12897         }
12898       }
12899     },
12900     "/AirQualityCollectionResURI?if=oic.if.b": {
12901       "get": {
12902         "description": "This resource describes a sensor that provides the qualitative or measured
12903 Air Quality.\nThe resource is a collection of instances of oic.r.airquality detailing the individual
12904 exposed contaminant measures\nThere is one collection entry per contaminant type supported by the
12905 device. A device must expose at least one measured or qualitative value.\nRetrieves the current air
12906 quality.\n",
12907         "parameters": [
12908           {"$ref": "#/parameters/interface-all"}
12909         ],
12910         "responses": {
12911           "200": {
12912             "description": "",
12913             "x-example": [
12914               {
12915                 "href": "/AirQualityCOResURI",
12916                 "rep": {
12917                   "contaminanttype": "CO",
12918                   "valuetype": "Measured",
12919                   "contaminantvalue": 10,
12920                   "range": [0,500]
12921                 }
12922               },
12923               {
12924                 "href": "/AirQualitySmokeResURI",
12925                 "rep": {
12926                   "contaminanttype": "Smoke",
12927                   "valuetype": "Measured",
12928                   "contaminantvalue": 100,
12929                   "range": [0,5000]
12930                 }
12931               }
12932             ],
12933             "schema": {"$ref": "#/definitions/AirQualityCollectionBatch-Retrieve" }
12934           }
12935         }
12936       }
12937     },
12938     "/AirQualityCollectionResURI?if=oic.if.baseline" : {
12939       "get": {
12940         "description": "This resource describes a sensor that provides the qualitative or measured

```

```

12941 Air Quality.\nThe resource is a collection of instances of oic.r.airquality detailing the individual
12942 exposed contaminant measures\nThere is one collection entry per contaminant type supported by the
12943 device. A device must expose at least one measured or qualitative value.\nRetrieves the current air
12944 quality.\n",
12945     "parameters": [
12946         {"$ref": "#/parameters/interface-all"}
12947     ],
12948     "responses": {
12949         "200": {
12950             "description": "",
12951             "x-example":
12952                 {
12953                     "rt": ["oic.r.airqualitycollection","oic.wk.col"],
12954                     "if": ["oic.if.baseline","oic.if.ll"],
12955                     "links": [
12956                         {"href": "/myCOMeasureResURI", "rt": ["oic.r.airquality"], "if":
12957 ["oic.if.s","oic.if.baseline"], "eps": [{"ep": "coaps://[fe80::b1d6]:1122"}]},
12958                         {"href": "/myCO2ResURI", "rt": ["oic.r.airquality"], "if":
12959 ["oic.if.s","oic.if.baseline"], "eps": [{"ep": "coaps://[fe80::b1d6]:1122"}]}
12960                     ]
12961                 },
12962             "schema": {"$ref": "#/definitions/AirQuality"}
12963         }
12964     }
12965 }
12966 }
12967 },
12968 "parameters": {
12969     "interface-all": {
12970         "in": "query",
12971         "name": "if",
12972         "type": "string",
12973         "enum": ["oic.if.ll", "oic.if.b","oic.if.baseline"]
12974     }
12975 },
12976 "definitions": {
12977     "AirQuality-ll": {
12978         "items": {
12979             "$ref": "#/definitions/oic.oic-link"
12980         },
12981         "type": "array"
12982     },
12983     "oic.oic-link": {
12984         "type": "object",
12985         "properties": {
12986             "anchor": {
12987                 "$ref":
12988 "https://openconnectivityfoundation.github.io/core/schemas/oic.links.properties.core-
12989 schema.json#/definitions/anchor"
12990             },
12991             "di": {
12992                 "$ref":
12993 "https://openconnectivityfoundation.github.io/core/schemas/oic.links.properties.core-
12994 schema.json#/definitions/di"
12995             },
12996             "eps": {
12997                 "$ref":
12998 "https://openconnectivityfoundation.github.io/core/schemas/oic.links.properties.core-
12999 schema.json#/definitions/eps"
13000             },
13001             "href": {
13002                 "$ref":
13003 "https://openconnectivityfoundation.github.io/core/schemas/oic.links.properties.core-
13004 schema.json#/definitions/href"
13005             },
13006             "ins": {
13007                 "$ref":
13008 "https://openconnectivityfoundation.github.io/core/schemas/oic.links.properties.core-
13009 schema.json#/definitions/ins"
13010             },
13011             "p": {
13012                 "$ref":

```

```

13013 "https://openconnectivityfoundation.github.io/core/schemas/oic.links.properties.core-
13014 schema.json#/definitions/p"
13015 },
13016 "rel": {
13017   "$ref":
13018 "https://openconnectivityfoundation.github.io/core/schemas/oic.links.properties.core-
13019 schema.json#/definitions/rel_array"
13020 },
13021 "title": {
13022   "$ref":
13023 "https://openconnectivityfoundation.github.io/core/schemas/oic.links.properties.core-
13024 schema.json#/definitions/title"
13025 },
13026 "type": {
13027   "$ref":
13028 "https://openconnectivityfoundation.github.io/core/schemas/oic.links.properties.core-
13029 schema.json#/definitions/type"
13030 },
13031 "if": {
13032   "description": "The OCF Interfaces supported by the target Resource",
13033   "items": {
13034     "enum": [
13035       "oic.if.s",
13036       "oic.if.baseline"
13037     ],
13038     "type": "string",
13039     "maxLength": 64
13040   },
13041   "minItems": 2,
13042   "uniqueItems": true,
13043   "type": "array",
13044   "readOnly": true
13045 },
13046 "rt": {
13047   "description": "Resource Type of the target Resource",
13048   "items": {
13049     "maxLength": 64,
13050     "type": "string",
13051     "enum": ["oic.r.airquality"]
13052   },
13053   "minItems": 1,
13054   "type": "array",
13055   "uniqueItems": true,
13056   "readOnly": true
13057 },
13058 },
13059 "required": [
13060   "href",
13061   "rt",
13062   "if"
13063 ]
13064 },
13065 "AirQuality": {
13066   "type": "object",
13067   "properties": {
13068     "rt": {
13069       "items": {
13070         "enum": [
13071           "oic.r.airqualitycollection",
13072           "oic.wk.col"
13073         ],
13074         "type": "string",
13075         "maxLength": 64
13076       },
13077       "minItems": 2,
13078       "type": "array",
13079       "uniqueItems": true
13080     },
13081     "links": {
13082       "description": "A set of simple or individual OCF Links.",
13083       "type": "array",
13084       "items": {

```

```

13085         "$ref": "#/definitions/oic.oic-link"
13086     }
13087 },
13088 "n": {
13089     "$ref" :
13090     "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
13091     schema.json#/definitions/n"
13092 },
13093 "id": {
13094     "$ref" :
13095     "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
13096     schema.json#/definitions/id"
13097 },
13098 "rts": {
13099     "items": {
13100         "enum": ["oic.r.airquality"],
13101         "type": "string",
13102         "maxLength": 64
13103     },
13104     "minItems": 1,
13105     "type": "array",
13106     "uniqueItems": true
13107 },
13108 "if": {
13109     "description": "The OCF Interfaces supported by this Resource",
13110     "items": {
13111         "enum": [
13112             "oic.if.ll",
13113             "oic.if.b",
13114             "oic.if.baseline"
13115         ],
13116         "type": "string",
13117         "maxLength": 64
13118     },
13119     "minItems": 1,
13120     "readOnly": true,
13121     "uniqueItems": true,
13122     "type": "array"
13123 }
13124 }
13125 },
13126 "AirQualityCollectionBatch-Retrieve" : {
13127     "type": "array",
13128     "minItems": 1,
13129     "uniqueItems": true,
13130     "items": {
13131         "type": "object",
13132         "additionalProperties": true,
13133         "properties": {
13134             "href": {
13135                 "$ref":
13136                 "https://openconnectivityfoundation.github.io/core/schemas/oic.links.properties.core-
13137                 schema.json#/definitions/href"
13138             },
13139             "rep": {
13140                 "$ref":
13141                 "https://openconnectivityfoundation.github.io/IoTDataModels/AirQualityResURI.swagger.json#/definitio
13142                 ns/AirQuality"
13143             }
13144         },
13145         "required": [
13146             "href",
13147             "rep"
13148         ]
13149     }
13150 }
13151 }
13152 }
13153

```

13154 **6.67.5 Property definition**

13155 Table 137 defines the Properties that are part of the "oic.r.airqualitycollection, oic.wk.col" Resource
 13156 Type.

13157 **Table 137 – The Property definitions of the Resource with type "rt" =**
 13158 **"oic.r.airqualitycollection, oic.wk.col".**

Property name	Value type	Mandatory	Access mode	Description
anchor	multiple types: see schema	No	Read Write	
di	multiple types: see schema	No	Read Write	
eps	multiple types: see schema	No	Read Write	
href	multiple types: see schema	Yes	Read Write	
ins	multiple types: see schema	No	Read Write	
p	multiple types: see schema	No	Read Write	
rel	multiple types: see schema	No	Read Write	
title	multiple types: see schema	No	Read Write	
type	multiple types: see schema	No	Read Write	
if	array: see schema	Yes	Read Only	The OCF Interfaces supported by the target Resource
rt	array: see schema	Yes	Read Only	Resource Type of the target Resource
rt	array: see schema		Read Write	
links	array: see schema		Read Write	A set of simple or individual OCF Links.
n	multiple types: see schema		Read Write	
id	multiple types: see schema		Read Write	
rts	array: see schema		Read Write	
if	array: see schema		Read Only	The OCF Interfaces supported by this Resource
href	multiple types: see schema	Yes	Read Write	
rep	multiple types: see schema	Yes	Read Write	

13159 **6.67.6 CRUDN behaviour**

13160 Table 138 defines the CRUDN operations that are supported on the "oic.r.airqualitycollection,
 13161 oic.wk.col" Resource Type.

13162
13163

Table 138 – The CRUDN operations of the Resource with type "rt" = "oic.r.airqualitycollection, oic.wk.col".

Create	Read	Update	Delete	Notify
	get			observe

13164 **6.68 Consumable**

13165 **6.68.1 Introduction**

13166 This Resource specifies a thing that can be consumed such as filter material, printer toner etc
13167 The Property "typeofconsumable" is an enumeration defining the thing being consumed as defined
13168 by the Smart Home Device Specification
13169 The Property "remaining" is an integer capturing the percentatge remaining life
13170 The Property "orderpercentage" is an integer capturing the percentage life at which replacement
13171 or replenishment is recommended by the manufacturer
13172 The Property "url" is a string containing a URL at which further information may be obtained with
13173 respect to the consumable.

13174 **6.68.2 Example URI**

13175 /ConsumableResURI

13176 **6.68.3 Resource type**

13177 The Resource Type is defined as: "oic.r.consumable".

13178 **6.68.4 OpenAPI 2.0 definition**

```
13179 {  
13180   "swagger": "2.0",  
13181   "info": {  
13182     "title": "Consumable",  
13183     "version": "20190215",  
13184     "license": {  
13185       "name": "OCF Data Model License",  
13186       "url":  
13187         "https://github.com/openconnectivityfoundation/core/blob/e28a9e0a92e17042ba3e83661e4c0fbce8bdc4ba/LI  
13188         CENSE.md",  
13189       "x-copyright": "copyright 2016-2017, 2019 Open Connectivity Foundation, Inc. All rights  
13190       reserved."  
13191     },  
13192     "termsOfService": "https://openconnectivityfoundation.github.io/core/DISCLAIMER.md"  
13193   },  
13194   "schemes": ["http"],  
13195   "consumes": ["application/json"],  
13196   "produces": ["application/json"],  
13197   "paths": {  
13198     "/ConsumableResURI" : {  
13199       "get": {  
13200         "description": "This Resource specifies a thing that can be consumed such as filter  
13201         material, printer toner etc\nThe Propert \"typeofconsumable\" is an enumeration defining the thing  
13202         being consumed as defined by the Smart Home Device Specification\nThe Property \"remaining\" is an  
13203         integer capturing the percentatge remaining life\nThe Property \"orderpercentage\" is an integer  
13204         capturing the percentage life at which replacement or replenishment is recommended by the  
13205         manufacturer\nThe Property \"url\" is a string containing a URL at which further information may be  
13206         obtained with respect to the consumable.",  
13207         "parameters": [  
13208           {"$ref": "#/parameters/interface"}  
13209         ],  
13210         "responses": {  
13211           "200": {  
13212             "description": "",  
13213             "x-example":  
13214               {  
13215                 "rt": ["oic.r.consumable"],  
13216                 "if": ["oic.if.s", "oic.if.baseline"],  
13217                 "typeofconsumable": "tonerBlack",
```

```

13218         "remaining": 20,
13219         "orderpercentage": 10,
13220         "url": "http://myreorderURL"
13221     },
13222     "schema": { "$ref": "#/definitions/consumable" }
13223 }
13224 }
13225 }
13226 }
13227 },
13228 "parameters": {
13229     "interface": {
13230         "in": "query",
13231         "name": "if",
13232         "type": "string",
13233         "enum": ["oic.if.s", "oic.if.baseline"]
13234     }
13235 },
13236 "definitions": {
13237     "consumable": {
13238         "properties": {
13239             "rt": {
13240                 "description": "The Resource Type.",
13241                 "items": {
13242                     "enum": ["oic.r.consumable"],
13243                     "maxLength": 64,
13244                     "type": "string"
13245                 },
13246                 "minItems": 1,
13247                 "uniqueItems": true,
13248                 "readOnly": true,
13249                 "type": "array"
13250             },
13251             "remaining": {
13252                 "description": "The percentage remaining lifespan.",
13253                 "maximum": 100,
13254                 "minimum": 0,
13255                 "readOnly": true,
13256                 "type": "integer"
13257             },
13258             "typeofconsumable": {
13259                 "description": "The thing that is being consumed.",
13260                 "readOnly": true,
13261                 "type": "string"
13262             },
13263             "url": {
13264                 "description": "The URL at which additional ordering information may be found.",
13265                 "format": "uri",
13266                 "readOnly": true,
13267                 "type": "string"
13268             },
13269             "orderpercentage": {
13270                 "description": "The percentage at which re-ordering is recommended by the manufacturer.",
13271                 "maximum": 100,
13272                 "minimum": 0,
13273                 "readOnly": true,
13274                 "type": "integer"
13275             },
13276             "n": {
13277                 "$ref":
13278                 "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
13279                 schema.json#/definitions/n"
13280             },
13281             "id": {
13282                 "$ref":
13283                 "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
13284                 schema.json#/definitions/id"
13285             },
13286             "if": {
13287                 "description": "The OCF Interface set supported by this Resource.",
13288                 "items": {
13289                     "enum": [

```



```

13290         "oic.if.s",
13291         "oic.if.baseline"
13292     ],
13293     "type": "string"
13294 },
13295 "minItems": 2,
13296 "uniqueItems": true,
13297 "readOnly": true,
13298 "type": "array"
13299 }
13300 },
13301 "type": "object",
13302 "required": ["typeofconsumable", "remaining"]
13303 }
13304 }
13305 }
13306

```

13307 **6.68.5 Property definition**

13308 Table 139 defines the Properties that are part of the "oic.r.consumable" Resource Type.

13309 **Table 139 – The Property definitions of the Resource with type "rt" = "oic.r.consumable".**

Property name	Value type	Mandatory	Access mode	Description
rt	array: see schema	No	Read Only	The Resource Type.
remaining	integer	Yes	Read Only	The percentage remaining lifespan.
typeofconsumable	string	Yes	Read Only	The thing that is being consumed.
url	string	No	Read Only	The URL at which additional ordering information may be found.
orderpercentage	integer	No	Read Only	The percentage at which re-ordering is recommended by the manufacturer.
n	multiple types: see schema	No	Read Write	
id	multiple types: see schema	No	Read Write	
if	array: see schema	No	Read Only	The OCF Interface set supported by this Resource.

13310 **6.68.6 CRUDN behaviour**

13311 Table 140 defines the CRUDN operations that are supported on the "oic.r.consumable" Resource
 13312 Type.

13313 **Table 140 – The CRUDN operations of the Resource with type "rt" = "oic.r.consumable".**

Create	Read	Update	Delete	Notify
	get			observe

13314 **6.69 Consumables**

13315 **6.69.1 Introduction**

13316 This Resource specifies things that can be consumed such as filter material, printer toner etc
 13317 The resource is a Collection of instances of oic.r.consumable detailing the individual consumed
 13318 items

13319 supportedconsumables is the set of consumable types that this instance of the Resource
13320 supports
13321

13322 **6.69.2 Example URI**

13323 /ConsumablesResURI

13324 **6.69.3 Resource type**

13325 The Resource Type is defined as: "oic.r.consumablecollection, oic.wk.col".

13326 **6.69.4 OpenAPI 2.0 definition**

```
13327 {  
13328   "swagger": "2.0",  
13329   "info": {  
13330     "title": "Consumables",  
13331     "version": "20190613",  
13332     "license": {  
13333       "name": "OCF Data Model License",  
13334       "url":  
13335         "https://github.com/openconnectivityfoundation/core/blob/e28a9e0a92e17042ba3e83661e4c0fbce8bdc4ba/LI  
13336         CENSE.md",  
13337       "x-copyright": "copyright 2016-2019 Open Connectivity Foundation, Inc. All rights reserved."  
13338     },  
13339     "termsOfService": "https://openconnectivityfoundation.github.io/core/DISCLAIMER.md"  
13340   },  
13341   "schemes": ["http"],  
13342   "consumes": ["application/json"],  
13343   "produces": ["application/json"],  
13344   "paths": {  
13345     "/ConsumablesResURI?if=oic.if.ll" : {  
13346       "get": {  
13347         "description": "This Resource specifies things that can be consumed such as filter material,  
13348         printer toner etc\nThe resource is a Collection of instances of oic.r.consumable detailing the  
13349         individual consumed items\nsupportedconsumables is the set of consumable types that this instance of  
13350         the Resource supports\n",  
13351         "parameters": [  
13352           {"$ref": "#/parameters/interface-all"}  
13353         ],  
13354         "responses": {  
13355           "200": {  
13356             "description" : "",  
13357             "x-example":  
13358               [  
13359                 {"href": "/myTonerBlackResURI", "rt": ["oic.r.consumable"], "if":  
13360                 ["oic.if.s","oic.if.baseline"], "eps": [{"ep": "coaps://[fe80::b1d6]:1122"}]},  
13361                 {"href": "/myTonerCyanResURI", "rt": ["oic.r.consumable"], "if":  
13362                 ["oic.if.s","oic.if.baseline"], "eps": [{"ep": "coaps://[fe80::b1d6]:1122"}]},  
13363                 {"href": "/myTonerMagentaResURI", "rt": ["oic.r.consumable"], "if":  
13364                 ["oic.if.s","oic.if.baseline"], "eps": [{"ep": "coaps://[fe80::b1d6]:1122"}]},  
13365                 {"href": "/myTonerYellowResURI", "rt": ["oic.r.consumable"], "if":  
13366                 ["oic.if.s","oic.if.baseline"], "eps": [{"ep": "coaps://[fe80::b1d6]:1122"}]}  
13367               ],  
13368             "schema": { "$ref": "#/definitions/consumables-ll" }  
13369           }  
13370         }  
13371       }  
13372     },  
13373     "/ConsumablesResURI?if=oic.if.b" : {  
13374       "get": {  
13375         "description": "This Resource specifies things that can be consumed such as filter material,  
13376         printer toner etc\nThe resource is a Collection of instances of oic.r.consumable detailing the  
13377         individual consumed items\nsupportedconsumables is the set of consumable types that this instance of  
13378         the Resource supports\n",  
13379         "parameters": [  
13380           {"$ref": "#/parameters/interface-all"}  
13381         ],  
13382         "responses": {  
13383           "200": {
```

```

13384         "description" : "",
13385         "x-example": [
13386             {
13387                 "href": "/tonerCyanResURI",
13388                 "rep": {
13389                     "typeofconsumable": "tonerCyan",
13390                     "remaining": 70,
13391                     "orderpercentage": 10,
13392                     "url": "http://myreorderURL"
13393                 }
13394             },
13395             {
13396                 "href": "/tonerBlackResURI",
13397                 "rep": {
13398                     "typeofconsumable": "tonerBlack",
13399                     "remaining": 20,
13400                     "orderpercentage": 10,
13401                     "url": "http://myreorderURL"
13402                 }
13403             }
13404         ],
13405         "schema": { "$ref": "#/definitions/ConsumableCollectionBatch-Retrieve" }
13406     }
13407 }
13408 },
13409 ],
13410 "/ConsumablesResURI?if=oic.if.baseline" : {
13411     "get": {
13412         "description": "This Resource specifies things that can be consumed such as filter material,
13413 printer toner etc\nThe resource is a Collection of instances of oic.r.consumable detailing the
13414 individual consumed items\nsupportedconsumables is the set of consumable types that this instance of
13415 the Resource supports\n",
13416         "parameters": [
13417             { "$ref": "#/parameters/interface-all" }
13418         ],
13419         "responses": {
13420             "200": {
13421                 "description" : "",
13422                 "x-example": {
13423                     "rt": [ "oic.r.consumablecollection", "oic.wk.col" ],
13424                     "if": [ "oic.if.ll", "oic.if.b", "oic.if.baseline" ],
13425                     "rts": [ "oic.r.consumable" ],
13426                     "supportedconsumables": [ "tonerBlack", "tonerCyan", "tonerMagenta", "tonerYellow" ],
13427                     "links": [
13428                         { "href": "/myTonerBlackResURI", "rt": [ "oic.r.consumable" ], "if":
13429 [ "oic.if.s", "oic.if.baseline" ], "eps": [ { "ep": "coaps://[fe80:b1d6]:1122" } ] },
13430                         { "href": "/myTonerCyanResURI", "rt": [ "oic.r.consumable" ], "if":
13431 [ "oic.if.s", "oic.if.baseline" ], "eps": [ { "ep": "coaps://[fe80:b1d6]:1122" } ] },
13432                         { "href": "/myTonerMagentaResURI", "rt": [ "oic.r.consumable" ], "if":
13433 [ "oic.if.s", "oic.if.baseline" ], "eps": [ { "ep": "coaps://[fe80:b1d6]:1122" } ] },
13434                         { "href": "/myTonerYellowResURI", "rt": [ "oic.r.consumable" ], "if":
13435 [ "oic.if.s", "oic.if.baseline" ], "eps": [ { "ep": "coaps://[fe80:b1d6]:1122" } ] }
13436                     ]
13437                 },
13438                 "schema": { "$ref": "#/definitions/consumables" }
13439             }
13440         }
13441     }
13442 },
13443 ],
13444 "parameters": {
13445     "interface-all" : {
13446         "in" : "query",
13447         "name" : "if",
13448         "type" : "string",
13449         "enum" : [ "oic.if.ll", "oic.if.b", "oic.if.baseline" ]
13450     }
13451 },
13452 "definitions": {
13453     "consumables-ll" : {
13454         "items": {
13455             "$ref": "#/definitions/oic.oic-link"

```

```

13456     },
13457     "type": "array"
13458   },
13459   "consumables": {
13460     "properties": {
13461       "rt": {
13462         "items": {
13463           "enum": [
13464             "oic.r.consumablecollection",
13465             "oic.wk.col"
13466           ],
13467           "type": "string",
13468           "maxLength": 64
13469         },
13470         "minItems": 2,
13471         "type": "array",
13472         "readOnly": true,
13473         "uniqueItems": true
13474       },
13475       "supportedconsumables": {
13476         "description": "Array of possible consumables the device measures.",
13477         "items": {
13478           "type": "string"
13479         },
13480         "readOnly": true,
13481         "type": "array"
13482       },
13483       "links": {
13484         "description": "A set of simple or individual OCF Links.",
13485         "items": {
13486           "$ref": "#/definitions/oic.oic-link"
13487         },
13488         "type": "array"
13489       },
13490       "n": {
13491         "$ref":
13492         "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
13493         schema.json#/definitions/n"
13494       },
13495       "id": {
13496         "$ref":
13497         "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
13498         schema.json#/definitions/id"
13499       },
13500       "rts": {
13501         "items": {
13502           "enum": ["oic.r.consumable"],
13503           "type": "string",
13504           "maxLength": 64
13505         },
13506         "minItems": 1,
13507         "type": "array",
13508         "readOnly": true,
13509         "uniqueItems": true
13510       },
13511       "if": {
13512         "description": "The OCF Interfaces supported by this Resource",
13513         "items": {
13514           "enum": [
13515             "oic.if.ll",
13516             "oic.if.b",
13517             "oic.if.baseline"
13518           ],
13519           "type": "string",
13520           "maxLength": 64
13521         },
13522         "minItems": 1,
13523         "readOnly": true,
13524         "uniqueItems": true,
13525         "type": "array"
13526       }
13527     }

```

```

13528     "type" : "object"
13529   },
13530   "ConsumableCollectionBatch-Retrieve" : {
13531     "type": "array",
13532     "minItems": 1,
13533     "uniqueItems": true,
13534     "items": {
13535       "type": "object",
13536       "additionalProperties": true,
13537       "properties": {
13538         "href": {
13539           "$ref":
13540 "https://openconnectivityfoundation.github.io/core/schemas/oic.links.properties.core-
13541 schema.json#/definitions/href"
13542         },
13543         "rep": {
13544           "$ref":
13545 "https://openconnectivityfoundation.github.io/IoTDataModels/ConsumableResURI.swagger.json#/definitio
13546 ns/consumable"
13547         }
13548       },
13549       "required": [
13550         "href",
13551         "rep"
13552       ]
13553     }
13554   },
13555   "oic.oic-link": {
13556     "type": "object",
13557     "properties": {
13558       "anchor": {
13559         "$ref":
13560 "https://openconnectivityfoundation.github.io/core/schemas/oic.links.properties.core-
13561 schema.json#/definitions/anchor"
13562       },
13563       "di": {
13564         "$ref":
13565 "https://openconnectivityfoundation.github.io/core/schemas/oic.links.properties.core-
13566 schema.json#/definitions/di"
13567       },
13568       "eps": {
13569         "$ref":
13570 "https://openconnectivityfoundation.github.io/core/schemas/oic.links.properties.core-
13571 schema.json#/definitions/eps"
13572       },
13573       "href": {
13574         "$ref":
13575 "https://openconnectivityfoundation.github.io/core/schemas/oic.links.properties.core-
13576 schema.json#/definitions/href"
13577       },
13578       "ins": {
13579         "$ref":
13580 "https://openconnectivityfoundation.github.io/core/schemas/oic.links.properties.core-
13581 schema.json#/definitions/ins"
13582       },
13583       "p": {
13584         "$ref":
13585 "https://openconnectivityfoundation.github.io/core/schemas/oic.links.properties.core-
13586 schema.json#/definitions/p"
13587       },
13588       "rel": {
13589         "$ref":
13590 "https://openconnectivityfoundation.github.io/core/schemas/oic.links.properties.core-
13591 schema.json#/definitions/rel_array"
13592       },
13593       "title": {
13594         "$ref":
13595 "https://openconnectivityfoundation.github.io/core/schemas/oic.links.properties.core-
13596 schema.json#/definitions/title"
13597       },
13598       "type": {
13599         "$ref":

```

```

13600 "https://openconnectivityfoundation.github.io/core/schemas/oic.links.properties.core-
13601 schema.json#/definitions/type"
13602 },
13603 "if": {
13604   "description": "The OCF Interfaces supported by the target Resource",
13605   "items": {
13606     "enum": [
13607       "oic.if.s",
13608       "oic.if.baseline"
13609     ],
13610     "type": "string",
13611     "maxLength": 64
13612   },
13613   "minItems": 2,
13614   "uniqueItems": true,
13615   "type": "array",
13616   "readOnly": true
13617 },
13618 "rt": {
13619   "description": "Resource Type of the target Resource",
13620   "items": {
13621     "maxLength": 64,
13622     "type": "string",
13623     "enum": ["oic.r.consumable"]
13624   },
13625   "minItems": 1,
13626   "type": "array",
13627   "uniqueItems": true,
13628   "readOnly": true
13629 },
13630 },
13631 "required": [
13632   "href",
13633   "rt",
13634   "if"
13635 ]
13636 }
13637 }
13638 }
13639

```

13640 6.69.5 Property definition

13641 Table 141 defines the Properties that are part of the "oic.r.consumablecollection, oic.wk.col"
 13642 Resource Type.

13643 **Table 141 – The Property definitions of the Resource with type "rt" =**
 13644 **"oic.r.consumablecollection, oic.wk.col".**

Property name	Value type	Mandatory	Access mode	Description
rt	array: see schema		Read Only	
supportedconsumables	array: see schema		Read Only	Array of possible consumables the device measures.
links	array: see schema		Read Write	A set of simple or individual OCF Links.
n	multiple types: see schema		Read Write	
id	multiple types: see schema		Read Write	
rts	array: see schema		Read Only	
if	array: see schema		Read Only	The OCF Interfaces supported by this Resource

href	multiple types: see schema	Yes	Read Write	
rep	multiple types: see schema	Yes	Read Write	
anchor	multiple types: see schema	No	Read Write	
di	multiple types: see schema	No	Read Write	
eps	multiple types: see schema	No	Read Write	
href	multiple types: see schema	Yes	Read Write	
ins	multiple types: see schema	No	Read Write	
p	multiple types: see schema	No	Read Write	
rel	multiple types: see schema	No	Read Write	
title	multiple types: see schema	No	Read Write	
type	multiple types: see schema	No	Read Write	
if	array: see schema	Yes	Read Only	The OCF Interfaces supported by the target Resource
rt	array: see schema	Yes	Read Only	Resource Type of the target Resource

13645 **6.69.6 CRUDN behaviour**

13646 Table 142 defines the CRUDN operations that are supported on the "oic.r.consumablecollection,
13647 oic.wk.col" Resource Type.

13648 **Table 142 – The CRUDN operations of the Resource with type "rt" =**
13649 **"oic.r.consumablecollection, oic.wk.col".**

Create	Read	Update	Delete	Notify
	get			observe

13650 **6.70 Delay Defrost**

13651 **6.70.1 Introduction**

13652 This Resource describes the delay defrost function as defined by the US Energy Star
13653 Specifications.

13654 See Energy Star Refrigerator Requirements Version 5 Section 4).

13655 ([https://www.energystar.gov/sites/default/files/specs//private/ENERGY%20STAR%20Final%20Version%205.0%20Residential%20Refrigerators%20and%20Freezers%20Program%20Requirements](https://www.energystar.gov/sites/default/files/specs//private/ENERGY%20STAR%20Final%20Version%205.0%20Residential%20Refrigerators%20and%20Freezers%20Program%20Requirements.pdf)
13656 .pdf)

13657 The Property "status" is a boolean indicating whether the function is on, if off then defrost is
13658 scheduled as part of normal device operation.

13659 The Property "startTime" is an ISO8601 encoded start time for the interval in which defrost shall
13660 not occur.

13661 The Property "stopTime" is an ISO8601 encoded stop time for the interval in which defrost shall
13662 not occur.

13663 The Property "interval" with additional range restrictions is the time in minutes of the period that
13664 starts at starttime (if not present the default is 240).
13665

13666 The Properties "stopTime" and "interval" are mutually exclusive; they cannot both be present in a
13667 Resource instance.

13668 **6.70.2 Example URI**

13669 /DelayDefrostResURI

13670 **6.70.3 Resource type**

13671 The Resource Type is defined as: "oic.r.delaydefrost".

13672 **6.70.4 OpenAPI 2.0 definition**

```
13673 {  
13674   "swagger": "2.0",  
13675   "info": {  
13676     "title": "Delay Defrost",  
13677     "version": "20190215",  
13678     "license": {  
13679       "name": "OCF Data Model License",  
13680       "url":  
13681         "https://github.com/openconnectivityfoundation/core/blob/e28a9e0a92e17042ba3e83661e4c0fbce8bdc4ba/LI  
13682         CENSE.md",  
13683       "x-copyright": "copyright 2016-2017, 2019 Open Connectivity Foundation, Inc. All rights  
13684       reserved."  
13685     },  
13686     "termsOfService": "https://openconnectivityfoundation.github.io/core/DISCLAIMER.md"  
13687   },  
13688   "schemes": ["http"],  
13689   "consumes": ["application/json"],  
13690   "produces": ["application/json"],  
13691   "paths": {  
13692     "/DelayDefrostResURI" : {  
13693       "get": {  
13694         "description": "This Resource describes the delay defrost function as defined by the US  
13695         Energy Star Specifications.\nSee Energy Star Refrigerator Requirements Version 5 Section  
13696         4).\n(https://www.energystar.gov/sites/default/files/specs//private/ENERGY%20STAR%20Final%20Version%  
13697         205.0%20Residential%20Refrigerators%20and%20Freezers%20Program%20Requirements.pdf)\nThe Property  
13698         \"status\" is a boolean indicating whether the function is on, if off then defrost is scheduled as  
13699         part of normal device operation.\nThe Property \"startTime\" is an ISO8601 encoded start time for  
13700         the interval in which defrost shall not occur.\nThe Property \"stopTime\" is an ISO8601 encoded stop  
13701         time for the interval in which defrost shall not occur.\nThe Property \"interval\" with additional  
13702         range restrictions is the time in minutes of the period that starts at starttime (if not present the  
13703         default is 240).\nThe Properties \"stopTime\" and \"interval\" are mutually exclusive; they cannot  
13704         both be present in a Resource instance.",  
13705         "parameters": [  
13706           { "$ref": "#/parameters/interface" }  
13707         ],  
13708         "responses": {  
13709           "200": {  
13710             "description": "",  
13711             "x-example":  
13712               {  
13713                 "rt": ["oic.r.delaydefrost"],  
13714                 "if": ["oic.if.a", "oic.if.baseline"],  
13715                 "startTime": "T06:00:00Z",  
13716                 "status": false  
13717               },  
13718               "schema": { "$ref": "#/definitions/DelayDefrost" }  
13719             }  
13720           }  
13721         },  
13722         "post": {  
13723           "description": "Activates the desired Delay Defrost functions\n",  
13724           "parameters": [  
13725             { "$ref": "#/parameters/interface" },  
13726             {  
13727               "name": "body",  
13728               "in": "body",  
13729               "required": true,  
13730               "schema": { "$ref": "#/definitions/DelayDefrost" }  
13731             }  
13732           ]  
13733         }  
13734       }  
13735     }  
13736   }  
13737 }
```



```

13731         "x-example":
13732             {
13733                 "status": true,
13734                 "startTime": "T06:00:00Z",
13735                 "interval": 180
13736             }
13737     },
13738     "responses": {
13739         "200": {
13740             "description": "Indicates that the DelayDefrost function was changed.\nThe new
13742 representation may be provided in the response.\n",
13743             "x-example":
13744                 {
13745                     "status": true,
13746                     "startTime": "T06:00:00Z",
13747                     "interval": 180
13748                 }
13749             ,
13750             "schema": { "$ref": "#/definitions/DelayDefrost" }
13751         },
13752         "403": {
13753             "description": "Indicates the update to the time properties was rejected.\nReasons
13754 for rejection:\n invalid time entry\nThe current unchanged representation may be provided in the
13755 response.\n",
13756             "x-example":
13757                 {
13758                     "status": true,
13759                     "startTime": "T06:00:00Z",
13760                     "interval": 180
13761                 }
13762             ,
13763             "schema": { "$ref": "#/definitions/DelayDefrost" }
13764         }
13765     }
13766 },
13767 },
13768 "parameters": {
13769     "interface": {
13770         "in": "query",
13771         "name": "if",
13772         "type": "string",
13773         "enum": ["oic.if.a", "oic.if.baseline"]
13774     }
13775 },
13776 "definitions": {
13777     "DelayDefrost" : {
13778         "properties": {
13779             "rt": {
13780                 "description": "The Resource Type.",
13781                 "items": {
13782                     "enum": ["oic.r.delaydefrost"],
13783                     "maxLength": 64,
13784                     "type": "string"
13785                 },
13786                 "minItems": 1,
13787                 "uniqueItems": true,
13788                 "readOnly": true,
13789                 "type": "array"
13790             },
13791             "status": {
13792                 "description": "Indicates whether any supported delay defrost function is active.",
13793                 "type": "boolean"
13794             },
13795             "interval": {
13796                 "description": "Defrost interval as defined by Energy Star.",
13797                 "minimum": 1,
13798                 "maximum": 1440,
13799                 "default": 240,
13800                 "type": "integer"
13801             },
13802             "stopTime": {

```

```

13803         "description": "Stop time for the time period, if present interval cannot be present.
13804 This is the time of day at which the delay interval stops.",
13805         "type": "string",
13806         "pattern": "^[T]([0-2][0-9]:[0-5][0-9]:[0-5][0-9])([zZ]|([\\+-])([01]\\d|2[0-3])?:?([0-
13807 5]\\d))$"
13808     },
13809     "startTime": {
13810         "description": "Start time for the time period. This is the time of day at which the delay
13811 interval starts.",
13812         "type": "string",
13813         "pattern": "^[T]([0-2][0-9]:[0-5][0-9]:[0-5][0-9])([zZ]|([\\+-])([01]\\d|2[0-3])?:?([0-
13814 5]\\d))$"
13815     },
13816     "n": {
13817         "$ref":
13818 "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
13819 schema.json#/definitions/n"
13820     },
13821     "id": {
13822         "$ref":
13823 "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
13824 schema.json#/definitions/id"
13825     },
13826     "if": {
13827         "description": "The OCF Interface set supported by this Resource.",
13828         "items": {
13829             "enum": [
13830                 "oic.if.a",
13831                 "oic.if.baseline"
13832             ],
13833             "type": "string"
13834         },
13835         "minItems": 2,
13836         "uniqueItems": true,
13837         "readOnly": true,
13838         "type": "array"
13839     }
13840 },
13841 "type": "object"
13842 }
13843 }
13844 }
13845

```

6.70.5 Property definition

Table 143 defines the Properties that are part of the "oic.r.delaydefrost" Resource Type.

Table 143 – The Property definitions of the Resource with type "rt" = "oic.r.delaydefrost".

Property name	Value type	Mandatory	Access mode	Description
rt	array: see schema		Read Only	The Resource Type.
status	boolean		Read Write	Indicates whether any supported delay defrost function is active.
interval	integer		Read Write	Defrost interval as defined by Energy Star.
stopTime	string		Read Write	Stop time for the time period, if present interval cannot be present. This is the time of day at which the delay interval stops.
startTime	string		Read Write	Start time for the time period. This is

				the time of day at which the delay interval starts.
n	multiple types: see schema		Read Write	
id	multiple types: see schema		Read Write	
if	array: see schema		Read Only	The OCF Interface set supported by this Resource.

13849 **6.70.6 CRUDN behaviour**

13850 Table 144 defines the CRUDN operations that are supported on the "oic.r.delaydefrost" Resource
13851 Type.

13852 **Table 144 – The CRUDN operations of the Resource with type "rt" = "oic.r.delaydefrost".**

Create	Read	Update	Delete	Notify
	get	post		observe

13853 **6.71 Eco Mode**

13854 **6.71.1 Introduction**

13855 This Resource specifies the supported and currently active Eco Mode of a Device
13856 The Resource is a derivative of the Mode Resource (oic.r.mode) with a restriction that the
13857 population of supportedmodes and modes Properties is restricted to the set of values:
13858 "disabled","enabled","notsupported".
13859 The adminforced Property indicates that the value has been set by another party (e.g. via some
13860 offboard Smart Energy interaction)
13861

13862 **6.71.2 Example URI**

13863 /EcomodeResURI

13864 **6.71.3 Resource type**

13865 The Resource Type is defined as: "oic.r.ecomode".

13866 **6.71.4 OpenAPI 2.0 definition**

```
13867 {
13868   "swagger": "2.0",
13869   "info": {
13870     "title": "Eco Mode",
13871     "version": "20190215",
13872     "license": {
13873       "name": "OCF Data Model License",
13874       "url":
13875         "https://github.com/openconnectivityfoundation/core/blob/e28a9e0a92e17042ba3e83661e4c0fbce8bdc4ba/LI
13876         CENSE.md",
13877       "x-copyright": "copyright 2016-2017, 2019 Open Connectivity Foundation, Inc. All rights
13878       reserved."
13879     },
13880     "termsOfService": "https://openconnectivityfoundation.github.io/core/DISCLAIMER.md"
13881   },
13882   "schemes": ["http"],
13883   "consumes": ["application/json"],
13884   "produces": ["application/json"],
13885   "paths": {
13886     "/EcomodeResURI" : {
13887       "get": {
13888         "description": "This Resource specifies the supported and currently active Eco Mode of a
13889         Device\nThe Resource is a derivative of the Mode Resource (oic.r.mode) with a restriction that the
```

```

13890 population of supportedmodes and modes Properties is restricted to the set of
13891 values:\n\"disabled\", \"enabled\", \"notsupported\".\n\nThe adminforced Property indicates that the
13892 value has been set by another party (e.g. via some offboard Smart Energy interaction)\n",
13893   "parameters": [
13894     { "$ref": "#/parameters/interface" }
13895   ],
13896   "responses": {
13897     "200": {
13898       "description": "",
13899       "x-example":
13900         {
13901           "rt": ["oic.r.ecomode"],
13902           "if": ["oic.if.a", "oic.if.baseline"],
13903           "supportedModes": ["disabled", "enabled"],
13904           "modes": ["disabled"],
13905           "adminforced": false
13906         },
13907       "schema": { "$ref": "#/definitions/ecomode" }
13908     }
13909   },
13910   "post": {
13911     "description": "",
13912     "parameters": [
13913       { "$ref": "#/parameters/interface" },
13914       {
13915         "name": "body",
13916         "in": "body",
13917         "required": true,
13918         "schema": { "$ref": "#/definitions/ecomode-update" },
13919         "x-example":
13920           {
13921             "modes": ["enabled"]
13922           }
13923       }
13924     ],
13925     "responses": {
13926       "200": {
13927         "description": "",
13928         "x-example":
13929           {
13930             "modes": ["enabled"]
13931           },
13932         "schema": { "$ref": "#/definitions/ecomode-update" }
13933       }
13934     }
13935   }
13936 },
13937 },
13938 },
13939 "parameters": {
13940   "interface": {
13941     "in": "query",
13942     "name": "if",
13943     "type": "string",
13944     "enum": ["oic.if.a", "oic.if.baseline"]
13945   }
13946 },
13947 "definitions": {
13948   "ecomode": {
13949     "properties": {
13950       "rt": {
13951         "description": "The Resource Type.",
13952         "items": {
13953           "enum": ["oic.r.ecomode"],
13954           "maxLength": 64,
13955           "type": "string"
13956         },
13957         "minItems": 1,
13958         "uniqueItems": true,
13959         "readOnly": true,
13960         "type": "array"
13961       },

```

```

13962     "modes": {
13963         "description": "The array of the currently active mode(s).",
13964         "items": {
13965             "enum": ["disabled", "enabled", "notsupported"],
13966             "type": "string"
13967         },
13968         "uniqueItems": true,
13969         "type": "array"
13970     },
13971     "supportedModes": {
13972         "description": "The array of possible modes the device supports.",
13973         "items": {
13974             "enum": ["disabled", "enabled", "notsupported"],
13975             "type": "string"
13976         },
13977         "readOnly": true,
13978         "type": "array"
13979     },
13980     "adminforced": {
13981         "description": "The indicator that the current mode of operation has been forced by admin
13982 action.",
13983         "readOnly": true,
13984         "type": "boolean"
13985     },
13986     "n": {
13987         "$ref":
13988 "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
13989 schema.json#/definitions/n"
13990     },
13991     "id": {
13992         "$ref":
13993 "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
13994 schema.json#/definitions/id"
13995     },
13996     "if": {
13997         "description": "The OCF Interface set supported by this Resource.",
13998         "items": {
13999             "enum": [
14000                 "oic.if.a",
14001                 "oic.if.baseline"
14002             ],
14003             "type": "string"
14004         },
14005         "minItems": 2,
14006         "uniqueItems": true,
14007         "readOnly": true,
14008         "type": "array"
14009     }
14010 },
14011 "type" : "object",
14012 "required": ["supportedModes", "modes"]
14013 },
14014 "ecomode-update" : {
14015     "properties": {
14016         "modes": {
14017             "description": "The desired mode.",
14018             "items": {
14019                 "enum": ["disabled", "enabled", "notsupported"],
14020                 "type": "string"
14021             },
14022             "type": "array"
14023         }
14024     },
14025     "type": "object",
14026     "required": ["modes"]
14027 }
14028 }
14029 }
14030

```

14031 6.71.5 Property definition

14032 Table 145 defines the Properties that are part of the "oic.r.ecomode" Resource Type.
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14033 **Table 145 – The Property definitions of the Resource with type "rt" = "oic.r.ecomode".**

Property name	Value type	Mandatory	Access mode	Description
rt	array: see schema	No	Read Only	The Resource Type.
modes	array: see schema	Yes	Read Write	The array of the currently active mode(s).
supportedModes	array: see schema	Yes	Read Only	The array of possible modes the device supports.
adminforced	boolean	No	Read Only	The indicator that the current mode of operation has been forced by admin action.
n	multiple types: see schema	No	Read Write	
id	multiple types: see schema	No	Read Write	
if	array: see schema	No	Read Only	The OCF Interface set supported by this Resource.
modes	array: see schema	Yes	Read Write	The desired mode.

14034 **6.71.6 CRUDN behaviour**

14035 Table 146 defines the CRUDN operations that are supported on the "oic.r.ecomode" Resource
 14036 Type.

14037 **Table 146 – The CRUDN operations of the Resource with type "rt" = "oic.r.ecomode".**

Create	Read	Update	Delete	Notify
	get	post		observe

14038 **6.72 Heating Zone**

14039 **6.72.1 Introduction**

14040 This Resource provides information about the status of a (single) heating zone of a Cook-Top.
 14041 It describes the case of a Cook-Top whose zones can be activated dynamically (i.e. the device
 14042 implements pot recognition).

14043 The Property "maxheatinglevel" defines the max level for the heating zone

14044 The Property "heatinglevel" is the current heating level of the zone

14045 For each element, the value range is from 0 (indication that the zone is not heating) to
 14046 "maxheatinglevel".

14047 **6.72.2 Example URI**

14048 /HeatingZoneResURI

14049 **6.72.3 Resource type**

14050 The Resource Type is defined as: "oic.r.heatingzone".

14051 **6.72.4 OpenAPI 2.0 definition**

```

14052 {
14053   "swagger": "2.0",
14054   "info": {
14055     "title": "Heating Zone",
14056     "version": "20190215",
14057     "license": {

```

```

14058         "name": "OCF Data Model License",
14059         "url":
14060 "https://github.com/openconnectivityfoundation/core/blob/e28a9e0a92e17042ba3e83661e4c0fbce8bdc4ba/LI
14061 CENSE.md",
14062         "x-copyright": "copyright 2016-2017, 2019 Open Connectivity Foundation, Inc. All rights
14063 reserved."
14064     },
14065     "termsOfService": "https://openconnectivityfoundation.github.io/core/DISCLAIMER.md"
14066 },
14067 "schemes": ["http"],
14068 "consumes": ["application/json"],
14069 "produces": ["application/json"],
14070 "paths": {
14071     "/HeatingZoneResURI" : {
14072         "get": {
14073             "description": "This Resource provides information about the status of a (single) heating
14074 zone of a Cook-Top.\nIt describes the case of a Cook-Top whose zones can be activated dynamically
14075 (i.e. the device implements pot recognition).\nThe Property \"maxheatinglevel\" defines the max
14076 level for the heating zone\nThe Property \"heatinglevel\" is the current heating level of the zone\n
14077 For each element, the value range is from 0 (indication that the zone is not heating) to
14078 \"maxheatinglevel\".",
14079             "parameters": [
14080                 {"$ref": "#/parameters/interface"}
14081             ],
14082             "responses": {
14083                 "200": {
14084                     "description": "RETRIEVES the current heating zone information.",
14085                     "x-example":
14086                     {
14087                         "rt": ["oic.r.heatingzone"],
14088                         "if": ["oic.if.s", "oic.if.baseline"],
14089                         "maxheatinglevel": 6,
14090                         "heatinglevel": 0
14091                     },
14092                     "schema": { "$ref": "#/definitions/HeatingZone" }
14093                 }
14094             }
14095         }
14096     },
14097 },
14098 "parameters": {
14099     "interface": {
14100         "in": "query",
14101         "name": "if",
14102         "type": "string",
14103         "enum": ["oic.if.s", "oic.if.baseline"]
14104     }
14105 },
14106 "definitions": {
14107     "HeatingZone" : {
14108         "properties": {
14109             "rt": {
14110                 "description": "The Resource Type.",
14111                 "items": {
14112                     "enum": ["oic.r.heatingzone"],
14113                     "maxLength": 64,
14114                     "type": "string"
14115                 },
14116                 "minItems": 1,
14117                 "uniqueItems": true,
14118                 "readOnly": true,
14119                 "type": "array"
14120             },
14121             "heatinglevel": {
14122                 "description": "The current heating level for the zone.",
14123                 "readOnly": true,
14124                 "type": "integer"
14125             },
14126             "maxheatinglevel": {
14127                 "description": "The maximum heating level for the zone.",
14128                 "readOnly": true,
14129                 "type": "integer"

```

```

14130     },
14131     "n": {
14132       "$ref":
14133       "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
14134       schema.json#/definitions/n"
14135     },
14136     "id": {
14137       "$ref":
14138       "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
14139       schema.json#/definitions/id"
14140     },
14141     "if": {
14142       "description": "The OCF Interface set supported by this Resource.",
14143       "items": {
14144         "enum": [
14145           "oic.if.s",
14146           "oic.if.baseline"
14147         ],
14148         "type": "string"
14149       },
14150       "minItems": 2,
14151       "uniqueItems": true,
14152       "readOnly": true,
14153       "type": "array"
14154     }
14155   },
14156   "type": "object",
14157   "required": ["maxheatinglevel", "heatinglevel"]
14158 }
14159 }
14160 }
14161

```

6.72.5 Property definition

Table 147 defines the Properties that are part of the "oic.r.heatingzone" Resource Type.

Table 147 – The Property definitions of the Resource with type "rt" = "oic.r.heatingzone".

Property name	Value type	Mandatory	Access mode	Description
rt	array: see schema	No	Read Only	The Resource Type.
heatinglevel	integer	Yes	Read Only	The current heating level for the zone.
maxheatinglevel	integer	Yes	Read Only	The maximum heating level for the zone.
n	multiple types: see schema	No	Read Write	
id	multiple types: see schema	No	Read Write	
if	array: see schema	No	Read Only	The OCF Interface set supported by this Resource.

6.72.6 CRUDN behaviour

Table 148 defines the CRUDN operations that are supported on the "oic.r.heatingzone" Resource Type.

Table 148 – The CRUDN operations of the Resource with type "rt" = "oic.r.heatingzone".

Create	Read	Update	Delete	Notify
	get			observe

14169 **6.73 Heating Zone Collection**

14170 **6.73.1 Introduction**

14171 This Resource provides information about the status of the heating zones of a Cook-Top.
14172 It describes the case of a Cook-Top whose zones can be activated dynamically (i.e. the device
14173 implements pot recognition).

14174 The resource is a Collection of instances of oic.r.heatingzone detailing the individual cooktop
14175 zones

14176 Retrieves the current heating zone information.
14177

14178 **6.73.2 Example URI**

14179 /HeatingZoneResURI

14180 **6.73.3 Resource type**

14181 The Resource Type is defined as: "oic.r.heatingzonecollection, oic.wk.col".

14182 **6.73.4 OpenAPI 2.0 definition**

```
14183 {
14184   "swagger": "2.0",
14185   "info": {
14186     "title": "Heating Zone Collection",
14187     "version": "20190613",
14188     "license": {
14189       "name": "OCF Data Model License",
14190       "url":
14191 "https://github.com/openconnectivityfoundation/core/blob/e28a9e0a92e17042ba3e83661e4c0fbce8bdc4ba/LI
14192 CENSE.md",
14193       "x-copyright": "copyright 2016-2019 Open Connectivity Foundation, Inc. All rights reserved."
14194     },
14195     "termsOfService": "https://openconnectivityfoundation.github.io/core/DISCLAIMER.md"
14196   },
14197   "schemes": ["http"],
14198   "consumes": ["application/json"],
14199   "produces": ["application/json"],
14200   "paths": {
14201     "/HeatingZoneResURI?if=oic.if.ll" : {
14202       "get": {
14203         "description": "This Resource provides information about the status of the heating zones of
14204 a Cook-Top.\nIt describes the case of a Cook-Top whose zones can be activated dynamically (i.e. the
14205 device implements pot recognition).\nThe resource is a Collection of instances of oic.r.heatingzone
14206 detailing the individual cooktop zones\n",
14207         "parameters": [
14208           { "$ref": "#/parameters/interface-all" }
14209         ],
14210         "responses": {
14211           "200": {
14212             "description" : "",
14213             "x-example":
14214             [
14215               { "href": "/myZone1ResURI", "rt": ["oic.r.heatingzone"], "if":
14216 ["oic.if.s","oic.if.baseline"], "eps": [{"ep": "coaps://[fe80::b1d6]:1122"}]},
14217               { "href": "/myZone2ResURI", "rt": ["oic.r.heatingzone"], "if":
14218 ["oic.if.s","oic.if.baseline"], "eps": [{"ep": "coaps://[fe80::b1d6]:1122"}]},
14219               { "href": "/myZone3ResURI", "rt": ["oic.r.heatingzone"], "if":
14220 ["oic.if.s","oic.if.baseline"], "eps": [{"ep": "coaps://[fe80::b1d6]:1122"}]},
14221               { "href": "/myZone4ResURI", "rt": ["oic.r.heatingzone"], "if":
14222 ["oic.if.s","oic.if.baseline"], "eps": [{"ep": "coaps://[fe80::b1d6]:1122"}]}
14223             ],
14224             "schema": { "$ref": "#/definitions/HeatingZone-ll" }
14225           }
14226         }
14227       }
14228     },
14229     "/HeatingZoneResURI?if=oic.if.b" : {
14230       "get": {
```

```

14231     "description": "This Resource provides information about the status of the heating zones of
14232 a Cook-Top.\nIt describes the case of a Cook-Top whose zones can be activated dynamically (i.e. the
14233 device implements pot recognition).\nThe resource is a Collection of instances of oic.r.heatingzone
14234 detailing the individual cooktop zones\n",
14235     "parameters": [
14236       { "$ref": "#/parameters/interface-all" }
14237     ],
14238     "responses": {
14239       "200": {
14240         "description" : "",
14241         "x-example": [
14242           {
14243             "href": "/heatingZoneLeftResURI",
14244             "rep": {
14245               "maxheatinglevel": 6,
14246               "heatinglevel": 0
14247             }
14248           },
14249           {
14250             "href": "/heatingZoneRightResURI",
14251             "rep": {
14252               "maxheatinglevel": 6,
14253               "heatinglevel": 3
14254             }
14255           }
14256         ],
14257         "schema": { "$ref": "#/definitions/HeatingZoneCollectionBatch-Retrieve" }
14258       }
14259     }
14260   },
14261 },
14262 "/HeatingZoneResURI?if=oic.if.baseline" : {
14263   "get": {
14264     "description": "This Resource provides information about the status of the heating zones of
14265 a Cook-Top.\nIt describes the case of a Cook-Top whose zones can be activated dynamically (i.e. the
14266 device implements pot recognition).\nThe resource is a Collection of instances of oic.r.heatingzone
14267 detailing the individual cooktop zones\nRetrieves the current heating zone information.\n",
14268     "parameters": [
14269       { "$ref": "#/parameters/interface-all" }
14270     ],
14271     "responses": {
14272       "200": {
14273         "description" : "",
14274         "x-example":
14275           {
14276             "rt": [ "oic.r.heatingzonecollection", "oic.wk.col" ],
14277             "if": [ "oic.if.ll", "oic.if.b", "oic.if.baseline" ],
14278             "rts": [ "oic.r.heatingzone" ],
14279             "links": [
14280               { "href": "/myZone1ResURI", "rt": [ "oic.r.heatingzone" ], "if":
14281 [ "oic.if.s", "oic.if.baseline" ], "eps": [ { "ep": "coaps://[fe80::b1d6]:1122" } ] },
14282               { "href": "/myZone2ResURI", "rt": [ "oic.r.heatingzone" ], "if":
14283 [ "oic.if.s", "oic.if.baseline" ], "eps": [ { "ep": "coaps://[fe80::b1d6]:1122" } ] },
14284               { "href": "/myZone3ResURI", "rt": [ "oic.r.heatingzone" ], "if":
14285 [ "oic.if.s", "oic.if.baseline" ], "eps": [ { "ep": "coaps://[fe80::b1d6]:1122" } ] },
14286               { "href": "/myZone4ResURI", "rt": [ "oic.r.heatingzone" ], "if":
14287 [ "oic.if.s", "oic.if.baseline" ], "eps": [ { "ep": "coaps://[fe80::b1d6]:1122" } ] }
14288             ]
14289           },
14290         "schema": { "$ref": "#/definitions/HeatingZone" }
14291       }
14292     }
14293   }
14294 },
14295 },
14296 "parameters": {
14297   "interface-all" : {
14298     "in" : "query",
14299     "name" : "if",
14300     "type" : "string",
14301     "enum" : [ "oic.if.ll", "oic.if.b", "oic.if.baseline" ]
14302   }

```

```

14303 },
14304 "definitions": {
14305   "HeatingZone-ll" : {
14306     "items": {
14307       "$ref": "#/definitions/oic.oic-link"
14308     },
14309     "type": "array",
14310     "minItems": 1,
14311     "uniqueItems": true,
14312     "readOnly": true
14313   },
14314   "oic.oic-link": {
14315     "type": "object",
14316     "properties": {
14317       "anchor": {
14318         "$ref":
14319 "https://openconnectivityfoundation.github.io/core/schemas/oic.links.properties.core-
14320 schema.json#/definitions/anchor"
14321       },
14322       "di": {
14323         "$ref":
14324 "https://openconnectivityfoundation.github.io/core/schemas/oic.links.properties.core-
14325 schema.json#/definitions/di"
14326       },
14327       "eps": {
14328         "$ref":
14329 "https://openconnectivityfoundation.github.io/core/schemas/oic.links.properties.core-
14330 schema.json#/definitions/eps"
14331       },
14332       "href": {
14333         "$ref":
14334 "https://openconnectivityfoundation.github.io/core/schemas/oic.links.properties.core-
14335 schema.json#/definitions/href"
14336       },
14337       "ins": {
14338         "$ref":
14339 "https://openconnectivityfoundation.github.io/core/schemas/oic.links.properties.core-
14340 schema.json#/definitions/ins"
14341       },
14342       "p": {
14343         "$ref":
14344 "https://openconnectivityfoundation.github.io/core/schemas/oic.links.properties.core-
14345 schema.json#/definitions/p"
14346       },
14347       "rel": {
14348         "$ref":
14349 "https://openconnectivityfoundation.github.io/core/schemas/oic.links.properties.core-
14350 schema.json#/definitions/rel_array"
14351       },
14352       "title": {
14353         "$ref":
14354 "https://openconnectivityfoundation.github.io/core/schemas/oic.links.properties.core-
14355 schema.json#/definitions/title"
14356       },
14357       "type": {
14358         "$ref":
14359 "https://openconnectivityfoundation.github.io/core/schemas/oic.links.properties.core-
14360 schema.json#/definitions/type"
14361       },
14362       "if": {
14363         "description": "The OCF Interfaces supported by the target Resource",
14364         "items": {
14365           "enum": [
14366             "oic.if.s",
14367             "oic.if.baseline"
14368           ],
14369           "type": "string",
14370           "maxLength": 64
14371         },
14372         "minItems": 2,
14373         "uniqueItems": true,
14374         "type": "array",

```

```

14375         "readOnly": true
14376     },
14377     "rt": {
14378         "description": "Resource Type of the target Resource",
14379         "items": {
14380             "maxLength": 64,
14381             "type": "string",
14382             "enum": ["oic.r.heatingzone"]
14383         },
14384         "minItems": 1,
14385         "type": "array",
14386         "uniqueItems": true,
14387         "readOnly": true
14388     }
14389 },
14390 "required": [
14391     "href",
14392     "rt",
14393     "if"
14394 ]
14395 },
14396 "HeatingZone" : {
14397     "properties": {
14398         "rt": {
14399             "items": {
14400                 "enum": [
14401                     "oic.r.heatingzonecollection",
14402                     "oic.wk.col"
14403                 ],
14404                 "type": "string",
14405                 "maxLength": 64
14406             },
14407             "minItems": 2,
14408             "type": "array",
14409             "uniqueItems": true
14410         },
14411         "links": {
14412             "items": {
14413                 "$ref": "#/definitions/oic.oic-link"
14414             },
14415             "type": "array",
14416             "minItems": 1,
14417             "uniqueItems": true,
14418             "readOnly": true
14419         },
14420         "n": {
14421             "$ref" :
14422             "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
14423             schema.json#/definitions/n"
14424         },
14425         "id": {
14426             "$ref" :
14427             "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
14428             schema.json#/definitions/id"
14429         },
14430         "rts": {
14431             "items": {
14432                 "enum": ["oic.r.heatingzone"],
14433                 "type": "string",
14434                 "maxLength": 64
14435             },
14436             "minItems": 1,
14437             "type": "array",
14438             "readOnly": true,
14439             "uniqueItems": true
14440         },
14441         "if": {
14442             "description": "The OCF Interfaces supported by this Resource",
14443             "items": {
14444                 "enum": [
14445                     "oic.if.ll",
14446                     "oic.if.b",

```

```

14447         "oic.if.baseline"
14448     ],
14449     "type": "string",
14450     "maxLength": 64
14451 },
14452 "minItems": 1,
14453 "readOnly": true,
14454 "uniqueItems": true,
14455 "type": "array"
14456 }
14457 },
14458 "type" : "object"
14459 },
14460 "HeatingZoneCollectionBatch-Retrieve" : {
14461     "type": "array",
14462     "minItems": 1,
14463     "uniqueItems": true,
14464     "items": {
14465         "type": "object",
14466         "additionalProperties": true,
14467         "properties": {
14468             "href": {
14469                 "$ref":
14470 "https://openconnectivityfoundation.github.io/core/schemas/oic.links.properties.core-
14471 schema.json#/definitions/href"
14472             },
14473             "rep": {
14474                 "$ref":
14475 "https://openconnectivityfoundation.github.io/IoTDataModels/HeatingZoneResURI.swagger.json#/definiti
14476 ons/HeatingZone"
14477             }
14478         },
14479         "required": [
14480             "href",
14481             "rep"
14482         ]
14483     }
14484 }
14485 }
14486 }
14487

```

14488 6.73.5 Property definition

14489 Table 149 defines the Properties that are part of the "oic.r.heatingzonecollection, oic.wk.col"
14490 Resource Type.

14491 **Table 149 – The Property definitions of the Resource with type "rt" =**
14492 **"oic.r.heatingzonecollection, oic.wk.col".**

Property name	Value type	Mandatory	Access mode	Description
anchor	multiple types: see schema	No	Read Write	
di	multiple types: see schema	No	Read Write	
eps	multiple types: see schema	No	Read Write	
href	multiple types: see schema	Yes	Read Write	
ins	multiple types: see schema	No	Read Write	
p	multiple types: see schema	No	Read Write	
rel	multiple types: see schema	No	Read Write	

title	multiple types: see schema	No	Read Write	
type	multiple types: see schema	No	Read Write	
if	array: see schema	Yes	Read Only	The OCF Interfaces supported by the target Resource
rt	array: see schema	Yes	Read Only	Resource Type of the target Resource
rt	array: see schema		Read Write	
links	array: see schema		Read Only	
n	multiple types: see schema		Read Write	
id	multiple types: see schema		Read Write	
rts	array: see schema		Read Only	
if	array: see schema		Read Only	The OCF Interfaces supported by this Resource
href	multiple types: see schema	Yes	Read Write	
rep	multiple types: see schema	Yes	Read Write	

14493 **6.73.6 CRUDN behaviour**

14494 Table 150 defines the CRUDN operations that are supported on the "oic.r.heatingzonecollection,
14495 oic.wk.col" Resource Type.

14496 **Table 150 – The CRUDN operations of the Resource with type "rt" =**
14497 **"oic.r.heatingzonecollection, oic.wk.col".**

Create	Read	Update	Delete	Notify
	get			observe

14498 **6.74 Selectable Levels**

14499 **6.74.1 Introduction**

14500 This Resource provides a set of device defined levels that can be selected for an operation.
14501 For example where a humidifier has a discrete set that model different humidity levels that can be
14502 set.

14503 The Property "availablelevels" is an array of the levels that can be selected, these can be a
14504 number or an integer (as subset of integer).

14505 The Property "targetlevel" is the level that has currently been selected and is written to in order to
14506 select a new level.

14507 When retrieved the targetlevel provides the actual value that has been selected.

14508 **6.74.2 Example URI**

14509 /SelectableLevelsResURI

14510 **6.74.3 Resource type**

14511 The Resource Type is defined as: "oic.r.selectablelevels".

14512 6.74.4 OpenAPI 2.0 definition

```
14513 {
14514   "swagger": "2.0",
14515   "info": {
14516     "title": "Selectable Levels",
14517     "version": "20190215",
14518     "license": {
14519       "name": "OCF Data Model License",
14520       "url":
14521         "https://github.com/openconnectivityfoundation/core/blob/e28a9e0a92e17042ba3e83661e4c0fbce8bdc4ba/LI
14522         CENSE.md",
14523       "x-copyright": "copyright 2016-2017, 2019 Open Connectivity Foundation, Inc. All rights
14524         reserved."
14525     },
14526     "termsOfService": "https://openconnectivityfoundation.github.io/core/DISCLAIMER.md"
14527   },
14528   "schemes": ["http"],
14529   "consumes": ["application/json"],
14530   "produces": ["application/json"],
14531   "paths": {
14532     "/SelectableLevelsResURI" : {
14533       "get": {
14534         "description": "This Resource provides a set of device defined levels that can be selected
14535         for an operation.\nFor example where a humidifier has a discrete set that model different humidity
14536         levels that can be set.\nThe Property \"availablelevels\" is an array of the levels that can be
14537         selected, these can be a number or an integer (as subset of integer).\nThe Property \"targetlevel\"
14538         is the level that has currently been selected and is written to in order to select a new
14539         level.\nWhen retrieved the targetlevel provides the actual value that has been selected.",
14540         "parameters": [
14541           { "$ref": "#/parameters/interface" }
14542         ],
14543         "responses": {
14544           "200": {
14545             "description": "Example is using integers for selection levels.",
14546             "x-example":
14547               {
14548                 "rt": ["oic.r.selectablelevels"],
14549                 "if": ["oic.if.a", "oic.if.baseline"],
14550                 "availablelevels": [0, 2, 4, 6, 8],
14551                 "targetlevel": 2
14552               },
14553             "schema": { "$ref": "#/definitions/SelectableLevels" }
14554           }
14555         }
14556       },
14557       "post": {
14558         "description": "Sets the current level from the set \"availablelevels\".",
14559         "parameters": [
14560           { "$ref": "#/parameters/interface" },
14561           {
14562             "name": "body",
14563             "in": "body",
14564             "required": true,
14565             "schema": { "$ref": "#/definitions/UpdateSchema" },
14566             "x-example":
14567               {
14568                 "targetlevel": 4
14569               }
14570           }
14571         ],
14572         "responses": {
14573           "200": {
14574             "description": "",
14575             "x-example":
14576               {
14577                 "targetlevel": 4
14578               },
14579             "schema": { "$ref": "#/definitions/UpdateSchema" }
14580           },
14581           "403": {
14582             "description": "Generated by a OCF Server when an attempt is made to update to a
```

```

14583 targetlevel that is not in the set of availablelevels",
14584     "x-example":
14585         {
14586             "availablelevels":[0, 2, 4, 6, 8],
14587             "targetlevel": 2
14588         },
14589     "schema": { "$ref": "#/definitions/SelectableLevels" }
14590     }
14591 }
14592 }
14593 },
14594 },
14595 "parameters": {
14596     "interface": {
14597         "in": "query",
14598         "name": "if",
14599         "type": "string",
14600         "enum": ["oic.if.a", "oic.if.baseline"]
14601     }
14602 },
14603 "definitions": {
14604     "SelectableLevels" : {
14605         "properties": {
14606             "rt": {
14607                 "description": "The Resource Type.",
14608                 "items": {
14609                     "enum": ["oic.r.selectablelevels"],
14610                     "maxLength": 64,
14611                     "type": "string"
14612                 },
14613                 "minItems": 1,
14614                 "uniqueItems": true,
14615                 "readOnly": true,
14616                 "type": "array"
14617             },
14618             "targetlevel": {
14619                 "description": "The target level from the available selectable set.",
14620                 "type": "number"
14621             },
14622             "availablelevels": {
14623                 "description": "The set of levels to select from.",
14624                 "items": {
14625                     "type": "number"
14626                 },
14627                 "readOnly": true,
14628                 "type": "array"
14629             },
14630             "if": {
14631                 "description": "The OCF Interface set supported by this Resource.",
14632                 "items": {
14633                     "enum": [
14634                         "oic.if.a",
14635                         "oic.if.baseline"
14636                     ],
14637                     "type": "string"
14638                 },
14639                 "minItems": 2,
14640                 "uniqueItems": true,
14641                 "readOnly": true,
14642                 "type": "array"
14643             }
14644         },
14645         "type" : "object",
14646         "required": ["availablelevels", "targetlevel"]
14647     },
14648     "UpdateSchema" : {
14649         "properties": {
14650             "targetlevel": {
14651                 "description": "The target level from the available selectable set",
14652                 "type": "number"
14653             }
14654         },

```



```

14655     "type": "object",
14656     "required": ["targetlevel"]
14657   }
14658 }
14659 }
14660

```

14661 6.74.5 Property definition

14662 Table 151 defines the Properties that are part of the "oic.r.selectablelevels" Resource Type.

14663 **Table 151 – The Property definitions of the Resource with type "rt" =**
 14664 **"oic.r.selectablelevels".**

Property name	Value type	Mandatory	Access mode	Description
rt	array: see schema	No	Read Only	The Resource Type.
targetlevel	number	Yes	Read Write	The target level from the available selectable set.
availablelevels	array: see schema	Yes	Read Only	The set of levels to select from.
if	array: see schema	No	Read Only	The OCF Interface set supported by this Resource.
targetlevel	number	Yes	Read Write	The target level from the available selectable set

14665 6.74.6 CRUDN behaviour

14666 Table 152 defines the CRUDN operations that are supported on the "oic.r.selectablelevels"
 14667 Resource Type.

14668 **Table 152 – The CRUDN operations of the Resource with type "rt" =**
 14669 **"oic.r.selectablelevels".**

Create	Read	Update	Delete	Notify
	get	post		observe

14670 6.75 Value Conditional

14671 6.75.1 Introduction

14672 This Resource specifies conditions that can be applied to an observed value in any Resource.
 14673 These conditions are applied by the OCF Server exposing the Resource to any generated
 14674 notifications because of subscriptions to the Resource.

14675 A unicast RETRIEVE to the Resource will receive the most recent value; which may not be the
 14676 most recent notified value.

14677 An OCF Server exposes this Resource in association with the Resource conveying the observed
 14678 value.

14679 This is done by means of a new Resource instance with an RT of ["oic.r.<thing being observed>",
 14680 "oic.r.value.conditional"], e.g ["oic.r.temperature", "oic.r.value.conditional"].

14681 The Property "threshold" is the amount by which the thing being observed must change before a
 14682 notification is sent.

14683 The Property "minnotifyperiod" is the minimum time in ms (milliseconds) that must elapse before
 14684 a notification is sent.

14685 If the maxnotifyperiod (time in ms (milliseconds)) elapses then a notification must be sent.

14686 The Property "maxnotifyperiod" is a timer that resets each time a notification is sent.

14687 A value of '0' for any of "threshold", "minnotifyperiod" or "maxnotifyperiod" means that the
 14688 capability is supported but not active.

14689 **6.75.2 Example URI**

14690 /ValueConditionalResURI

14691 **6.75.3 Resource type**

14692 The Resource Type is defined as: "oic.r.value.conditional".

14693 **6.75.4 OpenAPI 2.0 definition**

```
14694 {
14695   "swagger": "2.0",
14696   "info": {
14697     "title": "Value Conditional",
14698     "version": "20190215",
14699     "license": {
14700       "name": "OCF Data Model License",
14701       "url":
14702         "https://github.com/openconnectivityfoundation/core/blob/e28a9e0a92e17042ba3e83661e4c0fbce8bdc4ba/LI
14703         CENSE.md",
14704       "x-copyright": "copyright 2016-2017, 2019 Open Connectivity Foundation, Inc. All rights
14705         reserved."
14706     },
14707     "termsOfService": "https://openconnectivityfoundation.github.io/core/DISCLAIMER.md"
14708   },
14709   "schemes": ["http"],
14710   "consumes": ["application/json"],
14711   "produces": ["application/json"],
14712   "paths": {
14713     "/ValueConditionalResURI" : {
14714       "get": {
14715         "description": "This Resource specifies conditions that can be applied to an observed value
14716         in any Resource.\nThese conditions are applied by the OCF Server exposing the Resource to any
14717         generated notifications because of subscriptions to the Resource.\nA unicast RETRIEVE to the
14718         Resource will receive the most recent value; which may not be the most recent notified value.\nAn
14719         OCF Server exposes this Resource in association with the Resource conveying the observed
14720         value.\nThis is done by means of a new Resource instance with an RT of ["oic.r.<thing being
14721         observed>\", \"oic.r.value.conditional\"], e.g [\"oic.r.temperature\",
14722         \"oic.r.value.conditional\"].\nThe Property \"threshold\" is the amount by which the thing being
14723         observed must change before a notification is sent.\nThe Property \"minnotifyperiod\" is the minimum
14724         time in ms (milliseconds) that must elapse before a notification is sent.\nIf the maxnotifyperiod
14725         (time in ms (milliseconds)) elapses then a notification must be sent.\nThe Property
14726         \"maxnotifyperiod\" is a timer that resets each time a notification is sent.\nA value of '0' for any
14727         of \"threshold\", \"minnotifyperiod\" or \"maxnotifyperiod\" means that the capability is supported
14728         but not active.",
14729         "parameters": [
14730           {"$ref": "#/parameters/interface"}
14731         ],
14732         "responses": {
14733           "200": {
14734             "description": "",
14735             "x-example":
14736               {
14737                 "rt": ["oic.r.value.conditional"],
14738                 "if": ["oic.if.rw", "oic.if.baseline"],
14739                 "threshold": 2,
14740                 "minnotifyperiod": 2000,
14741                 "maxnotifyperiod": 5000
14742               },
14743             "schema": { "$ref": "#/definitions/valueconditional" }
14744           }
14745         }
14746       },
14747       "post": {
14748         "description": "",
14749         "parameters": [
14750           {"$ref": "#/parameters/interface"},
14751           {
14752             "name": "body",
14753             "in": "body",
14754             "required": true,
14755             "schema": { "$ref": "#/definitions/valueconditional" },

```

```

14756         "x-example":
14757             {
14758                 "threshold": 2,
14759                 "minnotifyperiod": 1500
14760             }
14761         },
14762     ],
14763     "responses": {
14764         "200": {
14765             "description": "",
14766             "x-example":
14767                 {
14768                     "threshold": 2,
14769                     "minnotifyperiod": 1500
14770                 },
14771             "schema": { "$ref": "#/definitions/valueconditional" }
14772         }
14773     }
14774 }
14775 },
14776 },
14777 "parameters": {
14778     "interface": {
14779         "in": "query",
14780         "name": "if",
14781         "type": "string",
14782         "enum": ["oic.if.rw", "oic.if.baseline"]
14783     }
14784 },
14785 "definitions": {
14786     "valueconditional": {
14787         "properties": {
14788             "rt": {
14789                 "description": "The Resource Type.",
14790                 "items": {
14791                     "maxLength": 64,
14792                     "type": "string",
14793                     "enum": ["oic.r.value.conditional"]
14794                 },
14795                 "minItems": 1,
14796                 "uniqueItems": true,
14797                 "readOnly": true,
14798                 "type": "array"
14799             },
14800             "maxnotifyperiod": {
14801                 "description": "The maximum elapsed time in ms before a notification must be sent.",
14802                 "minimum": 0,
14803                 "type": "integer"
14804             },
14805             "minnotifyperiod": {
14806                 "description": "The minimum elapsed time in ms before a notification is sent.",
14807                 "minimum": 0,
14808                 "type": "integer"
14809             },
14810             "threshold": {
14811                 "description": "The amount by which the measured value must change before a notification
14812 is sent.",
14813                 "minimum": 0,
14814                 "type": "number"
14815             },
14816             "n": {
14817                 "$ref":
14818 "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
14819 schema.json#/definitions/n"
14820             },
14821             "id": {
14822                 "$ref":
14823 "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
14824 schema.json#/definitions/id"
14825             },
14826             "if": {
14827                 "description": "The OCF Interface set supported by this Resource.",

```

```

14828     "items": {
14829         "enum": [
14830             "oic.if.rw",
14831             "oic.if.baseline"
14832         ],
14833         "type": "string",
14834         "maxLength": 64
14835     },
14836     "minItems": 2,
14837     "uniqueItems": true,
14838     "readOnly": true,
14839     "type": "array"
14840 }
14841 },
14842 "anyOf": [
14843     {
14844         "required": ["threshold"]
14845     },
14846     {
14847         "required": ["minnotifyperiod"]
14848     },
14849     {
14850         "required": ["maxnotifyperiod"]
14851     }
14852 ],
14853 "type": "object"
14854 }
14855 }
14856 }
14857

```

14858 **6.75.5 Property definition**

14859 Table 153 defines the Properties that are part of the "oic.r.value.conditional" Resource Type.

14860 **Table 153 – The Property definitions of the Resource with type "rt" =**
14861 **"oic.r.value.conditional".**

Property name	Value type	Mandatory	Access mode	Description
rt	array: see schema	No	Read Only	The Resource Type.
maxnotifyperiod	integer	Yes	Read Write	The maximum elapsed time in ms before a notification must be sent.
minnotifyperiod	integer	No	Read Write	The minimum elapsed time in ms before a notification is sent.
threshold	number	No	Read Write	The amount by which the measured value must change before a notification is sent.
n	multiple types: see schema	No	Read Write	
id	multiple types: see schema	No	Read Write	
if	array: see schema	No	Read Only	The OCF Interface set supported by this Resource.

14862 **6.75.6 CRUDN behaviour**

14863 Table 154 defines the CRUDN operations that are supported on the "oic.r.value.conditional"
14864 Resource Type.

14865
14866

Table 154 – The CRUDN operations of the Resource with type "rt" = "oic.r.value.conditional".

Create	Read	Update	Delete	Notify
	get	post		observe

14867 **6.76 Colour Space Coordinates**

14868 **6.76.1 Introduction**

14869 This Resource describes the colour using colour space co-ordinates.
14870 The Property "csc" is the colour space coordinates in CIE colour space.
14871 The first item in the array is the X coordinate.
14872 The second item in the array is the Y coordinate.
14873 If the Property "precision" is provided it applies to both the X and Y coordinates.
14874 The Resource provides the colour using colour space coordinates.
14875

14876 **6.76.2 Example URI**

14877 /example/ColourSpaceCoordinatesResURI

14878 **6.76.3 Resource type**

14879 The Resource Type is defined as: "oic.r.colour.csc".

14880 **6.76.4 OpenAPI 2.0 definition**

```
14881 {  
14882   "swagger": "2.0",  
14883   "info": {  
14884     "title": "Colour Space Coordinates",  
14885     "version": "20190215",  
14886     "license": {  
14887       "name": "OCF Data Model License",  
14888       "url":  
14889         "https://github.com/openconnectivityfoundation/core/blob/e28a9e0a92e17042ba3e83661e4c0fbce8bdc4ba/LI  
14890         CENSE.md",  
14891       "x-copyright": "copyright 2016-2017, 2019 Open Connectivity Foundation, Inc. All rights  
14892       reserved."  
14893     },  
14894     "termsOfService": "https://openconnectivityfoundation.github.io/core/DISCLAIMER.md"  
14895   },  
14896   "schemes": ["http"],  
14897   "consumes": ["application/json"],  
14898   "produces": ["application/json"],  
14899   "paths": {  
14900     "/example/ColourSpaceCoordinatesResURI" : {  
14901       "get": {  
14902         "description": "This Resource describes the colour using colour space co-ordinates.\n\nThe  
14903         Property \"csc\" is the colour space coordinates in CIE colour space.\n\n The first item in the array  
14904         is the X coordinate.\n\n The second item in the array is the Y coordinate.\n\n If the Property  
14905         \"precision\" is provided it applies to both the X and Y coordinates.\n\nThe Resource provides the  
14906         colour using colour space coordinates.\n\n",  
14907         "parameters": [  
14908           { "$ref": "#/parameters/interface" }  
14909         ],  
14910         "responses": {  
14911           "200": {  
14912             "description": "",  
14913             "x-example":  
14914               {  
14915                 "rt": ["oic.r.colour.csc"],  
14916                 "if": ["oic.if.a", "oic.if.baseline"],  
14917                 "csc": [0.41, 0.51]  
14918               },  
14919             "schema": { "$ref": "#/definitions/ColourCSC" }  
14920           }  
14921         }  
14922       }  
14923     }  
14924   }  
14925 }
```

```

14922     },
14923     "post": {
14924         "description": "Sets current colour space coordinates\n",
14925         "parameters": [
14926             { "$ref": "#/parameters/interface" },
14927             {
14928                 "name": "body",
14929                 "in": "body",
14930                 "required": true,
14931                 "schema": { "$ref": "#/definitions/ColourCSC" },
14932                 "x-example":
14933                     {
14934                         "csc": [0.40, 0.70]
14935                     }
14936             }
14937         ],
14938         "responses": {
14939             "200": {
14940                 "description": "",
14941                 "x-example":
14942                     {
14943                         "csc": [0.40, 0.70]
14944                     },
14945                 "schema": { "$ref": "#/definitions/ColourCSC" }
14946             }
14947         }
14948     }
14949 },
14950 },
14951 "parameters": {
14952     "interface": {
14953         "in": "query",
14954         "name": "if",
14955         "type": "string",
14956         "enum": ["oic.if.a", "oic.if.baseline"]
14957     }
14958 },
14959 "definitions": {
14960     "ColourCSC": {
14961         "properties": {
14962             "rt": {
14963                 "description": "The Resource Type.",
14964                 "items": {
14965                     "enum": ["oic.r.colour.csc"],
14966                     "maxLength": 64,
14967                     "type": "string"
14968                 },
14969                 "minItems": 1,
14970                 "uniqueItems": true,
14971                 "readOnly": true,
14972                 "type": "array"
14973             },
14974             "csc": {
14975                 "description": "The X and Y coordinates of the colour in CIE colour space.",
14976                 "items": {
14977                     "maximum": 1,
14978                     "minimum": 0,
14979                     "type": "number"
14980                 },
14981                 "maxItems": 2,
14982                 "minItems": 2,
14983                 "type": "array"
14984             },
14985             "n": {
14986                 "$ref":
14987                 "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
14988                 schema.json#/definitions/n"
14989             },
14990             "id": {
14991                 "$ref":
14992                 "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
14993                 schema.json#/definitions/id"

```

```

14994     },
14995     "precision": {
14996         "$ref":
14997         "https://openconnectivityfoundation.github.io/IoTDataModels/schemas/oic.baseresource.properties-
14998         schema.json#/definitions/precision"
14999     },
15000     "if": {
15001         "description": "The OCF Interface set supported by this Resource.",
15002         "items": {
15003             "enum": [
15004                 "oic.if.a",
15005                 "oic.if.baseline"
15006             ],
15007             "type": "string"
15008         },
15009         "minItems": 2,
15010         "uniqueItems": true,
15011         "readOnly": true,
15012         "type": "array"
15013     }
15014 },
15015 "type": "object",
15016 "required": ["csc"]
15017 }
15018 }
15019 }
15020

```

15021 **6.76.5 Property definition**

15022 Table 155 defines the Properties that are part of the "oic.r.colour.csc" Resource Type.

15023 **Table 155 – The Property definitions of the Resource with type "rt" = "oic.r.colour.csc".**

Property name	Value type	Mandatory	Access mode	Description
rt	array: see schema	No	Read Only	The Resource Type.
csc	array: see schema	Yes	Read Write	The X and Y coordinates of the colour in CIE colour space.
n	multiple types: see schema	No	Read Write	
id	multiple types: see schema	No	Read Write	
precision	multiple types: see schema	No	Read Write	
if	array: see schema	No	Read Only	The OCF Interface set supported by this Resource.

15024 **6.76.6 CRUDN behaviour**

15025 Table 156 defines the CRUDN operations that are supported on the "oic.r.colour.csc" Resource
 15026 Type.

15027 **Table 156 – The CRUDN operations of the Resource with type "rt" = "oic.r.colour.csc".**

Create	Read	Update	Delete	Notify
	get	post		observe

15028 **6.77 Colour Temperature**

15029 **6.77.1 Introduction**

15030 This Resource describes the colour using colour temperature conventions.
15031 The Property "ct" is the Mired colour temperature.
15032 The equivalent value in Kelvin is obtained by $\text{Colour Temp(K)} = 1,000,000/\text{Colour Temp(Mired)}$
15033 The Resource provides the colour using colour temperature conventions.

15034 **6.77.2 Example URI**

15035 /example/ColourTemperatureResURI

15036 **6.77.3 Resource type**

15037 The Resource Type is defined as: "oic.r.colour.colourtemperature".

15038 **6.77.4 OpenAPI 2.0 definition**

```
15039 {
15040   "swagger": "2.0",
15041   "info": {
15042     "title": "Colour Temperature",
15043     "version": "20190215",
15044     "license": {
15045       "name": "OCF Data Model License",
15046       "url":
15047         "https://github.com/openconnectivityfoundation/core/blob/e28a9e0a92e17042ba3e83661e4c0fbce8bdc4ba/LI
15048         CENSE.md",
15049       "x-copyright": "copyright 2016-2017, 2019 Open Connectivity Foundation, Inc. All rights
15050         reserved."
15051     },
15052     "termsOfService": "https://openconnectivityfoundation.github.io/core/DISCLAIMER.md"
15053   },
15054   "schemes": ["http"],
15055   "consumes": ["application/json"],
15056   "produces": ["application/json"],
15057   "paths": {
15058     "/example/ColourTemperatureResURI" : {
15059       "get": {
15060         "description": "This Resource describes the colour using colour temperature
15061         conventions.\nThe Property \"ct\" is the Mired colour temperature.\nThe equivalent value in Kelvin
15062         is obtained by Colour Temp(K) = 1,000,000/Colour Temp(Mired)\nThe Resource provides the colour using
15063         colour temperature conventions.",
15064         "parameters": [
15065           { "$ref": "#/parameters/interface" }
15066         ],
15067         "responses": {
15068           "200": {
15069             "description": "",
15070             "x-example":
15071               {
15072                 "rt": ["oic.r.colour.colourtemperature"],
15073                 "if": ["oic.if.a", "oic.if.baseline"],
15074                 "ct": 457
15075               },
15076             "schema": { "$ref": "#/definitions/ColourTemp" }
15077           }
15078         }
15079       },
15080       "post": {
15081         "description": "Sets current colour temperature value\n",
15082         "parameters": [
15083           { "$ref": "#/parameters/interface" },
15084           {
15085             "name": "body",
15086             "in": "body",
15087             "required": true,
15088             "schema": { "$ref": "#/definitions/ColourTemp" },
15089             "x-example":
15090               {
```



```

15091         "ct": 457
15092     }
15093 }
15094 ],
15095 "responses": {
15096     "200": {
15097         "description": "",
15098         "x-example":
15099             {
15100                 "ct": 467
15101             },
15102         "schema": { "$ref": "#/definitions/ColourTemp" }
15103     }
15104 }
15105 }
15106 }
15107 },
15108 "parameters": {
15109     "interface": {
15110         "in": "query",
15111         "name": "if",
15112         "type": "string",
15113         "enum": ["oic.if.a", "oic.if.baseline"]
15114     }
15115 },
15116 "definitions": {
15117     "ColourTemp": {
15118         "properties": {
15119             "rt":
15120                 {
15121                     "description": "The Resource Type.",
15122                     "items": {
15123                         "maxLength": 64,
15124                         "type": "string",
15125                         "enum": ["oic.r.colour.colourtemperature"]
15126                     },
15127                     "minItems": 1,
15128                     "uniqueItems": true,
15129                     "readOnly": true,
15130                     "type": "array"
15131                 },
15132             "ct": {
15133                 "description": "The Mired colour temperature.",
15134                 "minimum": 0,
15135                 "type": "integer"
15136             },
15137             "n": {
15138                 "$ref":
15139                 "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
15140                 schema.json#/definitions/n"
15141             },
15142             "id": {
15143                 "$ref":
15144                 "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
15145                 schema.json#/definitions/id"
15146             },
15147             "range": {
15148                 "$ref":
15149                 "https://openconnectivityfoundation.github.io/IoTDataModels/schemas/oic.baseresource.properties-
15150                 schema.json#/definitions/range_integer"
15151             },
15152             "step": {
15153                 "$ref":
15154                 "https://openconnectivityfoundation.github.io/IoTDataModels/schemas/oic.baseresource.properties-
15155                 schema.json#/definitions/step_integer"
15156             },
15157             "if": {
15158                 "description": "The OCF Interface set supported by this Resource.",
15159                 "items": {
15160                     "enum": [
15161                         "oic.if.a",
15162                         "oic.if.baseline"

```

```

15163         ],
15164         "type": "string"
15165     },
15166     "minItems": 2,
15167     "uniqueItems": true,
15168     "readOnly": true,
15169     "type": "array"
15170 }
15171 },
15172 "type": "object",
15173 "required": ["ct"]
15174 }
15175 }
15176 }
15177

```

15178 **6.77.5 Property definition**

15179 Table 157 defines the Properties that are part of the "oic.r.colour.colourtemperature" Resource
15180 Type.

15181 **Table 157 – The Property definitions of the Resource with type "rt" =**
15182 **"oic.r.colour.colourtemperature".**

Property name	Value type	Mandatory	Access mode	Description
rt	array: see schema	No	Read Only	The Resource Type.
ct	integer	Yes	Read Write	The Mired colour temperature.
n	multiple types: see schema	No	Read Write	
id	multiple types: see schema	No	Read Write	
range	multiple types: see schema	No	Read Write	
step	multiple types: see schema	No	Read Write	
if	array: see schema	No	Read Only	The OCF Interface set supported by this Resource.

15183 **6.77.6 CRUDN behaviour**

15184 Table 158 defines the CRUDN operations that are supported on the
15185 "oic.r.colour.colourtemperature" Resource Type.

15186 **Table 158 – The CRUDN operations of the Resource with type "rt" =**
15187 **"oic.r.colour.colourtemperature".**

Create	Read	Update	Delete	Notify
	get	post		observe

15188 **6.78 Colour Hue and Saturation**

15189 **6.78.1 Introduction**

15190 This Resource describes the colour using hue-saturation conventions.
15191 The Property "hue" is the hue angle, it is a number value as defined by the CIECAM02 model
15192 definition (see reference [CIE CIE159:2004]).
15193 A Device that does not support fractional hue angles can provide integer values.
15194 If Property "precision" is provided it applies to the hue angle.
15195 The Property "saturation" is an integer value as defined by the CIECAM02 model definition (see
15196 reference [CIE CIE159:2004]).

15197 The Property "saturation" can be converted to a percentage by saturation/maximumsaturation X
 15198 100; where maximumsaturation is 32767 if the Property itself is not present.
 15199 The Property "maximumsaturation" is the upper bound on the saturation supported by the Device.
 15200 If not present the maximum value for saturation is 32767.
 15201 The Resource provides the colour using hue and saturation conventions.
 15202

15203 6.78.2 Example URI

15204 /example/ColourHueSaturationResURI

15205 6.78.3 Resource type

15206 The Resource Type is defined as: "oic.r.colour.hs".

15207 6.78.4 OpenAPI 2.0 definition

```

15208 {
15209   "swagger": "2.0",
15210   "info": {
15211     "title": "Colour Hue and Saturation",
15212     "version": "20190215",
15213     "license": {
15214       "name": "OCF Data Model License",
15215       "url":
15216         "https://github.com/openconnectivityfoundation/core/blob/e28a9e0a92e17042ba3e83661e4c0fbce8bdc4ba/LI
15217         CENSE.md",
15218       "x-copyright": "copyright 2016-2017, 2019 Open Connectivity Foundation, Inc. All rights
15219         reserved."
15220     },
15221     "termsOfService": "https://openconnectivityfoundation.github.io/core/DISCLAIMER.md"
15222   },
15223   "schemes": ["http"],
15224   "consumes": ["application/json"],
15225   "produces": ["application/json"],
15226   "paths": {
15227     "/example/ColourHueSaturationResURI" : {
15228       "get": {
15229         "description": "This Resource describes the colour using hue-saturation conventions.\nThe
15230         Property \"hue\" is the hue angle, it is a number value as defined by the CIECAM02 model definition
15231         (see reference [CIE CIE159:2004]).\nA Device that does not support fractional hue angles can provide
15232         integer values.\nIf Property \"precision\" is provided it applies to the hue angle.\nThe Property
15233         \"saturation\" is an integer value as defined by the CIECAM02 model definition (see reference [CIE
15234         CIE159:2004]).\n The Property \"saturation\" can be converted to a percentage by
15235         saturation/maximumsaturation X 100; where maximumsaturation is 32767 if the Property itself is not
15236         present.\nThe Property \"maximumsaturation\" is the upper bound on the saturation supported by the
15237         Device.\nIf not present the maximum value for saturation is 32767.\n\nThe Resource provides the colour
15238         using hue and saturation conventions.\n",
15239         "parameters": [
15240           { "$ref": "#/parameters/interface" }
15241         ],
15242         "responses": {
15243           "200": {
15244             "description": "",
15245             "x-example":
15246               {
15247                 "rt": ["oic.r.colour.hs"],
15248                 "if": ["oic.if.a", "oic.if.baseline"],
15249                 "hue": 300.0,
15250                 "saturation": 212,
15251                 "maximumsaturation": 1000
15252               },
15253             "schema": { "$ref": "#/definitions/ColourHS" }
15254           }
15255         }
15256       },
15257       "post": {
15258         "description": "Sets current colour hue and saturation values.\nAt least one of hue or
15259         saturation shall be provided in the payload.\n",
15260         "parameters": [
  
```

```

15261         {"$ref": "#/parameters/interface"},
15262         {
15263             "name": "body",
15264             "in": "body",
15265             "required": true,
15266             "schema": { "$ref": "#/definitions/ColourHS" },
15267             "x-example":
15268                 {
15269                     "hue": 300.0,
15270                     "saturation": 212
15271                 }
15272         },
15273     ],
15274     "responses": {
15275         "200": {
15276             "description": "",
15277             "x-example":
15278                 {
15279                     "hue": 300.0,
15280                     "saturation": 212
15281                 },
15282             "schema": { "$ref": "#/definitions/ColourHS" }
15283         }
15284     }
15285 },
15286 },
15287 },
15288 "parameters": {
15289     "interface" : {
15290         "in": "query",
15291         "name": "if",
15292         "type": "string",
15293         "enum": ["oic.if.a", "oic.if.baseline"]
15294     }
15295 },
15296 "definitions": {
15297     "ColourHS" : {
15298         "properties": {
15299             "rt": {
15300                 "description": "The Resource Type.",
15301                 "items": {
15302                     "enum": ["oic.r.colour.hs"],
15303                     "maxLength": 64,
15304                     "type": "string"
15305                 },
15306                 "minItems": 1,
15307                 "uniqueItems": true,
15308                 "readOnly": true,
15309                 "type": "array"
15310             },
15311             "hue": {
15312                 "description": "The hue angle as defined by the CIECAM02 model definition.",
15313                 "maximum": 360.0,
15314                 "minimum": 0.0,
15315                 "type": "number"
15316             },
15317             "saturation": {
15318                 "description": "The saturation as defined by the CIECAM02 model definition.",
15319                 "maximum": 32767,
15320                 "minimum": 0,
15321                 "type": "integer"
15322             },
15323             "maximumsaturation": {
15324                 "description": "The maximum supported value of \"saturation\" for this Device.",
15325                 "maximum": 32767,
15326                 "minimum": 0,
15327                 "readOnly": true,
15328                 "type": "integer"
15329             },
15330             "n": {
15331                 "$ref":

```

<https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core->

```

15333 schema.json#/definitions/n"
15334     },
15335     "id": {
15336       "$ref":
15337       "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
15338       schema.json#/definitions/id"
15339     },
15340     "precision": {
15341       "$ref":
15342       "https://openconnectivityfoundation.github.io/IoTDataModels/schemas/oic.baseresource.properties-
15343       schema.json#/definitions/precision"
15344     },
15345     "if": {
15346       "description": "The OCF Interface set supported by this Resource.",
15347       "items": {
15348         "enum": [
15349           "oic.if.a",
15350           "oic.if.baseline"
15351         ],
15352         "type": "string"
15353       },
15354       "minItems": 2,
15355       "uniqueItems": true,
15356       "readOnly": true,
15357       "type": "array"
15358     }
15359   },
15360   "type": "object",
15361   "required": ["hue", "saturation"]
15362 }
15363 }
15364 }
15365

```

15366 **6.78.5 Property definition**

15367 Table 159 defines the Properties that are part of the "oic.r.colour.hs" Resource Type.

15368 **Table 159 – The Property definitions of the Resource with type "rt" = "oic.r.colour.hs".**

Property name	Value type	Mandatory	Access mode	Description
rt	array: see schema	No	Read Only	The Resource Type.
hue	number	Yes	Read Write	The hue angle as defined by the CIECAM02 model definition.
saturation	integer	Yes	Read Write	The saturation as defined by the CIECAM02 model definition.
maximumsaturation	integer	No	Read Only	The maximum supported value of "saturation" for this Device.
n	multiple types: see schema	No	Read Write	
id	multiple types: see schema	No	Read Write	
precision	multiple types: see schema	No	Read Write	
if	array: see schema	No	Read Only	The OCF Interface set supported by this Resource.

15369 **6.78.6 CRUDN behaviour**

15370 Table 160 defines the CRUDN operations that are supported on the "oic.r.colour.hs" Resource
15371 Type.

15372 **Table 160 – The CRUDN operations of the Resource with type "rt" = "oic.r.colour.hs".**

Create	Read	Update	Delete	Notify
	get	post		observe

15373 **6.79 Battery Material**

15374 **6.79.1 Introduction**

15375 This Resource describes the battery material represented as an enumerated set of strings.

15376 **6.79.2 Example URI**

15377 /BatteryMaterialResURI

15378 **6.79.3 Resource type**

15379 The Resource Type is defined as: "oic.r.batterymaterial".

15380 **6.79.4 OpenAPI 2.0 definition**

```
15381 {  
15382   "swagger": "2.0",  
15383   "info": {  
15384     "title": "Battery Material",  
15385     "version": "20190222",  
15386     "license": {  
15387       "name": "OCF Data Model License",  
15388       "url":  
15389         "https://github.com/openconnectivityfoundation/core/blob/e28a9e0a92e17042ba3e83661e4c0fbce8bdc4ba/LI  
15390         CENSE.md",  
15391       "x-copyright": "Copyright 2018-2019 Open Connectivity Foundation, Inc. All rights reserved."  
15392     },  
15393     "termsOfService": "https://openconnectivityfoundation.github.io/core/DISCLAIMER.md"  
15394   },  
15395   "schemes": ["http"],  
15396   "consumes": ["application/json"],  
15397   "produces": ["application/json"],  
15398   "paths": {  
15399     "/BatteryMaterialResURI" : {  
15400       "get": {  
15401         "description": "This Resource describes the battery material represented as an enumerated  
15402         set of strings.",  
15403         "parameters": [  
15404           {"$ref": "#/parameters/interface"}  
15405         ],  
15406         "responses": {  
15407           "200": {  
15408             "description": "",  
15409             "x-example":  
15410               {  
15411                 "rt": ["oic.r.batterymaterial"],  
15412                 "if": ["oic.if.s", "oic.if.baseline"],  
15413                 "material": "Alkaline"  
15414               },  
15415             "schema": { "$ref": "#/definitions/BatteryMaterial" }  
15416           }  
15417         }  
15418       }  
15419     }  
15420   },  
15421   "parameters": {  
15422     "interface" : {  
15423       "in": "query",  
15424       "name": "if",
```

```

15425     "type": "string",
15426     "enum": ["oic.if.s", "oic.if.baseline"]
15427   },
15428 },
15429 "definitions": {
15430   "BatteryMaterial" : {
15431     "properties": {
15432       "rt": {
15433         "description": "The Resource Type.",
15434         "items": {
15435           "enum": ["oic.r.batterymaterial"],
15436           "maxLength": 64,
15437           "type": "string"
15438         },
15439         "minItems": 1,
15440         "uniqueItems": true,
15441         "readOnly": true,
15442         "type": "array"
15443       },
15444       "material": {
15445         "description": "The battery construction material (type).",
15446         "enum": [
15447           "Alkaline",
15448           "Aluminium Air",
15449           "Aluminium Ion",
15450           "Atomic Betavoltaics",
15451           "Atomic Optoelectric Nuclear",
15452           "Atomic Nuclear",
15453           "Bunsen Cell",
15454           "Chromic Acid Cell",
15455           "Poggendorff Cell",
15456           "Clark Cell",
15457           "Daniell Cell",
15458           "Dry Cell",
15459           "Earth",
15460           "Flow",
15461           "Flow Vanadium Redox",
15462           "Flow Zinc Bromine",
15463           "Flow Zinc Cerium",
15464           "Frog",
15465           "Fuel",
15466           "Galvanic Cell",
15467           "Glass",
15468           "Grove Cell",
15469           "Lead Acid",
15470           "Lead Acid Deep Cycle",
15471           "Lead Acid VRLA",
15472           "Lead Acid AGM",
15473           "Lead Acid Gel",
15474           "Leclanche Cell",
15475           "Lemon Potato",
15476           "Lithium",
15477           "Lithium Air",
15478           "Lithium Ion",
15479           "Lithium Ion Cobalt Oxide (ICR)",
15480           "Lithium Ion Manganese Oxide (IMR)",
15481           "Lithium Ion Polymer",
15482           "Lithium Iron Phosphate",
15483           "Lithium Sulfur",
15484           "Lithium Titanate",
15485           "Lithium Ion Thin Film",
15486           "Magnesium",
15487           "Magnesium Ion",
15488           "Mercury",
15489           "Molten Salt",
15490           "Nickel Cadmium",
15491           "Nickel Cadmium Vented Cell",
15492           "Nickel Hydrogen",
15493           "Nickel Iron ",
15494           "Nickel Metal Hydride",
15495           "Nickel Metal Hydride Low Self-Discharge",
15496           "Nickel Oxyhydroxide",

```

```

15497         "Nickel Oxyride",
15498         "Nickel Zinc",
15499         "Organic Radical",
15500         "Paper",
15501         "Polymer Based",
15502         "Polysulfide Bromide",
15503         "Potassium Ion",
15504         "Pulvermachers Chain",
15505         "Silicon Air",
15506         "Silver Calcium",
15507         "Silver Oxide",
15508         "Silver Zinc",
15509         "Sodium Ion",
15510         "Sodium Sulfur",
15511         "Solid State",
15512         "Sugar",
15513         "Super Iron",
15514         "UltraBattery",
15515         "Voltaic Pile",
15516         "Voltaic Pile Penny",
15517         "Voltaic Pile Trough",
15518         "Water Activated",
15519         "Weston Cell",
15520         "Zinc Air",
15521         "Zinc Carbon",
15522         "Zinc Chloride",
15523         "Zinc Ion",
15524         "Unknown"
15525     ],
15526     "readOnly": true,
15527     "type": "string"
15528 },
15529 "n": {
15530     "$ref":
15531     "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
15532     schema.json#/definitions/n"
15533 },
15534 "id": {
15535     "$ref":
15536     "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
15537     schema.json#/definitions/id"
15538 },
15539 "if": {
15540     "description": "The OCF Interface set supported by this Resource.",
15541     "items": {
15542         "enum": [
15543             "oic.if.s",
15544             "oic.if.baseline"
15545         ],
15546         "type": "string"
15547     },
15548     "minItems": 2,
15549     "uniqueItems": true,
15550     "readOnly": true,
15551     "type": "array"
15552 }
15553 },
15554 "type": "object",
15555 "required": ["material"]
15556 }
15557 }
15558 }
15559

```

15560 6.79.5 Property definition

15561 Table 161 defines the Properties that are part of the "oic.r.batterymaterial" Resource Type.

15562
15563

Table 161 – The Property definitions of the Resource with type "rt" = "oic.r.batterymaterial".

Property name	Value type	Mandatory	Access mode	Description
rt	array: see schema	No	Read Only	The Resource Type.
material	string	Yes	Read Only	The battery construction material (type).
n	multiple types: see schema	No	Read Write	
id	multiple types: see schema	No	Read Write	
if	array: see schema	No	Read Only	The OCF Interface set supported by this Resource.

15564 **6.79.6 CRUDN behaviour**

15565 Table 162 defines the CRUDN operations that are supported on the "oic.r.batterymaterial"
15566 Resource Type.

15567 **Table 162 – The CRUDN operations of the Resource with type "rt" = "oic.r.batterymaterial".**

Create	Read	Update	Delete	Notify
	get			observe

15568 **6.80 Brewing**

15569 **6.80.1 Introduction**

15570 This Resource describes the attributes associated with brewing. This resource is used for
15571 configuration only. The Operation of the Device is handled independently of this Resource. The
15572 amount requested is in ml. The strength of a brewed drink is an integer, the range of which may
15573 be enforced by the presence of a strengthrange Property.

15574 **6.80.2 Example URI**

15575 /BrewingResURI

15576 **6.80.3 Resource type**

15577 The Resource Type is defined as: "oic.r.brewing".

15578 **6.80.4 OpenAPI 2.0 definition**

```
15579 {  
15580   "swagger": "2.0",  
15581   "info": {  
15582     "title": "Brewing",  
15583     "version": "20190222",  
15584     "license": {  
15585       "name": "OCF Data Model License",  
15586       "url":  
15587         "https://github.com/openconnectivityfoundation/core/blob/e28a9e0a92e17042ba3e83661e4c0fbce8bdc4ba/LI  
15588         CENSE.md",  
15589       "x-copyright": "Copyright 2018-2019 Open Connectivity Foundation, Inc. All rights reserved."  
15590     },  
15591     "termsOfService": "https://openconnectivityfoundation.github.io/core/DISCLAIMER.md"  
15592   },  
15593   "schemes": ["http"],  
15594   "consumes": ["application/json"],  
15595   "produces": ["application/json"],  
15596   "paths": {  
15597     "/BrewingResURI" : {  
15598       "get": {
```

```

15599         "description": "This Resource describes the attributes associated with brewing. This
15600 resource is used for configuration only. The Operation of the Device is handled independently of
15601 this Resource. The amount requested is in ml. The strength of a brewed drink is an integer, the
15602 range of which may be enforced by the presence of a strengthrange Property.",
15603         "parameters": [
15604             { "$ref": "#/parameters/interface" }
15605         ],
15606         "responses": {
15607             "200": {
15608                 "description": "",
15609                 "x-example":
15610                     {
15611                         "rt": ["oic.r.brewing"],
15612                         "if": ["oic.if.rw", "oic.if.baseline"],
15613                         "amountrequested": 120,
15614                         "strength": 8,
15615                         "strengthrange": [1, 10]
15616                     },
15617                 "schema": { "$ref": "#/definitions/Brewing" }
15618             }
15619         },
15620     },
15621     "post": {
15622         "description": "Sets the brewing values\n",
15623         "parameters": [
15624             { "$ref": "#/parameters/interface" },
15625             {
15626                 "name": "body",
15627                 "in": "body",
15628                 "required": true,
15629                 "schema": { "$ref": "#/definitions/Brewing" },
15630                 "x-example":
15631                     {
15632                         "amountrequested": 120,
15633                         "strength": 8
15634                     }
15635             }
15636         ],
15637         "responses": {
15638             "200": {
15639                 "description": "",
15640                 "x-example":
15641                     {
15642                         "amountrequested": 120,
15643                         "strength": 8
15644                     }
15645             }
15646         }
15647     }
15648 },
15649 },
15650 "parameters": {
15651     "interface" : {
15652         "in": "query",
15653         "name": "if",
15654         "type": "string",
15655         "enum": ["oic.if.rw", "oic.if.baseline"]
15656     }
15657 },
15658 "definitions": {
15659     "Brewing" : {
15660         "properties": {
15661             "rt": {
15662                 "description": "The Resource Type.",
15663                 "items": {
15664                     "enum": ["oic.r.brewing"],
15665                     "maxLength": 64,
15666                     "type": "string"
15667                 },
15668                 "minItems": 1,
15669                 "uniqueItems": true,
15670                 "readOnly": true,

```

```

15671         "type": "array"
15672     },
15673     "strength": {
15674         "description": "The strength of a brewed drink.",
15675         "type": "integer"
15676     },
15677     "amountrequested": {
15678         "description": "The amount requested in ml.",
15679         "type": "integer"
15680     },
15681     "strengthrange": {
15682         "items": {
15683             "type": "integer"
15684         },
15685         "maxItems": 2,
15686         "minItems": 2,
15687         "readOnly": true,
15688         "type": "array"
15689     },
15690     "n": {
15691         "$ref":
15692         "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
15693         schema.json#/definitions/n"
15694     },
15695     "id": {
15696         "$ref":
15697         "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
15698         schema.json#/definitions/id"
15699     },
15700     "if": {
15701         "description": "The OCF Interface set supported by this Resource.",
15702         "items": {
15703             "enum": [
15704                 "oic.if.rw",
15705                 "oic.if.baseline"
15706             ],
15707             "type": "string"
15708         },
15709         "minItems": 2,
15710         "uniqueItems": true,
15711         "readOnly": true,
15712         "type": "array"
15713     }
15714 },
15715 "type": "object",
15716 "required": ["amountrequested"]
15717 }
15718 }
15719 }
15720

```

15721 6.80.5 Property definition

15722 Table 163 defines the Properties that are part of the "oic.r.brewing" Resource Type.

15723 **Table 163 – The Property definitions of the Resource with type "rt" = "oic.r.brewing".**

Property name	Value type	Mandatory	Access mode	Description
rt	array: see schema	No	Read Only	The Resource Type.
strength	integer	No	Read Write	The strength of a brewed drink.
amountrequested	integer	Yes	Read Write	The amount requested in ml.
strengthrange	array: see schema	No	Read Only	
n	multiple types: see schema	No	Read Write	

id	multiple types: see schema	No	Read Write	
if	array: see schema	No	Read Only	The OCF Interface set supported by this Resource.

15724 **6.80.6 CRUDN behaviour**

15725 Table 164 defines the CRUDN operations that are supported on the "oic.r.brewing" Resource Type.

15726 **Table 164 – The CRUDN operations of the Resource with type "rt" = "oic.r.brewing".**

Create	Read	Update	Delete	Notify
	get	post		observe

15727 **6.81 Energy**

15728 **6.81.1 Introduction**

15729 This Resource describes the attributes associated with electrical energy. This Resource can be
 15730 used for either rated (read-only), desired (read-write) or measured (read-only) energy. The
 15731 Property "voltage" is in Volts (V), The Property "current" in Amps (A), and The Property
 15732 "frequency" is in Hertz (Hz).

15733 **6.81.2 Example URI**

15734 /EnergyResURI

15735 **6.81.3 Resource type**

15736 The Resource Type is defined as: "oic.r.energy.electrical".

15737 **6.81.4 OpenAPI 2.0 definition**

```

15738 {
15739   "swagger": "2.0",
15740   "info": {
15741     "title": "Energy",
15742     "version": "20190215",
15743     "license": {
15744       "name": "OCF Data Model License",
15745       "url":
15746         "https://github.com/openconnectivityfoundation/core/blob/e28a9e0a92e17042ba3e83661e4c0fbce8bdc4ba/LI
15747         CENSE.md",
15748       "x-copyright": "copyright 2016-2017, 2019 Open Connectivity Foundation, Inc. All rights
15749         reserved."
15750     },
15751     "termsOfService": "https://openconnectivityfoundation.github.io/core/DISCLAIMER.md"
15752   },
15753   "schemes": ["http"],
15754   "consumes": ["application/json"],
15755   "produces": ["application/json"],
15756   "paths": {
15757     "/EnergyResURI" : {
15758       "get": {
15759         "description": "This Resource describes the attributes associated with electrical energy.
15760         This Resource can be used for either rated (read-only), desired (read-write) or measured (read-only)
15761         energy. The Property \"voltage\" is in Volts (V), The Property \"current\" in Amps (A), and The
15762         Property \"frequency\" is in Hertz (Hz).",
15763         "parameters": [
15764           {"$ref": "#/parameters/interface"}
15765         ],
15766         "responses": {
15767           "200": {
15768             "description": "Retrieves the current energy.",
15769             "x-example":
15770               {
15771                 "rt": ["oic.r.energy.electrical"],

```

```

15772         "if": ["oic.if.rw", "oic.if.baseline"],
15773         "voltage": 120.0,
15774         "current": 5.0,
15775         "frequency": 60.0
15776     },
15777     "schema": { "$ref": "#/definitions/Energy" }
15778 }
15779 },
15780 },
15781 "post": {
15782     "description": "Sets the desired energy values\n",
15783     "parameters": [
15784         { "$ref": "#/parameters/interface" },
15785         {
15786             "name": "body",
15787             "in": "body",
15788             "required": true,
15789             "schema": { "$ref": "#/definitions/EnergyUpdate" },
15790             "x-example":
15791                 {
15792                     "desiredvoltage": 130.0,
15793                     "desiredcurrent": 6.0
15794                 }
15795         }
15796     ],
15797     "responses": {
15798         "200": {
15799             "description": "",
15800             "x-example":
15801                 {
15802                     "desiredvoltage": 130.0,
15803                     "desiredcurrent": 6.0
15804                 }
15805             }
15806         }
15807     }
15808 },
15809 },
15810 "parameters": {
15811     "interface": {
15812         "in": "query",
15813         "name": "if",
15814         "type": "string",
15815         "enum": ["oic.if.rw", "oic.if.baseline"]
15816     }
15817 },
15818 "definitions": {
15819     "Energy": {
15820         "properties": {
15821             "rt": {
15822                 "description": "The Resource Type.",
15823                 "items": {
15824                     "enum": ["oic.r.energy.electrical"],
15825                     "maxLength": 64,
15826                     "type": "string"
15827                 },
15828                 "minItems": 1,
15829                 "uniqueItems": true,
15830                 "readOnly": true,
15831                 "type": "array"
15832             },
15833             "desiredcurrent": {
15834                 "description": "The desired electric current in Amps (A).",
15835                 "type": "number"
15836             },
15837             "current": {
15838                 "description": "The electric current in Amps (A).",
15839                 "readOnly": true,
15840                 "type": "number"
15841             },
15842             "frequency": {
15843                 "description": "The electric frequency in Hertz (Hz).",

```

```

15844         "readOnly": true,
15845         "type": "number"
15846     },
15847     "voltage": {
15848         "description": "The electric voltage in Volts (V).",
15849         "readOnly": true,
15850         "type": "number"
15851     },
15852     "desiredfrequency": {
15853         "description": "The desired electric frequency in Hertz (Hz).",
15854         "type": "number"
15855     },
15856     "desiredvoltage": {
15857         "description": "The desired electric voltage in Volts (V).",
15858         "type": "number"
15859     },
15860     "n": {
15861         "$ref":
15862         "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
15863         schema.json#/definitions/n"
15864     },
15865     "id": {
15866         "$ref":
15867         "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
15868         schema.json#/definitions/id"
15869     },
15870     "if": {
15871         "description": "The OCF Interface set supported by this Resource.",
15872         "items": {
15873             "enum": [
15874                 "oic.if.rw",
15875                 "oic.if.baseline"
15876             ],
15877             "type": "string"
15878         },
15879         "minItems": 2,
15880         "uniqueItems": true,
15881         "readOnly": true,
15882         "type": "array"
15883     }
15884 },
15885 "type" : "object",
15886 "required": ["voltage", "current", "frequency"]
15887 }
15888 ,
15889 "EnergyUpdate" : {
15890     "properties": {
15891         "desiredcurrent": {
15892             "description": "The desired electric current in Amps (A).",
15893             "type": "number"
15894         },
15895         "desiredfrequency": {
15896             "description": "The desired electric frequency in Hertz (Hz).",
15897             "type": "number"
15898         },
15899         "desiredvoltage": {
15900             "description": "The desired electric voltage in Volts (V).",
15901             "type": "number"
15902         }
15903     },
15904     "anyOf": [
15905         {
15906             "required": ["desiredvoltage"]
15907         },
15908         {
15909             "required": ["desiredcurrent"]
15910         },
15911         {
15912             "required": ["desiredfrequency"]
15913         }
15914     ],
15915     "type": "object"

```

15916 }
 15917 }
 15918 }
 15919 }

15920 **6.81.5 Property definition**

15921 Table 165 defines the Properties that are part of the "oic.r.energy.electrical" Resource Type.

15922 **Table 165 – The Property definitions of the Resource with type "rt" =**
 15923 **"oic.r.energy.electrical".**

Property name	Value type	Mandatory	Access mode	Description
rt	array: see schema	No	Read Only	The Resource Type.
desiredcurrent	number	No	Read Write	The desired electric current in Amps (A).
current	number	Yes	Read Only	The electric current in Amps (A).
frequency	number	Yes	Read Only	The electric frequency in Hertz (Hz).
voltage	number	Yes	Read Only	The electric voltage in Volts (V).
desiredfrequency	number	No	Read Write	The desired electric frequency in Hertz (Hz).
desiredvoltage	number	No	Read Write	The desired electric voltage in Volts (V).
n	multiple types: see schema	No	Read Write	
id	multiple types: see schema	No	Read Write	
if	array: see schema	No	Read Only	The OCF Interface set supported by this Resource.
desiredcurrent	number	No	Read Write	The desired electric current in Amps (A).
desiredfrequency	number	Yes	Read Write	The desired electric frequency in Hertz (Hz).
desiredvoltage	number	No	Read Write	The desired electric voltage in Volts (V).

15924 **6.81.6 CRUDN behaviour**

15925 Table 166 defines the CRUDN operations that are supported on the "oic.r.energy.electrical"
 15926 Resource Type.

15927 **Table 166 – The CRUDN operations of the Resource with type "rt" =**
 15928 **"oic.r.energy.electrical".**

Create	Read	Update	Delete	Notify
	get	post		observe

15929 **6.82 Energy Generation**

15930 **6.82.1 Introduction**

15931 This Resource describes the attributes associated with energy generation
15932 The Property "energygenerated" is a number that provides the energy generated in Watt-
15933 hour(Wh).

15934 **6.82.2 Example URI**

15935 /EnergyGenerationResURI

15936 **6.82.3 Resource type**

15937 The Resource Type is defined as: "oic.r.energy.generation".

15938 **6.82.4 OpenAPI 2.0 definition**

```
15939 {  
15940   "swagger": "2.0",  
15941   "info": {  
15942     "title": "Energy Generation",  
15943     "version": "20190215",  
15944     "license": {  
15945       "name": "OCF Data Model License",  
15946       "url":  
15947       "https://github.com/openconnectivityfoundation/core/blob/e28a9e0a92e17042ba3e83661e4c0fbce8bdc4ba/LI  
15948       CENSE.md",  
15949       "x-copyright": "copyright 2016-2017, 2019 Open Connectivity Foundation, Inc. All rights  
15950       reserved."  
15951     },  
15952     "termsOfService": "https://openconnectivityfoundation.github.io/core/DISCLAIMER.md"  
15953   },  
15954   "schemes": ["http"],  
15955   "consumes": ["application/json"],  
15956   "produces": ["application/json"],  
15957   "paths": {  
15958     "/EnergyGenerationResURI" : {  
15959       "get": {  
15960         "description": "This Resource describes the attributes associated with energy  
15961         generation\nThe Property \"energygenerated\" is a number that provides the energy generated in Watt-  
15962         hour(Wh).",  
15963         "parameters": [  
15964           { "$ref": "#/parameters/interface" }  
15965         ],  
15966         "responses": {  
15967           "200": {  
15968             "description": "",  
15969             "x-example":  
15970               {  
15971                 "rt": ["oic.r.energy.generation"],  
15972                 "if": ["oic.if.s", "oic.if.baseline"],  
15973                 "energygenerated": 3000.00  
15974               },  
15975             "schema": { "$ref": "#/definitions/EnergyGeneration" }  
15976           }  
15977         }  
15978       }  
15979     }  
15980   },  
15981   "parameters": {  
15982     "interface" : {  
15983       "in" : "query",  
15984       "name" : "if",  
15985       "type" : "string",  
15986       "enum" : ["oic.if.s", "oic.if.baseline"]  
15987     }  
15988   },  
15989   "definitions": {  
15990     "EnergyGeneration" : {  
15991       "properties": {  
15992         "rt": {
```



```

15993     "description": "The Resource Type.",
15994     "items": {
15995         "enum": ["oic.r.energy.generation"],
15996         "maxLength": 64,
15997         "type": "string"
15998     },
15999     "minItems": 1,
16000     "uniqueItems": true,
16001     "readOnly": true,
16002     "type": "array"
16003 },
16004 "energygenerated": {
16005     "description": "The energy generated in Watt-hour(Wh).",
16006     "readOnly": true,
16007     "type": "number"
16008 },
16009 "n": {
16010     "$ref":
16011 "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
16012 schema.json#/definitions/n"
16013 },
16014 "id": {
16015     "$ref":
16016 "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
16017 schema.json#/definitions/id"
16018 },
16019 "if": {
16020     "description": "The OCF Interface set supported by this Resource.",
16021     "items": {
16022         "enum": [
16023             "oic.if.s",
16024             "oic.if.baseline"
16025         ],
16026         "type": "string"
16027     },
16028     "minItems": 2,
16029     "uniqueItems": true,
16030     "readOnly": true,
16031     "type": "array"
16032 }
16033 },
16034 "type": "object",
16035 "required": ["energygenerated"]
16036 }
16037 }
16038 }
16039

```

16040 **6.82.5 Property definition**

16041 Table 167 defines the Properties that are part of the "oic.r.energy.generation" Resource Type.

16042 **Table 167 – The Property definitions of the Resource with type "rt" =**
16043 **"oic.r.energy.generation".**

Property name	Value type	Mandatory	Access mode	Description
rt	array: see schema	No	Read Only	The Resource Type.
energygenerated	number	Yes	Read Only	The energy generated in Watt-hour(Wh).
n	multiple types: see schema	No	Read Write	
id	multiple types: see schema	No	Read Write	
if	array: see schema	No	Read Only	The OCF Interface set supported by this Resource.

16044 **6.82.6 CRUDN behaviour**

16045 Table 168 defines the CRUDN operations that are supported on the "oic.r.energy.generation"
 16046 Resource Type.

16047 **Table 168 – The CRUDN operations of the Resource with type "rt" =**
 16048 **"oic.r.energy.generation".**

Create	Read	Update	Delete	Notify
	get			observe

16049 **6.83 Foaming**

16050 **6.83.1 Introduction**

16051 This Resource describes the attributes associated with foaming. The Property "foamstrength" of
 16052 the liquid is represented as an integer.
 16053 The foam strength is an integer, the range of which may be enforced by the presence of the
 16054 Property "range".

16055 **6.83.2 Example URI**

16056 /FoamingResURI

16057 **6.83.3 Resource type**

16058 The Resource Type is defined as: "oic.r.foaming".

16059 **6.83.4 OpenAPI 2.0 definition**

```

16060 {
16061   "swagger": "2.0",
16062   "info": {
16063     "title": "Foaming",
16064     "version": "20190215",
16065     "license": {
16066       "name": "OCF Data Model License",
16067       "url":
16068         "https://github.com/openconnectivityfoundation/core/blob/e28a9e0a92e17042ba3e83661e4c0fbce8bdc4ba/LI
16069         CENSE.md",
16070       "x-copyright": "copyright 2016-2017, 2019 Open Connectivity Foundation, Inc. All rights
16071         reserved."
16072     },
16073     "termsOfService": "https://openconnectivityfoundation.github.io/core/DISCLAIMER.md"
16074   },
16075   "schemes": ["http"],
16076   "consumes": ["application/json"],
16077   "produces": ["application/json"],
16078   "paths": {
16079     "/FoamingResURI" : {
16080       "get": {
16081         "description": "This Resource describes the attributes associated with foaming. The Property
16082         \"foamstrength\" of the liquid is represented as an integer.\n\nThe foam strength is an integer, the
16083         range of which may be enforced by the presence of the Property \"range\".",
16084         "parameters": [
16085           {"$ref": "#/parameters/interface"}
16086         ],
16087         "responses": {
16088           "200": {
16089             "description": "RETRIEVES the state of foaming.",
16090             "x-example":
16091               {
16092                 "rt": ["oic.r.foaming"],
16093                 "if": ["oic.if.rw", "oic.if.baseline"],
16094                 "foamstrength": 50,
16095                 "range": [0, 100]
16096               },
16097             "schema": { "$ref": "#/definitions/Foaming" }
16098           }
16099         }
16100       }
16101     }
  
```

```

16099     }
16100   },
16101   "post": {
16102     "description": "Sets foaming value\n",
16103     "parameters": [
16104       { "$ref": "#/parameters/interface" },
16105       {
16106         "name": "body",
16107         "in": "body",
16108         "required": true,
16109         "schema": { "$ref": "#/definitions/Foaming" },
16110         "x-example":
16111           {
16112             "foamstrength": 50
16113           }
16114       }
16115     ],
16116     "responses": {
16117       "200": {
16118         "description": "",
16119         "x-example":
16120           {
16121             "foamstrength": 50
16122           },
16123         "schema": { "$ref": "#/definitions/Foaming" }
16124       }
16125     }
16126   }
16127 },
16128 },
16129 "parameters": {
16130   "interface": {
16131     "in": "query",
16132     "name": "if",
16133     "type": "string",
16134     "enum": ["oic.if.rw", "oic.if.baseline"]
16135   }
16136 },
16137 "definitions": {
16138   "Foaming": {
16139     "properties": {
16140       "rt": {
16141         "description": "Resource Type",
16142         "items": {
16143           "enum": ["oic.r.foaming"],
16144           "maxLength": 64,
16145           "type": "string"
16146         },
16147         "minItems": 1,
16148         "uniqueItems": true,
16149         "readOnly": true,
16150         "type": "array"
16151       },
16152       "foamstrength": {
16153         "description": "The desired foaminess of the liquid.",
16154         "type": "integer"
16155       },
16156       "n": {
16157         "$ref":
16158           "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
16159           schema.json#/definitions/n"
16160       },
16161       "id": {
16162         "$ref":
16163           "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
16164           schema.json#/definitions/id"
16165       },
16166       "range": {
16167         "$ref":
16168           "https://openconnectivityfoundation.github.io/IoTDataModels/schemas/oic.baseresource.properties-
16169           schema.json#/definitions/range_integer"
16170       },

```

```

16171     "step": {
16172         "$ref":
16173         "https://openconnectivityfoundation.github.io/IoTDataModels/schemas/oic.baseresource.properties-
16174         schema.json#/definitions/step_integer"
16175     },
16176     "if": {
16177         "description": "The interface set supported by this resource",
16178         "items": {
16179             "enum": [
16180                 "oic.if.rw",
16181                 "oic.if.baseline"
16182             ],
16183             "type": "string"
16184         },
16185         "minItems": 2,
16186         "uniqueItems": true,
16187         "readOnly": true,
16188         "type": "array"
16189     }
16190 },
16191 "type": "object",
16192 "required": ["foamstrength"]
16193 }
16194 }
16195 }
16196

```

16197 6.83.5 Property definition

16198 Table 169 defines the Properties that are part of the "oic.r.foaming" Resource Type.

16199 **Table 169 – The Property definitions of the Resource with type "rt" = "oic.r.foaming".**

Property name	Value type	Mandatory	Access mode	Description
rt	array: see schema	No	Read Only	Resource Type
foamstrength	integer	Yes	Read Write	The desired foaminess of the liquid.
n	multiple types: see schema	No	Read Write	
id	multiple types: see schema	No	Read Write	
range	multiple types: see schema	No	Read Write	
step	multiple types: see schema	No	Read Write	
if	array: see schema	No	Read Only	The interface set supported by this resource

16200 6.83.6 CRUDN behaviour

16201 Table 170 defines the CRUDN operations that are supported on the "oic.r.foaming" Resource Type.

16202 **Table 170 – The CRUDN operations of the Resource with type "rt" = "oic.r.foaming".**

Create	Read	Update	Delete	Notify
	get	post		observe

16203 **6.84 Grinder**

16204 **6.84.1 Introduction**

16205 This Resource describes the attributes associated with a grinder. The Property "coarseness" of
16206 the grounds is an integer. The higher the value, the less coarse. The Property "remaining" is a
16207 percentage that represents the unground material left.

16208 **6.84.2 Example URI**

16209 /GrinderResURI

16210 **6.84.3 Resource type**

16211 The Resource Type is defined as: "oic.r.grinder".

16212 **6.84.4 OpenAPI 2.0 definition**

```
16213 {  
16214   "swagger": "2.0",  
16215   "info": {  
16216     "title": "Grinder",  
16217     "version": "20190215",  
16218     "license": {  
16219       "name": "OCF Data Model License",  
16220       "url":  
16221       "https://github.com/openconnectivityfoundation/core/blob/e28a9e0a92e17042ba3e83661e4c0fbce8bdc4ba/LI  
16222       CENSE.md",  
16223       "x-copyright": "copyright 2016-2017, 2019 Open Connectivity Foundation, Inc. All rights  
16224       reserved."  
16225     },  
16226     "termsOfService": "https://openconnectivityfoundation.github.io/core/DISCLAIMER.md"  
16227   },  
16228   "schemes": ["http"],  
16229   "consumes": ["application/json"],  
16230   "produces": ["application/json"],  
16231   "paths": {  
16232     "/GrinderResURI" : {  
16233       "get": {  
16234         "description": "This Resource describes the attributes associated with a grinder. The  
16235         Property \"coarseness\" of the grounds is an integer. The higher the value, the less coarse. The  
16236         Property \"remaining\" is a percentage that represents the unground material left.",  
16237         "parameters": [  
16238           { "$ref": "#/parameters/interface" }  
16239         ],  
16240         "responses": {  
16241           "200": {  
16242             "description": "RETRIEVES the state of a grinder.",  
16243             "x-example":  
16244               {  
16245                 "rt": ["oic.r.grinder"],  
16246                 "if": ["oic.if.rw", "oic.if.baseline"],  
16247                 "coarseness": 10,  
16248                 "remaining": 50  
16249               },  
16250             "schema": { "$ref": "#/definitions/Grinder" }  
16251           }  
16252         }  
16253       },  
16254       "post": {  
16255         "description": "Sets grinding values.",  
16256         "parameters": [  
16257           { "$ref": "#/parameters/interface" },  
16258           {  
16259             "name": "body",  
16260             "in": "body",  
16261             "required": true,  
16262             "schema": { "$ref": "#/definitions/GrinderUpdate" },  
16263             "x-example":  
16264               {  
16265                 "coarseness": 10  
16266               }  
16267           }  
16268         ]  
16269       }  
16270     }  
16271   }  
16272 }
```

```

16267     }
16268   ],
16269   "responses": {
16270     "200": {
16271       "description": "",
16272       "x-example":
16273         {
16274           "coarseness": 10
16275         },
16276       "schema": { "$ref": "#/definitions/GrinderUpdate" }
16277     }
16278   }
16279 }
16280 },
16281 },
16282 "parameters": {
16283   "interface": {
16284     "in": "query",
16285     "name": "if",
16286     "type": "string",
16287     "enum": ["oic.if.rw", "oic.if.baseline"]
16288   }
16289 },
16290 "definitions": {
16291   "Grinder": {
16292     "properties": {
16293       "rt": {
16294         "description": "Resource Type",
16295         "items": {
16296           "enum": ["oic.r.grinder"],
16297           "maxLength": 64,
16298           "type": "string"
16299         },
16300         "minItems": 1,
16301         "uniqueItems": true,
16302         "readOnly": true,
16303         "type": "array"
16304       },
16305       "coarseness": {
16306         "description": "The desired coarseness when grinding.",
16307         "type": "integer"
16308       },
16309       "remaining": {
16310         "description": "The percentage of unground material left.",
16311         "maximum": 100,
16312         "minimum": 0,
16313         "readOnly": true,
16314         "type": "integer"
16315       },
16316       "n": {
16317         "$ref":
16318           "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
16319           schema.json#/definitions/n"
16320       },
16321       "id": {
16322         "$ref":
16323           "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
16324           schema.json#/definitions/id"
16325       },
16326       "range": {
16327         "$ref":
16328           "https://openconnectivityfoundation.github.io/IoTDataModels/schemas/oic.baseresource.properties-
16329           schema.json#/definitions/range_integer"
16330       },
16331       "step": {
16332         "$ref":
16333           "https://openconnectivityfoundation.github.io/IoTDataModels/schemas/oic.baseresource.properties-
16334           schema.json#/definitions/step_integer"
16335       },
16336       "if": {
16337         "description": "The OCF Interface set supported by this Resource.",
16338         "items": {

```

```

16339         "enum": [
16340             "oic.if.rw",
16341             "oic.if.baseline"
16342         ],
16343         "type": "string"
16344     },
16345     "minItems": 2,
16346     "uniqueItems": true,
16347     "readOnly": true,
16348     "type": "array"
16349 }
16350 },
16351 "type": "object",
16352 "required": ["coarseness"]
16353 },
16354 "GrinderUpdate" : {
16355     "properties": {
16356         "coarseness": {
16357             "description": "The desired coarseness when grinding.",
16358             "type": "integer"
16359         }
16360     },
16361     "type": "object",
16362     "required": ["coarseness"]
16363 }
16364 }
16365 }
16366

```

16367 **6.84.5 Property definition**

16368 Table 171 defines the Properties that are part of the "oic.r.grinder" Resource Type.

16369 **Table 171 – The Property definitions of the Resource with type "rt" = "oic.r.grinder".**

Property name	Value type	Mandatory	Access mode	Description
rt	array: see schema	No	Read Only	Resource Type
coarseness	integer	Yes	Read Write	The desired coarseness when grinding.
remaining	integer	No	Read Only	The percentage of unground material left.
n	multiple types: see schema	No	Read Write	
id	multiple types: see schema	No	Read Write	
range	multiple types: see schema	No	Read Write	
step	multiple types: see schema	No	Read Write	
if	array: see schema	No	Read Only	The OCF Interface set supported by this Resource.
coarseness	integer	Yes	Read Write	The desired coarseness when grinding.

16370 **6.84.6 CRUDN behaviour**

16371 Table 172 defines the CRUDN operations that are supported on the "oic.r.grinder" Resource Type.

16372

Table 172 – The CRUDN operations of the Resource with type "rt" = "oic.r.grinder".

Create	Read	Update	Delete	Notify
	get	post		observe

16373

6.85 Liquid Level

16374

6.85.1 Introduction

16375 This Resource describes the attributes associated with liquid level. The Property "currentlevel"
 16376 and "desiredlevel" are defined in terms of a percentage. The behaviour of when the currentlevel
 16377 and desiredlevel are not equal is determined by the device manufacturer.

16378

6.85.2 Example URI

16379

/LiquidLevelResURI

16380

6.85.3 Resource type

16381

The Resource Type is defined as: "oic.r.liquid.level".

16382

6.85.4 OpenAPI 2.0 definition

16383

```

16383 {
16384   "swagger": "2.0",
16385   "info": {
16386     "title": "Liquid Level",
16387     "version": "20190215",
16388     "license": {
16389       "name": "OCF Data Model License",
16390       "url":
16391         "https://github.com/openconnectivityfoundation/core/blob/e28a9e0a92e17042ba3e83661e4c0fbce8bdc4ba/LI
16392         CENSE.md",
16393       "x-copyright": "copyright 2016-2017, 2019 Open Connectivity Foundation, Inc. All rights
16394         reserved."
16395     },
16396     "termsOfService": "https://openconnectivityfoundation.github.io/core/DISCLAIMER.md"
16397   },
16398   "schemes": ["http"],
16399   "consumes": ["application/json"],
16400   "produces": ["application/json"],
16401   "paths": {
16402     "/LiquidLevelResURI" : {
16403       "get": {
16404         "description": "This Resource describes the attributes associated with liquid level. The
16405         Property \"currentlevel\" and \"desiredlevel\" are defined in terms of a percentage. The behaviour
16406         of when the currentlevel and desiredlevel are not equal is determined by the device manufacturer.",
16407         "parameters": [
16408           { "$ref": "#/parameters/interface" }
16409         ],
16410         "responses": {
16411           "200": {
16412             "description": "RETRIEVES the state of liquid level.",
16413             "x-example":
16414               {
16415                 "rt": ["oic.r.liquid.level"],
16416                 "if": ["oic.if.rw", "oic.if.r", "oic.if.baseline"],
16417                 "currentlevel": 60,
16418                 "desiredlevel": 80
16419               },
16420             "schema": { "$ref": "#/definitions/LiquidLevel" }
16421           }
16422         }
16423       },
16424       "post": {
16425         "description": "Sets liquid level value.",
16426         "parameters": [
16427           { "$ref": "#/parameters/interface-rw" },
16428           {
16429             "name": "body",

```



```

16430         "in": "body",
16431         "required": true,
16432         "schema": { "$ref": "#/definitions/LiquidLevelUpdate" },
16433         "x-example":
16434             {
16435                 "desiredlevel": 80
16436             }
16437     },
16438 ],
16439 "responses": {
16440     "200": {
16441         "description": "",
16442         "x-example":
16443             {
16444                 "desiredlevel": 80
16445             },
16446         "schema": { "$ref": "#/definitions/LiquidLevelUpdate" }
16447     }
16448 },
16449 }
16450 },
16451 },
16452 "parameters": {
16453     "interface" : {
16454         "in" : "query",
16455         "name" : "if",
16456         "type" : "string",
16457         "enum" : ["oic.if.rw", "oic.if.r", "oic.if.baseline"]
16458     },
16459     "interface-rw" : {
16460         "in" : "query",
16461         "name" : "if",
16462         "type" : "string",
16463         "enum" : ["oic.if.rw", "oic.if.baseline"]
16464     }
16465 },
16466 "definitions": {
16467     "LiquidLevel" : {
16468         "properties": {
16469             "rt": {
16470                 "description": "The Resource Type.",
16471                 "items": {
16472                     "enum": ["oic.r.liquid.level"],
16473                     "maxLength": 64,
16474                     "type": "string"
16475                 },
16476                 "minItems": 1,
16477                 "uniqueItems": true,
16478                 "readOnly": true,
16479                 "type": "array"
16480             },
16481             "currentlevel": {
16482                 "description": "The current level of the liquid in percentage.",
16483                 "maximum": 100,
16484                 "minimum": 0,
16485                 "readOnly": true,
16486                 "type": "integer"
16487             },
16488             "desiredlevel": {
16489                 "description": "The desired level of the liquid in percentage.",
16490                 "maximum": 100,
16491                 "minimum": 0,
16492                 "type": "integer"
16493             },
16494             "n": {
16495                 "$ref":
16496                 "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
16497                 schema.json#/definitions/n"
16498             },
16499             "id": {
16500                 "$ref":
16501                 "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-

```

```

16502 schema.json#/definitions/id"
16503     },
16504     "step": {
16505         "$ref":
16506         "https://openconnectivityfoundation.github.io/IoTDataModels/schemas/oic.baseresource.properties-
16507         schema.json#/definitions/step_integer"
16508     },
16509     "if": {
16510         "description": "The OCF Interface set supported by this Resource.",
16511         "items": {
16512             "enum": [
16513                 "oic.if.rw",
16514                 "oic.if.r",
16515                 "oic.if.baseline"
16516             ],
16517             "type": "string"
16518         },
16519         "minItems": 2,
16520         "uniqueItems": true,
16521         "readOnly": true,
16522         "type": "array"
16523     }
16524 },
16525 "type" : "object",
16526 "required": ["currentlevel"]
16527 },
16528 "LiquidLevelUpdate" : {
16529     "properties": {
16530         "desiredlevel": {
16531             "description": "The desired level of the liquid in percentage.",
16532             "maximum": 100,
16533             "minimum": 0,
16534             "type": "integer"
16535         }
16536     },
16537     "type": "object",
16538     "required": ["desiredlevel"]
16539 }
16540 }
16541 }
16542

```

16543 6.85.5 Property definition

16544 Table 173 defines the Properties that are part of the "oic.r.liquid.level" Resource Type.

16545 **Table 173 – The Property definitions of the Resource with type "rt" = "oic.r.liquid.level".**

Property name	Value type	Mandatory	Access mode	Description
rt	array: see schema	No	Read Only	The Resource Type.
currentlevel	integer	Yes	Read Only	The current level of the liquid in percentage.
desiredlevel	integer	No	Read Write	The desired level of the liquid in percentage.
n	multiple types: see schema	No	Read Write	
id	multiple types: see schema	No	Read Write	
step	multiple types: see schema	No	Read Write	
if	array: see schema	No	Read Only	The OCF Interface set supported by this Resource.

desiredlevel	integer	Yes	Read Write	The desired level of the liquid in percentage.
--------------	---------	-----	------------	--

16546 **6.85.6 CRUDN behaviour**

16547 Table 174 defines the CRUDN operations that are supported on the "oic.r.liquid.level" Resource
 16548 Type.

16549 **Table 174 – The CRUDN operations of the Resource with type "rt" = "oic.r.liquid.level".**

Create	Read	Update	Delete	Notify
	get	post		observe

16550 **6.86 Vehicle Connector**

16551 **6.86.1 Introduction**

16552 This Resource describes the attributes associated with an electric vehicle charging connector.
 16553 The Property "connected" is a boolean indicating the status of the connector (False =
 16554 disconnected, True = connected). The Property "ratedchargingcapacity" and
 16555 "rateddischargingcapacity" are in Amps (A).

16556 **6.86.2 Example URI**

16557 /VehicleConnectorResURI

16558 **6.86.3 Resource type**

16559 The Resource Type is defined as: "oic.r.vehicle.connector".

16560 **6.86.4 OpenAPI 2.0 definition**

```

16561 {
16562   "swagger": "2.0",
16563   "info": {
16564     "title": "Vehicle Connector",
16565     "version": "20190215",
16566     "license": {
16567       "name": "OCF Data Model License",
16568       "url":
16569         "https://github.com/openconnectivityfoundation/core/blob/e28a9e0a92e17042ba3e83661e4c0fbce8bdc4ba/LI
16570 CENSE.md",
16571       "x-copyright": "copyright 2016-2017, 2019 Open Connectivity Foundation, Inc. All rights
16572 reserved."
16573     },
16574     "termsOfService": "https://openconnectivityfoundation.github.io/core/DISCLAIMER.md"
16575   },
16576   "schemes": ["http"],
16577   "consumes": ["application/json"],
16578   "produces": ["application/json"],
16579   "paths": {
16580     "/VehicleConnectorResURI" : {
16581       "get": {
16582         "description": "This Resource describes the attributes associated with an electric vehicle
16583 charging connector. The Property \"connected\" is a boolean indicating the status of the connector
16584 (False = disconnected, True = connected). The Property \"ratedchargingcapacity\" and
16585 \"rateddischargingcapacity\" are in Amps (A).",
16586         "parameters": [
16587           {"$ref": "#/parameters/interface"}
16588         ],
16589         "responses": {
16590           "200": {
16591             "description": "",
16592             "x-example":
16593               {
16594                 "rt": ["oic.r.vehicle.connector"],
16595                 "if": ["oic.if.s", "oic.if.baseline"],
16596                 "connected": true,

```

```

16597         "ratedchargingcapacity": 20.0,
16598         "rateddischargingcapacity": 5.0
16599     },
16600     "schema": { "$ref": "#/definitions/VehicleConnector" }
16601 }
16602 }
16603 }
16604 }
16605 },
16606 "parameters": {
16607     "interface": {
16608         "in": "query",
16609         "name": "if",
16610         "type": "string",
16611         "enum": ["oic.if.s", "oic.if.baseline"]
16612     }
16613 },
16614 "definitions": {
16615     "VehicleConnector" : {
16616         "properties": {
16617             "rt": {
16618                 "description": "The Resource Type.",
16619                 "items": {
16620                     "enum": ["oic.r.vehicle.connector"],
16621                     "maxLength": 64,
16622                     "type": "string"
16623                 },
16624                 "minItems": 1,
16625                 "uniqueItems": true,
16626                 "readOnly": true,
16627                 "type": "array"
16628             },
16629             "connected": {
16630                 "description": "The connection state.",
16631                 "readOnly": true,
16632                 "type": "boolean"
16633             },
16634             "ratedchargingcapacity": {
16635                 "description": "The rated charging capacity in Amps (A).",
16636                 "readOnly": true,
16637                 "type": "number"
16638             },
16639             "rateddischargingcapacity": {
16640                 "description": "The rated discharging capacity in Amps (A).",
16641                 "readOnly": true,
16642                 "type": "number"
16643             },
16644             "n": {
16645                 "$ref":
16646 "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
16647 schema.json#/definitions/n"
16648             },
16649             "id": {
16650                 "$ref":
16651 "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
16652 schema.json#/definitions/id"
16653             },
16654             "if": {
16655                 "description": "The OCF Interface set supported by this Resource.",
16656                 "items": {
16657                     "enum": [
16658                         "oic.if.s",
16659                         "oic.if.baseline"
16660                     ],
16661                     "type": "string"
16662                 },
16663                 "minItems": 2,
16664                 "uniqueItems": true,
16665                 "readOnly": true,
16666                 "type": "array"
16667             }
16668         },

```

```

16669     "type": "object",
16670     "required": ["connected"]
16671   }
16672 }
16673 }
16674

```

16675 **6.86.5 Property definition**

16676 Table 175 defines the Properties that are part of the "oic.r.vehicle.connector" Resource Type.

16677 **Table 175 – The Property definitions of the Resource with type "rt" =**
 16678 **"oic.r.vehicle.connector".**

Property name	Value type	Mandatory	Access mode	Description
rt	array: see schema	No	Read Only	The Resource Type.
connected	boolean	Yes	Read Only	The connection state.
ratedchargingcapacity	number	No	Read Only	The rated charging capacity in Amps (A).
rateddischargingcapacity	number	No	Read Only	The rated discharging capacity in Amps (A).
n	multiple types: see schema	No	Read Write	
id	multiple types: see schema	No	Read Write	
if	array: see schema	No	Read Only	The OCF Interface set supported by this Resource.

16679 **6.86.6 CRUDN behaviour**

16680 Table 176 defines the CRUDN operations that are supported on the "oic.r.vehicle.connector"
 16681 Resource Type.

16682 **Table 176 – The CRUDN operations of the Resource with type "rt" =**
 16683 **"oic.r.vehicle.connector".**

Create	Read	Update	Delete	Notify
	get			observe

16684 **6.87 Time Stamp**

16685 **6.87.1 Introduction**

16686 This Resource describes Properties associated with a timestamp.
 16687 The "timestamp" Property is a string that captures a timestamp using the RFC3339 datetime
 16688 format (e.g: 2007-04-05T14:30Z) (Time+Date+Timezone).

16689 **6.87.2 Example URI**

16690 /TimeStampResURI

16691 **6.87.3 Resource type**

16692 The Resource Type is defined as: "oic.r.time.stamp".

16693 **6.87.4 OpenAPI 2.0 definition**

```
16694 {
16695   "swagger": "2.0",
16696   "info": {
16697     "title": "Time Stamp",
16698     "version": "20190327",
16699     "license": {
16700       "name": "OCF Data Model License",
16701       "url":
16702         "https://github.com/openconnectivityfoundation/core/blob/e28a9e0a92e17042ba3e83661e4c0fbce8bdc4ba/LI
16703 CENSE.md",
16704       "x-copyright": "copyright 2016-2017, 2019 Open Connectivity Foundation, Inc. All rights
16705 reserved."
16706     },
16707     "termsOfService": "https://openconnectivityfoundation.github.io/core/DISCLAIMER.md"
16708   },
16709   "schemes": ["http"],
16710   "consumes": ["application/json"],
16711   "produces": ["application/json"],
16712   "paths": {
16713     "/TimeStampResURI" : {
16714       "get": {
16715         "description": "This Resource describes Properties associated with a timestamp.\nThe
16716 \"timestamp\" Property is a string that captures a timestamp using the RFC3339 datetime format (e.g:
16717 2007-04-05T14:30Z) (Time+Date+Timezone).",
16718         "parameters": [
16719           { "$ref": "#/parameters/interface" }
16720         ],
16721         "responses": {
16722           "200": {
16723             "description": "",
16724             "x-example":
16725               {
16726                 "rt": ["oic.r.time.stamp"],
16727                 "if": ["oic.if.s", "oic.if.r", "oic.if.baseline"],
16728                 "timestamp": "2015-11-05T14:30:00Z"
16729               },
16730             "schema": { "$ref": "#/definitions/TimeStamp" }
16731           }
16732         }
16733       }
16734     },
16735     "parameters": {
16736       "interface": {
16737         "in": "query",
16738         "name": "if",
16739         "type": "string",
16740         "enum": ["oic.if.s", "oic.if.r", "oic.if.baseline"]
16741       }
16742     },
16743     "definitions": {
16744       "TimeStamp" : {
16745         "properties": {
16746           "rt": {
16747             "description": "The Resource Type.",
16748             "items": {
16749               "enum": ["oic.r.time.stamp"],
16750               "maxLength": 64,
16751               "type": "string"
16752             },
16753             "minItems": 1,
16754             "uniqueItems": true,
16755             "readOnly": true,
16756             "type": "array"
16757           },
16758           "timestamp": {
16759             "description": "An RFC3339 formated time indicating when the data was observed (e.g.:
16760 2016-02-15T09:19Z, 1996-12-19T16:39:57-08:00).",
16761             "format": "date-time",
16762             "readOnly": true,
16763           }
16764         }
16765       }
16766     }
16767   }
16768 }
```

```

16764         "type": "string"
16765     },
16766     "n": {
16767         "$ref":
16768         "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
16769         schema.json#/definitions/n"
16770     },
16771     "id": {
16772         "$ref":
16773         "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
16774         schema.json#/definitions/id"
16775     },
16776     "if": {
16777         "description": "The OCF Interface set supported by this Resource.",
16778         "items": {
16779             "enum": [
16780                 "oic.if.s",
16781                 "oic.if.r",
16782                 "oic.if.baseline"
16783             ],
16784             "type": "string"
16785         },
16786         "minItems": 2,
16787         "uniqueItems": true,
16788         "readOnly": true,
16789         "type": "array"
16790     }
16791 },
16792 "type": "object",
16793 "required": ["timestamp"]
16794 }
16795 }
16796 }
16797

```

16798 **6.87.5 Property definition**

16799 Table 177 defines the Properties that are part of the "oic.r.time.stamp" Resource Type.

16800 **Table 177 – The Property definitions of the Resource with type "rt" = "oic.r.time.stamp".**

Property name	Value type	Mandatory	Access mode	Description
rt	array: see schema	No	Read Only	The Resource Type.
timestamp	string	Yes	Read Only	An RFC3339 formatted time indicating when the data was observed (e.g.: 2016-02-15T09:19Z, 1996-12-19T16:39:57-08:00).
n	multiple types: see schema	No	Read Write	
id	multiple types: see schema	No	Read Write	
if	array: see schema	No	Read Only	The OCF Interface set supported by this Resource.

16801 **6.87.6 CRUDN behaviour**

16802 Table 178 defines the CRUDN operations that are supported on the "oic.r.time.stamp" Resource
16803 Type.

16804 **Table 178 – The CRUDN operations of the Resource with type "rt" = "oic.r.time.stamp".**

Create	Read	Update	Delete	Notify
	get			observe

16805 **6.88 3D Printer**

16806 **6.88.1 Introduction**

16807 This Resource describes the attributes associated with 3D Printer. The type of 3D printing
 16808 technology is specified by an enumerated string value. The maximum sizes in mm are included
 16809 for the x, y, and z dimensions. A designation of whether the device is capable of WAN
 16810 connectivity is represented in a boolean. The memory capacity is captured in MB.

16811 **6.88.2 Example URI**

16812 /3DPrinterResURI

16813 **6.88.3 Resource type**

16814 The Resource Type is defined as: "oic.r.printer.3d".

16815 **6.88.4 OpenAPI 2.0 definition**

```

16816 {
16817   "swagger": "2.0",
16818   "info": {
16819     "title": "3D Printer",
16820     "version": "20190222",
16821     "license": {
16822       "name": "OCF Data Model License",
16823       "url":
16824         "https://github.com/openconnectivityfoundation/core/blob/e28a9e0a92e17042ba3e83661e4c0fbce8bdc4ba/LI
16825         CENSE.md",
16826       "x-copyright": "Copyright 2018-2019 Open Connectivity Foundation, Inc. All rights reserved."
16827     },
16828     "termsOfService": "https://openconnectivityfoundation.github.io/core/DISCLAIMER.md"
16829   },
16830   "schemes": ["http"],
16831   "consumes": ["application/json"],
16832   "produces": ["application/json"],
16833   "paths": {
16834     "/3DPrinterResURI" : {
16835       "get": {
16836         "description": "This Resource describes the attributes associated with 3D Printer. The type
16837         of 3D printing technology is specified by an enumerated string value. The maximum sizes in mm are
16838         included for the x, y, and z dimensions. A designation of whether the device is capable of WAN
16839         connectivity is represented in a boolean. The memory capacity is captured in MB.",
16840         "parameters": [
16841           { "$ref": "#/parameters/interface" }
16842         ],
16843         "responses": {
16844           "200": {
16845             "description": "",
16846             "x-example":
16847               {
16848                 "rt": ["oic.r.printer.3d"],
16849                 "if": ["oic.if.r", "oic.if.baseline"],
16850                 "3dprinttype": "Digital Light Processing",
16851                 "printsizex": 300.00,
16852                 "printsizex": 200.50,
16853                 "printsizex": 250.75,
16854                 "wanconnected": false,
16855                 "memorysize": 120.5
16856               },
16857             "schema": { "$ref": "#/definitions/3DPrinter" }
16858           }
16859         }
16860       }
16861     }
  }

```



```

16862 },
16863 "parameters": {
16864   "interface" : {
16865     "in": "query",
16866     "name": "if",
16867     "type": "string",
16868     "enum": ["oic.if.r", "oic.if.baseline"]
16869   }
16870 },
16871 "definitions": {
16872   "3DPrinter": {
16873     "properties": {
16874       "rt": {
16875         "description": "The Resource Type",
16876         "items": {
16877           "maxLength": 64,
16878           "type": "string",
16879           "enum": ["oic.r.printer.3d"]
16880         },
16881         "minItems": 1,
16882         "uniqueItems": true,
16883         "readOnly": true,
16884         "type": "array"
16885       },
16886       "printsizex": {
16887         "description": "This Property represents the maximum size of printing object in the
16888 direction of Y-axis. The unit is mm.",
16889         "readOnly": true,
16890         "type": "number"
16891       },
16892       "memorysize": {
16893         "description": "This Property represents the total memory size of the printer. The unit is
16894 MB(Mega Bytes)",
16895         "readOnly": true,
16896         "type": "number"
16897       },
16898       "3dprinttype": {
16899         "description": "The type of 3D printing technology.",
16900         "enum": [
16901           "Fused Filament Fabrication",
16902           "Fused Deposition Modeling",
16903           "Digital Light Processing",
16904           "Powder Bed & inkjet head 3D Printing",
16905           "Photopolymer Jetting Technology",
16906           "Laminated Object Manufacturing",
16907           "Stereolithography Apparatus",
16908           "Selective Laser Sintering",
16909           "Unknown"
16910         ],
16911         "readOnly": true,
16912         "type": "string"
16913       },
16914       "wanconnected": {
16915         "description": "This Property indicates the connectivity capability of the 3D printer. If
16916 the value is false, the printer does not have network facility to Wide Area Network such as internet
16917 and GSM. If the value is true, the printer has network connectivity",
16918         "readOnly": true,
16919         "type": "boolean"
16920       },
16921       "printsizex": {
16922         "description": "This Property represents the maximum size of printing object in the
16923 direction of X-axis. The unit is mm.",
16924         "readOnly": true,
16925         "type": "number"
16926       },
16927       "printsizex": {
16928         "description": "This Property represents the maximum size of printing object in the
16929 direction of Z-axis. The unit is mm.",
16930         "readOnly": true,
16931         "type": "number"
16932       },
16933       "n": {

```

```

16934         "$ref":
16935         "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
16936         schema.json#/definitions/n"
16937     },
16938     "id": {
16939         "$ref":
16940         "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
16941         schema.json#/definitions/id"
16942     },
16943     "if": {
16944         "description": "The OCF Interface set supported by this Resource.",
16945         "items": {
16946             "enum": [
16947                 "oic.if.r",
16948                 "oic.if.baseline"
16949             ],
16950             "type": "string"
16951         },
16952         "minItems": 2,
16953         "readOnly": true,
16954         "uniqueItems": true,
16955         "type": "array"
16956     }
16957 },
16958 "type": "object",
16959 "required": ["3dprinttype", "printsizex", "printsizex", "printsizex", "wanconnected",
16960 "memorysize"]
16961 }
16962 }
16963 }
16964

```

16965 6.88.5 Property definition

16966 Table 179 defines the Properties that are part of the "oic.r.printer.3d" Resource Type.

16967 **Table 179 – The Property definitions of the Resource with type "rt" = "oic.r.printer.3d".**

Property name	Value type	Mandatory	Access mode	Description
rt	array: see schema	No	Read Only	The Resource Type
printsizex	number	Yes	Read Only	This Property represents the maximum size of printing object in the direction of Y-axis. The unit is mm.
memorysize	number	Yes	Read Only	This Property represents the total memory size of the printer. The unit is MB(Mega Bytes)
3dprinttype	string	Yes	Read Only	The type of 3D printing technology.
wanconnected	boolean	Yes	Read Only	This Property indicates the connectivity capability of the 3D printer. If the value is false, the printer does not have network facility to Wide Area Network such as internet and GSM. If the value is true, the printer has network connectivity

printsizeX	number	Yes	Read Only	This Property represents the maximum size of printing object in the direction of X-axis. The unit is mm.
printsizeZ	number	Yes	Read Only	This Property represents the maximum size of printing object in the direction of Z-axis. The unit is mm.
n	multiple types: see schema	No	Read Write	
id	multiple types: see schema	No	Read Write	
if	array: see schema	No	Read Only	The OCF Interface set supported by this Resource.

16968 **6.88.6 CRUDN behaviour**

16969 Table 180 defines the CRUDN operations that are supported on the "oic.r.printer.3d" Resource
16970 Type.

16971 **Table 180 – The CRUDN operations of the Resource with type "rt" = "oic.r.printer.3d".**

Create	Read	Update	Delete	Notify
	get			observe

16972 **6.89 Blood Pressure**

16973 **6.89.1 Introduction**

16974 This Resource describes the Properties associated with a person's blood pressure.
16975 The unit is a single value that is one of mmHg or kPa.
16976 If the unit Property is missing the default is a millimeter of mercury [mmHg].
16977 The bloodpressure and unit Properties are read-only values that are provided by the Server.
16978 When range is omitted the default is 0 to +MAXFLOAT.

16979 **6.89.2 Example URI**

16980 /BloodPressureResURI

16981 **6.89.3 Resource type**

16982 The Resource Type is defined as: "oic.r.blood.pressure".

16983 **6.89.4 OpenAPI 2.0 definition**

```

16984 {
16985   "swagger": "2.0",
16986   "info": {
16987     "title": "Blood Pressure",
16988     "version": "2019-03-22",
16989     "license": {
16990       "name": "OCF Data Model License",
16991       "url":
16992         "https://github.com/openconnectivityfoundation/core/blob/e28a9e0a92e17042ba3e83661e4c0fbce8bdc4ba/LI
16993         CENSE.md",
16994       "x-copyright": "Copyright 2016-2019 Open Connectivity Foundation, Inc. All rights reserved."
16995     },
16996     "termsOfService": "https://openconnectivityfoundation.github.io/core/DISCLAIMER.md"
16997   },
16998   "schemes": [
16999     "http"

```

```

17000 ],
17001 "consumes": [
17002   "application/json"
17003 ],
17004 "produces": [
17005   "application/json"
17006 ],
17007 "paths": {
17008   "/BloodPressureResURI": {
17009     "get": {
17010       "description": "This Resource describes the Properties associated with a person's blood
17011 pressure.\nThe unit is a single value that is one of mmHg or kPa.\nIf the unit Property is missing
17012 the default is a millimeter of mercury [mmHg].\nThe bloodpressure and unit Properties are read-only
17013 values that are provided by the Server.\nWhen range is omitted the default is 0 to +MAXFLOAT.",
17014       "parameters": [
17015         {
17016           "$ref": "#/parameters/interface"
17017         }
17018       ],
17019       "responses": {
17020         "200": {
17021           "description": "",
17022           "x-example": {
17023             "rt": [
17024               "oic.r.blood.pressure"
17025             ],
17026             "systolic": 110.0,
17027             "diastolic": 85.0,
17028             "map": 93.0,
17029             "range": [20.0, 300.0],
17030             "step": 1.0,
17031             "units": "mmHg"
17032           },
17033           "schema": {
17034             "$ref": "#/definitions/BloodPressure"
17035           }
17036         }
17037       }
17038     }
17039   },
17040 },
17041 "parameters": {
17042   "interface": {
17043     "in": "query",
17044     "name": "if",
17045     "type": "string",
17046     "enum": [
17047       "oic.if.s",
17048       "oic.if.baseline"
17049     ]
17050   }
17051 },
17052 "definitions": {
17053   "BloodPressure": {
17054     "properties": {
17055       "rt": {
17056         "description": "Resource Type",
17057         "items": {
17058           "enum": [
17059             "oic.r.blood.pressure"
17060           ],
17061           "type": "string",
17062           "maxLength": 64
17063         },
17064         "minItems": 1,
17065         "uniqueItems": true,
17066         "readOnly": true,
17067         "type": "array"
17068       },
17069       "map": {
17070         "description": "Mean arterial pressure (MAP)",
17071         "minimum": 0.0,

```

```

17072         "readOnly": true,
17073         "type": "number"
17074     },
17075     "units": {
17076         "description": "Blood pressure unit",
17077         "enum": [
17078             "mmHg",
17079             "kPa"
17080         ],
17081         "readOnly": true,
17082         "type": "string",
17083         "default": "mmHg"
17084     },
17085     "systolic": {
17086         "description": "Systolic blood pressure",
17087         "minimum": 0.0,
17088         "readOnly": true,
17089         "type": "number"
17090     },
17091     "diastolic": {
17092         "description": "Diastolic blood pressure",
17093         "minimum": 0.0,
17094         "readOnly": true,
17095         "type": "number"
17096     },
17097     "if": {
17098         "description": "The OCF Interface set supported by this Resource",
17099         "items": {
17100             "enum": [
17101                 "oic.if.s",
17102                 "oic.if.baseline"
17103             ],
17104             "type": "string",
17105             "maxLength": 64
17106         },
17107         "minItems": 1,
17108         "readOnly": true,
17109         "uniqueItems": true,
17110         "type": "array"
17111     },
17112     "range": {
17113         "$ref":
17114         "https://openconnectivityfoundation.github.io/IoTDataModels/schemas/oic.baseresource.properties-
17115         schema.json#/definitions/range_number"
17116     },
17117     "step": {
17118         "$ref":
17119         "https://openconnectivityfoundation.github.io/IoTDataModels/schemas/oic.baseresource.properties-
17120         schema.json#/definitions/step_number"
17121     },
17122     "precision": {
17123         "$ref":
17124         "https://openconnectivityfoundation.github.io/IoTDataModels/schemas/oic.baseresource.properties-
17125         schema.json#/definitions/precision"
17126     },
17127     "n": {
17128         "$ref":
17129         "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
17130         schema.json#/definitions/n"
17131     }
17132 },
17133 "type": "object",
17134 "required": [
17135     "systolic",
17136     "diastolic"
17137 ]
17138 }
17139 }
17140 }
17141

```

17142 **6.89.5 Property definition**

17143 Table 181 defines the Properties that are part of the "oic.r.blood.pressure" Resource Type.

17144 **Table 181 – The Property definitions of the Resource with type "rt" =**
 17145 **"oic.r.blood.pressure".**

Property name	Value type	Mandatory	Access mode	Description
rt	array: see schema	No	Read Only	Resource Type
map	number	No	Read Only	Mean arterial pressure (MAP)
units	string	No	Read Only	Blood pressure unit
systolic	number	Yes	Read Only	Systolic blood pressure
diastolic	number	Yes	Read Only	Diastolic blood pressure
if	array: see schema	No	Read Only	The OCF Interface set supported by this Resource
range	multiple types: see schema	No	Read Write	
step	multiple types: see schema	No	Read Write	
precision	multiple types: see schema	No	Read Write	
n	multiple types: see schema	No	Read Write	

17146 **6.89.6 CRUDN behaviour**

17147 Table 182 defines the CRUDN operations that are supported on the "oic.r.blood.pressure"
 17148 Resource Type.

17149 **Table 182 – The CRUDN operations of the Resource with type "rt" = "oic.r.blood.pressure".**

Create	Read	Update	Delete	Notify
	get			observe

17150 **6.90 Blood Pressure Monitor Atomic Measurement**

17151 **6.90.1 Introduction**

17152 This Resource describes the Properties associated with a blood pressure monitor.
 17153 The Resource is an Atomic Measurement of blood pressure (oic.r.blood.pressure), pulse rate
 17154 (oic.r.pulserate), observed time (oic.r.time.stamp), and user id (oic.r.userid).

17155 **6.90.2 Example URI**

17156 /BloodPressureMonitorAMResURI

17157 **6.90.3 Resource type**

17158 The Resource Type is defined as: "oic.r.bloodpressuremonitor-am, oic.wk.atomicmeasurement".

17159 **6.90.4 OpenAPI 2.0 definition**

```

17160 {
17161   "swagger": "2.0",
17162   "info": {
17163     "title": "Blood Pressure Monitor Atomic Measurement",
17164     "version": "2019-03-22",
  
```

```

17165     "license": {
17166         "name": "OCF Data Model License",
17167         "url":
17168 "https://github.com/openconnectivityfoundation/core/blob/e28a9e0a92e17042ba3e83661e4c0fbce8bdc4ba/LI
17169 CENSE.md",
17170         "x-copyright": "Copyright 2016-2019 Open Connectivity Foundation, Inc. All rights reserved."
17171     },
17172     "termsOfService": "https://openconnectivityfoundation.github.io/core/DISCLAIMER.md"
17173 },
17174     "schemes": [
17175         "http"
17176     ],
17177     "consumes": [
17178         "application/json"
17179     ],
17180     "produces": [
17181         "application/json"
17182     ],
17183     "paths": {
17184         "/BloodPressureMonitorAMResURI?if=oic.if.b": {
17185             "get": {
17186                 "description": "This Resource describes the Properties associated with a blood pressure
17187 monitor.\nThe Resource is an Atomic Measurement of blood pressure (oic.r.blood.pressure), pulse
17188 rate (oic.r.pulserate), observed time (oic.r.time.stamp), and user id (oic.r.userid).",
17189                 "parameters": [
17190                     {
17191                         "$ref": "#/parameters/interface-all"
17192                     }
17193                 ],
17194                 "responses": {
17195                     "200": {
17196                         "description": "",
17197                         "x-example": [
17198                             {
17199                                 "href": "/myBloodPressureResURI",
17200                                 "rep": {
17201                                     "systolic": 120.0,
17202                                     "diastolic": 80.0,
17203                                     "map": 93.0,
17204                                     "range": [20.0, 300.0],
17205                                     "step": 1,
17206                                     "units": "mmHg"
17207                                 }
17208                             },
17209                             {
17210                                 "href": "/myPulseRateResURI",
17211                                 "rep": {
17212                                     "pulserate": 70,
17213                                     "range": [20, 220],
17214                                     "step": 1
17215                                 }
17216                             },
17217                             {
17218                                 "href": "/myUserId",
17219                                 "rep": {
17220                                     "userid": "USER1"
17221                                 }
17222                             },
17223                             {
17224                                 "href": "/myTimeStamp",
17225                                 "rep": {
17226                                     "timestamp": "2018-11-08T21:00+08:00"
17227                                 }
17228                             }
17229                         ],
17230                         "schema": {
17231                             "$ref": "#/definitions/batch-retrieve"
17232                         }
17233                     }
17234                 }
17235             }
17236         },

```

```

17237     "/BloodPressureMonitorAMResURI?if=oic.if.ll": {
17238         "get": {
17239             "description": "This Resource describes the Properties associated with a blood pressure
17240 monitor.\nThe Resource is an Atomic Measurement of blood pressure (oic.r.blood.pressure), pulse
17241 rate (oic.r.pulserate), observed time (oic.r.time.stamp), and user id (oic.r.userid).",
17242             "parameters": [
17243                 {
17244                     "$ref": "#/parameters/interface-all"
17245                 }
17246             ],
17247             "responses": {
17248                 "200": {
17249                     "description": "",
17250                     "x-example": [
17251                         {
17252                             "href": "/myBloodPressureResURI",
17253                             "rt": [
17254                                 "oic.r.blood.pressure"
17255                             ],
17256                             "if": [
17257                                 "oic.if.s",
17258                                 "oic.if.baseline"
17259                             ]
17260                         },
17261                         {
17262                             "href": "/myPulseRateResURI",
17263                             "rt": [
17264                                 "oic.r.pulserate"
17265                             ],
17266                             "if": [
17267                                 "oic.if.s",
17268                                 "oic.if.baseline"
17269                             ]
17270                         },
17271                         {
17272                             "href": "/myUserId",
17273                             "rt": [
17274                                 "oic.r.userid"
17275                             ],
17276                             "if": [
17277                                 "oic.if.r",
17278                                 "oic.if.baseline"
17279                             ]
17280                         },
17281                         {
17282                             "href": "/myTimeStamp",
17283                             "rt": [
17284                                 "oic.r.time.stamp"
17285                             ],
17286                             "if": [
17287                                 "oic.if.r",
17288                                 "oic.if.baseline"
17289                             ]
17290                         }
17291                     ],
17292                     "schema": {
17293                         "$ref": "#/definitions/links"
17294                     }
17295                 }
17296             }
17297         }
17298     },
17299     "/BloodPressureMonitorAMResURI?if=oic.if.baseline": {
17300         "get": {
17301             "description": "This Resource describes the Properties associated with a blood pressure
17302 monitor.\nThe Resource is an Atomic Measurement of blood pressure (oic.r.blood.pressure), pulse
17303 rate (oic.r.pulserate), observed time (oic.r.time.stamp), and user id (oic.r.userid).",
17304             "parameters": [
17305                 {
17306                     "$ref": "#/parameters/interface-all"
17307                 }
17308             ],

```



```

17309     "responses": {
17310       "200": {
17311         "description": "",
17312         "x-example": {
17313           "rt": [
17314             "oic.r.bloodpressuremonitor-am",
17315             "oic.wk.atomicmeasurement"
17316           ],
17317           "if": [
17318             "oic.if.b",
17319             "oic.if.ll",
17320             "oic.if.baseline"
17321           ],
17322           "rts-m": [
17323             "oic.r.blood.pressure"
17324           ],
17325           "rts": [
17326             "oic.r.blood.pressure",
17327             "oic.r.pulserate",
17328             "oic.r.userid",
17329             "oic.r.time.stamp"
17330           ],
17331           "links": [
17332             {
17333               "href": "/myBloodPressureResURI",
17334               "rt": [
17335                 "oic.r.blood.pressure"
17336               ],
17337               "if": [
17338                 "oic.if.s",
17339                 "oic.if.baseline"
17340               ]
17341             },
17342             {
17343               "href": "/myPulseRateResURI",
17344               "rt": [
17345                 "oic.r.pulserate"
17346               ],
17347               "if": [
17348                 "oic.if.s",
17349                 "oic.if.baseline"
17350               ]
17351             },
17352             {
17353               "href": "/myUserId",
17354               "rt": [
17355                 "oic.r.userid"
17356               ],
17357               "if": [
17358                 "oic.if.r",
17359                 "oic.if.baseline"
17360               ]
17361             },
17362             {
17363               "href": "/myTimeStamp",
17364               "rt": [
17365                 "oic.r.time.stamp"
17366               ],
17367               "if": [
17368                 "oic.if.r",
17369                 "oic.if.baseline"
17370               ]
17371             }
17372           ]
17373         },
17374         "schema": {
17375           "$ref": "#/definitions/baseline"
17376         }
17377       }
17378     }
17379   }
17380 }

```

```

17381 },
17382 "parameters": {
17383   "interface-all": {
17384     "in": "query",
17385     "name": "if",
17386     "type": "string",
17387     "enum": [
17388       "oic.if.b",
17389       "oic.if.ll",
17390       "oic.if.baseline"
17391     ]
17392   }
17393 },
17394 "definitions": {
17395   "batch-retrieve": {
17396     "minItems": 1,
17397     "items": {
17398       "properties": {
17399         "href": {
17400           "$ref":
17401 "https://openconnectivityfoundation.github.io/core/schemas/oic.links.properties.core-
17402 schema.json#/definitions/href"
17403         },
17404         "rep": {
17405           "type": "object",
17406           "anyOf": [
17407             {
17408               "$ref":
17409 "https://openconnectivityfoundation.github.io/IoTDataModels/BloodPressureResURI.swagger.json#/defini-
17410 tions/BloodPressure"
17411             },
17412             {
17413               "$ref":
17414 "https://openconnectivityfoundation.github.io/IoTDataModels/PulseRateResURI.swagger.json#/definition-
17415 s/PulseRate"
17416             },
17417             {
17418               "$ref":
17419 "https://openconnectivityfoundation.github.io/IoTDataModels/UserIDResURI.swagger.json#/definitions/U-
17420 serID"
17421             },
17422             {
17423               "$ref":
17424 "https://openconnectivityfoundation.github.io/IoTDataModels/TimeStampResURI.swagger.json#/definition-
17425 s/TimeStamp"
17426             }
17427           ]
17428         }
17429       },
17430       "required": [
17431         "href",
17432         "rep"
17433       ],
17434       "type": "object"
17435     },
17436     "type": "array"
17437   },
17438   "links": {
17439     "type": "array",
17440     "items": {
17441       "$ref": "#/definitions/oic.oic-link"
17442     }
17443   },
17444   "baseline": {
17445     "properties": {
17446       "rt": {
17447         "items": {
17448           "enum": [
17449             "oic.r.bloodpressuremonitor-am",
17450             "oic.wk.atomicmeasurement"
17451           ],
17452           "type": "string",

```

```

17453         "maxLength": 64
17454     },
17455     "minItems": 2,
17456     "uniqueItems": true,
17457     "readOnly": true,
17458     "type": "array"
17459 },
17460 "rts": {
17461     "description": "This contains all possible Resource Types for this Atomic Measurement.",
17462     "items": {
17463         "enum": [
17464             "oic.r.blood.pressure",
17465             "oic.r.pulserate",
17466             "oic.r.userid",
17467             "oic.r.time.stamp"
17468         ],
17469         "type": "string",
17470         "maxLength": 64
17471     },
17472     "minItems": 1,
17473     "uniqueItems": true,
17474     "readOnly": true,
17475     "type": "array"
17476 },
17477 "rts-m": {
17478     "description": "This contains all mandatory Resource Types for this Atomic Measurement.",
17479     "items": {
17480         "enum": [
17481             "oic.r.blood.pressure"
17482         ],
17483         "type": "string",
17484         "maxLength": 64
17485     },
17486     "maxItems": 1,
17487     "minItems": 1,
17488     "uniqueItems": true,
17489     "readOnly": true,
17490     "type": "array"
17491 },
17492 "if": {
17493     "description": "The OCF Interface set supported by this Resource",
17494     "items": {
17495         "enum": [
17496             "oic.if.b",
17497             "oic.if.ll",
17498             "oic.if.baseline"
17499         ],
17500         "type": "string"
17501     },
17502     "minItems": 3,
17503     "uniqueItems": true,
17504     "readOnly": true,
17505     "type": "array"
17506 },
17507 "n": {
17508     "$ref":
17509     "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
17510     schema.json#/definitions/n"
17511 },
17512 "id": {
17513     "$ref":
17514     "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
17515     schema.json#/definitions/id"
17516 },
17517 "links": {
17518     "$ref": "#/definitions/links"
17519 }
17520 },
17521 "type": "object",
17522 "required": [
17523     "rt", "if", "rts", "rts-m", "links"
17524 ]

```

```

17525     },
17526     "oic.oic-link": {
17527         "properties": {
17528             "if": {
17529                 "type": "array",
17530                 "readOnly": true,
17531                 "uniqueItems": true,
17532                 "minItems": 1,
17533                 "items": {
17534                     "type": "string",
17535                     "maxLength": 64,
17536                     "enum": [
17537                         "oic.if.s",
17538                         "oic.if.r",
17539                         "oic.if.baseline"
17540                     ]
17541                 }
17542             },
17543             "rt": {
17544                 "type": "array",
17545                 "readOnly": true,
17546                 "uniqueItems": true,
17547                 "minItems": 1,
17548                 "items": {
17549                     "type": "string",
17550                     "maxLength": 64,
17551                     "enum": [
17552                         "oic.r.blood.pressure",
17553                         "oic.r.pulserate",
17554                         "oic.r.userid",
17555                         "oic.r.time.stamp"
17556                     ]
17557                 }
17558             },
17559             "anchor": {
17560                 "$ref":
17561                 "https://openconnectivityfoundation.github.io/core/schemas/oic.links.properties.core-
17562                 schema.json#/definitions/anchor"
17563             },
17564             "di": {
17565                 "$ref":
17566                 "https://openconnectivityfoundation.github.io/core/schemas/oic.links.properties.core-
17567                 schema.json#/definitions/di"
17568             },
17569             "eps": {
17570                 "$ref":
17571                 "https://openconnectivityfoundation.github.io/core/schemas/oic.links.properties.core-
17572                 schema.json#/definitions/eps"
17573             },
17574             "href": {
17575                 "$ref":
17576                 "https://openconnectivityfoundation.github.io/core/schemas/oic.links.properties.core-
17577                 schema.json#/definitions/href"
17578             },
17579             "ins": {
17580                 "$ref":
17581                 "https://openconnectivityfoundation.github.io/core/schemas/oic.links.properties.core-
17582                 schema.json#/definitions/ins"
17583             },
17584             "p": {
17585                 "$ref":
17586                 "https://openconnectivityfoundation.github.io/core/schemas/oic.links.properties.core-
17587                 schema.json#/definitions/p"
17588             },
17589             "rel": {
17590                 "$ref":
17591                 "https://openconnectivityfoundation.github.io/core/schemas/oic.links.properties.core-
17592                 schema.json#/definitions/rel_array"
17593             },
17594             "title": {
17595                 "$ref":
17596                 "https://openconnectivityfoundation.github.io/core/schemas/oic.links.properties.core-

```

```

17597 schema.json#/definitions/title"
17598     },
17599     "type": {
17600       "$ref":
17601       "https://openconnectivityfoundation.github.io/core/schemas/oic.links.properties.core-
17602       schema.json#/definitions/type"
17603     }
17604   },
17605   "required": [
17606     "href",
17607     "rt",
17608     "if"
17609   ],
17610   "type": "object"
17611 }
17612 }
17613 }
17614

```

17615 **6.90.5 Property definition**

17616 Table 183 defines the Properties that are part of the "oic.r.bloodpressuremonitor-am,
17617 oic.wk.atomicmeasurement" Resource Type.

17618 **Table 183 – The Property definitions of the Resource with type "rt" =**
17619 **"oic.r.bloodpressuremonitor-am, oic.wk.atomicmeasurement".**

Property name	Value type	Mandatory	Access mode	Description
href	multiple types: see schema	Yes	Read Write	
rep	object: see schema	Yes	Read Write	
rt	array: see schema	Yes	Read Only	
rts	array: see schema	Yes	Read Only	This contains all possible Resource Types for this Atomic Measurement.
rts-m	array: see schema	Yes	Read Only	This contains all mandatory Resource Types for this Atomic Measurement.
if	array: see schema	Yes	Read Only	The OCF Interface set supported by this Resource
n	multiple types: see schema	No	Read Write	
id	multiple types: see schema	No	Read Write	
links	multiple types: see schema	Yes	Read Write	
if	array: see schema	Yes	Read Only	
rt	array: see schema	Yes	Read Only	
anchor	multiple types: see schema	No	Read Write	
di	multiple types: see schema	No	Read Write	
eps	multiple types: see schema	No	Read Write	

href	multiple types: see schema	Yes	Read Write	
ins	multiple types: see schema	No	Read Write	
p	multiple types: see schema	No	Read Write	
rel	multiple types: see schema	No	Read Write	
title	multiple types: see schema	No	Read Write	
type	multiple types: see schema	No	Read Write	

17620 **6.90.6 CRUDN behaviour**

17621 Table 184 defines the CRUDN operations that are supported on the "oic.r.bloodpressuremonitor-
17622 am, oic.wk.atomicmeasurement" Resource Type.

17623 **Table 184 – The CRUDN operations of the Resource with type "rt" =**
17624 **"oic.r.bloodpressuremonitor-am, oic.wk.atomicmeasurement".**

Create	Read	Update	Delete	Notify
	get			observe

17625 **6.91 Body Mass Index(BMI)**

17626 **6.91.1 Introduction**

17627 This Resource describes the Properties associated with a person's Body Mass Index (BMI).
17628 The unit, which is the default unit, is kg/m².
17629 The bmi and unit Properties are read-only values that are provided by the server.
17630 When range is omitted the default is 0 to +MAXFLOAT.

17631 **6.91.2 Example URI**

17632 /BMIResURI

17633 **6.91.3 Resource type**

17634 The Resource Type is defined as: "oic.r.bmi".

17635 **6.91.4 OpenAPI 2.0 definition**

```
17636 {
17637   "swagger": "2.0",
17638   "info": {
17639     "title": "Body Mass Index(BMI)",
17640     "version": "2019-03-22",
17641     "license": {
17642       "name": "OCF Data Model License",
17643       "url":
17644         "https://github.com/openconnectivityfoundation/core/blob/e28a9e0a92e17042ba3e83661e4c0fbce8bdc4ba/LI
17645         CENSE.md",
17646       "x-copyright": "Copyright 2016-2019 Open Connectivity Foundation, Inc. All rights reserved."
17647     },
17648     "termsOfService": "https://openconnectivityfoundation.github.io/core/DISCLAIMER.md"
17649   },
17650   "schemes": [
17651     "http"
17652   ],
17653   "consumes": [
17654     "application/json"
17655   ],
17656   "produces": [
17657     "application/json"
```

```

17658 ],
17659 "paths": {
17660   "/BMIResURI": {
17661     "get": {
17662       "description": "This Resource describes the Properties associated with a person's Body Mass
17663 Index (BMI).\n\nThe unit, which is the default unit, is kg/m^2.\n\nThe bmi and unit Properties are read-
17664 only values that are provided by the server.\n\nWhen range is omitted the default is 0 to +MAXFLOAT.",
17665       "parameters": [
17666         {
17667           "$ref": "#/parameters/interface"
17668         }
17669       ],
17670       "responses": {
17671         "200": {
17672           "description": "",
17673           "x-example": {
17674             "rt": [
17675               "oic.r.bmi"
17676             ],
17677             "bmi": 20.0
17678           },
17679           "schema": {
17680             "$ref": "#/definitions/BMI"
17681           }
17682         }
17683       }
17684     }
17685   }
17686 },
17687 "parameters": {
17688   "interface": {
17689     "in": "query",
17690     "name": "if",
17691     "type": "string",
17692     "enum": [
17693       "oic.if.s",
17694       "oic.if.baseline"
17695     ]
17696   }
17697 },
17698 "definitions": {
17699   "BMI": {
17700     "properties": {
17701       "rt": {
17702         "description": "Resource Type",
17703         "items": {
17704           "enum": [
17705             "oic.r.bmi"
17706           ],
17707           "type": "string",
17708           "maxLength": 64
17709         },
17710         "minItems": 1,
17711         "uniqueItems": true,
17712         "readOnly": true,
17713         "type": "array"
17714       },
17715       "bmi": {
17716         "description": "Body Mass Index (BMI) in kg/m^2",
17717         "minimum": 0.0,
17718         "readOnly": true,
17719         "type": "number"
17720       },
17721       "range": {
17722         "$ref":
17723 "https://openconnectivityfoundation.github.io/IoTDataModels/schemas/oic.baseresource.properties-
17724 schema.json#/definitions/range_number"
17725       },
17726       "step": {
17727         "$ref":
17728 "https://openconnectivityfoundation.github.io/IoTDataModels/schemas/oic.baseresource.properties-
17729 schema.json#/definitions/step_number"

```

```

17730     },
17731     "precision": {
17732       "$ref":
17733       "https://openconnectivityfoundation.github.io/IoTDataModels/schemas/oic.baseresource.properties-
17734       schema.json#/definitions/precision"
17735     },
17736     "n": {
17737       "$ref":
17738       "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
17739       schema.json#/definitions/n"
17740     },
17741     "id": {
17742       "$ref":
17743       "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
17744       schema.json#/definitions/id"
17745     },
17746     "if": {
17747       "description": "The OCF Interface set supported by this Resource",
17748       "items": {
17749         "enum": [
17750           "oic.if.s",
17751           "oic.if.baseline"
17752         ],
17753         "type": "string",
17754         "maxLength": 64
17755       },
17756       "minItems": 1,
17757       "readOnly": true,
17758       "uniqueItems": true,
17759       "type": "array"
17760     }
17761   },
17762   "type": "object",
17763   "required": [
17764     "bmi"
17765   ]
17766 }
17767 }
17768 }
17769

```

17770 6.91.5 Property definition

17771 Table 185 defines the Properties that are part of the "oic.r.bmi" Resource Type.

17772 **Table 185 – The Property definitions of the Resource with "rt" = "oic.r.bmi".**

Property name	Value type	Mandatory	Access mode	Description
rt	array: see schema	No	Read Only	Resource Type
bmi	number	Yes	Read Only	Body Mass Index (BMI) in kg/m ²
range	multiple types: see schema	No	Read Write	
step	multiple types: see schema	No	Read Write	
precision	multiple types: see schema	No	Read Write	
n	multiple types: see schema	No	Read Write	
id	multiple types: see schema	No	Read Write	
if	array: see schema	No	Read Only	The OCF Interface set supported by this Resource

17773 **6.91.6 CRUDN behaviour**

17774 Table 186 defines the CRUDN operations that are supported on the "oic.r.bmi" Resource Type.

17775 **Table 186 – The CRUDN operations of the Resource with type "rt" = "oic.r.bmi".**

Create	Read	Update	Delete	Notify
	get			observe

17776 **6.92 Body Fat**

17777 **6.92.1 Introduction**

17778 This Resource describes the Properties associated with a person's body fat.

17779 The unit is a single value that is one of kg, lb or percent.

17780 If the unit Property is missing the default is kilograms [kg].

17781 The bodyfat and unit Properties are read-only values that are provided by the Server.

17782 When range is omitted the default is 0 to +MAXFLOAT.

17783 **6.92.2 Example URI**

17784 /BodyFatResURI

17785 **6.92.3 Resource type**

17786 The Resource Type is defined as: "oic.r.body.fat".

17787 **6.92.4 OpenAPI 2.0 definition**

```
17788 {
17789   "swagger": "2.0",
17790   "info": {
17791     "title": "Body Fat",
17792     "version": "2019-03-22",
17793     "license": {
17794       "name": "OCF Data Model License",
17795       "url":
17796         "https://github.com/openconnectivityfoundation/core/blob/e28a9e0a92e17042ba3e83661e4c0fbce8bdc4ba/LI
17797         CENSE.md",
17798       "x-copyright": "Copyright 2016-2019 Open Connectivity Foundation, Inc. All rights reserved."
17799     },
17800     "termsOfService": "https://openconnectivityfoundation.github.io/core/DISCLAIMER.md"
17801   },
17802   "schemes": [
17803     "http"
17804   ],
17805   "consumes": [
17806     "application/json"
17807   ],
17808   "produces": [
17809     "application/json"
17810   ],
17811   "paths": {
17812     "/BodyFatResURI": {
17813       "get": {
17814         "description": "This Resource describes the Properties associated with a person's body
17815         fat.\nThe unit is a single value that is one of kg, lb or percent.\nIf the unit Property is missing
17816         the default is kilograms [kg].\nThe bodyfat and unit Properties are read-only values that are
17817         provided by the Server.\nWhen range is omitted the default is 0 to +MAXFLOAT.",
17818         "parameters": [
17819           {
17820             "$ref": "#/parameters/interface"
17821           }
17822         ],
17823         "responses": {
17824           "200": {
17825             "description": "",
17826             "x-example": {
17827               "rt": [
```

```

17828         "oic.r.body.fat"
17829     ],
17830     "bodyfat": 20.0,
17831     "units": "kg"
17832 },
17833     "schema": {
17834         "$ref": "#/definitions/BodyFat"
17835     }
17836 }
17837 }
17838 }
17839 }
17840 },
17841 "parameters": {
17842     "interface": {
17843         "in": "query",
17844         "name": "if",
17845         "type": "string",
17846         "enum": [
17847             "oic.if.s",
17848             "oic.if.baseline"
17849         ]
17850     }
17851 },
17852 "definitions": {
17853     "BodyFat": {
17854         "properties": {
17855             "rt": {
17856                 "description": "Resource Type",
17857                 "items": {
17858                     "enum": [
17859                         "oic.r.body.fat"
17860                     ],
17861                     "type": "string",
17862                     "maxLength": 64
17863                 },
17864                 "minItems": 1,
17865                 "uniqueItems": true,
17866                 "readOnly": true,
17867                 "type": "array"
17868             },
17869             "bodyfat": {
17870                 "description": "Body fat.",
17871                 "minimum": 0.0,
17872                 "readOnly": true,
17873                 "type": "number"
17874             },
17875             "units": {
17876                 "description": "Body fat units",
17877                 "enum": [
17878                     "kg",
17879                     "lb",
17880                     "percent"
17881                 ],
17882                 "readOnly": true,
17883                 "type": "string",
17884                 "default": "kg"
17885             },
17886             "range": {
17887                 "$ref":
17888 "https://openconnectivityfoundation.github.io/IoTDataModels/schemas/oic.baseresource.properties-
17889 schema.json#/definitions/range_number"
17890             },
17891             "step": {
17892                 "$ref":
17893 "https://openconnectivityfoundation.github.io/IoTDataModels/schemas/oic.baseresource.properties-
17894 schema.json#/definitions/step_number"
17895             },
17896             "precision": {
17897                 "$ref":
17898 "https://openconnectivityfoundation.github.io/IoTDataModels/schemas/oic.baseresource.properties-
17899 schema.json#/definitions/precision"

```

```

17900     },
17901     "n": {
17902       "$ref":
17903       "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
17904       schema.json#/definitions/n"
17905     },
17906     "id": {
17907       "$ref":
17908       "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
17909       schema.json#/definitions/id"
17910     },
17911     "if": {
17912       "description": "The OCF Interface set supported by this Resource",
17913       "items": {
17914         "enum": [
17915           "oic.if.s",
17916           "oic.if.baseline"
17917         ],
17918         "type": "string",
17919         "maxLength": 64
17920       },
17921       "minItems": 1,
17922       "readOnly": true,
17923       "type": "array"
17924     }
17925   },
17926   "type": "object",
17927   "required": [
17928     "bodyfat"
17929   ]
17930 }
17931 }
17932 }
17933

```

17934 **6.92.5 Property definition**

17935 Table 187 defines the Properties that are part of the "oic.r.body.fat" Resource Type.

17936 **Table 187 – The Property definitions of the Resource with type "rt" = "oic.r.body.fat".**

Property name	Value type	Mandatory	Access mode	Description
rt	array: see schema	No	Read Only	Resource Type
bodyfat	number	Yes	Read Only	Body fat.
units	string	No	Read Only	Body fat units
range	multiple types: see schema	No	Read Write	
step	multiple types: see schema	No	Read Write	
precision	multiple types: see schema	No	Read Write	
n	multiple types: see schema	No	Read Write	
id	multiple types: see schema	No	Read Write	
if	array: see schema	No	Read Only	The OCF Interface set supported by this Resource

17937 **6.92.6 CRUDN behaviour**

17938 Table 188 defines the CRUDN operations that are supported on the "oic.r.body.fat" Resource Type.

17939 **Table 188 – The CRUDN operations of the Resource with type "rt" = "oic.r.body.fat".**

Create	Read	Update	Delete	Notify
	get			observe

17940 **6.93 Body Fat Free Mass**

17941 **6.93.1 Introduction**

17942 This Resource describes the Properties associated with a person's body fat free mass.
 17943 The unit is a single value that is one of kg, lb or percent.
 17944 If the unit Property is missing the default is kilograms [kg].
 17945 The ffm and unit Properties are read-only values that are provided by the Server.
 17946 When range is omitted the default is 0 to +MAXFLOAT.

17947 **6.93.2 Example URI**

17948 /BodyFatFreeMassResURI

17949 **6.93.3 Resource type**

17950 The Resource Type is defined as: "oic.r.body.ffm".

17951 **6.93.4 OpenAPI 2.0 definition**

```

17952 {
17953   "swagger": "2.0",
17954   "info": {
17955     "title": "Body Fat Free Mass",
17956     "version": "2019-03-22",
17957     "license": {
17958       "name": "OCF Data Model License",
17959       "url":
17960         "https://github.com/openconnectivityfoundation/core/blob/e28a9e0a92e17042ba3e83661e4c0fbce8bdc4ba/LI
17961         CENSE.md",
17962       "x-copyright": "Copyright 2016-2019 Open Connectivity Foundation, Inc. All rights reserved."
17963     },
17964     "termsOfService": "https://openconnectivityfoundation.github.io/core/DISCLAIMER.md"
17965   },
17966   "schemes": [
17967     "http"
17968   ],
17969   "consumes": [
17970     "application/json"
17971   ],
17972   "produces": [
17973     "application/json"
17974   ],
17975   "paths": {
17976     "/BodyFatFreeMassResURI": {
17977       "get": {
17978         "description": "This Resource describes the Properties associated with a person's body fat
17979         free mass.\n\nThe unit is a single value that is one of kg, lb or percent.\n\nIf the unit Property is
17980         missing the default is kilograms [kg].\n\nThe ffm and unit Properties are read-only values that are
17981         provided by the Server.\n\nWhen range is omitted the default is 0 to +MAXFLOAT.",
17982         "parameters": [
17983           {
17984             "$ref": "#/parameters/interface"
17985           }
17986         ],
17987         "responses": {
17988           "200": {
17989             "description": "",
17990             "x-example": {
17991               "rt": [
17992                 "oic.r.body.ffm"
17993               ],
17994               "ffm": 40.0,
17995               "units": "kg"
17996             }
17997           }
17998         }
17999       }
20000     }
20001   }
20002 }
    
```

```

17997         "schema": {
17998             "$ref": "#/definitions/BodyFatFreeMass"
17999         }
18000     }
18001 }
18002 }
18003 }
18004 },
18005 "parameters": {
18006     "interface": {
18007         "in": "query",
18008         "name": "if",
18009         "type": "string",
18010         "enum": [
18011             "oic.if.s",
18012             "oic.if.baseline"
18013         ]
18014     }
18015 },
18016 "definitions": {
18017     "BodyFatFreeMass": {
18018         "properties": {
18019             "rt": {
18020                 "description": "Resource Type",
18021                 "items": {
18022                     "enum": [
18023                         "oic.r.body.ffm"
18024                     ],
18025                     "type": "string",
18026                     "maxLength": 64
18027                 },
18028                 "minItems": 1,
18029                 "uniqueItems": true,
18030                 "readOnly": true,
18031                 "type": "array"
18032             },
18033             "ffm": {
18034                 "description": "Body fat free mass.",
18035                 "minimum": 0.0,
18036                 "readOnly": true,
18037                 "type": "number"
18038             },
18039             "units": {
18040                 "description": "Body fat free mass units",
18041                 "enum": [
18042                     "kg",
18043                     "lb",
18044                     "percent"
18045                 ],
18046                 "readOnly": true,
18047                 "type": "string",
18048                 "default": "kg"
18049             },
18050             "range": {
18051                 "$ref":
18052 "https://openconnectivityfoundation.github.io/IoTDataModels/schemas/oic.baseresource.properties-
18053 schema.json#/definitions/range_number"
18054             },
18055             "step": {
18056                 "$ref":
18057 "https://openconnectivityfoundation.github.io/IoTDataModels/schemas/oic.baseresource.properties-
18058 schema.json#/definitions/step_number"
18059             },
18060             "precision": {
18061                 "$ref":
18062 "https://openconnectivityfoundation.github.io/IoTDataModels/schemas/oic.baseresource.properties-
18063 schema.json#/definitions/precision"
18064             },
18065             "n": {
18066                 "$ref":
18067 "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
18068 schema.json#/definitions/n"

```

```

18069     },
18070     "id": {
18071       "$ref":
18072       "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
18073       schema.json#/definitions/id"
18074     },
18075     "if": {
18076       "description": "The OCF Interface set supported by this Resource",
18077       "items": {
18078         "enum": [
18079           "oic.if.s",
18080           "oic.if.baseline"
18081         ],
18082         "type": "string",
18083         "maxLength": 64
18084       },
18085       "minItems": 1,
18086       "readOnly": true,
18087       "uniqueItems": true,
18088       "type": "array"
18089     }
18090   },
18091   "type": "object",
18092   "required": [
18093     "ffm"
18094   ]
18095 }
18096 }
18097 }
18098

```

18099 6.93.5 Property definition

18100 Table 189 defines the Properties that are part of the "oic.r.body.ffm" Resource Type.

18101 **Table 189 – The Property definitions of the Resource with type "rt" = "oic.r.body.ffm".**

Property name	Value type	Mandatory	Access mode	Description
rt	array: see schema	No	Read Only	Resource Type
ffm	number	Yes	Read Only	Body fat free mass.
units	string	No	Read Only	Body fat free mass units
range	multiple types: see schema	No	Read Write	
step	multiple types: see schema	No	Read Write	
precision	multiple types: see schema	No	Read Write	
n	multiple types: see schema	No	Read Write	
id	multiple types: see schema	No	Read Write	
if	array: see schema	No	Read Only	The OCF Interface set supported by this Resource

18102 6.93.6 CRUDN behaviour

18103 Table 190 defines the CRUDN operations that are supported on the "oic.r.body.ffm" Resource Type.

18104 **Table 190 – The CRUDN operations of the Resource with type "rt" = "oic.r.body.ffm".**

Create	Read	Update	Delete	Notify
	get			observe

18105 **6.94 Body Location Temperature**

18106 **6.94.1 Introduction**

18107 This Resource describes the Properties associated with body location for temperature
 18108 measurement of a person.

18109 The bloc Property is a read-only value that is provided by the Server.

18110 **6.94.2 Example URI**

18111 /BodyLocationTemperatureResURI

18112 **6.94.3 Resource type**

18113 The Resource Type is defined as: "oic.r.body.location.temperature".

18114 **6.94.4 OpenAPI 2.0 definition**

```

18115 {
18116   "swagger": "2.0",
18117   "info": {
18118     "title": "Body Location Temperature",
18119     "version": "2019-03-22",
18120     "license": {
18121       "name": "OCF Data Model License",
18122       "url":
18123 "https://github.com/openconnectivityfoundation/core/blob/e28a9e0a92e17042ba3e83661e4c0fbce8bdc4ba/LI
18124 CENSE.md",
18125       "x-copyright": "Copyright 2016-2019 Open Connectivity Foundation, Inc. All rights reserved."
18126     },
18127     "termsOfService": "https://openconnectivityfoundation.github.io/core/DISCLAIMER.md"
18128   },
18129   "schemes": [
18130     "http"
18131   ],
18132   "consumes": [
18133     "application/json"
18134   ],
18135   "produces": [
18136     "application/json"
18137   ],
18138   "paths": {
18139     "/BodyLocationTemperatureResURI": {
18140       "get": {
18141         "description": "This Resource describes the Properties associated with body location for
18142 temperature measurement of a person.\n\nThe bloc Property is a read-only value that is provided by the
18143 Server.",
18144         "parameters": [
18145           {
18146             "$ref": "#/parameters/interface"
18147           }
18148         ],
18149         "responses": {
18150           "200": {
18151             "description": "",
18152             "x-example": {
18153               "rt": [
18154                 "oic.r.body.location.temperature"
18155               ],
18156               "bloc": "ear"
18157             },
18158             "schema": {
18159               "$ref": "#/definitions/BodyLocationTemperature"
18160             }
18161           }
18162         }
18163       }
18164     }
18165   }

```

```

18162     }
18163   }
18164 }
18165 },
18166 "parameters": {
18167   "interface": {
18168     "in": "query",
18169     "name": "if",
18170     "type": "string",
18171     "enum": [
18172       "oic.if.s",
18173       "oic.if.baseline"
18174     ]
18175   }
18176 },
18177 "definitions": {
18178   "BodyLocationTemperature": {
18179     "properties": {
18180       "rt": {
18181         "description": "Resource Type",
18182         "items": {
18183           "enum": [
18184             "oic.r.body.location.temperature"
18185           ],
18186           "type": "string",
18187           "maxLength": 64
18188         },
18189         "minItems": 1,
18190         "uniqueItems": true,
18191         "readOnly": true,
18192         "type": "array"
18193       },
18194       "bloc": {
18195         "description": "A list specific to temperature site",
18196         "enum": [
18197           "axillary",
18198           "body",
18199           "ear",
18200           "finger",
18201           "gitract",
18202           "mouth",
18203           "rectum",
18204           "toe",
18205           "tympanum"
18206         ],
18207         "readOnly": true,
18208         "type": "string"
18209       },
18210       "n": {
18211         "$ref":
18212         "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
18213         schema.json#/definitions/n"
18214       },
18215       "id": {
18216         "$ref":
18217         "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
18218         schema.json#/definitions/id"
18219       },
18220       "if": {
18221         "description": "The OCF Interface set supported by this Resource",
18222         "items": {
18223           "enum": [
18224             "oic.if.s",
18225             "oic.if.baseline"
18226           ],
18227           "type": "string",
18228           "maxLength": 64
18229         },
18230         "minItems": 1,
18231         "readOnly": true,
18232         "uniqueItems": true,
18233         "type": "array"

```



```

18234     }
18235     },
18236     "type": "object",
18237     "required": [
18238         "bloc"
18239     ]
18240 }
18241 }
18242 }
18243

```

18244 6.94.5 Property definition

18245 Table 191 defines the Properties that are part of the "oic.r.body.location.temperature" Resource
 18246 Type.

Table 191 – The Property definitions of the Resource with type "rt" = "oic.r.body.location.temperature".

Property name	Value type	Mandatory	Access mode	Description
rt	array: see schema	No	Read Only	Resource Type
bloc	string	Yes	Read Only	A list specific to temperature site
n	multiple types: see schema	No	Read Write	
id	multiple types: see schema	No	Read Write	
if	array: see schema	No	Read Only	The OCF Interface set supported by this Resource

18249 6.94.6 CRUDN behaviour

18250 Table 192 defines the CRUDN operations that are supported on the
 18251 "oic.r.body.location.temperature" Resource Type.

Table 192 – The CRUDN operations of the Resource with type "rt" = "oic.r.body.location.temperature".

Create	Read	Update	Delete	Notify
	get			observe

18254 6.95 Body Scale Atomic Measurement

18255 6.95.1 Introduction

18256 This Resource describes the Properties associated with body scale.
 18257 The Resource is an Atomic Measurement of weight (oic.r.weight), body mass index (BMI)
 18258 (oic.r.bmi), height (oic.r.height), body fat (oic.r.body.fat), body water (oic.r.body.water), body soft
 18259 lean mass (oic.r.body.slm), body fat free mass (oic.r.body.ffmpeg), observed time (oic.r.time.stamp),
 18260 and user id (oic.r.userid).

18261 6.95.2 Example URI

18262 /BodyScaleAMResURI

18263 6.95.3 Resource type

18264 The Resource Type is defined as: "oic.r.bodyscale-am, oic.wk.atomicmeasurement".

18265 6.95.4 OpenAPI 2.0 definition

```

18266 {
18267     "swagger": "2.0",

```

```

18268 "info": {
18269   "title": "Body Scale Atomic Measurement",
18270   "version": "2019-03-22",
18271   "license": {
18272     "name": "OCF Data Model License",
18273     "url":
18274 "https://github.com/openconnectivityfoundation/core/blob/e28a9e0a92e17042ba3e83661e4c0fbce8bdc4ba/LI
18275 CENSE.md",
18276     "x-copyright": "Copyright 2016-2019 Open Connectivity Foundation, Inc. All rights reserved."
18277   },
18278   "termsOfService": "https://openconnectivityfoundation.github.io/core/DISCLAIMER.md"
18279 },
18280 "schemas": [
18281   "http"
18282 ],
18283 "consumes": [
18284   "application/json"
18285 ],
18286 "produces": [
18287   "application/json"
18288 ],
18289 "paths": {
18290   "/BodyScaleAMResURI?if=oic.if.b": {
18291     "get": {
18292       "description": "This Resource describes the Properties associated with body scale.\nThe
18293 Resource is an Atomic Measurement of weight (oic.r.weight), body mass index (BMI) (oic.r.bmi),
18294 height (oic.r.height), body fat (oic.r.body.fat), body water (oic.r.body.water), body soft lean mass
18295 (oic.r.body.slm), body fat free mass (oic.r.body.ffm), observed time (oic.r.time.stamp), and user id
18296 (oic.r.userid).",
18297       "parameters": [
18298         {
18299           "$ref": "#/parameters/interface-all"
18300         }
18301       ],
18302       "responses": {
18303         "200": {
18304           "description": "",
18305           "x-example": [
18306             {
18307               "href": "/myWeight",
18308               "rep": {
18309                 "weight": 80.0,
18310                 "units": "kg"
18311               }
18312             },
18313             {
18314               "href": "/myBMI",
18315               "rep": {
18316                 "bmi": 20.0
18317               }
18318             },
18319             {
18320               "href": "/myHeight",
18321               "rep": {
18322                 "height": 1.8,
18323                 "units": "m"
18324               }
18325             },
18326             {
18327               "href": "/myBodyFat",
18328               "rep": {
18329                 "bodyfat": 20.0,
18330                 "units": "kg"
18331               }
18332             },
18333             {
18334               "href": "/myBodyWater",
18335               "rep": {
18336                 "bwater": 20.0,
18337                 "units": "kg"
18338               }
18339             }
18340           ]
18341         }
18342       }
18343     }
18344   }

```

```

18340     {
18341         "href": "/myBodySoftLeanMass",
18342         "rep": {
18343             "slm": 20.0,
18344             "units": "kg"
18345         }
18346     },
18347     {
18348         "href": "/myBodyFatFreeMass",
18349         "rep": {
18350             "ffm": 40.0,
18351             "units": "kg"
18352         }
18353     },
18354     {
18355         "href": "/myUserId",
18356         "rep": {
18357             "userid": "USER1"
18358         }
18359     },
18360     {
18361         "href": "/myTimeStamp",
18362         "rep": {
18363             "timestamp": "2018-11-09T12:15+08:00"
18364         }
18365     }
18366 ],
18367 "schema": {
18368     "$ref": "#/definitions/batch-retrieve"
18369 }
18370 }
18371 }
18372 },
18373 "/BodyScaleAMResURI?if=oic.if.ll": {
18374     "get": {
18375         "description": "This Resource describes the Properties associated with body scale.\nThe
18376 Resource is an Atomic Measurement of weight (oic.r.weight), body mass index (BMI) (oic.r.bmi),
18377 height (oic.r.height), body fat (oic.r.body.fat), body water (oic.r.body.water), body soft lean mass
18378 (oic.r.body.slm), body fat free mass (oic.r.body.ffm), observed time (oic.r.time.stamp), and user id
18379 (oic.r.userid).",
18380         "parameters": [
18381             {
18382                 "$ref": "#/parameters/interface-all"
18383             }
18384         ],
18385         "responses": {
18386             "200": {
18387                 "description": "",
18388                 "x-example": [
18389                     {
18390                         "href": "/myWeight",
18391                         "rt": [
18392                             "oic.r.weight"
18393                         ],
18394                         "if": [
18395                             "oic.if.s",
18396                             "oic.if.baseline"
18397                         ]
18398                     },
18399                     {
18400                         "href": "/myBMI",
18401                         "rt": [
18402                             "oic.r.bmi"
18403                         ],
18404                         "if": [
18405                             "oic.if.s",
18406                             "oic.if.baseline"
18407                         ]
18408                     }
18409                 ],
18410                 {
18411                     "href": "/myHeight",

```

```

18412         "rt": [
18413             "oic.r.height"
18414         ],
18415         "if": [
18416             "oic.if.s",
18417             "oic.if.baseline"
18418         ]
18419     },
18420     {
18421         "href": "/myBodyFat",
18422         "rt": [
18423             "oic.r.body.fat"
18424         ],
18425         "if": [
18426             "oic.if.s",
18427             "oic.if.baseline"
18428         ]
18429     },
18430     {
18431         "href": "/myBodyWater",
18432         "rt": [
18433             "oic.r.body.water"
18434         ],
18435         "if": [
18436             "oic.if.s",
18437             "oic.if.baseline"
18438         ]
18439     },
18440     {
18441         "href": "/myBodySoftLeanMass",
18442         "rt": [
18443             "oic.r.body.slm"
18444         ],
18445         "if": [
18446             "oic.if.s",
18447             "oic.if.baseline"
18448         ]
18449     },
18450     {
18451         "href": "/myBodyFatFreeMass",
18452         "rt": [
18453             "oic.r.body.ffm"
18454         ],
18455         "if": [
18456             "oic.if.s",
18457             "oic.if.baseline"
18458         ]
18459     },
18460     {
18461         "href": "/myUserId",
18462         "rt": [
18463             "oic.r.userid"
18464         ],
18465         "if": [
18466             "oic.if.r",
18467             "oic.if.baseline"
18468         ]
18469     },
18470     {
18471         "href": "/myTimeStamp",
18472         "rt": [
18473             "oic.r.time.stamp"
18474         ],
18475         "if": [
18476             "oic.if.r",
18477             "oic.if.baseline"
18478         ]
18479     }
18480 ],
18481 "schema": {
18482     "$ref": "#/definitions/links"
18483 }

```

```

18484     }
18485     }
18486   },
18487 },
18488 "/BodyScaleAMResURI?if=oic.if.baseline": {
18489   "get": {
18490     "description": "This Resource describes the Properties associated with body scale.\nThe
18491 Resource is an Atomic Measurement of weight (oic.r.weight), body mass index (BMI) (oic.r.bmi),
18492 height (oic.r.height), body fat (oic.r.body.fat), body water (oic.r.body.water), body soft lean mass
18493 (oic.r.body.slm), body fat free mass (oic.r.body.ffmpeg), observed time (oic.r.time.stamp), and user id
18494 (oic.r.userid).",
18495     "parameters": [
18496       {
18497         "$ref": "#/parameters/interface-all"
18498       }
18499     ],
18500     "responses": {
18501       "200": {
18502         "description": "",
18503         "x-example": {
18504           "rt": [
18505             "oic.r.bodyscale-am",
18506             "oic.wk.atomicmeasurement"
18507           ],
18508           "if": [
18509             "oic.if.b",
18510             "oic.if.ll",
18511             "oic.if.baseline"
18512           ],
18513           "rts": [
18514             "oic.r.weight",
18515             "oic.r.bmi",
18516             "oic.r.height",
18517             "oic.r.body.fat",
18518             "oic.r.body.water",
18519             "oic.r.body.slm",
18520             "oic.r.body.ffmpeg",
18521             "oic.r.userid",
18522             "oic.r.time.stamp"
18523           ],
18524           "rts-m": [
18525             "oic.r.weight"
18526           ],
18527           "links": [
18528             {
18529               "href": "/myWeight",
18530               "rt": [
18531                 "oic.r.weight"
18532               ],
18533               "if": [
18534                 "oic.if.s",
18535                 "oic.if.baseline"
18536               ]
18537             },
18538             {
18539               "href": "/myBMI",
18540               "rt": [
18541                 "oic.r.bmi"
18542               ],
18543               "if": [
18544                 "oic.if.s",
18545                 "oic.if.baseline"
18546               ]
18547             },
18548             {
18549               "href": "/myHeight",
18550               "rt": [
18551                 "oic.r.height"
18552               ],
18553               "if": [
18554                 "oic.if.s",
18555                 "oic.if.baseline"

```

```

18556     ]
18557     },
18558     {
18559         "href": "/myBodyFat",
18560         "rt": [
18561             "oic.r.body.fat"
18562         ],
18563         "if": [
18564             "oic.if.s",
18565             "oic.if.baseline"
18566         ]
18567     },
18568     {
18569         "href": "/myBodyWater",
18570         "rt": [
18571             "oic.r.body.water"
18572         ],
18573         "if": [
18574             "oic.if.s",
18575             "oic.if.baseline"
18576         ]
18577     },
18578     {
18579         "href": "/myBodySoftLeanMass",
18580         "rt": [
18581             "oic.r.body.slm"
18582         ],
18583         "if": [
18584             "oic.if.s",
18585             "oic.if.baseline"
18586         ]
18587     },
18588     {
18589         "href": "/myBodyFatFreeMass",
18590         "rt": [
18591             "oic.r.body.ffm"
18592         ],
18593         "if": [
18594             "oic.if.s",
18595             "oic.if.baseline"
18596         ]
18597     },
18598     {
18599         "href": "/myUserId",
18600         "rt": [
18601             "oic.r.userid"
18602         ],
18603         "if": [
18604             "oic.if.r",
18605             "oic.if.baseline"
18606         ]
18607     },
18608     {
18609         "href": "/myTimeStamp",
18610         "rt": [
18611             "oic.r.time.stamp"
18612         ],
18613         "if": [
18614             "oic.if.r",
18615             "oic.if.baseline"
18616         ]
18617     }
18618 ]
18619 },
18620 "schema": {
18621     "$ref": "#/definitions/baseline"
18622 }
18623 }
18624 }
18625 }
18626 }
18627 },

```

```

18628 "parameters": {
18629   "interface-all": {
18630     "in": "query",
18631     "name": "if",
18632     "type": "string",
18633     "enum": [
18634       "oic.if.b",
18635       "oic.if.ll",
18636       "oic.if.baseline"
18637     ]
18638   }
18639 },
18640 "definitions": {
18641   "links": {
18642     "type": "array",
18643     "items": {
18644       "$ref": "#/definitions/oic.oic-link"
18645     }
18646   },
18647   "baseline": {
18648     "properties": {
18649       "rt": {
18650         "items": {
18651           "enum": [
18652             "oic.r.bodyscale-am",
18653             "oic.wk.atomicmeasurement"
18654           ],
18655           "type": "string",
18656           "maxLength": 64
18657         },
18658         "minItems": 2,
18659         "uniqueItems": true,
18660         "readOnly": true,
18661         "type": "array"
18662       },
18663       "rts": {
18664         "description": "This contains all possible Resource Types for this Atomic Measurement.",
18665         "items": {
18666           "enum": [
18667             "oic.r.weight",
18668             "oic.r.bmi",
18669             "oic.r.height",
18670             "oic.r.body.fat",
18671             "oic.r.body.water",
18672             "oic.r.body.slm",
18673             "oic.r.body.ffmpeg",
18674             "oic.r.time.stamp",
18675             "oic.r.userid"
18676           ],
18677           "type": "string",
18678           "maxLength": 64
18679         },
18680         "minItems": 1,
18681         "uniqueItems": true,
18682         "readOnly": true,
18683         "type": "array"
18684       },
18685       "rts-m": {
18686         "description": "This contains all mandatory Resource Types for this Atomic Measurement.",
18687         "items": {
18688           "enum": [
18689             "oic.r.weight"
18690           ],
18691           "type": "string",
18692           "maxLength": 64
18693         },
18694         "maxItems": 1,
18695         "minItems": 1,
18696         "uniqueItems": true,
18697         "readOnly": true,
18698         "type": "array"
18699       }
18700     }
18701   }

```

```

18700     "if": {
18701         "description": "The OCF Interface set supported by this Resource",
18702         "items": {
18703             "enum": [
18704                 "oic.if.b",
18705                 "oic.if.ll",
18706                 "oic.if.baseline"
18707             ],
18708             "type": "string",
18709             "maxLength": 64
18710         },
18711         "minItems": 3,
18712         "uniqueItems": true,
18713         "readOnly": true,
18714         "type": "array"
18715     },
18716     "n": {
18717         "$ref":
18718 "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
18719 schema.json#/definitions/n"
18720     },
18721     "id": {
18722         "$ref":
18723 "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
18724 schema.json#/definitions/id"
18725     },
18726     "links": {
18727         "$ref": "#/definitions/links"
18728     }
18729 },
18730 "type": "object",
18731 "required": [
18732     "rt", "if", "links", "rts", "rts-m"
18733 ]
18734 },
18735 "batch-retrieve": {
18736     "minItems": 1,
18737     "items": {
18738         "properties": {
18739             "href": {
18740                 "$ref":
18741 "https://openconnectivityfoundation.github.io/core/schemas/oic.links.properties.core-
18742 schema.json#/definitions/href"
18743             },
18744             "rep": {
18745                 "type": "object",
18746                 "anyOf": [
18747                     {
18748                         "$ref":
18749 "https://openconnectivityfoundation.github.io/IoTDataModels/WeightResURI.swagger.json#/definitions/W
18750 eight"
18751                     },
18752                     {
18753                         "$ref":
18754 "https://openconnectivityfoundation.github.io/IoTDataModels/BMIResURI.swagger.json#/definitions/BMI"
18755                     },
18756                     {
18757                         "$ref":
18758 "https://openconnectivityfoundation.github.io/IoTDataModels/HeightResURI.swagger.json#/definitions/H
18759 eight"
18760                     },
18761                     {
18762                         "$ref":
18763 "https://openconnectivityfoundation.github.io/IoTDataModels/BodyFatResURI.swagger.json#/definitions/
18764 BodyFat"
18765                     },
18766                     {
18767                         "$ref":
18768 "https://openconnectivityfoundation.github.io/IoTDataModels/BodyWaterResURI.swagger.json#/definition
18769 s/BodyWater"
18770                     }
18771                 ]

```



```

18772         "$ref":
18773         "https://openconnectivityfoundation.github.io/IoTDataModels/BodySoftLeanMassResURI.swagger.json#/def
18774         initions/BodySoftLeanMass"
18775     },
18776     {
18777         "$ref":
18778         "https://openconnectivityfoundation.github.io/IoTDataModels/BodyFatFreeMassResURI.swagger.json#/defi
18779         nitions/BodyFatFreeMass"
18780     },
18781     {
18782         "$ref":
18783         "https://openconnectivityfoundation.github.io/IoTDataModels/UserIDResURI.swagger.json#/definitions/U
18784         serID"
18785     },
18786     {
18787         "$ref":
18788         "https://openconnectivityfoundation.github.io/IoTDataModels/TimeStampResURI.swagger.json#/definition
18789         s/TimeStamp"
18790     }
18791 ]
18792 }
18793 },
18794 "required": [
18795     "href",
18796     "rep"
18797 ],
18798 "type": "object"
18799 },
18800 "type": "array"
18801 },
18802 "oic.oic-link": {
18803     "properties": {
18804         "rt": {
18805             "description": "Resource Type of the target Resource",
18806             "items": {
18807                 "enum": [
18808                     "oic.r.weight",
18809                     "oic.r.bmi",
18810                     "oic.r.height",
18811                     "oic.r.body.fat",
18812                     "oic.r.body.water",
18813                     "oic.r.body.slm",
18814                     "oic.r.body.ffmpeg",
18815                     "oic.r.time.stamp",
18816                     "oic.r.userid"
18817                 ],
18818                 "type": "string",
18819                 "maxLength": 64
18820             },
18821             "minItems": 1,
18822             "uniqueItems": true,
18823             "readOnly": true,
18824             "type": "array"
18825         },
18826         "if": {
18827             "description": "The OCF Interface set supported by the target Resource",
18828             "items": {
18829                 "enum": [
18830                     "oic.if.s",
18831                     "oic.if.r",
18832                     "oic.if.baseline"
18833                 ],
18834                 "type": "string",
18835                 "maxLength": 64
18836             },
18837             "minItems": 1,
18838             "uniqueItems": true,
18839             "readOnly": true,
18840             "type": "array"
18841         },
18842         "anchor": {
18843             "$ref":

```

```

18844 "https://openconnectivityfoundation.github.io/core/schemas/oic.links.properties.core-
18845 schema.json#/definitions/anchor"
18846     },
18847     "di": {
18848         "$ref":
18849 "https://openconnectivityfoundation.github.io/core/schemas/oic.links.properties.core-
18850 schema.json#/definitions/di"
18851     },
18852     "eps": {
18853         "$ref":
18854 "https://openconnectivityfoundation.github.io/core/schemas/oic.links.properties.core-
18855 schema.json#/definitions/eps"
18856     },
18857     "href": {
18858         "$ref":
18859 "https://openconnectivityfoundation.github.io/core/schemas/oic.links.properties.core-
18860 schema.json#/definitions/href"
18861     },
18862     "ins": {
18863         "$ref":
18864 "https://openconnectivityfoundation.github.io/core/schemas/oic.links.properties.core-
18865 schema.json#/definitions/ins"
18866     },
18867     "p": {
18868         "$ref":
18869 "https://openconnectivityfoundation.github.io/core/schemas/oic.links.properties.core-
18870 schema.json#/definitions/p"
18871     },
18872     "rel": {
18873         "$ref":
18874 "https://openconnectivityfoundation.github.io/core/schemas/oic.links.properties.core-
18875 schema.json#/definitions/rel_array"
18876     },
18877     "title": {
18878         "$ref":
18879 "https://openconnectivityfoundation.github.io/core/schemas/oic.links.properties.core-
18880 schema.json#/definitions/title"
18881     },
18882     "type": {
18883         "$ref":
18884 "https://openconnectivityfoundation.github.io/core/schemas/oic.links.properties.core-
18885 schema.json#/definitions/type"
18886     }
18887 },
18888 "required": [
18889     "href",
18890     "rt",
18891     "if"
18892 ],
18893 "type": "object"
18894 }
18895 }
18896 }
18897

```

18898 6.95.5 Property definition

18899 Table 193 defines the Properties that are part of the "oic.r.bodyscale-am,
18900 oic.wk.atomicmeasurement" Resource Type.

18901 **Table 193 – The Property definitions of the Resource with type "rt" = "oic.r.bodyscale-am,
18902 oic.wk.atomicmeasurement".**

Property name	Value type	Mandatory	Access mode	Description
rt	array: see schema	Yes	Read Only	
rts	array: see schema	Yes	Read Only	This contains all possible Resource Types for this

				Atomic Measurement.
rts-m	array: see schema	Yes	Read Only	This contains all mandatory Resource Types for this Atomic Measurement.
if	array: see schema	Yes	Read Only	The OCF Interface set supported by this Resource
n	multiple types: see schema	No	Read Write	
id	multiple types: see schema	No	Read Write	
links	multiple types: see schema	Yes	Read Write	
href	multiple types: see schema	Yes	Read Write	
rep	object: see schema	Yes	Read Write	
rt	array: see schema	Yes	Read Only	Resource Type of the target Resource
if	array: see schema	Yes	Read Only	The OCF Interface set supported by the target Resource
anchor	multiple types: see schema	No	Read Write	
di	multiple types: see schema	No	Read Write	
eps	multiple types: see schema	No	Read Write	
href	multiple types: see schema	Yes	Read Write	
ins	multiple types: see schema	No	Read Write	
p	multiple types: see schema	No	Read Write	
rel	multiple types: see schema	No	Read Write	
title	multiple types: see schema	No	Read Write	
type	multiple types: see schema	No	Read Write	

18903 **6.95.6 CRUDN behaviour**

18904 Table 194 defines the CRUDN operations that are supported on the "oic.r.bodyscale-am,
18905 oic.wk.atomicmeasurement" Resource Type.

18906 **Table 194 – The CRUDN operations of the Resource with type "rt" = "oic.r.bodyscale-am,
18907 oic.wk.atomicmeasurement".**

Create	Read	Update	Delete	Notify
	get			observe

18908 **6.96 Body Soft Lean Mass**

18909 **6.96.1 Introduction**

18910 This Resource describes the Properties associated with a person's body soft lean mass.
18911 The unit is a single value that is one of kg, lb or percent.
18912 If the unit Property is missing the default is kilograms [kg].
18913 The slm and unit Properties are read-only values that are provided by the Server.
18914 When range is omitted the default is 0 to +MAXFLOAT.

18915 **6.96.2 Example URI**

18916 /BodySoftLeanMassResURI

18917 **6.96.3 Resource type**

18918 The Resource Type is defined as: "oic.r.body.slm".

18919 **6.96.4 OpenAPI 2.0 definition**

```
18920 {
18921   "swagger": "2.0",
18922   "info": {
18923     "title": "Body Soft Lean Mass",
18924     "version": "2019-03-22",
18925     "license": {
18926       "name": "OCF Data Model License",
18927       "url":
18928 "https://github.com/openconnectivityfoundation/core/blob/e28a9e0a92e17042ba3e83661e4c0fbce8bdc4ba/LI
18929 CENSE.md",
18930       "x-copyright": "Copyright 2016-2019 Open Connectivity Foundation, Inc. All rights reserved."
18931     },
18932     "termsOfService": "https://openconnectivityfoundation.github.io/core/DISCLAIMER.md"
18933   },
18934   "schemes": [
18935     "http"
18936   ],
18937   "consumes": [
18938     "application/json"
18939   ],
18940   "produces": [
18941     "application/json"
18942   ],
18943   "paths": {
18944     "/BodySoftLeanMassResURI": {
18945       "get": {
18946         "description": "This Resource describes the Properties associated with a person's body soft
18947 lean mass.\n\nThe unit is a single value that is one of kg, lb or percent.\n\nIf the unit Property is
18948 missing the default is kilograms [kg].\n\nThe slm and unit Properties are read-only values that are
18949 provided by the Server.\n\nWhen range is omitted the default is 0 to +MAXFLOAT.",
18950         "parameters": [
18951           {
18952             "$ref": "#/parameters/interface"
18953           }
18954         ],
18955         "responses": {
18956           "200": {
18957             "description": "",
18958             "x-example": {
18959               "rt": [
18960                 "oic.r.body.slm"
18961               ],
18962               "slm": 20.0,
18963               "units": "kg"
18964             },
18965             "schema": {
18966               "$ref": "#/definitions/BodySoftLeanMass"
18967             }
18968           }
18969         }
18970       }
18971     }
18972   }
18973 }
```

```

18971     }
18972   },
18973   "parameters": {
18974     "interface": {
18975       "in": "query",
18976       "name": "if",
18977       "type": "string",
18978       "enum": [
18979         "oic.if.s",
18980         "oic.if.baseline"
18981       ]
18982     }
18983   },
18984   "definitions": {
18985     "BodySoftLeanMass": {
18986       "properties": {
18987         "rt": {
18988           "description": "Resource Type",
18989           "items": {
18990             "enum": [
18991               "oic.r.body.slm"
18992             ],
18993             "type": "string",
18994             "maxLength": 64
18995           },
18996           "minItems": 1,
18997           "uniqueItems": true,
18998           "readOnly": true,
18999           "type": "array"
19000         },
19001         "slm": {
19002           "description": "Body soft lean mass.",
19003           "minimum": 0.0,
19004           "readOnly": true,
19005           "type": "number"
19006         },
19007         "units": {
19008           "description": "Body soft lean mass units",
19009           "enum": [
19010             "kg",
19011             "lb",
19012             "percent"
19013           ],
19014           "readOnly": true,
19015           "type": "string",
19016           "default": "kg"
19017         },
19018         "range": {
19019           "$ref":
19020             "https://openconnectivityfoundation.github.io/IoTDataModels/schemas/oic.baseresource.properties-
19021             schema.json#/definitions/range_number"
19022         },
19023         "step": {
19024           "$ref":
19025             "https://openconnectivityfoundation.github.io/IoTDataModels/schemas/oic.baseresource.properties-
19026             schema.json#/definitions/step_number"
19027         },
19028         "precision": {
19029           "$ref":
19030             "https://openconnectivityfoundation.github.io/IoTDataModels/schemas/oic.baseresource.properties-
19031             schema.json#/definitions/precision"
19032         },
19033         "n": {
19034           "$ref":
19035             "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
19036             schema.json#/definitions/n"
19037         },
19038         "id": {
19039           "$ref":
19040             "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
19041             schema.json#/definitions/id"
19042         },

```

```

19043     "if": {
19044         "description": "The OCF Interface set supported by this Resource",
19045         "items": {
19046             "enum": [
19047                 "oic.if.s",
19048                 "oic.if.baseline"
19049             ],
19050             "type": "string",
19051             "maxLength": 64
19052         },
19053         "minItems": 1,
19054         "readOnly": true,
19055         "uniqueItems": true,
19056         "type": "array"
19057     },
19058 },
19059 "type": "object",
19060 "required": [
19061     "slm"
19062 ]
19063 }
19064 }
19065 }
19066

```

19067 **6.96.5 Property definition**

19068 Table 195 defines the Properties that are part of the "oic.r.body.slm" Resource Type.

19069 **Table 195 – The Property definitions of the Resource with type "rt" = "oic.r.body.slm".**

Property name	Value type	Mandatory	Access mode	Description
rt	array: see schema	No	Read Only	Resource Type
slm	number	Yes	Read Only	Body soft lean mass.
units	string	No	Read Only	Body soft lean mass units
range	multiple types: see schema	No	Read Write	
step	multiple types: see schema	No	Read Write	
precision	multiple types: see schema	No	Read Write	
n	multiple types: see schema	No	Read Write	
id	multiple types: see schema	No	Read Write	
if	array: see schema	No	Read Only	The OCF Interface set supported by this Resource

19070 **6.96.6 CRUDN behaviour**

19071 Table 196 defines the CRUDN operations that are supported on the "oic.r.body.slm" Resource Type.

19072 **Table 196 – The CRUDN operations of the Resource with type "rt" = "oic.r.body.slm".**

Create	Read	Update	Delete	Notify
	get			observe

19073 **6.97 Body Thermometer Atomic Measurement**

19074 **6.97.1 Introduction**

19075 This Resource describes the Properties associated with body thermometer.
19076 The Resource is an Atomic Measurement of temperature (oic.r.temperature), body location for
19077 temperature (oic.r.body.location.temperature), observed time (oic.r.time.stamp), and user id
19078 (oic.r.userid).

19079 **6.97.2 Example URI**

19080 /BodyThermometerAMResURI

19081 **6.97.3 Resource type**

19082 The Resource Type is defined as: "oic.r.bodythermometer-am, oic.wk.atomicmeasurement".

19083 **6.97.4 OpenAPI 2.0 definition**

```
19084 {
19085   "swagger": "2.0",
19086   "info": {
19087     "title": "Body Thermometer Atomic Measurement",
19088     "version": "2019-03-22",
19089     "license": {
19090       "name": "OCF Data Model License",
19091       "url":
19092         "https://github.com/openconnectivityfoundation/core/blob/e28a9e0a92e17042ba3e83661e4c0fbce8bdc4ba/LI
19093         CENSE.md",
19094       "x-copyright": "Copyright 2016-2019 Open Connectivity Foundation, Inc. All rights reserved."
19095     },
19096     "termsOfService": "https://openconnectivityfoundation.github.io/core/DISCLAIMER.md"
19097   },
19098   "schemes": [
19099     "http"
19100   ],
19101   "consumes": [
19102     "application/json"
19103   ],
19104   "produces": [
19105     "application/json"
19106   ],
19107   "paths": {
19108     "/BodyThermometerAMResURI?if=oic.if.b": {
19109       "get": {
19110         "description": "This Resource describes the Properties associated with body
19111         thermometer.\n\nThe Resource is an Atomic Measurement of temperature (oic.r.temperature), body
19112         location for temperature (oic.r.body.location.temperature), observed time (oic.r.time.stamp), and
19113         user id (oic.r.userid).",
19114         "parameters": [
19115           {
19116             "$ref": "#/parameters/interface-all"
19117           }
19118         ],
19119         "responses": {
19120           "200": {
19121             "description": "",
19122             "x-example": [
19123               {
19124                 "href": "/myTemperature",
19125                 "rep": {
19126                   "temperature": 38.0,
19127                   "units": "C"
19128                 }
19129               },
19130               {
19131                 "href": "/myBodyLocationForTemperature",
19132                 "rep": {
19133                   "bloc": "mouth"
19134                 }
19135               }
19136             ]
19137           }
19138         }
19139       }
19140     }
19141   }
19142 }
```

```

19136     {
19137         "href": "/myUserId",
19138         "rep": {
19139             "userid": "USER1"
19140         }
19141     },
19142     {
19143         "href": "/myTimeStamp",
19144         "rep": {
19145             "timestamp": "2018-11-09T12:15+08:00"
19146         }
19147     }
19148 ],
19149 "schema": {
19150     "$ref": "#/definitions/batch-retrieve"
19151 }
19152 }
19153 }
19154 }
19155 },
19156 "/BodyThermometerAMResURI?if=oic.if.ll": {
19157     "get": {
19158         "description": "This Resource describes the Properties associated with body
19159 thermometer.\nThe Resource is an Atomic Measurement of temperature (oic.r.temperature), body
19160 location for temperature (oic.r.body.location.temperature), observed time (oic.r.time.stamp), and
19161 user id (oic.r.userid).",
19162         "parameters": [
19163             {
19164                 "$ref": "#/parameters/interface-all"
19165             }
19166         ],
19167         "responses": {
19168             "200": {
19169                 "description": "",
19170                 "x-example": [
19171                     {
19172                         "href": "/myTemperature",
19173                         "rt": [
19174                             "oic.r.temperature"
19175                         ],
19176                         "if": [
19177                             "oic.if.s",
19178                             "oic.if.baseline"
19179                         ]
19180                     },
19181                     {
19182                         "href": "/myBodyLocationForTemperature",
19183                         "rt": [
19184                             "oic.r.body.location.temperature"
19185                         ],
19186                         "if": [
19187                             "oic.if.s",
19188                             "oic.if.baseline"
19189                         ]
19190                     }
19191                 ],
19192                 {
19193                     "href": "/myUserId",
19194                     "rt": [
19195                         "oic.r.userid"
19196                     ],
19197                     "if": [
19198                         "oic.if.r",
19199                         "oic.if.baseline"
19200                     ]
19201                 },
19202                 {
19203                     "href": "/myTimeStamp",
19204                     "rt": [
19205                         "oic.r.time.stamp"
19206                     ],
19207                     "if": [

```



```

19208         "oic.if.baseline"
19209     ]
19210 }
19211 ],
19212 "schema": {
19213     "$ref": "#/definitions/links"
19214 }
19215 }
19216 }
19217 }
19218 },
19219 "/BodyThermometerAMResURI?if=oic.if.baseline": {
19220     "get": {
19221         "description": "This Resource describes the Properties associated with body
19222 thermometer.\n\nThe Resource is an Atomic Measurement of temperature (oic.r.temperature), body
19223 location for temperature (oic.r.body.location.temperature), observed time (oic.r.time.stamp), and
19224 user id (oic.r.userid).",
19225         "parameters": [
19226             {
19227                 "$ref": "#/parameters/interface-all"
19228             }
19229         ],
19230         "responses": {
19231             "200": {
19232                 "description": "",
19233                 "x-example": {
19234                     "rt": [
19235                         "oic.r.bodythermometer-am",
19236                         "oic.wk.atomicmeasurement"
19237                     ],
19238                     "if": [
19239                         "oic.if.b",
19240                         "oic.if.ll",
19241                         "oic.if.baseline"
19242                     ],
19243                     "rts": [
19244                         "oic.r.temperature",
19245                         "oic.r.body.location.temperature",
19246                         "oic.r.userid",
19247                         "oic.r.time.stamp"
19248                     ],
19249                     "rts-m": [
19250                         "oic.r.temperature"
19251                     ],
19252                     "links": [
19253                         {
19254                             "href": "/myTemperature",
19255                             "rt": [
19256                                 "oic.r.temperature"
19257                             ],
19258                             "if": [
19259                                 "oic.if.s",
19260                                 "oic.if.baseline"
19261                             ]
19262                         },
19263                         {
19264                             "href": "/myBodyLocationForTemperature",
19265                             "rt": [
19266                                 "oic.r.body.location.temperature"
19267                             ],
19268                             "if": [
19269                                 "oic.if.s",
19270                                 "oic.if.baseline"
19271                             ]
19272                         },
19273                         {
19274                             "href": "/myUserId",
19275                             "rt": [
19276                                 "oic.r.userid"
19277                             ],
19278                             "if": [
19279                                 "oic.if.r",

```

```

19280         "oic.if.baseline"
19281     ]
19282   },
19283   {
19284     "href": "/myTimeStamp",
19285     "rt": [
19286       "oic.r.time.stamp"
19287     ],
19288     "if": [
19289       "oic.if.x",
19290       "oic.if.baseline"
19291     ]
19292   }
19293 ]
19294 },
19295 "schema": {
19296   "$ref": "#/definitions/baseline"
19297 }
19298 }
19299 }
19300 }
19301 }
19302 },
19303 "parameters": {
19304   "interface-all": {
19305     "in": "query",
19306     "name": "if",
19307     "type": "string",
19308     "enum": [
19309       "oic.if.b",
19310       "oic.if.ll",
19311       "oic.if.baseline"
19312     ]
19313   }
19314 },
19315 "definitions": {
19316   "batch-retrieve": {
19317     "minItems": 1,
19318     "items": {
19319       "properties": {
19320         "href": {
19321           "$ref":
19322             "https://openconnectivityfoundation.github.io/core/schemas/oic.links.properties.core-
19323             schema.json#/definitions/href"
19324         },
19325         "rep": {
19326           "type": "object",
19327           "anyOf": [
19328             {
19329               "$ref":
19330                 "https://openconnectivityfoundation.github.io/IoTDataModels/TemperatureResURI.swagger.json#/definiti
19331                 ons/Temperature"
19332             },
19333             {
19334               "$ref":
19335                 "https://openconnectivityfoundation.github.io/IoTDataModels/BodyLocationTemperatureResURI.swagger.js
19336                 on#/definitions/BodyLocationTemperature"
19337             },
19338             {
19339               "$ref":
19340                 "https://openconnectivityfoundation.github.io/IoTDataModels/UserIDResURI.swagger.json#/definitions/U
19341                 serID"
19342             },
19343             {
19344               "$ref":
19345                 "https://openconnectivityfoundation.github.io/IoTDataModels/TimeStampResURI.swagger.json#/definition
19346                 s/TimeStamp"
19347             }
19348           ]
19349         }
19350       },
19351       "required": [

```

```

19352         "href",
19353         "rep"
19354     ],
19355     "type": "object"
19356 },
19357 "type": "array"
19358 },
19359 "links": {
19360     "type": "array",
19361     "items": {
19362         "$ref": "#/definitions/oic.oic-link"
19363     }
19364 },
19365 "baseline": {
19366     "properties": {
19367         "rt": {
19368             "items": {
19369                 "enum": [
19370                     "oic.r.bodythermometer-am",
19371                     "oic.wk.atomicmeasurement"
19372                 ],
19373                 "type": "string",
19374                 "maxLength": 64
19375             },
19376             "minItems": 2,
19377             "uniqueItems": true,
19378             "readOnly": true,
19379             "type": "array"
19380         },
19381         "rts": {
19382             "description": "This contains all possible Resource Types for this Atomic Measurement.",
19383             "items": {
19384                 "enum": [
19385                     "oic.r.temperature",
19386                     "oic.r.body.location.temperature",
19387                     "oic.r.time.stamp",
19388                     "oic.r.userid"
19389                 ],
19390                 "type": "string",
19391                 "maxLength": 64
19392             },
19393             "minItems": 1,
19394             "uniqueItems": true,
19395             "readOnly": true,
19396             "type": "array"
19397         },
19398         "rts-m": {
19399             "description": "This contains all mandatory Resource Types for this Atomic Measurement.",
19400             "items": {
19401                 "enum": [
19402                     "oic.r.temperature"
19403                 ],
19404                 "type": "string",
19405                 "maxLength": 64
19406             },
19407             "maxItems": 1,
19408             "minItems": 1,
19409             "uniqueItems": true,
19410             "readOnly": true,
19411             "type": "array"
19412         },
19413         "if": {
19414             "description": "The OC Interface set supported by this Resource",
19415             "items": {
19416                 "enum": [
19417                     "oic.if.b",
19418                     "oic.if.ll",
19419                     "oic.if.baseline"
19420                 ],
19421                 "type": "string",
19422                 "maxLength": 64
19423             },

```

```

19424         "minItems": 3,
19425         "uniqueItems": true,
19426         "readOnly": true,
19427         "type": "array"
19428     },
19429     "n": {
19430         "$ref":
19431 "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
19432 schema.json#/definitions/n"
19433     },
19434     "id": {
19435         "$ref":
19436 "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
19437 schema.json#/definitions/id"
19438     },
19439     "links": {
19440         "$ref": "#/definitions/links"
19441     }
19442 },
19443 "type": "object",
19444 "required": [
19445     "rt", "if", "links", "rts", "rts-m"
19446 ]
19447 },
19448 "oic.oic-link": {
19449     "properties": {
19450         "if": {
19451             "description": "The OCF Interface set supported by target Resource",
19452             "items": {
19453                 "enum": [
19454                     "oic.if.baseline",
19455                     "oic.if.s",
19456                     "oic.if.r"
19457                 ],
19458                 "type": "string",
19459                 "maxLength": 64
19460             },
19461             "minItems": 1,
19462             "uniqueItems": true,
19463             "readOnly": true,
19464             "type": "array"
19465         },
19466         "rt": {
19467             "description": "Resource Type of the target Resource",
19468             "items": {
19469                 "enum": [
19470                     "oic.r.temperature",
19471                     "oic.r.body.location.temperature",
19472                     "oic.r.time.stamp",
19473                     "oic.r.userid"
19474                 ],
19475                 "type": "string",
19476                 "maxLength": 64
19477             },
19478             "minItems": 1,
19479             "uniqueItems": true,
19480             "readOnly": true,
19481             "type": "array"
19482         },
19483         "anchor": {
19484             "$ref":
19485 "https://openconnectivityfoundation.github.io/core/schemas/oic.links.properties.core-
19486 schema.json#/definitions/anchor"
19487         },
19488         "di": {
19489             "$ref":
19490 "https://openconnectivityfoundation.github.io/core/schemas/oic.links.properties.core-
19491 schema.json#/definitions/di"
19492         },
19493         "eps": {
19494             "$ref":
19495 "https://openconnectivityfoundation.github.io/core/schemas/oic.links.properties.core-

```

```

19496 schema.json#/definitions/eps"
19497     },
19498     "href": {
19499         "$ref":
19500         "https://openconnectivityfoundation.github.io/core/schemas/oic.links.properties.core-
19501         schema.json#/definitions/href"
19502     },
19503     "ins": {
19504         "$ref":
19505         "https://openconnectivityfoundation.github.io/core/schemas/oic.links.properties.core-
19506         schema.json#/definitions/ins"
19507     },
19508     "p": {
19509         "$ref":
19510         "https://openconnectivityfoundation.github.io/core/schemas/oic.links.properties.core-
19511         schema.json#/definitions/p"
19512     },
19513     "rel": {
19514         "$ref":
19515         "https://openconnectivityfoundation.github.io/core/schemas/oic.links.properties.core-
19516         schema.json#/definitions/rel_array"
19517     },
19518     "title": {
19519         "$ref":
19520         "https://openconnectivityfoundation.github.io/core/schemas/oic.links.properties.core-
19521         schema.json#/definitions/title"
19522     },
19523     "type": {
19524         "$ref":
19525         "https://openconnectivityfoundation.github.io/core/schemas/oic.links.properties.core-
19526         schema.json#/definitions/type"
19527     }
19528 },
19529 "required": [
19530     "href",
19531     "rt",
19532     "if"
19533 ],
19534 "type": "object"
19535 }
19536 }
19537 }
19538

```

19539 6.97.5 Property definition

19540 Table 197 defines the Properties that are part of the "oic.r.bodythermometer-am,
19541 oic.wk.atomicmeasurement" Resource Type.

**Table 197 – The Property definitions of the Resource with type "rt" =
"oic.r.bodythermometer-am, oic.wk.atomicmeasurement".**

Property name	Value type	Mandatory	Access mode	Description
href	multiple types: see schema	Yes	Read Write	
rep	object: see schema	Yes	Read Write	
rt	array: see schema	Yes	Read Only	
rts	array: see schema	Yes	Read Only	This contains all possible Resource Types for this Atomic Measurement.
rts-m	array: see schema	Yes	Read Only	This contains all mandatory Resource Types for this Atomic Measurement.

if	array: see schema	Yes	Read Only	The OC Interface set supported by this Resource
n	multiple types: see schema	No	Read Write	
id	multiple types: see schema	No	Read Write	
links	multiple types: see schema	Yes	Read Write	
if	array: see schema	Yes	Read Only	The OCF Interface set supported by target Resource
rt	array: see schema	Yes	Read Only	Resource Type of the target Resource
anchor	multiple types: see schema	No	Read Write	
di	multiple types: see schema	No	Read Write	
eps	multiple types: see schema	No	Read Write	
href	multiple types: see schema	Yes	Read Write	
ins	multiple types: see schema	No	Read Write	
p	multiple types: see schema	No	Read Write	
rel	multiple types: see schema	No	Read Write	
title	multiple types: see schema	No	Read Write	
type	multiple types: see schema	No	Read Write	

19544 **6.97.6 CRUDN behaviour**

19545 Table 198 defines the CRUDN operations that are supported on the "oic.r.bodythermometer-am,
19546 oic.wk.atomicmeasurement" Resource Type.

19547 **Table 198 – The CRUDN operations of the Resource with type "rt" =**
19548 **"oic.r.bodythermometer-am, oic.wk.atomicmeasurement".**

Create	Read	Update	Delete	Notify
	get			observe

19549 **6.98 Body Water**

19550 **6.98.1 Introduction**

19551 This Resource describes the Properties associated with a person's body water.

19552 The unit is a single value that is one of kg or lb.

19553 If the unit Property is missing the default is kilograms [kg].

19554 The bwater and unit Properties are read-only values that are provided by the Server.

19555 When range is omitted the default is 0 to +MAXFLOAT.

19556 **6.98.2 Example URI**

19557 /BodyWaterResURI

19558 **6.98.3 Resource type**

19559 The Resource Type is defined as: "oic.r.body.water".

19560 **6.98.4 OpenAPI 2.0 definition**

```
19561 {
19562   "swagger": "2.0",
19563   "info": {
19564     "title": "Body Water",
19565     "version": "2019-03-22",
19566     "license": {
19567       "name": "OCF Data Model License",
19568       "url":
19569 "https://github.com/openconnectivityfoundation/core/blob/e28a9e0a92e17042ba3e83661e4c0fbce8bdc4ba/LI
19570 CENSE.md",
19571       "x-copyright": "Copyright 2016-2019 Open Connectivity Foundation, Inc. All rights reserved."
19572     },
19573     "termsOfService": "https://openconnectivityfoundation.github.io/core/DISCLAIMER.md"
19574   },
19575   "schemes": [
19576     "http"
19577   ],
19578   "consumes": [
19579     "application/json"
19580   ],
19581   "produces": [
19582     "application/json"
19583   ],
19584   "paths": {
19585     "/BodyWaterResURI": {
19586       "get": {
19587         "description": "This Resource describes the Properties associated with a person's body
19588 water.\n\nThe unit is a single value that is one of kg or lb.\n\nIf the unit Property is missing the
19589 default is kilograms [kg].\n\nThe bwater and unit Properties are read-only values that are provided by
19590 the Server.\n\nWhen range is omitted the default is 0 to +MAXFLOAT.",
19591         "parameters": [
19592           {
19593             "$ref": "#/parameters/interface"
19594           }
19595         ],
19596         "responses": {
19597           "200": {
19598             "description": "",
19599             "x-example": {
19600               "rt": [
19601                 "oic.r.body.water"
19602               ],
19603               "bwater": 20.0,
19604               "units": "kg"
19605             },
19606             "schema": {
19607               "$ref": "#/definitions/BodyWater"
19608             }
19609           }
19610         }
19611       }
19612     }
19613   },
19614   "parameters": {
19615     "interface": {
19616       "in": "query",
19617       "name": "if",
19618       "type": "string",
19619       "enum": [
19620         "oic.if.s",
19621         "oic.if.baseline"
19622       ]
19623     }
19624   },
19625   "definitions": {
19626     "BodyWater": {
```

```

19627     "properties": {
19628       "rt": {
19629         "description": "Resource Type",
19630         "items": {
19631           "enum": [
19632             "oic.r.body.water"
19633           ],
19634           "type": "string",
19635           "maxLength": 64
19636         },
19637         "minItems": 1,
19638         "uniqueItems": true,
19639         "readOnly": true,
19640         "type": "array"
19641       },
19642       "bwater": {
19643         "description": "Body water.",
19644         "minimum": 0.0,
19645         "readOnly": true,
19646         "type": "number"
19647       },
19648       "units": {
19649         "description": "Body water unit",
19650         "enum": [
19651           "kg",
19652           "lb"
19653         ],
19654         "readOnly": true,
19655         "type": "string",
19656         "default": "kg"
19657       },
19658       "range": {
19659         "$ref":
19660         "https://openconnectivityfoundation.github.io/IoTDataModels/schemas/oic.baseresource.properties-
19661         schema.json#/definitions/range_number"
19662       },
19663       "step": {
19664         "$ref":
19665         "https://openconnectivityfoundation.github.io/IoTDataModels/schemas/oic.baseresource.properties-
19666         schema.json#/definitions/step_number"
19667       },
19668       "precision": {
19669         "$ref":
19670         "https://openconnectivityfoundation.github.io/IoTDataModels/schemas/oic.baseresource.properties-
19671         schema.json#/definitions/precision"
19672       },
19673       "n": {
19674         "$ref":
19675         "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
19676         schema.json#/definitions/n"
19677       },
19678       "id": {
19679         "$ref":
19680         "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
19681         schema.json#/definitions/id"
19682       },
19683       "if": {
19684         "description": "The OCF Interface set supported by this Resource",
19685         "items": {
19686           "enum": [
19687             "oic.if.s",
19688             "oic.if.baseline"
19689           ],
19690           "type": "string",
19691           "maxLength": 64
19692         },
19693         "minItems": 1,
19694         "readOnly": true,
19695         "uniqueItems": true,
19696         "type": "array"
19697       }
19698     },

```



```

19699     "type": "object",
19700     "required": [
19701         "bwater"
19702     ]
19703     }
19704 }
19705 }
19706

```

19707 6.98.5 Property definition

19708 Table 199 defines the Properties that are part of the "oic.r.body.water" Resource Type.

19709 **Table 199 – The Property definitions of the Resource with type "rt" = "oic.r.body.water".**

Property name	Value type	Mandatory	Access mode	Description
rt	array: see schema	No	Read Only	Resource Type
bwater	number	Yes	Read Only	Body water.
units	string	No	Read Only	Body water unit
range	multiple types: see schema	No	Read Write	
step	multiple types: see schema	No	Read Write	
precision	multiple types: see schema	No	Read Write	
n	multiple types: see schema	No	Read Write	
id	multiple types: see schema	No	Read Write	
if	array: see schema	No	Read Only	The OCF Interface set supported by this Resource

19710 6.98.6 CRUDN behaviour

19711 Table 200 defines the CRUDN operations that are supported on the "oic.r.body.water" Resource
 19712 Type.

19713 **Table 200 – The CRUDN operations of the Resource with type "rt" = "oic.r.body.water".**

Create	Read	Update	Delete	Notify
	get			observe

19714 6.99 Glucose

19715 6.99.1 Introduction

19716 This Resource describes the Properties associated with a person's glucose level.

19717 The unit is a single value that is one of mg/dL, mmol/L.

19718 If the unit Property is missing the default is milligrams per decilitre [mg/dL].

19719 The glucose and unit Properties are read-only values that are provided by the Server.

19720 When range is omitted the default is 0 to +MAXFLOAT.

19721 6.99.2 Example URI

19722 /GlucoseResURI

19723 6.99.3 Resource type

19724 The Resource Type is defined as: "oic.r.glucose".

19725 6.99.4 OpenAPI 2.0 definition

```
19726 {
19727   "swagger": "2.0",
19728   "info": {
19729     "title": "Glucose",
19730     "version": "2019-03-22",
19731     "license": {
19732       "name": "OCF Data Model License",
19733       "url":
19734         "https://github.com/openconnectivityfoundation/core/blob/e28a9e0a92e17042ba3e83661e4c0fbce8bdc4ba/LI
19735         CENSE.md",
19736       "x-copyright": "Copyright 2016-2019 Open Connectivity Foundation, Inc. All rights reserved."
19737     },
19738     "termsOfService": "https://openconnectivityfoundation.github.io/core/DISCLAIMER.md"
19739   },
19740   "schemes": [
19741     "http"
19742   ],
19743   "consumes": [
19744     "application/json"
19745   ],
19746   "produces": [
19747     "application/json"
19748   ],
19749   "paths": {
19750     "/GlucoseResURI": {
19751       "get": {
19752         "description": "This Resource describes the Properties associated with a person's glucose
19753         level.\n\nThe unit is a single value that is one of mg/dL, mmol/L.\n\nIf the unit Property is missing
19754         the default is milligrams per decilitre [mg/dL].\n\nThe glucose and unit Properties are read-only
19755         values that are provided by the Server.\n\nWhen range is omitted the default is 0 to +MAXFLOAT.",
19756         "parameters": [
19757           {
19758             "$ref": "#/parameters/interface"
19759           }
19760         ],
19761         "responses": {
19762           "200": {
19763             "description": "",
19764             "x-example": {
19765               "rt": [
19766                 "oic.r.glucose"
19767               ],
19768               "glucose": 90.0,
19769               "units": "mg/dL",
19770               "range": [
19771                 20.0,
19772                 600.0
19773               ],
19774               "step": 1
19775             },
19776             "schema": {
19777               "$ref": "#/definitions/Glucose"
19778             }
19779           }
19780         }
19781       }
19782     }
19783   },
19784   "parameters": {
19785     "interface": {
19786       "in": "query",
19787       "name": "if",
19788       "type": "string",
19789       "enum": [
19790         "oic.if.s",
19791         "oic.if.baseline"
19792       ]
19793     }
19794   },
19795   "definitions": {
```

```

19796     "Glucose": {
19797         "properties": {
19798             "rt": {
19799                 "description": "Resource Type",
19800                 "items": {
19801                     "enum": [
19802                         "oic.r.glucose"
19803                     ],
19804                     "type": "string",
19805                     "maxLength": 64
19806                 },
19807                 "minItems": 1,
19808                 "uniqueItems": true,
19809                 "readOnly": true,
19810                 "type": "array"
19811             },
19812             "glucose": {
19813                 "description": "A measurement of glucose concentration in the blood",
19814                 "minimum": 0.0,
19815                 "readOnly": true,
19816                 "type": "number"
19817             },
19818             "units": {
19819                 "description": "Glucose unit",
19820                 "enum": [
19821                     "mg/dL",
19822                     "mmol/L"
19823                 ],
19824                 "readOnly": true,
19825                 "type": "string",
19826                 "default": "mg/dL"
19827             },
19828             "range": {
19829                 "$ref":
19830                 "https://openconnectivityfoundation.github.io/IoTDataModels/schemas/oic.baseresource.properties-
19831                 schema.json#/definitions/range_number"
19832             },
19833             "step": {
19834                 "$ref":
19835                 "https://openconnectivityfoundation.github.io/IoTDataModels/schemas/oic.baseresource.properties-
19836                 schema.json#/definitions/step_number"
19837             },
19838             "precision": {
19839                 "$ref":
19840                 "https://openconnectivityfoundation.github.io/IoTDataModels/schemas/oic.baseresource.properties-
19841                 schema.json#/definitions/precision"
19842             },
19843             "n": {
19844                 "$ref":
19845                 "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
19846                 schema.json#/definitions/n"
19847             },
19848             "id": {
19849                 "$ref":
19850                 "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
19851                 schema.json#/definitions/id"
19852             },
19853             "if": {
19854                 "description": "The OCF Interface set supported by this Resource",
19855                 "items": {
19856                     "enum": [
19857                         "oic.if.s",
19858                         "oic.if.baseline"
19859                     ],
19860                     "type": "string",
19861                     "maxLength": 64
19862                 },
19863                 "minItems": 1,
19864                 "readOnly": true,
19865                 "uniqueItems": true,
19866                 "type": "array"
19867             }

```

```

19868     },
19869     "type": "object",
19870     "required": [
19871         "glucose"
19872     ]
19873 }
19874 }
19875 }
19876 }

```

19877 **6.99.5 Property definition**

19878 Table 201 defines the Properties that are part of the "oic.r.glucose" Resource Type.

19879 **Table 201 – The Property definitions of the Resource with type "rt" = "oic.r.glucose".**

Property name	Value type	Mandatory	Access mode	Description
rt	array: see schema	No	Read Only	Resource Type
glucose	number	Yes	Read Only	A measurement of glucose concentration in the blood
units	string	No	Read Only	Glucose unit
range	multiple types: see schema	No	Read Write	
step	multiple types: see schema	No	Read Write	
precision	multiple types: see schema	No	Read Write	
n	multiple types: see schema	No	Read Write	
id	multiple types: see schema	No	Read Write	
if	array: see schema	No	Read Only	The OCF Interface set supported by this Resource

19880 **6.99.6 CRUDN behaviour**

19881 Table 202 defines the CRUDN operations that are supported on the "oic.r.glucose" Resource Type.

19882 **Table 202 – The CRUDN operations of the Resource with type "rt" = "oic.r.glucose".**

Create	Read	Update	Delete	Notify
	get			observe

19883 **6.100 Context Carbohydrates for Glucose Meter**

19884 **6.100.1 Introduction**

19885 This Resource describes the Properties associated with a context carbohydrates.
 19886 The carb Property has a default unit of grams[g].
 19887 The carb and meal Properties are read-only values that are provided by the Server.
 19888 When range is omitted the default is 0 to +MAXFLOAT.

19889 **6.100.2 Example URI**

19890 /GlucoseCarbResURI

19891 **6.100.3 Resource type**

19892 The Resource Type is defined as: "oic.r.glucose.carb".

19893 **6.100.4 OpenAPI 2.0 definition**

```
19894 {
19895   "swagger": "2.0",
19896   "info": {
19897     "title": "Context Carbohydrates for Glucose Meter",
19898     "version": "2019-03-22",
19899     "license": {
19900       "name": "OCF Data Model License",
19901       "url":
19902         "https://github.com/openconnectivityfoundation/core/blob/e28a9e0a92e17042ba3e83661e4c0fbce8bdc4ba/LI
19903         CENSE.md",
19904       "x-copyright": "Copyright 2016-2019 Open Connectivity Foundation, Inc. All rights reserved."
19905     },
19906     "termsOfService": "https://openconnectivityfoundation.github.io/core/DISCLAIMER.md"
19907   },
19908   "schemes": [
19909     "http"
19910   ],
19911   "consumes": [
19912     "application/json"
19913   ],
19914   "produces": [
19915     "application/json"
19916   ],
19917   "paths": {
19918     "/GlucoseCarbResURI": {
19919       "get": {
19920         "description": "This Resource describes the Properties associated with a context
19921         carbohydrates.\nThe carb Property has a default unit of grams[g].\nThe carb and meal Properties are
19922         read-only values that are provided by the Server.\nWhen range is omitted the default is 0 to
19923         +MAXFLOAT.",
19924         "parameters": [
19925           {
19926             "$ref": "#/parameters/interface"
19927           }
19928         ],
19929         "responses": {
19930           "200": {
19931             "description": "",
19932             "x-example": {
19933               "rt": [
19934                 "oic.r.glucose.carb"
19935               ],
19936               "carb": 100.0,
19937               "meal": "breakfast"
19938             },
19939             "schema": {
19940               "$ref": "#/definitions/GlucoseCarb"
19941             }
19942           }
19943         }
19944       }
19945     }
19946   },
19947   "parameters": {
19948     "interface": {
19949       "in": "query",
19950       "name": "if",
19951       "type": "string",
19952       "enum": [
19953         "oic.if.s",
19954         "oic.if.baseline"
19955       ]
19956     }
19957   },
19958   "definitions": {
19959     "GlucoseCarb": {
19960       "properties": {
19961         "rt": {
19962           "description": "Resource Type",
19963           "items": {
```

```

19964         "enum": [
19965             "oic.r.glucose.carb"
19966         ],
19967         "type": "string",
19968         "maxLength": 64
19969     },
19970     "minItems": 1,
19971     "uniqueItems": true,
19972     "readOnly": true,
19973     "type": "array"
19974 },
19975 "carb": {
19976     "description": "The amount of carbohydrates undertaken in grams",
19977     "readOnly": true,
19978     "type": "number",
19979     "minimum": 0.0
19980 },
19981 "meal": {
19982     "description": "Recorded time of carbohydrates intake",
19983     "enum": [
19984         "breakfast",
19985         "lunch",
19986         "dinner",
19987         "snack",
19988         "drink",
19989         "supper",
19990         "brunch",
19991         "undetermined",
19992         "other",
19993         "no_entry",
19994         "no_ingestion"
19995     ],
19996     "readOnly": true,
19997     "type": "string"
19998 },
19999 "range": {
20000     "description": "The range applies to the carb property only",
20001     "$ref":
20002     "https://openconnectivityfoundation.github.io/IoTDataModels/schemas/oic.baseresource.properties-
20003     schema.json#/definitions/range_number"
20004 },
20005 "step": {
20006     "description": "The step applies to the carb property only",
20007     "$ref":
20008     "https://openconnectivityfoundation.github.io/IoTDataModels/schemas/oic.baseresource.properties-
20009     schema.json#/definitions/step_number"
20010 },
20011 "precision": {
20012     "description": "The precision applies to the carb property only",
20013     "$ref":
20014     "https://openconnectivityfoundation.github.io/IoTDataModels/schemas/oic.baseresource.properties-
20015     schema.json#/definitions/precision"
20016 },
20017 "n": {
20018     "$ref":
20019     "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
20020     schema.json#/definitions/n"
20021 },
20022 "id": {
20023     "$ref":
20024     "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
20025     schema.json#/definitions/id"
20026 },
20027 "if": {
20028     "description": "The OCF Interface set supported by this Resource",
20029     "items": {
20030         "enum": [
20031             "oic.if.s",
20032             "oic.if.baseline"
20033         ],
20034         "type": "string",
20035         "maxLength": 64

```

```

20036     },
20037     "minItems": 1,
20038     "readOnly": true,
20039     "uniqueItems": true,
20040     "type": "array"
20041   }
20042 },
20043 "type": "object",
20044 "required": [
20045   "carb",
20046   "meal"
20047 ]
20048 }
20049 }
20050 }
20051

```

20052 **6.100.5 Property definition**

20053 Table 203 defines the Properties that are part of the "oic.r.glucose.carb" Resource Type.

20054 **Table 203 – The Property definitions of the Resource with type "rt" = "oic.r.glucose.carb".**

Property name	Value type	Mandatory	Access mode	Description
rt	array: see schema	No	Read Only	Resource Type
carb	number	Yes	Read Only	The amount of carbohydrates undertaken in grams
meal	string	Yes	Read Only	Recorded time of carbohydrates intake
range	multiple types: see schema	No	Read Write	The range applies to the carb property only
step	multiple types: see schema	No	Read Write	The step applies to the carb property only
precision	multiple types: see schema	No	Read Write	The precision applies to the carb property only
n	multiple types: see schema	No	Read Write	
id	multiple types: see schema	No	Read Write	
if	array: see schema	No	Read Only	The OCF Interface set supported by this Resource

20055 **6.100.6 CRUDN behaviour**

20056 Table 204 defines the CRUDN operations that are supported on the "oic.r.glucose.carb" Resource Type.

20058 **Table 204 – The CRUDN operations of the Resource with type "rt" = "oic.r.glucose.carb".**

Create	Read	Update	Delete	Notify
	get			observe

20059 **6.101 Exercise for Glucose Meter**

20060 **6.101.1 Introduction**

20061 This Resource describes the Properties associated with glucose exercise.
20062 The exercise Property has a default unit of percentage.
20063 The exercise Property is a read-only value that is provided by the Server.

20064 **6.101.2 Example URI**

20065 /ExerciseResURI

20066 **6.101.3 Resource type**

20067 The Resource Type is defined as: "oic.r.glucose.exercise".

20068 **6.101.4 OpenAPI 2.0 definition**

```
20069 {  
20070   "swagger": "2.0",  
20071   "info": {  
20072     "title": "Exercise for Glucose Meter",  
20073     "version": "2019-03-22",  
20074     "license": {  
20075       "name": "OCF Data Model License",  
20076       "url":  
20077       "https://github.com/openconnectivityfoundation/core/blob/e28a9e0a92e17042ba3e83661e4c0fbce8bdc4ba/LI  
20078       CENSE.md",  
20079       "x-copyright": "Copyright 2016-2019 Open Connectivity Foundation, Inc. All rights reserved."  
20080     },  
20081     "termsOfService": "https://openconnectivityfoundation.github.io/core/DISCLAIMER.md"  
20082   },  
20083   "schemes": [  
20084     "http"  
20085   ],  
20086   "consumes": [  
20087     "application/json"  
20088   ],  
20089   "produces": [  
20090     "application/json"  
20091   ],  
20092   "paths": {  
20093     "/ExerciseResURI": {  
20094       "get": {  
20095         "description": "This Resource describes the Properties associated with glucose  
20096         exercise.\n\nThe exercise Property has a default unit of percentage.\n\nThe exercise Property is a read-  
20097         only value that is provided by the Server.",  
20098         "parameters": [  
20099           {  
20100             "$ref": "#/parameters/interface"  
20101           }  
20102         ],  
20103         "responses": {  
20104           "200": {  
20105             "description": "",  
20106             "x-example": {  
20107               "rt": [  
20108                 "oic.r.glucose.exercise"  
20109               ],  
20110               "exercise": 30.0  
20111             },  
20112             "schema": {  
20113               "$ref": "#/definitions/Exercise"  
20114             }  
20115           }  
20116         }  
20117       }  
20118     }  
20119   },  
20120   "parameters": {  
20121     "interface": {  
20122       "in": "query",
```



```

20123     "name": "if",
20124     "type": "string",
20125     "enum": [
20126         "oic.if.s",
20127         "oic.if.baseline"
20128     ]
20129 }
20130 },
20131 "definitions": {
20132     "Exercise": {
20133         "properties": {
20134             "rt": {
20135                 "description": "Resource Type",
20136                 "items": {
20137                     "enum": [
20138                         "oic.r.glucose.exercise"
20139                     ],
20140                     "type": "string",
20141                     "maxLength": 64
20142                 },
20143                 "minItems": 1,
20144                 "uniqueItems": true,
20145                 "readOnly": true,
20146                 "type": "array"
20147             },
20148             "exercise": {
20149                 "description": "The level of exercise undertaken in percentage",
20150                 "maximum": 100.0,
20151                 "minimum": 0.0,
20152                 "readOnly": true,
20153                 "type": "number"
20154             },
20155             "range": {
20156                 "$ref":
20157 "https://openconnectivityfoundation.github.io/IoTDataModels/schemas/oic.baseresource.properties-
20158 schema.json#/definitions/range_number"
20159             },
20160             "step": {
20161                 "$ref":
20162 "https://openconnectivityfoundation.github.io/IoTDataModels/schemas/oic.baseresource.properties-
20163 schema.json#/definitions/step_number"
20164             },
20165             "precision": {
20166                 "$ref":
20167 "https://openconnectivityfoundation.github.io/IoTDataModels/schemas/oic.baseresource.properties-
20168 schema.json#/definitions/precision"
20169             },
20170             "n": {
20171                 "$ref":
20172 "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
20173 schema.json#/definitions/n"
20174             },
20175             "id": {
20176                 "$ref":
20177 "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
20178 schema.json#/definitions/id"
20179             },
20180             "if": {
20181                 "description": "The OCF Interface set supported by this Resource",
20182                 "items": {
20183                     "enum": [
20184                         "oic.if.s",
20185                         "oic.if.baseline"
20186                     ],
20187                     "type": "string",
20188                     "maxLength": 64
20189                 },
20190                 "minItems": 1,
20191                 "readOnly": true,
20192                 "uniqueItems": true,
20193                 "type": "array"
20194             }

```

```

20195     },
20196     "type": "object",
20197     "required": [
20198         "exercise"
20199     ]
20200 }
20201 }
20202 }
20203

```

20204 **6.101.5 Property definition**

20205 Table 205 defines the Properties that are part of the "oic.r.glucose.exercise" Resource Type.

20206 **Table 205 – The Property definitions of the Resource with type "rt" =**
20207 **"oic.r.glucose.exercise".**

Property name	Value type	Mandatory	Access mode	Description
rt	array: see schema	No	Read Only	Resource Type
exercise	number	Yes	Read Only	The level of exercise undertaken in percentage
range	multiple types: see schema	No	Read Write	
step	multiple types: see schema	No	Read Write	
precision	multiple types: see schema	No	Read Write	
n	multiple types: see schema	No	Read Write	
id	multiple types: see schema	No	Read Write	
if	array: see schema	No	Read Only	The OCF Interface set supported by this Resource

20208 **6.101.6 CRUDN behaviour**

20209 Table 206 defines the CRUDN operations that are supported on the "oic.r.glucose.exercise"
20210 Resource Type.

20211 **Table 206 – The CRUDN operations of the Resource with type "rt" =**
20212 **"oic.r.glucose.exercise".**

Create	Read	Update	Delete	Notify
	get			observe

20213 **6.102 Hemoglobin Bound to Glucose A1c Form (HbA1c) for Glucose Meter**

20214 **6.102.1 Introduction**

20215 This Resource describes the Properties associated with a person's hba1c level.
20216 The unit is a single value that is percentage.
20217 The hba1c Property is a read-only value that is provided by the Server.

20218 **6.102.2 Example URI**

20219 /GlucoseHbA1cResURI

20220 **6.102.3 Resource type**

20221 The Resource Type is defined as: "oic.r.glucose.hba1c".

20222 6.102.4 OpenAPI 2.0 definition

```
20223 {
20224   "swagger": "2.0",
20225   "info": {
20226     "title": "Hemoglobin Bound to Glucose Alc Form (HbAlc) for Glucose Meter",
20227     "version": "2019-03-22",
20228     "license": {
20229       "name": "OCF Data Model License",
20230       "url":
20231 "https://github.com/openconnectivityfoundation/core/blob/e28a9e0a92e17042ba3e83661e4c0fbce8bdc4ba/LI
20232 CENSE.md",
20233     "x-copyright": "Copyright 2016-2019 Open Connectivity Foundation, Inc. All rights reserved."
20234   },
20235   "termsOfService": "https://openconnectivityfoundation.github.io/core/DISCLAIMER.md"
20236 },
20237   "schemes": [
20238     "http"
20239   ],
20240   "consumes": [
20241     "application/json"
20242   ],
20243   "produces": [
20244     "application/json"
20245   ],
20246   "paths": {
20247     "/GlucoseHbAlcResURI": {
20248       "get": {
20249         "description": "This Resource describes the Properties associated with a person's hbalc
20250 level.\n\nThe unit is a single value that is percentage.\n\nThe hbalc Property is a read-only value that
20251 is provided by the Server.",
20252         "parameters": [
20253           {
20254             "$ref": "#/parameters/interface"
20255           }
20256         ],
20257         "responses": {
20258           "200": {
20259             "description": "",
20260             "x-example": {
20261               "rt": [
20262                 "oic.r.glucose.hbalc"
20263               ],
20264               "hbalc": 5.0
20265             },
20266             "schema": {
20267               "$ref": "#/definitions/HbAlc"
20268             }
20269           }
20270         }
20271       }
20272     }
20273   },
20274   "parameters": {
20275     "interface": {
20276       "in": "query",
20277       "name": "if",
20278       "type": "string",
20279       "enum": [
20280         "oic.if.s",
20281         "oic.if.baseline"
20282       ]
20283     }
20284   },
20285   "definitions": {
20286     "HbAlc": {
20287       "properties": {
20288         "rt": {
20289           "description": "Resource Type",
20290           "items": {
20291             "enum": [
20292               "oic.r.glucose.hbalc"

```

```

20293     ],
20294     "type": "string",
20295     "maxLength": 64
20296   },
20297   "minItems": 1,
20298   "uniqueItems": true,
20299   "readOnly": true,
20300   "type": "array"
20301 },
20302 "hbalc": {
20303   "description": "Current HbA1c measurement in percentage",
20304   "maximum": 100.0,
20305   "minimum": 0.0,
20306   "readOnly": true,
20307   "type": "number"
20308 },
20309 "range": {
20310   "$ref":
20311 "https://openconnectivityfoundation.github.io/IoTDataModels/schemas/oic.baseresource.properties-
20312 schema.json#/definitions/range_number"
20313 },
20314 "step": {
20315   "$ref":
20316 "https://openconnectivityfoundation.github.io/IoTDataModels/schemas/oic.baseresource.properties-
20317 schema.json#/definitions/step_number"
20318 },
20319 "precision": {
20320   "$ref":
20321 "https://openconnectivityfoundation.github.io/IoTDataModels/schemas/oic.baseresource.properties-
20322 schema.json#/definitions/precision"
20323 },
20324 "n": {
20325   "$ref":
20326 "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
20327 schema.json#/definitions/n"
20328 },
20329 "id": {
20330   "$ref":
20331 "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
20332 schema.json#/definitions/id"
20333 },
20334 "if": {
20335   "description": "The OCF Interface set supported by this Resource",
20336   "items": {
20337     "enum": [
20338       "oic.if.s",
20339       "oic.if.baseline"
20340     ],
20341     "type": "string",
20342     "maxLength": 64
20343   },
20344   "minItems": 1,
20345   "readOnly": true,
20346   "uniqueItems": true,
20347   "type": "array"
20348 }
20349 },
20350 "type": "object",
20351 "required": [
20352   "hbalc"
20353 ]
20354 }
20355 }
20356 }
20357

```

20358 6.102.5 Property definition

20359 Table 207 defines the Properties that are part of the "oic.r.glucose.hba1c" Resource Type.

20360 **Table 207 – The Property definitions of the Resource with type "rt" = "oic.r.glucose.hba1c".**

Property name	Value type	Mandatory	Access mode	Description
rt	array: see schema	No	Read Only	Resource Type
hba1c	number	Yes	Read Only	Current HbA1c measurement in percentage
range	multiple types: see schema	No	Read Write	
step	multiple types: see schema	No	Read Write	
precision	multiple types: see schema	No	Read Write	
n	multiple types: see schema	No	Read Write	
id	multiple types: see schema	No	Read Write	
if	array: see schema	No	Read Only	The OCF Interface set supported by this Resource

20361 **6.102.6 CRUDN behaviour**

20362 Table 208 defines the CRUDN operations that are supported on the "oic.r.glucose.hba1c" Resource
20363 Type.

20364 **Table 208 – The CRUDN operations of the Resource with type "rt" = "oic.r.glucose.hba1c".**

Create	Read	Update	Delete	Notify
	get			observe

20365 **6.103 Context Health for Glucose Meter**

20366 **6.103.1 Introduction**

20367 This Resource describes the Properties associated with context health.
20368 The health Property is a read-only value that is provided by the Server where
20369 minor and major are related to the general health or the level of illness of the person;
20370 menses refers to the female menstrual cycle;
20371 stress refers to physiological or psychological stress.

20372 **6.103.2 Example URI**

20373 /GlucoseHealthResURI

20374 **6.103.3 Resource type**

20375 The Resource Type is defined as: "oic.r.glucose.health".

20376 **6.103.4 OpenAPI 2.0 definition**

```
20377 {
20378   "swagger": "2.0",
20379   "info": {
20380     "title": "Context Health for Glucose Meter",
20381     "version": "2019-03-22",
20382     "license": {
20383       "name": "OCF Data Model License",
20384       "url":
20385         "https://github.com/openconnectivityfoundation/core/blob/e28a9e0a92e17042ba3e83661e4c0fbce8bdc4ba/LI
20386         CENSE.md",
20387       "x-copyright": "Copyright 2016-2019 Open Connectivity Foundation, Inc. All rights reserved."
```

```

20388     },
20389     "termsOfService": "https://openconnectivityfoundation.github.io/core/DISCLAIMER.md"
20390 },
20391 "schemes": [
20392   "http"
20393 ],
20394 "consumes": [
20395   "application/json"
20396 ],
20397 "produces": [
20398   "application/json"
20399 ],
20400 "paths": {
20401   "/GlucoseHealthResURI": {
20402     "get": {
20403       "description": "This Resource describes the Properties associated with context health.\n\nThe
20404 health Property is a read-only value that is provided by the Server where\n\nminor and major are
20405 related to the general health or the level of illness of the person;\n\nmenses refers to the female
20406 menstrual cycle;\n\nstress refers to physiological or psychological stress.",
20407       "parameters": [
20408         {
20409           "$ref": "#/parameters/interface"
20410         }
20411       ],
20412       "responses": {
20413         "200": {
20414           "description": "",
20415           "x-example": {
20416             "rt": [
20417               "oic.r.glucose.health"
20418             ],
20419             "health": "major"
20420           },
20421           "schema": {
20422             "$ref": "#/definitions/GlucoseHealth"
20423           }
20424         }
20425       }
20426     }
20427   }
20428 },
20429 "parameters": {
20430   "interface": {
20431     "in": "query",
20432     "name": "if",
20433     "type": "string",
20434     "enum": [
20435       "oic.if.s",
20436       "oic.if.baseline"
20437     ]
20438   }
20439 },
20440 "definitions": {
20441   "GlucoseHealth": {
20442     "properties": {
20443       "rt": {
20444         "description": "Resource Type",
20445         "items": {
20446           "enum": [
20447             "oic.r.glucose.health"
20448           ],
20449           "type": "string",
20450           "maxLength": 64
20451         },
20452         "minItems": 1,
20453         "readOnly": true,
20454         "type": "array"
20455       },
20456       "health": {
20457         "description": "The various levels of health a person feels when taking a glucose.",
20458         "enum": [
20459           "minor",

```

```

20460         "major",
20461         "menses",
20462         "stress",
20463         "none"
20464     ],
20465     "readOnly": true,
20466     "type": "string"
20467 },
20468 "n": {
20469     "$ref":
20470 "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
20471 schema.json#/definitions/n"
20472 },
20473 "id": {
20474     "$ref":
20475 "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
20476 schema.json#/definitions/id"
20477 },
20478 "if": {
20479     "description": "The OCF Interface set supported by this Resource",
20480     "items": {
20481         "enum": [
20482             "oic.if.s",
20483             "oic.if.baseline"
20484         ],
20485         "type": "string",
20486         "maxLength": 64
20487     },
20488     "minItems": 1,
20489     "readOnly": true,
20490     "uniqueItems": true,
20491     "type": "array"
20492 }
20493 },
20494 "type": "object",
20495 "required": [
20496     "health"
20497 ]
20498 }
20499 }
20500 }
20501

```

20502 6.103.5 Property definition

20503 Table 209 defines the Properties that are part of the "oic.r.glucose.health" Resource Type.

20504 **Table 209 – The Property definitions of the Resource with type "rt" =**
20505 **"oic.r.glucose.health".**

Property name	Value type	Mandatory	Access mode	Description
rt	array: see schema	No	Read Only	Resource Type
health	string	Yes	Read Only	The various levels of health a person feels when taking a glucose.
n	multiple types: see schema	No	Read Write	
id	multiple types: see schema	No	Read Write	
if	array: see schema	No	Read Only	The OCF Interface set supported by this Resource

20506 **6.103.6 CRUDN behaviour**

20507 Table 210 defines the CRUDN operations that are supported on the "oic.r.glucose.health" Resource
20508 Type.

20509 **Table 210 – The CRUDN operations of the Resource with type "rt" = "oic.r.glucose.health".**

Create	Read	Update	Delete	Notify
	get			observe

20510 **6.104 Context Meal for Glucose Meter**

20511 **6.104.1 Introduction**

20512 This Resource describes the Properties associated with context meal.

20513 Preprandial means pre-meal.

20514 Postprandial means post-meal.

20515 Fasting means the effect of long-term absence of food intake (overnight).

20516 The meal Property is a read-only value that is provided by the Server.

20517 **6.104.2 Example URI**

20518 /GlucoseMealResURI

20519 **6.104.3 Resource type**

20520 The Resource Type is defined as: "oic.r.glucose.meal".

20521 **6.104.4 OpenAPI 2.0 definition**

```
20522 {  
20523   "swagger": "2.0",  
20524   "info": {  
20525     "title": "Context Meal for Glucose Meter",  
20526     "version": "2019-03-22",  
20527     "license": {  
20528       "name": "OCF Data Model License",  
20529       "url":  
20530       "https://github.com/openconnectivityfoundation/core/blob/e28a9e0a92e17042ba3e83661e4c0fbce8bdc4ba/LI  
20531       CENSE.md",  
20532       "x-copyright": "Copyright 2016-2019 Open Connectivity Foundation, Inc. All rights reserved."  
20533     },  
20534     "termsOfService": "https://openconnectivityfoundation.github.io/core/DISCLAIMER.md"  
20535   },  
20536   "schemes": [  
20537     "http"  
20538   ],  
20539   "consumes": [  
20540     "application/json"  
20541   ],  
20542   "produces": [  
20543     "application/json"  
20544   ],  
20545   "paths": {  
20546     "/GlucoseMealResURI": {  
20547       "get": {  
20548         "description": "This Resource describes the Properties associated with context  
20549         meal.\nPreprandial means pre-meal.\nPostprandial means post-meal.\nFasting means the effect of long-  
20550         term absence of food intake (overnight).\nThe meal Property is a read-only value that is provided by  
20551         the Server.",  
20552         "parameters": [  
20553           {  
20554             "$ref": "#/parameters/interface"  
20555           }  
20556         ],  
20557         "responses": {  
20558           "200": {  
20559             "description": "",  
20560             "x-example": {
```



```

20561         "rt": [
20562             "oic.r.glucose.meal"
20563         ],
20564         "meal": "preprandial"
20565     },
20566     "schema": {
20567         "$ref": "#/definitions/GlucoseMeal"
20568     }
20569 }
20570 }
20571 }
20572 },
20573 },
20574 "parameters": {
20575     "interface": {
20576         "in": "query",
20577         "name": "if",
20578         "type": "string",
20579         "enum": [
20580             "oic.if.s",
20581             "oic.if.baseline"
20582         ]
20583     }
20584 },
20585 "definitions": {
20586     "GlucoseMeal": {
20587         "properties": {
20588             "rt": {
20589                 "description": "Resource Type",
20590                 "items": {
20591                     "enum": [
20592                         "oic.r.glucose.meal"
20593                     ],
20594                     "type": "string",
20595                     "maxLength": 64
20596                 },
20597                 "minItems": 1,
20598                 "uniqueItems": true,
20599                 "readOnly": true,
20600                 "type": "array"
20601             },
20602             "meal": {
20603                 "description": "Time of day when the measurement is taken.",
20604                 "enum": [
20605                     "preprandial",
20606                     "postprandial",
20607                     "fasting",
20608                     "bedtime",
20609                     "casual"
20610                 ],
20611                 "readOnly": true,
20612                 "type": "string"
20613             },
20614             "n": {
20615                 "$ref":
20616                 "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
20617                 schema.json#/definitions/n"
20618             },
20619             "id": {
20620                 "$ref":
20621                 "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
20622                 schema.json#/definitions/id"
20623             },
20624             "if": {
20625                 "description": "The OCF Interface set supported by this Resource",
20626                 "items": {
20627                     "enum": [
20628                         "oic.if.s",
20629                         "oic.if.baseline"
20630                     ],
20631                     "type": "string",
20632                     "maxLength": 64

```

```

20633     },
20634     "minItems": 1,
20635     "readOnly": true,
20636     "uniqueItems": true,
20637     "type": "array"
20638   }
20639 },
20640 "type": "object",
20641 "required": [
20642   "meal"
20643 ]
20644 }
20645 }
20646 }
20647

```

20648 **6.104.5 Property definition**

20649 Table 211 defines the Properties that are part of the "oic.r.glucose.meal" Resource Type.

20650 **Table 211 – The Property definitions of the Resource with type "rt" = "oic.r.glucose.meal".**

Property name	Value type	Mandatory	Access mode	Description
rt	array: see schema	No	Read Only	Resource Type
meal	string	Yes	Read Only	Time of day when the measurement is taken.
n	multiple types: see schema	No	Read Write	
id	multiple types: see schema	No	Read Write	
if	array: see schema	No	Read Only	The OCF Interface set supported by this Resource

20651 **6.104.6 CRUDN behaviour**

20652 Table 212 defines the CRUDN operations that are supported on the "oic.r.glucose.meal" Resource Type.

20654 **Table 212 – The CRUDN operations of the Resource with type "rt" = "oic.r.glucose.meal".**

Create	Read	Update	Delete	Notify
	get			observe

20655 **6.105 Context Medication for Glucose Meter**

20656 **6.105.1 Introduction**

20657 This Resource describes the Properties associated with context medication.

20658 The unit is a single value that is one of mg and mL.

20659 The medication Property has a default unit of milligrams[mg].

20660 The medication, unit and regimen Properties are read-only values that are provided by the Server.

20662 When range is omitted the default is 0 to +MAXFLOAT.

20663 **6.105.2 Example URI**

20664 /GlucoseMedicationResURI

20665 **6.105.3 Resource type**

20666 The Resource Type is defined as: "oic.r.glucose.medication".

20667 6.105.4 OpenAPI 2.0 definition

```
20668 {
20669   "swagger": "2.0",
20670   "info": {
20671     "title": "Context Medication for Glucose Meter",
20672     "version": "2019-03-22",
20673     "license": {
20674       "name": "OCF Data Model License",
20675       "url":
20676         "https://github.com/openconnectivityfoundation/core/blob/e28a9e0a92e17042ba3e83661e4c0fbce8bdc4ba/LI
20677         CENSE.md",
20678       "x-copyright": "Copyright 2016-2019 Open Connectivity Foundation, Inc. All rights reserved."
20679     },
20680     "termsOfService": "https://openconnectivityfoundation.github.io/core/DISCLAIMER.md"
20681   },
20682   "schemes": [
20683     "http"
20684   ],
20685   "consumes": [
20686     "application/json"
20687   ],
20688   "produces": [
20689     "application/json"
20690   ],
20691   "paths": {
20692     "/GlucoseMedicationResURI": {
20693       "get": {
20694         "description": "This Resource describes the Properties associated with context
20695 medication.\n\nThe unit is a single value that is one of mg and mL.\n\nThe medication Property has a
20696 default unit of milligrams[mg].\n\nThe medication, unit and regimen Properties are read-only values
20697 that are provided by the Server.\n\nWhen range is omitted the default is 0 to +MAXFLOAT.",
20698         "parameters": [
20699           {
20700             "$ref": "#/parameters/interface"
20701           }
20702         ],
20703         "responses": {
20704           "200": {
20705             "description": "",
20706             "x-example": {
20707               "rt": [
20708                 "oic.r.glucose.medication"
20709               ],
20710               "medication": 100.0,
20711               "units": "mg",
20712               "regimen": "rapidacting"
20713             },
20714             "schema": {
20715               "$ref": "#/definitions/GlucoseMedication"
20716             }
20717           }
20718         }
20719       }
20720     }
20721   },
20722   "parameters": {
20723     "interface": {
20724       "in": "query",
20725       "name": "if",
20726       "type": "string",
20727       "enum": [
20728         "oic.if.s",
20729         "oic.if.baseline"
20730       ]
20731     }
20732   },
20733   "definitions": {
20734     "GlucoseMedication": {
20735       "properties": {
20736         "rt": {
20737           "description": "Resource Type",
```

```

20738         "items": {
20739             "enum": [
20740                 "oic.r.glucose.medication"
20741             ],
20742             "type": "string",
20743             "maxLength": 64
20744         },
20745         "minItems": 1,
20746         "uniqueItems": true,
20747         "readOnly": true,
20748         "type": "array"
20749     },
20750     "regimen": {
20751         "description": "Medication regimen",
20752         "enum": [
20753             "rapidacting",
20754             "shortacting",
20755             "intermediateacting",
20756             "longacting",
20757             "premix"
20758         ],
20759         "readOnly": true,
20760         "type": "string"
20761     },
20762     "medication": {
20763         "description": "The amount of medication taken",
20764         "readOnly": true,
20765         "type": "number",
20766         "minimum": 0.0
20767     },
20768     "units": {
20769         "description": "Unit for the amount of medication taken",
20770         "enum": [
20771             "mg",
20772             "mL"
20773         ],
20774         "readOnly": true,
20775         "type": "string",
20776         "default": "mg"
20777     },
20778     "range": {
20779         "$ref":
20780         "https://openconnectivityfoundation.github.io/IoTDataModels/schemas/oic.baseresource.properties-
20781         schema.json#/definitions/range_number"
20782     },
20783     "step": {
20784         "$ref":
20785         "https://openconnectivityfoundation.github.io/IoTDataModels/schemas/oic.baseresource.properties-
20786         schema.json#/definitions/step_number"
20787     },
20788     "precision": {
20789         "$ref":
20790         "https://openconnectivityfoundation.github.io/IoTDataModels/schemas/oic.baseresource.properties-
20791         schema.json#/definitions/precision"
20792     },
20793     "n": {
20794         "$ref":
20795         "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
20796         schema.json#/definitions/n"
20797     },
20798     "id": {
20799         "$ref":
20800         "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
20801         schema.json#/definitions/id"
20802     },
20803     "if": {
20804         "description": "The OCF Interface set supported by this Resource",
20805         "items": {
20806             "enum": [
20807                 "oic.if.s",
20808                 "oic.if.baseline"
20809             ],

```

```

20810         "type": "string",
20811         "maxLength": 64
20812     },
20813     "minItems": 1,
20814     "readOnly": true,
20815     "uniqueItems": true,
20816     "type": "array"
20817 }
20818 },
20819 "type": "object",
20820 "required": [
20821     "medication"
20822 ]
20823 }
20824 }
20825 }
20826

```

20827 **6.105.5 Property definition**

20828 Table 213 defines the Properties that are part of the "oic.r.glucose.medication" Resource Type.

20829 **Table 213 – The Property definitions of the Resource with type "rt" =**
20830 **"oic.r.glucose.medication".**

Property name	Value type	Mandatory	Access mode	Description
rt	array: see schema	No	Read Only	Resource Type
regimen	string	No	Read Only	Medication regimen
medication	number	Yes	Read Only	The amount of medication taken
units	string	No	Read Only	Unit for the amount of medication taken
range	multiple types: see schema	No	Read Write	
step	multiple types: see schema	No	Read Write	
precision	multiple types: see schema	No	Read Write	
n	multiple types: see schema	No	Read Write	
id	multiple types: see schema	No	Read Write	
if	array: see schema	No	Read Only	The OCF Interface set supported by this Resource

20831 **6.105.6 CRUDN behaviour**

20832 Table 214 defines the CRUDN operations that are supported on the "oic.r.glucose.medication"
20833 Resource Type.

20834 **Table 214 – The CRUDN operations of the Resource with type "rt" =**
20835 **"oic.r.glucose.medication".**

Create	Read	Update	Delete	Notify
	get			observe

20836 6.106 Glucose Meter Atomic Measurement

20837 6.106.1 Introduction

20838 This Resource describes the Properties associated with glucose meter.

20839 The Resource is an Atomic Measurement of glucose (oic.r.glucose), context carbohydrates
20840 (oic.r.glucose.carb), context exercise (oic.r.glucose.exercise), Hemoglobin Bound to glucose a1c
20841 Form (HbA1c) (oic.r.glucose.hba1c), context health (oic.r.glucose.health), context meal
20842 (oic.r.glucose.meal), context medication (oic.r.glucose.medication), context sample location
20843 (oic.r.glucose.samplelocation), context tester (oic.r.glucose.tester), observed time
20844 (oic.r.time.stamp), and user id (oic.r.userid).

20845 6.106.2 Example URI

20846 /GlucoseMeterAMResURI

20847 6.106.3 Resource type

20848 The Resource Type is defined as: "oic.r.glucosemeter-am, oic.wk.atomicmeasurement".

20849 6.106.4 OpenAPI 2.0 definition

```
20850 {
20851   "swagger": "2.0",
20852   "info": {
20853     "title": "Glucose Meter Atomic Measurement",
20854     "version": "2019-03-22",
20855     "license": {
20856       "name": "OCF Data Model License",
20857       "url":
20858         "https://github.com/openconnectivityfoundation/core/blob/e28a9e0a92e17042ba3e83661e4c0fbce8bdc4ba/LI
20859         CENSE.md",
20860       "x-copyright": "Copyright 2016-2019 Open Connectivity Foundation, Inc. All rights reserved."
20861     },
20862     "termsOfService": "https://openconnectivityfoundation.github.io/core/DISCLAIMER.md"
20863   },
20864   "schemes": [
20865     "http"
20866   ],
20867   "consumes": [
20868     "application/json"
20869   ],
20870   "produces": [
20871     "application/json"
20872   ],
20873   "paths": {
20874     "/GlucoseMeterAMResURI?if=oic.if.b": {
20875       "get": {
20876         "description": "This Resource describes the Properties associated with glucose meter.\n\nThe
20877         Resource is an Atomic Measurement of glucose (oic.r.glucose), context carbohydrates
20878         (oic.r.glucose.carb), context exercise (oic.r.glucose.exercise), hemoglobin bound to glucose alc
20879         Form (HbA1c) (oic.r.glucose.hbalc), context health (oic.r.glucose.health), context meal
20880         (oic.r.glucose.meal), context medication (oic.r.glucose.medication), context sample location
20881         (oic.r.glucose.samplelocation), context tester (oic.r.glucose.tester), observed time
20882         (oic.r.time.stamp), and user id (oic.r.userid).",
20883         "parameters": [
20884           {
20885             "$ref": "#/parameters/interface-all"
20886           }
20887         ],
20888         "responses": {
20889           "200": {
20890             "description": "",
20891             "x-example": [
20892               {
20893                 "href": "/myGlucose",
20894                 "rep": {
20895                   "glucose": 100.0,
20896                   "units": "mg/dL",
20897                   "range": [
```

```

20898         20.0,
20899         600.0
20900     ],
20901     "step": 1
20902 }
20903 },
20904 {
20905     "href": "/myGlucoseCarb",
20906     "rep": {
20907         "carb": 100.0,
20908         "meal": "breakfast"
20909     }
20910 },
20911 {
20912     "href": "/myGlucoseExercise",
20913     "rep": {
20914         "exercise": 30.0
20915     }
20916 },
20917 {
20918     "href": "/myGlucoseHbA1c",
20919     "rep": {
20920         "hba1c": 5.0
20921     }
20922 },
20923 {
20924     "href": "/myGlucoseHealth",
20925     "rep": {
20926         "health": "major"
20927     }
20928 },
20929 {
20930     "href": "/myGlucoseMeal",
20931     "rep": {
20932         "meal": "preprandial"
20933     }
20934 },
20935 {
20936     "href": "/myGlucoseMeditation",
20937     "rep": {
20938         "medication": 100.0,
20939         "units": "mg",
20940         "regimen": "rapidacting"
20941     }
20942 },
20943 {
20944     "href": "/myGlucoseSampleLocation",
20945     "rep": {
20946         "samplelocation": "finger"
20947     }
20948 },
20949 {
20950     "href": "/myGlucoseTester",
20951     "rep": {
20952         "tester": "self"
20953     }
20954 },
20955 {
20956     "href": "/myUserId",
20957     "rep": {
20958         "userid": "USER1"
20959     }
20960 },
20961 {
20962     "href": "/myTimeStamp",
20963     "rep": {
20964         "timestamp": "2018-11-09T12:15+08:00"
20965     }
20966 }
20967 ],
20968 "schema": {
20969     "$ref": "#/definitions/batch-retrieve"

```

```

20970     }
20971   }
20972 }
20973 },
20974 },
20975 "/GlucoseMeterAMResURI?if=oic.if.ll": {
20976   "get": {
20977     "description": "This Resource describes the Properties associated with glucose meter.\nThe
20978 Resource is an Atomic Measurement of glucose (oic.r.glucose), context carbohydrates
20979 (oic.r.glucose.carb), context exercise (oic.r.glucose.exercise), hemoglobin bound to glucose alc
20980 Form (HbA1c) (oic.r.glucose.hbalc), context health (oic.r.glucose.health), context meal
20981 (oic.r.glucose.meal), context medication (oic.r.glucose.medication), context sample location
20982 (oic.r.glucose.samplelocation), context tester (oic.r.glucose.tester), observed time
20983 (oic.r.time.stamp), and user id (oic.r.userid).",
20984     "parameters": [
20985       {
20986         "$ref": "#/parameters/interface-all"
20987       }
20988     ],
20989     "responses": {
20990       "200": {
20991         "description": "",
20992         "x-example": [
20993           {
20994             "href": "/myGlucose",
20995             "rt": [
20996               "oic.r.glucose"
20997             ],
20998             "if": [
20999               "oic.if.s",
21000               "oic.if.baseline"
21001             ]
21002           },
21003           {
21004             "href": "/myGlucoseCarb",
21005             "rt": [
21006               "oic.r.glucose.carb"
21007             ],
21008             "if": [
21009               "oic.if.s",
21010               "oic.if.baseline"
21011             ]
21012           },
21013           {
21014             "href": "/myGlucoseExercise",
21015             "rt": [
21016               "oic.r.glucose.exercise"
21017             ],
21018             "if": [
21019               "oic.if.s",
21020               "oic.if.baseline"
21021             ]
21022           },
21023           {
21024             "href": "/myGlucoseHbA1c",
21025             "rt": [
21026               "oic.r.glucose.hbalc"
21027             ],
21028             "if": [
21029               "oic.if.s",
21030               "oic.if.baseline"
21031             ]
21032           },
21033           {
21034             "href": "/myGlucoseHealth",
21035             "rt": [
21036               "oic.r.glucose.health"
21037             ],
21038             "if": [
21039               "oic.if.s",
21040               "oic.if.baseline"
21041             ]

```



```

21042     },
21043     {
21044         "href": "/myGlucoseMeal",
21045         "rt": [
21046             "oic.r.glucose.meal"
21047         ],
21048         "if": [
21049             "oic.if.s",
21050             "oic.if.baseline"
21051         ]
21052     },
21053     {
21054         "href": "/myGlucoseMedication",
21055         "rt": [
21056             "oic.r.glucose.medication"
21057         ],
21058         "if": [
21059             "oic.if.s",
21060             "oic.if.baseline"
21061         ]
21062     },
21063     {
21064         "href": "/myGlucoseSampleLocation",
21065         "rt": [
21066             "oic.r.glucose.samplelocation"
21067         ],
21068         "if": [
21069             "oic.if.r",
21070             "oic.if.baseline"
21071         ]
21072     },
21073     {
21074         "href": "/myGlucoseTester",
21075         "rt": [
21076             "oic.r.glucose.testster"
21077         ],
21078         "if": [
21079             "oic.if.r",
21080             "oic.if.baseline"
21081         ]
21082     },
21083     {
21084         "href": "/myUserId",
21085         "rt": [
21086             "oic.r.userid"
21087         ],
21088         "if": [
21089             "oic.if.r",
21090             "oic.if.baseline"
21091         ]
21092     },
21093     {
21094         "href": "/myTimeStamp",
21095         "rt": [
21096             "oic.r.time.stamp"
21097         ],
21098         "if": [
21099             "oic.if.r",
21100             "oic.if.baseline"
21101         ]
21102     }
21103 ],
21104 "schema": {
21105     "$ref": "#/definitions/links"
21106 }
21107 }
21108 }
21109 },
21110 },
21111 "/GlucoseMeterAMResURI?if=oic.if.baseline": {
21112     "get": {
21113         "description": "This Resource describes the Properties associated with glucose meter.\nThe

```

```

21114 Resource is an Atomic Measurement of glucose (oic.r.glucose), context carbohydrates
21115 (oic.r.glucose.carb), context exercise (oic.r.glucose.exercise), Hemoglobin Bound to glucose alc
21116 Form (HbA1c) (oic.r.glucose.hbalc), context health (oic.r.glucose.health), context meal
21117 (oic.r.glucose.meal), context medication (oic.r.glucose.medication), context sample location
21118 (oic.r.glucose.samplelocation), context tester (oic.r.glucose.tester), observed time
21119 (oic.r.time.stamp), and user id (oic.r.userid).",
21120     "parameters": [
21121     {
21122     "$ref": "#/parameters/interface-all"
21123     }
21124     ],
21125     "responses": {
21126     "200": {
21127     "description": "",
21128     "x-example": {
21129     "rt": [
21130     "oic.r.glucosemeter-am",
21131     "oic.wk.atomicmeasurement"
21132     ],
21133     "if": [
21134     "oic.if.b",
21135     "oic.if.ll",
21136     "oic.if.baseline"
21137     ],
21138     "rts": [
21139     "oic.r.glucose",
21140     "oic.r.glucose.carb",
21141     "oic.r.glucose.exercise",
21142     "oic.r.glucose.hbalc",
21143     "oic.r.glucose.health",
21144     "oic.r.glucose.meal",
21145     "oic.r.glucose.medication",
21146     "oic.r.glucose.samplelocation",
21147     "oic.r.glucose.tester",
21148     "oic.r.userid",
21149     "oic.r.time.stamp"
21150     ],
21151     "rts-m": [
21152     "oic.r.glucose"
21153     ],
21154     "links": [
21155     {
21156     "href": "/myGlucose",
21157     "rt": [
21158     "oic.r.glucose"
21159     ],
21160     "if": [
21161     "oic.if.s",
21162     "oic.if.baseline"
21163     ]
21164     },
21165     {
21166     "href": "/myGlucoseCarb",
21167     "rt": [
21168     "oic.r.glucose.carb"
21169     ],
21170     "if": [
21171     "oic.if.s",
21172     "oic.if.baseline"
21173     ]
21174     },
21175     {
21176     "href": "/myGlucoseExercise",
21177     "rt": [
21178     "oic.r.glucose.exercise"
21179     ],
21180     "if": [
21181     "oic.if.s",
21182     "oic.if.baseline"
21183     ]
21184     },
21185     }

```

```

21186         "href": "/myGlucoseHbA1c",
21187         "rt": [
21188             "oic.r.glucose.hbA1c"
21189         ],
21190         "if": [
21191             "oic.if.s",
21192             "oic.if.baseline"
21193         ]
21194     },
21195     {
21196         "href": "/myGlucoseHealth",
21197         "rt": [
21198             "oic.r.glucose.health"
21199         ],
21200         "if": [
21201             "oic.if.s",
21202             "oic.if.baseline"
21203         ]
21204     },
21205     {
21206         "href": "/myGlucoseMeal",
21207         "rt": [
21208             "oic.r.glucose.meal"
21209         ],
21210         "if": [
21211             "oic.if.s",
21212             "oic.if.baseline"
21213         ]
21214     },
21215     {
21216         "href": "/myGlucoseMedication",
21217         "rt": [
21218             "oic.r.glucose.medication"
21219         ],
21220         "if": [
21221             "oic.if.s",
21222             "oic.if.baseline"
21223         ]
21224     },
21225     {
21226         "href": "/myGlucoseSampleLocation",
21227         "rt": [
21228             "oic.r.glucose.samplelocation"
21229         ],
21230         "if": [
21231             "oic.if.r",
21232             "oic.if.baseline"
21233         ]
21234     },
21235     {
21236         "href": "/myGlucoseTester",
21237         "rt": [
21238             "oic.r.glucose.testers"
21239         ],
21240         "if": [
21241             "oic.if.r",
21242             "oic.if.baseline"
21243         ]
21244     },
21245     {
21246         "href": "/myUserId",
21247         "rt": [
21248             "oic.r.userid"
21249         ],
21250         "if": [
21251             "oic.if.r",
21252             "oic.if.baseline"
21253         ]
21254     },
21255     {
21256         "href": "/myTimeStamp",
21257         "rt": [

```

```

21258         "oic.r.time.stamp"
21259     ],
21260     "if": [
21261         "oic.if.r",
21262         "oic.if.baseline"
21263     ]
21264 }
21265 ]
21266 },
21267 "schema": {
21268     "$ref": "#/definitions/baseline"
21269 }
21270 }
21271 }
21272 }
21273 }
21274 },
21275 "parameters": {
21276     "interface-all": {
21277         "in": "query",
21278         "name": "if",
21279         "type": "string",
21280         "enum": [
21281             "oic.if.b",
21282             "oic.if.ll",
21283             "oic.if.baseline"
21284         ]
21285     }
21286 },
21287 "definitions": {
21288     "links": {
21289         "type": "array",
21290         "items": {
21291             "$ref": "#/definitions/oic.oic-link"
21292         }
21293     },
21294     "batch-retrieve": {
21295         "minItems": 1,
21296         "items": {
21297             "properties": {
21298                 "href": {
21299                     "$ref":
21300 "https://openconnectivityfoundation.github.io/core/schemas/oic.links.properties.core-
21301 schema.json#/definitions/href"
21302                 },
21303                 "rep": {
21304                     "type": "object",
21305                     "anyOf": [
21306                         {
21307                             "$ref":
21308 "https://openconnectivityfoundation.github.io/IoTDataModels/GlucoseResURI.swagger.json#/definitions/
21309 Glucose"
21310                         },
21311                         {
21312                             "$ref":
21313 "https://openconnectivityfoundation.github.io/IoTDataModels/GlucoseCarbResURI.swagger.json#/definiti
21314 ons/GlucoseCarb"
21315                         },
21316                         {
21317                             "$ref":
21318 "https://openconnectivityfoundation.github.io/IoTDataModels/ExerciseResURI.swagger.json#/definitions
21319 /Exercise"
21320                         },
21321                         {
21322                             "$ref":
21323 "https://openconnectivityfoundation.github.io/IoTDataModels/GlucoseHbA1cResURI.swagger.json#/definit
21324 ions/HbA1c"
21325                         },
21326                         {
21327                             "$ref":
21328 "https://openconnectivityfoundation.github.io/IoTDataModels/GlucoseHealthResURI.swagger.json#/defini
21329 tions/GlucoseHealth"

```

```

21330         },
21331         {
21332             "$ref":
21333             "https://openconnectivityfoundation.github.io/IoTDataModels/GlucoseMealResURI.swagger.json#/definitions/GlucoseMeal"
21334         },
21335         {
21336             "$ref":
21337             "https://openconnectivityfoundation.github.io/IoTDataModels/GlucoseMedicationResURI.swagger.json#/definitions/GlucoseMedication"
21338         },
21339         {
21340             "$ref":
21341             "https://openconnectivityfoundation.github.io/IoTDataModels/GlucoseSampleLocationResURI.swagger.json#/definitions/GlucoseSampleLocation"
21342         },
21343         {
21344             "$ref":
21345             "https://openconnectivityfoundation.github.io/IoTDataModels/GlucoseTesterResURI.swagger.json#/definitions/GlucoseTester"
21346         },
21347         {
21348             "$ref":
21349             "https://openconnectivityfoundation.github.io/IoTDataModels/UserIDResURI.swagger.json#/definitions/UserID"
21350         },
21351         {
21352             "$ref":
21353             "https://openconnectivityfoundation.github.io/IoTDataModels/TimeStampResURI.swagger.json#/definitions/TimeStamps/TimeStamp"
21354         }
21355     ]
21356 },
21357 "required": [
21358     "href",
21359     "rep"
21360 ],
21361 "type": "object"
21362 },
21363 "type": "array"
21364 },
21365 "baseline": {
21366     "properties": {
21367         "rt": {
21368             "items": {
21369                 "enum": [
21370                     "oic.r.glucosemeter-am",
21371                     "oic.wk.atomicmeasurement"
21372                 ],
21373                 "type": "string",
21374                 "maxLength": 64
21375             },
21376             "minItems": 2,
21377             "uniqueItems": true,
21378             "readOnly": true,
21379             "type": "array"
21380         },
21381         "rts": {
21382             "description": "This contains all possible Resource Types for this Atomic Measurement.",
21383             "items": {
21384                 "enum": [
21385                     "oic.r.glucose",
21386                     "oic.r.glucose.carb",
21387                     "oic.r.glucose.exercise",
21388                     "oic.r.glucose.hb1c",
21389                     "oic.r.glucose.health",
21390                     "oic.r.glucose.meal",
21391                     "oic.r.glucose.medication",
21392                     "oic.r.glucose.samplelocation",
21393                     "oic.r.glucose.testers",
21394                     "oic.r.time.stamp",

```

```

21402         "oic.r.userid"
21403     ],
21404     "type": "string",
21405     "maxLength": 64
21406 },
21407     "minItems": 1,
21408     "uniqueItems": true,
21409     "readOnly": true,
21410     "type": "array"
21411 },
21412     "rts-m": {
21413         "description": "This contains all mandatory Resource Types for this Atomic Measurement.",
21414         "items": {
21415             "enum": [
21416                 "oic.r.glucose"
21417             ],
21418             "type": "string",
21419             "maxLength": 64
21420         },
21421         "maxItems": 1,
21422         "minItems": 1,
21423         "uniqueItems": true,
21424         "readOnly": true,
21425         "type": "array"
21426     },
21427     "if": {
21428         "description": "The OCF Interface set supported by this Resource",
21429         "items": {
21430             "enum": [
21431                 "oic.if.b",
21432                 "oic.if.ll",
21433                 "oic.if.baseline"
21434             ],
21435             "type": "string",
21436             "maxLength": 64
21437         },
21438         "minItems": 3,
21439         "uniqueItems": true,
21440         "readOnly": true,
21441         "type": "array"
21442     },
21443     "n": {
21444         "$ref":
21445         "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
21446         schema.json#/definitions/n"
21447     },
21448     "id": {
21449         "$ref":
21450         "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
21451         schema.json#/definitions/id"
21452     },
21453     "links": {
21454         "$ref": "#/definitions/links"
21455     }
21456 },
21457     "type": "object",
21458     "required": [
21459         "rt", "if", "links", "rts", "rts-m"
21460     ]
21461 },
21462     "oic.oic-link": {
21463         "properties": {
21464             "if": {
21465                 "description": "The OCF Interface set supported by the target Resource",
21466                 "items": {
21467                     "enum": [
21468                         "oic.if.s",
21469                         "oic.if.r",
21470                         "oic.if.baseline"
21471                     ],
21472                     "type": "string",
21473                     "maxLength": 64

```

```

21474     },
21475     "minItems": 1,
21476     "uniqueItems": true,
21477     "readOnly": true,
21478     "type": "array"
21479   },
21480   "rt": {
21481     "description": "Resource Type of the target Resource",
21482     "items": {
21483       "enum": [
21484         "oic.r.glucose",
21485         "oic.r.glucose.carb",
21486         "oic.r.glucose.exercise",
21487         "oic.r.glucose.hb1c",
21488         "oic.r.glucose.health",
21489         "oic.r.glucose.meal",
21490         "oic.r.glucose.medication",
21491         "oic.r.glucose.samplelocation",
21492         "oic.r.glucose.tester",
21493         "oic.r.time.stamp",
21494         "oic.r.userid"
21495       ],
21496       "type": "string",
21497       "maxLength": 64
21498     },
21499     "minItems": 1,
21500     "uniqueItems": true,
21501     "readOnly": true,
21502     "type": "array"
21503   },
21504   "anchor": {
21505     "$ref":
21506     "https://openconnectivityfoundation.github.io/core/schemas/oic.links.properties.core-
21507     schema.json#/definitions/anchor"
21508   },
21509   "di": {
21510     "$ref":
21511     "https://openconnectivityfoundation.github.io/core/schemas/oic.links.properties.core-
21512     schema.json#/definitions/di"
21513   },
21514   "eps": {
21515     "$ref":
21516     "https://openconnectivityfoundation.github.io/core/schemas/oic.links.properties.core-
21517     schema.json#/definitions/eps"
21518   },
21519   "href": {
21520     "$ref":
21521     "https://openconnectivityfoundation.github.io/core/schemas/oic.links.properties.core-
21522     schema.json#/definitions/href"
21523   },
21524   "ins": {
21525     "$ref":
21526     "https://openconnectivityfoundation.github.io/core/schemas/oic.links.properties.core-
21527     schema.json#/definitions/ins"
21528   },
21529   "p": {
21530     "$ref":
21531     "https://openconnectivityfoundation.github.io/core/schemas/oic.links.properties.core-
21532     schema.json#/definitions/p"
21533   },
21534   "rel": {
21535     "$ref":
21536     "https://openconnectivityfoundation.github.io/core/schemas/oic.links.properties.core-
21537     schema.json#/definitions/rel_array"
21538   },
21539   "title": {
21540     "$ref":
21541     "https://openconnectivityfoundation.github.io/core/schemas/oic.links.properties.core-
21542     schema.json#/definitions/title"
21543   },
21544   "type": {
21545     "$ref":

```

```

21546 "https://openconnectivityfoundation.github.io/core/schemas/oic.links.properties.core-
21547 schema.json#/definitions/type"
21548   }
21549 },
21550 "required": [
21551   "href",
21552   "rt",
21553   "if"
21554 ],
21555 "type": "object"
21556 }
21557 }
21558 }
21559

```

21560 **6.106.5 Property definition**

21561 Table 215 defines the Properties that are part of the "oic.r.glucosemeter-am,
21562 oic.wk.atomicmeasurement" Resource Type.

21563 **Table 215 – The Property definitions of the Resource with type "rt" = "oic.r.glucosemeter-
21564 am, oic.wk.atomicmeasurement".**

Property name	Value type	Mandatory	Access mode	Description
href	multiple types: see schema	Yes	Read Write	
rep	object: see schema	Yes	Read Write	
rt	array: see schema	Yes	Read Only	
rts	array: see schema	Yes	Read Only	This contains all possible Resource Types for this Atomic Measurement.
rts-m	array: see schema	Yes	Read Only	This contains all mandatory Resource Types for this Atomic Measurement.
if	array: see schema	Yes	Read Only	The OCF Interface set supported by this Resource
n	multiple types: see schema	No	Read Write	
id	multiple types: see schema	No	Read Write	
links	multiple types: see schema	Yes	Read Write	
if	array: see schema	Yes	Read Only	The OCF Interface set supported by the target Resource
rt	array: see schema	Yes	Read Only	Resource Type of the target Resource
anchor	multiple types: see schema	No	Read Write	
di	multiple types: see schema	No	Read Write	
eps	multiple types: see schema	No	Read Write	
href	multiple types: see schema	Yes	Read Write	

ins	multiple types: see schema	No	Read Write	
p	multiple types: see schema	No	Read Write	
rel	multiple types: see schema	No	Read Write	
title	multiple types: see schema	No	Read Write	
type	multiple types: see schema	No	Read Write	

21565 **6.106.6 CRUDN behaviour**

21566 Table 216 defines the CRUDN operations that are supported on the "oic.r.glucosemeter-am,
21567 oic.wk.atomicmeasurement" Resource Type.

21568 **Table 216 – The CRUDN operations of the Resource with type "rt" = "oic.r.glucosemeter-
21569 am, oic.wk.atomicmeasurement".**

Create	Read	Update	Delete	Notify
	get			observe

21570 **6.107 Context Sample Location for Glucose Meter**

21571 **6.107.1 Introduction**

21572 This Resource describes the Properties associated with context sample Location.
21573 AST means Alternative Site Test specifying that the location of test performed was from an
21574 alternative site on the body.
21575 The samplelocation Property is a read-only value that is provided by the Server.

21576 **6.107.2 Example URI**

21577 /GlucoseSampleLocationResURI

21578 **6.107.3 Resource type**

21579 The Resource Type is defined as: "oic.r.glucose.samplelocation".

21580 **6.107.4 OpenAPI 2.0 definition**

```

21581 {
21582   "swagger": "2.0",
21583   "info": {
21584     "title": "Context Sample Location for Glucose Meter",
21585     "version": "2019-03-22",
21586     "license": {
21587       "name": "OCF Data Model License",
21588       "url":
21589         "https://github.com/openconnectivityfoundation/core/blob/e28a9e0a92e17042ba3e83661e4c0fbce8bdc4ba/LI
21590         CENSE.md",
21591       "x-copyright": "Copyright 2016-2019 Open Connectivity Foundation, Inc. All rights reserved."
21592     },
21593     "termsOfService": "https://openconnectivityfoundation.github.io/core/DISCLAIMER.md"
21594   },
21595   "schemes": [
21596     "http"
21597   ],
21598   "consumes": [
21599     "application/json"
21600   ],
21601   "produces": [
21602     "application/json"
21603   ],
21604   "paths": {
21605     "/GlucoseSampleLocationResURI": {

```

```

21606     "get": {
21607         "description": "This Resource describes the Properties associated with context sample
21608 Location.\nAST means Alternative Site Test specifying that the location of test performed was from
21609 an alternative site on the body.\nThe samplelocation Property is a read-only value that is provided
21610 by the Server.",
21611         "parameters": [
21612             {
21613                 "$ref": "#/parameters/interface"
21614             }
21615         ],
21616         "responses": {
21617             "200": {
21618                 "description": "",
21619                 "x-example": {
21620                     "rt": [
21621                         "oic.r.glucose.samplelocation"
21622                     ],
21623                     "samplelocation": "finger"
21624                 },
21625                 "schema": {
21626                     "$ref": "#/definitions/GlucoseSampleLocation"
21627                 }
21628             }
21629         }
21630     }
21631 },
21632 },
21633 "parameters": {
21634     "interface": {
21635         "in": "query",
21636         "name": "if",
21637         "type": "string",
21638         "enum": [
21639             "oic.if.r",
21640             "oic.if.baseline"
21641         ]
21642     }
21643 },
21644 "definitions": {
21645     "GlucoseSampleLocation": {
21646         "properties": {
21647             "rt": {
21648                 "description": "Resource Type",
21649                 "items": {
21650                     "enum": [
21651                         "oic.r.glucose.samplelocation"
21652                     ],
21653                     "type": "string",
21654                     "maxLength": 64
21655                 },
21656                 "minItems": 1,
21657                 "uniqueItems": true,
21658                 "readOnly": true,
21659                 "type": "array"
21660             },
21661             "samplelocation": {
21662                 "description": "The possible blood locations where the blood sample may be taken.",
21663                 "enum": [
21664                     "finger",
21665                     "ast",
21666                     "earlobe",
21667                     "ctrlsolution"
21668                 ],
21669                 "readOnly": true,
21670                 "type": "string"
21671             },
21672             "n": {
21673                 "$ref":
21674 "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
21675 schema.json#/definitions/n"
21676             },
21677             "id": {

```

```

21678     "$ref":
21679     "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
21680     schema.json#/definitions/id"
21681   },
21682   "if": {
21683     "description": "The OCF Interface set supported by this Resource",
21684     "items": {
21685       "enum": [
21686         "oic.if.r",
21687         "oic.if.baseline"
21688       ],
21689       "type": "string",
21690       "maxLength": 64
21691     },
21692     "minItems": 1,
21693     "readOnly": true,
21694     "uniqueItems": true,
21695     "type": "array"
21696   }
21697 },
21698 "type": "object",
21699 "required": [
21700   "samplelocation"
21701 ]
21702 }
21703 }
21704 }
21705

```

21706 **6.107.5 Property definition**

21707 Table 217 defines the Properties that are part of the "oic.r.glucose.samplelocation" Resource Type.

21708 **Table 217 – The Property definitions of the Resource with type "rt" =**
21709 **"oic.r.glucose.samplelocation".**

Property name	Value type	Mandatory	Access mode	Description
rt	array: see schema	No	Read Only	Resource Type
samplelocation	string	Yes	Read Only	The possible blood locations where the blood sample may be taken.
n	multiple types: see schema	No	Read Write	
id	multiple types: see schema	No	Read Write	
if	array: see schema	No	Read Only	The OCF Interface set supported by this Resource

21710 **6.107.6 CRUDN behaviour**

21711 Table 218 defines the CRUDN operations that are supported on the "oic.r.glucose.samplelocation"
21712 Resource Type.

21713 **Table 218 – The CRUDN operations of the Resource with type "rt" =**
21714 **"oic.r.glucose.samplelocation".**

Create	Read	Update	Delete	Notify
	get			observe

21715 6.108 Context Tester for Glucose Meter

21716 6.108.1 Introduction

21717 This Resource describes the Properties associated with context tester.
21718 The tester Property is a read-only value that is provided by the Server where especially
21719 hcp stands for HealthCare Professional.

21720 6.108.2 Example URI

21721 /GlucoseTesterResURI

21722 6.108.3 Resource type

21723 The Resource Type is defined as: "oic.r.glucose.tester".

21724 6.108.4 OpenAPI 2.0 definition

```
21725 {
21726   "swagger": "2.0",
21727   "info": {
21728     "title": "Context Tester for Glucose Meter",
21729     "version": "2019-03-22",
21730     "license": {
21731       "name": "OCF Data Model License",
21732       "url":
21733 "https://github.com/openconnectivityfoundation/core/blob/e28a9e0a92e17042ba3e83661e4c0fbce8bdc4ba/LI
21734 CENSE.md",
21735     "x-copyright": "Copyright 2016-2019 Open Connectivity Foundation, Inc. All rights reserved."
21736   },
21737   "termsOfService": "https://openconnectivityfoundation.github.io/core/DISCLAIMER.md"
21738 },
21739   "schemes": [
21740     "http"
21741   ],
21742   "consumes": [
21743     "application/json"
21744   ],
21745   "produces": [
21746     "application/json"
21747   ],
21748   "paths": {
21749     "/GlucoseTesterResURI": {
21750       "get": {
21751         "description": "This Resource describes the Properties associated with context tester.\n\nThe
21752 tester Property is a read-only value that is provided by the Server where especially\n\nhcp stands for
21753 HealthCare Professional.",
21754         "parameters": [
21755           {
21756             "$ref": "#/parameters/interface"
21757           }
21758         ],
21759         "responses": {
21760           "200": {
21761             "description": "",
21762             "x-example": {
21763               "rt": [
21764                 "oic.r.glucose.tester"
21765               ],
21766               "tester": "self"
21767             },
21768             "schema": {
21769               "$ref": "#/definitions/GlucoseTester"
21770             }
21771           }
21772         }
21773       }
21774     }
21775   },
21776   "parameters": {
21777     "interface": {
21778       "in": "query",
```

```

21779     "name": "if",
21780     "type": "string",
21781     "enum": [
21782         "oic.if.r",
21783         "oic.if.baseline"
21784     ]
21785 }
21786 },
21787 "definitions": {
21788     "GlucoseTester": {
21789         "properties": {
21790             "rt": {
21791                 "description": "Resource Type",
21792                 "items": {
21793                     "enum": [
21794                         "oic.r.glucose.tester"
21795                     ],
21796                     "type": "string",
21797                     "maxLength": 64
21798                 },
21799                 "minItems": 1,
21800                 "uniqueItems": true,
21801                 "readOnly": true,
21802                 "type": "array"
21803             },
21804             "tester": {
21805                 "description": "The possible cases of testers who may perform the blood sugar
21806 measurement.",
21807                 "enum": [
21808                     "self",
21809                     "hcp",
21810                     "lab"
21811                 ],
21812                 "readOnly": true,
21813                 "type": "string"
21814             },
21815             "n": {
21816                 "$ref":
21817 "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
21818 schema.json#/definitions/n"
21819             },
21820             "id": {
21821                 "$ref":
21822 "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
21823 schema.json#/definitions/id"
21824             },
21825             "if": {
21826                 "description": "The OCF Interface set supported by this Resource",
21827                 "items": {
21828                     "enum": [
21829                         "oic.if.r",
21830                         "oic.if.baseline"
21831                     ],
21832                     "type": "string",
21833                     "maxLength": 64
21834                 },
21835                 "minItems": 1,
21836                 "readOnly": true,
21837                 "uniqueItems": true,
21838                 "type": "array"
21839             }
21840         },
21841         "type": "object",
21842         "required": [
21843             "tester"
21844         ]
21845     }
21846 }
21847 }
21848

```

21849 **6.108.5 Property definition**

21850 Table 219 defines the Properties that are part of the "oic.r.glucose.tester" Resource Type.

21851 **Table 219 – The Property definitions of the Resource with type "rt" = "oic.r.glucose.tester".**

Property name	Value type	Mandatory	Access mode	Description
rt	array: see schema	No	Read Only	Resource Type
tester	string	Yes	Read Only	The possible cases of testers who may perform the blood sugar measurement.
n	multiple types: see schema	No	Read Write	
id	multiple types: see schema	No	Read Write	
if	array: see schema	No	Read Only	The OCF Interface set supported by this Resource

21852 **6.108.6 CRUDN behaviour**

21853 Table 220 defines the CRUDN operations that are supported on the "oic.r.glucose.tester" Resource Type.
21854

21855 **Table 220 – The CRUDN operations of the Resource with type "rt" = "oic.r.glucose.tester".**

Create	Read	Update	Delete	Notify
	get			observe

21856 **6.109 Optical RFID Station**

21857 **6.109.1 Introduction**

21858 The Property "process" represents the stage of the product in the product line which has an optical RFID tag on its body.

21860 The Property "event" is represented by a Boolean value set to "true" and "false" alarming the issue when additional action is requested for the tagged product.

21862 The Property "actionrequest" represent necessary actions like the isolation of the product, to send the product back to other specific line to modify or fix the issue.
21863

21864 **6.109.2 Example URI**

21865 /ORFIDStationResURI

21866 **6.109.3 Resource type**

21867 The Resource Type is defined as: "oic.r.orfid.station".

21868 **6.109.4 OpenAPI 2.0 definition**

```

21869 {
21870   "swagger": "2.0",
21871   "info": {
21872     "title": "Optical RFID Station",
21873     "version": "20190215",
21874     "license": {
21875       "name": "OCF Data Model License",
21876       "url":
21877         "https://github.com/openconnectivityfoundation/core/blob/e28a9e0a92e17042ba3e83661e4c0fbce8bdc4ba/LI
21878         CENSE.md",
21879       "x-copyright": "copyright 2016-2017, 2019 Open Connectivity Foundation, Inc. All rights
21880       reserved."
21881     }
  },

```

```

21882     "termsOfService": "https://openconnectivityfoundation.github.io/core/DISCLAIMER.md"
21883   },
21884   "schemes": ["http"],
21885   "consumes": ["application/json"],
21886   "produces": ["application/json"],
21887   "paths": {
21888     "/ORFIDStationResURI" : {
21889       "get": {
21890         "description": "The Property \"process\" represents the stage of the product in the product
21891 line which has an optical RFID tag on its body.\nThe Property \"event\" is represented by a Boolean
21892 value set to \"true\" and \"false\" alarming the issue when additional action is requested for the
21893 tagged product.\nThe Property \"actionrequest\" represent necessary actions like the isolation of
21894 the product, to send the product back to other specific line to modify or fix the issue.",
21895         "parameters": [
21896           {"$ref": "#/parameters/interface"}
21897         ],
21898         "responses": {
21899           "200": {
21900             "description": "RETRIEVES the station information from optical augmented RFID reader
21901 in smart factory environment.",
21902             "x-example":
21903               {
21904                 "rt": ["oic.r.orfid.station"],
21905                 "if": ["oic.if.rw", "oic.if.baseline"],
21906                 "process": 17,
21907                 "event": true,
21908                 "actionrequest": 2
21909               },
21910             "schema": { "$ref": "#/definitions/ORFID" }
21911           }
21912         }
21913       },
21914       "post": {
21915         "description": "Sets necessary action in accordance with Tag Information.",
21916         "parameters": [
21917           {"$ref": "#/parameters/interface"},
21918           {
21919             "name": "body",
21920             "in": "body",
21921             "required": true,
21922             "schema": { "$ref": "#/definitions/ORFID" },
21923             "x-example":
21924               {
21925                 "event": false,
21926                 "actionrequest": 0
21927               }
21928           }
21929         ],
21930         "responses": {
21931           "200": {
21932             "description": "",
21933             "x-example":
21934               {
21935                 "event": false,
21936                 "actionrequest": 0
21937               },
21938             "schema": { "$ref": "#/definitions/ORFID" }
21939           }
21940         }
21941       }
21942     }
21943   },
21944   "parameters": {
21945     "interface": {
21946       "in": "query",
21947       "name": "if",
21948       "type": "string",
21949       "enum": ["oic.if.rw", "oic.if.baseline"]
21950     }
21951   },
21952   "definitions": {
21953     "ORFID" : {

```

```

21954     "properties": {
21955         "rt": {
21956             "description": "The Resource Type.",
21957             "items": {
21958                 "enum": ["oic.r.orfid.station"],
21959                 "maxLength": 64,
21960                 "type": "string"
21961             },
21962             "minItems": 1,
21963             "uniqueItems": true,
21964             "readOnly": true,
21965             "type": "array"
21966         },
21967         "process": {
21968             "description": "The process step that is being performed at this station.",
21969             "readOnly": true,
21970             "type": "integer"
21971         },
21972         "actionrequest": {
21973             "description": "The action request identifier.",
21974             "type": "integer"
21975         },
21976         "event": {
21977             "description": "The Event indicator, when True, the action request should be applied to
21978 the product identified by the tagid.",
21979             "type": "boolean"
21980         },
21981         "n": {
21982             "$ref":
21983 "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
21984 schema.json#/definitions/n"
21985         },
21986         "id": {
21987             "$ref":
21988 "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
21989 schema.json#/definitions/id"
21990         },
21991         "if": {
21992             "description": "The OCF Interface set supported by this Resource.",
21993             "items": {
21994                 "enum": [
21995                     "oic.if.rw",
21996                     "oic.if.baseline"
21997                 ],
21998                 "type": "string"
21999             },
22000             "minItems": 2,
22001             "uniqueItems": true,
22002             "readOnly": true,
22003             "type": "array"
22004         }
22005     },
22006     "type": "object",
22007     "required": ["event", "actionrequest"]
22008 }
22009 }
22010 }
22011

```

22012 6.109.5 Property definition

22013 Table 221 defines the Properties that are part of the "oic.r.orfid.station" Resource Type.

22014 **Table 221 – The Property definitions of the Resource with type "rt" = "oic.r.orfid.station".**

Property name	Value type	Mandatory	Access mode	Description
rt	array: see schema	No	Read Only	The Resource Type.
process	integer	No	Read Only	The process step that is being

				performed at this station.
actionrequest	integer	Yes	Read Write	The action request identifier.
event	boolean	Yes	Read Write	The Event indicator, when True, the action request should be applied to the product identified by the tagid.
n	multiple types: see schema	No	Read Write	
id	multiple types: see schema	No	Read Write	
if	array: see schema	No	Read Only	The OCF Interface set supported by this Resource.

22015 **6.109.6 CRUDN behaviour**

22016 Table 222 defines the CRUDN operations that are supported on the "oic.r.orfid.station" Resource
22017 Type.

22018 **Table 222 – The CRUDN operations of the Resource with type "rt" = "oic.r.orfid.station".**

Create	Read	Update	Delete	Notify
	get	post		observe

22019 **6.110 Optical RFID Tag**

22020 **6.110.1 Introduction**

22021 The Property "tagid" is an integer showing the currently read optical augmented RFID tag's
22022 identity information.

22023 **6.110.2 Example URI**

22024 /ORFIDTagResURI

22025 **6.110.3 Resource type**

22026 The Resource Type is defined as: "oic.r.orfid.tag".

22027 **6.110.4 OpenAPI 2.0 definition**

```

22028 {
22029   "swagger": "2.0",
22030   "info": {
22031     "title": "Optical RFID Tag",
22032     "version": "20190215",
22033     "license": {
22034       "name": "OCF Data Model License",
22035       "url":
22036         "https://github.com/openconnectivityfoundation/core/blob/e28a9e0a92e17042ba3e83661e4c0fbce8bdc4ba/LI
22037 CENSE.md",
22038       "x-copyright": "copyright 2016-2017, 2019 Open Connectivity Foundation, Inc. All rights
22039 reserved."
22040     },
22041     "termsOfService": "https://openconnectivityfoundation.github.io/core/DISCLAIMER.md"
22042   },
22043   "schemes": ["http"],
22044   "consumes": ["application/json"],
22045   "produces": ["application/json"],
22046   "paths": {
22047     "/ORFIDTagResURI" : {

```

```

22048     "get": {
22049         "description": "The Property \"tagid\" is an integer showing the currently read optical
22050 augmented RFID tag's identity information.",
22051         "parameters": [
22052             { "$ref": "#/parameters/interface" }
22053         ],
22054         "responses": {
22055             "200": {
22056                 "description": "RETRIEVES the tag information from optical augmented RFID reader in
22057 smart factory environment.",
22058                 "x-example":
22059                     {
22060                         "rt": ["oic.r.orfid.tag"],
22061                         "if": ["oic.if.r", "oic.if.baseline"],
22062                         "tagid": 10965742,
22063                         "reading": true
22064                     },
22065                 "schema": { "$ref": "#/definitions/ORFID" }
22066             }
22067         }
22068     }
22069 },
22070 },
22071 "parameters": {
22072     "interface": {
22073         "in": "query",
22074         "name": "if",
22075         "type": "string",
22076         "enum": ["oic.if.r", "oic.if.baseline"]
22077     }
22078 },
22079 "definitions": {
22080     "ORFID": {
22081         "properties": {
22082             "rt": {
22083                 "description": "The Resource Type.",
22084                 "items": {
22085                     "enum": ["oic.r.orfid.tag"],
22086                     "maxLength": 64,
22087                     "type": "string"
22088                 },
22089                 "minItems": 1,
22090                 "uniqueItems": true,
22091                 "readOnly": true,
22092                 "type": "array"
22093             },
22094             "tagid": {
22095                 "description": "The tag read by the RFID reader.",
22096                 "readOnly": true,
22097                 "type": "integer"
22098             },
22099             "reading": {
22100                 "description": "The reading indication. true: the tagid is read e.g. being valid. false:
22101 the tagid is invalid.",
22102                 "readOnly": true,
22103                 "type": "boolean"
22104             },
22105             "n": {
22106                 "$ref":
22107 "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
22108 schema.json#/definitions/n"
22109             },
22110             "id": {
22111                 "$ref":
22112 "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
22113 schema.json#/definitions/id"
22114             },
22115             "if": {
22116                 "description": "The OCF Interface set supported by this Resource.",
22117                 "items": {
22118                     "enum": [
22119                         "oic.if.r",

```

```

22120         "oic.if.baseline"
22121     ],
22122     "type": "string"
22123 },
22124     "minItems": 2,
22125     "uniqueItems": true,
22126     "readOnly": true,
22127     "type": "array"
22128 }
22129 },
22130     "type": "object",
22131     "required": ["tagid", "reading"]
22132 }
22133 }
22134 }
22135

```

22136 **6.110.5 Property definition**

22137 Table 223 defines the Properties that are part of the "oic.r.orfid.tag" Resource Type.

22138 **Table 223 – The Property definitions of the Resource with type "rt" = "oic.r.orfid.tag".**

Property name	Value type	Mandatory	Access mode	Description
rt	array: see schema	No	Read Only	The Resource Type.
tagid	integer	Yes	Read Only	The tag read by the RFID reader.
reading	boolean	Yes	Read Only	The reading indication. true: the tagid is read e.g. being valid. false: the tagid is invalid.
n	multiple types: see schema	No	Read Write	
id	multiple types: see schema	No	Read Write	
if	array: see schema	No	Read Only	The OCF Interface set supported by this Resource.

22139 **6.110.6 CRUDN behaviour**

22140 Table 224 defines the CRUDN operations that are supported on the "oic.r.orfid.tag" Resource Type.

22141 **Table 224 – The CRUDN operations of the Resource with type "rt" = "oic.r.orfid.tag".**

Create	Read	Update	Delete	Notify
	get			observe

22142 **6.111 PowerSource**

22143 **6.111.1 Introduction**

22144 This Resource list the available power sources for the Device. The Property "powersources" is a list that is read only and is informative only.

22146 If there is more than 1 power source active, use multiple Resources to indicate the active power sources. If the power source is unknown use the value "unknown".

22148 **6.111.2 Example URI**

22149 /PowerSourceResURI

22150 **6.111.3 Resource type**

22151 The Resource Type is defined as: "oic.r.powersource".

22152 6.111.4 OpenAPI 2.0 definition

```
22153 {
22154   "swagger": "2.0",
22155   "info": {
22156     "title": "PowerSource",
22157     "version": "20190513",
22158     "license": {
22159       "name": "OCF Data Model License",
22160       "url":
22161 "https://github.com/openconnectivityfoundation/core/blob/e28a9e0a92e17042ba3e83661e4c0fbce8bdc4ba/LI
22162 CENSE.md",
22163       "x-copyright": "copyright 2016-2017, 2019 Open Connectivity Foundation, Inc. All rights
22164 reserved."
22165     },
22166     "termsOfService": "https://openconnectivityfoundation.github.io/core/DISCLAIMER.md"
22167   },
22168   "schemes": ["http"],
22169   "consumes": ["application/json"],
22170   "produces": ["application/json"],
22171   "paths": {
22172     "/PowerSourceResURI" : {
22173       "get": {
22174         "description": "This Resource list the available power sources for the Device. The Property
22175 \"powersources\" is a list that is read only and is informative only.\nIf there is more than 1 power
22176 source active, use multiple Resources to indicate the active power sources. If the power source is
22177 unknown use the value \"unknown\".",
22178         "parameters": [
22179           { "$ref": "#/parameters/interface" }
22180         ],
22181         "responses": {
22182           "200": {
22183             "description": "Retrieves the list of available power sources.",
22184             "x-example":
22185             {
22186               "rt": ["oic.r.powersource"],
22187               "if": ["oic.if.r", "oic.if.baseline"],
22188               "powersources": [
22189                 "DC power",
22190                 "Internal Battery",
22191                 "External Battery",
22192                 "Power over Ethernet",
22193                 "USB",
22194                 "AC (Mains) Power",
22195                 "Solar"
22196               ],
22197               "sourcefault": false
22198             },
22199             "schema": { "$ref": "#/definitions/powerSourceSchema" }
22200           }
22201         }
22202       }
22203     }
22204   },
22205   "parameters": {
22206     "interface": {
22207       "in": "query",
22208       "name": "if",
22209       "type": "string",
22210       "enum": ["oic.if.r", "oic.if.baseline"]
22211     }
22212   },
22213   "definitions": {
22214     "powerSourceSchema" : {
22215       "properties": {
22216         "rt": {
22217           "description": "The Resource Type.",
22218           "items": {
22219             "enum": ["oic.r.powersource"],
22220             "maxLength": 64,
22221             "type": "string"
22222           }

```

```

22223         "minItems": 1,
22224         "uniqueItems": true,
22225         "readOnly": true,
22226         "type": "array"
22227     },
22228     "powersources": {
22229         "items": {
22230             "enum": [
22231                 "unknown",
22232                 "DC power",
22233                 "Internal Battery",
22234                 "External Battery",
22235                 "Power over Ethernet",
22236                 "USB",
22237                 "AC (Mains) Power",
22238                 "Solar"
22239             ],
22240             "minItems": 1,
22241             "type": "string",
22242             "uniqueItems": true
22243         },
22244         "type": "array"
22245     },
22246     "sourcefault": {
22247         "description": "Fault detected in currently active power source. True = fault detected",
22248         "readOnly": true,
22249         "type": "boolean"
22250     },
22251     "n": {
22252         "$ref":
22253         "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
22254         schema.json#/definitions/n"
22255     },
22256     "id": {
22257         "$ref":
22258         "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
22259         schema.json#/definitions/id"
22260     },
22261     "if": {
22262         "description": "The OCF Interface set supported by this Resource.",
22263         "items": {
22264             "enum": [
22265                 "oic.if.r",
22266                 "oic.if.baseline"
22267             ],
22268             "type": "string"
22269         },
22270         "minItems": 2,
22271         "uniqueItems": true,
22272         "readOnly": true,
22273         "type": "array"
22274     }
22275 },
22276 "type": "object",
22277 "required": ["powersources"]
22278 }
22279 }
22280 }
22281

```

22282 6.111.5 Property definition

22283 Table 225 defines the Properties that are part of the "oic.r.powersource" Resource Type.

22284 **Table 225 – The Property definitions of the Resource with type "rt" = "oic.r.powersource".**

Property name	Value type	Mandatory	Access mode	Description
rt	array: see schema	No	Read Only	The Resource Type.
powersources	array: see schema	Yes	Read Write	

sourcefault	boolean	No	Read Only	Fault detected in currently active power source. True = fault detected
n	multiple types: see schema	No	Read Write	
id	multiple types: see schema	No	Read Write	
if	array: see schema	No	Read Only	The OCF Interface set supported by this Resource.

22285 **6.111.6 CRUDN behaviour**

22286 Table 226 defines the CRUDN operations that are supported on the "oic.r.powersource" Resource
22287 Type.

22288 **Table 226 – The CRUDN operations of the Resource with type "rt" = "oic.r.powersource".**

Create	Read	Update	Delete	Notify
	get			observe

22289 **6.112 Print Queue**

22290 **6.112.1 Introduction**

22291 This Resource describes the items in a Printer Queue. The Properties "uri" and "status" are read
22292 only items that cannot be changed through this resource.

22293 **6.112.2 Example URI**

22294 /PrintQueueResURI

22295 **6.112.3 Resource type**

22296 The Resource Type is defined as: "oic.r.printer.queue".

22297 **6.112.4 OpenAPI 2.0 definition**

```

22298 {
22299   "swagger": "2.0",
22300   "info": {
22301     "title": "Print Queue",
22302     "version": "20190215",
22303     "license": {
22304       "name": "OCF Data Model License",
22305       "url":
22306         "https://github.com/openconnectivityfoundation/core/blob/e28a9e0a92e17042ba3e83661e4c0fbce8bdc4ba/LI
22307         CENSE.md",
22308       "x-copyright": "copyright 2016-2017, 2019 Open Connectivity Foundation, Inc. All rights
22309         reserved."
22310     },
22311     "termsOfService": "https://openconnectivityfoundation.github.io/core/DISCLAIMER.md"
22312   },
22313   "schemes": ["http"],
22314   "consumes": ["application/json"],
22315   "produces": ["application/json"],
22316   "paths": {
22317     "/PrintQueueResURI" : {
22318       "get": {
22319         "description": "This Resource describes the items in a Printer Queue. The Properties \"uri\"
22320         and \"status\" are read only items that cannot be changed through this resource.",
22321         "parameters": [
22322           {"$ref": "#/parameters/interface"}
22323         ],
22324         "responses": {
22325           "200": {

```

```

22326         "description" : "Retrieves the current Print Queue.",
22327         "x-example": {
22328             "rt": ["oic.r.printer.queue"],
22329             "if": ["oic.if.r", "oic.if.baseline"],
22330             "queue": [
22331                 {
22332                     "uri": "file://10.10.10.10/3dprinter/queueitem/1",
22333                     "status": "Printing"
22334                 },
22335                 {
22336                     "uri": "file://10.10.10.10/3dprinter/queueitem/2",
22337                     "status": "Pending"
22338                 }
22339             ]
22340         },
22341         "schema": { "$ref": "#/definitions/PrintQueue" }
22342     }
22343 }
22344 }
22345 }
22346 },
22347 "parameters": {
22348     "interface": {
22349         "in": "query",
22350         "name": "if",
22351         "type": "string",
22352         "enum": ["oic.if.r", "oic.if.baseline"]
22353     }
22354 },
22355 "definitions": {
22356     "PrintQueue": {
22357         "properties": {
22358             "rt": {
22359                 "description": "The Resource Type.",
22360                 "items": {
22361                     "enum": ["oic.r.printer.queue"],
22362                     "maxLength": 64,
22363                     "type": "string"
22364                 },
22365                 "minItems": 1,
22366                 "uniqueItems": true,
22367                 "readOnly": true,
22368                 "type": "array"
22369             },
22370             "queue": {
22371                 "description": "The array of queue items for the printer.",
22372                 "items": {
22373                     "properties": {
22374                         "status": {
22375                             "description": "The status of the queue item.",
22376                             "enum": [
22377                                 "Printing",
22378                                 "Pending",
22379                                 "Paused",
22380                                 "Error",
22381                                 "Unknown"
22382                             ],
22383                             "readOnly": true,
22384                             "type": "string"
22385                         },
22386                         "uri": {
22387                             "description": "The uri of the queue item (i.e. the actual file).",
22388                             "format": "uri",
22389                             "maxLength": 256,
22390                             "readOnly": true,
22391                             "type": "string"
22392                         }
22393                     },
22394                     "required": [
22395                         "uri",
22396                         "status"
22397                     ],

```

```

22398         "type": "object"
22399     },
22400     "readOnly": true,
22401     "type": "array"
22402 },
22403 "n": {
22404     "$ref":
22405 "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
22406 schema.json#/definitions/n"
22407 },
22408 "id": {
22409     "$ref":
22410 "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
22411 schema.json#/definitions/id"
22412 },
22413 "if": {
22414     "description": "The OCF Interface set supported by this Resource.",
22415     "items": {
22416         "enum": [
22417             "oic.if.r",
22418             "oic.if.baseline"
22419         ],
22420         "type": "string"
22421     },
22422     "minItems": 2,
22423     "uniqueItems": true,
22424     "readOnly": true,
22425     "type": "array"
22426 }
22427 },
22428 "type": "object",
22429 "required": ["queue"]
22430 }
22431 }
22432 }
22433

```

22434 **6.112.5 Property definition**

22435 Table 227 defines the Properties that are part of the "oic.r.printer.queue" Resource Type.

22436 **Table 227 – The Property definitions of the Resource with type "rt" = "oic.r.printer.queue".**

Property name	Value type	Mandatory	Access mode	Description
rt	array: see schema	No	Read Only	The Resource Type.
queue	array: see schema	Yes	Read Only	The array of queue items for the printer.
n	multiple types: see schema	No	Read Write	
id	multiple types: see schema	No	Read Write	
if	array: see schema	No	Read Only	The OCF Interface set supported by this Resource.

22437 **6.112.6 CRUDN behaviour**

22438 Table 228 defines the CRUDN operations that are supported on the "oic.r.printer.queue" Resource
 22439 Type.

22440 **Table 228 – The CRUDN operations of the Resource with type "rt" = "oic.r.printer.queue".**

Create	Read	Update	Delete	Notify
	get			observe

22441 6.113 Pulse Rate

22442 6.113.1 Introduction

22443 This Resource describes the Properties associated with a person's pulse rate.

22444 The unit, which is the default unit, is bpm.

22445 The pulserate and unit Properties are read-only values that are provided by the Server.

22446 When range is omitted the default is 0 to +MAXFLOAT.

22447 6.113.2 Example URI

22448 /PulseRateResURI

22449 6.113.3 Resource type

22450 The Resource Type is defined as: "oic.r.pulserate".

22451 6.113.4 OpenAPI 2.0 definition

```
22452 {
22453   "swagger": "2.0",
22454   "info": {
22455     "title": "Pulse Rate",
22456     "version": "2019-03-22",
22457     "license": {
22458       "name": "OCF Data Model License",
22459       "url":
22460 "https://github.com/openconnectivityfoundation/core/blob/e28a9e0a92e17042ba3e83661e4c0fbce8bdc4ba/LI
22461 CENSE.md",
22462       "x-copyright": "Copyright 2016-2019 Open Connectivity Foundation, Inc. All rights reserved."
22463     },
22464     "termsOfService": "https://openconnectivityfoundation.github.io/core/DISCLAIMER.md"
22465   },
22466   "schemes": [
22467     "http"
22468   ],
22469   "consumes": [
22470     "application/json"
22471   ],
22472   "produces": [
22473     "application/json"
22474   ],
22475   "paths": {
22476     "/PulseRateResURI": {
22477       "get": {
22478         "description": "This Resource describes the Properties associated with a person's pulse
22479 rate.\nThe unit, which is the default unit, is bpm.\nThe pulserate and unit Properties are read-only
22480 values that are provided by the Server.\nWhen range is omitted the default is 0 to +MAXFLOAT.",
22481         "parameters": [
22482           {
22483             "$ref": "#/parameters/interface"
22484           }
22485         ],
22486         "responses": {
22487           "200": {
22488             "description": "",
22489             "x-example": {
22490               "rt": [
22491                 "oic.r.pulserate"
22492               ],
22493               "pulserate": 80,
22494               "range": [20, 220],
22495               "step": 1
22496             },
22497             "schema": {
22498               "$ref": "#/definitions/PulseRate"
22499             }
22500           }
22501         }
22502       }
22503     }
  }
```

```

22504     },
22505     "parameters": {
22506       "interface": {
22507         "in": "query",
22508         "name": "if",
22509         "type": "string",
22510         "enum": [
22511           "oic.if.s",
22512           "oic.if.baseline"
22513         ]
22514       }
22515     },
22516     "definitions": {
22517       "PulseRate": {
22518         "properties": {
22519           "rt": {
22520             "description": "Resource Type",
22521             "items": {
22522               "enum": [
22523                 "oic.r.pulserate"
22524               ],
22525               "type": "string",
22526               "maxLength": 64
22527             },
22528             "minItems": 1,
22529             "uniqueItems": true,
22530             "readOnly": true,
22531             "type": "array"
22532           },
22533           "pulserate": {
22534             "description": "Pulse rate in bpm.",
22535             "minimum": 0,
22536             "readOnly": true,
22537             "type": "integer"
22538           },
22539           "if": {
22540             "description": "The OCF Interface set supported by this Resource",
22541             "items": {
22542               "enum": [
22543                 "oic.if.s",
22544                 "oic.if.baseline"
22545               ],
22546               "type": "string",
22547               "maxLength": 64
22548             },
22549             "minItems": 1,
22550             "readOnly": true,
22551             "uniqueItems": true,
22552             "type": "array"
22553           },
22554           "range": {
22555             "$ref":
22556             "https://openconnectivityfoundation.github.io/IoTDataModels/schemas/oic.baseresource.properties-
22557             schema.json#/definitions/range_integer"
22558           },
22559           "step": {
22560             "$ref":
22561             "https://openconnectivityfoundation.github.io/IoTDataModels/schemas/oic.baseresource.properties-
22562             schema.json#/definitions/step_integer"
22563           },
22564           "n": {
22565             "$ref":
22566             "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
22567             schema.json#/definitions/n"
22568           }
22569         },
22570         "type": "object",
22571         "required": [
22572           "pulserate"
22573         ]
22574       }
22575     }

```

22576 }
22577

22578 6.113.5 Property definition

22579 Table 229 defines the Properties that are part of the "oic.r.pulserate" Resource Type.

22580 **Table 229 – The Property definitions of the Resource with type "rt" = "oic.r.pulserate".**

Property name	Value type	Mandatory	Access mode	Description
rt	array: see schema	No	Read Only	Resource Type
pulserate	integer	Yes	Read Only	Pulse rate in bpm.
if	array: see schema	No	Read Only	The OCF Interface set supported by this Resource
range	multiple types: see schema	No	Read Write	
step	multiple types: see schema	No	Read Write	
n	multiple types: see schema	No	Read Write	

22581 6.113.6 CRUDN behaviour

22582 Table 230 defines the CRUDN operations that are supported on the "oic.r.pulserate" Resource
22583 Type.

22584 **Table 230 – The CRUDN operations of the Resource with type "rt" = "oic.r.pulserate".**

Create	Read	Update	Delete	Notify
	get			observe

22585 6.114 Sensor Properties

22586 6.114.1 Introduction

22587 This Resource describes the properties which guide the reporting of a state change of a Sensor.
22588 The Property "silenttime" represents the period after which a state change report was sent where
22589 the Sensor state change is not reported.
22590 The Property "sensitivity" represents the level at which the sensor detects a state change.
22591 These values are completely dependent on the type of Sensor and the manufacturer capability, so
22592 no range restrictions are used.
22593 The Properties "range", "step" and "precision" are only applied to the "sensitivity" Property.

22594 6.114.2 Example URI

22595 /SensorPropsResURI

22596 6.114.3 Resource type

22597 The Resource Type is defined as: "oic.r.sensor.props".

22598 6.114.4 OpenAPI 2.0 definition

```
22599 {
22600   "swagger": "2.0",
22601   "info": {
22602     "title": "Sensor Properties",
22603     "version": "20190215",
22604     "license": {
22605       "name": "OCF Data Model License",
22606       "url":
22607         "https://github.com/openconnectivityfoundation/core/blob/e28a9e0a92e17042ba3e83661e4c0fbce8bdc4ba/LI
22608         CENSE.md",
```

```

22609         "x-copyright": "copyright 2016-2017, 2019 Open Connectivity Foundation, Inc. All rights
22610 reserved."
22611     },
22612     "termsOfService": "https://openconnectivityfoundation.github.io/core/DISCLAIMER.md"
22613 },
22614 "schemes": ["http"],
22615 "consumes": ["application/json"],
22616 "produces": ["application/json"],
22617 "paths": {
22618     "/SensorPropsResURI" : {
22619         "get": {
22620             "description": "This Resource describes the properties which guide the reporting of a state
22621 change of a Sensor.\n\nThe Property \"silenttime\" represents the period after which a state change
22622 report was sent where the Sensor state change is not reported.\n\nThe Property \"sensitivity\"
22623 represents the level at which the sensor detects a state change.\n\nThese values are completely
22624 dependent on the type of Sensor and the manufacturer capability, so no range restrictions are
22625 used.\n\nThe Properties \"range\", \"step\" and \"precision\" are only applied to the \"sensitivity\"
22626 Property.",
22627             "parameters": [
22628                 { "$ref": "#/parameters/interface" }
22629             ],
22630             "responses": {
22631                 "200": {
22632                     "description": "Gets current Sensor Property values.",
22633                     "x-example":
22634                         {
22635                             "rt": ["oic.r.sensor.props"],
22636                             "if": ["oic.if.rw", "oic.if.baseline"],
22637                             "silenttime": 10,
22638                             "sensitivity": 20.5
22639                         },
22640                     "schema": { "$ref": "#/definitions/SensorProps" }
22641                 }
22642             },
22643             "post": {
22644                 "description": "Sets Sensor Property values\n",
22645                 "parameters": [
22646                     { "$ref": "#/parameters/interface" },
22647                     {
22648                         "name": "body",
22649                         "in": "body",
22650                         "required": true,
22651                         "schema": { "$ref": "#/definitions/SensorProps" },
22652                         "x-example":
22653                             {
22654                                 "silenttime": 20,
22655                                 "sensitivity": 10.75
22656                             }
22657                     }
22658                 ],
22659                 "responses": {
22660                     "200": {
22661                         "description": "",
22662                         "x-example":
22663                             {
22664                                 "silenttime": 20,
22665                                 "sensitivity": 10.75
22666                             },
22667                         "schema": { "$ref": "#/definitions/SensorProps" }
22668                     }
22669                 }
22670             }
22671         }
22672     },
22673 },
22674 "parameters": {
22675     "interface": {
22676         "in": "query",
22677         "name": "if",
22678         "type": "string",
22679         "enum": ["oic.if.rw", "oic.if.baseline"]
22680     }

```

```

22681 },
22682 "definitions": {
22683   "SensorProps": {
22684     "properties": {
22685       "rt": {
22686         "description": "The Resource Type.",
22687         "items": {
22688           "enum": ["oic.r.sensor.props"],
22689           "maxLength": 64,
22690           "type": "string"
22691         },
22692         "minItems": 1,
22693         "uniqueItems": true,
22694         "readOnly": true,
22695         "type": "array"
22696       },
22697       "silenttime": {
22698         "description": "The time in seconds from the previous report that the Sensor restrains
22699 from sending a state change. This is used to avoid repeated state change reports.",
22700         "type": "integer"
22701       },
22702       "sensitivity": {
22703         "description": "The level of the detection accuracy of the Sensor. This is used to control
22704 the level at which the Sensor detects a state change. The \"range\" Property should be specified per
22705 manufacturer device capabilities.",
22706         "type": "number"
22707       },
22708       "n": {
22709         "$ref":
22710 "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
22711 schema.json#/definitions/n"
22712       },
22713       "id": {
22714         "$ref":
22715 "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
22716 schema.json#/definitions/id"
22717       },
22718       "range": {
22719         "$ref":
22720 "https://openconnectivityfoundation.github.io/IoTDataModels/schemas/oic.baseresource.properties-
22721 schema.json#/definitions/range_number"
22722       },
22723       "step": {
22724         "$ref":
22725 "https://openconnectivityfoundation.github.io/IoTDataModels/schemas/oic.baseresource.properties-
22726 schema.json#/definitions/step_number"
22727       },
22728       "precision": {
22729         "$ref":
22730 "https://openconnectivityfoundation.github.io/IoTDataModels/schemas/oic.baseresource.properties-
22731 schema.json#/definitions/precision"
22732       },
22733       "if": {
22734         "description": "The OCF Interface set supported by this Resource.",
22735         "items": {
22736           "enum": [
22737             "oic.if.rw",
22738             "oic.if.baseline"
22739           ],
22740           "type": "string"
22741         },
22742         "minItems": 2,
22743         "uniqueItems": true,
22744         "readOnly": true,
22745         "type": "array"
22746       }
22747     },
22748     "type": "object",
22749     "required": ["silenttime", "sensitivity"]
22750   }
22751 }

```

22752 }
22753

22754 **6.114.5 Property definition**

22755 Table 231 defines the Properties that are part of the "oic.r.sensor.props" Resource Type.

22756 **Table 231 – The Property definitions of the Resource with type "rt" = "oic.r.sensor.props".**

Property name	Value type	Mandatory	Access mode	Description
rt	array: see schema	No	Read Only	The Resource Type.
silenttime	integer	Yes	Read Write	The time in seconds from the previous report that the Sensor restrains from sending a state change. This is used to avoid repeated state change reports.
sensitivity	number	Yes	Read Write	The level of the detection accuracy of the Sensor. This is used to control the level at which the Sensor detects a state change. The "range" Property should be specified per manufacturer device capabilities.
n	multiple types: see schema	No	Read Write	
id	multiple types: see schema	No	Read Write	
range	multiple types: see schema	No	Read Write	
step	multiple types: see schema	No	Read Write	
precision	multiple types: see schema	No	Read Write	
if	array: see schema	No	Read Only	The OCF Interface set supported by this Resource.

22757 **6.114.6 CRUDN behaviour**

22758 Table 232 defines the CRUDN operations that are supported on the "oic.r.sensor.props" Resource
22759 Type.

22760 **Table 232 – The CRUDN operations of the Resource with type "rt" = "oic.r.sensor.props".**

Create	Read	Update	Delete	Notify
	get	post		observe

22761 **6.115 User ID**

22762 **6.115.1 Introduction**

22763 This Resource describes the Properties associated with user id of an OCF Client.
22764 The userid Property is a single value of type string.
22765 The userid Property is a read-only value that is provided by the Server.

22766 **6.115.2 Example URI**

22767 /UserIDResURI

22768 **6.115.3 Resource type**

22769 The Resource Type is defined as: "oic.r.userid".

22770 **6.115.4 OpenAPI 2.0 definition**

```
22771 {
22772   "swagger": "2.0",
22773   "info": {
22774     "title": "User ID",
22775     "version": "2019-03-22",
22776     "license": {
22777       "name": "OCF Data Model License",
22778       "url":
22779 "https://github.com/openconnectivityfoundation/core/blob/e28a9e0a92e17042ba3e83661e4c0fbce8bdc4ba/LI
22780 CENSE.md",
22781       "x-copyright": "Copyright 2016-2019 Open Connectivity Foundation, Inc. All rights reserved."
22782     },
22783     "termsOfService": "https://openconnectivityfoundation.github.io/core/DISCLAIMER.md"
22784   },
22785   "schemes": [
22786     "http"
22787   ],
22788   "consumes": [
22789     "application/json"
22790   ],
22791   "produces": [
22792     "application/json"
22793   ],
22794   "paths": {
22795     "/UserIDResURI": {
22796       "get": {
22797         "description": "This Resource describes the Properties associated with user id of an OCF
22798 Client.\n\nThe userid Property is a single value of type string.\n\nThe userid Property is a read-only
22799 value that is provided by the Server.",
22800         "parameters": [
22801           {
22802             "$ref": "#/parameters/interface"
22803           }
22804         ],
22805         "responses": {
22806           "200": {
22807             "description": "",
22808             "x-example": {
22809               "rt": [
22810                 "oic.r.userid"
22811               ],
22812               "userid": "USER1"
22813             },
22814             "schema": {
22815               "$ref": "#/definitions/UserID"
22816             }
22817           }
22818         }
22819       }
22820     }
22821   },
22822   "parameters": {
22823     "interface": {
22824       "in": "query",
22825       "name": "if",
22826       "type": "string",
22827       "enum": [
22828         "oic.if.r",
22829         "oic.if.baseline"
22830       ]
22831     }
22832   },

```

```

22833 "definitions": {
22834   "UserID": {
22835     "properties": {
22836       "rt": {
22837         "description": "Resource Type",
22838         "items": {
22839           "enum": [
22840             "oic.r.userid"
22841           ],
22842           "type": "string",
22843           "maxLength": 64
22844         },
22845         "minItems": 1,
22846         "uniqueItems": true,
22847         "readOnly": true,
22848         "type": "array"
22849       },
22850       "userid": {
22851         "description": "Id of a patient/user of healthcare devices",
22852         "readOnly": true,
22853         "type": "string"
22854       },
22855       "n": {
22856         "$ref":
22857         "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
22858         schema.json#/definitions/n"
22859       },
22860       "if": {
22861         "description": "The OCF Interface set supported by this Resource",
22862         "items": {
22863           "enum": [
22864             "oic.if.r",
22865             "oic.if.baseline"
22866           ],
22867           "type": "string",
22868           "maxLength": 64
22869         },
22870         "minItems": 1,
22871         "readOnly": true,
22872         "uniqueItems": true,
22873         "type": "array"
22874       }
22875     },
22876     "type": "object",
22877     "required": [
22878       "userid"
22879     ]
22880   }
22881 }
22882 }
22883

```

22884 6.115.5 Property definition

22885 Table 233 defines the Properties that are part of the "oic.r.userid" Resource Type.

22886 **Table 233 – The Property definitions of the Resource with type "rt" = "oic.r.userid".**

Property name	Value type	Mandatory	Access mode	Description
rt	array: see schema	No	Read Only	Resource Type
userid	string	Yes	Read Only	Id of a patient/user of healthcare devices
n	multiple types: see schema	No	Read Write	
if	array: see schema	No	Read Only	The OCF Interface set supported by this Resource

22887 **6.115.6 CRUDN behaviour**

22888 Table 234 defines the CRUDN operations that are supported on the "oic.r.userid" Resource Type.

22889 **Table 234 – The CRUDN operations of the Resource with type "rt" = "oic.r.userid".**

Create	Read	Update	Delete	Notify
	get			observe

22890 **6.116 Calorific Value**

22891 **6.116.1 Introduction**

22892 This Resource describes Properties associated with the energy associated with the consumption
22893 of different fuels (including natural gas)

22894 The calorific value is a number

22895 the calorific value is a measure of the available heat energy, used as part of the calculation to
22896 convert a volume of a fuel (e.g. m3) to an energy value (e.g. KWh).
22897

22898 **6.116.2 Example URI**

22899 /CalorificValueResURI

22900 **6.116.3 Resource type**

22901 The Resource Type is defined as: "oic.r.calorificvalue".

22902 **6.116.4 OpenAPI 2.0 definition**

```

22903 {
22904   "swagger": "2.0",
22905   "info": {
22906     "title": "Calorific Value",
22907     "version": "2019-03-18",
22908     "license": {
22909       "name": "OCF Data Model License",
22910       "url": "https://openconnectivityfoundation.github.io/core/LICENSE.md",
22911       "x-copyright": "Copyright 2019 Open Connectivity Foundation, Inc. All rights reserved."
22912     },
22913     "termsOfService": "https://openconnectivityfoundation.github.io/core/DISCLAIMER.md"
22914   },
22915   "schemes": ["http"],
22916   "consumes": ["application/json"],
22917   "produces": ["application/json"],
22918   "paths": {
22919     "/CalorificValueResURI": {
22920       "get": {
22921         "description": "This Resource describes Properties associated with the energy associated
22922 with the consumption of different fuels (including natural gas)\nThe calorific value is a
22923 number\nthe calorific value is a measure of the available heat energy, used as part of the
22924 calculation to convert a volume of a fuel (e.g. m3) to an energy value (e.g. KWh).\n",
22925         "parameters": [
22926           { "$ref": "#/parameters/interface" }
22927         ],
22928         "responses": {
22929           "200": {
22930             "description": "Success path response for the Resource",
22931             "x-example": {
22932               "rt": ["oic.r.calorificvalue"],
22933               "calorific": 39.2
22934             },
22935             "schema": { "$ref": "#/definitions/Calorific" }
22936           }
22937         }
22938       }
22939     }
22940   },
22941   "parameters": {

```

```

22942     "interface" : {
22943         "in" : "query",
22944         "name" : "if",
22945         "type" : "string",
22946         "enum" : ["oic.if.r", "oic.if.baseline"]
22947     }
22948 },
22949 "definitions": {
22950     "Calorific" : {
22951         "properties": {
22952             "rt" : {
22953                 "description": "Resource Type",
22954                 "items": {
22955                     "maxLength": 64,
22956                     "type": "string",
22957                     "enum": ["oic.r.calorificvalue"]
22958                 },
22959                 "minItems": 1,
22960                 "readOnly": true,
22961                 "uniqueItems": true,
22962                 "type": "array"
22963             },
22964             "if" : {
22965                 "description": "The OCF Interfaces supported by this Resource",
22966                 "items": {
22967                     "enum": ["oic.if.baseline", "oic.if.r"],
22968                     "type": "string",
22969                     "maxLength": 64
22970                 },
22971                 "minItems": 2,
22972                 "readOnly": true,
22973                 "uniqueItems": true,
22974                 "type": "array"
22975             },
22976             "n" : {
22977                 "$ref" :
22978                 "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
22979                 schema.json#/definitions/n"
22980             },
22981             "id" : {
22982                 "$ref" :
22983                 "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
22984                 schema.json#/definitions/id"
22985             },
22986             "precision" : {
22987                 "description": "Accuracy granularity of the exposed value",
22988                 "readOnly": true,
22989                 "type": "number"
22990             },
22991             "calorific" : {
22992                 "description": "Calorific value of fuel",
22993                 "readOnly": true,
22994                 "type": "number",
22995                 "minimum": 0,
22996                 "exclusiveMinimum": true
22997             }
22998         },
22999         "type" : "object",
23000         "required": ["calorific"]
23001     }
23002 }
23003 }
23004

```

23005 6.116.5 Property definition

23006 Table 235 defines the Properties that are part of the "oic.r.calorificvalue" Resource Type.

23007 **Table 235 – The Property definitions of the Resource with type "rt" = "oic.r.calorificvalue".**

Property name	Value type	Mandatory	Access mode	Description
rt	array: see schema	No	Read Only	Resource Type
if	array: see schema	No	Read Only	The OCF Interfaces supported by this Resource
n	multiple types: see schema	No	Read Write	
id	multiple types: see schema	No	Read Write	
precision	number	No	Read Only	Accuracy granularity of the exposed value
calorific	number	Yes	Read Only	Calorific value of fuel

23008 **6.116.6 CRUDN behaviour**

23009 Table 236 defines the CRUDN operations that are supported on the "oic.r.calorificvalue" Resource
23010 Type.

23011 **Table 236 – The CRUDN operations of the Resource with type "rt" = "oic.r.calorificvalue".**

Create	Read	Update	Delete	Notify
	get			observe

23012 **6.117 Conversion Factor**

23013 **6.117.1 Introduction**

23014 This Resource describes Properties associated with the energy associated with the consumption
23015 of different fuels (including natural gas)

23016 The conversion factor is a number used as part of the calculation to convert gas volume to gas
23017 energy. The value used for this calculation is generally defined by local regulations and the
23018 conversion factor resource is therefore configurable.

23019 Provides the conversion factor used/required as part of the calculation to convert from fuel
23020 volume (m3) to fuel energy (kWh).
23021

23022 **6.117.2 Example URI**

23023 /ConversionFactorResURI

23024 **6.117.3 Resource type**

23025 The Resource Type is defined as: "oic.r.conversionfactor".

23026 **6.117.4 OpenAPI 2.0 definition**

```
23027 {
23028   "swagger": "2.0",
23029   "info": {
23030     "title": "Conversion Factor",
23031     "version": "2019-03-18",
23032     "license": {
23033       "name": "OCF Data Model License",
23034       "url": "https://openconnectivityfoundation.github.io/core/LICENSE.md",
23035       "x-copyright": "Copyright 2019 Open Connectivity Foundation, Inc. All rights reserved."
23036     },
23037     "termsOfService": "https://openconnectivityfoundation.github.io/core/DISCLAIMER.md"
23038   },
23039   "schemes": ["http"],
23040   "consumes": ["application/json"],
```

```

23041     "produces": ["application/json"],
23042     "paths": {
23043         "/ConversionFactorResURI" : {
23044             "get": {
23045                 "description": "This Resource describes Properties associated with the energy associated
23046 with the consumption of different fuels (including natural gas)\nThe conversion factor is a number
23047 used as part of the calculation to convert gas volume to gas energy. The value used for this
23048 calculation is generally defined by local regulations and the conversion factor resource is
23049 therefore configurable.\nProvides the conversion factor used/required as part of the calculation to
23050 convert from fuel volume (m3) to fuel energy (kWh).\n",
23051                 "parameters": [
23052                     {"$ref": "#/parameters/interface"}
23053                 ],
23054                 "responses": {
23055                     "200": {
23056                         "description" : "Success path response for the Resource",
23057                         "x-example": {
23058                             "rt": ["oic.r.conversionfactor"],
23059                             "conversion": 1.02264
23060                         },
23061                         "schema": {"$ref": "#/definitions/Conversion" }
23062                     }
23063                 }
23064             }
23065         }
23066     },
23067     "parameters": {
23068         "interface" : {
23069             "in" : "query",
23070             "name" : "if",
23071             "type" : "string",
23072             "enum" : ["oic.if.r", "oic.if.baseline"]
23073         }
23074     },
23075     "definitions": {
23076         "Conversion" : {
23077             "properties": {
23078                 "rt" : {
23079                     "description": "Resource Type",
23080                     "items": {
23081                         "maxLength": 64,
23082                         "type": "string",
23083                         "enum": ["oic.r.conversionfactor"]
23084                     },
23085                     "minItems": 1,
23086                     "readOnly": true,
23087                     "uniqueItems": true,
23088                     "type": "array"
23089                 },
23090                 "if" : {
23091                     "description": "The OCF Interfaces supported by this Resource",
23092                     "items": {
23093                         "enum": [
23094                             "oic.if.r",
23095                             "oic.if.baseline"
23096                         ],
23097                         "type": "string",
23098                         "maxLength": 64
23099                     },
23100                     "minItems": 2,
23101                     "readOnly": true,
23102                     "uniqueItems": true,
23103                     "type": "array"
23104                 },
23105                 "n": {
23106                     "$ref" :
23107 "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
23108 schema.json#/definitions/n"
23109                 },
23110                 "id": {
23111                     "$ref" :
23112 "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-

```

```

23113 schema.json#/definitions/id"
23114     },
23115     "conversion" : {
23116         "description": "Conversion factor to convert a volume of a fuel to energy consumption",
23117         "readOnly": true,
23118         "type": "number",
23119         "minimum": 0,
23120         "exclusiveMinimum": true
23121     },
23122     "precision" : {
23123         "description": "Accuracy granularity of the exposed value",
23124         "readOnly": true,
23125         "type": "number"
23126     }
23127 },
23128 "type" : "object",
23129 "required": ["conversion"]
23130 }
23131 }
23132 }
23133

```

23134 **6.117.5 Property definition**

23135 Table 237 defines the Properties that are part of the "oic.r.conversionfactor" Resource Type.

23136 **Table 237 – The Property definitions of the Resource with type "rt" =**
23137 **"oic.r.conversionfactor".**

Property name	Value type	Mandatory	Access mode	Description
rt	array: see schema	No	Read Only	Resource Type
if	array: see schema	No	Read Only	The OCF Interfaces supported by this Resource
n	multiple types: see schema	No	Read Write	
id	multiple types: see schema	No	Read Write	
conversion	number	Yes	Read Only	Conversion factor to convert a volume of a fuel to energy consumption
precision	number	No	Read Only	Accuracy granularity of the exposed value

23138 **6.117.6 CRUDN behaviour**

23139 Table 238 defines the CRUDN operations that are supported on the "oic.r.conversionfactor"
23140 Resource Type.

23141 **Table 238 – The CRUDN operations of the Resource with type "rt" =**
23142 **"oic.r.conversionfactor".**

Create	Read	Update	Delete	Notify
	get			observe

23143 **6.118 Gas Consumption**

23144 **6.118.1 Introduction**

23145 This Resource describes Properties associated with the energy associated with the consumption
23146 of natural gas

23147 The gas value is in kilowatt hours [kWh].

23148 The volume value is in metres cubed [m3].

23149 Provides the cumulative gas energy, the cumulative gas volume and the calorific value and
23150 conversion factor used/required to convert from gas volume (m3[TB1]) to gas energy (KWh).
23151

23152 **6.118.2 Example URI**

23153 /GasConsumptionResURI

23154 **6.118.3 Resource type**

23155 The Resource Type is defined as: "oic.r.gas.consumption".

23156 **6.118.4 OpenAPI 2.0 definition**

```
23157 {  
23158   "swagger": "2.0",  
23159   "info": {  
23160     "title": "Gas Consumption",  
23161     "version": "2019-03-18",  
23162     "license": {  
23163       "name": "OCF Data Model License",  
23164       "url": "https://openconnectivityfoundation.github.io/core/LICENSE.md",  
23165       "x-copyright": "Copyright 2019 Open Connectivity Foundation, Inc. All rights reserved."  
23166     },  
23167     "termsOfService": "https://openconnectivityfoundation.github.io/core/DISCLAIMER.md"  
23168   },  
23169   "schemes": ["http"],  
23170   "consumes": ["application/json"],  
23171   "produces": ["application/json"],  
23172   "paths": {  
23173     "/GasConsumptionResURI" : {  
23174       "get": {  
23175         "description": "This Resource describes Properties associated with the energy associated  
23176         with the consumption of natural gas\nThe gas value is in kilowatt hours [kWh].\nThe volume value is  
23177         in metres cubed [m3].\nProvides the cumulative gas energy, the cumulative gas volume and the  
23178         calorific value and conversion factor used/required to convert from gas volume (m3[TB1]) to gas  
23179         energy (KWh).\n",  
23180         "parameters": [  
23181           { "$ref": "#/parameters/interface" }  
23182         ],  
23183         "responses": {  
23184           "200": {  
23185             "description": "Success path response for the Resource",  
23186             "x-example": {  
23187               "rt": ["oic.r.gas.consumption"],  
23188               "gas": 11135.41,  
23189               "volume": 1000.0  
23190             },  
23191             "schema": { "$ref": "#/definitions/Consumption" }  
23192           }  
23193         }  
23194       }  
23195     }  
23196   },  
23197   "parameters": {  
23198     "interface" : {  
23199       "in" : "query",  
23200       "name" : "if",  
23201       "type" : "string",  
23202       "enum" : ["oic.if.s", "oic.if.baseline"]  
23203     }  
23204   },  
23205   "definitions": {  
23206     "Consumption" : {  
23207       "properties": {  
23208         "rt": {  
23209           "description": "Resource Type",  
23210           "items": {  
23211             "maxLength": 64,  
23212             "type": "string",  
23213             "enum": ["oic.r.gas.consumption"]
```

```

23214     },
23215     "minItems": 1,
23216     "uniqueItems": true,
23217     "readOnly": true,
23218     "type": "array"
23219   },
23220   "if": {
23221     "description": "The OCF Interfaces supported by this Resource",
23222     "items": {
23223       "enum": ["oic.if.r", "oic.if.baseline"],
23224       "type": "string"
23225     },
23226     "minItems": 1,
23227     "readOnly": true,
23228     "uniqueItems": true,
23229     "type": "array"
23230   },
23231   "n": {
23232     "$ref" :
23233     "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
23234     schema.json#/definitions/n"
23235   },
23236   "id": {
23237     "$ref" :
23238     "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
23239     schema.json#/definitions/id"
23240   },
23241   "gas" : {
23242     "description": "gas energy consumed in kWh",
23243     "readOnly": true,
23244     "type": "number",
23245     "minimum": 0
23246   },
23247   "precision" : {
23248     "description": "Accuracy granularity of the exposed value",
23249     "readOnly": true,
23250     "type": "number"
23251   },
23252   "volume" : {
23253     "description": "gas volume consumed in m3 (metres cubed)",
23254     "readOnly": true,
23255     "type": "number",
23256     "minimum": 0
23257   }
23258 },
23259 "type" : "object",
23260 "required": ["gas"]
23261 }
23262 }
23263 }
23264

```

23265 6.118.5 Property definition

23266 Table 239 defines the Properties that are part of the "oic.r.gas.consumption" Resource Type.

23267 **Table 239 – The Property definitions of the Resource with type "rt" =**
23268 **"oic.r.gas.consumption".**

Property name	Value type	Mandatory	Access mode	Description
rt	array: see schema	No	Read Only	Resource Type
if	array: see schema	No	Read Only	The OCF Interfaces supported by this Resource
n	multiple types: see schema	No	Read Write	
id	multiple types: see schema	No	Read Write	

gas	number	Yes	Read Only	gas energy consumed in kWh
precision	number	No	Read Only	Accuracy granularity of the exposed value
volume	number	No	Read Only	gas volume consumed in m3 (metres cubed)

23269 **6.118.6 CRUDN behaviour**

23270 Table 240 defines the CRUDN operations that are supported on the "oic.r.gas.consumption"
23271 Resource Type.

23272 **Table 240 – The CRUDN operations of the Resource with type "rt" =**
23273 **"oic.r.gas.consumption".**

Create	Read	Update	Delete	Notify
	get			observe

23274 **6.119 Gas Usage**

23275 **6.119.1 Introduction**

23276 This Resource describes a cumulative time-based gas usage query.

23277 The Resource is a Collection of:

- 23278 TimePeriod Resource
- 23279 Gas Consumption Resource

23280

23281 **6.119.2 Example URI**

23282 /GasUsageResURI

23283 **6.119.3 Resource type**

23284 The Resource Type is defined as: "oic.r.gas.usage".

23285 **6.119.4 OpenAPI 2.0 definition**

```

23286 {
23287   "swagger": "2.0",
23288   "info": {
23289     "title": "Gas Usage",
23290     "version": "2019-03-18",
23291     "license": {
23292       "name": "OCF Data Model License",
23293       "url": "https://openconnectivityfoundation.github.io/core/LICENSE.md",
23294       "x-copyright": "Copyright 2019 Open Connectivity Foundation, Inc. All rights reserved."
23295     },
23296     "termsOfService": "https://openconnectivityfoundation.github.io/core/DISCLAIMER.md"
23297   },
23298   "schemes": ["http"],
23299   "consumes": ["application/json"],
23300   "produces": ["application/json"],
23301   "paths": {
23302     "/GasUsageResURI?if=oic.if.ll" : {
23303       "get": {
23304         "description": "This Resource describes a cumulative time-based gas usage query.\nThe
23305 Resource is a Collection of:\n TimePeriod Resource\n Gas Consumption Resource\nThe Collection has
23306 a single instance of a Link per Resource Type.\n",
23307         "parameters": [
23308           {"$ref": "#/parameters/interface-all"}
23309         ],
23310         "responses": {
23311           "200": {
23312             "description": "Success path response for the Resource",
23313             "x-example":

```



```

23314     [
23315     {
23316         "href": "/TimeIntervalResURI",
23317         "rt": ["oic.r.time.period"],
23318         "if": ["oic.if.a","oic.if.baseline"],
23319         "eps": [{"ep": "coaps://[fe80::b1d6]:1122"}]
23320     },
23321     {
23322         "href": "/GasConsumptionResURI",
23323         "rt": ["oic.r.gas.consumption"],
23324         "if": ["oic.if.s","oic.if.baseline"],
23325         "eps": [{"ep": "coaps://[fe80::b1d6]:1122"}]
23326     }
23327 ],
23328 "schema": { "$ref": "#/definitions/links" }
23329 }
23330 }
23331 }
23332 },
23333 "/GasUsageResURI?if=oic.if.baseline" : {
23334 "get": {
23335 "description": "This Resource describes a cumulative time-based gas usage query.\nThe
23336 Resource is a Collection of:\n TimePeriod Resource\n Gas Consumption Resource\n",
23337 "parameters": [
23338 {"$ref": "#/parameters/interface-all"}
23339 ],
23340 "responses": {
23341 "200": {
23342 "description" : "Success path response for the Resource",
23343 "x-example":
23344 {
23345 "rt": ["oic.r.gas.usage"],
23346 "if": ["oic.if.ll","oic.if.b","oic.if.baseline"],
23347 "resources": [
23348 {
23349 "href": "/TimeIntervalResURI",
23350 "rt": ["oic.r.time.period"],
23351 "if": ["oic.if.a","oic.if.baseline"],
23352 "eps": [{"ep": "coaps://[fe80::b1d6]:1122"}]
23353 },
23354 {
23355 "href": "/GasConsumptionResURI",
23356 "rt": ["oic.r.gas.consumption"],
23357 "if": ["oic.if.s","oic.if.baseline"],
23358 "eps": [{"ep": "coaps://[fe80::b1d6]:1122"}]
23359 }
23360 ]
23361 },
23362 "schema": { "$ref": "#/definitions/Usage" }
23363 }
23364 }
23365 }
23366 },
23367 "/GasUsageResURI?if=oic.if.b" : {
23368 "get": {
23369 "description": "This Resource describes a cumulative time-based gas usage query.\nThe
23370 Resource is a Collection of:\n TimePeriod Resource\n Gas Consumption Resource\n",
23371 "parameters": [
23372 {"$ref": "#/parameters/interface-all"}
23373 ],
23374 "responses": {
23375 "200": {
23376 "description" : "Success path response for the Resource",
23377 "x-example":
23378 [
23379 {
23380 "href": "/TimeIntervalResURI",
23381 "rep": {
23382 "startTime": "2018-01-09T14:30Z",
23383 "stopTime": "2018-01-09T14:45Z"
23384 }
23385 }
23386 ],

```

```

23386         {
23387             "href": "/GasConsumptionResURI",
23388             "rep": {
23389                 "gas": 11135.41,
23390                 "volume": 1000.0
23391             }
23392         }
23393     ],
23394     "schema": { "$ref": "#/definitions/batch" }
23395 }
23396 },
23397 "post": {
23398     "description": "Sets the current time period. A Client may also post directly to the exposed
23399 URL for the Time Period Resource.\n",
23400     "x-method": ["optional"],
23401     "parameters": [
23402         {"$ref": "#/parameters/interface-b"},
23403         {
23404             "name": "body",
23405             "in": "body",
23406             "required": true,
23407             "schema": { "$ref": "#/definitions/batchupdate" },
23408             "x-example":
23409             [
23410                 {
23411                     "href": "/TimePeriodResURI",
23412                     "rep": {
23413                         "startTime": "2018-01-15T16:30Z",
23414                         "stopTime": "2018-01-16T16:30Z"
23415                     }
23416                 }
23417             ]
23418         }
23419     ],
23420     "responses": {
23421         "200": {
23422             "description": "Success path response code\n"
23423         }
23424     }
23425 },
23426 },
23427 },
23428 },
23429 "parameters": {
23430     "interface-all" : {
23431         "in" : "query",
23432         "name" : "if",
23433         "type" : "string",
23434         "enum" : ["oic.if.ll", "oic.if.b", "oic.if.baseline"]
23435     },
23436     "interface-b" : {
23437         "in" : "query",
23438         "name" : "if",
23439         "type" : "string",
23440         "enum" : ["oic.if.b"]
23441     }
23442 },
23443 "definitions": {
23444     "links": {
23445         "type": "array",
23446         "items": {
23447             "$ref": "#/definitions/oic.oic-link"
23448         },
23449         "minItems": 2,
23450         "maxItems": 4
23451     },
23452     "oic.oic-link": {
23453         "properties": {
23454             "if": {
23455                 "description": "The interface set supported by the Linked Resource",
23456                 "items": {
23457                     "enum": [

```

```

23458         "oic.if.baseline",
23459         "oic.if.a",
23460         "oic.if.s"
23461     ],
23462     "type": "string"
23463 },
23464 "minItems": 1,
23465 "uniqueItems": true,
23466 "readOnly": true,
23467 "type": "array"
23468 },
23469 "rt": {
23470     "description": "Resource Type of the linked Resource",
23471     "items": {
23472         "enum": [
23473             "oic.r.time.period",
23474             "oic.r.gas.consumption",
23475             "oic.r.conversionfactor",
23476             "oic.r.calorificvalue"
23477         ],
23478         "type": "string",
23479         "maxLength": 64
23480     },
23481     "minItems": 1,
23482     "uniqueItems": true,
23483     "readOnly": true,
23484     "type": "array"
23485 },
23486 "anchor": {
23487     "$ref":
23488     "https://openconnectivityfoundation.github.io/core/schemas/oic.links.properties.core-
23489     schema.json#/definitions/anchor"
23490 },
23491 "di": {
23492     "$ref":
23493     "https://openconnectivityfoundation.github.io/core/schemas/oic.links.properties.core-
23494     schema.json#/definitions/di"
23495 },
23496 "eps": {
23497     "$ref":
23498     "https://openconnectivityfoundation.github.io/core/schemas/oic.links.properties.core-
23499     schema.json#/definitions/eps"
23500 },
23501 "href": {
23502     "$ref":
23503     "https://openconnectivityfoundation.github.io/core/schemas/oic.links.properties.core-
23504     schema.json#/definitions/href"
23505 },
23506 "ins": {
23507     "$ref":
23508     "https://openconnectivityfoundation.github.io/core/schemas/oic.links.properties.core-
23509     schema.json#/definitions/ins"
23510 },
23511 "p": {
23512     "$ref":
23513     "https://openconnectivityfoundation.github.io/core/schemas/oic.links.properties.core-
23514     schema.json#/definitions/p"
23515 },
23516 "rel": {
23517     "$ref":
23518     "https://openconnectivityfoundation.github.io/core/schemas/oic.links.properties.core-
23519     schema.json#/definitions/rel_array"
23520 },
23521 "title": {
23522     "$ref":
23523     "https://openconnectivityfoundation.github.io/core/schemas/oic.links.properties.core-
23524     schema.json#/definitions/title"
23525 },
23526 "type": {
23527     "$ref":
23528     "https://openconnectivityfoundation.github.io/core/schemas/oic.links.properties.core-
23529     schema.json#/definitions/type"

```

```

23530     }
23531   },
23532   "required": [
23533     "href",
23534     "rt",
23535     "if"
23536   ],
23537   "type": "object"
23538 },
23539 "batch": {
23540   "title": "Collection Batch Retrieve Format",
23541   "minItems": 2,
23542   "maxItems": 4,
23543   "type": "array",
23544   "items": {
23545     "additionalProperties": true,
23546     "type": "object",
23547     "properties": {
23548       "href": {
23549         "$ref":
23550 "https://openconnectivityfoundation.github.io/core/schemas/oic.links.properties.core-
23551 schema.json#/definitions/href"
23552       },
23553       "rep": {
23554         "anyOf": [
23555           {
23556             "$ref":
23557 "https://openconnectivityfoundation.github.io/IoTDataModels/TimePeriodResURI.swagger.json#/definitio
23558 ns/TimePeriod"
23559           },
23560           {
23561             "$ref":
23562 "https://openconnectivityfoundation.github.io/IoTDataModels/GasConsumptionResURI.swagger.json#/defin
23563 itions/Consumption"
23564           },
23565           {
23566             "$ref":
23567 "https://openconnectivityfoundation.github.io/IoTDataModels/CalorificValueResURI.swagger.json#/defin
23568 itions/Calorific"
23569           },
23570           {
23571             "$ref":
23572 "https://openconnectivityfoundation.github.io/IoTDataModels/ConversionFactorResURI.swagger.json#/def
23573 initions/Conversion"
23574           }
23575         ]
23576       }
23577     },
23578     "required": ["href", "rep"]
23579   }
23580 },
23581 "batchupdate" : {
23582   "title": "Collection Batch Update Format",
23583   "minItems": 1,
23584   "type": "array",
23585   "items": {
23586     "additionalProperties": true,
23587     "type": "object",
23588     "properties": {
23589       "href": {
23590         "$ref":
23591 "https://openconnectivityfoundation.github.io/core/schemas/oic.links.properties.core-
23592 schema.json#/definitions/href"
23593       },
23594       "rep": {
23595         "$ref":
23596 "https://openconnectivityfoundation.github.io/IoTDataModels/TimePeriodResURI.swagger.json#/definitio
23597 ns/TimePeriod"
23598       }
23599     }
23600   }
23601 },

```

```

23602     "Usage" : {
23603         "properties": {
23604             "rt" : {
23605                 "description": "Resource Type",
23606                 "items": {
23607                     "type": "string",
23608                     "enum": ["oic.r.gas.usage"],
23609                     "maxLength": 64
23610                 },
23611                 "minItems": 1,
23612                 "readOnly": true,
23613                 "uniqueItems": true,
23614                 "type": "array"
23615             },
23616             "rts" : {
23617                 "description": "Allowed Resource Type",
23618                 "items": {
23619                     "type": "string",
23620                     "enum":
23621 ["oic.r.gas.consumption","oic.r.time.period","oic.r.calorificvalue","oic.r.conversionfactor"],
23622                     "maxLength": 64
23623                 },
23624                 "minItems": 2,
23625                 "readOnly": true,
23626                 "uniqueItems": true,
23627                 "type": "array"
23628             },
23629             "rts-m" : {
23630                 "description": "Mandatory Resource Type",
23631                 "items": {
23632                     "type": "string",
23633                     "enum": ["oic.r.gas.consumption","oic.r.time.period"],
23634                     "maxLength": 64
23635                 },
23636                 "minItems": 2,
23637                 "readOnly": true,
23638                 "uniqueItems": true,
23639                 "type": "array"
23640             },
23641             "n" : {
23642                 "$ref" :
23643 "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
23644 schema.json#/definitions/n"
23645             },
23646             "id" : {
23647                 "$ref" :
23648 "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
23649 schema.json#/definitions/id"
23650             },
23651             "resources" : {
23652                 "$ref": "#/definitions/links"
23653             },
23654             "if" : {
23655                 "description": "The interface set supported by this resource",
23656                 "items": {
23657                     "enum": [
23658                         "oic.if.ll",
23659                         "oic.if.b",
23660                         "oic.if.baseline"
23661                     ],
23662                     "type": "string",
23663                     "maxLength": 64
23664                 },
23665                 "minItems": 1,
23666                 "readOnly": true,
23667                 "uniqueItems": true,
23668                 "type": "array"
23669             }
23670         },
23671         "type" : "object",
23672         "required": ["resources"]
23673     }

```

23674 }
 23675 }
 23676 }

23677 **6.119.5 Property definition**

23678 Table 241 defines the Properties that are part of the "oic.r.gas.usage" Resource Type.

23679 **Table 241 – The Property definitions of the Resource with type "rt" = "oic.r.gas.usage".**

Property name	Value type	Mandatory	Access mode	Description
if	array: see schema	Yes	Read Only	The interface set supported by the Linked Resource
rt	array: see schema	Yes	Read Only	Resource Type of the linked Resource
anchor	multiple types: see schema	No	Read Write	
di	multiple types: see schema	No	Read Write	
eps	multiple types: see schema	No	Read Write	
href	multiple types: see schema	Yes	Read Write	
ins	multiple types: see schema	No	Read Write	
p	multiple types: see schema	No	Read Write	
rel	multiple types: see schema	No	Read Write	
title	multiple types: see schema	No	Read Write	
type	multiple types: see schema	No	Read Write	
href	multiple types: see schema	Yes	Read Write	
rep	multiple types: see schema	Yes	Read Write	
href	multiple types: see schema		Read Write	
rep	multiple types: see schema		Read Write	
rt	array: see schema	No	Read Only	Resource Type
rts	array: see schema	No	Read Only	Allowed Resource Type
rts-m	array: see schema	No	Read Only	Mandatory Resource Type
n	multiple types: see schema	No	Read Write	
id	multiple types: see schema	No	Read Write	
resources	multiple types: see schema	Yes	Read Write	

if	array: see schema	No	Read Only	The interface set supported by this resource
----	-------------------	----	-----------	--

23680 **6.119.6 CRUDN behaviour**

23681 Table 242 defines the CRUDN operations that are supported on the "oic.r.gas.usage" Resource
23682 Type.

23683 **Table 242 – The CRUDN operations of the Resource with type "rt" = "oic.r.gas.usage".**

Create	Read	Update	Delete	Notify
	get			observe

23684 **6.120 Impact Sensor**

23685 **6.120.1 Introduction**

23686 This Resource provides a status and properties of an impact sensor. Included is the current
23687 status (boolean), horizontal and vertical direction (in degrees) and impact level (g force).

23688 **6.120.2 Example URI**

23689 /ImpactSensorResURI

23690 **6.120.3 Resource type**

23691 The Resource Type is defined as: "oic.r.impactsensor".

23692 **6.120.4 OpenAPI 2.0 definition**

```

23693 {
23694   "swagger": "2.0",
23695   "info": {
23696     "title": "Impact Sensor",
23697     "version": "2019-03-21",
23698     "license": {
23699       "name": "OCF Data Model License",
23700       "url":
23701         "https://github.com/openconnectivityfoundation/core/blob/e28a9e0a92e17042ba3e83661e4c0fbce8bdc4ba/LI
23702         CENSE.md",
23703       "x-copyright": "copyright 2018-2019 Open Connectivity Foundation, Inc. All rights reserved."
23704     },
23705     "termsOfService": "https://openconnectivityfoundation.github.io/core/DISCLAIMER.md"
23706   },
23707   "schemes": ["http"],
23708   "consumes": ["application/json"],
23709   "produces": ["application/json"],
23710   "paths": {
23711     "/ImpactSensorResURI" : {
23712       "get": {
23713         "description": "This Resource provides a status and properties of an impact sensor. Included
23714         is the current status (boolean), horizontal and vertical direction (in degrees) and impact level (g
23715         force).",
23716         "parameters": [
23717           {"$ref": "#/parameters/interface"}
23718         ],
23719         "responses": {
23720           "200": {
23721             "description": "The success path response for the Resource.",
23722             "x-example":
23723               {
23724                 "rt": ["oic.r.impactsensor"],
23725                 "if": ["oic.if.s", "oic.if.baseline"],
23726                 "impactstatus": true,
23727                 "impactlevel": 2.25,
23728                 "impactdirectionhorizontal": 120.0,
23729                 "impactdirectionvertical": 240.0
23730               },
23731             "schema": { "$ref": "#/definitions/ImpactSensor" }

```

```

23732     }
23733   }
23734 }
23735 }
23736 },
23737 "parameters": {
23738   "interface": {
23739     "in": "query",
23740     "name": "if",
23741     "type": "string",
23742     "enum": ["oic.if.s", "oic.if.baseline"]
23743   }
23744 },
23745 "definitions": {
23746   "ImpactSensor": {
23747     "properties": {
23748       "rt": {
23749         "description": "The Resource Type.",
23750         "items": {
23751           "maxLength": 64,
23752           "type": "string",
23753           "enum": ["oic.r.impactsensor"]
23754         },
23755         "minItems": 1,
23756         "uniqueItems": true,
23757         "readOnly": true,
23758         "type": "array"
23759       },
23760       "impactstatus": {
23761         "type": "boolean",
23762         "readOnly": true,
23763         "description": "The \"impactstatus\" Property indicates the impact as: \"true\" A physical
23764 impact is detected, \"false\" Normal status, an impact is not detected."
23765       },
23766       "impactlevel": {
23767         "type": "number",
23768         "readOnly": true,
23769         "description": "The \"impactlevel\" Property provides the level of impact. The unit is in
23770 \"G\" (G-force)."
23771       },
23772       "impactdirectionhorizontal": {
23773         "type": "number",
23774         "readOnly": true,
23775         "description": "The \"impactdirectionhorizontal\" Property shows a horizontal direction
23776 where the impact comes from. The value is 0 to 360 degrees. 0 is the front of the sensor and
23777 clockwise increment.",
23778         "minimum": 0,
23779         "maximum": 360
23780       },
23781       "impactdirectionvertical": {
23782         "type": "number",
23783         "readOnly": true,
23784         "description": "The \"impactdirectionvertical\" Property shows a vertical direction where
23785 the impact comes from. The value is 0 to 360 degrees. 0 is the front of the sensor and upward
23786 increment.",
23787         "minimum": 0,
23788         "maximum": 360
23789       },
23790       "n": {
23791         "$ref":
23792 "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
23793 schema.json#/definitions/n"
23794       },
23795       "id": {
23796         "$ref":
23797 "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
23798 schema.json#/definitions/id"
23799       },
23800       "if": {
23801         "description": "The OCF Interface set supported by this Resource.",
23802         "items": {
23803         "enum": [

```



```

23804         "oic.if.s",
23805         "oic.if.baseline"
23806     ],
23807     "type": "string"
23808 },
23809     "minItems": 2,
23810     "uniqueItems": true,
23811     "readOnly": true,
23812     "type": "array"
23813 }
23814 },
23815     "type": "object",
23816     "required": [ "impactstatus" ]
23817 }
23818 }
23819 }
23820

```

23821 6.120.5 Property definition

23822 Table 243 defines the Properties that are part of the "oic.r.impactsensor" Resource Type.

23823 **Table 243 – The Property definitions of the Resource with type "rt" = "oic.r.impactsensor".**

Property name	Value type	Mandatory	Access mode	Description
rt	array: see schema	No	Read Only	The Resource Type.
impactstatus	boolean	Yes	Read Only	The "impactstatus" Property indicates the impact as: "true" A physical impact is detected, "false" Normal status, an impact is not detected.
impactlevel	number	No	Read Only	The "impactlevel" Property provides the level of impact. The unit is in "G" (G-force).
impactdirectionhorizontal	number	No	Read Only	The "impactdirectionhorizontal" Property shows a horizontal direction where the impact comes from. The value is 0 to 360 degrees. 0 is the front of the sensor and clockwise increment.
impactdirectionvertical	number	No	Read Only	The "impactdirectionvertical" Property shows a vertical direction where the impact comes from. The value is 0 to 360 degrees. 0 is the front of the sensor and upward increment.
n	multiple types: see schema	No	Read Write	
id	multiple types: see schema	No	Read Write	
if	array: see schema	No	Read Only	The OCF Interface set supported by this Resource.

23824 **6.120.6 CRUDN behaviour**

23825 Table 244 defines the CRUDN operations that are supported on the "oic.r.impactsensor" Resource
23826 Type.

23827 **Table 244 – The CRUDN operations of the Resource with type "rt" = "oic.r.impactsensor".**

Create	Read	Update	Delete	Notify
	get			observe

23828 **6.121 KeyPadChar**

23829 **6.121.1 Introduction**

23830 This Resource describes a char (0-9,*,#) which is selected on a number keypad.

23831 **6.121.2 Example URI**

23832 /KeyPadCharResURI

23833 **6.121.3 Resource type**

23834 The Resource Type is defined as: "oic.r.keypadchar".

23835 **6.121.4 OpenAPI 2.0 definition**

```

23836 {
23837   "swagger": "2.0",
23838   "info": {
23839     "title": "KeyPadChar",
23840     "version": "12122018",
23841     "license": {
23842       "name": "OCF Data Model License",
23843       "url":
23844         "https://github.com/openconnectivityfoundation/core/blob/e28a9e0a92e17042ba3e83661e4c0fbce8bdc4ba/LI
23845         CENSE.md",
23846       "x-copyright": "copyright 2018-2019 Open Connectivity Foundation, Inc. All rights reserved."
23847     },
23848     "termsOfService": "https://openconnectivityfoundation.github.io/core/DISCLAIMER.md"
23849   },
23850   "schemes": ["http"],
23851   "consumes": ["application/json"],
23852   "produces": ["application/json"],
23853   "paths": {
23854     "/KeyPadCharResURI" : {
23855       "get": {
23856         "description": "This Resource describes a char (0-9,*,#) which is selected on a number
23857 keypad.",
23858         "parameters": [
23859           {"$ref": "#/parameters/interface"}
23860         ],
23861         "responses": {
23862           "200": {
23863             "description": "Success path response for the Resource",
23864             "x-example":
23865               {
23866                 "rt": ["oic.r.keypadchar"],
23867                 "if": ["oic.if.rw", "oic.if.baseline"],
23868                 "keyvalue": "7"
23869               },
23870             "schema": { "$ref": "#/definitions/KeyPadChar" }
23871           }
23872         }
23873       },
23874       "post": {
23875         "description": "This Resource describes a char (0-9, *, #) which is selected on a number
23876 keypad.\n",
23877         "parameters": [
23878           {"$ref": "#/parameters/interface"},
23879           {

```

```

23880         "name": "body",
23881         "in": "body",
23882         "required": true,
23883         "schema": { "$ref": "#/definitions/KeyPadChar" },
23884         "x-example":
23885             {
23886                 "keyvalue": "4"
23887             }
23888     },
23889     ],
23890     "responses": {
23891         "200": {
23892             "description": "",
23893             "x-example":
23894                 {
23895                     "keyvalue": "4"
23896                 },
23897             "schema": { "$ref": "#/definitions/KeyPadChar" }
23898         }
23899     }
23900 }
23901 },
23902 },
23903 "parameters": {
23904     "interface": {
23905         "in": "query",
23906         "name": "if",
23907         "type": "string",
23908         "enum": ["oic.if.rw", "oic.if.baseline"]
23909     }
23910 },
23911 "definitions": {
23912     "KeyPadChar": {
23913         "properties": {
23914             "rt": {
23915                 "description": "The Resource Type.",
23916                 "items": {
23917                     "maxLength": 64,
23918                     "type": "string",
23919                     "enum": ["oic.r.keypadchar"]
23920                 },
23921                 "minItems": 1,
23922                 "uniqueItems": true,
23923                 "readOnly": true,
23924                 "type": "array"
23925             },
23926             "keyvalue": {
23927                 "type": "string",
23928                 "enum": [
23929                     "0",
23930                     "1",
23931                     "2",
23932                     "3",
23933                     "4",
23934                     "5",
23935                     "6",
23936                     "7",
23937                     "8",
23938                     "9",
23939                     "*",
23940                     "#"
23941                 ],
23942                 "description": "The value of the key pad char."
23943             },
23944             "n": {
23945                 "$ref":
23946                 "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
23947                 schema.json#/definitions/n"
23948             },
23949             "id": {
23950                 "$ref":
23951                 "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-

```

```

23952 schema.json#/definitions/id"
23953     },
23954     "if": {
23955       "description": "The OCF Interface set supported by this Resource.",
23956       "items": {
23957         "enum": [
23958           "oic.if.baseline",
23959           "oic.if.rw"
23960         ],
23961         "type": "string"
23962       },
23963       "minItems": 2,
23964       "uniqueItems": true,
23965       "readOnly": true,
23966       "type": "array"
23967     }
23968   },
23969   "type": "object",
23970   "required": ["keyvalue"]
23971 }
23972 }
23973 }

```

23974 6.121.5 Property definition

23975 Table 245 defines the Properties that are part of the "oic.r.keypadchar" Resource Type.

23976 **Table 245 – The Property definitions of the Resource with type "rt" = "oic.r.keypadchar".**

Property name	Value type	Mandatory	Access mode	Description
rt	array: see schema	No	Read Only	The Resource Type.
keyvalue	string	Yes	Read Write	The value of the key pad char.
n	multiple types: see schema	No	Read Write	
id	multiple types: see schema	No	Read Write	
if	array: see schema	No	Read Only	The OCF Interface set supported by this Resource.

23977 6.121.6 CRUDN behaviour

23978 Table 246 defines the CRUDN operations that are supported on the "oic.r.keypadchar" Resource
 23979 Type.

23980 **Table 246 – The CRUDN operations of the Resource with type "rt" = "oic.r.keypadchar".**

Create	Read	Update	Delete	Notify
	get	post		observe

23981 6.122 Opaque Data

23982 6.122.1 Introduction

23983 This Resource defines opaque data that can be transferred between endpoints where the data
 23984 itself is not interpretable by the OCF endpoints.
 23985 The stringdata is a string of ASCII characters.

23986 6.122.2 Example URI

23987 /OpaqueDataResURI

23988 **6.122.3 Resource type**

23989 The Resource Type is defined as: "oic.r.opaquedata".

23990 **6.122.4 OpenAPI 2.0 definition**

```
23991 {
23992   "swagger": "2.0",
23993   "info": {
23994     "title": "Opaque Data",
23995     "version": "12122018",
23996     "license": {
23997       "name": "OCF Data Model License",
23998       "url":
23999 "https://github.com/openconnectivityfoundation/core/blob/e28a9e0a92e17042ba3e83661e4c0fbce8bdc4ba/LI
24000 CENSE.md",
24001       "x-copyright": "copyright 2018-2019 Open Connectivity Foundation, Inc. All rights reserved."
24002     },
24003     "termsOfService": "https://openconnectivityfoundation.github.io/core/DISCLAIMER.md"
24004   },
24005   "schemes": ["http"],
24006   "consumes": ["application/json"],
24007   "produces": ["application/json"],
24008   "paths": {
24009     "/OpaqueDataResURI" : {
24010       "get": {
24011         "description": "This Resource defines opaque data that can be transferred between endpoints
24012 where the data itself is not interpretable by the OCF endpoints.\n\nThe stringdata is a string of
24013 ASCII characters.",
24014         "parameters": [
24015           { "$ref": "#/parameters/interface" }
24016         ],
24017         "responses": {
24018           "200": {
24019             "description": "",
24020             "x-example":
24021             {
24022               "rt": ["oic.r.opaquedata"],
24023               "if": ["oic.if.rw", "oic.if.baseline"],
24024               "payload": "asdf0123",
24025               "payloadtype": "switch-get",
24026               "encoding": "base64",
24027               "size": 8,
24028               "hash": "AlA1",
24029               "system": "foreign system"
24030             },
24031             "schema": { "$ref": "#/definitions/OpaqueData" }
24032           }
24033         }
24034       },
24035       "post": {
24036         "description": "",
24037         "parameters": [
24038           { "$ref": "#/parameters/interface" },
24039           {
24040             "name": "body",
24041             "in": "body",
24042             "required": true,
24043             "schema": { "$ref": "#/definitions/OpaqueData" },
24044             "x-example":
24045             {
24046               "payload": "asdf0123",
24047               "payloadtype": "switch-get",
24048               "encoding": "base64",
24049               "size": 8,
24050               "hash": "AlA1",
24051               "system": "foreign system"
24052             }
24053           }
24054         ],
24055         "responses": {
24056           "200": {
```

```

24057         "description" : "",
24058         "x-example":
24059             {
24060                 "payload": "asdf0123",
24061                 "payloadtype": "switch-get",
24062                 "encoding": "base64",
24063                 "size": 8,
24064                 "hash": "AlAl",
24065                 "system": "foreign system"
24066             },
24067         "schema": { "$ref": "#/definitions/OpaqueData" }
24068     }
24069 }
24070 }
24071 }
24072 },
24073 "parameters": {
24074     "interface": {
24075         "in": "query",
24076         "name": "if",
24077         "type": "string",
24078         "enum": ["oic.if.rw", "oic.if.baseline"]
24079     },
24080 },
24081 "definitions": {
24082     "OpaqueData" : {
24083         "properties": {
24084             "rt": {
24085                 "description": "The Resource Type.",
24086                 "items": {
24087                     "maxLength": 64,
24088                     "type": "string",
24089                     "enum": ["oic.r.opaquedata"]
24090                 },
24091                 "minItems": 1,
24092                 "uniqueItems": true,
24093                 "readOnly": true,
24094                 "type": "array"
24095             },
24096             "payload": {
24097                 "type": "string",
24098                 "description": "This Property contains the opaque data."
24099             },
24100             "encoding": {
24101                 "type": "string",
24102                 "description": "This Property describes the encoding of the payload, e.g. binary as
24103 base64, json, xml, utf-8."
24104             },
24105             "payloadtype": {
24106                 "type": "string",
24107                 "description": "This Property describes the identification of the payload, e.g. what the
24108 payload is representing ."
24109             },
24110             "size": {
24111                 "type": "integer",
24112                 "description": "The size in bytes of the decoded binary object."
24113             },
24114             "hash": {
24115                 "type": "string",
24116                 "description": "The hash code of the blob. If present, it is used to check the decoded
24117 content of the object data point for integrity. The algorithm used for generating the hash value is
24118 SHA-2 [15]. The data point contains the hash as a hex encoded value."
24119             },
24120             "system": {
24121                 "type": "string",
24122                 "description": "The eco system that is using the payload."
24123             },
24124             "if": {
24125                 "description": "The OCF Interface set supported by this Resource.",
24126                 "items": {
24127                     "enum": [
24128                         "oic.if.baseline",

```

```

24129         "oic.if.rw"
24130     ],
24131     "type": "string"
24132 },
24133     "minItems": 2,
24134     "uniqueItems": true,
24135     "readOnly": true,
24136     "type": "array"
24137 }
24138 },
24139     "type": "object",
24140     "required": [ "payload", "encoding", "system" ]
24141 }
24142 }
24143 }
24144

```

24145 6.122.5 Property definition

24146 Table 247 defines the Properties that are part of the "oic.r.opaquedata" Resource Type.

24147 **Table 247 – The Property definitions of the Resource with type "rt" = "oic.r.opaquedata".**

Property name	Value type	Mandatory	Access mode	Description
rt	array: see schema	No	Read Only	The Resource Type.
payload	string	Yes	Read Write	This Property contains the opaque data.
encoding	string	Yes	Read Write	This Property describes the encoding of the payload, e.g. binary as base64, json, xml, utf-8.
payloadtype	string	No	Read Write	This Property describes the identification of the payload, e.g. what the payload is representing .
size	integer	No	Read Write	The size in bytes of the decoded binary object.
hash	string	No	Read Write	The hash code of the blob. If present, it is used to check the decoded content of the object data point for integrity. The algorithm used for generating the hash value is SHA-2 [15]. The data point contains the hash as a hex encoded value.
system	string	Yes	Read Write	The eco system that is using the payload.
if	array: see schema	No	Read Only	The OCF Interface set supported by this Resource.

24148 **6.122.6 CRUDN behaviour**

24149 Table 248 defines the CRUDN operations that are supported on the "oic.r.opaquedata" Resource
24150 Type.

24151 **Table 248 – The CRUDN operations of the Resource with type "rt" = "oic.r.opaquedata".**

Create	Read	Update	Delete	Notify
	get	post		observe

24152 **6.123 User Info for Application Layer**

24153 **6.123.1 Introduction**

24154 This Resource defines credentials for user to application layer login. This does not relate to OCF
24155 Device to Device or Device to Cloud authentication. The username, password and token are
24156 strings.

24157 **6.123.2 Example URI**

24158 /UserInfoResURI

24159 **6.123.3 Resource type**

24160 The Resource Type is defined as: "oic.r.userinfo".

24161 **6.123.4 OpenAPI 2.0 definition**

```

24162 {
24163   "swagger": "2.0",
24164   "info": {
24165     "title": "User Info for Application Layer",
24166     "version": "12122018",
24167     "license": {
24168       "name": "OCF Data Model License",
24169       "url":
24170 "https://github.com/openconnectivityfoundation/core/blob/e28a9e0a92e17042ba3e83661e4c0fbce8bdc4ba/LI
24171 CENSE.md",
24172       "x-copyright": "copyright 2018-2019 Open Connectivity Foundation, Inc. All rights reserved."
24173     },
24174     "termsOfService": "https://openconnectivityfoundation.github.io/core/DISCLAIMER.md"
24175   },
24176   "schemes": ["http"],
24177   "consumes": ["application/json"],
24178   "produces": ["application/json"],
24179   "paths": {
24180     "/UserInfoResURI" : {
24181       "get": {
24182         "description": "This Resource defines credentials for user to application layer login. This
24183 does not relate to OCF Device to Device or Device to Cloud authentication. The username, password
24184 and token are strings.",
24185         "parameters": [
24186           {"$ref": "#/parameters/interface"}
24187         ],
24188         "responses": {
24189           "200": {
24190             "description": "Success path response for the Resource, note that the info supplied
24191 is NOT returned on RETRIEVE",
24192             "x-example":
24193               {
24194                 "rt": ["oic.r.userinfo"],
24195                 "if": ["oic.if.rw", "oic.if.baseline"]
24196               },
24197             "schema": { "$ref": "#/definitions/UserInfo-retrieve" }
24198           }
24199         }
24200       },
24201       "post": {
24202         "description": "This Resource defines credentials for user to application layer login. This
24203 does not relate to OCF Device to Device or Device to Cloud authentication. The username, password

```



```

24204 and token are strings.",
24205     "parameters": [
24206         {"$ref": "#/parameters/interface"},
24207         {
24208             "name": "body",
24209             "in": "body",
24210             "required": true,
24211             "schema": { "$ref": "#/definitions/UserInfo-update" },
24212             "x-example":
24213                 {
24214                     "username": "username",
24215                     "password": "password",
24216                     "token": "AlAl"
24217                 }
24218         }
24219     ],
24220     "responses": {
24221         "200": {
24222             "description": "The success path response for the Resource.",
24223             "x-example":
24224                 {
24225                     "username": "username",
24226                     "password": "password",
24227                     "token": "AlAl"
24228                 },
24229             "schema": { "$ref": "#/definitions/UserInfo-update" }
24230         }
24231     }
24232 },
24233 },
24234 },
24235 "parameters": {
24236     "interface" : {
24237         "in": "query",
24238         "name": "if",
24239         "type": "string",
24240         "enum": ["oic.if.rw", "oic.if.baseline"]
24241     }
24242 },
24243 "definitions": {
24244     "UserInfo-retrieve": {
24245         "properties": {
24246             "rt": {
24247                 "description": "The Resource Type.",
24248                 "items": {
24249                     "maxLength": 64,
24250                     "type": "string",
24251                     "enum": ["oic.r.userinfo"]
24252                 },
24253                 "minItems": 1,
24254                 "uniqueItems": true,
24255                 "readOnly": true,
24256                 "type": "array"
24257             },
24258             "n": {
24259                 "$ref":
24260                 "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
24261                 schema.json#/definitions/n"
24262             },
24263             "id": {
24264                 "$ref":
24265                 "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
24266                 schema.json#/definitions/id"
24267             },
24268             "if": {
24269                 "description": "The OCF Interface set supported by this Resource.",
24270                 "items": {
24271                     "enum": [
24272                         "oic.if.rw",
24273                         "oic.if.baseline"
24274                     ],
24275                     "type": "string"

```

```

24276     },
24277     "minItems": 2,
24278     "uniqueItems": true,
24279     "readOnly": true,
24280     "type": "array"
24281   }
24282 },
24283 "type": "object",
24284 "required": [ ]
24285 },
24286 "UserInfo-update": {
24287   "properties": {
24288     "username": {
24289       "type": "string",
24290       "description": "Login name."
24291     },
24292     "password": {
24293       "type": "string",
24294       "description": "Login password."
24295     },
24296     "token": {
24297       "type": "string",
24298       "description": "Authentication token."
24299     }
24300   },
24301   "type": "object",
24302   "required": [ ]
24303 }
24304 }
24305 }
24306

```

24307 **6.123.5 Property definition**

24308 Table 249 defines the Properties that are part of the "oic.r.userinfo" Resource Type.

24309 **Table 249 – The Property definitions of the Resource with type "rt" = "oic.r.userinfo".**

Property name	Value type	Mandatory	Access mode	Description
rt	array: see schema	No	Read Only	The Resource Type.
n	multiple types: see schema	No	Read Write	
id	multiple types: see schema	No	Read Write	
if	array: see schema	No	Read Only	The OCF Interface set supported by this Resource.
username	string	No	Read Write	Login name.
password	string	No	Read Write	Login password.
token	string	No	Read Write	Authentication token.

24310 **6.123.6 CRUDN behaviour**

24311 Table 250 defines the CRUDN operations that are supported on the "oic.r.userinfo" Resource Type.

24312 **Table 250 – The CRUDN operations of the Resource with type "rt" = "oic.r.userinfo".**

Create	Read	Update	Delete	Notify
	get	post		observe

24313 6.124 IAS Zone Info

24314 6.124.1 Introduction

24315 This Resource describes information associated with an Intruder Alert System (IAS) Zone.

24316 Zone Type provides the information about the type of device/alarm.

24317 Zone Status provides an array which has 10 items representing various status information(e.g.,
24318 battery status, mode, alarm (Up to two), supervision of IAS network, etc.

24319 A Device implementing this Resource can be enrolled to IAS Control and Indicator Equipment
24320 (CIE). IAS CIE can allocate an ID for the Device and update this Resource on the Device.

24321 This Resource may provide multiple sensitivity levels (>2).

24322 NumberofZoneSensitivityLevelSupported provides the number of the levels. A specific level can
24323 be selected as currentzonesensitivityLevel.

24324 6.124.2 Example URI

24325 /IASZoneInfoResURI

24326 6.124.3 Resource type

24327 The Resource Type is defined as: "oic.r.iaszoneinfo".

24328 6.124.4 OpenAPI 2.0 definition

```
24329 {
24330   "swagger": "2.0",
24331   "info": {
24332     "title": "IAS Zone Info",
24333     "version": "20190513",
24334     "license": {
24335       "name": "OCF Data Model License",
24336       "url":
24337         "https://github.com/openconnectivityfoundation/core/blob/e28a9e0a92e17042ba3e83661e4c0fbce8bdc4ba/LI
24338         CENSE.md",
24339       "x-copyright": "Copyright 2019 Open Connectivity Foundation, Inc. All rights reserved."
24340     },
24341     "termsOfService": "https://openconnectivityfoundation.github.io/core/DISCLAIMER.md"
24342   },
24343   "schemes": ["http"],
24344   "consumes": ["application/json"],
24345   "produces": ["application/json"],
24346   "paths": {
24347     "/IASZoneInfoResURI" : {
24348       "get": {
24349         "description": "This Resource describes information associated with an Intruder Alert System
24350         (IAS) Zone.\nZone Type provides the information about the type of device/alarm.\nZone Status
24351         provides an array which has 10 items representing various status information(e.g., battery status,
24352         mode, alarm (Up to two), supervision of IAS network, etc.\nA Device implementing this Resource can
24353         be enrolled to IAS Control and Indicator Equipment (CIE). IAS CIE can allocate an ID for the Device
24354         and update this Resource on the Device.\nThis Resource may provide multiple sensitivity levels (>2).
24355         NumberofZoneSensitivityLevelSupported provides the number of the levels. A specific level can be
24356         selected as currentzonesensitivityLevel.",
24357         "parameters": [
24358           {"$ref": "#/parameters/interface-all"}
24359         ],
24360         "responses": {
24361           "200": {
24362             "description" : "",
24363             "x-example":
24364               {
24365                 "rt": ["oic.r.iaszoneinfo"],
24366                 "zonetype": "motionsensor",
24367                 "zonestatus": {
24368                   "alarms": ["presence"],
24369                   "tamper": false,
24370                   "zonestatusreports": "statuschangeonly",
24371                   "fault": false,
24372                   "test": false
24373                 },
24374                 "iascieaddress": "ACDE9F56A3FE6B98",
```

```

24375         "zonestate": true,
24376         "zoneid": 64,
24377         "numzonesensitivitylevel": 3,
24378         "currentzonesensitivitylevel": 2
24379     },
24380     "schema": { "$ref": "#/definitions/IASZoneInfo" }
24381 }
24382 },
24383 },
24384 "post": {
24385     "description": "Sets the current sensitivity level of the IASZone.\n",
24386     "parameters": [
24387         { "$ref": "#/parameters/interface-rw" },
24388         {
24389             "name": "body",
24390             "in": "body",
24391             "required": true,
24392             "schema": { "$ref": "#/definitions/IASZoneInfo-Update" },
24393             "x-example":
24394                 {
24395                     "currentzonesensitivitylevel": 3
24396                 }
24397         }
24398     ],
24399     "responses": {
24400         "200": {
24401             "description": "Success path response code\n"
24402         }
24403     }
24404 },
24405 },
24406 },
24407 "parameters": {
24408     "interface-all" : {
24409         "in" : "query",
24410         "name" : "if",
24411         "type" : "string",
24412         "enum" : ["oic.if.rw", "oic.if.baseline"]
24413     },
24414     "interface-rw" : {
24415         "in" : "query",
24416         "name" : "if",
24417         "type" : "string",
24418         "enum" : ["oic.if.rw"]
24419     }
24420 },
24421 "definitions": {
24422     "IASZoneInfo" : {
24423         "properties": {
24424             "rt" : {
24425                 "description": "Resource Type",
24426                 "items": {
24427                     "type": "string",
24428                     "enum": ["oic.r.iaszoneinfo"]
24429                 },
24430                 "minItems": 1,
24431                 "readOnly": true,
24432                 "type": "array"
24433             },
24434             "zonestate" : {
24435                 "description": "The IAS zone state. True = enrolled, False = not enrolled.",
24436                 "readOnly": true,
24437                 "type": "boolean"
24438             },
24439             "zonestatus" : {
24440                 "description": "Set of alarm indicators.",
24441                 "properties": {
24442                     "alarms": {
24443                         "type": "array",
24444                         "description": "Array of alarms. The alarms exposed are dependent on the zonetype.",
24445                         "readOnly": true,
24446                         "minItems": 1,

```

```

24447         "maxItems": 2,
24448         "items": {
24449             "type": "string",
24450             "enum":
24451 ["system", "intrusion", "presence", "1stportalopenclose", "2ndportalopenclose", "fire", "wateroverflow", "C
24452 O", "cooking", "fall", "emergencybutton", "movement", "vibration", "panic", "emergency", "glassbreak"]
24453         },
24454     },
24455     "zonestatusreports": {
24456         "description": "Controls the generation of status indications",
24457         "type": "string",
24458         "enum": ["none", "statuschangeonly", "alarmclearonly", "statuschangeandalarmclear"]
24459     },
24460     "tamper": {
24461         "description": "Tamper status. True = tampered, False = not tampered.",
24462         "readOnly": true,
24463         "type": "boolean"
24464     },
24465     "test": {
24466         "description": "Test mode indicator. True = sensor is in test mode, False = sensor is
24467 in operational mode",
24468         "readOnly": true,
24469         "type": "boolean"
24470     },
24471     "fault": {
24472         "description": "Fault indicator. True = fault detected, False = no fault detected",
24473         "readOnly": true,
24474         "type": "boolean"
24475     }
24476 },
24477 "readOnly": true,
24478 "type": "object"
24479 },
24480 "numzonesensitivitylevel" : {
24481     "description": "Number of supported zone sensitivity levels",
24482     "minimum": 2,
24483     "readOnly": true,
24484     "type": "integer"
24485 },
24486 "zoneid" : {
24487     "description": "ID allocated by the IAS CIE",
24488     "readOnly": true,
24489     "type": "integer"
24490 },
24491 "iascieaddress" : {
24492     "description": "EUI-64 Address of the enrolled IAS Control and Indicating Equipment
24493 (CIE)",
24494     "readOnly": true,
24495     "type": "string"
24496 },
24497 "zonetype" : {
24498     "description": "IAS zone type. See OCF enumeration map for set of valid values.",
24499     "readOnly": true,
24500     "type": "string"
24501 },
24502 "currentzonesensitivitylevel" : {
24503     "description": "Current zone sensitivity level",
24504     "minimum": 0,
24505     "type": "integer"
24506 },
24507 "n": {
24508     "$ref":
24509 "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
24510 schema.json#/definitions/n"
24511 },
24512 "id": {
24513     "$ref":
24514 "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
24515 schema.json#/definitions/id"
24516 },
24517 "if" : {
24518     "description": "The OCF Interface set supported by this Resource",

```

```

24519         "items": {
24520             "enum": [
24521                 "oic.if.rw",
24522                 "oic.if.baseline"
24523             ],
24524             "type": "string"
24525         },
24526         "minItems": 2,
24527         "maxItems": 2,
24528         "readOnly": true,
24529         "type": "array"
24530     }
24531 },
24532     "required": ["zonetype", "zonestate", "zonestatus", "zoneid", "iascieaddress"]
24533 },
24534     "IASZoneInfo-Update" : {
24535         "properties": {
24536             "currentzonesensitivitylevel" : {
24537                 "description": "Current zone sensitivity level, Client can only set 1 or higher.",
24538                 "minimum": 1,
24539                 "type": "integer"
24540             }
24541         },
24542         "required": ["currentzonesensitivitylevel"]
24543     }
24544 }
24545 }
24546

```

6.124.5 Property definition

Table 251 defines the Properties that are part of the "oic.r.iaszoneinfo" Resource Type.

Table 251 – The Property definitions of the Resource with type "rt" = "oic.r.iaszoneinfo".

Property name	Value type	Mandatory	Access mode	Description
rt	array: see schema	No	Read Only	Resource Type
zonestate	boolean	Yes	Read Only	The IAS zone state. True = enrolled, False = not enrolled.
zonestatus	object: see schema	Yes	Read Only	Set of alarm indicators.
numzonesensitivitylevel	integer	No	Read Only	Number of supported zone sensitivity levels
zoneid	integer	Yes	Read Only	ID allocated by the IAS CIE
iascieaddress	string	Yes	Read Only	EUI-64 Address of the enrolled IAS Control and Indicating Equipment (CIE)
zonetype	string	Yes	Read Only	IAS zone type. See OCF enumeration map for set of valid values.
currentzonesensitivitylevel	integer	No	Read Write	Current zone sensitivity level
n	multiple types: see schema	No	Read Write	
id	multiple types: see schema	No	Read Write	

if	array: see schema	No	Read Only	The OCF Interface set supported by this Resource
currentzonesensitivitylevel	integer	Yes	Read Write	Current zone sensitivity level, Client can only set 1 or higher.

24550 **6.124.6 CRUDN behaviour**

24551 Table 252 defines the CRUDN operations that are supported on the "oic.r.iaszoneinfo" Resource
24552 Type.

24553 **Table 252 – The CRUDN operations of the Resource with type "rt" = "oic.r.iaszoneinfo".**

Create	Read	Update	Delete	Notify
	get	post		observe

24554 **6.125 IAS Zone Collection**

24555 **6.125.1 Introduction**

24556

24557 **6.125.2 Example URI**

24558 /IASZoneCollectionResURI

24559 **6.125.3 Resource type**

24560 **6.125.4 OpenAPI 2.0 definition**

```

24561 {
24562   "swagger": "2.0",
24563   "info": {
24564     "title": "IAS Zone Collection",
24565     "version": "20190513",
24566     "license": {
24567       "name": "OCF Data Model License",
24568       "url":
24569         "https://github.com/openconnectivityfoundation/core/blob/e28a9e0a92e17042ba3e83661e4c0fbce8bdc4ba/LI
24570 CENSE.md",
24571       "x-copyright": "Copyright 2019 Open Connectivity Foundation, Inc. All rights reserved."
24572     },
24573     "termsOfService": "https://openconnectivityfoundation.github.io/core/DISCLAIMER.md"
24574   },
24575   "schemes": ["http"],
24576   "consumes": ["application/json"],
24577   "produces": ["application/json"],
24578   "paths": {
24579     "/IASZoneResURI?if=oic.if.baseline" : {
24580       "get": {
24581         "description": "This Resource is Collection that fully describes an Intruder Alert System
24582 (IAS) Zone. It is made up of an instance of IAS Zone Info, Battery, and Power Source.",
24583         "parameters": [
24584           { "$ref": "#/parameters/interface-baseline" }
24585         ],
24586         "responses": {
24587           "200": {
24588             "description" : "",
24589             "schema": { "$ref": "#/definitions/baseline" },
24590             "x-example":
24591               {
24592                 "rt": ["oic.r.iaszone"],
24593                 "if": ["oic.if.ll", "oic.if.b", "oic.if.baseline"],
24594                 "links": [
24595                   {
24596                     "href": "/myIASZoneInfoResURI",
24597                     "rt": ["oic.r.iaszoneinfo"],

```

```

24598         "if": ["oic.if.rw", "oic.if.baseline"]
24599     },
24600     {
24601         "href": "/myBatteryResURI",
24602         "rt": ["oic.r.energy.battery"],
24603         "if": ["oic.if.rw", "oic.if.baseline"]
24604     },
24605     {
24606         "href": "/myPowersourceResURI",
24607         "rt": ["oic.r.powersource"],
24608         "if": ["oic.if.r", "oic.if.baseline"]
24609     }
24610 ]
24611 }
24612 }
24613 }
24614 }
24615 },
24616 "/IASZoneResURI?if=oic.if.ll" : {
24617     "get": {
24618         "description": "This Resource is Collection that fully describes an Intruder Alert System
24619 (IAS) Zone. It is made up of an instance of IAS Zone Info, Battery, and Power Source.",
24620         "parameters": [
24621             {"$ref": "#/parameters/interface-ll"}
24622         ],
24623         "responses": {
24624             "200": {
24625                 "description": "",
24626                 "schema": {"$ref": "#/definitions/links"},
24627                 "x-example":
24628                 [
24629                     {
24630                         "href": "/myIASZoneInfoResURI",
24631                         "rt": ["oic.r.iaszoneinfo"],
24632                         "if": ["oic.if.rw", "oic.if.baseline"]
24633                     },
24634                     {
24635                         "href": "/myBatteryResURI",
24636                         "rt": ["oic.r.energy.battery"],
24637                         "if": ["oic.if.rw", "oic.if.baseline"]
24638                     },
24639                     {
24640                         "href": "/myPowersourceResURI",
24641                         "rt": ["oic.r.powersource"],
24642                         "if": ["oic.if.r", "oic.if.baseline"]
24643                     }
24644                 ]
24645             }
24646         }
24647     },
24648     "/IASZoneResURI?if=oic.if.b" : {
24649         "get": {
24650             "description": "This Resource is Collection that fully describes an Intruder Alert System
24651 (IAS) Zone. It is made up of an instance of IAS Zone Info, Battery, and Power Source.",
24652             "parameters": [
24653                 {"$ref": "#/parameters/interface-b"}
24654             ],
24655             "responses": {
24656                 "200": {
24657                     "description": "",
24658                     "schema": {"$ref": "#/definitions/IASZoneCollectionBatch-Retrieve" },
24659                     "x-example":
24660                     [
24661                         {
24662                             "href": "/myIASZoneInfoResURI",
24663                             "rep": {
24664                                 "zonetype": "motionsensor",
24665                                 "zonestatus": {
24666                                     "alarms": ["presence"],
24667                                     "tamper": false,
24668                                     "zonestatusreports": "statuschangeonly",

```



```

24670         "fault": false,
24671         "test": false
24672     },
24673     "iascieaddress": "ACDE9F56A3FE6B98",
24674     "zonestate": true,
24675     "zoneid": 64,
24676     "numzonesensitivitylevel": 3,
24677     "currentzonesensitivitylevel": 2
24678 }
24679 },
24680 {
24681     "href": "/myBatteryResURI",
24682     "rep": {
24683         "charge": 70,
24684         "defect": false
24685     }
24686 },
24687 {
24688     "href": "/myPowersourceResURI",
24689     "rep": {
24690         "powerSources": ["AC (Mains) Power"],
24691         "sourcefault": false
24692     }
24693 }
24694 ]
24695 }
24696 },
24697 },
24698 "post": {
24699     "description": "Sets the current sensitivity level of the IASZone.\n",
24700     "parameters": [
24701         {"$ref": "#/parameters/interface-b"},
24702         {
24703             "name": "body",
24704             "in": "body",
24705             "required": true,
24706             "schema": { "$ref": "#/definitions/IASZoneCollectionBatch-Update" },
24707             "x-example":
24708             [
24709                 {
24710                     "href": "/myIASZoneInfoResURI",
24711                     "rep": {
24712                         "currentzonesensitivitylevel": 3
24713                     }
24714                 }
24715             ]
24716         }
24717     ],
24718     "responses": {
24719         "200": {
24720             "description": "Success path response code\n"
24721         }
24722     }
24723 }
24724 },
24725 },
24726 "parameters": {
24727     "interface-all" : {
24728         "in" : "query",
24729         "name" : "if",
24730         "type" : "string",
24731         "enum" : ["oic.if.ll", "oic.if.b", "oic.if.baseline"]
24732     },
24733     "interface-ll" : {
24734         "in" : "query",
24735         "name" : "if",
24736         "type" : "string",
24737         "enum" : ["oic.if.ll"]
24738     },
24739     "interface-b" : {
24740         "in" : "query",
24741         "name" : "if",

```

```

24742     "type" : "string",
24743     "enum" : ["oic.if.b"]
24744   },
24745   "interface-baseline" : {
24746     "in" : "query",
24747     "name" : "if",
24748     "type" : "string",
24749     "enum" : ["oic.if.baseline"]
24750   }
24751 },
24752 "definitions": {
24753   "baseline": {
24754     "properties": {
24755       "rt" : {
24756         "description": "Resource Type",
24757         "items": {
24758           "type": "string",
24759           "enum": ["oic.r.iaszone"]
24760         },
24761         "minItems": 1,
24762         "readOnly": true,
24763         "type": "array"
24764       },
24765       "rts" : {
24766         "description": "Allowed Resources",
24767         "type": "array",
24768         "minItems": 3,
24769         "maxItems": 3,
24770         "items": {
24771           "type": "string",
24772           "enum": ["oic.r.iaszoneinfo", "oic.r.energy.battery", "oic.r.powersource"]
24773         }
24774       },
24775       "rts-m" : {
24776         "description": "Mandatory Resources",
24777         "type": "array",
24778         "minItems": 3,
24779         "maxItems": 3,
24780         "items": {
24781           "type": "string",
24782           "enum": ["oic.r.iaszoneinfo", "oic.r.energy.battery", "oic.r.powersource"]
24783         }
24784       },
24785       "n": {
24786         "$ref":
24787         "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
24788         schema.json#/definitions/n"
24789       },
24790       "id": {
24791         "$ref":
24792         "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
24793         schema.json#/definitions/id"
24794       },
24795       "links" : {
24796         "$ref": "#/definitions/links"
24797       },
24798       "if" : {
24799         "description": "The OCF Interface set supported by this Resource",
24800         "items": {
24801           "enum": [
24802             "oic.if.ll",
24803             "oic.if.b",
24804             "oic.if.baseline"
24805           ],
24806           "type": "string"
24807         },
24808         "minItems": 1,
24809         "readOnly": true,
24810         "type": "array"
24811       }
24812     },
24813     "type" : "object",

```

```

24814     "required": ["links"]
24815 },
24816 "links": {
24817   "type": "array",
24818   "items": {
24819     "$ref": "#/definitions/oic.oic-link"
24820   }
24821 },
24822 "oic.oic-link": {
24823   "properties": {
24824     "if": {
24825       "description": "The OCF Interface set supported by this resource",
24826       "items": {
24827         "enum": [
24828           "oic.if.baseline",
24829           "oic.if.rw",
24830           "oic.if.r"
24831         ],
24832         "type": "string"
24833       },
24834       "minItems": 1,
24835       "uniqueItems": true,
24836       "readOnly": true,
24837       "type": "array"
24838     },
24839     "rt": {
24840       "description": "Resource Type of the Resource",
24841       "items": {
24842         "enum": [
24843           "oic.r.iaszoneinfo",
24844           "oic.r.energy.battery",
24845           "oic.r.powersource"
24846         ],
24847         "type": "string"
24848       },
24849       "minItems": 1,
24850       "maxItems": 1,
24851       "uniqueItems": true,
24852       "readOnly": true,
24853       "type": "array"
24854     },
24855     "anchor": {
24856       "$ref":
24857 "https://openconnectivityfoundation.github.io/core/schemas/oic.links.properties.core-
24858 schema.json#/definitions/anchor"
24859     },
24860     "di": {
24861       "$ref":
24862 "https://openconnectivityfoundation.github.io/core/schemas/oic.links.properties.core-
24863 schema.json#/definitions/di"
24864     },
24865     "eps": {
24866       "$ref":
24867 "https://openconnectivityfoundation.github.io/core/schemas/oic.links.properties.core-
24868 schema.json#/definitions/eps"
24869     },
24870     "href": {
24871       "$ref":
24872 "https://openconnectivityfoundation.github.io/core/schemas/oic.links.properties.core-
24873 schema.json#/definitions/href"
24874     },
24875     "ins": {
24876       "$ref":
24877 "https://openconnectivityfoundation.github.io/core/schemas/oic.links.properties.core-
24878 schema.json#/definitions/ins"
24879     },
24880     "p": {
24881       "$ref":
24882 "https://openconnectivityfoundation.github.io/core/schemas/oic.links.properties.core-
24883 schema.json#/definitions/p"
24884     },
24885     "rel": {

```

```

24886         "$ref":
24887 "https://openconnectivityfoundation.github.io/core/schemas/oic.links.properties.core-
24888 schema.json#/definitions/rel_array"
24889     },
24890     "title": {
24891         "$ref":
24892 "https://openconnectivityfoundation.github.io/core/schemas/oic.links.properties.core-
24893 schema.json#/definitions/title"
24894     },
24895     "type": {
24896         "$ref":
24897 "https://openconnectivityfoundation.github.io/core/schemas/oic.links.properties.core-
24898 schema.json#/definitions/type"
24899     }
24900 },
24901 "required": [
24902     "href",
24903     "rt",
24904     "if"
24905 ],
24906 "type": "object"
24907 },
24908 "IASZoneCollectionBatch-Retrieve": {
24909     "title": "Collection Batch Retrieve Format",
24910     "minItems": 3,
24911     "maxItems": 3,
24912     "type": "array",
24913     "uniqueItems": true,
24914     "items": {
24915         "additionalProperties": true,
24916         "type": "object",
24917         "properties": {
24918             "href": {
24919                 "$ref":
24920 "https://openconnectivityfoundation.github.io/core/schemas/oic.links.properties.core-
24921 schema.json#/definitions/href"
24922             },
24923             "rep": {
24924                 "anyOf": [
24925                     {
24926                         "$ref":
24927 "https://openconnectivityfoundation.github.io/IoTDataModels/IASZoneInfoResURI.swagger.json#/definiti
24928 ons/IASZoneInfo"
24929                     },
24930                     {
24931                         "$ref":
24932 "https://openconnectivityfoundation.github.io/IoTDataModels/BatteryResURI.swagger.json#/definitions/
24933 Battery"
24934                     },
24935                     {
24936                         "$ref":
24937 "https://openconnectivityfoundation.github.io/IoTDataModels/PowerSourcesResourceURI.swagger.json#/de
24938 finitions/powerSourceSchema"
24939                     }
24940                 ]
24941             }
24942         },
24943         "required": ["href", "rep"]
24944     }
24945 },
24946 "IASZoneCollectionBatch-Update" : {
24947     "title": "Collection Batch Update Format",
24948     "minItems": 1,
24949     "type": "array",
24950     "items": {
24951         "additionalProperties": true,
24952         "type": "object",
24953         "properties": {
24954             "href": {
24955                 "$ref":
24956 "https://openconnectivityfoundation.github.io/core/schemas/oic.links.properties.core-
24957 schema.json#/definitions/href"

```

```

24958     },
24959     "rep": {
24960       "type": "object",
24961       "anyOf": [
24962         {
24963           "$ref":
24964             "https://openconnectivityfoundation.github.io/IoTDataModels/IASZoneInfoResURI.swagger.json#/definitions/IASZoneInfo-Update"
24965         },
24966         {
24967           "$ref":
24968             "https://openconnectivityfoundation.github.io/IoTDataModels/BatteryResURI.swagger.json#/definitions/BatteryUpdate"
24969         }
24970       ]
24971     }
24972   ]
24973 }
24974 }
24975 }
24976 }
24977 }
24978 }
24979 }

```

24980 6.125.5 Property definition

24981 Table 253 defines the Properties that are part of the "oic.r.iaszone" Resource Type.

24982 **Table 253 – The Property definitions of the Resource with type "rt" = "None".**

Property name	Value type	Mandatory	Access mode	Description
rt	array: see schema	No	Read Only	Resource Type
rts	array: see schema	No	Read Write	Allowed Resources
rts-m	array: see schema	No	Read Write	Mandatory Resources
n	multiple types: see schema	No	Read Write	
id	multiple types: see schema	No	Read Write	
links	multiple types: see schema	Yes	Read Write	
if	array: see schema	No	Read Only	The OCF Interface set supported by this Resource
if	array: see schema	Yes	Read Only	The OCF Interface set supported by this resource
rt	array: see schema	Yes	Read Only	Resource Type of the Resource
anchor	multiple types: see schema	No	Read Write	
di	multiple types: see schema	No	Read Write	
eps	multiple types: see schema	No	Read Write	
href	multiple types: see schema	Yes	Read Write	
ins	multiple types: see schema	No	Read Write	
p	multiple types: see schema	No	Read Write	

rel	multiple types: see schema	No	Read Write	
title	multiple types: see schema	No	Read Write	
type	multiple types: see schema	No	Read Write	
href	multiple types: see schema	Yes	Read Write	
rep	multiple types: see schema	Yes	Read Write	
href	multiple types: see schema		Read Write	
rep	object: see schema		Read Write	

24983 **6.125.6 CRUDN behaviour**

24984 Table 254 defines the CRUDN operations that are supported on the "oic.r.iaszone" Resource Type.

24985 **Table 254 – The CRUDN operations of the Resource with type "rt" = "None".**

Create	Read	Update	Delete	Notify

24986 **6.126 Window Covering**

24987 **6.126.1 Introduction**

24988 This Resource describes the information of a window covering, i.e., type, configuration status,
24989 and mode.

24990 Velocity associated with lifting the window covering can be changed by updating

24991 Lift_Velocity(cm/sec).

24992 Ramp up/down times to reaching the velocity setting can be changed by updating

24993 Lift_Acceleration Time/Lift_Deceleration Time (0.1sec).

24994 **6.126.2 Example URI**

24995 /WindowCoveringResURI

24996 **6.126.3 Resource type**

24997 The Resource Type is defined as: "oic.r.windowcovering".

24998 **6.126.4 OpenAPI 2.0 definition**

```

24999 {
25000   "swagger": "2.0",
25001   "info": {
25002     "title": "Window Covering",
25003     "version": "20190513",
25004     "license": {
25005       "name": "OCF Data Model License",
25006       "url":
25007 "https://github.com/openconnectivityfoundation/core/blob/e28a9e0a92e17042ba3e83661e4c0fbce8bdc4ba/LI
25008 CENSE.md",
25009       "x-copyright": "Copyright 2018-2019 Open Connectivity Foundation, Inc. All rights reserved."
25010     },
25011     "termsOfService": "https://openconnectivityfoundation.github.io/core/DISCLAIMER.md"
25012   },
25013   "schemes": ["http"],
25014   "consumes": ["application/json"],
25015   "produces": ["application/json"],
25016   "paths": {
25017     "/WindowCoveringResURI" : {
25018       "get": {
25019         "description": "This Resource describes the information of a window covering, i.e., type,

```

```

25020 configuration status, and mode.\nVelocity associated with lifting the window covering can be changed
25021 by updating Lift_Velocity(cm/sec).\nRamp up/down times to reaching the velocity setting can be
25022 changed by updating Lift_Acceleration Time/Lift_Deceleration Time (0.1sec).",
25023     "parameters": [
25024         {"$ref": "#/parameters/interface-all"}
25025     ],
25026     "responses": {
25027         "200": {
25028             "description" : "",
25029             "x-example":
25030             {
25031                 "rt": ["oic.r.windowcovering"],
25032                 "windowcoveringtype": "shutter",
25033                 "configstatus": {
25034                     "operational": true,
25035                     "online": true,
25036                     "rotationdirection": "normal",
25037                     "controllift": "closedloop",
25038                     "controltilt": "closedloop",
25039                     "closedloopliftcontrol": "encoder",
25040                     "closedlooptiltcontrol": "encoder"
25041                 },
25042                 "mode": {
25043                     "motordirection": false,
25044                     "calibration": false,
25045                     "maintenance": false,
25046                     "ledfeedback": true
25047                 },
25048                 "liftvelocity": 5,
25049                 "liftaccelerationtime": 200,
25050                 "liftdecelerationtime": 200
25051             },
25052             "schema": { "$ref": "#/definitions/WindowCovering" }
25053         }
25054     },
25055 },
25056 "post": {
25057     "description": "Update window covering settings.\n",
25058     "parameters": [
25059         {"$ref": "#/parameters/interface-all"},
25060         {
25061             "name": "body",
25062             "in": "body",
25063             "required": true,
25064             "schema": { "$ref": "#/definitions/WindowCovering-Update" },
25065             "x-example":
25066             {
25067                 "mode": {
25068                     "motordirection": true,
25069                     "calibration": false,
25070                     "maintenance": false,
25071                     "ledfeedback": true
25072                 },
25073                 "liftvelocity": 10,
25074                 "liftaccelerationtime": 500,
25075                 "liftdecelerationtime": 500
25076             }
25077         }
25078     ],
25079     "responses": {
25080         "200": {
25081             "description" : "Success path response code\n"
25082         }
25083     }
25084 }
25085 },
25086 },
25087 "parameters": {
25088     "interface-all" : {
25089         "in" : "query",
25090         "name" : "if",
25091         "type" : "string",

```

```

25092     "enum" : ["oic.if.rw", "oic.if.baseline"]
25093   }
25094 },
25095 "definitions": {
25096   "WindowCovering" : {
25097     "properties": {
25098       "rt" : {
25099         "description": "Resource Type",
25100         "items": {
25101           "maxLength": 64,
25102           "type": "string",
25103           "enum": ["oic.r.windowcovering"]
25104         },
25105         "minItems": 1,
25106         "readOnly": true,
25107         "type": "array"
25108       },
25109       "windowcoveringtype" : {
25110         "description": "Window covering type. See OCF enumeration map for set of valid values.",
25111         "readOnly": true,
25112         "type": "string"
25113       },
25114       "liftvelocity" : {
25115         "description": "Velocity in cm/sec associated with lifting the covering",
25116         "type": "integer"
25117       },
25118       "configstatus" : {
25119         "description": "Set of config status indicators.",
25120         "properties": {
25121           "controllift": {
25122             "description": "Closed loop control allows for intermediate settings, open loop
25123 supports only up or down",
25124             "readOnly": true,
25125             "type": "string",
25126             "enum": ["closedloop","openloop"]
25127           },
25128           "controltilt": {
25129             "description": "Closed loop control allows for intermediate settings, open loop
25130 supports only tilted or not tilted",
25131             "readOnly": true,
25132             "type": "string",
25133             "enum": ["closedloop","openloop"]
25134           },
25135           "closedloopliftcontrol": {
25136             "description": "Encoder or timer controlled",
25137             "readOnly": true,
25138             "type": "string",
25139             "enum": ["encoder","timer"]
25140           },
25141           "closedlooptiltcontrol": {
25142             "description": "Encoder or timer controlled",
25143             "readOnly": true,
25144             "type": "string",
25145             "enum": ["encoder","timer"]
25146           },
25147           "online": {
25148             "description": "True = online, False = not online",
25149             "readOnly": true,
25150             "type": "boolean"
25151           },
25152           "operational": {
25153             "description": "True = operational, False = not operational",
25154             "readOnly": true,
25155             "type": "boolean"
25156           },
25157           "rotationdirection": {
25158             "description": "Identifies if the direction of rotation has been reversed to match
25159 physical installation.",
25160             "readOnly": true,
25161             "type": "string",
25162             "enum": ["normal","reversed"]
25163           }

```



```

25164     },
25165     "readOnly": true,
25166     "type": "object"
25167   },
25168   "liftaccelerationtime" : {
25169     "description": "Ramp up time to reach lift velocity (ms)",
25170     "type": "integer"
25171   },
25172   "liftdecelerationtime" : {
25173     "description": "Ramp down time from the velocity setting (ms)",
25174     "type": "integer"
25175   },
25176   "mode" : {
25177     "description": "Set of operational modes.",
25178     "properties": {
25179       "calibration": {
25180         "description": "True = calibration mode, False = normal mode",
25181         "type": "boolean"
25182       },
25183       "ledfeedback": {
25184         "description": "True = feedback enabled, False = LEDs are off",
25185         "type": "boolean"
25186       },
25187       "maintenance": {
25188         "description": "True = maintenance mode, False = normal mode",
25189         "type": "boolean"
25190       },
25191       "motordirection": {
25192         "description": "True = direction reversed, False = direction normal",
25193         "type": "boolean"
25194       }
25195     },
25196     "type": "object"
25197   },
25198   "n": {
25199     "$ref":
25200     "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
25201     schema.json#/definitions/n"
25202   },
25203   "id": {
25204     "$ref":
25205     "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
25206     schema.json#/definitions/id"
25207   },
25208   "if" : {
25209     "description": "The interface set supported by this resource",
25210     "items": {
25211       "enum": [
25212         "oic.if.rw",
25213         "oic.if.baseline"
25214       ],
25215       "type": "string"
25216     },
25217     "minItems": 2,
25218     "maxItems": 2,
25219     "readOnly": true,
25220     "type": "array"
25221   }
25222 },
25223 "required": ["windowcoveringtype", "configstatus", "mode"]
25224 },
25225 "WindowCovering-Update" : {
25226   "properties": {
25227     "liftaccelerationtime" : {
25228       "description": "Ramp up time to reach lift velocity (ms)",
25229       "type": "integer"
25230     },
25231     "liftdecelerationtime" : {
25232       "description": "Ramp down time from the velocity setting (ms)",
25233       "type": "integer"
25234     },
25235     "liftvelocity" : {

```

```

25236         "description": "Velocity in cm/sec associated with lifting the covering",
25237         "type": "integer"
25238     },
25239     "mode" : {
25240         "description": "Set of operational modes.",
25241         "properties": {
25242             "calibration": {
25243                 "description": "True = calibration mode, False = normal mode",
25244                 "type": "boolean"
25245             },
25246             "ledfeedback": {
25247                 "description": "True = feedback enabled, False = LEDs are off",
25248                 "type": "boolean"
25249             },
25250             "maintenance": {
25251                 "description": "True = maintenance mode, False = normal mode",
25252                 "type": "boolean"
25253             },
25254             "motordirection": {
25255                 "description": "True = direction reversed, False = direction normal",
25256                 "type": "boolean"
25257             }
25258         },
25259         "type": "object"
25260     },
25261     },
25262     "required": ["mode"]
25263 }
25264 }
25265 }
25266

```

25267 **6.126.5 Property definition**

25268 Table 255 defines the Properties that are part of the "oic.r.windowcovering" Resource Type.

25269 **Table 255 – The Property definitions of the Resource with type "rt" =**
25270 **"oic.r.windowcovering".**

Property name	Value type	Mandatory	Access mode	Description
rt	array: see schema	No	Read Only	Resource Type
windowcoveringtype	string	Yes	Read Only	Window covering type. See OCF enumeration map for set of valid values.
liftvelocity	integer	No	Read Write	Velocity in cm/sec associated with lifting the covering
configstatus	object: see schema	Yes	Read Only	Set of config status indicators.
liftaccelerationtime	integer	No	Read Write	Ramp up time to reach lift velocity (ms)
liftdecelerationtime	integer	No	Read Write	Ramp down time from the velocity setting (ms)
mode	object: see schema	Yes	Read Write	Set of operational modes.
n	multiple types: see schema	No	Read Write	
id	multiple types: see schema	No	Read Write	

if	array: see schema	No	Read Only	The interface set supported by this resource
liftaccelerationtime	integer	No	Read Write	Ramp up time to reach lift velocity (ms)
liftdecelerationtime	integer	No	Read Write	Ramp down time from the velocity setting (ms)
liftvelocity	integer	No	Read Write	Velocity in cm/sec associated with lifting the covering
mode	object: see schema	Yes	Read Write	Set of operational modes.

25271 **6.126.6 CRUDN behaviour**

25272 Table 256 defines the CRUDN operations that are supported on the "oic.r.windowcovering"
25273 Resource Type.

25274 **Table 256 – The CRUDN operations of the Resource with type "rt" =**
25275 **"oic.r.windowcovering".**

Create	Read	Update	Delete	Notify
	get	post		observe

25276 **6.127 Activity**

25277 **6.127.1 Introduction**

25278 This Resource describes the Properties associated with a person's physical activity.
25279 All Properties are read-only values that are provided by the server.
25280 When range (from "oic.r.baseresource") is omitted the default is 0 to +MAXFLOAT.

25281 **6.127.2 Example URI**

25282 /ActivityResURI

25283 **6.127.3 Resource type**

25284 The Resource Type is defined as: "oic.r.activity".

25285 **6.127.4 OpenAPI 2.0 definition**

```

25286 {
25287   "swagger": "2.0",
25288   "info": {
25289     "title": "Activity",
25290     "version": "2019-03-04",
25291     "license": {
25292       "name": "OCF Data Model License",
25293       "url":
25294         "https://github.com/openconnectivityfoundation/core/blob/e28a9e0a92e17042ba3e83661e4c0fbce8bdc4ba/LI
25295         CENSE.md",
25296       "x-copyright": "Copyright 2018-2019 Open Connectivity Foundation, Inc. All rights reserved."
25297     },
25298     "termsOfService": "https://openconnectivityfoundation.github.io/core/DISCLAIMER.md"
25299   },
25300   "schemes": [
25301     "http"
25302   ],
25303   "consumes": [
25304     "application/json"
25305   ],
25306   "produces": [
25307     "application/json"

```

```

25308 ],
25309 "paths": {
25310   "/ActivityResURI": {
25311     "get": {
25312       "description": "This Resource describes the Properties associated with a person's physical
25313 activity.\n All Properties are read-only values that are provided by the server.\n When range (from
25314 \"oic.r.baseresource\") is omitted the default is 0 to +MAXFLOAT.",
25315       "parameters": [
25316         {
25317           "$ref": "#/parameters/interface"
25318         }
25319       ],
25320       "responses": {
25321         "200": {
25322           "description": "",
25323           "x-example": {
25324             "rt": [
25325               "oic.r.activity"
25326             ],
25327             "activity": "sleep",
25328             "steps_day": 1000,
25329             "steps_reset": 500,
25330             "ccal_day": 3000.0,
25331             "ccal_reset": 1500.0
25332           },
25333           "schema": {
25334             "$ref": "#/definitions/Activity"
25335           }
25336         }
25337       }
25338     }
25339   }
25340 },
25341 "parameters": {
25342   "interface": {
25343     "in": "query",
25344     "name": "if",
25345     "type": "string",
25346     "enum": [
25347       "oic.if.s",
25348       "oic.if.baseline"
25349     ]
25350   }
25351 },
25352 "definitions": {
25353   "Activity": {
25354     "properties": {
25355       "activity": {
25356         "description": "This Property describes the recognized current activity type of user",
25357         "type": "string",
25358         "enum": [
25359           "sleep",
25360           "sit",
25361           "stand",
25362           "walk",
25363           "run",
25364           "unknown"
25365         ],
25366         "readOnly": true
25367       },
25368       "steps_day": {
25369         "description": "This Property describes the user's step count that measures the number of
25370 steps the user has taken since the beginning of the day.",
25371         "type": "integer",
25372         "minimum": 0,
25373         "readOnly": true
25374       },
25375       "steps_reset": {
25376         "description": "This Property describes the user's step count that measures the number of
25377 steps the user has taken since the last reset.",
25378         "type": "integer",
25379         "minimum": 0,

```

```

25380         "readOnly": true
25381     },
25382     "ccal_day": {
25383         "description": "This Property describes the burned off calories of user since the
25384 beginning of the day.",
25385         "type": "number",
25386         "minimum": 0.0,
25387         "readOnly": true
25388     },
25389     "ccal_reset": {
25390         "description": "This Property describes the burned off calories of user since the last
25391 reset.",
25392         "type": "number",
25393         "minimum": 0.0,
25394         "readOnly": true
25395     },
25396     "rt": {
25397         "description": "The Resource Type.",
25398         "items": {
25399             "enum": [
25400                 "oic.r.activity"
25401             ],
25402             "type": "string"
25403         },
25404         "minItems": 1,
25405         "uniqueItems": true,
25406         "readOnly": true,
25407         "type": "array"
25408     },
25409     "n": {
25410         "$ref":
25411 "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
25412 schema.json#/definitions/n"
25413     },
25414     "if": {
25415         "description": "The OCF Interface set supported by this Resource.",
25416         "items": {
25417             "enum": [
25418                 "oic.if.s", "oic.if.baseline"
25419             ],
25420             "type": "string"
25421         },
25422         "minItems": 1,
25423         "uniqueItems": true,
25424         "readOnly": true,
25425         "type": "array"
25426     },
25427     "steps_day_range": {
25428         "$ref":
25429 "https://openconnectivityfoundation.github.io/IoTDataModels/schemas/oic.baseresource.properties-
25430 schema.json#/definitions/range_integer"
25431     },
25432     "steps_day_step": {
25433         "$ref":
25434 "https://openconnectivityfoundation.github.io/IoTDataModels/schemas/oic.baseresource.properties-
25435 schema.json#/definitions/step_integer"
25436     },
25437     "steps_reset_range": {
25438         "$ref":
25439 "https://openconnectivityfoundation.github.io/IoTDataModels/schemas/oic.baseresource.properties-
25440 schema.json#/definitions/range_integer"
25441     },
25442     "steps_reset_step": {
25443         "$ref":
25444 "https://openconnectivityfoundation.github.io/IoTDataModels/schemas/oic.baseresource.properties-
25445 schema.json#/definitions/step_integer"
25446     },
25447     "ccal_day_range": {
25448         "$ref":
25449 "https://openconnectivityfoundation.github.io/IoTDataModels/schemas/oic.baseresource.properties-
25450 schema.json#/definitions/range_number"
25451     },

```

```

25452     "ccal_day_step": {
25453         "$ref":
25454         "https://openconnectivityfoundation.github.io/IoTDataModels/schemas/oic.baseresource.properties-
25455         schema.json#/definitions/step_number"
25456     },
25457     "ccal_day_precision": {
25458         "$ref":
25459         "https://openconnectivityfoundation.github.io/IoTDataModels/schemas/oic.baseresource.properties-
25460         schema.json#/definitions/precision"
25461     },
25462     "ccal_reset_range": {
25463         "$ref":
25464         "https://openconnectivityfoundation.github.io/IoTDataModels/schemas/oic.baseresource.properties-
25465         schema.json#/definitions/range_number"
25466     },
25467     "ccal_reset_step": {
25468         "$ref":
25469         "https://openconnectivityfoundation.github.io/IoTDataModels/schemas/oic.baseresource.properties-
25470         schema.json#/definitions/step_number"
25471     },
25472     "ccal_reset_precision": {
25473         "$ref":
25474         "https://openconnectivityfoundation.github.io/IoTDataModels/schemas/oic.baseresource.properties-
25475         schema.json#/definitions/precision"
25476     }
25477 },
25478 "type": "object",
25479 "required": [
25480     "activity"
25481 ]
25482 }
25483 }
25484 }

```

25485 6.127.5 Property definition

25486 Table 257 defines the Properties that are part of the "oic.r.activity" Resource Type.

25487 **Table 257 – The Property definitions of the Resource with type "rt" = "oic.r.activity".**

Property name	Value type	Mandatory	Access mode	Description
activity	string	Yes	Read Only	This Property describes the recognized current activity type of user
steps_day	integer	No	Read Only	This Property describes the user's step count that measures the number of steps the user has taken since the beginning of the day.
steps_reset	integer	No	Read Only	This Property describes the user's step count that measures the number of steps the user has taken since the last reset.
ccal_day	number	No	Read Only	This Property describes the burned off calories of user since the beginning of the day.
ccal_reset	number	No	Read Only	This Property describes the burned

				off calories of user since the last reset.
rt	array: see schema	No	Read Only	The Resource Type.
n	multiple types: see schema	No	Read Write	
if	array: see schema	No	Read Only	The OCF Interface set supported by this Resource.
steps_day_range	multiple types: see schema	No	Read Write	
steps_day_step	multiple types: see schema	No	Read Write	
steps_reset_range	multiple types: see schema	No	Read Write	
steps_reset_step	multiple types: see schema	No	Read Write	
ccal_day_range	multiple types: see schema	No	Read Write	
ccal_day_step	multiple types: see schema	No	Read Write	
ccal_day_precision	multiple types: see schema	No	Read Write	
ccal_reset_range	multiple types: see schema	No	Read Write	
ccal_reset_step	multiple types: see schema	No	Read Write	
ccal_reset_precision	multiple types: see schema	No	Read Write	

25488 **6.127.6 CRUDN behaviour**

25489 Table 258 defines the CRUDN operations that are supported on the "oic.r.activity" Resource Type.

25490 **Table 258 – The CRUDN operations of the Resource with type "rt" = "oic.r.activity".**

Create	Read	Update	Delete	Notify
	get			observe

25491 **6.128 Activity Tracker Atomic Measurement Representation**

25492 **6.128.1 Introduction**

25493 This Resource describes the Properties associated with Activity Tracker.

25494 The Resource is an Atomic Measurement of activity ("oic.r.activity"), heart rate ("oic.r.heartrate"),
 25495 observed time ("oic.r.time.stamp"), and user ID ("oic.r.userid").

25496 **6.128.2 Example URI**

25497 /ActivityTrackerAMResURI

25498 **6.128.3 Resource type**

25499 The Resource Type is defined as: "oic.r.activitytracker-am, oic.wk.atomicmeasurement".

25500 **6.128.4 OpenAPI 2.0 definition**

```

25501 {
25502   "swagger": "2.0",
25503   "info": {
25504     "title": "Activity Tracker Atomic Measurement Representation",

```

```

25505     "version": "2019-03-04",
25506     "license": {
25507         "name": "OCF Data Model License",
25508         "url":
25509 "https://github.com/openconnectivityfoundation/core/blob/e28a9e0a92e17042ba3e83661e4c0fbce8bdc4ba/LI
25510 CENSE.md",
25511         "x-copyright": "Copyright 2018-2019 Open Connectivity Foundation, Inc. All rights reserved."
25512     },
25513     "termsOfService": "https://openconnectivityfoundation.github.io/core/DISCLAIMER.md"
25514 },
25515     "schemes": [
25516         "http"
25517     ],
25518     "consumes": [
25519         "application/json"
25520     ],
25521     "produces": [
25522         "application/json"
25523     ],
25524     "paths": {
25525         "/ActivityTrackerAMResURI?if=oic.if.b": {
25526             "get": {
25527                 "description": "This Resource describes the Properties associated with Activity Tracker.\n
25528 The Resource is an Atomic Measurement of activity (\\"oic.r.activity\\"), heart rate
25529 (\\"oic.r.heartrate\\"), observed time (\\"oic.r.time.stamp\\"), and user ID (\\"oic.r.userid\\").",
25530                 "parameters": [
25531                     {
25532                         "$ref": "#/parameters/interface-all"
25533                     }
25534                 ],
25535                 "responses": {
25536                     "200": {
25537                         "description": "",
25538                         "x-example": [
25539                             {
25540                                 "href": "/myActivity",
25541                                 "rep": {
25542                                     "activity": "sleep",
25543                                     "steps_day": 1000,
25544                                     "steps_reset": 500,
25545                                     "ccal_day": 3000.0,
25546                                     "ccal_reset": 1500.0
25547                                 }
25548                             },
25549                             {
25550                                 "href": "/myHeartRate",
25551                                 "rep": {
25552                                     "heartrate": 80
25553                                 }
25554                             },
25555                             {
25556                                 "href": "/myUserId",
25557                                 "rep": {
25558                                     "userid": "USER1"
25559                                 }
25560                             },
25561                             {
25562                                 "href": "/myTimeStamp",
25563                                 "rep": {
25564                                     "timestamp": "2018-11-09T12:15:00+08:00"
25565                                 }
25566                             }
25567                         ],
25568                         "schema": {
25569                             "$ref": "#/definitions/batch-retrieve"
25570                         }
25571                     }
25572                 }
25573             }
25574         },
25575         "/ActivityTrackerAMResURI?if=oic.if.ll": {
25576             "get": {

```



```

25577         "description": "This Resource describes the Properties associated with Activity Tracker.\n
25578 The Resource is an Atomic Measurement of activity (\\"oic.r.activity\\"), heart rate
25579 (\\"oic.r.heartrate\\"), observed time (\\"oic.r.time.stamp\\"), and user ID (\\"oic.r.userid\\").",
25580         "parameters": [
25581             {
25582                 "$ref": "#/parameters/interface-all"
25583             }
25584         ],
25585         "responses": {
25586             "200": {
25587                 "description": "",
25588                 "x-example": [
25589                     {
25590                         "href": "/myActivity",
25591                         "rt": [
25592                             "oic.r.activity"
25593                         ],
25594                         "if": [
25595                             "oic.if.s",
25596                             "oic.if.baseline"
25597                         ]
25598                     },
25599                     {
26000                         "href": "/myHeartRate",
26001                         "rt": [
26002                             "oic.r.heartrate"
26003                         ],
26004                         "if": [
26005                             "oic.if.s",
26006                             "oic.if.baseline"
26007                         ]
26008                     },
26009                     {
26010                         "href": "/myUserId",
26011                         "rt": [
26012                             "oic.r.userid"
26013                         ],
26014                         "if": [
26015                             "oic.if.r",
26016                             "oic.if.baseline"
26017                         ]
26018                     },
26019                     {
26020                         "href": "/myTimeStamp",
26021                         "rt": [
26022                             "oic.r.time.stamp"
26023                         ],
26024                         "if": [
26025                             "oic.if.r",
26026                             "oic.if.baseline"
26027                         ]
26028                     }
26029                 ],
26030                 "schema": {
26031                     "$ref": "#/definitions/links"
26032                 }
26033             }
26034         }
26035     },
26036     "/ActivityTrackerAMResURI?if=oic.if.baseline": {
26037         "get": {
26038             "description": "This Resource describes the Properties associated with Activity Tracker.\n
26039 The Resource is an Atomic Measurement of activity (\\"oic.r.activity\\"), heart rate
26040 (\\"oic.r.heartrate\\"), observed time (\\"oic.r.time.stamp\\"), and user ID (\\"oic.r.userid\\").",
26041             "parameters": [
26042                 {
26043                     "$ref": "#/parameters/interface-all"
26044                 }
26045             ],
26046             "responses": {
26047                 "200": {

```

```

25649     "description": "",
25650     "x-example":
25651     {
25652         "rt": [
25653             "oic.r.activitytracker-am",
25654             "oic.wk.atomicmeasurement"
25655         ],
25656         "if": [
25657             "oic.if.b",
25658             "oic.if.ll",
25659             "oic.if.baseline"
25660         ],
25661         "rts-m": [
25662             "oic.r.activity"
25663         ],
25664         "rts": [
25665             "oic.r.activity", "oic.r.heartrate", "oic.r.userid", "oic.r.time.stamp"
25666         ],
25667         "links": [
25668             {
25669                 "href": "/myActivity",
25670                 "rt": [
25671                     "oic.r.activity"
25672                 ],
25673                 "if": [
25674                     "oic.if.s",
25675                     "oic.if.baseline"
25676                 ]
25677             },
25678             {
25679                 "href": "/myHeartRate",
25680                 "rt": [
25681                     "oic.r.heartrate"
25682                 ],
25683                 "if": [
25684                     "oic.if.s",
25685                     "oic.if.baseline"
25686                 ]
25687             },
25688             {
25689                 "href": "/myUserId",
25690                 "rt": [
25691                     "oic.r.userid"
25692                 ],
25693                 "if": [
25694                     "oic.if.r",
25695                     "oic.if.baseline"
25696                 ]
25697             },
25698             {
25699                 "href": "/myTimeStamp",
25700                 "rt": [
25701                     "oic.r.time.stamp"
25702                 ],
25703                 "if": [
25704                     "oic.if.r",
25705                     "oic.if.baseline"
25706                 ]
25707             }
25708         ],
25709     },
25710     "schema": {
25711         "$ref": "#/definitions/baseline"
25712     }
25713 }
25714 }
25715 }
25716 }
25717 },
25718 "parameters": {
25719     "interface-all": {
25720         "in": "query",

```

```

25721     "name": "if",
25722     "type": "string",
25723     "enum": [
25724         "oic.if.b",
25725         "oic.if.ll",
25726         "oic.if.baseline"
25727     ]
25728 }
25729 },
25730 "definitions": {
25731     "batch-retrieve": {
25732         "title": "Collection Batch Retrieve Format",
25733         "minItems": 1,
25734         "items": {
25735             "additionalProperties": true,
25736             "properties": {
25737                 "href": {
25738                     "$ref":
25739 "https://openconnectivityfoundation.github.io/core/schemas/oic.links.properties.core-
25740 schema.json#/definitions/href"
25741                 },
25742                 "rep": {
25743                     "type": "object",
25744                     "anyOf": [
25745                         {
25746                             "$ref":
25747 "https://openconnectivityfoundation.github.io/IoTDataModels/Activity.swagger.json#/definitions/Activ
25748 ity"
25749                         },
25750                         {
25751                             "$ref":
25752 "https://openconnectivityfoundation.github.io/IoTDataModels/HeartRate.swagger.json#/definitions/Hear
25753 tRate"
25754                         },
25755                         {
25756                             "$ref":
25757 "https://openconnectivityfoundation.github.io/IoTDataModels/UserIDResURI.swagger.json#/definitions/U
25758 serID"
25759                         },
25760                         {
25761                             "$ref":
25762 "https://openconnectivityfoundation.github.io/IoTDataModels/TimeStampResURI.swagger.json#/definition
25763 s/TimeStamp"
25764                         }
25765                     ]
25766                 }
25767             },
25768             "required": [
25769                 "href",
25770                 "rep"
25771             ],
25772             "type": "object"
25773         },
25774         "type": "array"
25775     },
25776     "links": {
25777         "type": "array",
25778         "items": {
25779             "$ref": "#/definitions/oic.oic-link"
25780         }
25781     },
25782     "baseline": {
25783         "properties": {
25784             "rt": {
25785                 "items": {
25786                     "enum": [
25787                         "oic.r.activitytracker-am",
25788                         "oic.wk.atomicmeasurement"
25789                     ]
25790                 },
25791                 "minItems": 2,
25792                 "type": "array",

```

```

25793         "uniqueItems": true,
25794         "readOnly": true
25795     },
25796     "links": {
25797         "$ref": "#/definitions/links"
25798     },
25799     "n": {
25800         "$ref":
25801 "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
25802 schema.json#/definitions/n"
25803     },
25804     "rts": {
25805         "description": "This Property contains all possible Resource Types for this Atomic
25806 Measurement.",
25807         "items": {
25808             "enum": [
25809                 "oic.r.activity",
25810                 "oic.r.heartrate",
25811                 "oic.r.time.stamp",
25812                 "oic.r.userid"
25813             ]
25814         },
25815         "minItems": 1,
25816         "type": "array",
25817         "uniqueItems": true
25818     },
25819     "id": {
25820         "$ref":
25821 "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
25822 schema.json#/definitions/id"
25823     },
25824     "rts-m": {
25825         "description": "This Property contains all mandatory Resource Types for this Atomic
25826 Measurement.",
25827         "items": {
25828             "enum": [
25829                 "oic.r.activity"
25830             ]
25831         },
25832         "maxItems": 1,
25833         "minItems": 1,
25834         "type": "array",
25835         "readOnly": true,
25836         "uniqueItems": true
25837     },
25838     "if": {
25839         "description": "The OCF Interface set supported by this Resource.",
25840         "items": {
25841             "enum": [
25842                 "oic.if.baseline",
25843                 "oic.if.ll",
25844                 "oic.if.b"
25845             ],
25846             "type": "string"
25847         },
25848         "minItems": 1,
25849         "uniqueItems": true,
25850         "readOnly": true,
25851         "type": "array"
25852     }
25853 },
25854 "type": "object",
25855 "required": [
25856     "rts-m"
25857 ]
25858 },
25859 "oic.oic-link": {
25860     "properties": {
25861         "anchor": {
25862             "$ref":
25863 "https://openconnectivityfoundation.github.io/core/schemas/oic.links.properties.core-
25864 schema.json#/definitions/anchor"

```

```

25865     },
25866     "di": {
25867       "$ref":
25868       "https://openconnectivityfoundation.github.io/core/schemas/oic.links.properties.core-
25869       schema.json#/definitions/di"
25870     },
25871     "eps": {
25872       "$ref":
25873       "https://openconnectivityfoundation.github.io/core/schemas/oic.links.properties.core-
25874       schema.json#/definitions/eps"
25875     },
25876     "href": {
25877       "$ref":
25878       "https://openconnectivityfoundation.github.io/core/schemas/oic.links.properties.core-
25879       schema.json#/definitions/href"
25880     },
25881     "if": {
25882       "description": "The OCF Interface set supported by this Resource.",
25883       "items": {
25884         "enum": [
25885           "oic.if.baseline",
25886           "oic.if.s",
25887           "oic.if.r"
25888         ],
25889         "type": "string"
25890       },
25891       "minItems": 1,
25892       "uniqueItems": true,
25893       "type": "array"
25894     },
25895     "ins": {
25896       "$ref":
25897       "https://openconnectivityfoundation.github.io/core/schemas/oic.links.properties.core-
25898       schema.json#/definitions/ins"
25899     },
25900     "p": {
25901       "$ref":
25902       "https://openconnectivityfoundation.github.io/core/schemas/oic.links.properties.core-
25903       schema.json#/definitions/p"
25904     },
25905     "rel": {
25906       "$ref":
25907       "https://openconnectivityfoundation.github.io/core/schemas/oic.links.properties.core-
25908       schema.json#/definitions/rel_array"
25909     },
25910     "rt": {
25911       "description": "The Resource Type.",
25912       "items": {
25913         "enum": [
25914           "oic.r.activity",
25915           "oic.r.heartrate",
25916           "oic.r.time.stamp",
25917           "oic.r.userid"
25918         ],
25919         "type": "string"
25920       },
25921       "minItems": 1,
25922       "uniqueItems": true,
25923       "readOnly": true,
25924       "type": "array"
25925     },
25926     "title": {
25927       "$ref":
25928       "https://openconnectivityfoundation.github.io/core/schemas/oic.links.properties.core-
25929       schema.json#/definitions/title"
25930     },
25931     "type": {
25932       "$ref":
25933       "https://openconnectivityfoundation.github.io/core/schemas/oic.links.properties.core-
25934       schema.json#/definitions/type"
25935     }
25936   },

```

```

25937     "required": [
25938         "href",
25939         "rt",
25940         "if"
25941     ],
25942     "type": "object"
25943 }
25944 }
25945 }

```

25946 6.128.5 Property definition

25947 Table 259 defines the Properties that are part of the "oic.r.activitytracker-am,
25948 oic.wk.atomicmeasurement" Resource Type.

25949 **Table 259 – The Property definitions of the Resource with type "rt" = "oic.r.activitytracker-
25950 am, oic.wk.atomicmeasurement".**

Property name	Value type	Mandatory	Access mode	Description
href	multiple types: see schema	Yes	Read Write	
rep	object: see schema	Yes	Read Write	
rt	array: see schema	No	Read Only	
links	multiple types: see schema	No	Read Write	
n	multiple types: see schema	No	Read Write	
rts	array: see schema	No	Read Write	This Property contains all possible Resource Types for this Atomic Measurement.
id	multiple types: see schema	No	Read Write	
rts-m	array: see schema	Yes	Read Only	This Property contains all mandatory Resource Types for this Atomic Measurement.
if	array: see schema	No	Read Only	The OCF Interface set supported by this Resource.
anchor	multiple types: see schema	No	Read Write	
di	multiple types: see schema	No	Read Write	
eps	multiple types: see schema	No	Read Write	
href	multiple types: see schema	Yes	Read Write	
if	array: see schema	Yes	Read Write	The OCF Interface set supported by this Resource.
ins	multiple types: see schema	No	Read Write	
p	multiple types: see schema	No	Read Write	

rel	multiple types: see schema	No	Read Write	
rt	array: see schema	Yes	Read Only	The Resource Type.
title	multiple types: see schema	No	Read Write	
type	multiple types: see schema	No	Read Write	

25951 **6.128.6 CRUDN behaviour**

25952 Table 260 defines the CRUDN operations that are supported on the "oic.r.activitytracker-am,
25953 oic.wk.atomicmeasurement" Resource Type.

25954 **Table 260 – The CRUDN operations of the Resource with type "rt" = "oic.r.activitytracker-
25955 am, oic.wk.atomicmeasurement".**

Create	Read	Update	Delete	Notify
	get			observe

25956 **6.129 Alarm**

25957 **6.129.1 Introduction**

25958 This Resource describes the Properties associated with alarm status.

25959 **6.129.2 Example URI**

25960 /AlarmResURI

25961 **6.129.3 Resource type**

25962 The Resource Type is defined as: "oic.r.alarm".

25963 **6.129.4 OpenAPI 2.0 definition**

```
25964 {
25965   "swagger": "2.0",
25966   "info": {
25967     "title": "Alarm",
25968     "version": "2019-03-04",
25969     "license": {
25970       "name": "OCF Data Model License",
25971       "url":
25972 "https://github.com/openconnectivityfoundation/core/blob/e28a9e0a92e17042ba3e83661e4c0fbce8bdc4ba/LI
25973 CENSE.md",
25974       "x-copyright": "Copyright 2018-2019 Open Connectivity Foundation, Inc. All rights reserved."
25975     },
25976     "termsOfService": "https://openconnectivityfoundation.github.io/core/DISCLAIMER.md"
25977   },
25978   "schemes": [
25979     "http"
25980   ],
25981   "consumes": [
25982     "application/json"
25983   ],
25984   "produces": [
25985     "application/json"
25986   ],
25987   "paths": {
25988     "/AlarmResURI": {
25989       "get": {
25990         "description": "This Resource describes the Properties associated with alarm status.",
25991         "parameters": [
25992           {
25993             "$ref": "#/parameters/interface"
25994           }
25995         ]
25996       }
25997     }
25998   }
25999 }
```

```

25996     "responses": {
25997         "200": {
25998             "description": "",
25999             "x-example": {
26000                 "rt": [ "oic.r.alarm" ],
26001                 "if": [ "oic.if.rw", "oic.if.baseline"],
26002                 "status": false,
26003                 "duration": 0.0,
26004                 "time": "2018-06-20T14:30Z",
26005                 "alarmtype": "General"
26006             },
26007             "schema": {
26008                 "$ref": "#/definitions/Alarm"
26009             }
26010         }
26011     },
26012 },
26013 "post": {
26014     "description": "This Resource describes the Properties associated with alarm status.",
26015     "parameters": [
26016         {
26017             "$ref": "#/parameters/interface"
26018         },
26019         {
26020             "name": "body",
26021             "in": "body",
26022             "required": true,
26023             "schema": { "$ref": "#/definitions/Alarm" },
26024             "x-example": {
26025                 "status": true,
26026                 "duration": 30.0,
26027                 "time": "2019-01-31T14:30Z"
26028             }
26029         }
26030     ],
26031     "responses": {
26032         "200": {
26033             "description": "",
26034             "x-example": {
26035                 "rt": [
26036                     "oic.r.alarm"
26037                 ],
26038                 "status": true,
26039                 "duration": 30.0,
26040                 "time": "2019-01-31T14:30Z",
26041                 "alarmtype": "General"
26042             },
26043             "schema": {
26044                 "$ref": "#/definitions/Alarm"
26045             }
26046         }
26047     }
26048 },
26049 },
26050 },
26051 },
26052 "parameters": {
26053     "interface": {
26054         "in": "query",
26055         "name": "if",
26056         "type": "string",
26057         "enum": [
26058             "oic.if.rw",
26059             "oic.if.baseline"
26060         ]
26061     }
26062 },
26063 "definitions": {
26064     "Alarm": {
26065         "properties": {
26066             "rt": {
26067                 "description": "The Resource Type.",

```



```

26068         "items": {
26069             "enum": [
26070                 "oic.r.alarm"
26071             ],
26072             "type": "string"
26073         },
26074         "minItems": 1,
26075         "uniqueItems": true,
26076         "readOnly": true,
26077         "type": "array"
26078     },
26079     "status": {
26080         "description": "This Property describes the status of the alarm: true - on, false - off.",
26081         "type": "boolean",
26082         "readOnly": false
26083     },
26084     "duration": {
26085         "description": "This Property describes the alarm duration (seconds).",
26086         "type": "number",
26087         "minimum": 0.0,
26088         "readOnly": false
26089     },
26090     "time": {
26091         "description": "This Property describes the alarm time using ISO 8601 datetime format
26092 (e.g: 2007-04-05T14:30Z, 2007-04-05T14:30+09:00).",
26093         "type": "string",
26094         "readOnly": false
26095     },
26096     "alarmtype": {
26097         "description": "The Alarm Type.",
26098         "type": "string",
26099         "enum": [
26100             "General",
26101             "Fire",
26102             "Flood",
26103             "Weather",
26104             "Security"
26105         ],
26106         "readOnly": true
26107     },
26108     "n": {
26109         "$ref":
26110 "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
26111 schema.json#/definitions/n"
26112     },
26113     "id": {
26114         "$ref":
26115 "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
26116 schema.json#/definitions/id"
26117     },
26118     "if": {
26119         "description": "The OCF Interface set supported by this Resource.",
26120         "items": {
26121             "enum": [
26122                 "oic.if.baseline",
26123                 "oic.if.rw"
26124             ],
26125             "type": "string"
26126         },
26127         "minItems": 1,
26128         "uniqueItems": true,
26129         "readOnly": true,
26130         "type": "array"
26131     },
26132     "range": {
26133         "$ref":
26134 "https://openconnectivityfoundation.github.io/IoTDataModels/schemas/oic.baseresource.properties-
26135 schema.json#/definitions/range_number"
26136     },
26137     "step": {
26138         "$ref":
26139 "https://openconnectivityfoundation.github.io/IoTDataModels/schemas/oic.baseresource.properties-

```

```

26140 schema.json#/definitions/step_number"
26141     },
26142     "precision": {
26143         "$ref":
26144         "https://openconnectivityfoundation.github.io/IoTDataModels/schemas/oic.baseresource.properties-
26145         schema.json#/definitions/precision"
26146     }
26147 },
26148 "type": "object",
26149 "required": [
26150     "status"
26151 ]
26152 }
26153 }
26154 }

```

26155 **6.129.5 Property definition**

26156 Table 261 defines the Properties that are part of the "oic.r.alarm" Resource Type.

26157 **Table 261 – The Property definitions of the Resource with type "rt" = "oic.r.alarm".**

Property name	Value type	Mandatory	Access mode	Description
rt	array: see schema	No	Read Only	The Resource Type.
status	boolean	Yes	Read Write	This Property describes the status of the alarm: true - on, false - off.
duration	number	No	Read Write	This Property describes the alarm duration (seconds).
time	string	No	Read Write	This Property describes the alarm time using ISO 8601 datetime format (e.g: 2007-04-05T14:30Z, 2007-04-05T14:30+09:00).
alarmtype	string	No	Read Only	The Alarm Type.
n	multiple types: see schema	No	Read Write	
id	multiple types: see schema	No	Read Write	
if	array: see schema	No	Read Only	The OCF Interface set supported by this Resource.
range	multiple types: see schema	No	Read Write	
step	multiple types: see schema	No	Read Write	
precision	multiple types: see schema	No	Read Write	

26158 **6.129.6 CRUDN behaviour**

26159 Table 262 defines the CRUDN operations that are supported on the "oic.r.alarm" Resource Type.

26160 **Table 262 – The CRUDN operations of the Resource with type "rt" = "oic.r.alarm".**

Create	Read	Update	Delete	Notify
	get	post		observe

26161 **6.130 Continuous Glucose Meter (CGM) Atomic Measurement Representation**

26162 **6.130.1 Introduction**

26163 This Resource describes the Properties associated with Continuous Glucose Meter.
26164 The Resource is an Atomic Measurement of glucose ("oic.r.glucose"), sensor
26165 ("oic.r.cgm.sensor"), observed time ("oic.r.time.stamp"), and user ID ("oic.r.userid").

26166 **6.130.2 Example URI**

26167 /ContinuousGlucoseMeterAMResURI

26168 **6.130.3 Resource type**

26169 The Resource Type is defined as: "oic.r.cgm-am, oic.wk.atomicmeasurement".

26170 **6.130.4 OpenAPI 2.0 definition**

```
26171 {  
26172   "swagger": "2.0",  
26173   "info": {  
26174     "title": "Continuous Glucose Meter (CGM) Atomic Measurement Representation",  
26175     "version": "2019-03-04",  
26176     "license": {  
26177       "name": "OCF Data Model License",  
26178       "url":  
26179       "https://github.com/openconnectivityfoundation/core/blob/e28a9e0a92e17042ba3e83661e4c0fbce8bdc4ba/LI  
26180       CENSE.md",  
26181       "x-copyright": "Copyright 2018-2019 Open Connectivity Foundation, Inc. All rights reserved."  
26182     },  
26183     "termsOfService": "https://openconnectivityfoundation.github.io/core/DISCLAIMER.md"  
26184   },  
26185   "schemes": [  
26186     "http"  
26187   ],  
26188   "consumes": [  
26189     "application/json"  
26190   ],  
26191   "produces": [  
26192     "application/json"  
26193   ],  
26194   "paths": {  
26195     "/ContinuousGlucoseMeterAMResURI?if=oic.if.b": {  
26196       "get": {  
26197         "description": "This Resource describes the Properties associated with Continuous Glucose  
26198         Meter.\n The Resource is an Atomic Measurement of glucose (\\"oic.r.glucose\\"), sensor  
26199         (\\"oic.r.cgm.sensor\\"), observed time (\\"oic.r.time.stamp\\"), and user ID (\\"oic.r.userid\\").",  
26200         "parameters": [  
26201           {  
26202             "$ref": "#/parameters/interface-all"  
26203           }  
26204         ],  
26205         "responses": {  
26206           "200": {  
26207             "description": "",  
26208             "x-example": [  
26209               {  
26210                 "href": "/myGlucose",  
26211                 "rep": {  
26212                   "glucose": 100.0,  
26213                   "units": "mg/dL"  
26214                 }  
26215               },  
26216               {  
26217                 "href": "/myContinuousGlucoseMeterSensor",  
26218                 "rep": {  
26219                   "starttime": "2018-06-20T14:30Z",  
26220                   "runtime": 7.0  
26221                 }  
26222               },  
26223               {  
26224                 "href": "/myUserId",
```

```

26225         "rep": {
26226             "userid": "USER1"
26227         }
26228     },
26229     {
26230         "href": "/myTimeStamp",
26231         "rep": {
26232             "timestamp": "2018-11-09T12:15:00+08:00"
26233         }
26234     }
26235 ],
26236 "schema": {
26237     "$ref": "#/definitions/batch-retrieve"
26238 }
26239 }
26240 }
26241 },
26242 },
26243 "/ContinuousGlucoseMeterAMResURI?if=oic.if.ll": {
26244     "get": {
26245         "description": "This Resource describes the Properties associated with Continuous Glucose
26246 Meter.\n The Resource is an Atomic Measurement of glucose (\\"oic.r.glucose\\"), sensor
26247 (\\"oic.r.cgm.sensor\\"), observed time (\\"oic.r.time.stamp\\"), and user ID (\\"oic.r.userid\\").",
26248         "parameters": [
26249             {
26250                 "$ref": "#/parameters/interface-all"
26251             }
26252         ],
26253         "responses": {
26254             "200": {
26255                 "description": "",
26256                 "x-example": [
26257                     {
26258                         "href": "/myGlucose",
26259                         "rt": [
26260                             "oic.r.glucose"
26261                         ],
26262                         "if": [
26263                             "oic.if.s",
26264                             "oic.if.baseline"
26265                         ]
26266                     },
26267                     {
26268                         "href": "/myContinuousGlucoseMeterSensor",
26269                         "rt": [
26270                             "oic.r.cgm.sensor"
26271                         ],
26272                         "if": [
26273                             "oic.if.s",
26274                             "oic.if.baseline"
26275                         ]
26276                     },
26277                     {
26278                         "href": "/myUserId",
26279                         "rt": [
26280                             "oic.r.userid"
26281                         ],
26282                         "if": [
26283                             "oic.if.r",
26284                             "oic.if.baseline"
26285                         ]
26286                     },
26287                     {
26288                         "href": "/myTimeStamp",
26289                         "rt": [
26290                             "oic.r.time.stamp"
26291                         ],
26292                         "if": [
26293                             "oic.if.r",
26294                             "oic.if.baseline"
26295                         ]
26296                     }

```

```

26297         ],
26298         "schema": {
26299             "$ref": "#/definitions/links"
26300         }
26301     }
26302 }
26303 }
26304 },
26305 "/ContinuousGlucoseMeterAMResURI?if=oic.if.baseline": {
26306     "get": {
26307         "description": "This Resource describes the Properties associated with Continuous Glucose
26308 Meter.\n The Resource is an Atomic Measurement of glucose (\\"oic.r.glucose\\"), sensor
26309 (\\"oic.r.cgm.sensor\\"), observed time (\\"oic.r.time.stamp\\"), and user ID (\\"oic.r.userid\\").",
26310         "parameters": [
26311             {
26312                 "$ref": "#/parameters/interface-all"
26313             }
26314         ],
26315         "responses": {
26316             "200": {
26317                 "description": "",
26318                 "x-example":
26319                 {
26320                     "rt": [
26321                         "oic.r.cgm-am",
26322                         "oic.wk.atomicmeasurement"
26323                     ],
26324                     "if": [
26325                         "oic.if.b",
26326                         "oic.if.ll",
26327                         "oic.if.baseline"
26328                     ],
26329                     "rts-m": [
26330                         "oic.r.glucose"
26331                     ],
26332                     "rts": [
26333                         "oic.r.glucose", "oic.r.cgm.sensor"
26334                     ],
26335                     "links": [
26336                         {
26337                             "href": "/myGlucose",
26338                             "rt": [
26339                                 "oic.r.glucose"
26340                             ],
26341                             "if": [
26342                                 "oic.if.s",
26343                                 "oic.if.baseline"
26344                             ]
26345                         },
26346                         {
26347                             "href": "/myContinuousGlucoseMeterSensor",
26348                             "rt": [
26349                                 "oic.r.cgm.sensor"
26350                             ],
26351                             "if": [
26352                                 "oic.if.s",
26353                                 "oic.if.baseline"
26354                             ]
26355                         },
26356                         {
26357                             "href": "/myUserId",
26358                             "rt": [
26359                                 "oic.r.userid"
26360                             ],
26361                             "if": [
26362                                 "oic.if.r",
26363                                 "oic.if.baseline"
26364                             ]
26365                         },
26366                         {
26367                             "href": "/myTimeStamp",
26368                             "rt": [

```

```

26369         "oic.r.time.stamp"
26370     ],
26371     "if": [
26372         "oic.if.r",
26373         "oic.if.baseline"
26374     ]
26375     }
26376 ]
26377 },
26378 "schema": {
26379     "$ref": "#/definitions/baseline"
26380 }
26381 }
26382 }
26383 }
26384 }
26385 },
26386 "parameters": {
26387     "interface-all": {
26388         "in": "query",
26389         "name": "if",
26390         "type": "string",
26391         "enum": [
26392             "oic.if.b",
26393             "oic.if.ll",
26394             "oic.if.baseline"
26395         ]
26396     }
26397 },
26398 "definitions": {
26399     "batch-retrieve": {
26400         "title": "Collection Batch Retrieve Format",
26401         "minItems": 1,
26402         "items": {
26403             "properties": {
26404                 "href": {
26405                     "$ref":
26406 "https://openconnectivityfoundation.github.io/core/schemas/oic.links.properties.core-
26407 schema.json#/definitions/href"
26408                 },
26409                 "rep": {
26410                     "type": "object",
26411                     "anyOf": [
26412                         {
26413                             "$ref":
26414 "https://openconnectivityfoundation.github.io/IoTDataModels/GlucoseResURI.swagger.json#/definitions/
26415 Glucose"
26416                         },
26417                         {
26418                             "$ref":
26419 "https://openconnectivityfoundation.github.io/IoTDataModels/ContinuousGlucoseMeterSensor.swagger.jso
26420 n#/definitions/ContinuousGlucoseMeterSensor"
26421                         },
26422                         {
26423                             "$ref":
26424 "https://openconnectivityfoundation.github.io/IoTDataModels/UserIDResURI.swagger.json#/definitions/U
26425 serID"
26426                         },
26427                         {
26428                             "$ref":
26429 "https://openconnectivityfoundation.github.io/IoTDataModels/TimeStampResURI.swagger.json#/definition
26430 s/TimeStamp"
26431                         }
26432                     ]
26433                 }
26434             },
26435             "required": [
26436                 "href",
26437                 "rep"
26438             ],
26439             "type": "object"
26440         },

```

```

26441     "type": "array"
26442   },
26443   "links": {
26444     "type": "array",
26445     "items": {
26446       "$ref": "#/definitions/oic.oic-link"
26447     }
26448   },
26449   "baseline": {
26450     "properties": {
26451       "rt": {
26452         "items": {
26453           "enum": [
26454             "oic.r.cgm-am",
26455             "oic.wk.atomicmeasurement"
26456           ]
26457         },
26458         "minItems": 2,
26459         "type": "array",
26460         "uniqueItems": true,
26461         "readOnly": true
26462       },
26463       "links": {
26464         "$ref": "#/definitions/links"
26465       },
26466       "n": {
26467         "$ref":
26468 "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
26469 schema.json#/definitions/n"
26470       },
26471       "rts": {
26472         "description": "This Property contains all possible Resource Types for this Atomic
26473 Measurement.",
26474         "items": {
26475           "enum": [
26476             "oic.r.glucose",
26477             "oic.r.cgm.sensor",
26478             "oic.r.time.stamp",
26479             "oic.r.userid"
26480           ]
26481         },
26482         "minItems": 1,
26483         "type": "array",
26484         "uniqueItems": true
26485       },
26486       "id": {
26487         "$ref":
26488 "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
26489 schema.json#/definitions/id"
26490       },
26491       "rts-m": {
26492         "description": "This Property contains all mandatory Resource Types for this Atomic
26493 Measurement.",
26494         "items": {
26495           "enum": [
26496             "oic.r.glucose"
26497           ]
26498         },
26499         "maxItems": 1,
26500         "minItems": 1,
26501         "type": "array",
26502         "readOnly": true,
26503         "uniqueItems": true
26504       },
26505       "if": {
26506         "description": "The OCF Interface set supported by this Resource.",
26507         "items": {
26508           "enum": [
26509             "oic.if.baseline",
26510             "oic.if.ll",
26511             "oic.if.b"
26512           ]

```

```

26513         "type": "string"
26514     },
26515     "minItems": 1,
26516     "uniqueItems": true,
26517     "readOnly": true,
26518     "type": "array"
26519 }
26520 },
26521 "type": "object",
26522 "required": [
26523     "rts-m"
26524 ]
26525 },
26526 "oic.oic-link": {
26527     "properties": {
26528         "anchor": {
26529             "$ref":
26530 "https://openconnectivityfoundation.github.io/core/schemas/oic.links.properties.core-
26531 schema.json#/definitions/anchor"
26532         },
26533         "di": {
26534             "$ref":
26535 "https://openconnectivityfoundation.github.io/core/schemas/oic.links.properties.core-
26536 schema.json#/definitions/di"
26537         },
26538         "eps": {
26539             "$ref":
26540 "https://openconnectivityfoundation.github.io/core/schemas/oic.links.properties.core-
26541 schema.json#/definitions/eps"
26542         },
26543         "href": {
26544             "$ref":
26545 "https://openconnectivityfoundation.github.io/core/schemas/oic.links.properties.core-
26546 schema.json#/definitions/href"
26547         },
26548         "if": {
26549             "description": "The OCF Interface set supported by this Resource.",
26550             "items": {
26551                 "enum": [
26552                     "oic.if.baseline",
26553                     "oic.if.s",
26554                     "oic.if.r"
26555                 ],
26556                 "type": "string"
26557             },
26558             "minItems": 1,
26559             "uniqueItems": true,
26560             "type": "array"
26561         },
26562         "ins": {
26563             "$ref":
26564 "https://openconnectivityfoundation.github.io/core/schemas/oic.links.properties.core-
26565 schema.json#/definitions/ins"
26566         },
26567         "p": {
26568             "$ref":
26569 "https://openconnectivityfoundation.github.io/core/schemas/oic.links.properties.core-
26570 schema.json#/definitions/p"
26571         },
26572         "rel": {
26573             "$ref":
26574 "https://openconnectivityfoundation.github.io/core/schemas/oic.links.properties.core-
26575 schema.json#/definitions/rel_array"
26576         },
26577         "rt": {
26578             "description": "The Resource Type.",
26579             "items": {
26580                 "enum": [
26581                     "oic.r.glucose",
26582                     "oic.r.cgm.sensor",
26583                     "oic.r.time.stamp",
26584                     "oic.r.userid"

```



```

26585         ],
26586         "type": "string"
26587     },
26588     "minItems": 1,
26589     "uniqueItems": true,
26590     "readOnly": true,
26591     "type": "array"
26592 },
26593 "title": {
26594     "$ref":
26595 "https://openconnectivityfoundation.github.io/core/schemas/oic.links.properties.core-
26596 schema.json#/definitions/title"
26597 },
26598 "type": {
26599     "$ref":
26600 "https://openconnectivityfoundation.github.io/core/schemas/oic.links.properties.core-
26601 schema.json#/definitions/type"
26602 }
26603 },
26604 "required": [
26605     "href",
26606     "rt",
26607     "if"
26608 ],
26609 "type": "object"
26610 }
26611 }
26612 }

```

26613 **6.130.5 Property definition**

26614 Table 263 defines the Properties that are part of the "oic.r.cgm-am, oic.wk.atomicmeasurement"
26615 Resource Type.

26616 **Table 263 – The Property definitions of the Resource with type "rt" = "oic.r.cgm-am,**
26617 **oic.wk.atomicmeasurement".**

Property name	Value type	Mandatory	Access mode	Description
href	multiple types: see schema	Yes	Read Write	
rep	object: see schema	Yes	Read Write	
rt	array: see schema	No	Read Only	
links	multiple types: see schema	No	Read Write	
n	multiple types: see schema	No	Read Write	
rts	array: see schema	No	Read Write	This Property contains all possible Resource Types for this Atomic Measurement.
id	multiple types: see schema	No	Read Write	
rts-m	array: see schema	Yes	Read Only	This Property contains all mandatory Resource Types for this Atomic Measurement.
if	array: see schema	No	Read Only	The OCF Interface set supported by this Resource.

anchor	multiple types: see schema	No	Read Write	
di	multiple types: see schema	No	Read Write	
eps	multiple types: see schema	No	Read Write	
href	multiple types: see schema	Yes	Read Write	
if	array: see schema	Yes	Read Write	The OCF Interface set supported by this Resource.
ins	multiple types: see schema	No	Read Write	
p	multiple types: see schema	No	Read Write	
rel	multiple types: see schema	No	Read Write	
rt	array: see schema	Yes	Read Only	The Resource Type.
title	multiple types: see schema	No	Read Write	
type	multiple types: see schema	No	Read Write	

26618 **6.130.6 CRUDN behaviour**

26619 Table 264 defines the CRUDN operations that are supported on the "oic.r.cgm-am,
26620 oic.wk.atomicmeasurement" Resource Type.

26621 **Table 264 – The CRUDN operations of the Resource with type "rt" = "oic.r.cgm-am,**
26622 **oic.wk.atomicmeasurement".**

Create	Read	Update	Delete	Notify
	get			observe

26623 **6.131 Calibrate for Continuous Glucose Meter (CGM)**

26624 **6.131.1 Introduction**

26625 This Resource describes the Properties associated with Calibrate for Continuous Glucose Meter
26626 (CGM).

26627 **6.131.2 Example URI**

26628 /ContinuousGlucoseMeterCalibrateResURI

26629 **6.131.3 Resource type**

26630 The Resource Type is defined as: "oic.r.cgm.calibrate".

26631 **6.131.4 OpenAPI 2.0 definition**

```
26632 {
26633   "swagger": "2.0",
26634   "info": {
26635     "title": "Calibrate for Continuous Glucose Meter (CGM)",
26636     "version": "2019-03-04",
26637     "license": {
26638       "name": "OCF Data Model License",
26639       "url":
26640         "https://github.com/openconnectivityfoundation/core/blob/e28a9e0a92e17042ba3e83661e4c0fbce8bdc4ba/LI
26641         CENSE.md",
26642       "x-copyright": "Copyright 2018-2019 Open Connectivity Foundation, Inc. All rights reserved."
```

```

26643     },
26644     "termsOfService": "https://openconnectivityfoundation.github.io/core/DISCLAIMER.md"
26645 },
26646 "schemes": [
26647   "http"
26648 ],
26649 "consumes": [
26650   "application/json"
26651 ],
26652 "produces": [
26653   "application/json"
26654 ],
26655 "paths": {
26656   "/ContinuousGlucoseMeterCalibrateResURI": {
26657     "get": {
26658       "description": "This Resource describes the Properties associated with Calibrate for
26659 Continuous Glucose Meter (CGM).",
26660       "parameters": [
26661         {
26662           "$ref": "#/parameters/interface"
26663         }
26664       ],
26665       "responses": {
26666         "200": {
26667           "description": "",
26668           "x-example": {
26669             "rt": [
26670               "oic.r.cgm.calibrate"
26671             ],
26672             "Cvalue": 128.0,
26673             "Cstatus": true
26674           },
26675           "schema": {
26676             "$ref": "#/definitions/ContinuousGlucoseMeterCalibrate"
26677           }
26678         }
26679       }
26680     },
26681     "post": {
26682       "description": "This Resource describes the Properties associated with Calibrate for
26683 Continuous Glucose Meter (CGM).",
26684       "parameters": [
26685         {
26686           "$ref": "#/parameters/interface"
26687         },
26688         {
26689           "name": "body",
26690           "in": "body",
26691           "required": true,
26692           "schema": { "$ref": "#/definitions/ContinuousGlucoseMeterCalibrate" },
26693           "x-example": {
26694             "Cvalue": 130.0,
26695             "Cstatus": true
26696           }
26697         }
26698       ],
26699       "responses": {
27000         "200": {
27001           "description": "",
27002           "x-example": {
27003             "rt": [
27004               "oic.r.cgm.calibrate"
27005             ],
27006             "Cvalue": 130.0,
27007             "Cstatus": true
27008           },
27009           "schema": {
27010             "$ref": "#/definitions/ContinuousGlucoseMeterCalibrate"
27011           }
27012         }
27013       }
27014     }

```

```

26715     }
26716   },
26717   "parameters": {
26718     "interface": {
26719       "in": "query",
26720       "name": "if",
26721       "type": "string",
26722       "enum": [
26723         "oic.if.rw",
26724         "oic.if.baseline"
26725       ]
26726     }
26727   },
26728   "definitions": {
26729     "ContinuousGlucoseMeterCalibrate": {
26730       "properties": {
26731         "Cvalue": {
26732           "description": "This Property describes the Sensor Calibration Value in mg/dL units. This
26733 blood glucose measurement using other external glucose meter.",
26734           "type": "number",
26735           "minimum": 0,
26736           "readOnly": false
26737         },
26738         "Cstatus": {
26739           "description": "Sensor calibration required flag",
26740           "type": "boolean",
26741           "readOnly": true
26742         },
26743         "rt": {
26744           "description": "The Resource Type.",
26745           "items": {
26746             "enum": [
26747               "oic.r.cgm.calibrate"
26748             ],
26749             "type": "string"
26750           },
26751           "minItems": 1,
26752           "uniqueItems": true,
26753           "readOnly": true,
26754           "type": "array"
26755         },
26756         "n": {
26757           "$ref":
26758 "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
26759 schema.json#/definitions/n"
26760         },
26761         "if": {
26762           "description": "The OCF Interface set supported by this Resource.",
26763           "items": {
26764             "enum": [
26765               "oic.if.rw",
26766               "oic.if.baseline"
26767             ],
26768             "type": "string"
26769           },
26770           "minItems": 1,
26771           "uniqueItems": true,
26772           "readOnly": true,
26773           "type": "array"
26774         },
26775         "range": {
26776           "$ref":
26777 "https://openconnectivityfoundation.github.io/IoTDataModels/schemas/oic.baseresource.properties-
26778 schema.json#/definitions/range_number"
26779         },
26780         "step": {
26781           "$ref":
26782 "https://openconnectivityfoundation.github.io/IoTDataModels/schemas/oic.baseresource.properties-
26783 schema.json#/definitions/step_number"
26784         },
26785         "precision": {
26786           "$ref":

```

```

26787 "https://openconnectivityfoundation.github.io/IoTDataModels/schemas/oic.baseresource.properties-
26788 schema.json#/definitions/precision"
26789     },
26790     "type": "object",
26791     "required": [
26792         "Cvalue", "Cstatus"
26793     ]
26794 }
26795 }
26796 }
26797 }

```

26798 **6.131.5 Property definition**

26799 Table 265 defines the Properties that are part of the "oic.r.cgm.calibrate" Resource Type.

26800 **Table 265 – The Property definitions of the Resource with type "rt" = "oic.r.cgm.calibrate".**

Property name	Value type	Mandatory	Access mode	Description
Cvalue	number	Yes	Read Write	This Property describes the Sensor Calibration Value in mg/dL units. This blood glucose measurement using other external glucose meter.
Cstatus	boolean	Yes	Read Only	Sensor calibration required flag
rt	array: see schema	No	Read Only	The Resource Type.
n	multiple types: see schema	No	Read Write	
if	array: see schema	No	Read Only	The OCF Interface set supported by this Resource.
range	multiple types: see schema	No	Read Write	
step	multiple types: see schema	No	Read Write	
precision	multiple types: see schema	No	Read Write	

26801 **6.131.6 CRUDN behaviour**

26802 Table 266 defines the CRUDN operations that are supported on the "oic.r.cgm.calibrate" Resource
 26803 Type.

26804 **Table 266 – The CRUDN operations of the Resource with type "rt" = "oic.r.cgm.calibrate".**

Create	Read	Update	Delete	Notify
	get	post		observe

26805 **6.132 Sampling Interval for Continuous Glucose Meter (CGM)**

26806 **6.132.1 Introduction**

26807 This Resource describes the Properties associated with Sampling Interval for Continuous
 26808 Glucose Meter (CGM).

26809 **6.132.2 Example URI**

26810 /ContinuousGlucoseMeterSamplingIntervalResURI

26811 **6.132.3 Resource type**

26812 The Resource Type is defined as: "oic.r.cgm.samplinginterval".

26813 **6.132.4 OpenAPI 2.0 definition**

```
26814 {
26815   "swagger": "2.0",
26816   "info": {
26817     "title": "Sampling Interval for Continuous Glucose Meter (CGM)",
26818     "version": "2019-03-04",
26819     "license": {
26820       "name": "OCF Data Model License",
26821       "url":
26822         "https://github.com/openconnectivityfoundation/core/blob/e28a9e0a92e17042ba3e83661e4c0fbce8bdc4ba/LI
26823         CENSE.md",
26824       "x-copyright": "Copyright 2018-2019 Open Connectivity Foundation, Inc. All rights reserved."
26825     },
26826     "termsOfService": "https://openconnectivityfoundation.github.io/core/DISCLAIMER.md"
26827   },
26828   "schemes": [
26829     "http"
26830   ],
26831   "consumes": [
26832     "application/json"
26833   ],
26834   "produces": [
26835     "application/json"
26836   ],
26837   "paths": {
26838     "/ContinuousGlucoseMeterSamplingIntervalResURI": {
26839       "get": {
26840         "description": "This Resource describes the Properties associated with Sampling Interval for
26841         Continuous Glucose Meter (CGM).",
26842         "parameters": [
26843           {
26844             "$ref": "#/parameters/interface"
26845           }
26846         ],
26847         "responses": {
26848           "200": {
26849             "description": "",
26850             "x-example": {
26851               "rt": [
26852                 "oic.r.cgm.samplinginterval"
26853               ],
26854               "interval": 10.0
26855             },
26856             "schema": {
26857               "$ref": "#/definitions/ContinuousGlucoseMeterSamplingInterval"
26858             }
26859           }
26860         }
26861       },
26862       "post": {
26863         "description": "This Resource describes the Properties associated with Sampling Interval for
26864         Continuous Glucose Meter (CGM).",
26865         "parameters": [
26866           {
26867             "$ref": "#/parameters/interface"
26868           },
26869           {
26870             "name": "body",
26871             "in": "body",
26872             "required": true,
26873             "schema": { "$ref": "#/definitions/ContinuousGlucoseMeterSamplingInterval" },
26874             "x-example": {
26875               "interval": 20.0
26876             }
26877           }
26878         ],
26879         "responses": {
```

```

26880         "200": {
26881             "description": "",
26882             "x-example": {
26883                 "rt": [
26884                     "oic.r.cgm.samplinginterval"
26885                 ],
26886                 "interval": 20.0
26887             },
26888             "schema": {
26889                 "$ref": "#/definitions/ContinuousGlucoseMeterSamplingInterval"
26890             }
26891         }
26892     }
26893 }
26894 },
26895 "parameters": {
26896     "interface": {
26897         "in": "query",
26898         "name": "if",
26899         "type": "string",
26900         "enum": [
26901             "oic.if.a",
26902             "oic.if.baseline"
26903         ]
26904     }
26905 },
26906 },
26907 "definitions": {
26908     "ContinuousGlucoseMeterSamplingInterval": {
26909         "properties": {
26910             "interval": {
26911                 "description": "This Property describes the Sampling interval in seconds.",
26912                 "type": "number",
26913                 "minimum": 0.0,
26914                 "readOnly": false
26915             },
26916             "rt": {
26917                 "description": "The Resource Type.",
26918                 "items": {
26919                     "enum": [
26920                         "oic.r.cgm.samplinginterval"
26921                     ],
26922                     "type": "string"
26923                 },
26924                 "minItems": 1,
26925                 "uniqueItems": true,
26926                 "readOnly": true,
26927                 "type": "array"
26928             },
26929             "n": {
26930                 "$ref":
26931 "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
26932 schema.json#/definitions/n"
26933             },
26934             "id": {
26935                 "$ref":
26936 "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
26937 schema.json#/definitions/id"
26938             },
26939             "if": {
26940                 "description": "The OCF Interface set supported by this Resource.",
26941                 "items": {
26942                     "enum": [
26943                         "oic.if.a",
26944                         "oic.if.baseline"
26945                     ],
26946                     "type": "string"
26947                 },
26948                 "minItems": 1,
26949                 "uniqueItems": true,
26950                 "readOnly": true,
26951                 "type": "array"

```

```

26952     },
26953     "range": {
26954       "$ref":
26955       "https://openconnectivityfoundation.github.io/IoTDataModels/schemas/oic.baseresource.properties-
26956       schema.json#/definitions/range_number"
26957     },
26958     "step": {
26959       "$ref":
26960       "https://openconnectivityfoundation.github.io/IoTDataModels/schemas/oic.baseresource.properties-
26961       schema.json#/definitions/step_number"
26962     },
26963     "precision": {
26964       "$ref":
26965       "https://openconnectivityfoundation.github.io/IoTDataModels/schemas/oic.baseresource.properties-
26966       schema.json#/definitions/precision"
26967     }
26968   },
26969   "type": "object",
26970   "required": [
26971     "interval"
26972   ]
26973 }
26974 }
26975 }

```

26976 **6.132.5 Property definition**

26977 Table 267 defines the Properties that are part of the "oic.r.cgm.samplinginterval" Resource Type.

26978 **Table 267 – The Property definitions of the Resource with type "rt" =**
26979 **"oic.r.cgm.samplinginterval".**

Property name	Value type	Mandatory	Access mode	Description
interval	number	Yes	Read Write	This Property describes the Sampling interval in seconds.
rt	array: see schema	No	Read Only	The Resource Type.
n	multiple types: see schema	No	Read Write	
id	multiple types: see schema	No	Read Write	
if	array: see schema	No	Read Only	The OCF Interface set supported by this Resource.
range	multiple types: see schema	No	Read Write	
step	multiple types: see schema	No	Read Write	
precision	multiple types: see schema	No	Read Write	

26980 **6.132.6 CRUDN behaviour**

26981 Table 268 defines the CRUDN operations that are supported on the "oic.r.cgm.samplinginterval"
26982 Resource Type.

26983 **Table 268 – The CRUDN operations of the Resource with type "rt" =**
26984 **"oic.r.cgm.samplinginterval".**

Create	Read	Update	Delete	Notify
	get	post		observe

26985 **6.133 Sensor for Continuous Glucose Meter (CGM)**

26986 **6.133.1 Introduction**

26987 This Resource describes the Properties associated with Sensor for Continuous Glucose Meter
26988 (CGM).

26989 **6.133.2 Example URI**

26990 /ContinuousGlucoseMeterSensorResURI

26991 **6.133.3 Resource type**

26992 The Resource Type is defined as: "oic.r.cgm.sensor".

26993 **6.133.4 OpenAPI 2.0 definition**

```
26994 {
26995   "swagger": "2.0",
26996   "info": {
26997     "title": "Sensor for Continuous Glucose Meter (CGM)",
26998     "version": "2019-03-04",
26999     "license": {
27000       "name": "OCF Data Model License",
27001       "url":
27002         "https://github.com/openconnectivityfoundation/core/blob/e28a9e0a92e17042ba3e83661e4c0fbce8bdc4ba/LI
27003         CENSE.md",
27004       "x-copyright": "Copyright 2018-2019 Open Connectivity Foundation, Inc. All rights reserved."
27005     },
27006     "termsOfService": "https://openconnectivityfoundation.github.io/core/DISCLAIMER.md"
27007   },
27008   "schemes": [
27009     "http"
27010   ],
27011   "consumes": [
27012     "application/json"
27013   ],
27014   "produces": [
27015     "application/json"
27016   ],
27017   "paths": {
27018     "/ContinuousGlucoseMeterSensorResURI": {
27019       "get": {
27020         "description": "This Resource describes the Properties associated with Sensor for Continuous
27021         Glucose Meter (CGM).",
27022         "parameters": [
27023           {
27024             "$ref": "#/parameters/interface"
27025           }
27026         ],
27027         "responses": {
27028           "200": {
27029             "description": "",
27030             "x-example": {
27031               "rt": [
27032                 "oic.r.cgm.sensor"
27033               ],
27034               "starttime": "2018-06-20T14:30Z",
27035               "runtime": 7.0
27036             },
27037             "schema": {
27038               "$ref": "#/definitions/ContinuousGlucoseMeterSensor"
27039             }
27040           }
27041         }
27042       }
27043     }
27044   },
27045   "parameters": {
27046     "interface": {
27047       "in": "query",
27048       "name": "if",
```

```

27049     "type": "string",
27050     "enum": [
27051         "oic.if.s",
27052         "oic.if.baseline"
27053     ]
27054 }
27055 },
27056 "definitions": {
27057     "ContinuousGlucoseMeterSensor": {
27058         "properties": {
27059             "starttime": {
27060                 "description": "This Property describes the Sensor start time using ISO 8601 datetime
27061 format (e.g: 2007-04-05T14:30Z, 2007-04-05T14:30+09:00)",
27062                 "type": "string",
27063                 "readOnly": true
27064             },
27065             "runtime": {
27066                 "description": "This Property describes the recommended runtime days using CGM",
27067                 "type": "number",
27068                 "minimum": 0.0,
27069                 "readOnly": true
27070             },
27071             "rt": {
27072                 "description": "The Resource Type.",
27073                 "items": {
27074                     "enum": [
27075                         "oic.r.cgm.sensor"
27076                     ],
27077                     "type": "string"
27078                 },
27079                 "minItems": 1,
27080                 "uniqueItems": true,
27081                 "readOnly": true,
27082                 "type": "array"
27083             },
27084             "n": {
27085                 "$ref":
27086 "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
27087 schema.json#/definitions/n"
27088             },
27089             "if": {
27090                 "description": "The OCF Interface set supported by this Resource.",
27091                 "items": {
27092                     "enum": [
27093                         "oic.if.s",
27094                         "oic.if.baseline"
27095                     ],
27096                     "type": "string"
27097                 },
27098                 "minItems": 1,
27099                 "uniqueItems": true,
27100                 "readOnly": true,
27101                 "type": "array"
27102             },
27103             "range": {
27104                 "$ref":
27105 "https://openconnectivityfoundation.github.io/IoTDataModels/schemas/oic.baseresource.properties-
27106 schema.json#/definitions/range_number"
27107             },
27108             "step": {
27109                 "$ref":
27110 "https://openconnectivityfoundation.github.io/IoTDataModels/schemas/oic.baseresource.properties-
27111 schema.json#/definitions/step_number"
27112             },
27113             "precision": {
27114                 "$ref":
27115 "https://openconnectivityfoundation.github.io/IoTDataModels/schemas/oic.baseresource.properties-
27116 schema.json#/definitions/precision"
27117             }
27118         },
27119         "type": "object",
27120         "required": [

```

```

27121         "starttime", "runtime"
27122     ]
27123 }
27124 }
27125 }

```

27126 6.133.5 Property definition

27127 Table 269 defines the Properties that are part of the "oic.r.cgm.sensor" Resource Type.

27128 **Table 269 – The Property definitions of the Resource with type "rt" = "oic.r.cgm.sensor".**

Property name	Value type	Mandatory	Access mode	Description
starttime	string	Yes	Read Only	This Property describes the Sensor start time using ISO 8601 datetime format (e.g: 2007-04-05T14:30Z, 2007-04-05T14:30+09:00)
runtime	number	Yes	Read Only	This Property describes the recommended runtime days using CGM
rt	array: see schema	No	Read Only	The Resource Type.
n	multiple types: see schema	No	Read Write	
if	array: see schema	No	Read Only	The OCF Interface set supported by this Resource.
range	multiple types: see schema	No	Read Write	
step	multiple types: see schema	No	Read Write	
precision	multiple types: see schema	No	Read Write	

27129 6.133.6 CRUDN behaviour

27130 Table 270 defines the CRUDN operations that are supported on the "oic.r.cgm.sensor" Resource Type.

27132 **Table 270 – The CRUDN operations of the Resource with type "rt" = "oic.r.cgm.sensor".**

Create	Read	Update	Delete	Notify
	get			observe

27133 6.134 Status for Continuous Glucose Meter (CGM)

27134 6.134.1 Introduction

27135 This Resource describes the Properties associated with Status for Continuous Glucose Meter
27136 (CGM).

27137 6.134.2 Example URI

27138 /ContinuousGlucoseMeterStatusResURI

27139 6.134.3 Resource type

27140 The Resource Type is defined as: "oic.r.cgm.status".

27141 6.134.4 OpenAPI 2.0 definition

```
27142 {
27143   "swagger": "2.0",
27144   "info": {
27145     "title": "Status for Continuous Glucose Meter (CGM)",
27146     "version": "2019-03-04",
27147     "license": {
27148       "name": "OCF Data Model License",
27149       "url":
27150 "https://github.com/openconnectivityfoundation/core/blob/e28a9e0a92e17042ba3e83661e4c0fbce8bdc4ba/LI
27151 CENSE.md",
27152       "x-copyright": "Copyright 2018-2019 Open Connectivity Foundation, Inc. All rights reserved."
27153     },
27154     "termsOfService": "https://openconnectivityfoundation.github.io/core/DISCLAIMER.md"
27155   },
27156   "schemes": [
27157     "http"
27158   ],
27159   "consumes": [
27160     "application/json"
27161   ],
27162   "produces": [
27163     "application/json"
27164   ],
27165   "paths": {
27166     "/ContinuousGlucoseMeterStatusResURI": {
27167       "get": {
27168         "description": "This Resource describes the Properties associated with Status for Continuous
27169 Glucose Meter (CGM).",
27170         "parameters": [
27171           {
27172             "$ref": "#/parameters/interface"
27173           }
27174         ],
27175         "responses": {
27176           "200": {
27177             "description": "",
27178             "x-example": {
27179               "rt": [
27180                 "oic.r.cgm.status"
27181               ],
27182               "cgmttype": "Interstitial Fluid",
27183               "cgmstatus": "working",
27184               "gtrend": 100.0,
27185               "malfunction": false
27186             },
27187             "schema": {
27188               "$ref": "#/definitions/ContinuousGlucoseMeterStatus"
27189             }
27190           }
27191         }
27192       }
27193     }
27194   },
27195   "parameters": {
27196     "interface": {
27197       "in": "query",
27198       "name": "if",
27199       "type": "string",
27200       "enum": [
27201         "oic.if.s",
27202         "oic.if.baseline"
27203       ]
27204     }
27205   },
27206   "definitions": {
27207     "ContinuousGlucoseMeterStatus": {
27208       "properties": {
27209         "cgmttype": {
27210           "description": "This Property describes the CGM measurement type.",
27211           "type": "string",
```

```

27212         "enum": [
27213             "Capillary Whole blood",
27214             "Capillary Plasma",
27215             "Venous Plasma",
27216             "Arterial Whole blood",
27217             "Arterial Plasma",
27218             "Undetermined Whole blood",
27219             "Undetermined Plasma",
27220             "Interstitial Fluid"
27221         ],
27222         "readOnly": true
27223     },
27224     "cgmstatus": {
27225         "description": "This Property describes the specific notifications given by the CGM device
including, but not limited to, warnings, errors, and handling events.",
27226         "type": "string",
27227         "readOnly": true
27228     },
27229 },
27230 "gtrend": {
27231     "description": "This Property describes the rate of change in glucose measurements at a
time instant.",
27232     "type": "number",
27233     "minimum": 0.0,
27234     "readOnly": true
27235 },
27236 },
27237 "malfunction": {
27238     "description": "This Property describes the sensor malfunction detection check.",
27239     "type": "boolean",
27240     "readOnly": true
27241 },
27242 "rt": {
27243     "description": "The Resource Type.",
27244     "items": {
27245         "enum": [
27246             "oic.r.cgm.status"
27247         ],
27248         "type": "string"
27249     },
27250     "minItems": 1,
27251     "uniqueItems": true,
27252     "readOnly": true,
27253     "type": "array"
27254 },
27255 "n": {
27256     "$ref":
27257     "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
27258     schema.json#/definitions/n"
27259 },
27260 "if": {
27261     "description": "The OCF Interface set supported by this Resource.",
27262     "items": {
27263         "enum": [
27264             "oic.if.s",
27265             "oic.if.baseline"
27266         ],
27267         "type": "string"
27268     },
27269     "minItems": 1,
27270     "uniqueItems": true,
27271     "readOnly": true,
27272     "type": "array"
27273 },
27274 "range": {
27275     "$ref":
27276     "https://openconnectivityfoundation.github.io/IoTDataModels/schemas/oic.baseresource.properties-
27277     schema.json#/definitions/range_number"
27278 },
27279 "step": {
27280     "$ref":
27281     "https://openconnectivityfoundation.github.io/IoTDataModels/schemas/oic.baseresource.properties-
27282     schema.json#/definitions/step_number"
27283 },

```

```

27284         "precision": {
27285             "$ref":
27286             "https://openconnectivityfoundation.github.io/IoTDataModels/schemas/oic.baseresource.properties-
27287             schema.json#/definitions/precision"
27288         },
27289     },
27290     "type": "object",
27291     "required": [
27292         "cgmtype",
27293         "cgmstatus",
27294         "gtrend",
27295         "malfunction"
27296     ]
27297 }
27298 }
27299 }

```

27300 6.134.5 Property definition

27301 Table 271 defines the Properties that are part of the "oic.r.cgm.status" Resource Type.

27302 **Table 271 – The Property definitions of the Resource with type "rt" = "oic.r.cgm.status".**

Property name	Value type	Mandatory	Access mode	Description
cgmtype	string	Yes	Read Only	This Property describes the CGM measurement type.
cgmstatus	string	Yes	Read Only	This Property describes the specific notifications given by the CGM device including, but not limited to, warnings, errors, and handling events.
gtrend	number	Yes	Read Only	This Property describes the rate of change in glucose measurements at a time instant.
malfunction	boolean	Yes	Read Only	This Property describes the sensor malfunction detection check.
rt	array: see schema	No	Read Only	The Resource Type.
n	multiple types: see schema	No	Read Write	
if	array: see schema	No	Read Only	The OCF Interface set supported by this Resource.
range	multiple types: see schema	No	Read Write	
step	multiple types: see schema	No	Read Write	
precision	multiple types: see schema	No	Read Write	

27303 6.134.6 CRUDN behaviour

27304 Table 272 defines the CRUDN operations that are supported on the "oic.r.cgm.status" Resource
27305 Type.

27306 **Table 272 – The CRUDN operations of the Resource with type "rt" = "oic.r.cgm.status".**

Create	Read	Update	Delete	Notify
	get			observe

27307 **6.135 Threshold for Continuous Glucose Meter (CGM)**

27308 **6.135.1 Introduction**

27309 This Resource describes the Properties associated with Threshold for Continuous Glucose Meter
27310 (CGM).

27311 **6.135.2 Example URI**

27312 /ContinuousGlucoseMeterThresholdResURI

27313 **6.135.3 Resource type**

27314 The Resource Type is defined as: "oic.r.cgm.threshold".

27315 **6.135.4 OpenAPI 2.0 definition**

```

27316 {
27317   "swagger": "2.0",
27318   "info": {
27319     "title": "Threshold for Continuous Glucose Meter (CGM)",
27320     "version": "2019-03-04",
27321     "license": {
27322       "name": "OCF Data Model License",
27323       "url":
27324         "https://github.com/openconnectivityfoundation/core/blob/e28a9e0a92e17042ba3e83661e4c0fbce8bdc4ba/LI
27325         CENSE.md",
27326       "x-copyright": "Copyright 2018-2019 Open Connectivity Foundation, Inc. All rights reserved."
27327     },
27328     "termsOfService": "https://openconnectivityfoundation.github.io/core/DISCLAIMER.md"
27329   },
27330   "schemes": [
27331     "http"
27332   ],
27333   "consumes": [
27334     "application/json"
27335   ],
27336   "produces": [
27337     "application/json"
27338   ],
27339   "paths": {
27340     "/ContinuousGlucoseMeterThresholdResURI": {
27341       "get": {
27342         "description": "This Resource describes the Properties associated with Threshold for
27343         Continuous Glucose Meter (CGM).",
27344         "parameters": [
27345           {
27346             "$ref": "#/parameters/interface"
27347           }
27348         ],
27349         "responses": {
27350           "200": {
27351             "description": "",
27352             "x-example": {
27353               "rt": [
27354                 "oic.r.cgm.threshold"
27355               ],
27356               "plow": 100.0,
27357               "phigh": 180.0,
27358               "dhypo": 80.0,
27359               "dhyper": 125.0,
27360               "gir": 5.0,
27361               "gdr": 5.0
27362             },
27363             "schema": {

```

```

27364         "$ref": "#/definitions/ContinuousGlucoseMeterThreshold"
27365     }
27366 }
27367 }
27368 },
27369 "post": {
27370     "description": "This Resource describes the Properties associated with Threshold for
27371 Continuous Glucose Meter (CGM).",
27372     "parameters": [
27373         {
27374             "$ref": "#/parameters/interface"
27375         },
27376         {
27377             "name": "body",
27378             "in": "body",
27379             "required": true,
27380             "schema": { "$ref": "#/definitions/ContinuousGlucoseMeterThreshold" },
27381             "x-example": {
27382                 "plow": 70.0,
27383                 "phigh": 150.0,
27384                 "dhypo": 60.0,
27385                 "dhyper": 90.0,
27386                 "gir": 3.0,
27387                 "gdr": 3.0
27388             }
27389         }
27390     ],
27391     "responses": {
27392         "200": {
27393             "description": "",
27394             "x-example": {
27395                 "rt": [
27396                     "oic.r.cgm.threshold"
27397                 ],
27398                 "plow": 70.0,
27399                 "phigh": 150.0,
27400                 "dhypo": 60.0,
27401                 "dhyper": 90.0,
27402                 "gir": 3.0,
27403                 "gdr": 3.0
27404             },
27405             "schema": {
27406                 "$ref": "#/definitions/ContinuousGlucoseMeterThreshold"
27407             }
27408         }
27409     }
27410 }
27411 },
27412 "parameters": {
27413     "interface": {
27414         "in": "query",
27415         "name": "if",
27416         "type": "string",
27417         "enum": [
27418             "oic.if.rw",
27419             "oic.if.baseline"
27420         ]
27421     }
27422 },
27423 "definitions": {
27424     "ContinuousGlucoseMeterThreshold": {
27425         "properties": {
27426             "plow": {
27427                 "description": "This Property describes the Patient low threshold (mg/dL)",
27428                 "type": "number",
27429                 "minimum": 0.0,
27430                 "readOnly": false
27431             },
27432             "phigh": {
27433                 "description": "This Property describes the Patient high threshold (mg/dL)",
27434                 "type": "number",
27435

```



```

27436         "minimum": 0.0,
27437         "readOnly": false
27438     },
27439     "dhylo": {
27440         "description": "This Property describes the Device hypoglycemia threshold (mg/dL)",
27441         "type": "number",
27442         "minimum": 0.0,
27443         "readOnly": false
27444     },
27445     "dhyper": {
27446         "description": "This Property describes the Device hyperglycemia threshold (mg/dL)",
27447         "type": "number",
27448         "minimum": 0.0,
27449         "readOnly": false
27450     },
27451     "gir": {
27452         "description": "This Property describes the Glucose Increase rate of change threshold
27453 (%)",
27454         "type": "number",
27455         "minimum": 0.0,
27456         "readOnly": false
27457     },
27458     "gdr": {
27459         "description": "This Property describes the Glucose Decrease rate of change threshold
27460 (%)",
27461         "type": "number",
27462         "minimum": 0.0,
27463         "readOnly": false
27464     },
27465     "rt": {
27466         "description": "The Resource Type.",
27467         "items": {
27468             "enum": [
27469                 "oic.r.cgm.threshold"
27470             ],
27471             "type": "string"
27472         },
27473         "minItems": 1,
27474         "uniqueItems": true,
27475         "readOnly": true,
27476         "type": "array"
27477     },
27478     "n": {
27479         "$ref":
27480 "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
27481 schema.json#/definitions/n"
27482     },
27483     "if": {
27484         "description": "The OCF Interface set supported by this Resource.",
27485         "items": {
27486             "enum": [
27487                 "oic.if.rw",
27488                 "oic.if.baseline"
27489             ],
27490             "type": "string"
27491         },
27492         "minItems": 1,
27493         "uniqueItems": true,
27494         "readOnly": true,
27495         "type": "array"
27496     },
27497     "range": {
27498         "$ref":
27499 "https://openconnectivityfoundation.github.io/IoTDataModels/schemas/oic.baseresource.properties-
27500 schema.json#/definitions/range_number"
27501     },
27502     "step": {
27503         "$ref":
27504 "https://openconnectivityfoundation.github.io/IoTDataModels/schemas/oic.baseresource.properties-
27505 schema.json#/definitions/step_number"
27506     },
27507     "precision": {

```

```

27508         "$ref":
27509         "https://openconnectivityfoundation.github.io/IoTDataModels/schemas/oic.baseresource.properties-
27510         schema.json#/definitions/precision"
27511     }
27512 },
27513     "type": "object",
27514     "required": [
27515         "plow",
27516         "phigh",
27517         "dhypo",
27518         "dhyper",
27519         "gir",
27520         "gdr"
27521     ]
27522 }
27523 }
27524 }

```

27525 **6.135.5 Property definition**

27526 Table 273 defines the Properties that are part of the "oic.r.cgm.threshold" Resource Type.

27527 **Table 273 – The Property definitions of the Resource with type "rt" = "oic.r.cgm.threshold".**

Property name	Value type	Mandatory	Access mode	Description
plow	number	Yes	Read Write	This Property describes the Patient low threshold (mg/dL)
phigh	number	Yes	Read Write	This Property describes the Patient high threshold (mg/dL)
dhypo	number	Yes	Read Write	This Property describes the Device hypoglycemia threshold (mg/dL)
dhyper	number	Yes	Read Write	This Property describes the Device hyperglycemia threshold (mg/dL)
gir	number	Yes	Read Write	This Property describes the Glucose Increase rate of change threshold (%)
gdr	number	Yes	Read Write	
rt	array: see schema	No	Read Only	The Resource Type.
n	multiple types: see schema	No	Read Write	
if	array: see schema	No	Read Only	The OCF Interface set supported by this Resource.
range	multiple types: see schema	No	Read Write	
step	multiple types: see schema	No	Read Write	
precision	multiple types: see schema	No	Read Write	

27528 **6.135.6 CRUDN behaviour**

27529 Table 274 defines the CRUDN operations that are supported on the "oic.r.cgm.threshold" Resource
27530 Type.

27531 **Table 274 – The CRUDN operations of the Resource with type "rt" = "oic.r.cgm.threshold".**

Create	Read	Update	Delete	Notify
	get	post		observe

27532 **6.136 Heart Rate**

27533 **6.136.1 Introduction**

27534 This Resource describes the Properties associated with a person's heart rate.

27535 The unit, which is the default unit, is bpm.

27536 The heartrate Property is a read-only value that is provided by the server.

27537 When range (from "oic.r.baseresource") is omitted the default is 0 to +MAXFLOAT.

27538 **6.136.2 Example URI**

27539 /HeartRateResURI

27540 **6.136.3 Resource type**

27541 The Resource Type is defined as: "oic.r.heartrate".

27542 **6.136.4 OpenAPI 2.0 definition**

```

27543 {
27544   "swagger": "2.0",
27545   "info": {
27546     "title": "Heart Rate",
27547     "version": "2019-03-04",
27548     "license": {
27549       "name": "OCF Data Model License",
27550       "url":
27551 "https://github.com/openconnectivityfoundation/core/blob/e28a9e0a92e17042ba3e83661e4c0fbce8bdc4ba/LI
27552 CENSE.md",
27553       "x-copyright": "Copyright 2018-2019 Open Connectivity Foundation, Inc. All rights reserved."
27554     },
27555     "termsOfService": "https://openconnectivityfoundation.github.io/core/DISCLAIMER.md"
27556   },
27557   "schemes": [
27558     "http"
27559   ],
27560   "consumes": [
27561     "application/json"
27562   ],
27563   "produces": [
27564     "application/json"
27565   ],
27566   "paths": {
27567     "/HeartRateResURI": {
27568       "get": {
27569         "description": "This Resource describes the Properties associated with a person's heart
27570 rate.\n The unit, which is the default unit, is bpm.\n The heartrate Property is a read-only value
27571 that is provided by the server.\n When range (from \"oic.r.baseresource\") is omitted the default is
27572 0 to +MAXFLOAT.",
27573         "parameters": [
27574           {
27575             "$ref": "#/parameters/interface"
27576           }
27577         ],
27578         "responses": {
27579           "200": {
27580             "description": "",
27581             "x-example": {
27582               "rt": [

```

```

27583         "oic.r.heartrate"
27584     ],
27585     "heartrate": 80
27586 },
27587     "schema": {
27588         "$ref": "#/definitions/HeartRate"
27589     }
27590 }
27591 }
27592 }
27593 }
27594 },
27595 "parameters": {
27596     "interface": {
27597         "in": "query",
27598         "name": "if",
27599         "type": "string",
27600         "enum": [
27601             "oic.if.s",
27602             "oic.if.baseline"
27603         ]
27604     }
27605 },
27606 "definitions": {
27607     "HeartRate": {
27608         "properties": {
27609             "heartrate": {
27610                 "description": "This Property describes the heart rate in bpm.",
27611                 "type": "integer",
27612                 "minimum": 0,
27613                 "readOnly": true
27614             },
27615             "rt": {
27616                 "description": "The Resource Type.",
27617                 "items": {
27618                     "enum": [
27619                         "oic.r.heartrate"
27620                     ],
27621                     "type": "string"
27622                 },
27623                 "minItems": 1,
27624                 "uniqueItems": true,
27625                 "readOnly": true,
27626                 "type": "array"
27627             },
27628             "n": {
27629                 "$ref":
27630 "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
27631 schema.json#/definitions/n"
27632             },
27633             "if": {
27634                 "description": "The OCF Interface set supported by this Resource.",
27635                 "items": {
27636                     "enum": [
27637                         "oic.if.s",
27638                         "oic.if.baseline"
27639                     ],
27640                     "type": "string"
27641                 },
27642                 "minItems": 1,
27643                 "uniqueItems": true,
27644                 "readOnly": true,
27645                 "type": "array"
27646             },
27647             "range": {
27648                 "$ref":
27649 "https://openconnectivityfoundation.github.io/IoTDataModels/schemas/oic.baseresource.properties-
27650 schema.json#/definitions/range_integer"
27651             },
27652             "step": {
27653                 "$ref":
27654 "https://openconnectivityfoundation.github.io/IoTDataModels/schemas/oic.baseresource.properties-

```

```

27655 schema.json#/definitions/step_integer"
27656     }
27657   },
27658   "type": "object",
27659   "required": [
27660     "heartrate"
27661   ]
27662 }
27663 }
27664 }

```

27665 **6.136.5 Property definition**

27666 Table 275 defines the Properties that are part of the "oic.r.heartrate" Resource Type.

27667 **Table 275 – The Property definitions of the Resource with type "rt" = "oic.r.heartrate".**

Property name	Value type	Mandatory	Access mode	Description
heartrate	integer	Yes	Read Only	This Property describes the heart rate in bpm.
rt	array: see schema	No	Read Only	The Resource Type.
n	multiple types: see schema	No	Read Write	
if	array: see schema	No	Read Only	The OCF Interface set supported by this Resource.
range	multiple types: see schema	No	Read Write	
step	multiple types: see schema	No	Read Write	

27668 **6.136.6 CRUDN behaviour**

27669 Table 276 defines the CRUDN operations that are supported on the "oic.r.heartrate" Resource
 27670 Type.

27671 **Table 276 – The CRUDN operations of the Resource with type "rt" = "oic.r.heartrate".**

Create	Read	Update	Delete	Notify
	get			observe

27672 **6.137 Heart Rate Monitor Atomic Measurement Representation**

27673 **6.137.1 Introduction**

27674 This Resource describes the Properties associated with Heart Rate Monitor.
 27675 The Resource is an Atomic Measurement of heart rate ("oic.r.heartrate"), observed time
 27676 ("oic.r.time.stamp"), and user ID ("oic.r.userid").

27677 **6.137.2 Example URI**

27678 /HeartRateMonitorAMResURI

27679 **6.137.3 Resource type**

27680 The Resource Type is defined as: "oic.r.heartratemonitor-am, oic.wk.atomicmeasurement".

27681 **6.137.4 OpenAPI 2.0 definition**

```

27682 {
27683   "swagger": "2.0",
27684   "info": {
27685     "title": "Heart Rate Monitor Atomic Measurement Representation",
27686     "version": "2019-03-04",

```

```

27687     "license": {
27688         "name": "OCF Data Model License",
27689         "url":
27690 "https://github.com/openconnectivityfoundation/core/blob/e28a9e0a92e17042ba3e83661e4c0fbce8bdc4ba/LI
27691 CENSE.md",
27692         "x-copyright": "Copyright 2018-2019 Open Connectivity Foundation, Inc. All rights reserved."
27693     },
27694     "termsOfService": "https://openconnectivityfoundation.github.io/core/DISCLAIMER.md"
27695 },
27696     "schemes": [
27697         "http"
27698     ],
27699     "consumes": [
27700         "application/json"
27701     ],
27702     "produces": [
27703         "application/json"
27704     ],
27705     "paths": {
27706         "/HeartRateMonitorAMResURI?if=oic.if.b": {
27707             "get": {
27708                 "description": "This Resource describes the Properties associated with Heart Rate Monitor.\n
27709 The Resource is an Atomic Measurement of heart rate (\\"oic.r.heartrate\\"), observed time
27710 (\\"oic.r.time.stamp\\"), and user ID (\\"oic.r.userid\\").",
27711                 "parameters": [
27712                     {
27713                         "$ref": "#/parameters/interface-all"
27714                     }
27715                 ],
27716                 "responses": {
27717                     "200": {
27718                         "description": "",
27719                         "x-example": [
27720                             {
27721                                 "href": "/myHeartrate",
27722                                 "rep": {
27723                                     "heartrate": 80
27724                                 }
27725                             },
27726                             {
27727                                 "href": "/myUserId",
27728                                 "rep": {
27729                                     "userid": "USER1"
27730                                 }
27731                             },
27732                             {
27733                                 "href": "/myTimeStamp",
27734                                 "rep": {
27735                                     "timestamp": "2018-11-09T12:15:00+08:00"
27736                                 }
27737                             }
27738                         ],
27739                         "schema": {
27740                             "$ref": "#/definitions/batch-retrieve"
27741                         }
27742                     }
27743                 }
27744             },
27745         },
27746         "/HeartRateMonitorAMResURI?if=oic.if.ll": {
27747             "get": {
27748                 "description": "This Resource describes the Properties associated with Heart Rate Monitor.\n
27749 The Resource is an Atomic Measurement of heart rate (\\"oic.r.heartrate\\"), observed time
27750 (\\"oic.r.time.stamp\\"), and user ID (\\"oic.r.userid\\").",
27751                 "parameters": [
27752                     {
27753                         "$ref": "#/parameters/interface-all"
27754                     }
27755                 ],
27756                 "responses": {
27757                     "200": {
27758                         "description": "",

```

```

27759     "x-example": [
27760     {
27761         "href": "/myHeartrate",
27762         "rt": [
27763             "oic.r.heartrate"
27764         ],
27765         "if": [
27766             "oic.if.s",
27767             "oic.if.baseline"
27768         ]
27769     },
27770     {
27771         "href": "/myUserId",
27772         "rt": [
27773             "oic.r.userid"
27774         ],
27775         "if": [
27776             "oic.if.r",
27777             "oic.if.baseline"
27778         ]
27779     },
27780     {
27781         "href": "/myTimeStamp",
27782         "rt": [
27783             "oic.r.time.stamp"
27784         ],
27785         "if": [
27786             "oic.if.r",
27787             "oic.if.baseline"
27788         ]
27789     }
27790 ],
27791 "schema": {
27792     "$ref": "#/definitions/links"
27793 }
27794 }
27795 }
27796 }
27797 },
27798 "/HeartRateMonitorAMResURI?if=oic.if.baseline": {
27799     "get": {
27800         "description": "This Resource describes the Properties associated with Heart Rate Monitor.\n
27801 The Resource is an Atomic Measurement of heart rate (\\"oic.r.heartrate\\"), observed time
27802 (\\"oic.r.time.stamp\\"), and user ID (\\"oic.r.userid\\").",
27803         "parameters": [
27804             {
27805                 "$ref": "#/parameters/interface-all"
27806             }
27807         ],
27808         "responses": {
27809             "200": {
27810                 "description": "",
27811                 "x-example":
27812                 {
27813                     "rt": [
27814                         "oic.r.heartratemonitor-am",
27815                         "oic.wk.atomicmeasurement"
27816                     ],
27817                     "if": [
27818                         "oic.if.b",
27819                         "oic.if.ll",
27820                         "oic.if.baseline"
27821                     ],
27822                     "rts-m": [
27823                         "oic.r.heartrate"
27824                     ],
27825                     "rts": [
27826                         "oic.r.heartrate",
27827                         "oic.r.userid",
27828                         "oic.r.time.stamp"
27829                     ],
27830                     "links": [

```

```

27831         {
27832             "href": "/myHeartRateMonitor",
27833             "rt": [
27834                 "oic.r.heartrate"
27835             ],
27836             "if": [
27837                 "oic.if.s",
27838                 "oic.if.baseline"
27839             ]
27840         },
27841         {
27842             "href": "/myUserId",
27843             "rt": [
27844                 "oic.r.userid"
27845             ],
27846             "if": [
27847                 "oic.if.r",
27848                 "oic.if.baseline"
27849             ]
27850         },
27851         {
27852             "href": "/myTimeStamp",
27853             "rt": [
27854                 "oic.r.time.stamp"
27855             ],
27856             "if": [
27857                 "oic.if.r",
27858                 "oic.if.baseline"
27859             ]
27860         }
27861     ]
27862 }
27863 ,
27864 "schema": {
27865     "$ref": "#/definitions/baseline"
27866 }
27867 }
27868 }
27869 }
27870 },
27871 },
27872 "parameters": {
27873     "interface-all": {
27874         "in": "query",
27875         "name": "if",
27876         "type": "string",
27877         "enum": [
27878             "oic.if.b",
27879             "oic.if.ll",
27880             "oic.if.baseline"
27881         ]
27882     }
27883 },
27884 "definitions": {
27885     "batch-retrieve": {
27886         "title": "Collection Batch Retrieve Format",
27887         "minItems": 1,
27888         "items": {
27889             "properties": {
27890                 "href": {
27891                     "$ref":
27892 "https://openconnectivityfoundation.github.io/core/schemas/oic.links.properties.core-
27893 schema.json#/definitions/href"
27894                 },
27895                 "rep": {
27896                     "type": "object",
27897                     "anyOf": [
27898                         {
27899                             "$ref":
27900 "https://openconnectivityfoundation.github.io/IoTDataModels/HeartRate.swagger.json#/definitions/Hear
27901 tRate"
27902                         }

```



```

27903         {
27904             "$ref":
27905             "https://openconnectivityfoundation.github.io/IoTDataModels/UserIDResURI.swagger.json#/definitions/U
27906             serID"
27907         },
27908         {
27909             "$ref":
27910             "https://openconnectivityfoundation.github.io/IoTDataModels/TimeStampResURI.swagger.json#/definition
27911             s/TimeStamp"
27912         }
27913     ]
27914 }
27915 },
27916 "required": [
27917     "href",
27918     "rep"
27919 ],
27920 "type": "object"
27921 },
27922 "type": "array"
27923 },
27924 "links": {
27925     "type": "array",
27926     "items": {
27927         "$ref": "#/definitions/oic.oic-link"
27928     }
27929 },
27930 "baseline": {
27931     "properties": {
27932         "rt": {
27933             "items": {
27934                 "enum": [
27935                     "oic.r.heartratemonitor-am",
27936                     "oic.wk.atomicmeasurement"
27937                 ]
27938             },
27939             "minItems": 2,
27940             "type": "array",
27941             "uniqueItems": true,
27942             "readOnly": true
27943         },
27944         "links": {
27945             "$ref": "#/definitions/links"
27946         },
27947         "n": {
27948             "$ref":
27949             "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
27950             schema.json#/definitions/n"
27951         },
27952         "rts": {
27953             "description": "This Property contains all possible Resource Types for this Atomic
27954             Measurement.",
27955             "items": {
27956                 "enum": [
27957                     "oic.r.heartrate",
27958                     "oic.r.userid",
27959                     "oic.r.time.stamp"
27960                 ]
27961             },
27962             "minItems": 1,
27963             "type": "array",
27964             "uniqueItems": true,
27965             "readOnly": true
27966         },
27967         "rts-m": {
27968             "description": "This Property contains all mandatory Resource Types for this Atomic
27969             Measurement.",
27970             "items": {
27971                 "enum": [
27972                     "oic.r.heartrate"
27973                 ]
27974             },

```

```

27975         "maxItems": 1,
27976         "minItems": 1,
27977         "type": "array",
27978         "readOnly": true,
27979         "uniqueItems": true
27980     },
27981     "if": {
27982         "description": "The OCF Interface set supported by this Resource.",
27983         "items": {
27984             "enum": [
27985                 "oic.if.b",
27986                 "oic.if.ll",
27987                 "oic.if.baseline"
27988             ],
27989             "type": "string"
27990         },
27991         "minItems": 1,
27992         "uniqueItems": true,
27993         "readOnly": true,
27994         "type": "array"
27995     }
27996 },
27997 "type": "object",
27998 "required": [
27999     "rts-m"
28000 ]
28001 },
28002 "oic.oic-link": {
28003     "properties": {
28004         "anchor": {
28005             "$ref":
28006 "https://openconnectivityfoundation.github.io/core/schemas/oic.links.properties.core-
28007 schema.json#/definitions/anchor"
28008         },
28009         "di": {
28010             "$ref":
28011 "https://openconnectivityfoundation.github.io/core/schemas/oic.links.properties.core-
28012 schema.json#/definitions/di"
28013         },
28014         "eps": {
28015             "$ref":
28016 "https://openconnectivityfoundation.github.io/core/schemas/oic.links.properties.core-
28017 schema.json#/definitions/eps"
28018         },
28019         "href": {
28020             "$ref":
28021 "https://openconnectivityfoundation.github.io/core/schemas/oic.links.properties.core-
28022 schema.json#/definitions/href"
28023         },
28024         "if": {
28025             "description": "The OCF Interface set supported by this Resource.",
28026             "items": {
28027                 "enum": [
28028                     "oic.if.baseline",
28029                     "oic.if.s",
28030                     "oic.if.r"
28031                 ],
28032                 "type": "string"
28033             },
28034             "minItems": 1,
28035             "uniqueItems": true,
28036             "readOnly": true,
28037             "type": "array"
28038         },
28039         "ins": {
28040             "$ref":
28041 "https://openconnectivityfoundation.github.io/core/schemas/oic.links.properties.core-
28042 schema.json#/definitions/ins"
28043         },
28044         "p": {
28045             "$ref":
28046 "https://openconnectivityfoundation.github.io/core/schemas/oic.links.properties.core-

```

```

28047 schema.json#/definitions/p"
28048     },
28049     "rel": {
28050       "$ref":
28051       "https://openconnectivityfoundation.github.io/core/schemas/oic.links.properties.core-
28052       schema.json#/definitions/rel_array"
28053     },
28054     "rt": {
28055       "description": "The Resource Type.",
28056       "items": {
28057         "enum": [
28058           "oic.r.heartrate",
28059           "oic.r.time.stamp",
28060           "oic.r.userid"
28061         ],
28062         "type": "string"
28063       },
28064       "minItems": 1,
28065       "uniqueItems": true,
28066       "readOnly": true,
28067       "type": "array"
28068     },
28069     "title": {
28070       "$ref":
28071       "https://openconnectivityfoundation.github.io/core/schemas/oic.links.properties.core-
28072       schema.json#/definitions/title"
28073     },
28074     "type": {
28075       "$ref":
28076       "https://openconnectivityfoundation.github.io/core/schemas/oic.links.properties.core-
28077       schema.json#/definitions/type"
28078     }
28079   },
28080   "required": [
28081     "href",
28082     "rt",
28083     "if"
28084   ],
28085   "type": "object"
28086 }
28087 }
28088 }

```

28089 **6.137.5 Property definition**

28090 Table 277 defines the Properties that are part of the "oic.r.heartratemonitor-am,
28091 oic.wk.atomicmeasurement" Resource Type.

28092 **Table 277 – The Property definitions of the Resource with type "rt" =**
28093 **"oic.r.heartratemonitor-am, oic.wk.atomicmeasurement".**

Property name	Value type	Mandatory	Access mode	Description
href	multiple types: see schema	Yes	Read Write	
rep	object: see schema	Yes	Read Write	
rt	array: see schema	No	Read Only	
links	multiple types: see schema	No	Read Write	
n	multiple types: see schema	No	Read Write	
rts	array: see schema	No	Read Only	This Property contains all possible Resource Types for this Atomic Measurement.

rts-m	array: see schema	Yes	Read Only	This Property contains all mandatory Resource Types for this Atomic Measurement.
if	array: see schema	No	Read Only	The OCF Interface set supported by this Resource.
anchor	multiple types: see schema	No	Read Write	
di	multiple types: see schema	No	Read Write	
eps	multiple types: see schema	No	Read Write	
href	multiple types: see schema	Yes	Read Write	
if	array: see schema	Yes	Read Only	The OCF Interface set supported by this Resource.
ins	multiple types: see schema	No	Read Write	
p	multiple types: see schema	No	Read Write	
rel	multiple types: see schema	No	Read Write	
rt	array: see schema	Yes	Read Only	The Resource Type.
title	multiple types: see schema	No	Read Write	
type	multiple types: see schema	No	Read Write	

28094 **6.137.6 CRUDN behaviour**

28095 Table 278 defines the CRUDN operations that are supported on the "oic.r.heartratemonitor-am,
28096 oic.wk.atomicmeasurement" Resource Type.

28097 **Table 278 – The CRUDN operations of the Resource with type "rt" =**
28098 **"oic.r.heartratemonitor-am, oic.wk.atomicmeasurement".**

Create	Read	Update	Delete	Notify
	get			observe

28099 **6.138 Pulsatile Characteristic for Pulse Oximeter**

28100 **6.138.1 Introduction**

28101 This Resource describes the Properties associated with a pulsatile characteristic of the pulsative
28102 wave of a Pulse Oximeter.

28103 The characteristic Property is a read-only value that is provided by the server.

28104 When range (from "oic.r.baseresource") is omitted the default is 0 to +MAXFLOAT.

28105 **6.138.2 Example URI**

28106 /PulsatileCharacteristicResURI

28107 **6.138.3 Resource type**

28108 The Resource Type is defined as: "oic.r.pulsatilecharacteristic".

28109 6.138.4 OpenAPI 2.0 definition

```
28110 {
28111   "swagger": "2.0",
28112   "info": {
28113     "title": "Pulsatile Characteristic for Pulse Oximeter",
28114     "version": "2019-03-04",
28115     "license": {
28116       "name": "OCF Data Model License",
28117       "url":
28118         "https://github.com/openconnectivityfoundation/core/blob/e28a9e0a92e17042ba3e83661e4c0fbce8bdc4ba/LI
28119 CENSE.md",
28120       "x-copyright": "Copyright 2018-2019 Open Connectivity Foundation, Inc. All rights reserved."
28121     },
28122     "termsOfService": "https://openconnectivityfoundation.github.io/core/DISCLAIMER.md"
28123   },
28124   "schemes": [
28125     "http"
28126   ],
28127   "consumes": [
28128     "application/json"
28129   ],
28130   "produces": [
28131     "application/json"
28132   ],
28133   "paths": {
28134     "/PulsatileCharacteristicResURI": {
28135       "get": {
28136         "description": "This Resource describes the Properties associated with a pulsatile
28137 characteristic of the pulsative wave of a Pulse Oximeter.\n The characteristic Property is a read-
28138 only value that is provided by the server.\n When range (from \"oic.r.baseresource\") is omitted the
28139 default is 0 to +MAXFLOAT.",
28140         "parameters": [
28141           {
28142             "$ref": "#/parameters/interface"
28143           }
28144         ],
28145         "responses": {
28146           "200": {
28147             "description": "",
28148             "x-example": {
28149               "rt": [
28150                 "oic.r.pulsatilecharacteristic"
28151               ],
28152               "characteristic": 1
28153             },
28154             "schema": {
28155               "$ref": "#/definitions/pulsatilecharacteristic"
28156             }
28157           }
28158         }
28159       }
28160     }
28161   },
28162   "parameters": {
28163     "interface": {
28164       "in": "query",
28165       "name": "if",
28166       "type": "string",
28167       "enum": [
28168         "oic.if.s",
28169         "oic.if.baseline"
28170       ]
28171     }
28172   },
28173   "definitions": {
28174     "pulsatilecharacteristic": {
28175       "properties": {
28176         "characteristic": {
28177           "description": "This Property describes the current pulsatile characteristic measurement.
28178 The value is an integer bit mapped value. The following describes what each integer means. 0 -
28179 Quality of the detected pulse is nominal, in that there are no recognized abnormalities in the
```

```

28180 detected pulse. 1 - Perfusion or quality of the detected pulse is marginal. 2 - Perfusion or quality
28181 of the detected pulse is minimal. 3 - Perfusion or quality of the detected pulse is unacceptable.",
28182     "type": "integer",
28183     "minimum": 0,
28184     "maximum": 3,
28185     "readOnly": true
28186   },
28187   "rt": {
28188     "description": "The Resource Type.",
28189     "items": {
28190       "enum": [
28191         "oic.r.pulsatilecharacteristic"
28192       ],
28193       "type": "string"
28194     },
28195     "minItems": 1,
28196     "uniqueItems": true,
28197     "readOnly": true,
28198     "type": "array"
28199   },
28200   "n": {
28201     "$ref":
28202     "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
28203     schema.json#/definitions/n"
28204   },
28205   "if": {
28206     "description": "The OCF Interface set supported by this Resource.",
28207     "items": {
28208       "enum": [
28209         "oic.if.s",
28210         "oic.if.baseline"
28211       ],
28212       "type": "string"
28213     },
28214     "minItems": 1,
28215     "uniqueItems": true,
28216     "readOnly": true,
28217     "type": "array"
28218   },
28219   "range": {
28220     "$ref":
28221     "https://openconnectivityfoundation.github.io/IoTDataModels/schemas/oic.baseresource.properties-
28222     schema.json#/definitions/range_integer"
28223   },
28224   "step": {
28225     "$ref":
28226     "https://openconnectivityfoundation.github.io/IoTDataModels/schemas/oic.baseresource.properties-
28227     schema.json#/definitions/step_integer"
28228   }
28229 },
28230 "type": "object",
28231 "required": [
28232   "characteristic"
28233 ]
28234 }
28235 }
28236 }

```

28237 6.138.5 Property definition

28238 Table 279 defines the Properties that are part of the "oic.r.pulsatilecharacteristic" Resource Type.

28239 **Table 279 – The Property definitions of the Resource with type "rt" =**
28240 **"oic.r.pulsatilecharacteristic".**

Property name	Value type	Mandatory	Access mode	Description
characteristic	integer	Yes	Read Only	This Property describes the current pulsatile characteristic measurement. The

				value is an integer bit mapped value. The following describes what each integer means. 0 - Quality of the detected pulse is nominal, in that there are no recognized abnormalities in the detected pulse. 1 - Perfusion or quality of the detected pulse is marginal. 2 - Perfusion or quality of the detected pulse is minimal. 3 - Perfusion or quality of the detected pulse is unacceptable.
rt	array: see schema	No	Read Only	The Resource Type.
n	multiple types: see schema	No	Read Write	
if	array: see schema	No	Read Only	The OCF Interface set supported by this Resource.
range	multiple types: see schema	No	Read Write	
step	multiple types: see schema	No	Read Write	

28241 **6.138.6 CRUDN behaviour**

28242 Table 280 defines the CRUDN operations that are supported on the "oic.r.pulsatilecharacteristic"
28243 Resource Type.

28244 **Table 280 – The CRUDN operations of the Resource with type "rt" =**
28245 **"oic.r.pulsatilecharacteristic".**

Create	Read	Update	Delete	Notify
	get			observe

28246 **6.139 Pulsatile Occurrence for Pulse Oximeter**

28247 **6.139.1 Introduction**

28248 This Resource describes the Properties associated with a Pulsatile Occurrence detected by a
28249 Pulse Oximeter.

28250 The occurrence Property is a read-only value that is provided by the server.

28251 When range (from "oic.r.baseresource") is omitted the default is 0 to +MAXFLOAT.

28252 **6.139.2 Example URI**

28253 /PulsatileOccurrenceResURI

28254 **6.139.3 Resource type**

28255 The Resource Type is defined as: "oic.r.pulsatileoccurrence".

28256 **6.139.4 OpenAPI 2.0 definition**

28257 {
28258 "swagger": "2.0",
28259 "info": {

```

28260     "title": "Pulsatile Occurrence for Pulse Oximeter",
28261     "version": "2019-03-04",
28262     "license": {
28263         "name": "OCF Data Model License",
28264         "url":
28265     "https://github.com/openconnectivityfoundation/core/blob/e28a9e0a92e17042ba3e83661e4c0fbce8bdc4ba/LI
28266     CENSE.md",
28267         "x-copyright": "Copyright 2018-2019 Open Connectivity Foundation, Inc. All rights reserved."
28268     },
28269     "termsOfService": "https://openconnectivityfoundation.github.io/core/DISCLAIMER.md"
28270 },
28271 "schemas": [
28272     "http"
28273 ],
28274 "consumes": [
28275     "application/json"
28276 ],
28277 "produces": [
28278     "application/json"
28279 ],
28280 "paths": {
28281     "/PulsatileOccurrenceResURI": {
28282         "get": {
28283             "description": "This Resource describes the Properties associated with a Pulsatile
28284 Occurrence detected by a Pulse Oximeter.\n The occurrence Property is a read-only value that is
28285 provided by the server.\n When range (from \"oic.r.baseresource\") is omitted the default is 0 to
28286 +MAXFLOAT.",
28287             "parameters": [
28288                 {
28289                     "$ref": "#/parameters/interface"
28290                 }
28291             ],
28292             "responses": {
28293                 "200": {
28294                     "description": "",
28295                     "x-example": {
28296                         "rt": [
28297                             "oic.r.pulsatileoccurrence"
28298                         ],
28299                         "occurrence": "BEAT"
28300                     },
28301                     "schema": {
28302                         "$ref": "#/definitions/pulsatileoccurrence"
28303                     }
28304                 }
28305             }
28306         }
28307     }
28308 },
28309 "parameters": {
28310     "interface": {
28311         "in": "query",
28312         "name": "if",
28313         "type": "string",
28314         "enum": [
28315             "oic.if.s",
28316             "oic.if.baseline"
28317         ]
28318     }
28319 },
28320 "definitions": {
28321     "pulsatileoccurrence": {
28322         "properties": {
28323             "occurrence": {
28324                 "type": "string",
28325                 "readOnly": true,
28326                 "enum": [
28327                     "BEAT",
28328                     "BEAT_MAX_INRUSH",
28329                     "NOS"
28330                 ]
28331             },
28332             "description": "This Property describes the Pulsatile Occurrence detected by a Pulse

```



```

28332 Oximeter. BEAT - Pulsatile occurrence has occurred. BEAT_MAX_INRUSH - Maximal inrush of the
28333 pulsatile wave has occurred. NOS - No pulsatile event occurred.",
28334     "default": "NOS"
28335   },
28336   "rt": {
28337     "description": "The Resource Type.",
28338     "items": {
28339       "enum": [
28340         "oic.r.pulsatileoccurrence"
28341       ],
28342       "type": "string"
28343     },
28344     "minItems": 1,
28345     "uniqueItems": true,
28346     "readOnly": true,
28347     "type": "array"
28348   },
28349   "n": {
28350     "$ref":
28351     "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
28352     schema.json#/definitions/n"
28353   },
28354   "if": {
28355     "description": "The OCF Interface set supported by this Resource.",
28356     "items": {
28357       "enum": [
28358         "oic.if.s",
28359         "oic.if.baseline"
28360       ],
28361       "type": "string"
28362     },
28363     "minItems": 1,
28364     "uniqueItems": true,
28365     "readOnly": true,
28366     "type": "array"
28367   }
28368 },
28369 "type": "object",
28370 "required": [
28371   "occurrence"
28372 ]
28373 }
28374 }
28375 }

```

28376 **6.139.5 Property definition**

28377 Table 281 defines the Properties that are part of the "oic.r.pulsatileoccurrence" Resource Type.

28378 **Table 281 – The Property definitions of the Resource with type "rt" =**
28379 **"oic.r.pulsatileoccurrence".**

Property name	Value type	Mandatory	Access mode	Description
occurrence	string	Yes	Read Only	This Property describes the Pulsatile Occurrence detected by a Pulse Oximeter. BEAT - Pulsatile occurrence has occurred. BEAT_MAX_INRUSH - Maximal inrush of the pulsatile wave has occurred. NOS - No pulsatile event occurred.
rt	array: see schema	No	Read Only	The Resource Type.
n	multiple types: see schema	No	Read Write	

if	array: see schema	No	Read Only	The OCF Interface set supported by this Resource.
----	-------------------	----	-----------	---

28380 **6.139.6 CRUDN behaviour**

28381 Table 282 defines the CRUDN operations that are supported on the "oic.r.pulsatileoccurrence"
28382 Resource Type.

28383 **Table 282 – The CRUDN operations of the Resource with type "rt" =**
28384 **"oic.r.pulsatileoccurrence".**

Create	Read	Update	Delete	Notify
	get			observe

28385 **6.140 Pulse Oximeter Atomic Measurement Representation**

28386 **6.140.1 Introduction**

28387 This Resource describes the Properties associated with Pulse Oximeter.
28388 The Resource is an Atomic Measurement of SpO2 ("oic.r.spo2"), pulse rate ("oic.r.pulserate"),
28389 pulsatile characteristic ("oic.r.pulsatilecharacteristic"), pulsatileoccurrence
28390 ("oic.r.pulsatileoccurrence"), observed time ("oic.r.time.stamp"), and user ID ("oic.r.userid").

28391 **6.140.2 Example URI**

28392 /PulseOximeterAMResURI

28393 **6.140.3 Resource type**

28394 The Resource Type is defined as: "oic.r.pulseoximeter-am, oic.wk.atomicmeasurement".

28395 **6.140.4 OpenAPI 2.0 definition**

```
28396 {
28397   "swagger": "2.0",
28398   "info": {
28399     "title": "Pulse Oximeter Atomic Measurement Representation",
28400     "version": "2019-03-04",
28401     "license": {
28402       "name": "OCF Data Model License",
28403       "url":
28404         "https://github.com/openconnectivityfoundation/core/blob/e28a9e0a92e17042ba3e83661e4c0fbce8bdc4ba/LI
28405         CENSE.md",
28406       "x-copyright": "Copyright 2018-2019 Open Connectivity Foundation, Inc. All rights reserved."
28407     },
28408     "termsOfService": "https://openconnectivityfoundation.github.io/core/DISCLAIMER.md"
28409   },
28410   "schemes": [
28411     "http"
28412   ],
28413   "consumes": [
28414     "application/json"
28415   ],
28416   "produces": [
28417     "application/json"
28418   ],
28419   "paths": {
28420     "/PulseOximeterAMResURI?if=oic.if.b": {
28421       "get": {
28422         "description": "This Resource describes the Properties associated with Pulse Oximeter.\n The
28423         Resource is an Atomic Measurement of SpO2 (\\"oic.r.spo2\\"), pulse rate (\\"oic.r.pulserate\\"),
28424         pulsatile characteristic (\\"oic.r.pulsatilecharacteristic\\"), pulsatileoccurrence
28425         (\\"oic.r.pulsatileoccurrence\\"), observed time (\\"oic.r.time.stamp\\"), and user ID
28426         (\\"oic.r.userid\\").",
28427         "parameters": [
28428           {
28429             "$ref": "#/parameters/interface-all"
28430           }
28431         ]
28432       }
28433     }
28434   }
28435 }
```

```

28431     ],
28432     "responses": {
28433         "200": {
28434             "description": "",
28435             "x-example": [
28436                 {
28437                     "href": "/mySpO2",
28438                     "rep": {
28439                         "spo2": 99.0,
28440                         "perfusion": 20.0
28441                     }
28442                 },
28443                 {
28444                     "href": "/myPulseRate",
28445                     "rep": {
28446                         "pulserate": 80
28447                     }
28448                 },
28449                 {
28450                     "href": "/myPulsatileOccurrence",
28451                     "rep": {
28452                         "occurrence": "BEAT"
28453                     }
28454                 },
28455                 {
28456                     "href": "/myPulsatileCharacteristic",
28457                     "rep": {
28458                         "characteristic": 1
28459                     }
28460                 },
28461                 {
28462                     "href": "/myUserId",
28463                     "rep": {
28464                         "userid": "USER1"
28465                     }
28466                 },
28467                 {
28468                     "href": "/myTimeStamp",
28469                     "rep": {
28470                         "timestamp": "2018-11-09T12:15:00+08:00"
28471                     }
28472                 }
28473             ],
28474             "schema": {
28475                 "$ref": "#/definitions/batch-retrieve"
28476             }
28477         }
28478     }
28479 },
28480 "/PulseOximeterAMResURI?if=oic.if.ll": {
28481     "get": {
28482         "description": "This Resource describes the Properties associated with Pulse Oximeter.\n The
28483 Resource is an Atomic Measurement of SpO2 (\"oic.r.spo2\"), pulse rate (\"oic.r.pulserate\"),
28484 pulsatile characteristic (\"oic.r.pulsatilecharacteristic\"), pulsatileoccurrence
28485 (\"oic.r.pulsatileoccurrence\"), observed time (\"oic.r.time.stamp\"), and user ID
28486 (\"oic.r.userid\").",
28487         "parameters": [
28488             {
28489                 "$ref": "#/parameters/interface-all"
28490             }
28491         ],
28492     },
28493     "responses": {
28494         "200": {
28495             "description": "",
28496             "x-example": [
28497                 {
28498                     "href": "/mySpO2",
28499                     "rt": [
28500                         "oic.r.spo2"
28501                     ],
28502                     "if": [

```

```

28503         "oic.if.s",
28504         "oic.if.baseline"
28505     ]
28506 },
28507 {
28508     "href": "/myPulseRate",
28509     "rt": [
28510         "oic.r.pulserate"
28511     ],
28512     "if": [
28513         "oic.if.s",
28514         "oic.if.baseline"
28515     ]
28516 },
28517 {
28518     "href": "/myPulsatileOccurrence",
28519     "rt": [
28520         "oic.r.pulsatileoccurrence"
28521     ],
28522     "if": [
28523         "oic.if.s",
28524         "oic.if.baseline"
28525     ]
28526 },
28527 {
28528     "href": "/myPulsatileCharacteristic",
28529     "rt": [
28530         "oic.r.pulsatilecharacteristic"
28531     ],
28532     "if": [
28533         "oic.if.s",
28534         "oic.if.baseline"
28535     ]
28536 },
28537 {
28538     "href": "/myUserId",
28539     "rt": [
28540         "oic.r.userid"
28541     ],
28542     "if": [
28543         "oic.if.r",
28544         "oic.if.baseline"
28545     ]
28546 },
28547 {
28548     "href": "/myTimeStamp",
28549     "rt": [
28550         "oic.r.time.stamp"
28551     ],
28552     "if": [
28553         "oic.if.r",
28554         "oic.if.baseline"
28555     ]
28556 }
28557 ],
28558 "schema": {
28559     "$ref": "#/definitions/links"
28560 }
28561 }
28562 }
28563 }
28564 },
28565 "/PulseOximeterAMResURI?if=oic.if.baseline": {
28566     "get": {
28567         "description": "This Resource describes the Properties associated with Pulse Oximeter.\n The
28568 Resource is an Atomic Measurement of SpO2 (\\"oic.r.spo2\\"), pulse rate (\\"oic.r.pulserate\\"),
28569 pulsatile characteristic (\\"oic.r.pulsatilecharacteristic\\"), pulsatileoccurrence
28570 (\\"oic.r.pulsatileoccurrence\\"), observed time (\\"oic.r.time.stamp\\"), and user ID
28571 (\\"oic.r.userid\\").",
28572         "parameters": [
28573             {
28574                 "$ref": "#/parameters/interface-all"

```

```

28575     }
28576 ],
28577 "responses": {
28578   "200": {
28579     "description": "",
28580     "x-example":
28581       {
28582         "rt": [
28583           "oic.r.pulseoximeter-am",
28584           "oic.wk.atomicmeasurement"
28585         ],
28586         "if": [
28587           "oic.if.b",
28588           "oic.if.ll",
28589           "oic.if.baseline"
28590         ],
28591         "rts-m": [
28592           "oic.r.spo2",
28593           "oic.r.pulserate"
28594         ],
28595         "rts": [
28596           "oic.r.spo2",
28597           "oic.r.pulserate",
28598           "oic.r.pulsatileoccurrence",
28599           "oic.r.pulsatilecharacteristic",
28600           "oic.r.userid",
28601           "oic.r.time.stamp"
28602         ],
28603         "links": [
28604           {
28605             "href": "/mySpO2",
28606             "rt": [
28607               "oic.r.spo2"
28608             ],
28609             "if": [
28610               "oic.if.s",
28611               "oic.if.baseline"
28612             ]
28613           },
28614           {
28615             "href": "/myPulseRate",
28616             "rt": [
28617               "oic.r.pulserate"
28618             ],
28619             "if": [
28620               "oic.if.s",
28621               "oic.if.baseline"
28622             ]
28623           },
28624           {
28625             "href": "/myPulsatileOccurrence",
28626             "rt": [
28627               "oic.r.pulsatileoccurrence"
28628             ],
28629             "if": [
28630               "oic.if.s",
28631               "oic.if.baseline"
28632             ]
28633           },
28634           {
28635             "href": "/myPulsatileCharacteristic",
28636             "rt": [
28637               "oic.r.pulsatilecharacteristic"
28638             ],
28639             "if": [
28640               "oic.if.s",
28641               "oic.if.baseline"
28642             ]
28643           },
28644           {
28645             "href": "/myUserId",
28646             "rt": [

```

```

28647         "oic.r.userid"
28648     ],
28649     "if": [
28650         "oic.if.r",
28651         "oic.if.baseline"
28652     ]
28653 },
28654 {
28655     "href": "/myTimeStamp",
28656     "rt": [
28657         "oic.r.time.stamp"
28658     ],
28659     "if": [
28660         "oic.if.r",
28661         "oic.if.baseline"
28662     ]
28663 }
28664 ]
28665 },
28666 "schema": {
28667     "$ref": "#/definitions/baseline"
28668 }
28669 }
28670 }
28671 }
28672 },
28673 },
28674 "parameters": {
28675     "interface-all": {
28676         "in": "query",
28677         "name": "if",
28678         "type": "string",
28679         "enum": [
28680             "oic.if.b",
28681             "oic.if.ll",
28682             "oic.if.baseline"
28683         ]
28684     }
28685 },
28686 "definitions": {
28687     "batch-retrieve": {
28688         "title": "Collection Batch Retrieve Format",
28689         "minItems": 1,
28690         "items": {
28691             "additionalProperties": true,
28692             "properties": {
28693                 "href": {
28694                     "$ref":
28695 "https://openconnectivityfoundation.github.io/core/schemas/oic.links.properties.core-
28696 schema.json#/definitions/href"
28697                 },
28698                 "rep": {
28699                     "type": "object",
28700                     "anyOf": [
28701                         {
28702                             "$ref":
28703 "https://openconnectivityfoundation.github.io/IoTDataModels/SpO2.swagger.json#/definitions/SpO2"
28704                         },
28705                         {
28706                             "$ref":
28707 "https://openconnectivityfoundation.github.io/IoTDataModels/PulseRateResURI.swagger.json#/definition
28708 s/PulseRate"
28709                         },
28710                         {
28711                             "$ref":
28712 "https://openconnectivityfoundation.github.io/IoTDataModels/PulsatileCharacteristic.swagger.json#/de
28713 finitions/pulsatilecharacteristic"
28714                         },
28715                         {
28716                             "$ref":
28717 "https://openconnectivityfoundation.github.io/IoTDataModels/PulsatileOccurrence.swagger.json#/defini
28718 tions/pulsatileoccurrence"

```

```

28719         },
28720         {
28721             "$ref":
28722             "https://openconnectivityfoundation.github.io/IoTDataModels/UserIDResURI.swagger.json#/definitions/U
28723             serID"
28724         },
28725         {
28726             "$ref":
28727             "https://openconnectivityfoundation.github.io/IoTDataModels/TimeStampResURI.swagger.json#/definition
28728             s/TimeStamp"
28729         }
28730     ]
28731     },
28732     },
28733     "required": [
28734         "href",
28735         "rep"
28736     ],
28737     "type": "object"
28738 },
28739 "type": "array"
28740 },
28741 "links": {
28742     "type": "array",
28743     "items": {
28744         "$ref": "#/definitions/oic.oic-link"
28745     }
28746 },
28747 "baseline": {
28748     "properties": {
28749         "rt": {
28750             "items": {
28751                 "enum": [
28752                     "oic.r.pulseoximeter-am",
28753                     "oic.wk.atomicmeasurement"
28754                 ]
28755             },
28756             "minItems": 2,
28757             "type": "array",
28758             "uniqueItems": true,
28759             "readOnly": true
28760         },
28761         "links": {
28762             "$ref": "#/definitions/links"
28763         },
28764         "n": {
28765             "$ref":
28766             "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
28767             schema.json#/definitions/n"
28768         },
28769         "rts": {
28770             "description": "This Property contains all possible Resource Types for this Atomic
28771             Measurement.",
28772             "items": {
28773                 "enum": [
28774                     "oic.r.spo2",
28775                     "oic.r.pulserate",
28776                     "oic.r.pulsatilecharacteristic",
28777                     "oic.r.pulsatileoccurrence",
28778                     "oic.r.time.stamp",
28779                     "oic.r.userid"
28780                 ]
28781             },
28782             "minItems": 1,
28783             "type": "array",
28784             "uniqueItems": true
28785         },
28786         "rts-m": {
28787             "description": "This Property contains all mandatory Resource Types for this Atomic
28788             Measurement.",
28789             "items": {
28790                 "enum": [

```

```

28791         "oic.r.spo2",
28792         "oic.r.pulserate"
28793     ]
28794 },
28795 "maxItems": 2,
28796 "minItems": 2,
28797 "type": "array",
28798 "readOnly": true,
28799 "uniqueItems": true
28800 },
28801 "if": {
28802     "description": "The OCF Interface set supported by this Resource.",
28803     "items": {
28804         "enum": [
28805             "oic.if.b",
28806             "oic.if.ll",
28807             "oic.if.baseline"
28808         ],
28809         "type": "string"
28810     },
28811     "minItems": 1,
28812     "uniqueItems": true,
28813     "readOnly": true,
28814     "type": "array"
28815 }
28816 },
28817 "type": "object",
28818 "required": [
28819     "rts-m"
28820 ]
28821 },
28822 "oic.oic-link": {
28823     "properties": {
28824         "anchor": {
28825             "$ref":
28826 "https://openconnectivityfoundation.github.io/core/schemas/oic.links.properties.core-
28827 schema.json#/definitions/anchor"
28828         },
28829         "di": {
28830             "$ref":
28831 "https://openconnectivityfoundation.github.io/core/schemas/oic.links.properties.core-
28832 schema.json#/definitions/di"
28833         },
28834         "eps": {
28835             "$ref":
28836 "https://openconnectivityfoundation.github.io/core/schemas/oic.links.properties.core-
28837 schema.json#/definitions/eps"
28838         },
28839         "href": {
28840             "$ref":
28841 "https://openconnectivityfoundation.github.io/core/schemas/oic.links.properties.core-
28842 schema.json#/definitions/href"
28843         },
28844         "if": {
28845             "description": "The interface set supported by this resource",
28846             "items": {
28847                 "enum": [
28848                     "oic.if.baseline",
28849                     "oic.if.s",
28850                     "oic.if.r"
28851                 ],
28852                 "type": "string"
28853             },
28854             "minItems": 1,
28855             "type": "array"
28856         },
28857         "ins": {
28858             "$ref":
28859 "https://openconnectivityfoundation.github.io/core/schemas/oic.links.properties.core-
28860 schema.json#/definitions/ins"
28861         },
28862         "p": {

```



```

28863         "$ref":
28864         "https://openconnectivityfoundation.github.io/core/schemas/oic.links.properties.core-
28865         schema.json#/definitions/p"
28866     },
28867     "rel": {
28868         "$ref":
28869         "https://openconnectivityfoundation.github.io/core/schemas/oic.links.properties.core-
28870         schema.json#/definitions/rel_array"
28871     },
28872     "rt": {
28873         "description": "The Resource Type.",
28874         "items": {
28875             "enum": [
28876                 "oic.r.spo2",
28877                 "oic.r.pulserate",
28878                 "oic.r.pulsatilecharacteristic",
28879                 "oic.r.pulsatileoccurrence",
28880                 "oic.r.time.stamp",
28881                 "oic.r.userid"
28882             ],
28883             "type": "string"
28884         },
28885         "minItems": 1,
28886         "uniqueItems": true,
28887         "readOnly": true,
28888         "type": "array"
28889     },
28890     "title": {
28891         "$ref":
28892         "https://openconnectivityfoundation.github.io/core/schemas/oic.links.properties.core-
28893         schema.json#/definitions/title"
28894     },
28895     "type": {
28896         "$ref":
28897         "https://openconnectivityfoundation.github.io/core/schemas/oic.links.properties.core-
28898         schema.json#/definitions/type"
28899     }
2900 },
2901 "required": [
2902     "href",
2903     "rt",
2904     "if"
2905 ],
2906 "type": "object"
2907 }
2908 }
2909 }

```

28910 6.140.5 Property definition

28911 Table 283 defines the Properties that are part of the "oic.r.pulseoximeter-am,
28912 oic.wk.atomicmeasurement" Resource Type.

28913 **Table 283 – The Property definitions of the Resource with type "rt" = "oic.r.pulseoximeter-
28914 am, oic.wk.atomicmeasurement".**

Property name	Value type	Mandatory	Access mode	Description
href	multiple types: see schema	Yes	Read Write	
rep	object: see schema	Yes	Read Write	
rt	array: see schema	No	Read Only	
links	multiple types: see schema	No	Read Write	
n	multiple types: see schema	No	Read Write	
rts	array: see schema	No	Read Write	This Property contains all possible

				Resource Types for this Atomic Measurement.
rts-m	array: see schema	Yes	Read Only	This Property contains all mandatory Resource Types for this Atomic Measurement.
if	array: see schema	No	Read Only	The OCF Interface set supported by this Resource.
anchor	multiple types: see schema	No	Read Write	
di	multiple types: see schema	No	Read Write	
eps	multiple types: see schema	No	Read Write	
href	multiple types: see schema	Yes	Read Write	
if	array: see schema	Yes	Read Write	The interface set supported by this resource
ins	multiple types: see schema	No	Read Write	
p	multiple types: see schema	No	Read Write	
rel	multiple types: see schema	No	Read Write	
rt	array: see schema	Yes	Read Only	The Resource Type.
title	multiple types: see schema	No	Read Write	
type	multiple types: see schema	No	Read Write	

28915 **6.140.6 CRUDN behaviour**

28916 Table 284 defines the CRUDN operations that are supported on the "oic.r.pulseoximeter-am,
28917 oic.wk.atomicmeasurement" Resource Type.

28918 **Table 284 – The CRUDN operations of the Resource with type "rt" = "oic.r.pulseoximeter-
28919 am, oic.wk.atomicmeasurement".**

Create	Read	Update	Delete	Notify
	get			observe

28920 **6.141 Sleep**

28921 **6.141.1 Introduction**

28922 This Resource describes the Properties associated with Sleep.

28923 Sleep shows the time spent in each of the sleep stages (awake, nrem1, nrem2, nrem3, nrem4,
28924 rem, light sleep, deep sleep), along with a sleep score indicating the quality of sleep.

28925 **6.141.2 Example URI**

28926 /SleepResURI

28927 **6.141.3 Resource type**

28928 The Resource Type is defined as: "oic.r.sleep".

28929 **6.141.4 OpenAPI 2.0 definition**

```
28930 {
28931   "swagger": "2.0",
28932   "info": {
28933     "title": "Sleep",
28934     "version": "2018-07-12",
28935     "license": {
28936       "name": "OCF Data Model License",
28937       "url":
28938 "https://github.com/openconnectivityfoundation/core/blob/e28a9e0a92e17042ba3e83661e4c0fbce8bdc4ba/LI
28939 CENSE.md",
28940       "x-copyright": "Copyright 2018-2019 Open Connectivity Foundation, Inc. All rights reserved."
28941     },
28942     "termsOfService": "https://openconnectivityfoundation.github.io/core/DISCLAIMER.md"
28943   },
28944   "schemes": [
28945     "http"
28946   ],
28947   "consumes": [
28948     "application/json"
28949   ],
28950   "produces": [
28951     "application/json"
28952   ],
28953   "paths": {
28954     "/SleepResURI": {
28955       "get": {
28956         "description": "This Resource describes the Properties associated with Sleep.\nSleep shows
28957 the time spent in each of the sleep stages (awake, nrem1, nrem2, nrem3, nrem4, rem, light sleep,
28958 deep sleep), along with a sleep score indicating the quality of sleep.",
28959         "parameters": [
28960           {
28961             "$ref": "#/parameters/interface"
28962           }
28963         ],
28964         "responses": {
28965           "200": {
28966             "description": "Retrieves the sleep information.",
28967             "x-example": {
28968               "rt": [
28969                 "oic.r.sleep"
28970               ],
28971               "if": [
28972                 "oic.if.s",
28973                 "oic.if.baseline"
28974               ],
28975               "awake": 1440,
28976               "nrem1": 1440,
28977               "nrem2": 14400,
28978               "nrem3": 1440,
28979               "nrem4": 4320,
28980               "rem": 5760,
28981               "lightsleep": 15840,
28982               "deepsleep": 5760,
28983               "sleepscore": 70.0
28984             },
28985             "schema": {
28986               "$ref": "#/definitions/Sleep"
28987             }
28988           }
28989         }
28990       }
28991     }
28992   },
28993   "parameters": {
28994     "interface": {
28995       "in": "query",
```

```

28996     "name": "if",
28997     "type": "string",
28998     "enum": [
28999         "oic.if.s",
29000         "oic.if.baseline"
29001     ]
29002 }
29003 },
29004 "definitions": {
29005     "Sleep": {
29006         "properties": {
29007             "awake": {
29008                 "type": "integer",
29009                 "minimum": 0,
29010                 "readOnly": true,
29011                 "description": "Time spent in Awake stage (in seconds)"
29012             },
29013             "nrem1": {
29014                 "type": "integer",
29015                 "minimum": 0,
29016                 "readOnly": true,
29017                 "description": "Time spent in Non Rapid Eye Movement stage 1 (in seconds)"
29018             },
29019             "nrem2": {
29020                 "type": "integer",
29021                 "minimum": 0,
29022                 "readOnly": true,
29023                 "description": "Time spent in Non Rapid Eye Movement stage 2 (in seconds)"
29024             },
29025             "nrem3": {
29026                 "type": "integer",
29027                 "minimum": 0,
29028                 "readOnly": true,
29029                 "description": "Time spent in Non Rapid Eye Movement stage 3 (in seconds)"
29030             },
29031             "nrem4": {
29032                 "type": "integer",
29033                 "minimum": 0,
29034                 "readOnly": true,
29035                 "description": "Time spent in Non Rapid Eye Movement stage 4 (in seconds)"
29036             },
29037             "rem": {
29038                 "type": "integer",
29039                 "minimum": 0,
29040                 "readOnly": true,
29041                 "description": "Time spent in Rapid Eye Movement (in seconds)"
29042             },
29043             "lightsleep": {
29044                 "type": "integer",
29045                 "minimum": 0,
29046                 "readOnly": true,
29047                 "description": "Time spent in Light Sleep stage, consisting in NREM stages 1 and 2 (in
29048 seconds)"
29049             },
29050             "deepsleep": {
29051                 "type": "integer",
29052                 "minimum": 0,
29053                 "readOnly": true,
29054                 "description": "Time spent in Deep Sleep stage, consisting in NREM stages 3 and 4 (in
29055 seconds)"
29056             },
29057             "sleepscore": {
29058                 "type": "number",
29059                 "minimum": 0,
29060                 "readOnly": true,
29061                 "description": "Score computed from the time spent in each sleep stage, indicative of the
29062 quality of sleep"
29063             },
29064             "if": {
29065                 "description": "The Interface set supported by this Resource",
29066                 "type": "array",
29067                 "minItems": 1,

```

```

29068         "uniqueItems": true,
29069         "readOnly": true,
29070         "items": {
29071             "type": "string",
29072             "enum": [
29073                 "oic.if.s",
29074                 "oic.if.baseline"
29075             ]
29076         }
29077     },
29078     "rt": {
29079         "description": "Resource Type",
29080         "type": "array",
29081         "minItems": 1,
29082         "uniqueItems": true,
29083         "readOnly": true,
29084         "items": {
29085             "type": "string",
29086             "enum": [
29087                 "oic.r.sleep"
29088             ]
29089         }
29090     },
29091     "n": {
29092         "$ref":
29093         "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
29094         schema.json#/definitions/n"
29095     },
29096     "range_phases": {
29097         "$ref":
29098         "https://openconnectivityfoundation.github.io/IoTDataModels/schemas/oic.baseresource.properties-
29099         schema.json#/definitions/range_integer"
29100     },
29101     "step_phases": {
29102         "$ref":
29103         "https://openconnectivityfoundation.github.io/IoTDataModels/schemas/oic.baseresource.properties-
29104         schema.json#/definitions/step_integer"
29105     },
29106     "range_score": {
29107         "$ref":
29108         "https://openconnectivityfoundation.github.io/IoTDataModels/schemas/oic.baseresource.properties-
29109         schema.json#/definitions/range_number"
29110     },
29111     "step_score": {
29112         "$ref":
29113         "https://openconnectivityfoundation.github.io/IoTDataModels/schemas/oic.baseresource.properties-
29114         schema.json#/definitions/step_number"
29115     },
29116     "precision": {
29117         "$ref":
29118         "https://openconnectivityfoundation.github.io/IoTDataModels/schemas/oic.baseresource.properties-
29119         schema.json#/definitions/precision"
29120     }
29121 },
29122 "type": "object",
29123 "required": [
29124     "awake",
29125     "nrem1",
29126     "nrem2",
29127     "nrem3",
29128     "rem"
29129 ]
29130 }
29131 }
29132 }

```

29133 **6.141.5 Property definition**

29134 Table 285 defines the Properties that are part of the "oic.r.sleep" Resource Type.

Table 285 – The Property definitions of the Resource with type "rt" = "oic.r.sleep".

Property name	Value type	Mandatory	Access mode	Description
awake	integer	Yes	Read Only	Time spent in Awake stage (in seconds)
nrem1	integer	Yes	Read Only	Time spent in Non Rapid Eye Movement stage 1 (in seconds)
nrem2	integer	Yes	Read Only	Time spent in Non Rapid Eye Movement stage 2 (in seconds)
nrem3	integer	Yes	Read Only	Time spent in Non Rapid Eye Movement stage 3 (in seconds)
nrem4	integer	No	Read Only	Time spent in Non Rapid Eye Movement stage 4 (in seconds)
rem	integer	Yes	Read Only	Time spent in Rapid Eye Movement (in seconds)
lightsleep	integer	No	Read Only	Time spent in Light Sleep stage, consisting in NREM stages 1 and 2 (in seconds)
deepsleep	integer	No	Read Only	Time spent in Deep Sleep stage, consisting in NREM stages 3 and 4 (in seconds)
sleepscore	number	No	Read Only	Score computed from the time spent in each sleep stage, indicative of the quality of sleep
if	array: see schema	No	Read Only	The Interface set supported by this Resource
rt	array: see schema	No	Read Only	Resource Type
n	multiple types: see schema	No	Read Write	
range_phases	multiple types: see schema	No	Read Write	
step_phases	multiple types: see schema	No	Read Write	
range_score	multiple types: see schema	No	Read Write	
step_score	multiple types: see schema	No	Read Write	
precision	multiple types: see schema	No	Read Write	

29136 **6.141.6 CRUDN behaviour**

29137 Table 286 defines the CRUDN operations that are supported on the "oic.r.sleep" Resource Type.

29138 **Table 286 – The CRUDN operations of the Resource with type "rt" = "oic.r.sleep".**

Create	Read	Update	Delete	Notify
	get			observe

29139 **6.142 Sleep Monitor Atomic Measurement Batch Representation**

29140 **6.142.1 Introduction**

29141 This Resource describes the Properties associated with Sleep Monitor.

29142 The Resource is an Atomic Measurement of sleep (oic.r.sleep).

29143 Sleep shows the time spent in each of the sleep stages (awake, nrem1, nrem2, nrem3, nrem4, rem, light sleep, deep sleep), along with a sleep score indicating the quality of sleep.

29145 **6.142.2 Example URI**

29146 /SleepMonitorAMResURI

29147 **6.142.3 Resource type**

29148 The Resource Type is defined as: "oic.r.sleepmonitor-am, oic.wk.atomicmeasurement".

29149 **6.142.4 OpenAPI 2.0 definition**

```

29150 {
29151   "swagger": "2.0",
29152   "info": {
29153     "title": "Sleep Monitor Atomic Measurement Batch Representation",
29154     "version": "2018-08-29",
29155     "license": {
29156       "name": "OCF Data Model License",
29157       "url":
29158         "https://github.com/openconnectivityfoundation/core/blob/e28a9e0a92e17042ba3e83661e4c0fbce8bdc4ba/LI
29159         CENSE.md",
29160       "x-copyright": "Copyright 2018-2019 Open Connectivity Foundation, Inc. All rights reserved."
29161     },
29162     "termsOfService": "https://openconnectivityfoundation.github.io/core/DISCLAIMER.md"
29163   },
29164   "schemes": [
29165     "http"
29166   ],
29167   "consumes": [
29168     "application/json"
29169   ],
29170   "produces": [
29171     "application/json"
29172   ],
29173   "paths": {
29174     "/SleepMonitorAMResURI?if=oic.if.b": {
29175       "get": {
29176         "description": "This Resource describes the Properties associated with Sleep Monitor.\n\nThe
29177         Resource is an Atomic Measurement of sleep (oic.r.sleep).\n\nSleep shows the time spent in each of the
29178         sleep stages (awake, nrem1, nrem2, nrem3, nrem4, rem, light sleep, deep sleep), along with a sleep
29179         score indicating the quality of sleep.",
29180         "parameters": [
29181           {
29182             "$ref": "#/parameters/interface-b"
29183           }
29184         ],
29185         "responses": {
29186           "200": {
29187             "description": "Retrieves the sleep monitor's information.",
29188             "x-example": [
29189               {
29190                 "href": "/mySleepMonitor",
29191                 "rep": {

```

```

29192         "awake": 1440,
29193         "nrem1": 1440,
29194         "nrem2": 14400,
29195         "nrem3": 1440,
29196         "nrem4": 4320,
29197         "rem": 5760,
29198         "lightsleep": 15840,
29199         "deepsleep": 5760,
29200         "sleepscore": 70.0
29201     }
29202 },
29203 {
29204     "href": "/myHeartRate",
29205     "rep": {
29206         "heartrate": 70
29207     }
29208 },
29209 {
29210     "href": "/myUserId",
29211     "rep": {
29212         "userid": "USER1"
29213     }
29214 },
29215 {
29216     "href": "/myTimeStamp",
29217     "rep": {
29218         "timestamp": "2018-11-08T21:00:00+08:00"
29219     }
29220 }
29221 ],
29222 "schema": {
29223     "$ref": "#/definitions/batch-retrieve"
29224 }
29225 }
29226 }
29227 }
29228 },
29229 "/SleepMonitorAMResURI?if=oic.if.ll": {
29230     "get": {
29231         "description": "This Resource describes the Properties associated with Sleep Monitor.\n\nThe
29232 Resource is an Atomic Measurement of sleep (oic.r.sleep).\n\nSleep shows the time spent in each of the
29233 sleep stages (awake, nrem1, nrem2, nrem3, nrem4, rem, light sleep, deep sleep), along with a sleep
29234 score indicating the quality of sleep.",
29235         "parameters": [
29236             {
29237                 "$ref": "#/parameters/interface-ll"
29238             }
29239         ],
29240         "responses": {
29241             "200": {
29242                 "description": "Retrieves the sleep monitor's information.",
29243                 "x-example": [
29244                     {
29245                         "href": "/mySleepMonitor",
29246                         "rt": [
29247                             "oic.r.sleep"
29248                         ],
29249                         "if": [
29250                             "oic.if.s",
29251                             "oic.if.baseline"
29252                         ]
29253                     },
29254                     {
29255                         "href": "/myHeartRate",
29256                         "rt": [
29257                             "oic.r.heartrate"
29258                         ],
29259                         "if": [
29260                             "oic.if.s",
29261                             "oic.if.baseline"
29262                         ]
29263                     }
29264                 ]
29265             }
29266         }
29267     }
29268 }

```



```

29264     {
29265         "href": "/myUserId",
29266         "rt": [
29267             "oic.r.userid"
29268         ],
29269         "if": [
29270             "oic.if.r",
29271             "oic.if.baseline"
29272         ]
29273     },
29274     {
29275         "href": "/myTimeStamp",
29276         "rt": [
29277             "oic.r.time.stamp"
29278         ],
29279         "if": [
29280             "oic.if.r",
29281             "oic.if.baseline"
29282         ]
29283     }
29284 ],
29285 "schema": {
29286     "$ref": "#/definitions/links"
29287 }
29288 }
29289 }
29290 },
29291 "/SleepMonitorAMResURI?if=oic.if.baseline": {
29292     "get": {
29293         "description": "This Resource describes the Properties associated with Sleep Monitor.\nThe
29294 Resource is an Atomic Measurement of sleep (oic.r.sleep).\nSleep shows the time spent in each of the
29295 sleep stages (awake, nrem1, nrem2, nrem3, nrem4, rem, light sleep, deep sleep), along with a sleep
29296 score indicating the quality of sleep.",
29297         "parameters": [
29298             {
29299                 "$ref": "#/parameters/interface-baseline"
29300             }
29301         ],
29302         "responses": {
29303             "200": {
29304                 "description": "Retrieves the sleep monitor's information.",
29305                 "x-example": {
29306                     "rt": [
29307                         "oic.r.sleepmonitor-am",
29308                         "oic.wk.atomicmeasurement"
29309                     ],
29310                     "if": [
29311                         "oic.if.b",
29312                         "oic.if.ll",
29313                         "oic.if.baseline"
29314                     ],
29315                     "rts-m": [
29316                         "oic.r.sleep"
29317                     ],
29318                     "rts": [
29319                         "oic.r.sleep",
29320                         "oic.r.heartrate",
29321                         "oic.r.time.stamp",
29322                         "oic.r.userid"
29323                     ],
29324                     "links": [
29325                         {
29326                             "href": "/mySleepMonitor",
29327                             "rt": [
29328                                 "oic.r.sleep"
29329                             ],
29330                             "if": [
29331                                 "oic.if.s",
29332                                 "oic.if.baseline"
29333                             ]
29334                         }
29335                     ]
29336                 }
29337             }
29338         }
29339     }
29340 }

```

```

29336         {
29337             "href": "/myHeartRate",
29338             "rt": [
29339                 "oic.r.heartrate"
29340             ],
29341             "if": [
29342                 "oic.if.s",
29343                 "oic.if.baseline"
29344             ]
29345         },
29346         {
29347             "href": "/myUserId",
29348             "rt": [
29349                 "oic.r.userid"
29350             ],
29351             "if": [
29352                 "oic.if.r",
29353                 "oic.if.baseline"
29354             ]
29355         },
29356         {
29357             "href": "/myTimeStamp",
29358             "rt": [
29359                 "oic.r.time.stamp"
29360             ],
29361             "if": [
29362                 "oic.if.r",
29363                 "oic.if.baseline"
29364             ]
29365         }
29366     ],
29367     },
29368     "schema": {
29369         "$ref": "#/definitions/baseline"
29370     }
29371 },
29372 }
29373 }
29374 },
29375 },
29376 "parameters": {
29377     "interface-ll": {
29378         "in": "query",
29379         "name": "if",
29380         "type": "string",
29381         "enum": [
29382             "oic.if.ll"
29383         ]
29384     },
29385     "interface-b": {
29386         "in": "query",
29387         "name": "if",
29388         "type": "string",
29389         "enum": [
29390             "oic.if.b"
29391         ]
29392     },
29393     "interface-baseline": {
29394         "in": "query",
29395         "name": "if",
29396         "type": "string",
29397         "enum": [
29398             "oic.if.baseline"
29399         ]
29400     },
29401     "interface-all": {
29402         "in": "query",
29403         "name": "if",
29404         "type": "string",
29405         "enum": [
29406             "oic.if.b",
29407             "oic.if.ll",

```

```

29408         "oic.if.baseline"
29409     ]
29410 }
29411 },
29412 "definitions": {
29413     "batch-retrieve": {
29414         "title": "Atomic Measurement Batch Retrieve Format",
29415         "minItems": 1,
29416         "uniqueItems": true,
29417         "readOnly": true,
29418         "items": {
29419             "properties": {
29420                 "href": {
29421                     "$ref":
29422 "https://openconnectivityfoundation.github.io/core/schemas/oic.links.properties.core-
29423 schema.json#/definitions/href"
29424                 },
29425                 "rep": {
29426                     "description": " The response payload from an Atomic Measurement (batch) resource",
29427                     "type": "object",
29428                     "items": {
29429                         "anyOf": [
29430                             {
29431                                 "$ref":
29432 "https://openconnectivityfoundation.github.io/IoTDataModels/Sleep.swagger.json#/definitions/Sleep"
29433                             },
29434                             {
29435                                 "$ref":
29436 "https://openconnectivityfoundation.github.io/IoTDataModels/HeartRate.swagger.json#/definitions/HeartRate"
29437                             }
29438                         ],
29439                         {
29440                             "$ref":
29441 "https://openconnectivityfoundation.github.io/IoTDataModels/UserIDResURI.swagger.json#/definitions/UserID"
29442                         },
29443                         {
29444                             "$ref":
29445 "https://openconnectivityfoundation.github.io/IoTDataModels/TimeStampResURI.swagger.json#/definitions/TimeStamps/TimeStamp"
29446                         }
29447                     ]
29448                 }
29449             ]
29450         }
29451     },
29452 },
29453     "required": [
29454         "href",
29455         "rep"
29456     ],
29457     "type": "object"
29458 },
29459     "type": "array"
29460 },
29461     "links": {
29462         "type": "array",
29463         "items": {
29464             "$ref": "#/definitions/oic.oic-link"
29465         }
29466     },
29467     "baseline": {
29468         "properties": {
29469             "rt": {
29470                 "type": "array",
29471                 "readOnly": true,
29472                 "uniqueItems": true,
29473                 "minItems": 2,
29474                 "items": {
29475                     "type": "string",
29476                     "enum": [
29477                         "oic.r.sleepmonitor-am",
29478                         "oic.wk.atomicmeasurement"
29479                     ]

```

```

29480     }
29481   },
29482   "rts": {
29483     "description": "This contains all possible resource types for this atomic measurement.",
29484     "type": "array",
29485     "uniqueItems": true,
29486     "minItems": 1,
29487     "readOnly": true,
29488     "items": {
29489       "type": "string",
29490       "enum": [
29491         "oic.r.sleep",
29492         "oic.r.heartrate",
29493         "oic.r.userid",
29494         "oic.r.time.stamp"
29495       ]
29496     }
29497   },
29498   "rts-m": {
29499     "description": "This contains all mandatory resource types for this atomic measurement.",
29500     "type": "array",
29501     "uniqueItems": true,
29502     "minItems": 1,
29503     "maxItems": 1,
29504     "readOnly": true,
29505     "items": {
29506       "type": "string",
29507       "enum": [
29508         "oic.r.sleep"
29509       ]
29510     }
29511   },
29512   "if": {
29513     "description": "The interface set supported by this resource",
29514     "type": "array",
29515     "readOnly": true,
29516     "minItems": 3,
29517     "uniqueItems": true,
29518     "items": {
29519       "type": "string",
29520       "enum": [
29521         "oic.if.b",
29522         "oic.if.ll",
29523         "oic.if.baseline"
29524       ]
29525     }
29526   },
29527   "links": {
29528     "$ref": "#/definitions/links"
29529   },
29530   "n": {
29531     "$ref":
29532     "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
29533     schema.json#/definitions/n"
29534   }
29535 },
29536 "type": "object",
29537 "required": [
29538   "rt",
29539   "if",
29540   "rts-m"
29541 ]
29542 },
29543 "oic.oic-link": {
29544   "properties": {
29545     "if": {
29546       "type": "array",
29547       "readOnly": true,
29548       "uniqueItems": true,
29549       "minItems": 1,
29550       "items": {
29551         "type": "string",

```

```

29552         "enum": [
29553             "oic.if.baseline",
29554             "oic.if.s",
29555             "oic.if.r"
29556         ]
29557     }
29558 },
29559     "rt": {
29560         "type": "array",
29561         "readOnly": true,
29562         "uniqueItems": true,
29563         "minItems": 1,
29564         "items": {
29565             "type": "string",
29566             "enum": [
29567                 "oic.r.sleep",
29568                 "oic.r.heartrate",
29569                 "oic.r.userid",
29570                 "oic.r.time.stamp"
29571             ]
29572         }
29573     },
29574     "anchor": {
29575         "$ref":
29576         "https://openconnectivityfoundation.github.io/core/schemas/oic.links.properties.core-
29577         schema.json#/definitions/anchor"
29578     },
29579     "di": {
29580         "$ref":
29581         "https://openconnectivityfoundation.github.io/core/schemas/oic.links.properties.core-
29582         schema.json#/definitions/di"
29583     },
29584     "eps": {
29585         "$ref":
29586         "https://openconnectivityfoundation.github.io/core/schemas/oic.links.properties.core-
29587         schema.json#/definitions/eps"
29588     },
29589     "href": {
29590         "$ref":
29591         "https://openconnectivityfoundation.github.io/core/schemas/oic.links.properties.core-
29592         schema.json#/definitions/href"
29593     },
29594     "ins": {
29595         "$ref":
29596         "https://openconnectivityfoundation.github.io/core/schemas/oic.links.properties.core-
29597         schema.json#/definitions/ins"
29598     },
29599     "p": {
29600         "$ref":
29601         "https://openconnectivityfoundation.github.io/core/schemas/oic.links.properties.core-
29602         schema.json#/definitions/p"
29603     },
29604     "rel": {
29605         "$ref":
29606         "https://openconnectivityfoundation.github.io/core/schemas/oic.links.properties.core-
29607         schema.json#/definitions/rel_array"
29608     },
29609     "title": {
29610         "$ref":
29611         "https://openconnectivityfoundation.github.io/core/schemas/oic.links.properties.core-
29612         schema.json#/definitions/title"
29613     },
29614     "type": {
29615         "$ref":
29616         "https://openconnectivityfoundation.github.io/core/schemas/oic.links.properties.core-
29617         schema.json#/definitions/type"
29618     }
29619 },
29620     "required": [
29621         "href",
29622         "rt",
29623         "if"

```

```

29624     ],
29625     "type": "object"
29626   }
29627 }
29628 }

```

29629 **6.142.5 Property definition**

29630 Table 287 defines the Properties that are part of the "oic.r.sleepmonitor-am,
 29631 oic.wk.atomicmeasurement" Resource Type.

29632 **Table 287 – The Property definitions of the Resource with type "rt" = "oic.r.sleepmonitor-
 29633 am, oic.wk.atomicmeasurement".**

Property name	Value type	Mandatory	Access mode	Description
href	multiple types: see schema	Yes	Read Write	
rep	object: see schema	Yes	Read Write	The response payload from an Atomic Measurement (batch) resource
rt	array: see schema	Yes	Read Only	
rts	array: see schema	No	Read Only	This contains all possible resource types for this atomic measurement.
rts-m	array: see schema	Yes	Read Only	This contains all mandatory resource types for this atomic measurement.
if	array: see schema	Yes	Read Only	The interface set supported by this resource
links	multiple types: see schema	No	Read Write	
n	multiple types: see schema	No	Read Write	
if	array: see schema	Yes	Read Only	
rt	array: see schema	Yes	Read Only	
anchor	multiple types: see schema	No	Read Write	
di	multiple types: see schema	No	Read Write	
eps	multiple types: see schema	No	Read Write	
href	multiple types: see schema	Yes	Read Write	
ins	multiple types: see schema	No	Read Write	
p	multiple types: see schema	No	Read Write	
rel	multiple types: see schema	No	Read Write	
title	multiple types: see schema	No	Read Write	
type	multiple types: see schema	No	Read Write	

29634 **6.142.6 CRUDN behaviour**

29635 Table 288 defines the CRUDN operations that are supported on the "oic.r.sleepmonitor-am,
29636 oic.wk.atomicmeasurement" Resource Type.

Table 288 – The CRUDN operations of the Resource with type "rt" = "oic.r.sleepmonitor-am, oic.wk.atomicmeasurement".

Create	Read	Update	Delete	Notify
	get			observe

29639 **6.143 SpO2 for Pulse Oximeter**

29640 **6.143.1 Introduction**

29641 This Resource describes the Properties associated with a person's blood oxygen saturation level.
29642 The spo2 and perfusion Properties are read-only value that is provided by the server.
29643 When range (from "oic.r.baseresource") is omitted the default is 0 to +MAXFLOAT.

29644 **6.143.2 Example URI**

29645 /SpO2ResURI

29646 **6.143.3 Resource type**

29647 The Resource Type is defined as: "oic.r.spo2".

29648 **6.143.4 OpenAPI 2.0 definition**

```

29649 {
29650   "swagger": "2.0",
29651   "info": {
29652     "title": "SpO2 for Pulse Oximeter",
29653     "version": "2019-03-04",
29654     "license": {
29655       "name": "OCF Data Model License",
29656       "url":
29657         "https://github.com/openconnectivityfoundation/core/blob/e28a9e0a92e17042ba3e83661e4c0fbce8bdc4ba/LI
29658         CENSE.md",
29659       "x-copyright": "Copyright 2018-2019 Open Connectivity Foundation, Inc. All rights reserved."
29660     },
29661     "termsOfService": "https://openconnectivityfoundation.github.io/core/DISCLAIMER.md"
29662   },
29663   "schemes": [
29664     "http"
29665   ],
29666   "consumes": [
29667     "application/json"
29668   ],
29669   "produces": [
29670     "application/json"
29671   ],
29672   "paths": {
29673     "/SpO2ResURI": {
29674       "get": {
29675         "description": "This Resource describes the Properties associated with a person's blood
29676         oxygen saturation level.\n The spo2 and perfusion Properties are read-only value that is provided by
29677         the server.\n When range (from \"oic.r.baseresource\") is omitted the default is 0 to +MAXFLOAT.",
29678         "parameters": [
29679           {
29680             "$ref": "#/parameters/interface"
29681           }
29682         ],
29683         "responses": {
29684           "200": {
29685             "description": "",
29686             "x-example": {
29687               "rt": [
29688                 "oic.r.spo2"

```

```

29689         ],
29690         "spo2": 99.0,
29691         "perfusion": 20.0
29692     },
29693     "schema": {
29694         "$ref": "#/definitions/SpO2"
29695     }
29696 }
29697 }
29698 }
29699 },
29700 },
29701 "parameters": {
29702     "interface": {
29703         "in": "query",
29704         "name": "if",
29705         "type": "string",
29706         "enum": [
29707             "oic.if.s",
29708             "oic.if.baseline"
29709         ]
29710     }
29711 },
29712 "definitions": {
29713     "SpO2": {
29714         "properties": {
29715             "spo2": {
29716                 "description": "This Property describes the estimation of the oxygen saturation level in
29717 percentage.",
29718                 "type": "number",
29719                 "minimum": 0.0,
29720                 "maximum": 100.0,
29721                 "readOnly": true
29722             },
29723             "perfusion": {
29724                 "description": "This Property describes the ratio of AC over DC of PPG.",
29725                 "type": "number",
29726                 "minimum": 0.0,
29727                 "readOnly": true
29728             },
29729             "rt": {
29730                 "description": "The Resource Type.",
29731                 "items": {
29732                     "enum": [
29733                         "oic.r.spo2"
29734                     ],
29735                     "type": "string"
29736                 },
29737                 "minItems": 1,
29738                 "uniqueItems": true,
29739                 "readOnly": true,
29740                 "type": "array"
29741             },
29742             "n": {
29743                 "$ref":
29744 "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
29745 schema.json#/definitions/n"
29746             },
29747             "if": {
29748                 "description": "The OCF Interface set supported by this Resource.",
29749                 "items": {
29750                     "enum": [
29751                         "oic.if.s",
29752                         "oic.if.baseline"
29753                     ],
29754                     "type": "string"
29755                 },
29756                 "minItems": 1,
29757                 "uniqueItems": true,
29758                 "readOnly": true,
29759                 "type": "array"
29760             }

```



```

29761         "spo2_range": {
29762             "$ref":
29763 "https://openconnectivityfoundation.github.io/IoTDataModels/schemas/oic.baseresource.properties-
29764 schema.json#/definitions/range_number"
29765         },
29766         "perfusion_range": {
29767             "$ref":
29768 "https://openconnectivityfoundation.github.io/IoTDataModels/schemas/oic.baseresource.properties-
29769 schema.json#/definitions/range_number"
29770         },
29771         "spo2_step": {
29772             "$ref":
29773 "https://openconnectivityfoundation.github.io/IoTDataModels/schemas/oic.baseresource.properties-
29774 schema.json#/definitions/step_number"
29775         },
29776         "perfusion_step": {
29777             "$ref":
29778 "https://openconnectivityfoundation.github.io/IoTDataModels/schemas/oic.baseresource.properties-
29779 schema.json#/definitions/step_number"
29780         },
29781         "spo2_precision": {
29782             "$ref":
29783 "https://openconnectivityfoundation.github.io/IoTDataModels/schemas/oic.baseresource.properties-
29784 schema.json#/definitions/precision"
29785         },
29786         "perfusion_precision": {
29787             "$ref":
29788 "https://openconnectivityfoundation.github.io/IoTDataModels/schemas/oic.baseresource.properties-
29789 schema.json#/definitions/precision"
29790         }
29791     },
29792     "type": "object",
29793     "required": [
29794         "spo2"
29795     ]
29796 }
29797 }
29798 }

```

29799 6.143.5 Property definition

29800 Table 289 defines the Properties that are part of the "oic.r.spo2" Resource Type.

29801 **Table 289 – The Property definitions of the Resource with type "rt" = "oic.r.spo2".**

Property name	Value type	Mandatory	Access mode	Description
spo2	number	Yes	Read Only	This Property describes the estimation of the oxygen saturation level in percentage.
perfusion	number	No	Read Only	This Property describes the ratio of AC over DC of PPG.
rt	array: see schema	No	Read Only	The Resource Type.
n	multiple types: see schema	No	Read Write	
if	array: see schema	No	Read Only	The OCF Interface set supported by this Resource.
spo2_range	multiple types: see schema	No	Read Write	
perfusion_range	multiple types: see schema	No	Read Write	

spo2_step	multiple types: see schema	No	Read Write	
perfusion_step	multiple types: see schema	No	Read Write	
spo2_precision	multiple types: see schema	No	Read Write	
perfusion_precision	multiple types: see schema	No	Read Write	

29802 **6.143.6 CRUDN behaviour**

29803 Table 290 defines the CRUDN operations that are supported on the "oic.r.spo2" Resource Type.

29804 **Table 290 – The CRUDN operations of the Resource with type "rt" = "oic.r.spo2".**

Create	Read	Update	Delete	Notify
	get			observe

29805 **6.144 Cadence**

29806 **6.144.1 Introduction**

29807 This Resource describes the cadence, which is the number of revolutions of crank per minute
29808 when cyclists pedal the pedals.

29809 The unit, which is the default unit, is rpm.

29810 The cadence Property is a read-only value that is provided by the server.

29811 When range (from "oic.r.baseresource") is omitted the default is 0 to +MAXFLOAT.

29812 **6.144.2 Example URI**

29813 /CadenceResURI

29814 **6.144.3 Resource type**

29815 The Resource Type is defined as: "oic.r.cadence".

29816 **6.144.4 OpenAPI 2.0 definition**

```

29817 {
29818   "swagger": "2.0",
29819   "info": {
29820     "title": "Cadence",
29821     "version": "2019-06-11",
29822     "license": {
29823       "name": "OCF Data Model License",
29824       "url":
29825         "https://github.com/openconnectivityfoundation/core/blob/e28a9e0a92e17042ba3e83661e4c0fbce8bdc4ba/LI
29826         CENSE.md",
29827       "x-copyright": "Copyright 2018-2019 Open Connectivity Foundation, Inc. All rights reserved."
29828     },
29829     "termsOfService": "https://openconnectivityfoundation.github.io/core/DISCLAIMER.md"
29830   },
29831   "schemes": [
29832     "http"
29833   ],
29834   "consumes": [
29835     "application/json"
29836   ],
29837   "produces": [
29838     "application/json"
29839   ],
29840   "paths": {
29841     "/CadenceResURI": {
29842       "get": {
29843         "description": "This Resource describes the cadence, which is the number of revolutions of
29844         crank per minute when cyclists pedal the pedals.\n The unit, which is the default unit, is rpm.\n
29845         The cadence Property is a read-only value that is provided by the server.\n When range (from

```

```

29846  \\"oic.r.baseresource\\") is omitted the default is 0 to +MAXFLOAT.",
29847      "parameters": [
29848          {
29849              "$ref": "#/parameters/interface"
29850          }
29851      ],
29852      "responses": {
29853          "200": {
29854              "description": "",
29855              "x-example": {
29856                  "rt": [
29857                      "oic.r.cadence"
29858                  ],
29859                  "cadence": 60
29860              },
29861              "schema": {
29862                  "$ref": "#/definitions/Cadence"
29863              }
29864          }
29865      }
29866  },
29867  },
29868  },
29869  "parameters": {
29870      "interface": {
29871          "in": "query",
29872          "name": "if",
29873          "type": "string",
29874          "enum": [
29875              "oic.if.s",
29876              "oic.if.baseline"
29877          ]
29878      }
29879  },
29880  "definitions": {
29881      "Cadence": {
29882          "properties": {
29883              "cadence": {
29884                  "description": "This Property describes the rate at which a cyclist is pedalling/turning
29885 the pedals.",
29886                  "type": "integer",
29887                  "minimum": 0,
29888                  "readOnly": true
29889              },
29890              "rt": {
29891                  "description": "The Resource Type.",
29892                  "items": {
29893                      "enum": [
29894                          "oic.r.cadence"
29895                      ],
29896                      "type": "string"
29897                  },
29898                  "minItems": 1,
29899                  "uniqueItems": true,
29900                  "readOnly": true,
29901                  "type": "array"
29902              },
29903              "n": {
29904                  "$ref":
29905 \"https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
29906 schema.json#/definitions/n\"
29907              },
29908              "if": {
29909                  "description": "The OCF Interface set supported by this Resource.",
29910                  "items": {
29911                      "enum": [
29912                          "oic.if.s",
29913                          "oic.if.baseline"
29914                      ],
29915                      "type": "string"
29916                  },
29917                  "minItems": 1,

```

```

29918         "uniqueItems": true,
29919         "readOnly": true,
29920         "type": "array"
29921     },
29922     "range": {
29923         "$ref":
29924 "https://openconnectivityfoundation.github.io/IoTDataModels/schemas/oic.baseresource.properties-
29925 schema.json#/definitions/range_integer"
29926     },
29927     "step": {
29928         "$ref":
29929 "https://openconnectivityfoundation.github.io/IoTDataModels/schemas/oic.baseresource.properties-
29930 schema.json#/definitions/step_integer"
29931     }
29932 },
29933 "type": "object",
29934 "required": [
29935     "cadence"
29936 ]
29937 }
29938 }
29939 }

```

29940 6.144.5 Property definition

29941 Table 291 defines the Properties that are part of the "oic.r.cadence" Resource Type.

29942 **Table 291 – The Property definitions of the Resource with type "rt" = "oic.r.cadence".**

Property name	Value type	Mandatory	Access mode	Description
cadence	integer	Yes	Read Only	This Property describes the rate at which a cyclist is pedalling/turning the pedals.
rt	array: see schema	No	Read Only	The Resource Type.
n	multiple types: see schema	No	Read Write	
if	array: see schema	No	Read Only	The OCF Interface set supported by this Resource.
range	multiple types: see schema	No	Read Write	
step	multiple types: see schema	No	Read Write	

29943 6.144.6 CRUDN behaviour

29944 Table 292 defines the CRUDN operations that are supported on the "oic.r.cadence" Resource Type.

29945 **Table 292 – The CRUDN operations of the Resource with type "rt" = "oic.r.cadence".**

Create	Read	Update	Delete	Notify
	get			observe

29946 6.145 Circuit Breaker (IEC 61850)

29947 6.145.1 Introduction

29948 This Resource describes functions for the control and monitoring of IEC 61850 based circuit
29949 breaker.

29950 6.145.2 Example URI

29951 /CircuitBreakerResURI

29952 **6.145.3 Resource type**

29953 The Resource Type is defined as: "oic.r.circuitbreaker".

29954 **6.145.4 OpenAPI 2.0 definition**

```
29955 {
29956   "swagger": "2.0",
29957   "info": {
29958     "title": "Circuit Breaker (IEC 61850)",
29959     "version": "20190613",
29960     "license": {
29961       "name": "OCF Data Model License",
29962       "url":
29963         "https://github.com/openconnectivityfoundation/core/blob/e28a9e0a92e17042ba3e83661e4c0fbce8bdc4ba/LI
29964         CENSE.md",
29965       "x-copyright": "copyright 2019 Open Connectivity Foundation, Inc. All rights reserved."
29966     },
29967     "termsOfService": "https://openconnectivityfoundation.github.io/core/DISCLAIMER.md"
29968   },
29969   "schemes": ["http"],
29970   "consumes": ["application/json"],
29971   "produces": ["application/json"],
29972   "paths": {
29973     "/CircuitBreakerResURI": {
29974       "get": {
29975         "description": "This Resource describes functions for the control and monitoring of IEC
29976         61850 based circuit breaker.",
29977         "parameters": [
29978           { "$ref": "#/parameters/interface" }
29979         ],
29980         "responses": {
29981           "200": {
29982             "description": "",
29983             "x-example":
29984               {
29985                 "rt": ["oic.r.circuitbreaker"],
29986                 "if": ["oic.if.s", "oic.if.baseline"],
29987                 "status": "on",
29988                 "ratedcurrent": 10.0,
29989                 "ratedbreakingcurrent": 2500.0,
29990                 "ratedvoltage": 460.0,
29991                 "leakagecurrent": 0.5,
29992                 "insulationresistance": 0.3,
29993                 "timestamp": "2015-11-05T14:30:00.10Z"
29994               },
29995             "schema": { "$ref": "#/definitions/CircuitBreaker" }
29996           }
29997         }
29998       }
29999     }
30000   },
30001   "parameters": {
30002     "interface": {
30003       "in": "query",
30004       "name": "if",
30005       "type": "string",
30006       "enum": ["oic.if.s", "oic.if.baseline"]
30007     }
30008   },
30009   "definitions": {
30010     "CircuitBreaker": {
30011       "properties": {
30012         "rt": {
30013           "description": "The Resource Type",
30014           "items": {
30015             "enum": ["oic.r.circuitbreaker"],
30016             "maxLength": 64,
30017             "type": "string"
30018           },
30019           "minItems": 1,
30020           "uniqueItems": true,
```

```

30021         "readOnly": true,
30022         "type": "array"
30023     },
30024     "status" : {
30025         "description": "The circuit breaker status. The status can only be reset out of bounds.",
30026         "readOnly": true,
30027         "type": "string",
30028         "enum" : [ "on", "off", "trip" ]
30029     },
30030     "ratedcurrent" : {
30031         "description": "The rated current in Ampere, defined at manufacturing time.",
30032         "readOnly": true,
30033         "type": "number"
30034     },
30035     "ratedbreakingcurrent" : {
30036         "description": "The rated breaking current in Ampere, defined at manufacturing time.",
30037         "readOnly": true,
30038         "type": "number"
30039     },
30040     "ratedvoltage" : {
30041         "description": "The rated voltage in Volts, defined at manufacturing time.",
30042         "readOnly": true,
30043         "type": "number"
30044     },
30045     "leakagecurrent" : {
30046         "description": "The leakage current in mA.",
30047         "readOnly": true,
30048         "type": "number"
30049     },
30050     "insulationresistance" : {
30051         "description": "Insulation resistance of circuit breaker (M Ohm).",
30052         "readOnly": true,
30053         "type": "number"
30054     },
30055     "timestamp": {
30056         "description": "An RFC3339 formatted time indicating when the data was observed (e.g.:
30057 2016-02-15T09:19Z, 1996-12-19T16:39:57-08:00). Note that 1/100 time resolution should be used.",
30058         "format": "date-time",
30059         "readOnly": true,
30060         "type": "string"
30061     },
30062     "n": {
30063         "$ref":
30064 "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
30065 schema.json#/definitions/n"
30066     },
30067     "id": {
30068         "$ref":
30069 "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
30070 schema.json#/definitions/id"
30071     },
30072     "if": {
30073         "description": "The OCF Interface set supported by this Resource.",
30074         "items": {
30075             "enum": [
30076                 "oic.if.s",
30077                 "oic.if.baseline"
30078             ],
30079             "type": "string"
30080         },
30081         "minItems": 2,
30082         "uniqueItems": true,
30083         "readOnly": true,
30084         "type": "array"
30085     }
30086 },
30087 "type": "object",
30088 "required": ["status", "ratedcurrent", "ratedbreakingcurrent", "ratedvoltage", "timestamp"]
30089 }
30090 }
30091 }
30092

```

30093 **6.145.5 Property definition**

30094 Table 293 defines the Properties that are part of the "oic.r.circuitbreaker" Resource Type.

30095 **Table 293 – The Property definitions of the Resource with type "rt" = "oic.r.circuitbreaker".**

Property name	Value type	Mandatory	Access mode	Description
rt	array: see schema	No	Read Only	The Resource Type
status	string	Yes	Read Only	The circuit breaker status. The status can only be reset out of bounds.
ratedcurrent	number	Yes	Read Only	The rated current in Ampere, defined at manufacturing time.
ratedbreakingcurrent	number	Yes	Read Only	The rated breaking current in Ampere, defined at manufacturing time.
ratedvoltage	number	Yes	Read Only	The rated voltage in Volts, defined at manufacturing time.
leakagecurrent	number	No	Read Only	The leakage current in mA.
insulationresistance	number	No	Read Only	Insulation resistance of circuit breaker (M Ohm).
timestamp	string	Yes	Read Only	An RFC3339 formatted time indicating when the data was observed (e.g.: 2016-02-15T09:19Z, 1996-12-19T16:39:57-08:00). Note that 1/100 time resolution should be used.
n	multiple types: see schema	No	Read Write	
id	multiple types: see schema	No	Read Write	
if	array: see schema	No	Read Only	The OCF Interface set supported by this Resource.

30096 **6.145.6 CRUDN behaviour**

30097 Table 294 defines the CRUDN operations that are supported on the "oic.r.circuitbreaker" Resource Type.

30098 **Table 294 – The CRUDN operations of the Resource with type "rt" = "oic.r.circuitbreaker".**

Create	Read	Update	Delete	Notify
	get			observe

30100 **6.146 Cycling Power**

30101 **6.146.1 Introduction**

30102 This Resource describes the cycling power, which is the amount of energy transferred or
30103 converted per unit time.

30104 The unit, which is the default SI unit, is W (which is equal to one joule per second).
30105 The power Property is a read-only value that is provided by the server.
30106 When range (from "oic.r.baseresource") is omitted the default is 0 to +MAXFLOAT.

30107 **6.146.2 Example URI**

30108 /CyclingPowerResURI

30109 **6.146.3 Resource type**

30110 The Resource Type is defined as: "oic.r.cyclingpower".

30111 **6.146.4 OpenAPI 2.0 definition**

```
30112 {
30113   "swagger": "2.0",
30114   "info": {
30115     "title": "Cycling Power",
30116     "version": "2019-06-11",
30117     "license": {
30118       "name": "OCF Data Model License",
30119       "url":
30120 "https://github.com/openconnectivityfoundation/core/blob/e28a9e0a92e17042ba3e83661e4c0fbce8bdc4ba/LI
30121 CENSE.md",
30122       "x-copyright": "Copyright 2018-2019 Open Connectivity Foundation, Inc. All rights reserved."
30123     },
30124     "termsOfService": "https://openconnectivityfoundation.github.io/core/DISCLAIMER.md"
30125   },
30126   "schemes": [
30127     "http"
30128   ],
30129   "consumes": [
30130     "application/json"
30131   ],
30132   "produces": [
30133     "application/json"
30134   ],
30135   "paths": {
30136     "/CyclingPowerResURI": {
30137       "get": {
30138         "description": "This Resource describes the cycling power, which is the amount of energy
30139 transferred or converted per unit time.\n The unit, which is the default SI unit, is W (which is
30140 equal to one joule per second).\n The power Property is a read-only value that is provided by the
30141 server.\n When range (from \"oic.r.baseresource\") is omitted the default is 0 to +MAXFLOAT.",
30142         "parameters": [
30143           {
30144             "$ref": "#/parameters/interface"
30145           }
30146         ],
30147         "responses": {
30148           "200": {
30149             "description": "",
30150             "x-example": {
30151               "rt": [
30152                 "oic.r.cyclingpower"
30153               ],
30154               "power": 200.0,
30155               "power-left": 100.0,
30156               "power-right": 100.0
30157             },
30158             "schema": {
30159               "$ref": "#/definitions/CyclingPower"
30160             }
30161           }
30162         }
30163       }
30164     }
30165   },
30166   "parameters": {
30167     "interface": {
30168       "in": "query",
```



```

30169     "name": "if",
30170     "type": "string",
30171     "enum": [
30172         "oic.if.s",
30173         "oic.if.baseline"
30174     ]
30175 }
30176 },
30177 "definitions": {
30178     "CyclingPower": {
30179         "properties": {
30180             "power": {
30181                 "description": "The current overall power output in watts.",
30182                 "$ref": "#/definitions/power"
30183             },
30184             "power-left": {
30185                 "description": "The current power output in watts from the left pedal.",
30186                 "$ref": "#/definitions/power"
30187             },
30188             "power-right": {
30189                 "description": "The current power output in watts from the right pedal.",
30190                 "$ref": "#/definitions/power"
30191             },
30192             "rt": {
30193                 "description": "The Resource Type.",
30194                 "items": {
30195                     "enum": [
30196                         "oic.r.cyclingpower"
30197                     ],
30198                     "type": "string"
30199                 },
30200                 "minItems": 1,
30201                 "uniqueItems": true,
30202                 "readOnly": true,
30203                 "type": "array"
30204             },
30205             "n": {
30206                 "$ref":
30207 "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
30208 schema.json#/definitions/n"
30209             },
30210             "if": {
30211                 "description": "The OCF Interface set supported by this Resource.",
30212                 "items": {
30213                     "enum": [
30214                         "oic.if.s",
30215                         "oic.if.baseline"
30216                     ],
30217                     "type": "string"
30218                 },
30219                 "minItems": 1,
30220                 "uniqueItems": true,
30221                 "readOnly": true,
30222                 "type": "array"
30223             },
30224             "range": {
30225                 "$ref":
30226 "https://openconnectivityfoundation.github.io/IoTDataModels/schemas/oic.baseresource.properties-
30227 schema.json#/definitions/range_number"
30228             },
30229             "step": {
30230                 "$ref":
30231 "https://openconnectivityfoundation.github.io/IoTDataModels/schemas/oic.baseresource.properties-
30232 schema.json#/definitions/step_number"
30233             }
30234         },
30235         "type": "object",
30236         "required": [
30237             "power"
30238         ]
30239     },
30240     "power": {

```

```

30241         "description": "This Resource describes the power, which is the amount of energy transferred
30242 or converted per unit time, in W (which is equal to one joule per second).",
30243         "type": "number",
30244         "minimum": 0.0,
30245         "readOnly": true
30246     }
30247 }
30248 }

```

30249 6.146.5 Property definition

30250 Table 295 defines the Properties that are part of the "oic.r.cyclingpower" Resource Type.

30251 **Table 295 – The Property definitions of the Resource with type "rt" = "oic.r.cyclingpower".**

Property name	Value type	Mandatory	Access mode	Description
power	multiple types: see schema	Yes	Read Write	The current overall power output in watts.
power-left	multiple types: see schema	No	Read Write	The current power output in watts from the left pedal.
power-right	multiple types: see schema	No	Read Write	The current power output in watts from the right pedal.
rt	array: see schema	No	Read Only	The Resource Type.
n	multiple types: see schema	No	Read Write	
if	array: see schema	No	Read Only	The OCF Interface set supported by this Resource.
range	multiple types: see schema	No	Read Write	
step	multiple types: see schema	No	Read Write	

30252 6.146.6 CRUDN behaviour

30253 Table 296 defines the CRUDN operations that are supported on the "oic.r.cyclingpower" Resource
30254 Type.

30255 **Table 296 – The CRUDN operations of the Resource with type "rt" = "oic.r.cyclingpower".**

Create	Read	Update	Delete	Notify
	get			observe

30256 6.147 Inverter (IEC 61850)

30257 6.147.1 Introduction

30258 This Resource describes functions for the control and monitoring of IEC 61850 based circuit
30259 breaker.

30260 6.147.2 Example URI

30261 /InverterResURI

30262 6.147.3 Resource type

30263 The Resource Type is defined as: "oic.r.inverter".

30264 6.147.4 OpenAPI 2.0 definition

```
30265 {
30266   "swagger": "2.0",
30267   "info": {
30268     "title": "Inverter (IEC 61850)",
30269     "version": "20190613",
30270     "license": {
30271       "name": "OCF Data Model License",
30272       "url":
30273         "https://github.com/openconnectivityfoundation/core/blob/e28a9e0a92e17042ba3e83661e4c0fbce8bdc4ba/LI
30274         CENSE.md",
30275       "x-copyright": "copyright 2019 Open Connectivity Foundation, Inc. All rights reserved."
30276     },
30277     "termsOfService": "https://openconnectivityfoundation.github.io/core/DISCLAIMER.md"
30278   },
30279   "schemes": ["http"],
30280   "consumes": ["application/json"],
30281   "produces": ["application/json"],
30282   "paths": {
30283     "/InverterResURI" : {
30284       "get": {
30285         "description": "This Resource describes functions for the control and monitoring of IEC
30286         61850 based circuit breaker.",
30287         "parameters": [
30288           {"$ref": "#/parameters/interface"}
30289         ],
30290         "responses": {
30291           "200": {
30292             "description": "",
30293             "x-example":
30294               {
30295                 "rt": ["oic.r.inverter"],
30296                 "if": ["oic.if.s", "oic.if.baseline"],
30297                 "status": "on",
30298                 "ratedpower": 36.0,
30299                 "minvoltmppt": 200.0,
30300                 "maxvoltmppt": 1000.0,
30301                 "inputvoltage": 980.0,
30302                 "inputcurrent": 22.0,
30303                 "outputpower": 61.0,
30304                 "timestamp": "2015-11-05T14:30:00.13Z"
30305               },
30306           "schema": { "$ref": "#/definitions/Inverter" }
30307         }
30308       }
30309     }
30310   },
30311 },
30312 "parameters": {
30313   "interface" : {
30314     "in": "query",
30315     "name": "if",
30316     "type": "string",
30317     "enum": ["oic.if.s", "oic.if.baseline"]
30318   }
30319 },
30320 "definitions": {
30321   "Inverter" : {
30322     "properties": {
30323       "rt" : {
30324         "description": "The Resource Type",
30325         "items": {
30326           "enum": ["oic.r.inverter"],
30327           "maxLength": 64,
30328           "type": "string"
30329         },
30330         "minItems": 1,
30331         "uniqueItems": true,
30332         "readOnly": true,
30333         "type": "array"
30334       }
30335     }
30336   }
30337 }
```

```

30335     "status" : {
30336         "description": "The inverter status. The status can only be reset out of bounds.",
30337         "readOnly": true,
30338         "type": "string",
30339         "enum" : [ "on", "off", "trip" ]
30340     },
30341     "ratedpower" : {
30342         "description": "The rated power in kW, defined at manufacturing time.",
30343         "readOnly": true,
30344         "type": "number"
30345     },
30346     "minvoltmppt" : {
30347         "description": "Minimum voltage for MPPT (Maximum power point tracking) control method
30348 (V), defined at manufacturing time.",
30349         "readOnly": true,
30350         "type": "number"
30351     },
30352     "maxvoltmppt" : {
30353         "description": "Maximum voltage for MPPT (Maximum power point tracking) control method
30354 (V), defined at manufacturing time.",
30355         "readOnly": true,
30356         "type": "number"
30357     },
30358     "inputvoltage" : {
30359         "description": "input voltage in Volts.",
30360         "readOnly": true,
30361         "type": "number"
30362     },
30363     "inputcurrent" : {
30364         "description": "input current in Amperes.",
30365         "readOnly": true,
30366         "type": "number"
30367     },
30368     "outputpower" : {
30369         "description": "output power in kW.",
30370         "readOnly": true,
30371         "type": "number"
30372     },
30373     "timestamp": {
30374         "description": "An RFC3339 formatted time indicating when the data was observed (e.g.:
30375 2016-02-15T09:19Z, 1996-12-19T16:39:57-08:00). Resolution in 1/100 second.",
30376         "format": "date-time",
30377         "readOnly": true,
30378         "type": "string"
30379     },
30380     "n": {
30381         "$ref":
30382 "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
30383 schema.json#/definitions/n"
30384     },
30385     "id": {
30386         "$ref":
30387 "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
30388 schema.json#/definitions/id"
30389     },
30390     "if": {
30391         "description": "The OCF Interface set supported by this Resource.",
30392         "items": {
30393             "enum": [
30394                 "oic.if.s",
30395                 "oic.if.baseline"
30396             ],
30397             "type": "string"
30398         },
30399         "minItems": 2,
30400         "uniqueItems": true,
30401         "readOnly": true,
30402         "type": "array"
30403     }
30404 },
30405     "type": "object",
30406     "required": ["status", "ratedpower", "minvoltmppt", "maxvoltmppt",

```

```

30407 "inputvoltage", "inputcurrent", "outputpower", "timestamp"]
30408     }
30409   }
30410 }
30411

```

30412 6.147.5 Property definition

30413 Table 297 defines the Properties that are part of the "oic.r.inverter" Resource Type.

30414 **Table 297 – The Property definitions of the Resource with type "rt" = "oic.r.inverter".**

Property name	Value type	Mandatory	Access mode	Description
rt	array: see schema	No	Read Only	The Resource Type
status	string	Yes	Read Only	The inverter status. The status can only be reset out of bounds.
ratedpower	number	Yes	Read Only	The rated power in kW, defined at manufacturing time.
minvoltmppt	number	Yes	Read Only	Minimum voltage for MPPT (Maximum power point tracking) control method (V), defined at manufacturing time.
maxvoltmppt	number	Yes	Read Only	Maximum voltage for MPPT (Maximum power point tracking) control method (V), defined at manufacturing time.
inputvoltage	number	Yes	Read Only	input voltage in Volts.
inputcurrent	number	Yes	Read Only	input current in Amperes.
outputpower	number	Yes	Read Only	output power in kW.
timestamp	string	Yes	Read Only	An RFC3339 formatted time indicating when the data was observed (e.g.: 2016-02-15T09:19Z, 1996-12-19T16:39:57-08:00). Resolution in 1/100 second.
n	multiple types: see schema	No	Read Write	
id	multiple types: see schema	No	Read Write	
if	array: see schema	No	Read Only	The OCF Interface set supported by this Resource.

30415 6.147.6 CRUDN behaviour

30416 Table 298 defines the CRUDN operations that are supported on the "oic.r.inverter" Resource Type.

30417 **Table 298 – The CRUDN operations of the Resource with type "rt" = "oic.r.inverter".**

Create	Read	Update	Delete	Notify
	get			observe

30418 **6.148 PV array system connection terminal (IEC 61850)**

30419 **6.148.1 Introduction**

30420

30421 This Resource describes functions for the control and monitoring of IEC 61850 based PV Array
30422 system connection terminal.

30423 **6.148.2 Example URI**

30424 /PVConnectionTerminalResURI

30425 **6.148.3 Resource type**

30426 The Resource Type is defined as: "oic.r.pvconnectionterminal".

30427 **6.148.4 OpenAPI 2.0 definition**

```

30428 {
30429   "swagger": "2.0",
30430   "info": {
30431     "title": "PV array system connection terminal (IEC 61850)",
30432     "version": "20190613",
30433     "license": {
30434       "name": "OCF Data Model License",
30435       "url":
30436         "https://github.com/openconnectivityfoundation/core/blob/e28a9e0a92e17042ba3e83661e4c0fbce8bdc4ba/LI
30437         CENSE.md",
30438       "x-copyright": "copyright 2019 Open Connectivity Foundation, Inc. All rights reserved."
30439     },
30440     "termsOfService": "https://openconnectivityfoundation.github.io/core/DISCLAIMER.md"
30441   },
30442   "schemes": ["http"],
30443   "consumes": ["application/json"],
30444   "produces": ["application/json"],
30445   "paths": {
30446     "/PVConnectionTerminalResURI" : {
30447       "get": {
30448         "description": "This Resource describes functions for the control and monitoring of IEC
30449         61850 based PV Array system connection terminal.",
30450         "parameters": [
30451           {"$ref": "#/parameters/interface"}
30452         ],
30453         "responses": {
30454           "200": {
30455             "description": "",
30456             "x-example":
30457               {
30458                 "rt": ["oic.r.pvconnectionterminal"],
30459                 "if": ["oic.if.s", "oic.if.baseline"],
30460                 "ratedarrayvoltage": 46.6,
30461                 "ratedarraycurrent": 10.2,
30462                 "arrayvoltage": 37.0,
30463                 "arraycurrent": 9.1,
30464                 "leakagecurrent": 0.5,
30465                 "insulationresistance": 0.3,
30466                 "timestamp": "2015-11-05T14:30:00.15Z"
30467               },
30468             "schema": { "$ref": "#/definitions/PVArrayConnectionTerminal" }
30469           }
30470         }
30471       }
30472     }
30473   },

```

```

30474     "parameters": {
30475       "interface" : {
30476         "in": "query",
30477         "name": "if",
30478         "type": "string",
30479         "enum": ["oic.if.s", "oic.if.baseline"]
30480       }
30481     },
30482     "definitions": {
30483       "PVArrayConnectionTerminal" : {
30484         "properties": {
30485           "rt" : {
30486             "description": "The Resource Type",
30487             "items": {
30488               "enum": ["oic.r.pvconnectionterminal"],
30489               "maxLength": 64,
30490               "type": "string"
30491             },
30492             "minItems": 1,
30493             "uniqueItems": true,
30494             "readOnly": true,
30495             "type": "array"
30496           },
30497           "ratedarrayvoltage" : {
30498             "description": "Rated voltage of array (Nominal values of maximum power voltage * number
30499 of modules) (V)",
30500             "readOnly": true,
30501             "type": "number"
30502           },
30503           "ratedarraycurrent" : {
30504             "description": "Rated current of array (Nominal values of maximum power current * number
30505 of modules) (A), defined at manufacturing time.",
30506             "readOnly": true,
30507             "type": "number"
30508           },
30509           "arrayvoltage" : {
30510             "description": "Output voltage of array in volts (V).",
30511             "readOnly": true,
30512             "type": "number"
30513           },
30514           "arraycurrent" : {
30515             "description": "Output current of array in Ampere (A).",
30516             "readOnly": true,
30517             "type": "number"
30518           },
30519           "leakagecurrent" : {
30520             "description": "The leakage current in mA.",
30521             "readOnly": true,
30522             "type": "number"
30523           },
30524           "insulationresistance" : {
30525             "description": "Insulation resistance of circuit breaker (M Ohm).",
30526             "readOnly": true,
30527             "type": "number"
30528           },
30529           "timestamp": {
30530             "description": "An RFC3339 formatted time indicating when the data was observed (e.g.:
30531 2016-02-15T09:19Z, 1996-12-19T16:39:57-08:00). Note that 1/100 time resolution should be used.",
30532             "format": "date-time",
30533             "readOnly": true,
30534             "type": "string"
30535           },
30536           "n": {
30537             "$ref":
30538 "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
30539 schema.json#/definitions/n"
30540           },
30541           "id": {
30542             "$ref":
30543 "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
30544 schema.json#/definitions/id"
30545           },

```

```

30546     "if": {
30547         "description": "The OCF Interface set supported by this Resource.",
30548         "items": {
30549             "enum": [
30550                 "oic.if.s",
30551                 "oic.if.baseline"
30552             ],
30553             "type": "string"
30554         },
30555         "minItems": 2,
30556         "uniqueItems": true,
30557         "readOnly": true,
30558         "type": "array"
30559     }
30560 },
30561 "type": "object",
30562 "required": ["ratedarrayvoltage", "ratedarraycurrent", "arrayvoltage", "arraycurrent",
30563 "timestamp"]
30564 }
30565 }
30566 }

```

30567 6.148.5 Property definition

30568 Table 299 defines the Properties that are part of the "oic.r.pvconnectionterminal" Resource Type.

30569 **Table 299 – The Property definitions of the Resource with type "rt" =**
30570 **"oic.r.pvconnectionterminal".**

Property name	Value type	Mandatory	Access mode	Description
rt	array: see schema	No	Read Only	The Resource Type
ratedarrayvoltage	number	Yes	Read Only	Rated voltage of array (Nominal values of maximum power voltage * number of modules) (V)
ratedarraycurrent	number	Yes	Read Only	Rated current of array (Nominal values of maximum power current * number of modules) (A), defined at manufacturing time.
arrayvoltage	number	Yes	Read Only	Output voltage of array in volts (V).
arraycurrent	number	Yes	Read Only	Output current of array in Ampere (A).
leakagecurrent	number	No	Read Only	The leakage current in mA.
insulationresistance	number	No	Read Only	Insulation resistance of circuit breaker (M Ohm).
timestamp	string	Yes	Read Only	An RFC3339 formatted time indicating when the data was observed (e.g.: 2016-02-15T09:19Z, 1996-12-19T16:39:57-08:00). Note that 1/100 time resolution should be used.

n	multiple types: see schema	No	Read Write	
id	multiple types: see schema	No	Read Write	
if	array: see schema	No	Read Only	The OCF Interface set supported by this Resource.

30571 **6.148.6 CRUDN behaviour**

30572 Table 300 defines the CRUDN operations that are supported on the "oic.r.pvconnectionterminal"
 30573 Resource Type.

30574 **Table 300 – The CRUDN operations of the Resource with type "rt" =**
 30575 **"oic.r.pvconnectionterminal".**

Create	Read	Update	Delete	Notify
	get			observe

30576 **6.149 Speed**

30577 **6.149.1 Introduction**

30578 This Resource describes the speed of an object, which is the magnitude of its velocity.
 30579 The unit, which is the default SI unit, is metre per second.
 30580 The speed Property is a read-only value that is provided by the server.
 30581 When range (from "oic.r.baseresource") is omitted the default is 0 to +MAXFLOAT.

30582 **6.149.2 Example URI**

30583 /SpeedResURI

30584 **6.149.3 Resource type**

30585 The Resource Type is defined as: "oic.r.speed".

30586 **6.149.4 OpenAPI 2.0 definition**

```

30587 {
30588   "swagger": "2.0",
30589   "info": {
30590     "title": "Speed",
30591     "version": "2019-05-13",
30592     "license": {
30593       "name": "OCF Data Model License",
30594       "url":
30595         "https://github.com/openconnectivityfoundation/core/blob/e28a9e0a92e17042ba3e83661e4c0fbce8bdc4ba/LI
30596         CENSE.md",
30597       "x-copyright": "Copyright 2018-2019 Open Connectivity Foundation, Inc. All rights reserved."
30598     },
30599     "termsOfService": "https://openconnectivityfoundation.github.io/core/DISCLAIMER.md"
30600   },
30601   "schemes": [
30602     "http"
30603   ],
30604   "consumes": [
30605     "application/json"
30606   ],
30607   "produces": [
30608     "application/json"
30609   ],
30610   "paths": {
30611     "/SpeedResURI": {
30612       "get": {
30613         "description": "This Resource describes the speed of an object, which is the magnitude of
30614         its velocity.\n The unit, which is the default SI unit, is metre per second.\n The speed Property is
30615         a read-only value that is provided by the server.\n When range (from \"oic.r.baseresource\") is
30616         omitted the default is 0 to +MAXFLOAT.",

```

```

30617     "parameters": [
30618         {
30619             "$ref": "#/parameters/interface"
30620         }
30621     ],
30622     "responses": {
30623         "200": {
30624             "description": "",
30625             "x-example": {
30626                 "rt": [
30627                     "oic.r.speed"
30628                 ],
30629                 "speed": 10.0
30630             },
30631             "schema": {
30632                 "$ref": "#/definitions/Speed"
30633             }
30634         }
30635     }
30636 }
30637 },
30638 },
30639 "parameters": {
30640     "interface": {
30641         "in": "query",
30642         "name": "if",
30643         "type": "string",
30644         "enum": [
30645             "oic.if.s",
30646             "oic.if.baseline"
30647         ]
30648     }
30649 },
30650 "definitions": {
30651     "Speed": {
30652         "properties": {
30653             "speed": {
30654                 "description": "This Property describes the speed of an object in metre per second (SI
30655 Unit). It should be noted, however, that the most common unit of speed everyday usage is the
30656 kilometre per hour or, in the US and the UK, miles per hour.",
30657                 "type": "number",
30658                 "minimum": 0.0,
30659                 "readOnly": true
30660             },
30661             "rt": {
30662                 "description": "The Resource Type.",
30663                 "items": {
30664                     "enum": [
30665                         "oic.r.speed"
30666                     ],
30667                     "type": "string"
30668                 },
30669                 "minItems": 1,
30670                 "uniqueItems": true,
30671                 "readOnly": true,
30672                 "type": "array"
30673             },
30674             "n": {
30675                 "$ref":
30676 "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
30677 schema.json#/definitions/n"
30678             },
30679             "if": {
30680                 "description": "The OCF Interface set supported by this Resource.",
30681                 "items": {
30682                     "enum": [
30683                         "oic.if.s",
30684                         "oic.if.baseline"
30685                     ],
30686                     "type": "string"
30687                 },
30688                 "minItems": 1,

```

```

30689         "uniqueItems": true,
30690         "readOnly": true,
30691         "type": "array"
30692     },
30693     "range": {
30694         "$ref":
30695 "https://openconnectivityfoundation.github.io/IoTDataModels/schemas/oic.baseresource.properties-
30696 schema.json#/definitions/range_number"
30697     },
30698     "step": {
30699         "$ref":
30700 "https://openconnectivityfoundation.github.io/IoTDataModels/schemas/oic.baseresource.properties-
30701 schema.json#/definitions/step_number"
30702     }
30703 },
30704 "type": "object",
30705 "required": [
30706     "speed"
30707 ]
30708 }
30709 }
30710 }

```

30711 6.149.5 Property definition

30712 Table 301 defines the Properties that are part of the "oic.r.speed" Resource Type.

30713 **Table 301 – The Property definitions of the Resource with type "rt" = "oic.r.speed".**

Property name	Value type	Mandatory	Access mode	Description
speed	number	Yes	Read Only	This Property describes the speed of an object in metre per second (SI Unit). It should be noted, however, that the most common unit of speed everyday usage is the kilometre per hour or, in the US and the UK, miles per hour.
rt	array: see schema	No	Read Only	The Resource Type.
n	multiple types: see schema	No	Read Write	
if	array: see schema	No	Read Only	The OCF Interface set supported by this Resource.
range	multiple types: see schema	No	Read Write	
step	multiple types: see schema	No	Read Write	

30714 6.149.6 CRUDN behaviour

30715 Table 302 defines the CRUDN operations that are supported on the "oic.r.speed" Resource Type.

30716 **Table 302 – The CRUDN operations of the Resource with type "rt" = "oic.r.speed".**

Create	Read	Update	Delete	Notify
	get			observe

30717 **6.150 Torque**

30718 **6.150.1 Introduction**

30719 This Resource describes the torque, which is the rotational equivalent of linear force.

30720 The unit, which is the default SI unit, is N*m (Newton metre).

30721 The torque Property is a read-only value that is provided by the server.

30722 When range (from "oic.r.baseresource") is omitted the default is 0 to +MAXFLOAT.

30723 **6.150.2 Example URI**

30724 /TorqueResURI

30725 **6.150.3 Resource type**

30726 The Resource Type is defined as: "oic.r.torque".

30727 **6.150.4 OpenAPI 2.0 definition**

```
30728 {
30729   "swagger": "2.0",
30730   "info": {
30731     "title": "Torque",
30732     "version": "2019-09-25",
30733     "license": {
30734       "name": "OCF Data Model License",
30735       "url":
30736 "https://github.com/openconnectivityfoundation/core/blob/e28a9e0a92e17042ba3e83661e4c0fbce8bdc4ba/LI
30737 CENSE.md",
30738     "x-copyright": "Copyright 2018-2019 Open Connectivity Foundation, Inc. All rights reserved."
30739   },
30740   "termsOfService": "https://openconnectivityfoundation.github.io/core/DISCLAIMER.md"
30741 },
30742   "schemes": [
30743     "http"
30744   ],
30745   "consumes": [
30746     "application/json"
30747   ],
30748   "produces": [
30749     "application/json"
30750   ],
30751   "paths": {
30752     "/TorqueResURI": {
30753       "get": {
30754         "description": "This Resource describes the torque, which is the rotational equivalent of
30755 linear force.\n The unit, which is the default SI unit, is N*m (Newton metre).\n The torque Property
30756 is a read-only value that is provided by the server.\n When range (from \"oic.r.baseresource\") is
30757 omitted the default is 0 to +MAXFLOAT.",
30758         "parameters": [
30759           {
30760             "$ref": "#/parameters/interface"
30761           }
30762         ],
30763         "responses": {
30764           "200": {
30765             "description": "",
30766             "x-example": {
30767               "rt": [
30768                 "oic.r.torque"
30769               ],
30770               "torque": 10.0
30771             },
30772             "schema": {
30773               "$ref": "#/definitions/Torque"
30774             }
30775           }
30776         }
30777       }
30778     }
30779   },
}
```

```

30780     "parameters": {
30781       "interface": {
30782         "in": "query",
30783         "name": "if",
30784         "type": "string",
30785         "enum": [
30786           "oic.if.s",
30787           "oic.if.baseline"
30788         ]
30789       }
30790     },
30791     "definitions": {
30792       "Torque": {
30793         "properties": {
30794           "torque": {
30795             "description": "This Resource describes the torque, which is the rotational equivalent of
30796 linear force, in N*m (Newton metre).",
30797             "type": "number",
30798             "minimum": 0.0,
30799             "readOnly": true
30800           },
30801           "rt": {
30802             "description": "The Resource Type.",
30803             "items": {
30804               "enum": [
30805                 "oic.r.torque"
30806               ],
30807               "type": "string"
30808             },
30809             "minItems": 1,
30810             "uniqueItems": true,
30811             "readOnly": true,
30812             "type": "array"
30813           },
30814           "n": {
30815             "$ref":
30816 "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
30817 schema.json#/definitions/n"
30818           },
30819           "if": {
30820             "description": "The OCF Interface set supported by this Resource.",
30821             "items": {
30822               "enum": [
30823                 "oic.if.s",
30824                 "oic.if.baseline"
30825               ],
30826               "type": "string"
30827             },
30828             "minItems": 1,
30829             "uniqueItems": true,
30830             "readOnly": true,
30831             "type": "array"
30832           },
30833           "range": {
30834             "$ref":
30835 "https://openconnectivityfoundation.github.io/IoTDataModels/schemas/oic.baseresource.properties-
30836 schema.json#/definitions/range_number"
30837           },
30838           "step": {
30839             "$ref":
30840 "https://openconnectivityfoundation.github.io/IoTDataModels/schemas/oic.baseresource.properties-
30841 schema.json#/definitions/step_number"
30842           }
30843         },
30844         "type": "object",
30845         "required": [
30846           "torque"
30847         ]
30848       }
30849     }
30850 }

```

30851 **6.150.5 Property definition**

30852 Table 303 defines the Properties that are part of the "oic.r.torque" Resource Type.

30853 **Table 303 – The Property definitions of the Resource with type "rt" = "oic.r.torque".**

Property name	Value type	Mandatory	Access mode	Description
torque	number	Yes	Read Only	This Resource describes the torque, which is the rotational equivalent of linear force, in N*m (Newton metre).
rt	array: see schema	No	Read Only	The Resource Type.
n	multiple types: see schema	No	Read Write	
if	array: see schema	No	Read Only	The OCF Interface set supported by this Resource.
range	multiple types: see schema	No	Read Write	
step	multiple types: see schema	No	Read Write	

30854 **6.150.6 CRUDN behaviour**

30855 Table 304 defines the CRUDN operations that are supported on the "oic.r.torque" Resource Type.

30856 **Table 304 – The CRUDN operations of the Resource with type "rt" = "oic.r.torque".**

Create	Read	Update	Delete	Notify
	get			observe

30857 **6.151 Water Info**

30858 **6.151.1 Introduction**

30859 This Resource describes the water information to indicate type of water currently provided by the
 30860 device. The water type can be read or set.

30861 The Property "supportedwatertypes" is an array of the possible water types are defined by the
 30862 enumeration ["cold", "hot", "ambient", "ice"].

30863 The Property "supportedadditivetypes" is an array of the possible additive types for water. The
 30864 additive types mean optional types that can be added to the specific water type according to
 30865 Client's preference and are defined by the enumeration ["none", "soda", "mineral"]. If absent, the
 30866 default value is "none".

30867 The Property "currentwatertype" is the currently desired water type.

30868 The Property "currentadditivetypes" is the currently desired additive type(s).

30869 For example, if "cold" is selected with the "currentwatertype", "soda" and "mineral" or both can be
 30870 selected as "currentadditivetypes". Note that if "hot" is selected with the "currentwatertype",
 30871 "soda" and "mineral" may be restricted for the "currentadditivetypes".

30872 **6.151.2 Example URI**

30873 /WaterInfoResURI

30874 **6.151.3 Resource type**

30875 The Resource Type is defined as: "oic.r.waterinfo".

30876 **6.151.4 OpenAPI 2.0 definition**

```
30877 {
30878   "swagger": "2.0",
30879   "info": {
30880     "title": "Water Info",
30881     "version": "2019-06-13",
30882     "license": {
30883       "name": "OCF Date Model License",
30884       "url":
30885         "https://github.com/openconnectivityfoundation/core/blob/e28a9e0a92e17042ba3e83661e4c0fbce8bdc4ba/LI
30886         CENSE.md",
30887       "x-copyright": "Copyright 2019 Open Connectivity Foundation, Inc. All rights reserved."
30888     },
30889     "termsOfService": "https://openconnectivityfoundation.github.io/core/DISCLAIMER.md"
30890   },
30891   "schemes": ["http"],
30892   "consumes": ["application/json"],
30893   "produces": ["application/json"],
30894   "paths": {
30895     "/WaterInfoResURI":{
30896       "get": {
30897         "description": "This Resource describes the water information to indicate type of
30898         water currently provided by the device. The water type can be read or set.\nThe Property
30899         \"supportedwatertypes\" is an array of the possible water types are defined by the enumeration
30900         [\"cold\", \"hot\", \"ambient\", \"ice\"].\nThe Property \"supportedadditivetypes\" is an array of
30901         the possible additive types for water. The additive types mean optional types that can be added to
30902         the specific water type according to Client's preference and are defined by the enumeration
30903         [\"none\", \"soda\", \"mineral\"]. If absent, the default value is \"none\". \nThe Property
30904         \"currentwatertype\" is the currently desired water type. \nThe Property \"currentadditivetypes\" is
30905         the currently desired additive type(s). \nFor example, if \"cold\" is selected with the
30906         \"currentwatertype\", \"soda\" and \"mineral\" or both can be selected as \"currentadditivetypes\".
30907         Note that if \"hot\" is selected with the \"currentwatertype\", \"soda\" and \"mineral\" may be
30908         restricted for the \"currentadditivetypes\".",
30909
30910         "parameters": [
30911           { "$ref": "#/parameters/interface" }
30912         ],
30913         "responses": {
30914           "200": {
30915             "description": "RETRIEVES the set of supported water type information and
30916             current desired water type information.",
30917             "x-example":
30918               {
30919                 "rt": ["oic.r.waterinfo"],
30920                 "if": ["oic.if.rw", "oic.if.baseline"],
30921                 "supportedwatertypes": ["cold", "hot", "ambient", "ice"],
30922                 "supportedadditivetypes": ["none", "soda", "mineral"],
30923                 "currentwatertype": "cold",
30924                 "currentadditivetypes": ["soda", "mineral"]
30925               },
30926
30927             "schema": { "$ref": "#/definitions/WaterInfo" }
30928           }
30929         }
30930       },
30931       "post":{
30932         "description": "Sets the desired water type.",
30933         "parameters": [
30934           { "$ref": "#/parameters/interface" },
30935           {
30936             "name": "body",
30937             "in": "body",
30938             "required": true,
30939             "schema": { "$ref": "#/definitions/WaterInfoUpdate" },
30940             "x-example": {
30941               "currentwatertype": "hot",
30942               "currentadditivetypes": ["none"]
30943             }
30944           }
30945         ],
30946         "responses":{
```

```

30947         "200": {
30948             "description" : "Indicates that the current desired water type and additive
30949 type(s) were changed. \nThe new desired water type info is provided in the response.\n",
30950             "x-example": {
30951                 "currentwatertype": "hot",
30952                 "currentadditivetypes": ["none"]
30953             },
30954             "schema": { "$ref": "#/definitions/WaterInfoUpdate" }
30955         },
30956         "403":{
30957             "description" : "This response is generated by the OCF Server when the client
30958 sends:\n An UPDATE with an invalid property value for \"currentwatertype\".\nThe OCF Server
30959 responds with the current resource representation.\n",
30960             "x-example": {
30961                 "supportedwatertypes": ["cold", "hot", "ambient", "ice"],
30962                 "supportedadditivetypes": ["none", "soda", "mineral"],
30963                 "currentwatertype": "cold",
30964                 "currentadditivetypes": ["soda", "mineral"]
30965             },
30966             "schema": { "$ref": "#/definitions/WaterInfo" }
30967         }
30968     }
30969 }
30970 },
30971 },
30972 "parameters": {
30973     "interface": {
30974         "in": "query",
30975         "name": "if",
30976         "type": "string",
30977         "enum": ["oic.if.rw", "oic.if.baseline"]
30978     }
30979 },
30980 "definitions": {
30981     "WaterInfo" : {
30982         "properties": {
30983             "rt": {
30984                 "description": "The Resource Type.",
30985                 "items": {
30986                     "enum": ["oic.r.waterinfo"],
30987                     "maxLength": 64,
30988                     "type": "string"
30989                 },
30990                 "minItems": 1,
30991                 "uniqueItems": true,
30992                 "readOnly": true,
30993                 "type": "array"
30994             },
30995             "supportedwatertypes":{
30996                 "description": "The array of the possible water types.",
30997                 "items": {
30998                     "type": "string"
30999                 },
31000                 "readOnly": true,
31001                 "type": "array"
31002             },
31003             "supportedadditivetypes":{
31004                 "description": "The array of the possible additive types.",
31005                 "items": {
31006                     "type": "string"
31007                 },
31008                 "readOnly": true,
31009                 "type": "array"
31010             },
31011             "currentwatertype": {
31012                 "description": " The currently desired water type.",
31013                 "type": "string"
31014             },
31015             "currentadditivetypes":{
31016                 "description": "The currently desired additive type(s) according to Client's
31017 preference.",
31018                 "items": {

```



```

31019         "type": "string"
31020     },
31021     "minItems": 1,
31022     "type": "array"
31023 },
31024 "n": {
31025     "$ref":
31026 "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
31027 schema.json#/definitions/n"
31028 },
31029 "id": {
31030     "$ref":
31031 "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
31032 schema.json#/definitions/id"
31033 },
31034 "if": {
31035     "description": "The OCF Interface set supported by this Resource.",
31036     "items": {
31037         "enum": [
31038             "oic.if.rw",
31039             "oic.if.baseline"
31040         ],
31041         "type": "string"
31042     },
31043     "minItems": 2,
31044     "uniqueItems": true,
31045     "readOnly": true,
31046     "type": "array"
31047 }
31048 },
31049 "type": "object",
31050 "required" : ["supportedwatertypes", "currentwatertype"]
31051 },
31052 "WaterInfoUpdate":{
31053     "properties":{
31054         "currentwatertype": {
31055             "description": "Set the desired water type.",
31056             "type": "string"
31057         },
31058         "currentadditivetypes": {
31059             "description": "Set the desired additive type(s).",
31060             "items": {
31061                 "type": "string"
31062             },
31063             "minItems": 1,
31064             "type": "array"
31065         }
31066     },
31067     "type": "object",
31068     "required": ["currentwatertype"]
31069 }
31070 }
31071 }
31072 }
31073 }
31074 }
31075 }

```

6.151.5 Property definition

Table 305 defines the Properties that are part of the "oic.r.waterinfo" Resource Type.

Table 305 – The Property definitions of the Resource with type "rt" = "oic.r.waterinfo".

Property name	Value type	Mandatory	Access mode	Description
rt	array: see schema	No	Read Only	The Resource Type.
supportedwatertypes	array: see schema	Yes	Read Only	The array of the possible water types.

supportedadditivetypes	array: see schema	No	Read Only	The array of the possible additive types.
currentwatertype	string	Yes	Read Write	The currently desired water type.
currentadditivetypes	array: see schema	No	Read Write	The currently desired additive type(s) according to Client's preference.
n	multiple types: see schema	No	Read Write	
id	multiple types: see schema	No	Read Write	
if	array: see schema	No	Read Only	The OCF Interface set supported by this Resource.
currentwatertype	string	Yes	Read Write	Set the desired water type.
currentadditivetypes	array: see schema	No	Read Write	Set the desired additive type(s).

31079 **6.151.6 CRUDN behaviour**

31080 Table 306 defines the CRUDN operations that are supported on the "oic.r.waterinfo" Resource
31081 Type.

31082 **Table 306 – The CRUDN operations of the Resource with type "rt" = "oic.r.waterinfo".**

Create	Read	Update	Delete	Notify
	get	post		observe

31083 **6.152 Deodorization**

31084 **6.152.1 Introduction**

31085 This Resource describes a deodorization function, which can be supported by controlling on air
31086 filter.

31087 The Property "mode" is a mode of the deodorization function. The supported modes are defined
31088 by the enumeration ["off", "on", "auto"].

31089 "off" means that the deodorization function is not enabled.

31090 "on" means that the deodorization function is active.

31091 "auto" means that the deodorization function is automatically controlled depending on sensed air
31092 condition in the device inside.

31093 The Property "currentstate" is the current state of the deodorization function. In the case of "auto"
31094 mode, if the sensed air condition is determined to be bad, the function will be "on". Then, "mode"
31095 value is "auto" and "currentstate" value is "on". If not, the function is remaining "off" state. Then,
31096 "currentstate" value is "off".

31097 **6.152.2 Example URI**

31098 /DeodorizationResURI

31099 **6.152.3 Resource type**

31100 The Resource Type is defined as: "oic.r.deodorization".

31101 **6.152.4 OpenAPI 2.0 definition**

```
31102 {
31103   "swagger": "2.0",
31104   "info": {
31105     "title": "Deodorization",
```

```

31106     "version": "20190820",
31107     "license": {
31108         "name": "OCF Data Model License",
31109         "url":
31110 "https://github.com/openconnectivityfoundation/core/blob/e28a9e0a92e17042ba3e83661e4c0fbce8bdc4ba/LI
31111 CENSE.md",
31112         "x-copyright": "copyright 2019 Open Connectivity Foundation, Inc. All rights reserved."
31113     },
31114     "termsOfService": "https://openconnectivityfoundation.github.io/core/DISCLAIMER.md"
31115 },
31116     "schemes": ["http"],
31117     "consumes": ["application/json"],
31118     "produces": ["application/json"],
31119     "paths": {
31120         "/DeodorizationResURI" : {
31121             "get": {
31122                 "description": "This Resource describes a deodorization function, which can be supported by
31123 controlling on air filter. \n The Property \"mode\" is a mode of the deodorization function. The
31124 supported modes are defined by the enumeration [\"off\", \"on\", \"auto\"]. \n\"off\" means that the
31125 deodorization function is not enabled.\n\"on\" means that the deodorization function is
31126 active.\n\"auto\" means that the deodorization function is automatically controlled depending on
31127 sensed air condition in the device inside. \nThe Property \"currentstate\" is the current state of
31128 the deodorization function. In the case of \"auto\" mode, if the sensed air condition is determined
31129 to be bad, the function will be \"on\". Then, \"mode\" value is \"auto\" and \"currentstate\" value
31130 is \"on\". If not, the function is remaining \"off\" state. Then, \"currentstate\" value is
31131 \"off\".",
31132                 "parameters": [
31133                     { "$ref": "#/parameters/interface" }
31134                 ],
31135                 "responses": {
31136                     "200": {
31137                         "description": "RETRIEVES the current deodorization function state.",
31138                         "x-example":
31139                             {
31140                                 "rt": ["oic.r.deodorization"],
31141                                 "if": ["oic.if.a", "oic.if.baseline"],
31142                                 "mode": "auto",
31143                                 "currentstate": "off"
31144                             },
31145                         "schema": { "$ref": "#/definitions/Deodorization" }
31146                     }
31147                 }
31148             },
31149             "post": {
31150                 "description": "Sets the desired deodorization function state.",
31151                 "parameters": [
31152                     { "$ref": "#/parameters/interface" },
31153                     {
31154                         "name": "body",
31155                         "in": "body",
31156                         "required": true,
31157                         "schema": { "$ref": "#/definitions/DeodorizationUpdate" },
31158                         "x-example":
31159                             {
31160                                 "mode": "on"
31161                             }
31162                     }
31163                 ],
31164                 "responses": {
31165                     "200": {
31166                         "description": "Indicates that the Deodorization function state was changed.\n\nThe new
31167 state is provided in the response.\n\n",
31168                         "x-example":
31169                             {
31170                                 "mode": "on",
31171                                 "currentstate": "on"
31172                             },
31173                         "schema": { "$ref": "#/definitions/Deodorization" }
31174                     }
31175                 }
31176             }
31177         }
31178     }

```

```

31178 },
31179 "parameters": {
31180   "interface": {
31181     "in": "query",
31182     "name": "if",
31183     "type": "string",
31184     "enum": ["oic.if.a", "oic.if.baseline"]
31185   }
31186 },
31187 "definitions": {
31188   "Deodorization" : {
31189     "properties": {
31190       "rt": {
31191         "description": "The Resource Type.",
31192         "items": {
31193           "enum": ["oic.r.deodorization"],
31194           "maxLength": 64,
31195           "type": "string"
31196         },
31197         "minItems": 1,
31198         "uniqueItems": true,
31199         "readOnly": true,
31200         "type": "array"
31201       },
31202       "mode": {
31203         "description": "The modes of the Deodorization function.",
31204         "enum": [
31205           "off",
31206           "on",
31207           "auto"
31208         ],
31209         "type": "string"
31210       },
31211       "currentstate": {
31212         "description": "The current state of the Deodorization function.",
31213         "enum": [
31214           "off",
31215           "on"
31216         ],
31217         "readOnly": true,
31218         "type": "string"
31219       },
31220       "n": {
31221         "$ref":
31222         "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
31223         schema.json#/definitions/n"
31224       },
31225       "id": {
31226         "$ref":
31227         "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
31228         schema.json#/definitions/id"
31229       },
31230       "if": {
31231         "description": "The OCF Interface set supported by this Resource.",
31232         "items": {
31233           "enum": [
31234             "oic.if.a",
31235             "oic.if.baseline"
31236           ],
31237           "type": "string"
31238         },
31239         "minItems": 2,
31240         "uniqueItems": true,
31241         "readOnly": true,
31242         "type": "array"
31243       }
31244     },
31245     "type": "object",
31246     "required": ["mode", "currentstate"]
31247   },
31248   "DeodorizationUpdate" : {
31249     "properties": {

```

```

31250         "mode": {
31251             "description": "The modes of the Deodorization function.",
31252             "enum": [
31253                 "off",
31254                 "on",
31255                 "auto"
31256             ],
31257             "type": "string"
31258         },
31259     },
31260     "type": "object",
31261     "required": ["mode"]
31262 }
31263 }
31264 }

```

31265 **6.152.5 Property definition**

31266 Table 307 defines the Properties that are part of the "oic.r.deodorization" Resource Type.

31267 **Table 307 – The Property definitions of the Resource with type "rt" = "oic.r.deodorization".**

Property name	Value type	Mandatory	Access mode	Description
Rt	array: see schema	No	Read Only	The Resource Type.
Mode	string	Yes	Read Write	The modes of the Deodorization function.
currentstate	string	Yes	Read Only	The current state of the Deodorization function.
N	multiple types: see schema	No	Read Write	
Id	multiple types: see schema	No	Read Write	
If	array: see schema	No	Read Only	The OCF Interface set supported by this Resource.
Mode	string	Yes	Read Write	The modes of the Deodorization function.

31268 **6.152.6 CRUDN behaviour**

31269 Table 308 defines the CRUDN operations that are supported on the "oic.r.deodorization" Resource
31270 Type.

31271 **Table 308 – The CRUDN operations of the Resource with type "rt" = "oic.r.deodorization".**

Create	Read	Update	Delete	Notify
	get	post		observe

31272 **6.153 KeyCard Switch**

31273 **6.153.1 Introduction**

31274 This Resource describes the operation of a KeyCard style switch. It has one mandatory
31275 Property, "stateofcard", which is a string enum type. It has two enum values: "validCardInserted",
31276 "validCardNotInserted". "validCardInserted" means that a keycard was inserted and passed
31277 validation check. "validCardNotInserted" means that a keycard is not inserted or it was inserted
31278 but failed to pass validation check.

31279 **6.153.2 Example URI**

31280 /KeyCardSwitchResURI

31281 **6.153.3 Resource type**

31282 The Resource Type is defined as: "oic.r.keycardswitch".

31283 **6.153.4 OpenAPI 2.0 definition**

```
31284 {
31285     "swagger": "2.0",
31286     "info": {
31287         "title": "KeyCard Switch",
31288         "version": "20190807",
31289         "license": {
31290             "name": "OCF Data Model License",
31291             "url":
31292 "https://github.com/openconnectivityfoundation/core/blob/e28a9e0a92e17042ba3e83661e4c0fbce8bdc4ba/LI
31293 CENSE.md",
31294             "x-copyright": "Copyright 2018-2019 Open Connectivity Foundation, Inc. All
31295 rights reserved."
31296         },
31297         "termsOfService": "https://openconnectivityfoundation.github.io/core/DISCLAIMER.md"
31298     },
31299     "schemes": ["http"],
31300     "consumes": ["application/json"],
31301     "produces": ["application/json"],
31302     "paths": {
31303         "/KeyCardSwitchResURI" : {
31304             "get": {
31305                 "description": "This Resource describes the operation of a KeyCard
31306 style switch. It has one mandatory Property, \"stateofcard\", which is a string enum type. It has two
31307 enum values: \"validCardInserted\", \"validCardNotInserted\". \"validCardInserted\" means that a
31308 keycard was inserted and passed validation check. \"validCardNotInserted\" means that a keycard is
31309 not inserted or it was inserted but failed to pass validation check.",
31310                 "parameters": [
31311                     { "$ref": "#/parameters/interface" }
31312                 ],
31313                 "responses": {
31314                     "200": {
31315                         "description" : "",
31316                         "x-example":
31317                         {
31318                             "rt": ["oic.r.keycardswitch"],
31319                             "if": ["oic.if.s", "oic.if.baseline"],
31320                             "stateofcard": "validCardInserted"
31321                         }
31322                     },
31323                     "schema": { "$ref": "#/definitions/KeyCardSwitch" }
31324                 }
31325             }
31326         }
31327     },
31328     "parameters": {
31329         "interface" : {
31330             "in": "query",
31331             "name": "if",
31332             "type": "string",
31333             "enum": ["oic.if.s", "oic.if.baseline"]
31334         }
31335     },
31336     "definitions": {
31337         "KeyCardSwitch" : {
31338             "properties": {
31339                 "rt": {
31340                     "description": "The Resource Type of KeyCardSwitch",
31341                     "items": {
31342                         "enum": ["oic.r.keycardswitch"],
31343                         "maxLength": 64,
31344                         "type": "string"
31345                     }
31346                 }
31347             }
31348         }
31349     }
31350 }
```

```

31346         },
31347         "minItems": 1,
31348         "uniqueItems": true,
31349         "readOnly": true,
31350         "type": "array"
31351     },
31352     "stateofcard": {
31353         "description": "The status of the keycardswitch.
31354 \"validCardInserted\" means that a keycard was inserted and passed validation check.
31355 \"validCardNotInserted\" means that a keycard is not inserted or it was inserted but failed to pass
31356 validation check.",
31357         "readOnly": true,
31358         "type": "string",
31359         "enum": [
31360             "validCardInserted",
31361             "validCardNotInserted"
31362         ]
31363     },
31364     "n": {
31365         "$ref":
31366 "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
31367 schema.json#/definitions/n"
31368     },
31369     "id": {
31370         "$ref":
31371 "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
31372 schema.json#/definitions/id"
31373     },
31374     "if": {
31375         "description": "The OCF Interface set supported by this
31376 Resource.",
31377         "items": {
31378             "enum": [
31379                 "oic.if.s",
31380                 "oic.if.baseline"
31381             ],
31382             "type": "string"
31383         },
31384         "minItems": 2,
31385         "uniqueItems": true,
31386         "readOnly": true,
31387         "type": "array"
31388     }
31389 },
31390 "type": "object",
31391 "required": ["stateofcard"]
31392 }
31393 }
31394 }
31395

```

31396 6.153.5 Property definition

31397 Table 309 defines the Properties that are part of the "oic.r.keycardswitch" Resource Type.

31398 **Table 309 – The Property definitions of the Resource with type "rt" = "oic.r.keycardswitch".**

Property name	Value type	Mandatory	Access mode	Description
rt	array: see schema	No	Read Only	The Resource Type of KeyCardSwitch
stateofcard	string	Yes	Read Only	The status of the keycardswitch. "validCardInserted" means that a keycard was inserted and passed validation check. "validCardNotInserted" means that a keycard is not inserted or it

				was inserted but failed to pass validation check.
n	multiple types: see schema	No	Read Write	
id	multiple types: see schema	No	Read Write	
if	array: see schema	No	Read Only	The OCF Interface set supported by this Resource.

31399 **6.153.6 CRUDN behaviour**

31400 Table 310 defines the CRUDN operations that are supported on the "oic.r.keycardswitch" Resource
31401 Type.

31402 **Table 310 – The CRUDN operations of the Resource with type "rt" = "oic.r.keycardswitch".**

Create	Read	Update	Delete	Notify
	get			observe

31403 **6.154 Muscle Oxygen Saturation**

31404 **6.154.1 Introduction**

31405 This Resource describes the muscle oxygen saturation (SmO2), which is the percentage of
31406 hemoglobin that is saturated with oxygen in the capillaries of a muscle.

31407 The unit is percentage.

31408 The smo2 Property is a read-only value that is provided by the server.

31409 **6.154.2 Example URI**

31410 /MuscleOxygenSaturationResURI

31411 **6.154.3 Resource type**

31412 The Resource Type is defined as: "oic.r.muscleoxygensaturation".

31413 **6.154.4 OpenAPI 2.0 definition**

```
31414 {
31415   "swagger": "2.0",
31416   "info": {
31417     "title": "Muscle Oxygen Saturation",
31418     "version": "2019-08-20",
31419     "license": {
31420       "name": "OCF Data Model License",
31421       "url":
31422       "https://github.com/openconnectivityfoundation/core/blob/e28a9e0a92e17042ba3e83661e4c0fbce8bdc4ba/LI
31423       CENSE.md",
31424       "x-copyright": "Copyright 2019 Open Connectivity Foundation, Inc. All rights reserved."
31425     },
31426     "termsOfService": "https://openconnectivityfoundation.github.io/core/DISCLAIMER.md"
31427   },
31428   "schemes": [
31429     "http"
31430   ],
31431   "consumes": [
31432     "application/json"
31433   ],
31434   "produces": [
31435     "application/json"
31436   ],
31437   "paths": {
31438     "/MuscleOxygenSaturationResURI": {
31439       "get": {
31440         "description": "This Resource describes the muscle oxygen saturation (SmO2), which is the
```



```

31441 percentage of hemoglobin that is saturated with oxygen in the capillaries of a muscle.\n The unit is
31442 percentage.\n The smo2 Property is a read-only value that is provided by the server.",
31443     "parameters": [
31444         {
31445             "$ref": "#/parameters/interface"
31446         }
31447     ],
31448     "responses": {
31449         "200": {
31450             "description": "",
31451             "x-example": {
31452                 "rt": [
31453                     "oic.r.muscleoxygensaturation"
31454                 ],
31455                 "muscleoxygensaturation": 80.0
31456             },
31457             "schema": {
31458                 "$ref": "#/definitions/MuscleOxygenSaturation"
31459             }
31460         }
31461     }
31462 },
31463 },
31464 },
31465 "parameters": {
31466     "interface": {
31467         "in": "query",
31468         "name": "if",
31469         "type": "string",
31470         "enum": [
31471             "oic.if.s",
31472             "oic.if.baseline"
31473         ]
31474     }
31475 },
31476 "definitions": {
31477     "MuscleOxygenSaturation": {
31478         "properties": {
31479             "muscleoxygensaturation": {
31480                 "description": "This Property describes the muscle oxygen saturation (SmO2), which is the
31481 percentage of hemoglobin that is saturated with oxygen in the capillaries of a muscle. The unit is
31482 percentage.",
31483                 "type": "number",
31484                 "minimum": 0,
31485                 "maximum": 100,
31486                 "readOnly": true
31487             },
31488             "rt": {
31489                 "description": "The Resource Type.",
31490                 "items": {
31491                     "enum": [
31492                         "oic.r.muscleoxygensaturation"
31493                     ],
31494                     "type": "string"
31495                 },
31496                 "minItems": 1,
31497                 "uniqueItems": true,
31498                 "readOnly": true,
31499                 "type": "array"
31500             },
31501             "n": {
31502                 "$ref":
31503 "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
31504 schema.json#/definitions/n"
31505             },
31506             "if": {
31507                 "description": "The OCF Interface set supported by this Resource.",
31508                 "items": {
31509                     "enum": [
31510                         "oic.if.s",
31511                         "oic.if.baseline"
31512                     ],

```

```

31513         "type": "string"
31514     },
31515     "minItems": 1,
31516     "uniqueItems": true,
31517     "readOnly": true,
31518     "type": "array"
31519 }
31520 },
31521 "type": "object",
31522 "required": [
31523     "muscleoxygensaturation"
31524 ]
31525 }
31526 }
31527 }

```

31528 **6.154.5 Property definition**

31529 Table 311 defines the Properties that are part of the "oic.r.muscleoxygensaturation" Resource Type.

31530 **Table 311 – The Property definitions of the Resource with type "rt" =**
31531 **"oic.r.muscleoxygensaturation".**

Property name	Value type	Mandatory	Access mode	Description
muscleoxygensaturation	number	Yes	Read Only	This Property describes the muscle oxygen saturation (SmO2), which is the percentage of hemoglobin that is saturated with oxygen in the capillaries of a muscle. The unit is percentage.
rt	array: see schema	No	Read Only	The Resource Type.
n	multiple types: see schema	No	Read Write	
if	array: see schema	No	Read Only	The OCF Interface set supported by this Resource.

31532 **6.154.6 CRUDN behaviour**

31533 Table 312 defines the CRUDN operations that are supported on the "oic.r.muscleoxygensaturation"
31534 Resource Type.

31535 **Table 312 – The CRUDN operations of the Resource with type "rt" =**
31536 **"oic.r.muscleoxygensaturation".**

Create	Read	Update	Delete	Notify
	get			observe

31537

31538