

OCF Resource Type Specification

VERSION 2.0.5 | September 2019



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1524		

1525 **1 Scope**

1526 This document specifies the Resources that have been defined by OCF that may be exposed by
1527 an OCF Device.

1528 Application profile device documents (for example those created for Smart Home or Healthcare)
1529 specify device types appropriate to the profile; such documents use Resource Type definitions from
1530 this document.

1531 This document is built on top of ISO/IEC 30118-1:2018. ISO/IEC 30118-1:2018 specifies the OCF
1532 Framework that enables the implementation of profiles for IoT usages and ecosystems. The OCF
1533 Core Framework is scalable to support simple devices (constrained device) and more capable
1534 devices (smart device).

1535 **2 Normative references**

1536 The following documents are referred to in the text in such a way that some or all of their content
1537 constitutes requirements of this document. For dated references, only the edition cited applies. For
1538 undated references, the latest edition of the referenced document (including any amendments)
1539 applies.

1540 ISO/IEC 30118-1:2018 Information technology -- Open Connectivity Foundation (OCF)
1541 Specification -- Part 1: Core specification
1542 <https://www.iso.org/standard/53238.html>
1543 Latest version available at: https://openconnectivity.org/specs/OCF_Core_Specification.pdf

1544 OpenAPI specification, fka *Swagger RESTful API Documentation Specification, Version 2.0*
1545 <https://github.com/OAI/OpenAPI-Specification/blob/master/versions/2.0.md>

1546 **3 Terms, definitions, and abbreviated terms**

1547 For the purposes of this document, the terms and definitions given in ISO/IEC 30118-1:2018 and
1548 the following apply.

1549 ISO and IEC maintain terminological databases for use in standardization at the following
1550 addresses:

- 1551 – ISO Online browsing platform: available at <https://www.iso.org/obp>
- 1552 – IEC Electropedia: available at <http://www.electropedia.org/>

1553 **3.1 Terms and definitions**

1554 **3.1.1**

1555 **actuator**

1556 resource with support of the UPDATE operation

1557 **3.1.2**

1558 **Composite Resource Type**

1559 a Resource Type defined as an OCF Collection of other Resource Types

1560 **3.1.3**

1561 **sensor**

1562 resource without support of the UPDATE operation

1563 **3.2 Abbreviated terms**

1564 **3.2.1**

1565 **CRUDN**

1566 Create Retrieve Update Delete Notify

1567 This is an acronym indicating which operations are possible on the Resource.

1568 **4 Document conventions and organization**

1569 **4.1 Conventions**

1570 In this document a number of terms, conditions, mechanisms, sequences, parameters, events,
1571 states, or similar terms are printed with the first letter of each word in uppercase and the rest
1572 lowercase (e.g., Resource Type). Any lowercase uses of these words have the normal technical
1573 English meaning.

1574 **4.2 Notation**

1575 In this document, features are described as required, recommended, allowed or DEPRECATED as
1576 follows:

1577 Required (or shall or mandatory).

1578 These basic features shall be implemented to comply with OCF Resource Type Specification.
1579 The phrases "shall not", and "PROHIBITED" indicate behaviour that is prohibited, i.e. that if
1580 performed means the implementation is not in compliance.

1581 Recommended (or should).

1582 These features add functionality supported by the OCF Resource Type Specification and should
1583 be implemented. Recommended features take advantage of the capabilities of the OCF
1584 Resource Type Specification, usually without imposing major increase of complexity. Notice
1585 that for compliance testing, if a recommended feature is implemented, it shall meet the specified
1586 requirements to be in compliance with these guidelines. Some recommended features could
1587 become requirements in the future. The phrase "should not" indicates behaviour that is
1588 permitted but not recommended.

1589 Allowed (or allowed).

1590 These features are neither required nor recommended by OCF Resource Type Specification,
1591 but if the feature is implemented, it shall meet the specified requirements to be in compliance
1592 with these guidelines.

1593 DEPRECATED

1594 Although these features are still described in this document, they should not be implemented
1595 except for backward compatibility. The occurrence of a deprecated feature during operation of
1596 an implementation compliant with the current document has no effect on the implementation's
1597 operation and does not produce any error conditions. Backward compatibility may require that
1598 a feature is implemented and functions as specified but it shall never be used by
1599 implementations compliant with this document.

1600 Conditionally allowed (CA)

1601 The definition or behaviour depends on a condition. If the specified condition is met, then the
1602 definition or behaviour is allowed, otherwise it is not allowed.

1603 Conditionally required (CR)

1604 The definition or behaviour depends on a condition. If the specified condition is met, then the
1605 definition or behaviour is required. Otherwise the definition or behaviour is allowed as default
1606 unless specifically defined as not allowed.

1607 Strings that are to be taken literally are enclosed in "double quotes".

1608 Words that are emphasized are printed in *italic*.

1609 **5 Baseline Model Constructs**

1610 **5.1 URI**

1611 The URIs mentioned in this document are non-normative, they may be vendor defined.

1612 An Instance of a Resource is indicated by the URI. When more than one instance of the same
1613 Resource Type is used in an OCF Device, different URIs for the different Resource instances shall
1614 be used.

1615 An implementation shall follow the requirements defined in ISO/IEC 30118-1:2018 with respect to
1616 population of the URI. Please refer to the ISO/IEC 30118-1:2018 clauses 6.2 and 6.3 for specific
1617 details.

1618 **5.2 Interfaces**

1619 **5.2.1 Introduction**

1620 ISO/IEC 30118-1:2018 specifies that all Resource Types have associated with them at least one
1621 Interface; this Interface is advertised during Resource discovery. In addition ISO/IEC 30118-1:2018
1622 defines a number of Interfaces that can be applied to an instance of a Resource Type.

1623 The difference between using sensor/actuator and read/write interfaces is due to the fact that a
1624 sensor/actuator interface describes an action that has immediate effect on the device, either by
1625 reading the sensed value and putting the value on the wire, or as an UPDATE action that something
1626 needs to happen (e.g. actuate) on the device. The read/write interface is typically used to set a
1627 settings value on the device that might be used later when an action occurs. A typical example is
1628 setting the coffee strength that will be used when the coffee is brewed.

1629 **5.2.2 Restricting Interface Functionality**

1630 Note that the functionality associated with, or visibility of, an instance of any Resource exposed by
1631 a Device may be restricted depending upon local (per country or legislative region) regulatory
1632 requirements or other restrictions (e.g. with respect to Binary Switch in some jurisdictions the ability
1633 to remotely power on a connected device is restricted; a lock status could be read-only depending
1634 on the context).

1635 The actual implementation of a resource can be limited by:

- 1636 – Not implementing the optional properties defined in the payload of a CRUDN operation.
- 1637 – Removing CRUDN operations

1638 If an UPDATE operation of a resource that can be actuated is not implemented, this change in
1639 behaviour is indicated by changing the interfaces accordingly.

1640 When the resource is defined with the interface "oic.if.a", and the UPDATE operation is removed
1641 then the interface listed is "oic.if.s".

1642 When the resource is defined with the interface "oic.if.rw", and the UPDATE operation is removed
1643 then the interface listed is "oic.if.r".

1644 **5.3 OpenAPI Specification 2.0 definition**

1645 The OpenAPI Specification 2.0 definitions provided in clause 6 in this document are normative.

1646 The OpenAPI Specification 2.0 definitions are used to describe the payloads of the CRUDN
1647 operations on the specified Resource Type. The CRUDN operations are defined in ISO/IEC 30118-
1648 1:2018. ISO/IEC 30118-1:2018 also specifies additional Properties in the payloads of the CRUDN
1649 operations. The OpenAPI Specification 2.0 definitions in this document are not of themselves
1650 sufficient to create an implementation, additional Properties defined in ISO/IEC 30118-1:2018 need
1651 to be added to create a compliant implementation. This document makes use of a subset of the

1652 responses supported by OpenAPI Specification 2.0, specifics on the use of these responses are
 1653 defined in Table 4. Note that the actual values of success and error conditions are defined in
 1654 ISO/IEC 30118-1:2018.

1655 The OpenAPI Specification 2.0 definitions map the OCF CRUDN behaviour to the OpenAPI
 1656 Specification 2.0 as defined in Table 1.

1657 **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

1658 Notify is not part of an OpenAPI Specification 2.0 definition but is defined in ISO/IEC 30118-1:2018.
 1659 All Resource Types defined in this document support notification via the use of observe as defined
 1660 in ISO/IEC 30118-1:2018 clause 11.4.2.

1661 **5.4 Property definition**

1662 **5.4.1 Common Properties**

1663 ISO/IEC 30118-1:2018 specifies a number of Properties that may be defined for OCF Resources.
 1664 The Common Properties “if” and “rt” shall be specified for all Resource Types defined in this
 1665 document; they are exposed within the ISO/IEC 30118-1:2018 defined “/oic/res/” Resource Type
 1666 through which the OCF Server and its available Resources are discovered. The Common
 1667 Properties “id” and “n” may be specified for all Resource Types defined in this document. Table 2
 1668 lists all of the noted Common Properties.

1669 If an OCF Client requires that these Properties be included in a Resource representation that is
 1670 provided in response to a RETRIEVE operation then the client shall select the ISO/IEC 30118-
 1671 1:2018 defined baseline interface (oic.if.baseline) by specifying this in a query parameter.

1672 **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.

1673

1674 5.4.2 Resource Properties

1675 5.4.2.1 Introduction

1676 The Properties against which the CRUDN operations are specified are defined as part of an
1677 OpenAPI Specification 2.0 definition.

1678 A basic Resource Type is formulated around one single value denoting a physical property.

1679 Such a Resource Type is specified with the Properties as defined Table 3. Mandatory in the table
1680 means that the Property shall be defined as part of the overall Resource Type schema; actual
1681 inclusion of the Property as part of a returned or generated payload is dependent upon the schema
1682 that applies to the operation being invoked.

1683 **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.

1684

1685 For Resources, which by their nature have more than one physical parameter, the value Property
1686 can be replaced with multiple Properties specifying the different physical parameters, or with further
1687 structures such as arrays of Properties, objects, or Collections. The type of the value shall be
1688 indicated in the OpenAPI Specification 2.0 definition of the Resource Type and should be suitable
1689 for the conveyed value. All Property Names and Property Values defined in this document are case
1690 sensitive.

1691 **5.4.2.2 "range" Property**

1692 The "range" defines the valid range for the Property in the Resource as a two element array. This
1693 is either an integer or a number range. The first value in the array is the minimum value, the second
1694 value in the array is the maximum value.

1695 **5.4.2.3 "step" Property**

1696 The "step" defines the step value across the defined "range" as either an integer or a number. This
1697 is the increment for valid values across the range. For example, for the integer case if the "range"
1698 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
1699 0.0..10.0 and "step" is 2.5 then valid values are 0.0,2.5,5.0,7.5,10.0.

1700 **5.4.2.4 "precision" Property**

1701 When exposed the value in "precision" provides a +/- tolerance against the Properties in the
1702 Resource. Thus if a Property is UPDATED to a value and that Property then RETRIEVED, the
1703 RETRIEVED value is valid if in the range of the set value +/- precision

1704 **5.4.3 Basic Resource Schema**

1705 All Resource Types defined herein are represented as previously noted by OpenAPI Specification
1706 2.0 files.

1707 **5.4.4 CRUDN Operation Response Codes**

1708 A Resource can be created or updated depending on the Resource Type definition and the allowed
1709 CRUDN operations. The operation may have different response codes with different meanings.
1710 This is explained in Table 4.

1711 **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).

1712

1713 **5.5 Example Resource Definitions**

1714 Please see the OCF Resource Types in Clause 6 for examples of Resource Definitions. For an
1715 example Resource Type that models an actuator refer to the definition of Dimming; for an example
1716 Resource Type that models a sensor refer to the definition of an Illuminance Sensor.

1717 **5.6 Observable Resource Types**

1718 **5.6.1 Introduction**

1719 ISO/IEC 30118-1:2018 defines a mechanism by which Resources can advertise themselves as
1720 “Observable” to an OCF Client. All Resource Types defined in this document may be observed.
1721 Whether or not a Resource Type is made observable via use of the Policy Link Parameter is entirely
1722 implementation dependent.

1723 **5.6.2 Conditional Notification**

1724 **5.6.2.1 General**

1725 All observable Resources may apply conditions to the generation of notifications that result from
1726 the observe action, these conditions can be time based or value based or time and value based.
1727 This is achieved by composing the Conditional Notification (oic.r.value.conditional) Resource Type
1728 with an instance of an observable Resource; that is the Resource that is exposed by the Server
1729 has an “rt” of “[“oic.r.<resource>”,“oic.r.value.conditional”]”.

1730 **5.6.2.2 Conditional Notification Property Summary**

1731 Table 5 summarizes the Properties provided by the Conditional Notification Resource Type. At
1732 least one Property from the table shall be present in an instance of the Resource Type.

1733 **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

1734

1735 All Properties if exposed shall be set with initial values. All Properties may be exposed with a value
1736 of “0” (zero); this indicates that the functionality associated with the Property is not active. Any
1737 Client may update the exposed values subject to any ACL restrictions; such changes are global
1738 and apply to all notifications that are sent to all observers. A notifier may reject an update to the
1739 Property values; in such cases a diagnostic payload should be included in the rejection response
1740 indicating the valid ranges for the Properties.

1741 **5.6.2.3 Property Definition: threshold**

1742 Minimum value change between two notifications. A notification shall be sent (within the constraints
1743 of “minnotifyperiod”) when the change since the last notification is greater than or equal to this
1744 value. The measurement is done against the value in the last notification that was sent; thus all
1745 notifications (within any “maxnotifyperiod” constraints that may be present) will carry values that
1746 differ by at least “threshold”. A “threshold” value of “0” means that no “threshold” is applied.

1747 **5.6.2.4 Property Definition: minnotifyperiod**

1748 Minimum time (in ms) that shall occur between notifications. If a value change condition is met
1749 (“threshold” equalled or exceeded or any change in value if threshold is not present) before
1750 expiration the notification shall not be sent till the period expires. If the Property is present and set
1751 to “0” then no minimum notify period timer is run; if the Property is present and with a value greater
1752 than “0” then a minimum notify period timer shall be run equal to the value. The Property value
1753 itself is initially populated by the notifier. If the Property is not present, the minimum notify period
1754 is up to the notifier. The timer shall be reset each time a notification is sent.

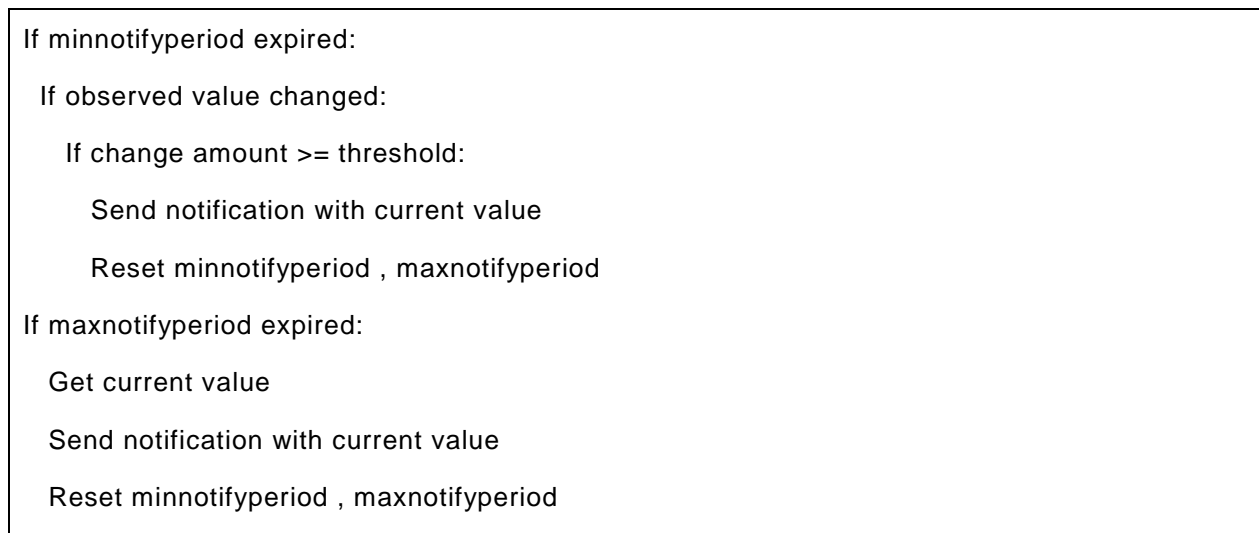
1755 **5.6.2.5 Property Definition: maxnotifyperiod**

1756 Maximum time (in ms) that the notifier shall not exceed between notifications. When the timer
1757 expires a notification shall be sent. If present and set to “0” then no maximum notify period timer
1758 is run; if present and with a value greater than 0 then a maximum notify period timer shall be run
1759 equal to the value. The Property value itself shall be initially populated by the notifier. When both
1760 “minnotifyperiod” and “maxnotifyperiod” are present and both are non-zero the value of
1761 “maxnotifyperiod” shall be larger than the “minnotifyperiod”. If not present, the value shall be set
1762 by the notifier. The timer shall be reset each time a notification is sent.

1763 **5.6.2.6 Governing State Machine**

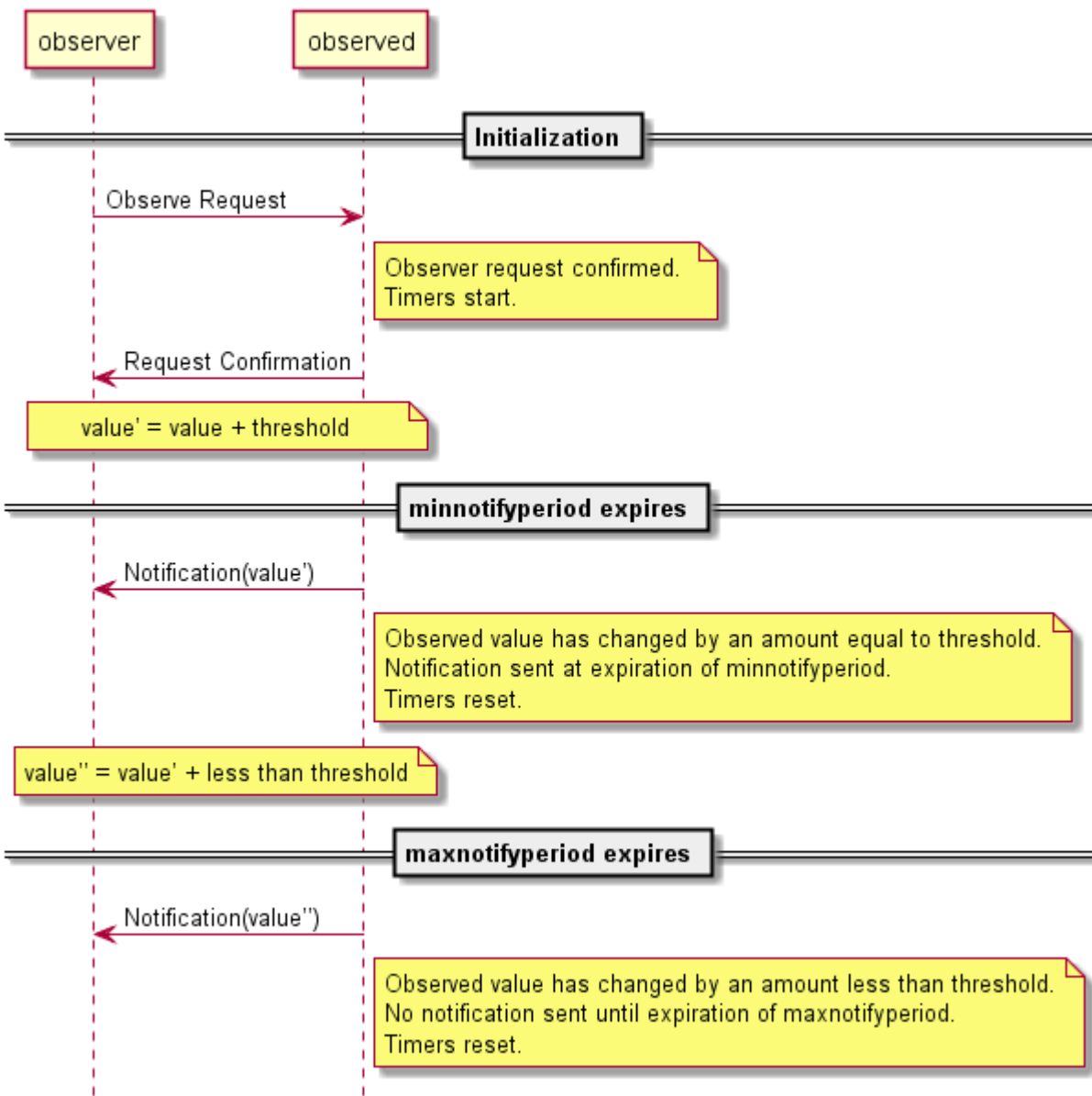
1764 The “minnotifyperiod” and “maxnotifyperiod” timers are restarted each time a notification is sent
1765 (response to the Observe). A notification is sent when value change condition (threshold) and
1766 “minnotifyperiod” are both met if both are present. If the observed Property value subsequently
1767 drops beneath threshold before the expiration of “minnotifyperiod” the notifier may take no action
1768 or a notification may be sent on expiration of “minnotifyperiod” containing the current observed
1769 Property value (at the time of the notification). If there are no timer constraints; then notifications
1770 are sent whenever the observed Property value has changed by an amount greater than or equal
1771 to “threshold”.

1772 Overall logic is defined in Figure 1. Figure 2 provides an illustrative sequence.



1773 **Figure 1 – Overall conditional notification logic**

1774



1775

1776

Figure 2 – Conditional Notification Example Flow

1777

1778 5.7 Composite Resource Types

1779 Composite Resource Types are Resources that comprises of one or more single or other composite
 1780 Resource Types, an example of which is shown in Figure 3. The Composite Resource Type can be
 1781 viewed upon as a new single Resource Type. The Composite Resource Type mechanism is a
 1782 powerful concept since it uses existing Resource Types in a new combination to express more
 1783 contexts to a Resource without specifying new single unit Resource Types.

1784 Composite Resource Types are defined by linking the referenced existing Resource values in to a
 1785 Collection.

1786 The linking is done by using an array of Links; refer to ISO/IEC 30118-1:2018 clause 7.8.2 for more
1787 details. Note that the example in Figure 3 contains a partial schema of this definition as it is for
1788 descriptive purpose only. The Property name of the array in the example is “resources”.

1789 The contents of the listed Resources can be achieved in a single operation by using the ISO/IEC
1790 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"}
          }
        }
      }
    }
  }
}
```

1791 **Figure 3 – Composite Resource Example**

1792 **5.8 Document Version**

1793 Devices conformant to this document version shall add the string “ocf.res.1.3.0” to the dmV Property
1794 in “oic.wk.d”. This Property is for legacy Device support only and will no longer be revised in
1795 alignment with document versions.

1796 **5.9 Data types**

1797 This document adopts the types defined in ISO/IEC 30118-1:2018 with the exceptions defined in
1798 this clause

1799 All Properties in this document that are defined as JSON number type shall be transmitted encoded
 1800 as floating point values and not integer values. Reception of Properties defined as JSON number
 1801 type shall be as defined in ISO/IEC 30118-1:2018. See ISO/IEC 30118-1:2018 clause 12.4 for
 1802 specifics.

1803 **6 Resource Type definitions**

1804 **6.1 Introduction**

1805 This clause contains definitions for all Resource Types; the complete set is listed in Table 6 –
 1806 Alphabetical list of Resource Types.

1807 All Resource Types shall be created in accordance with ISO/IEC 30118-1:2018 clause 7.4. All
 1808 comparisons against a Resource Type shall be case insensitive.

1809 All Resource Types in this document are prefixed with “oic.r” denoting that it is an OCF defined
 1810 Resource Type.

1811 **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
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.testers	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
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
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

1812

1813 6.2 Air Flow

1814 6.2.1 Introduction

1815 This Resource describes Properties associated with air flow.
 1816 The Property "supporteddirections" is the set of valid values for the direction property for a
 1817 particular instance of this Resource Type.
 1818 The Property "direction" is the directionality of the air flow if applicable, if Property
 1819 "supporteddirections" is also present it must be a value from that set.
 1820 The values of Property "direction" are dependent on the capabilities of the unit.
 1821 The Property "speed" is an integer representing the current speed level for the unit.
 1822 The Property "range" is an array of the min,max values for the speed level. If not present the
 1823 "range" defaults to [0,100].
 1824 Property "automode" is the status of the automode feature; Off means automode is not enabled,
 1825 On means automode is active and the speed is automatically controlled by the Device.

1826 6.2.2 Example URI

1827 /AirFlowResURI

1828 6.2.3 Resource type

1829 The Resource Type is defined as: "oic.r.airflow".

1830 6.2.4 OpenAPI 2.0 definition

```

1831 {
1832   "swagger": "2.0",
1833   "info": {
1834     "title": "Air Flow",
1835     "version": "20190215",
1836     "license": {
1837       "name": "OCF Data Model License",
1838       "url":
1839 "https://github.com/openconnectivityfoundation/core/blob/e28a9e0a92e17042ba3e83661e4c0fbce8bdc4ba/LI
1840 CENSE.md",
1841       "x-copyright": "copyright 2016-2017, 2019 Open Connectivity Foundation, Inc. All rights
1842 reserved."
1843     },
1844     "termsOfService": "https://openconnectivityfoundation.github.io/core/DISCLAIMER.md"
1845   },
1846   "schemes": ["http"],
1847   "consumes": ["application/json"],
1848   "produces": ["application/json"],
1849   "paths": {
1850     "/AirFlowResURI" : {
1851       "get": {
1852         "description": "This Resource describes Properties associated with air flow.\n
1853 \The Property \"supporteddirections\" is the set of valid values for the direction property for a particular

```

```

1854 instance of this Resource Type.\nThe Property \"direction\" is the directionality of the air flow if
1855 applicable, if Property \"supporteddirections\" is also present it must be a value from that set.\n
1856 The values of Property \"direction\" are dependent on the capabilities of the unit.\nThe Property
1857 \"speed\" is an integer representing the current speed level for the unit.\nThe Property \"range\"
1858 is an array of the min,max values for the speed level. If not present the \"range\" defaults to
1859 [0,100].\n Property \"automode\" is the status of the automode feature; Off means automode is not
1860 enabled, On means automode is active and the speed is automatically controlled by the Device.\",
1861   "parameters": [
1862     {"$ref": "#/parameters/interface"}
1863   ],
1864   "responses": {
1865     "200": {
1866       "description": "",
1867       "x-example":
1868         {
1869           "rt": ["oic.r.airflow"],
1870           "if": ["oic.if.a", "oic.if.baseline"],
1871           "supporteddirections": ["left", "right", "centre"],
1872           "direction": "left",
1873           "speed": 5,
1874           "range": [1, 7],
1875           "automode": "Off"
1876         },
1877       "schema": { "$ref": "#/definitions/AirFlow" }
1878     }
1879   }
1880 },
1881 "post": {
1882   "description": " When \"automode\" is set to true, \"direction\" and \"speed\" are not
1883   utilized by the device.",
1884   "parameters": [
1885     {"$ref": "#/parameters/interface"},
1886     {
1887       "name": "body",
1888       "in": "body",
1889       "required": true,
1890       "schema": { "$ref": "#/definitions/AirFlow" },
1891       "x-example":
1892         {
1893           "direction": "right",
1894           "speed": 3
1895         }
1896     }
1897   ],
1898   "responses": {
1899     "200": {
1900       "description": "",
1901       "x-example":
1902         {
1903           "direction": "right",
1904           "speed": 3
1905         },
1906       "schema": { "$ref": "#/definitions/AirFlow" }
1907     },
1908     "403": {
1909       "description": "This response is generated by the OCF Server when the client sends:\n
1910       An UPDATE with an invalid Property value for direction.\n An UPDATE with an out of range property
1911       value for speed.\nThe server may respond with the current resource representation.\n",
1912       "x-example":
1913         {
1914           "supporteddirections": ["left", "right", "centre"],
1915           "direction": "right",
1916           "speed": 3
1917         },
1918       "schema": { "$ref": "#/definitions/AirFlow" }
1919     }
1920   }
1921 }
1922 }
1923 },
1924 "parameters": {
1925   "interface" : {

```

```

1926     "in": "query",
1927     "name": "if",
1928     "type": "string",
1929     "enum": ["oic.if.a", "oic.if.baseline"]
1930   }
1931 },
1932   "definitions": {
1933     "AirFlow" : {
1934       "properties": {
1935         "rt" : {
1936           "description": "The Resource Type",
1937           "items": {
1938             "enum": ["oic.r.airflow"],
1939             "maxLength": 64,
1940             "type": "string"
1941           },
1942           "minItems": 1,
1943           "uniqueItems": true,
1944           "readOnly": true,
1945           "type": "array"
1946         },
1947         "speed" : {
1948           "description": "The current speed level.",
1949           "type": "integer"
1950         },
1951         "direction" : {
1952           "description": "The directionality of the air flow, a value indicated by
1953 \supportedirections\".",
1954           "type": "string"
1955         },
1956         "automode" : {
1957           "description": "The status of the automode feature, if on speed is set by the Device.",
1958           "enum": [
1959             "On",
1960             "Off"
1961           ],
1962           "type": "string"
1963         },
1964         "supporteddirections" : {
1965           "description": "The array of possible direction settings for this instance of the Resource
1966 Type.",
1967           "items": {
1968             "minItems": 1,
1969             "type": "string",
1970             "uniqueItems": true
1971           },
1972           "readOnly": true,
1973           "type": "array"
1974         },
1975         "n": {
1976           "$ref":
1977 "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
1978 schema.json#/definitions/n"
1979         },
1980         "id": {
1981           "$ref":
1982 "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
1983 schema.json#/definitions/id"
1984         },
1985         "range": {
1986           "$ref":
1987 "https://openconnectivityfoundation.github.io/IoTDataModels/schemas/oic.baseresource.properties-
1988 schema.json#/definitions/range_integer"
1989         },
1990         "step": {
1991           "$ref":
1992 "https://openconnectivityfoundation.github.io/IoTDataModels/schemas/oic.baseresource.properties-
1993 schema.json#/definitions/step_integer"
1994         },
1995         "if": {
1996           "description": "The OCF Interface set supported by this Resource.",
1997           "items": {

```

```

1998         "enum": [
1999             "oic.if.a",
2000             "oic.if.baseline"
2001         ],
2002         "type": "string"
2003     },
2004     "minItems": 2,
2005     "uniqueItems": true,
2006     "readOnly": true,
2007     "type": "array"
2008 }
2009 },
2010 "type": "object",
2011 "required": ["speed"]
2012 }
2013 }
2014 }
2015

```

2016 6.2.5 Property definition

2017 Table 7 defines the Properties that are part of the "oic.r.airflow" Resource Type.

2018 **Table 7 – The Property definitions of the Resource with type "rt" = "oic.r.airflow".**

Property name	Value type	Mandatory	Access mode	Description
step	multiple types: see schema	No	Read Write	
if	array: see schema	No	Read Only	The OCF Interface set supported by this Resource.
direction	string	No	Read Write	The directionality of the air flow, a value indicated by "supporteddirections".
rt	array: see schema	No	Read Only	The Resource Type
speed	integer	Yes	Read Write	The current speed level.
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	

range	multiple types: see schema	No	Read Write	
id	multiple types: see schema	No	Read Write	

2019 **6.2.6 CRUDN behaviour**

2020 Table 8 defines the CRUDN operations that are supported on the "oic.r.airflow" Resource Type.

2021 **Table 8 – The CRUDN operations of the Resource with type "rt" = "oic.r.airflow".**

Create	Read	Update	Delete	Notify
	get	post		observe

2022 **6.3 Air Flow Control**

2023 **6.3.1 Introduction**

2024 This Resource describes the attributes associated with control of air flow,
 2025 for example as modelled by a Thermostat (fan), Room A/C or other device.
 2026 The Resource is a Collection of:
 2027 AirFlow Resource
 2028 BinarySwitch Resource
 2029

2030 **6.3.2 Example URI**

2031 /AirFlowControlResURI

2032 **6.3.3 Resource type**

2033 The Resource Type is defined as: "oic.r.airflowcontrol".

2034 **6.3.4 OpenAPI 2.0 definition**

```

2035 {
2036   "swagger": "2.0",
2037   "info": {
2038     "title": "Air Flow Control",
2039     "version": "20190307",
2040     "license": {
2041       "name": "OCF Data Model License",
2042       "url":
2043         "https://github.com/openconnectivityfoundation/core/blob/e28a9e0a92e17042ba3e83661e4c0fbce8bdc4ba/LI
2044         CENSE.md",
2045       "x-copyright": "copyright 2016-2019 Open Connectivity Foundation, Inc. All rights reserved."
2046     },
2047     "termsOfService": "https://openconnectivityfoundation.github.io/core/DISCLAIMER.md"
2048   },
2049   "schemes": ["http"],
2050   "consumes": ["application/json"],
2051   "produces": ["application/json"],
2052   "paths": {
2053     "/AirFlowControlResURI?if=oic.if.ll" : {
2054       "get": {
2055         "description": "This Resource describes the attributes associated with control of air
2056         flow,\nfor example as modelled by a Thermostat (fan), Room A/C or other device.\nThe Resource is a
2057         Collection of:\n AirFlow Resource\n BinarySwitch Resource\n",
2058         "parameters": [
2059           {"$ref": "#/parameters/interface-all"}
2060         ],
2061         "responses": {
  
```

```

2062         "200": {
2063             "description" : "",
2064             "x-example": [
2065                 {"href": "/BinarySwitchResURI", "rt":["oic.r.switch.binary"],
2066 "if":["oic.if.a","oic.if.baseline"], "eps": [{"ep": "coaps://[fe80::b1d6]:1122"}]},
2067                 {"href": "/AirFlowResURI", "rt":["oic.r.airflow"],
2068 "if":["oic.if.a","oic.if.baseline"], "eps": [{"ep": "coaps://[fe80::b1d6]:1122"}]}
2069             ],
2070             "schema": { "$ref": "#/definitions/AirFlowControl-11" }
2071         }
2072     }
2073 },
2074 "/AirFlowControlResURI?if=oic.if.b": {
2075     "get": {
2076         "description": "This Resource describes the attributes associated with control of air
2077 flow,\nfor example as modelled by a Thermostat (fan), Room A/C or other device.\nThe Resource is a
2078 Collection of:\n AirFlow Resource\n BinarySwitch Resource\n",
2079         "parameters": [
2080             {"$ref": "#/parameters/interface-all"}
2081         ],
2082         "responses": {
2083             "200": {
2084                 "description" : "",
2085                 "x-example": [
2086                     {
2087                         "href": "/BinarySwitchResURI",
2088                         "rep": {
2089                             "value": true
2090                         }
2091                     },
2092                     {
2093                         "href": "/AirFlowResURI",
2094                         "rep": {
2095                             "supporteddirections": ["left","right","centre"],
2096                             "direction": "right",
2097                             "speed": 3,
2098                             "range": [1,7],
2099                             "automode": "Off"
2100                         }
2101                     }
2102                 ],
2103                 "schema": { "$ref": "#/definitions/AirFlowControlBatch-Retrieve" }
2104             }
2105         }
2106     },
2107     "post": {
2108         "description": "Sets the current air flow control values using the batch OCF Interface\n",
2109         "parameters": [
2110             {"$ref": "#/parameters/interface-b"},
2111             {
2112                 "name": "body",
2113                 "in": "body",
2114                 "required": true,
2115                 "schema": { "$ref": "#/definitions/AirFlowControlBatch-Update" },
2116                 "x-example": [
2117                     {
2118                         "href": "/AirFlowResURI",
2119                         "rep": {
2120                             "direction": "left",
2121                             "speed": 4
2122                         }
2123                     }
2124                 ]
2125             }
2126         ],
2127         "responses": {
2128             "200": {
2129                 "description" : "",
2130                 "x-example": [
2131                     {
2132                         "href": "/BinarySwitchResURI",
2133

```

```

2134         "rep": {
2135             "value": true
2136         }
2137     },
2138     {
2139         "href": "/AirFlowResURI",
2140         "rep": {
2141             "supporteddirections": ["left","right","centre"],
2142             "direction": "left",
2143             "speed": 4,
2144             "range": [1,7],
2145             "automode": "Off"
2146         }
2147     }
2148 ],
2149     "schema": { "$ref": "#/definitions/AirFlowControlBatch-Retrieve" }
2150 }
2151 }
2152 },
2153 },
2154 "/AirFlowControlResURI?if=oic.if.baseline" : {
2155     "get": {
2156         "description": "This Resource describes the attributes associated with control of air
2157 flow,\nfor example as modelled by a Thermostat (fan), Room A/C or other device.\nThe Resource is a
2158 Collection of:\n AirFlow Resource\n BinarySwitch Resource\n",
2159         "parameters": [
2160             {"$ref": "#/parameters/interface-all"}
2161         ],
2162         "responses": {
2163             "200": {
2164                 "description": "",
2165                 "x-example": {
2166                     "rt": ["oic.r.airflowcontrol"],
2167                     "rts": ["oic.r.airflow","oic.r.switch.binary"],
2168                     "if": ["oic.if.ll","oic.if.b","oic.if.baseline"],
2169                     "links": [
2170                         {"href": "/BinarySwitchResURI", "rt":["oic.r.switch.binary"],
2171 "if":["oic.if.a","oic.if.baseline"], "eps": [{"ep": "coaps://[fe80::bld6]:1122"}]},
2172                         {"href": "/AirFlowResURI", "rt":["oic.r.airflow"],
2173 "if":["oic.if.a","oic.if.baseline"], "eps": [{"ep": "coaps://[fe80::bld6]:1122"}]}
2174                     ]
2175                 },
2176                 "schema": { "$ref": "#/definitions/AirFlowControl-baseline" }
2177             }
2178         }
2179     }
2180 },
2181 },
2182 "parameters": {
2183     "interface-b" : {
2184         "in" : "query",
2185         "name" : "if",
2186         "type" : "string",
2187         "enum" : ["oic.if.b"]
2188     },
2189     "interface-all" : {
2190         "in" : "query",
2191         "name" : "if",
2192         "type" : "string",
2193         "enum" : ["oic.if.ll", "oic.if.b", "oic.if.baseline"]
2194     }
2195 },
2196 "definitions": {
2197     "AirFlowControl-ll" : {
2198         "type": "array",
2199         "minItems": 2,
2200         "uniqueItems": true,
2201         "readOnly": true,
2202         "items": {
2203             "$ref": "#/definitions/oic.oic-link"
2204         }
2205     },

```

```

2206     "oic.oic-link": {
2207         "type": "object",
2208         "properties": {
2209             "anchor": {
2210                 "$ref":
2211                 "https://openconnectivityfoundation.github.io/core/schemas/oic.links.properties.core-
2212                 schema.json#/definitions/anchor"
2213             },
2214             "di": {
2215                 "$ref":
2216                 "https://openconnectivityfoundation.github.io/core/schemas/oic.links.properties.core-
2217                 schema.json#/definitions/di"
2218             },
2219             "eps": {
2220                 "$ref":
2221                 "https://openconnectivityfoundation.github.io/core/schemas/oic.links.properties.core-
2222                 schema.json#/definitions/eps"
2223             },
2224             "href": {
2225                 "$ref":
2226                 "https://openconnectivityfoundation.github.io/core/schemas/oic.links.properties.core-
2227                 schema.json#/definitions/href"
2228             },
2229             "ins": {
2230                 "$ref":
2231                 "https://openconnectivityfoundation.github.io/core/schemas/oic.links.properties.core-
2232                 schema.json#/definitions/ins"
2233             },
2234             "p": {
2235                 "$ref":
2236                 "https://openconnectivityfoundation.github.io/core/schemas/oic.links.properties.core-
2237                 schema.json#/definitions/p"
2238             },
2239             "rel": {
2240                 "$ref":
2241                 "https://openconnectivityfoundation.github.io/core/schemas/oic.links.properties.core-
2242                 schema.json#/definitions/rel_array"
2243             },
2244             "title": {
2245                 "$ref":
2246                 "https://openconnectivityfoundation.github.io/core/schemas/oic.links.properties.core-
2247                 schema.json#/definitions/title"
2248             },
2249             "type": {
2250                 "$ref":
2251                 "https://openconnectivityfoundation.github.io/core/schemas/oic.links.properties.core-
2252                 schema.json#/definitions/type"
2253             },
2254             "if": {
2255                 "description": "The OCF Interfaces supported by the target Resource",
2256                 "items": {
2257                     "enum": [
2258                         "oic.if.a",
2259                         "oic.if.baseline"
2260                     ],
2261                     "type": "string",
2262                     "maxLength": 64
2263                 },
2264                 "minItems": 2,
2265                 "uniqueItems": true,
2266                 "type": "array",
2267                 "readOnly": true
2268             },
2269             "rt": {
2270                 "description": "Resource Type of the target Resource",
2271                 "items": {
2272                     "maxLength": 64,
2273                     "type": "string",
2274                     "enum": ["oic.r.switch.binary", "oic.r.airflow"]
2275                 },
2276                 "minItems": 1,
2277                 "type": "array",

```

```

2278         "uniqueItems": true,
2279         "readOnly": true
2280     }
2281 },
2282 "required": [
2283     "href",
2284     "rt",
2285     "if"
2286 ]
2287 },
2288 "AirFlowControl-baseline" : {
2289     "properties": {
2290         "n": {
2291             "$ref" :
2292 "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
2293 schema.json#/definitions/n"
2294         },
2295         "id": {
2296             "$ref" :
2297 "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
2298 schema.json#/definitions/id"
2299         },
2300         "rt": {
2301             "description": "Resource Type of this Resource",
2302             "items": {
2303                 "maxLength": 64,
2304                 "type": "string",
2305                 "enum": ["oic.r.airflowcontrol"]
2306             },
2307             "minItems": 1,
2308             "uniqueItems": true,
2309             "readOnly": true,
2310             "type": "array"
2311         },
2312         "rts": {
2313             "items": {
2314                 "type": "string",
2315                 "enum": ["oic.r.airflow", "oic.r.switch.binary"],
2316                 "maxLength": 64
2317             },
2318             "minItems": 1,
2319             "type": "array",
2320             "uniqueItems": true,
2321             "readOnly": true
2322         },
2323         "if": {
2324             "description": "The OCF Interfaces supported by this Resource",
2325             "items": {
2326                 "enum": [
2327                     "oic.if.ll",
2328                     "oic.if.b",
2329                     "oic.if.baseline"
2330                 ],
2331                 "type": "string",
2332                 "maxLength": 64
2333             },
2334             "minItems": 1,
2335             "readOnly": true,
2336             "uniqueItems": true,
2337             "type": "array"
2338         },
2339         "links": {
2340             "description": "A set of simple or individual OCF Links.",
2341             "items": {
2342                 "$ref": "#/definitions/oic.oic-link"
2343             },
2344             "type": "array",
2345             "minItems": 2,
2346             "uniqueItems": true,
2347             "readOnly": true
2348         }
2349     },

```

```

2350     "type" : "object",
2351     "required": ["rt", "rts", "if", "links"]
2352 },
2353 "AirFlowControlBatch-Retrieve" : {
2354     "type": "array",
2355     "minItems": 2,
2356     "uniqueItems": true,
2357     "items": {
2358         "type": "object",
2359         "additionalProperties": true,
2360         "properties": {
2361             "href": {
2362                 "$ref":
2363 "https://openconnectivityfoundation.github.io/core/schemas/oic.links.properties.core-
2364 schema.json#/definitions/href"
2365             },
2366             "rep": {
2367                 "anyOf": [
2368                     {"$ref":
2369 "https://openconnectivityfoundation.github.io/IoTDataModels/AirFlowResURI.swagger.json#/definitions/
2370 AirFlow"},
2371                     {"$ref":
2372 "https://openconnectivityfoundation.github.io/IoTDataModels/BinarySwitchResURI.swagger.json#/definit
2373 ions/BinarySwitch"}
2374                 ]
2375             }
2376         },
2377         "required": [
2378             "href",
2379             "rep"
2380         ]
2381     }
2382 },
2383 "AirFlowControlBatch-Update" : {
2384     "type": "array",
2385     "minItems": 1,
2386     "uniqueItems": true,
2387     "items": {
2388         "type": "object",
2389         "additionalProperties": true,
2390         "properties": {
2391             "href": {
2392                 "$ref":
2393 "https://openconnectivityfoundation.github.io/core/schemas/oic.links.properties.core-
2394 schema.json#/definitions/href"
2395             },
2396             "rep": {
2397                 "anyOf": [
2398                     {"$ref":
2399 "https://openconnectivityfoundation.github.io/IoTDataModels/AirFlowResURI.swagger.json#/definitions/
2400 AirFlow"},
2401                     {"$ref":
2402 "https://openconnectivityfoundation.github.io/IoTDataModels/BinarySwitchResURI.swagger.json#/definit
2403 ions/BinarySwitch"}
2404                 ]
2405             }
2406         },
2407         "required": [
2408             "href",
2409             "rep"
2410         ]
2411     }
2412 }
2413 }
2414 }
2415

```

2416 6.3.5 Property definition

2417 Table 9 defines the Properties that are part of the "oic.r.airflowcontrol" Resource Type.

2418 **Table 9 – The Property definitions of the Resource with type "rt" = "oic.r.airflowcontrol".**

Property name	Value type	Mandatory	Access mode	Description
eps	multiple types: see schema	No	Read Write	
title	multiple types: see schema	No	Read Write	
anchor	multiple types: see schema	No	Read Write	
p	multiple types: see schema	No	Read Write	
rt	array: see schema	Yes	Read Only	Resource Type of the target Resource
href	multiple types: see schema	Yes	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
di	multiple types: see schema	No	Read Write	
rel	multiple types: see schema	No	Read Write	
ins	multiple types: see schema	No	Read Write	
rts	array: see schema	Yes	Read Only	
links	array: see schema	Yes	Read Only	A set of simple or individual OCF Links.
rt	array: see schema	Yes	Read Only	Resource Type of this Resource

n	multiple types: see schema	No	Read Write	
if	array: see schema	Yes	Read Only	The OCF Interfaces supported by this Resource
id	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	Yes	Read Write	
rep	multiple types: see schema	Yes	Read Write	

2419 **6.3.6 CRUDN behaviour**

2420 Table 10 defines the CRUDN operations that are supported on the "oic.r.airflowcontrol" Resource
2421 Type.

2422 **Table 10 – The CRUDN operations of the Resource with type "rt" = "oic.r.airflowcontrol".**

Create	Read	Update	Delete	Notify
	get			observe

2423 **6.4 Battery**

2424 **6.4.1 Introduction**

2425 This Resource describes the attributes associated with a battery. The Property "charge" is an
2426 integer showing the current battery charge level as a percentage in the range 0 (fully discharged)
2427 to 100 (fully charged). The Property "capacity" represents the total capacity of battery in Amp
2428 Hours (Ah). The "charging" status and "discharging" status are represented by boolean values set
2429 to "true" indicating enabled and "false" indicating disabled. Low battery status is represented by a
2430 boolean value set to "true" indicating low charge level and "false" indicating otherwise, based
2431 upon the battery threshold represented as a percentage.

2432 **6.4.2 Example URI**

2433 /BatteryResURI

2434 **6.4.3 Resource type**

2435 The Resource Type is defined as: "oic.r.energy.battery".

2436 6.4.4 OpenAPI 2.0 definition

```
2437 {
2438   "swagger": "2.0",
2439   "info": {
2440     "title": "Battery",
2441     "version": "20190513",
2442     "license": {
2443       "name": "OCF Data Model License",
2444       "url":
2445         "https://github.com/openconnectivityfoundation/core/blob/e28a9e0a92e17042ba3e83661e4c0fbce8bdc4ba/LI
2446         CENSE.md",
2447       "x-copyright": "Copyright 2018-2019 Open Connectivity Foundation, Inc. All rights reserved."
2448     },
2449     "termsOfService": "https://openconnectivityfoundation.github.io/core/DISCLAIMER.md"
2450   },
2451   "schemes": ["http"],
2452   "consumes": ["application/json"],
2453   "produces": ["application/json"],
2454   "paths": {
2455     "/BatteryResURI" : {
2456       "get": {
2457         "description": "This Resource describes the attributes associated with a battery. The
2458         Property \"charge\" is an integer showing the current battery charge level as a percentage in the
2459         range 0 (fully discharged) to 100 (fully charged). The Property \"capacity\" represents the total
2460         capacity of battery in Amp Hours (Ah). The \"charging\" status and \"discharging\" status are
2461         represented by boolean values set to \"true\" indicating enabled and \"false\" indicating disabled.
2462         Low battery status is represented by a boolean value set to \"true\" indicating low charge level and
2463         \"false\" indicating otherwise, based upon the battery threshold represented as a percentage.",
2464         "parameters": [
2465           { "$ref": "#/parameters/interface" }
2466         ],
2467         "responses": {
2468           "200": {
2469             "description": "",
2470             "x-example":
2471               {
2472                 "rt": ["oic.r.energy.battery"],
2473                 "if": ["oic.if.rw", "oic.if.baseline"],
2474                 "charge": 50,
2475                 "capacity": 3000,
2476                 "charging": true,
2477                 "discharging": false,
2478                 "lowbattery": false,
2479                 "batterythreshold": 20,
2480                 "defect": false,
2481                 "timestamp": "2015-11-05T14:30:00.20Z"
2482               },
2483           "schema": { "$ref": "#/definitions/Battery" }
2484         }
2485       }
2486     },
2487     "post": {
2488       "description": "Sets current battery values\n",
2489       "parameters": [
2490         { "$ref": "#/parameters/interface" },
2491         {
2492           "name": "body",
2493           "in": "body",
2494           "required": true,
2495           "schema": { "$ref": "#/definitions/BatteryUpdate" },
2496           "x-example":
2497             {
2498               "batterythreshold": 20
2499             }
2500         }
2501       ],
2502       "responses": {
2503         "200": {
2504           "description": "",
2505           "x-example":
2506             {
```

```

2507         "batterythreshold": 20
2508     },
2509     "schema": { "$ref": "#/definitions/BatteryUpdate" }
2510 }
2511 }
2512 }
2513 }
2514 },
2515 "parameters": {
2516     "interface": {
2517         "in": "query",
2518         "name": "if",
2519         "type": "string",
2520         "enum": ["oic.if.rw", "oic.if.baseline"]
2521     }
2522 },
2523 "definitions": {
2524     "Battery": {
2525         "properties": {
2526             "rt": {
2527                 "description": "The Resource Type.",
2528                 "items": {
2529                     "enum": ["oic.r.energy.battery"],
2530                     "maxLength": 64,
2531                     "type": "string"
2532                 },
2533                 "minItems": 1,
2534                 "uniqueItems": true,
2535                 "readOnly": true,
2536                 "type": "array"
2537             },
2538             "discharging": {
2539                 "description": "The status of discharging.",
2540                 "readOnly": true,
2541                 "type": "boolean"
2542             },
2543             "lowbattery": {
2544                 "description": "The status of the low battery warning based upon the defined threshold.",
2545                 "readOnly": true,
2546                 "type": "boolean"
2547             },
2548             "capacity": {
2549                 "description": "The total capacity in Amp-hours (Ah).",
2550                 "readOnly": true,
2551                 "type": "number"
2552             },
2553             "batterythreshold": {
2554                 "description": "The threshold percentage for the low battery warning.",
2555                 "maximum": 100,
2556                 "minimum": 0,
2557                 "type": "integer"
2558             },
2559             "charge": {
2560                 "description": "The current charge percentage.",
2561                 "maximum": 100,
2562                 "minimum": 0,
2563                 "readOnly": true,
2564                 "type": "integer"
2565             },
2566             "charging": {
2567                 "description": "The status of charging.",
2568                 "readOnly": true,
2569                 "type": "boolean"
2570             },
2571             "defect": {
2572                 "description": "Battery defect detected. True = defect, False = no defect",
2573                 "readOnly": true,
2574                 "type": "boolean"
2575             },
2576             "timestamp": {
2577                 "description": "An RFC3339 formatted time indicating when the data was observed (e.g.:
2578                 2016-02-15T09:19Z, 1996-12-19T16:39:57-08:00). Note that 1/100 time resolution should be used.",

```

```

2579         "format": "date-time",
2580         "readOnly": true,
2581         "type": "string"
2582     },
2583     "n": {
2584         "$ref":
2585         "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
2586         schema.json#/definitions/n"
2587     },
2588     "id": {
2589         "$ref":
2590         "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
2591         schema.json#/definitions/id"
2592     },
2593     "if": {
2594         "description": "The OCF Interface set supported by this Resource.",
2595         "items": {
2596             "enum": [
2597                 "oic.if.rw",
2598                 "oic.if.baseline"
2599             ],
2600             "type": "string"
2601         },
2602         "minItems": 2,
2603         "uniqueItems": true,
2604         "readOnly": true,
2605         "type": "array"
2606     }
2607 },
2608 "type" : "object",
2609 "required": ["charge"]
2610 },
2611 "BatteryUpdate": {
2612     "properties": {
2613         "batterythreshold": {
2614             "description": "The threshold percentage for the low battery warning.",
2615             "maximum": 100,
2616             "minimum": 0,
2617             "type": "integer"
2618         }
2619     },
2620     "type" : "object",
2621     "required": ["batterythreshold"]
2622 }
2623 }
2624 }
2625

```

2626 6.4.5 Property definition

2627 Table 11 defines the Properties that are part of the "oic.r.energy.battery" Resource Type.

2628 **Table 11 – The Property definitions of the Resource with type "rt" = "oic.r.energy.battery".**

Property name	Value type	Mandatory	Access mode	Description
if	array: see schema	No	Read Only	The OCF Interface set supported by this Resource.
capacity	number	No	Read Only	The total capacity in Amp-hours (Ah).
id	multiple types: see schema	No	Read Write	
rt	array: see schema	No	Read Only	The Resource Type.
n	multiple types: see schema	No	Read Write	

discharging	boolean	No	Read Only	The status of discharging.
defect	boolean	No	Read Only	Battery defect detected. True = defect, False = no defect
batterythreshold	integer	No	Read Write	The threshold percentage for the low battery warning.
lowbattery	boolean	No	Read Only	The status of the low battery warning based upon the defined threshold.
charge	integer	Yes	Read Only	The current charge percentage.
charging	boolean	No	Read Only	The status of charging.
batterythreshold	integer	Yes	Read Write	The threshold percentage for the low battery warning.

2629 **6.4.6 CRUDN behaviour**

2630 Table 12 defines the CRUDN operations that are supported on the "oic.r.energy.battery" Resource
2631 Type.

2632 **Table 12 – The CRUDN operations of the Resource with type "rt" = "oic.r.energy.battery".**

Create	Read	Update	Delete	Notify
	get	post		observe

2633 **6.5 Binary Switch**

2634 **6.5.1 Introduction**

2635 This Resource describes a binary switch (on/off). The Property "value" is a boolean. A value of
2636 "true" means that the switch is on. A value of "false" means that the switch is off.
2637

2638 **6.5.2 Example URI**

2639 /BinarySwitchResURI

2640 **6.5.3 Resource type**

2641 The Resource Type is defined as: "oic.r.switch.binary".

2642 **6.5.4 OpenAPI 2.0 definition**

```
2643 {
2644   "swagger": "2.0",
2645   "info": {
2646     "title": "Binary Switch",
2647     "version": "20190222",
2648     "license": {
2649       "name": "OCF Data Model License",
2650       "url":
2651         "https://github.com/openconnectivityfoundation/core/blob/e28a9e0a92e17042ba3e83661e4c0fbce8bdc4ba/LI
2652         CENSE.md",
2653       "x-copyright": "Copyright 2018-2019 Open Connectivity Foundation, Inc. All rights reserved."
```

```

2654     },
2655     "termsOfService": "https://openconnectivityfoundation.github.io/core/DISCLAIMER.md"
2656 },
2657 "schemes": ["http"],
2658 "consumes": ["application/json"],
2659 "produces": ["application/json"],
2660 "paths": {
2661   "/BinarySwitchResURI" : {
2662     "get": {
2663       "description": "This Resource describes a binary switch (on/off).\nThe Property \"value\" is
2664 a boolean.\nA value of 'true' means that the switch is on.\nA value of 'false' means that the switch
2665 is off.\n",
2666       "parameters": [
2667         { "$ref": "#/parameters/interface" }
2668       ],
2669       "responses": {
2670         "200": {
2671           "description": "",
2672           "x-example":
2673             {
2674               "rt": ["oic.r.switch.binary"],
2675               "if": ["oic.if.a", "oic.if.baseline"],
2676               "value": false
2677             },
2678           "schema": { "$ref": "#/definitions/BinarySwitch" }
2679         }
2680       }
2681     },
2682     "post": {
2683       "description": "",
2684       "parameters": [
2685         { "$ref": "#/parameters/interface" },
2686         {
2687           "name": "body",
2688           "in": "body",
2689           "required": true,
2690           "schema": { "$ref": "#/definitions/BinarySwitch" },
2691           "x-example":
2692             {
2693               "value": true
2694             }
2695         }
2696       ],
2697       "responses": {
2698         "200": {
2699           "description": "",
2700           "x-example":
2701             {
2702               "value": true
2703             },
2704           "schema": { "$ref": "#/definitions/BinarySwitch" }
2705         }
2706       }
2707     }
2708   }
2709 },
2710 "parameters": {
2711   "interface" : {
2712     "in": "query",
2713     "name": "if",
2714     "type": "string",
2715     "enum": ["oic.if.a", "oic.if.baseline"]
2716   }
2717 },
2718 "definitions": {
2719   "BinarySwitch" : {
2720     "properties": {
2721       "rt": {
2722         "description": "The Resource Type.",
2723         "items": {
2724           "enum": ["oic.r.switch.binary"],
2725           "maxLength": 64,

```

```

2726         "type": "string"
2727     },
2728     "minItems": 1,
2729     "uniqueItems": true,
2730     "readOnly": true,
2731     "type": "array"
2732 },
2733 "value": {
2734     "description": "The status of the switch.",
2735     "type": "boolean"
2736 },
2737 "n": {
2738     "$ref":
2739 "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
2740 schema.json#/definitions/n"
2741 },
2742 "id": {
2743     "$ref":
2744 "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
2745 schema.json#/definitions/id"
2746 },
2747 "if": {
2748     "description": "The OCF Interface set supported by this Resource.",
2749     "items": {
2750         "enum": [
2751             "oic.if.a",
2752             "oic.if.baseline"
2753         ],
2754         "type": "string"
2755     },
2756     "minItems": 2,
2757     "uniqueItems": true,
2758     "readOnly": true,
2759     "type": "array"
2760 }
2761 },
2762 "type": "object",
2763 "required": ["value"]
2764 }
2765 }
2766 }
2767

```

2768 6.5.5 Property definition

2769 Table 13 defines the Properties that are part of the "oic.r.switch.binary" Resource Type.

2770 **Table 13 – The Property definitions of the Resource with type "rt" = "oic.r.switch.binary".**

Property name	Value type	Mandatory	Access mode	Description
value	boolean	Yes	Read Write	The status of the switch.
if	array: see schema	No	Read Only	The OCF Interface set supported by this Resource.
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	
----	-------------------------------	----	------------	--

2771 **6.5.6 CRUDN behaviour**

2772 Table 14 defines the CRUDN operations that are supported on the "oic.r.switch.binary" Resource
2773 Type.

2774 **Table 14 – The CRUDN operations of the Resource with type "rt" = "oic.r.switch.binary".**

Create	Read	Update	Delete	Notify
	get	post		observe

2775 **6.6 Brightness**

2776 **6.6.1 Introduction**

2777 This Resource describes the brightness of a light or lamp.
2778 The Property "brightness" is an integer showing the current brightness level as a quantized
2779 representation in the range 0-100.
2780 A brightness of 0 is the minimum for the resource.
2781 A brightness of 100 is the maximum for the resource.

2782 **6.6.2 Example URI**

2783 /BrightnessResURI

2784 **6.6.3 Resource type**

2785 The Resource Type is defined as: "oic.r.light.brightness".

2786 **6.6.4 OpenAPI 2.0 definition**

```

2787 {
2788   "swagger": "2.0",
2789   "info": {
2790     "title": "Brightness",
2791     "version": "20190222",
2792     "license": {
2793       "name": "OCF Data Model License",
2794       "url":
2795         "https://github.com/openconnectivityfoundation/core/blob/e28a9e0a92e17042ba3e83661e4c0fbce8bdc4ba/LI
2796         CENSE.md",
2797       "x-copyright": "Copyright 2018-2019 Open Connectivity Foundation, Inc. All rights reserved."
2798     },
2799     "termsOfService": "https://openconnectivityfoundation.github.io/core/DISCLAIMER.md"
2800   },
2801   "schemes": ["http"],
2802   "consumes": ["application/json"],
2803   "produces": ["application/json"],
2804   "paths": {
2805     "/BrightnessResURI" : {
2806       "get": {
2807         "description": "This Resource describes the brightness of a light or lamp.\nThe Property
2808         \"brightness\" is an integer showing the current brightness level as a quantized representation in
2809         the range 0-100.\nA brightness of 0 is the minimum for the resource.\nA brightness of 100 is the
2810         maximum for the resource.",
2811         "parameters": [
2812           {"$ref": "#/parameters/interface"}
2813         ],
2814         "responses": {
2815           "200": {
2816             "description": "",
2817             "x-example":
2818             {

```

```

2819         "rt": ["oic.r.light.brightness"],
2820         "if": ["oic.if.a", "oic.if.baseline"],
2821         "brightness": 50
2822     },
2823     "schema": { "$ref": "#/definitions/Brightness" }
2824 }
2825 }
2826 },
2827 "post": {
2828     "description": "Sets the desired brightness level.\n",
2829     "parameters": [
2830         {"$ref": "#/parameters/interface"},
2831         {
2832             "name": "body",
2833             "in": "body",
2834             "required": true,
2835             "schema": { "$ref": "#/definitions/Brightness" },
2836             "x-example":
2837                 {
2838                     "brightness": 10
2839                 }
2840         }
2841     ],
2842     "responses": {
2843         "200": {
2844             "description": "Indicates that the brightness was changed.\nThe new brightness level
2845 is provided in the response.\n",
2846             "x-example":
2847                 {
2848                     "brightness": 10
2849                 },
2850             "schema": { "$ref": "#/definitions/Brightness" }
2851         }
2852     }
2853 }
2854 }
2855 },
2856 "parameters": {
2857     "interface": {
2858         "in": "query",
2859         "name": "if",
2860         "type": "string",
2861         "enum": ["oic.if.a", "oic.if.baseline"]
2862     }
2863 },
2864 "definitions": {
2865     "Brightness": {
2866         "properties": {
2867             "rt": {
2868                 "description": "The Resource Type.",
2869                 "items": {
2870                     "enum": ["oic.r.light.brightness"],
2871                     "maxLength": 64,
2872                     "type": "string"
2873                 },
2874                 "minItems": 1,
2875                 "uniqueItems": true,
2876                 "readOnly": true,
2877                 "type": "array"
2878             },
2879             "brightness": {
2880                 "description": "The Quantized representation in the range 0-100 of the current sensed or
2881 set value for Brightness.",
2882                 "maximum": 100,
2883                 "minimum": 0,
2884                 "type": "integer"
2885             },
2886             "n": {
2887                 "$ref":
2888                 "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
2889                 schema.json#/definitions/n"
2890             }
2891         }

```



```

2891     "id": {
2892         "$ref":
2893         "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
2894         schema.json#/definitions/id"
2895     },
2896     "if": {
2897         "description": "The OCF Interface set supported by this Resource.",
2898         "items": {
2899             "enum": [
2900                 "oic.if.a",
2901                 "oic.if.baseline"
2902             ],
2903             "type": "string"
2904         },
2905         "minItems": 2,
2906         "uniqueItems": true,
2907         "readOnly": true,
2908         "type": "array"
2909     }
2910 },
2911 "type": "object",
2912 "required": ["brightness"]
2913 }
2914 }
2915 }
2916

```

2917 **6.6.5 Property definition**

2918 Table 15 defines the Properties that are part of the "oic.r.light.brightness" Resource Type.

2919 **Table 15 – The Property definitions of the Resource with type "rt" =**
2920 **"oic.r.light.brightness".**

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

2921 **6.6.6 CRUDN behaviour**

2922 Table 16 defines the CRUDN operations that are supported on the "oic.r.light.brightness" Resource
2923 Type.

2924 **Table 16 – The CRUDN operations of the Resource with type "rt" = "oic.r.light.brightness".**

Create	Read	Update	Delete	Notify
	get	post		observe

2925 **6.7 Colour Chroma**

2926 **6.7.1 Introduction**

2927 This Resource describes the colour using chroma conventions.
 2928 Properties are "hue", "saturation", "csc", and "ct".
 2929 The Property "hue" is the hue angle, it is an integer value as defined by the CIECAM02 model
 2930 definition (see reference [CIE CIE159:2004]).
 2931 The Property "saturation" is an integer value as defined by the CIECAM02 model definition (see
 2932 reference [CIE CIE159:2004]).
 2933 The Property "maximumsaturation" is the upper bound on the saturation supported by the Device.
 2934 If not present the maximum value for "saturation" is 32767.
 2935 The Property "csc" is the colour space coordinates in CIE colour space.
 2936 The first item in the array is the X coordinate.
 2937 The second item in the array is the Y coordinate.
 2938 The Property "nct" is the Mired colour temperature.
 2939 The Resource provides the colour using chroma conventions.

2940 **6.7.2 Example URI**

2941 /example/ColourChromaResURI

2942 **6.7.3 Resource type**

2943 The Resource Type is defined as: "oic.r.colour.chroma".

2944 **6.7.4 OpenAPI 2.0 definition**

```

2945 {
2946   "swagger": "2.0",
2947   "info": {
2948     "title": "Colour Chroma",
2949     "version": "20190215",
2950     "license": {
2951       "name": "OCF Data Model License",
2952       "url":
2953         "https://github.com/openconnectivityfoundation/core/blob/e28a9e0a92e17042ba3e83661e4c0fbce8bdc4ba/LI
2954         CENSE.md",
2955       "x-copyright": "copyright 2016-2017, 2019 Open Connectivity Foundation, Inc. All rights
2956         reserved."
2957     },
2958     "termsOfService": "https://openconnectivityfoundation.github.io/core/DISCLAIMER.md"
2959   },
2960   "schemes": ["http"],
2961   "consumes": ["application/json"],
2962   "produces": ["application/json"],
2963   "paths": {
2964     "/example/ColourChromaResURI" : {
2965       "get": {
2966         "description": "This Resource describes the colour using chroma conventions.\nProperties are
2967         \"hue\", \"saturation\", \"csc\", and \"ct\".\nThe Property \"hue\" is the hue angle, it is an
2968         integer value as defined by the CIECAM02 model definition (see reference [CIE CIE159:2004]).\nThe
2969         Property \"saturation\" is an integer value as defined by the CIECAM02 model definition (see
2970         reference [CIE CIE159:2004]).\nThe Property \"maximumsaturation\" is the upper bound on the
2971         saturation supported by the Device.\nIf not present the maximum value for \"saturation\" is
2972         32767.\nThe Property \"csc\" is the colour space coordinates in CIE colour space.\n The first item
2973         in the array is the X coordinate.\n The second item in the array is the Y coordinate.\nThe Property
2974         \"nct\" is the Mired colour temperature.\nThe Resource provides the colour using chroma
2975         conventions.",
2976         "parameters": [

```

```

2977     {"$ref": "#/parameters/interface"}
2978   ],
2979   "responses": {
2980     "200": {
2981       "description": "",
2982       "x-example":
2983         {
2984           "rt": ["oic.r.colour.chroma"],
2985           "if": [ "oic.if.a", "oic.if.baseline"],
2986           "hue": 256.0,
2987           "saturation": 212,
2988           "maximumsaturation": 1000,
2989           "csc": [0.41, 0.51],
2990           "ct": 457
2991         },
2992       "schema": { "$ref": "#/definitions/ColourChroma" }
2993     }
2994   },
2995 },
2996 "post": {
2997   "description": "Sets current colour chroma values\n",
2998   "parameters": [
2999     {"$ref": "#/parameters/interface"},
3000     {
3001       "name": "body",
3002       "in": "body",
3003       "required": true,
3004       "schema": { "$ref": "#/definitions/ColourChroma" },
3005       "x-example":
3006         {
3007           "hue": 300.0,
3008           "saturation": 212,
3009           "csc": [0.41, 0.51],
3010           "ct": 457
3011         }
3012     }
3013   ],
3014   "responses": {
3015     "200": {
3016       "description": "",
3017       "x-example":
3018         {
3019           "hue": 300.0,
3020           "saturation": 212,
3021           "csc": [0.41, 0.51],
3022           "ct": 467
3023         },
3024       "schema": { "$ref": "#/definitions/ColourChroma" }
3025     }
3026   }
3027 },
3028 },
3029 },
3030 "parameters": {
3031   "interface": {
3032     "in": "query",
3033     "name": "if",
3034     "type": "string",
3035     "enum": ["oic.if.a", "oic.if.baseline"]
3036   }
3037 },
3038 "definitions": {
3039   "ColourChroma": {
3040     "properties": {
3041       "rt": {
3042         "description": "The Resource Type.",
3043         "items": {
3044           "enum": ["oic.r.colour.chroma"],
3045           "maxLength": 64,
3046           "type": "string"
3047         },
3048         "minItems": 1,

```

```

3049         "uniqueItems": true,
3050         "readOnly": true,
3051         "type": "array"
3052     },
3053     "ct" : {
3054         "description": "The Mired colour temperature.",
3055         "minimum": 0,
3056         "type": "integer"
3057     },
3058     "hue" : {
3059         "description": "The hue angle as defined by the CIECAM02 model definition.",
3060         "maximum": 360.0,
3061         "minimum": 0.0,
3062         "type": "number"
3063     },
3064     "saturation" : {
3065         "description": "The saturation as defined by the CIECAM02 model definition.",
3066         "maximum": 32767,
3067         "minimum": 0,
3068         "type": "integer"
3069     },
3070     "maximumsaturation" : {
3071         "description": "The maximum supported value of \"saturation\" for this Device.",
3072         "maximum": 32767,
3073         "minimum": 0,
3074         "readOnly": true,
3075         "type": "integer"
3076     },
3077     "csc" : {
3078         "description": "The X and Y coordinates of the colour in CIE colour space",
3079         "items": {
3080             "maximum": 1,
3081             "minimum": 0,
3082             "type": "number"
3083         },
3084         "maxItems": 2,
3085         "minItems": 2,
3086         "type": "array"
3087     },
3088     "n": {
3089         "$ref":
3090         "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
3091         schema.json#/definitions/n"
3092     },
3093     "id": {
3094         "$ref":
3095         "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
3096         schema.json#/definitions/id"
3097     },
3098     "if" : {
3099         "description": "The OCF Interface set supported by this Resource.",
3100         "items": {
3101             "enum": [
3102                 "oic.if.a",
3103                 "oic.if.baseline"
3104             ],
3105             "maxLength": 64,
3106             "type": "string"
3107         },
3108         "minItems": 2,
3109         "uniqueItems": true,
3110         "readOnly": true,
3111         "type": "array"
3112     }
3113 },
3114 "type": "object",
3115 "required": ["hue", "saturation", "csc"]
3116 }
3117 }
3118 }
3119

```

3120 **6.7.5 Property definition**

3121 Table 17 defines the Properties that are part of the "oic.r.colour.chroma" Resource Type.

3122 **Table 17 – The Property definitions of the Resource with type "rt" = "oic.r.colour.chroma".**

Property name	Value type	Mandatory	Access mode	Description
csc	array: see schema	Yes	Read Write	The X and Y coordinates of the colour in CIE colour space
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.
id	multiple types: see schema	No	Read Write	
n	multiple types: see schema	No	Read Write	
ct	integer	No	Read Write	The Mired colour temperature.
rt	array: see schema	No	Read Only	The Resource Type.
if	array: see schema	No	Read Only	The OCF Interface set supported by this Resource.
maximumsaturation	integer	No	Read Only	The maximum supported value of "saturation" for this Device.

3123 **6.7.6 CRUDN behaviour**

3124 Table 18 defines the CRUDN operations that are supported on the "oic.r.colour.chroma" Resource
3125 Type.

3126 **Table 18 – The CRUDN operations of the Resource with type "rt" = "oic.r.colour.chroma".**

Create	Read	Update	Delete	Notify
--------	------	--------	--------	--------

	get	post		observe
--	-----	------	--	---------

3127 6.8 Colour RGB

3128 6.8.1 Introduction

3129 This Resource specifies the actual colour in the RGB space represented as an array of integers.
 3130 Each colour value is described with a Red, Green, Blue component.
 3131 These colour values are encoded as an array of integer values ([R,G,B]).
 3132 The minimum and maximum colour value per component may be described by the Property "range".
 3133 When "range" is omitted, then the "range" is [0,255].

3134 6.8.2 Example URI

3135 /ColourRGBResURI

3136 6.8.3 Resource type

3137 The Resource Type is defined as: "oic.r.colour.rgb".

3138 6.8.4 OpenAPI 2.0 definition

```

3139 {
3140   "swagger": "2.0",
3141   "info": {
3142     "title": "Colour RGB",
3143     "version": "20190215",
3144     "license": {
3145       "name": "OCF Data Model License",
3146       "url":
3147         "https://github.com/openconnectivityfoundation/core/blob/e28a9e0a92e17042ba3e83661e4c0fbce8bdc4ba/LI
3148         CENSE.md",
3149       "x-copyright": "copyright 2016-2017, 2019 Open Connectivity Foundation, Inc. All rights
3150         reserved."
3151     },
3152     "termsOfService": "https://openconnectivityfoundation.github.io/core/DISCLAIMER.md"
3153   },
3154   "schemes": ["http"],
3155   "consumes": ["application/json"],
3156   "produces": ["application/json"],
3157   "paths": {
3158     "/ColourRGBResURI" : {
3159       "get": {
3160         "description": "This Resource specifies the actual colour in the RGB space represented as an
3161         array of integers.\nEach colour value is described with a Red, Green, Blue component.\nThese colour
3162         values are encoded as an array of integer values ([R,G,B]).\nThe minimum and maximum colour value
3163         per component may be described by the Property \"range\".\nWhen \"range\" is omitted, then the
3164         \"range\" is [0,255].",
3165         "parameters": [
3166           {"$ref": "#/parameters/interface"}
3167         ],
3168         "responses": {
3169           "200": {
3170             "description": "",
3171             "x-example":
3172               {
3173                 "rt": ["oic.r.colour.rgb"],
3174                 "if": ["oic.if.a", "oic.if.baseline"],
3175                 "rgbValue": [255, 255, 255],
3176                 "range": [0, 255]
3177               },
3178             "schema": { "$ref": "#/definitions/ColourRGB" }
3179           }
3180         }
3181       },
3182       "post": {
3183         "description": "Sets the current colourRGB value\n",
3184         "parameters": [
3185           {"$ref": "#/parameters/interface"},

```

```

3186     {
3187         "name": "body",
3188         "in": "body",
3189         "required": true,
3190         "schema": { "$ref": "#/definitions/ColourRGB" },
3191         "x-example":
3192             {
3193                 "rgbValue": [255, 0, 0]
3194             }
3195     },
3196 ],
3197 "responses": {
3198     "200": {
3199         "description": "",
3200         "x-example":
3201             {
3202                 "rgbValue": [255, 0, 0]
3203             },
3204         "schema": { "$ref": "#/definitions/ColourRGB" }
3205     }
3206 },
3207 },
3208 },
3209 },
3210 "parameters": {
3211     "interface" : {
3212         "in": "query",
3213         "name": "if",
3214         "type": "string",
3215         "enum": ["oic.if.a", "oic.if.baseline"]
3216     },
3217 },
3218 "definitions": {
3219     "ColourRGB" : {
3220         "properties": {
3221             "rt": {
3222                 "description": "The Resource Type.",
3223                 "items": {
3224                     "enum": ["oic.r.colour.rgb"],
3225                     "maxLength": 64,
3226                     "type": "string"
3227                 },
3228                 "minItems": 1,
3229                 "uniqueItems": true,
3230                 "readOnly": true,
3231                 "type": "array"
3232             },
3233             "rgbValue": {
3234                 "description": "The RGB value; the first item is the R, second the G, third the B.",
3235                 "items": {
3236                     "type": "integer"
3237                 },
3238                 "maxItems": 3,
3239                 "minItems": 3,
3240                 "type": "array"
3241             },
3242             "n": {
3243                 "$ref":
3244                 "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
3245                 schema.json#/definitions/n"
3246             },
3247             "id": {
3248                 "$ref":
3249                 "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
3250                 schema.json#/definitions/id"
3251             },
3252             "range": {
3253                 "$ref":
3254                 "https://openconnectivityfoundation.github.io/IoTDataModels/schemas/oic.baseresource.properties-
3255                 schema.json#/definitions/range_integer"
3256             },
3257             "step": {

```

```

3258         "$ref":
3259         "https://openconnectivityfoundation.github.io/IoTDataModels/schemas/oic.baseresource.properties-
3260         schema.json#/definitions/step_integer"
3261     },
3262     "if": {
3263         "description": "The OCF Interface set supported by this Resource.",
3264         "items": {
3265             "enum": [
3266                 "oic.if.a",
3267                 "oic.if.baseline"
3268             ],
3269             "type": "string"
3270         },
3271         "minItems": 2,
3272         "uniqueItems": true,
3273         "readOnly": true,
3274         "type": "array"
3275     }
3276 },
3277 "type": "object",
3278 "required": ["rgbValue"]
3279 }
3280 }
3281 }
3282

```

3283 6.8.5 Property definition

3284 Table 19 defines the Properties that are part of the "oic.r.colour.rgb" Resource Type.

3285 **Table 19 – The Property definitions of the Resource with type "rt" = "oic.r.colour.rgb".**

Property name	Value type	Mandatory	Access mode	Description
step	multiple types: see schema	No	Read Write	
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.
id	multiple types: see schema	No	Read Write	
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	

3286 **6.8.6 CRUDN behaviour**

3287 Table 20 defines the CRUDN operations that are supported on the "oic.r.colour.rgb" Resource Type.

3288 **Table 20 – The CRUDN operations of the Resource with type "rt" = "oic.r.colour.rgb".**

Create	Read	Update	Delete	Notify
	get	post		observe

3289 **6.9 Dimming**

3290 **6.9.1 Introduction**

3291 This Resource describes a dimming function.
3292 The Property "dimmingSetting" is an integer showing the current dimming level.
3293 If Property "step" is present then it represents the increment between dimmer values.
3294 When the Property "range" is omitted, then the range is [0,100].
3295 A value of 0 means total dimming; a value of 100 means no dimming.

3296 **6.9.2 Example URI**

3297 /DimmingResURI

3298 **6.9.3 Resource type**

3299 The Resource Type is defined as: "oic.r.light.dimming".

3300 **6.9.4 OpenAPI 2.0 definition**

```
3301 {
3302   "swagger": "2.0",
3303   "info": {
3304     "title": "Dimming",
3305     "version": "20190215",
3306     "license": {
3307       "name": "OCF Data Model License",
3308       "url":
3309 "https://github.com/openconnectivityfoundation/core/blob/e28a9e0a92e17042ba3e83661e4c0fbce8bdc4ba/LI
3310 CENSE.md",
3311     "x-copyright": "copyright 2016-2017, 2019 Open Connectivity Foundation, Inc. All rights
3312 reserved."
3313   },
3314   "termsOfService": "https://openconnectivityfoundation.github.io/core/DISCLAIMER.md"
3315 },
3316   "schemes": ["http"],
3317   "consumes": ["application/json"],
3318   "produces": ["application/json"],
3319   "paths": {
3320     "/DimmingResURI" : {
3321       "get": {
3322         "description": "This Resource describes a dimming function.\n\nThe Property \"dimmingSetting\"
3323 is an integer showing the current dimming level.\n\nIf Property \"step\" is present then it represents
3324 the increment between dimmer values.\n\nWhen the Property \"range\" is omitted, then the range is
3325 [0,100].\n\nA value of 0 means total dimming; a value of 100 means no dimming.",
3326         "parameters": [
3327           {"$ref": "#/parameters/interface"}
3328         ],
3329         "responses": {
3330           "200": {
3331             "description": "",
3332             "x-example":
3333             {
3334               "rt": ["oic.r.light.dimming"],
3335               "if": ["oic.if.a", "oic.if.baseline"],
3336               "dimmingSetting": 30,
3337               "step": 5,
3338               "range": [0, 100]
```

```

3339         },
3340         "schema": { "$ref": "#/definitions/Dimming" }
3341     }
3342 }
3343 },
3344 "post": {
3345     "description": "Sets the desired dimming level.\n",
3346     "parameters": [
3347         { "$ref": "#/parameters/interface" },
3348         {
3349             "name": "body",
3350             "in": "body",
3351             "required": true,
3352             "schema": { "$ref": "#/definitions/Dimming" },
3353             "x-example":
3354                 {
3355                     "dimmingSetting": 40
3356                 }
3357         }
3358     ],
3359     "responses": {
3360         "200": {
3361             "description": "Indicates that the dimming was changed.\nThe new dimming level is
3362 provided in the response.\n",
3363             "x-example":
3364                 {
3365                     "dimmingSetting": 40
3366                 },
3367             "schema": { "$ref": "#/definitions/Dimming" }
3368         },
3369         "403": {
3370             "description": "This response is generated by the OCF Server when the client sends:\n
3371 An update with an out of range property value for dimmingSetting.\nThe server responds with the
3372 current resource representation.\n",
3373             "x-example":
3374                 {
3375                     "dimmingSetting": 40
3376                 },
3377             "schema": { "$ref": "#/definitions/Dimming" }
3378         }
3379     }
3380 }
3381 },
3382 },
3383 "parameters": {
3384     "interface": {
3385         "in": "query",
3386         "name": "if",
3387         "type": "string",
3388         "enum": ["oic.if.a", "oic.if.baseline"]
3389     }
3390 },
3391 "definitions": {
3392     "Dimming": {
3393         "properties": {
3394             "rt": {
3395                 "description": "The Resource Type.",
3396                 "items": {
3397                     "enum": ["oic.r.light.dimming"],
3398                     "maxLength": 64,
3399                     "type": "string"
3400                 },
3401                 "minItems": 1,
3402                 "uniqueItems": true,
3403                 "readOnly": true,
3404                 "type": "array"
3405             },
3406             "dimmingSetting": {
3407                 "description": "The current dimming value.",
3408                 "type": "integer"
3409             },
3410             "n": {

```

```

3411         "$ref":
3412         "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
3413         schema.json#/definitions/n"
3414     },
3415     "id": {
3416         "$ref":
3417         "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
3418         schema.json#/definitions/id"
3419     },
3420     "range": {
3421         "$ref":
3422         "https://openconnectivityfoundation.github.io/IoTDataModels/schemas/oic.baseresource.properties-
3423         schema.json#/definitions/range_integer"
3424     },
3425     "step": {
3426         "$ref":
3427         "https://openconnectivityfoundation.github.io/IoTDataModels/schemas/oic.baseresource.properties-
3428         schema.json#/definitions/step_integer"
3429     },
3430     "if": {
3431         "description": "The OCF Interface set supported by this Resource.",
3432         "items": {
3433             "enum": [
3434                 "oic.if.a",
3435                 "oic.if.baseline"
3436             ],
3437             "type": "string"
3438         },
3439         "minItems": 2,
3440         "uniqueItems": true,
3441         "readOnly": true,
3442         "type": "array"
3443     }
3444 },
3445 "type": "object",
3446 "required": ["dimmingSetting"]
3447 }
3448 }
3449 }
3450

```

3451 6.9.5 Property definition

3452 Table 21 defines the Properties that are part of the "oic.r.light.dimming" Resource Type.

3453 **Table 21 – The Property definitions of the Resource with type "rt" = "oic.r.light.dimming".**

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

dimmingSetting	integer	Yes	Read Write	The current dimming value.
id	multiple types: see schema	No	Read Write	
step	multiple types: see schema	No	Read Write	

3454 **6.9.6 CRUDN behaviour**

3455 Table 22 defines the CRUDN operations that are supported on the "oic.r.light.dimming" Resource
3456 Type.

3457 **Table 22 – The CRUDN operations of the Resource with type "rt" = "oic.r.light.dimming".**

Create	Read	Update	Delete	Notify
	get	post		observe

3458 **6.10 Door**

3459 **6.10.1 Introduction**

3460 This Resource describes the open state of the door.
3461 A door is modelled by means of openState (Open/Closed), openDuration (ISO 8601 Time), and
3462 openAlarm (boolean).
3463 For Property "openState", the value 'Open' indicates the door is open.
3464 The value 'Closed' indicates the door is closed.
3465 The type of Property "openDuration" is an RFC Time encoded string.
3466 The Property "openAlarm" value 'true' indicates that the open alarm is active.
3467 The openAlarm value 'false' indicates that open alarm is not active.
3468 retrieves the state of the Door.

3469 **6.10.2 Example URI**

3470 /DoorResURI

3471 **6.10.3 Resource type**

3472 The Resource Type is defined as: "oic.r.door".

3473 **6.10.4 OpenAPI 2.0 definition**

```
3474 {
3475   "swagger": "2.0",
3476   "info": {
3477     "title": "Door",
3478     "version": "20190215",
3479     "license": {
3480       "name": "OCF Data Model License",
3481       "url":
3482         "https://github.com/openconnectivityfoundation/core/blob/e28a9e0a92e17042ba3e83661e4c0fbce8bdc4ba/LI
3483 CENSE.md",
3484       "x-copyright": "copyright 2016-2017, 2019 Open Connectivity Foundation, Inc. All rights
3485 reserved."
3486     },
3487     "termsOfService": "https://openconnectivityfoundation.github.io/core/DISCLAIMER.md"
3488   },
3489   "schemes": ["http"],
3490   "consumes": ["application/json"],
3491   "produces": ["application/json"],
```

```

3492     "paths": {
3493         "/DoorResURI" : {
3494             "get": {
3495                 "description": "This Resource describes the open state of the door.\nA door is modelled by
3496 means of openState (Open/Closed), openDuration (ISO 8601 Time), and openAlarm (boolean).\nFor
3497 Property \"openState\", the value 'Open' indicates the door is open.\nThe value 'Closed' indicates
3498 the door is closed.\nThe type of Property \"openDuration\" is an RFC Time encoded string.\nThe
3499 Property \"openAlarm\" value 'true' indicates that the open alarm is active.\nThe openAlarm value
3500 'false' indicates that open alarm is not active.\nretrieves the state of the Door.",
3501                 "parameters": [
3502                     { "$ref": "#/parameters/interface" }
3503                 ],
3504                 "responses": {
3505                     "200": {
3506                         "description": "",
3507                         "x-example": {
3508                             "rt": ["oic.r.door"],
3509                             "if": ["oic.if.a", "oic.if.baseline"],
3510                             "openState": "Open",
3511                             "openDuration": "P0Y0M0DT2H25M5S",
3512                             "openAlarm": true
3513                         },
3514                         "schema": { "$ref": "#/definitions/Door" }
3515                     }
3516                 }
3517             },
3518             "post": {
3519                 "description": "Sets the current Door properties.\nThe only property that can be set as part
3520 of an update operation is\n the openAlarm.\nThis can be made active (true) or inactive (false)\n",
3521                 "parameters": [
3522                     { "$ref": "#/parameters/interface" },
3523                     {
3524                         "name": "body",
3525                         "in": "body",
3526                         "required": true,
3527                         "schema": { "$ref": "#/definitions/DoorUpdate" },
3528                         "x-example": {
3529                             "openAlarm": false
3530                         }
3531                     }
3532                 ],
3533                 "responses": {
3534                     "200": {
3535                         "description": "",
3536                         "x-example": {
3537                             "openAlarm": false
3538                         },
3539                         "schema": { "$ref": "#/definitions/DoorUpdate" }
3540                     }
3541                 }
3542             }
3543         }
3544     },
3545     "parameters": {
3546         "interface": {
3547             "in": "query",
3548             "name": "if",
3549             "type": "string",
3550             "enum": ["oic.if.a", "oic.if.baseline"]
3551         }
3552     },
3553     "definitions": {
3554         "Door" : {
3555             "properties": {
3556                 "rt": {
3557                     "description": "The Resource Type.",
3558                     "items": {
3559                         "enum": ["oic.r.door"],
3560                         "maxLength": 64,
3561                         "type": "string"
3562                     },
3563                     "minItems": 1,

```

```

3564         "uniqueItems": true,
3565         "readOnly": true,
3566         "type": "array"
3567     },
3568     "openDuration": {
3569         "$ref": "https://openconnectivityfoundation.github.io/core/schemas/oic.types-
3570 schema.json#/definitions/duration"
3571     },
3572     "openState": {
3573         "description": "The state of the door (open or closed).",
3574         "enum": [
3575             "Open",
3576             "Closed"
3577         ],
3578         "readOnly": true,
3579         "type": "string"
3580     },
3581     "openAlarm": {
3582         "description": "The state of the door open alarm.",
3583         "type": "boolean"
3584     },
3585     "n": {
3586         "$ref":
3587 "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
3588 schema.json#/definitions/n"
3589     },
3590     "id": {
3591         "$ref":
3592 "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
3593 schema.json#/definitions/id"
3594     },
3595     "if": {
3596         "description": "The OCF Interface set supported by this Resource.",
3597         "items": {
3598             "enum": [
3599                 "oic.if.a",
3600                 "oic.if.baseline"
3601             ],
3602             "type": "string"
3603         },
3604         "minItems": 2,
3605         "uniqueItems": true,
3606         "readOnly": true,
3607         "type": "array"
3608     }
3609 },
3610 "type": "object",
3611 "required": ["openState"]
3612 },
3613 "DoorUpdate" : {
3614     "properties": {
3615         "openAlarm": {
3616             "description": "The state of the door open alarm.",
3617             "type": "boolean"
3618         }
3619     },
3620     "type": "object",
3621     "required": ["openAlarm"]
3622 }
3623 }
3624 }
3625

```

3626 6.10.5 Property definition

3627 Table 23 defines the Properties that are part of the "oic.r.door" Resource Type.

3628 **Table 23 – The Property definitions of the Resource with type "rt" = "oic.r.door".**

Property name	Value type	Mandatory	Access mode	Description
---------------	------------	-----------	-------------	-------------

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.
if	array: see schema	No	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	
openDuration	multiple types: see schema	No	Read Write	
rt	array: see schema	No	Read Only	The Resource Type.
openAlarm	boolean	Yes	Read Write	The state of the door open alarm.

3629 **6.10.6 CRUDN behaviour**

3630 Table 24 defines the CRUDN operations that are supported on the "oic.r.door" Resource Type.

3631 **Table 24 – The CRUDN operations of the Resource with type "rt" = "oic.r.door".**

Create	Read	Update	Delete	Notify
	get	post		observe

3632 **6.11 Energy Consumption**

3633 **6.11.1 Introduction**

3634 This Resource describes the energy consumed by the Device since power up (the energy value is
3635 in Watt Hours [Wh])
3636 and the instantaneous power draw of the device (the power value is in Watts [W]) at the time the
3637 resource was queried.
3638 The Property "power" value is in Watts [W].
3639 The Property "energy" value is in Watt Hours [Wh].
3640 The Resource provides the current power draw and cumulative energy usage.

3641 **6.11.2 Example URI**

3642 /EnergyConsumptionResURI

3643 **6.11.3 Resource type**

3644 The Resource Type is defined as: "oic.r.energy.consumption".

3645 6.11.4 OpenAPI 2.0 definition

```
3646 {
3647   "swagger": "2.0",
3648   "info": {
3649     "title": "Energy Consumption",
3650     "version": "20190215",
3651     "license": {
3652       "name": "OCF Data Model License",
3653       "url":
3654         "https://github.com/openconnectivityfoundation/core/blob/e28a9e0a92e17042ba3e83661e4c0fbce8bdc4ba/LI
3655         CENSE.md",
3656       "x-copyright": "copyright 2016-2017, 2019 Open Connectivity Foundation, Inc. All rights
3657         reserved."
3658     },
3659     "termsOfService": "https://openconnectivityfoundation.github.io/core/DISCLAIMER.md"
3660   },
3661   "schemes": ["http"],
3662   "consumes": ["application/json"],
3663   "produces": ["application/json"],
3664   "paths": {
3665     "/EnergyConsumptionResURI" : {
3666       "get": {
3667         "description": "This Resource describes the energy consumed by the Device since power up
3668         (the energy value is in Watt Hours [Wh]) \nand the instantaneous power draw of the device (the power
3669         value is in Watts [W]) at the time the resource was queried.\n\nThe Property \"power\" value is in
3670         Watts [W].\n\nThe Property \"energy\" value is in Watt Hours [Wh].\n\nThe Resource provides the current
3671         power draw and cumulative energy usage.",
3672         "parameters": [
3673           {"$ref": "#/parameters/interface"}
3674         ],
3675         "responses": {
3676           "200": {
3677             "description": "",
3678             "x-example":
3679               {
3680                 "rt": ["oic.r.energy.consumption"],
3681                 "if": ["oic.if.s", "oic.if.baseline"],
3682                 "power": 2000.1,
3683                 "energy": 3500.4
3684               },
3685             "schema": { "$ref": "#/definitions/Consumption" }
3686           }
3687         }
3688       }
3689     }
3690   },
3691   "parameters": {
3692     "interface" : {
3693       "in" : "query",
3694       "name" : "if",
3695       "type" : "string",
3696       "enum" : ["oic.if.s", "oic.if.baseline"]
3697     }
3698   },
3699   "definitions": {
3700     "Consumption" : {
3701       "properties": {
3702         "rt": {
3703           "description": "The Resource Type.",
3704           "items": {
3705             "enum": ["oic.r.energy.consumption"],
3706             "maxLength": 64,
3707             "type": "string"
3708           },
3709           "minItems": 1,
3710           "uniqueItems": true,
3711           "readOnly": true,
3712           "type": "array"
3713         },
3714         "power": {
3715           "description": "The instantaneous Power.",
```



```

3716         "readOnly": true,
3717         "type": "number"
3718     },
3719     "energy": {
3720         "description": "The energy consumed.",
3721         "readOnly": true,
3722         "type": "number"
3723     },
3724     "n": {
3725         "$ref":
3726 "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
3727 schema.json#/definitions/n"
3728     },
3729     "id": {
3730         "$ref":
3731 "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
3732 schema.json#/definitions/id"
3733     },
3734     "if": {
3735         "description": "The OCF Interface set supported by this Resource.",
3736         "items": {
3737             "enum": [
3738                 "oic.if.s",
3739                 "oic.if.baseline"
3740             ],
3741             "type": "string"
3742         },
3743         "minItems": 2,
3744         "uniqueItems": true,
3745         "readOnly": true,
3746         "type": "array"
3747     }
3748 },
3749 "type": "object",
3750 "required": ["power", "energy"]
3751 }
3752 }
3753 }
3754

```

3755 **6.11.5 Property definition**

3756 Table 25 defines the Properties that are part of the "oic.r.energy.consumption" Resource Type.

3757 **Table 25 – The Property definitions of the Resource with type "rt" =**
3758 **"oic.r.energy.consumption".**

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

rt	array: see schema	No	Read Only	The Resource Type.
id	multiple types: see schema	No	Read Write	

3759 **6.11.6 CRUDN behaviour**

3760 Table 26 defines the CRUDN operations that are supported on the "oic.r.energy.consumption"
3761 Resource Type.

3762 **Table 26 – The CRUDN operations of the Resource with type "rt" =**
3763 **"oic.r.energy.consumption".**

Create	Read	Update	Delete	Notify
	get			observe

3764 **6.12 Energy Usage**

3765 **6.12.1 Introduction**

3766 This Resource describes a cumulative time-based energy usage query..
3767 The Resource is a Collection of:
3768 TimePeriod Resource
3769 EnergyConsumption Resource
3770 Resource

3771 **6.12.2 Example URI**

3772 /EnergyUsageResURI

3773 **6.12.3 Resource type**

3774 The Resource Type is defined as: "oic.r.energy.usage".

3775 **6.12.4 OpenAPI 2.0 definition**

```
3776 {
3777   "swagger": "2.0",
3778   "info": {
3779     "title": "Energy Usage",
3780     "version": "20190307",
3781     "license": {
3782       "name": "OCF Data Model License",
3783       "url":
3784         "https://github.com/openconnectivityfoundation/core/blob/e28a9e0a92e17042ba3e83661e4c0fbce8bdc4ba/LI
3785         CENSE.md",
3786       "x-copyright": "copyright 2016-2019 Open Connectivity Foundation, Inc. All rights reserved."
3787     },
3788     "termsOfService": "https://openconnectivityfoundation.github.io/core/DISCLAIMER.md"
3789   },
3790   "schemes": ["http"],
3791   "consumes": ["application/json"],
3792   "produces": ["application/json"],
3793   "paths": {
3794     "/EnergyUsageResURI?if=oic.if.ll": {
3795       "get": {
3796         "description": "This Resource describes a cumulative time-based energy usage query.\nThe
3797         Resource is a Collection of:\n TimePeriod Resource\n EnergyConsumption Resource\n",
3798         "parameters": [
3799           {"$ref": "#/parameters/interface"}
3800         ],
3801         "responses": {
```

```

3802         "200": {
3803             "description" : "",
3804             "x-example":
3805                 [
3806                     { "href": "/TimePeriodResURI", "rt":["oic.r.time.period"],
3807 "if":["oic.if.a","oic.if.baseline"], "eps":[{"ep": "coaps://[fe80::b1d6]:1122"}]},
3808                     { "href": "/EnergyConsumptionResURI", "rt":["oic.r.energy.consumption"],
3809 "if":["oic.if.s","oic.if.baseline"], "eps":[{"ep": "coaps://[fe80::b1d6]:1122"}]}
3810                 ],
3811             "schema": { "$ref": "#/definitions/Usage-11" }
3812         }
3813     }
3814 },
3815 ],
3816 "/EnergyUsageResURI?if=oic.if.b" : {
3817     "get": {
3818         "description": "This Resource describes a cumulative time-based energy usage query.\nThe
3819 Resource is a Collection of:\n TimePeriod Resource\n EnergyConsumption Resource\n",
3820         "parameters": [
3821             { "$ref": "#/parameters/interface" }
3822         ],
3823         "responses": {
3824             "200": {
3825                 "description" : "",
3826                 "x-example": [
3827                     {
3828                         "href": "/TimePeriodResURI",
3829                         "rep": {
3830                             "startTime": "2015-01-09T14:30Z",
3831                             "stopTime": "2015-01-09T14:45Z"
3832                         }
3833                     },
3834                     {
3835                         "href": "/EnergyConsumptionResURI",
3836                         "rep": {
3837                             "power": 2000.1,
3838                             "energy": 3500.4
3839                         }
3840                     }
3841                 ],
3842                 "schema": { "$ref": "#/definitions/EnergyUsageBatch-Retrieve" }
3843             }
3844         }
3845     },
3846     "post": {
3847         "description": "Sets the timer period of the query using the batch OCF Interface\n",
3848         "parameters": [
3849             { "$ref": "#/parameters/interface-b" },
3850             {
3851                 "name": "body",
3852                 "in": "body",
3853                 "required": true,
3854                 "schema": { "$ref": "#/definitions/EnergyUsageBatch-Update" },
3855                 "x-example": [
3856                     {
3857                         "href": "/TimePeriodResURI",
3858                         "rep": {
3859                             "startTime": "2015-03-15T10:30Z",
3860                             "stopTime": "2015-03-15T10:45Z"
3861                         }
3862                     }
3863                 ]
3864             }
3865         ],
3866         "responses": {
3867             "200": {
3868                 "description" : "",
3869                 "x-example": [
3870                     {
3871                         "href": "/TimePeriodResURI",
3872                         "rep": {
3873                             "startTime": "2015-03-15T10:30Z",

```

```

3874         "stopTime": "2015-03-15T10:45Z"
3875     }
3876 },
3877 {
3878     "href": "/EnergyConsumptionResURI",
3879     "rep": {
3880         "power": 1500.1,
3881         "energy": 2200.4
3882     }
3883 },
3884 ],
3885 "schema": { "$ref": "#/definitions/EnergyUsageBatch-Retrieve" }
3886 }
3887 }
3888 },
3889 },
3890 "/EnergyUsageResURI?if=oic.if.baseline" : {
3891     "get": {
3892         "description": "This Resource describes a cumulative time-based energy usage query..\n\nThe
3893 Resource is a Collection of:\n TimePeriod Resource\n EnergyConsumption Resource\n",
3894         "parameters": [
3895             { "$ref": "#/parameters/interface" }
3896         ],
3897         "responses": {
3898             "200": {
3899                 "description" : "",
3900                 "x-example":
3901                 {
3902                     "rt": ["oic.r.energy.usage"],
3903                     "if": ["oic.if.ll", "oic.if.b", "oic.if.baseline"],
3904                     "rts": ["oic.r.time.period", "oic.r.energy.consumption"],
3905                     "links": [
3906                         { "href": "/TimePeriodResURI", "rt": ["oic.r.time.period"],
3907 "if": ["oic.if.a", "oic.if.baseline"], "eps": [{"ep": "coaps://[fe80:b1d6]:1122"}]},
3908                         { "href": "/EnergyConsumptionResURI", "rt": ["oic.r.energy.consumption"],
3909 "if": ["oic.if.s", "oic.if.baseline"], "eps": [{"ep": "coaps://[fe80:b1d6]:1122"}]}
3910                     ]
3911                 },
3912                 "schema": { "$ref": "#/definitions/Usage-baseline" }
3913             }
3914         }
3915     }
3916 },
3917 },
3918 "parameters": {
3919     "interface" : {
3920         "in" : "query",
3921         "name" : "if",
3922         "type" : "string",
3923         "enum" : ["oic.if.ll", "oic.if.b", "oic.if.baseline"]
3924     },
3925     "interface-b" : {
3926         "in" : "query",
3927         "name" : "if",
3928         "type" : "string",
3929         "enum" : ["oic.if.b"]
3930     }
3931 },
3932 "definitions": {
3933     "Usage-ll": {
3934         "items": {
3935             "$ref": "#/definitions/oic.oic-link"
3936         },
3937         "type": "array"
3938     },
3939     "oic.oic-link": {
3940         "type": "object",
3941         "properties": {
3942             "anchor": {
3943                 "$ref":
3944 "https://openconnectivityfoundation.github.io/core/schemas/oic.links.properties.core-
3945 schema.json#/definitions/anchor"

```

```

3946     },
3947     "di": {
3948       "$ref":
3949       "https://openconnectivityfoundation.github.io/core/schemas/oic.links.properties.core-
3950       schema.json#/definitions/di"
3951     },
3952     "eps": {
3953       "$ref":
3954       "https://openconnectivityfoundation.github.io/core/schemas/oic.links.properties.core-
3955       schema.json#/definitions/eps"
3956     },
3957     "href": {
3958       "$ref":
3959       "https://openconnectivityfoundation.github.io/core/schemas/oic.links.properties.core-
3960       schema.json#/definitions/href"
3961     },
3962     "ins": {
3963       "$ref":
3964       "https://openconnectivityfoundation.github.io/core/schemas/oic.links.properties.core-
3965       schema.json#/definitions/ins"
3966     },
3967     "p": {
3968       "$ref":
3969       "https://openconnectivityfoundation.github.io/core/schemas/oic.links.properties.core-
3970       schema.json#/definitions/p"
3971     },
3972     "rel": {
3973       "$ref":
3974       "https://openconnectivityfoundation.github.io/core/schemas/oic.links.properties.core-
3975       schema.json#/definitions/rel_array"
3976     },
3977     "title": {
3978       "$ref":
3979       "https://openconnectivityfoundation.github.io/core/schemas/oic.links.properties.core-
3980       schema.json#/definitions/title"
3981     },
3982     "type": {
3983       "$ref":
3984       "https://openconnectivityfoundation.github.io/core/schemas/oic.links.properties.core-
3985       schema.json#/definitions/type"
3986     },
3987     "if": {
3988       "description": "The OCF Interfaces supported by the target Resource",
3989       "items": {
3990         "enum": [
3991           "oic.if.a",
3992           "oic.if.s",
3993           "oic.if.baseline"
3994         ],
3995         "type": "string",
3996         "maxLength": 64
3997       },
3998       "minItems": 2,
3999       "uniqueItems": true,
4000       "type": "array",
4001       "readOnly": true
4002     },
4003     "rt": {
4004       "description": "Resource Type of the target Resource",
4005       "items": {
4006         "maxLength": 64,
4007         "type": "string",
4008         "enum": ["oic.r.time.period", "oic.r.energy.consumption"]
4009       },
4010       "minItems": 1,
4011       "type": "array",
4012       "uniqueItems": true,
4013       "readOnly": true
4014     }
4015   },
4016   "required": [
4017     "href",

```

```

4018     "rt",
4019     "if"
4020   ]
4021 },
4022 "Usage-baseline": {
4023   "properties": {
4024     "rt": {
4025       "description": "Resource Type of this Resource",
4026       "items": {
4027         "maxLength": 64,
4028         "type": "string",
4029         "enum": ["oic.r.energy.usage"]
4030       },
4031       "minItems": 1,
4032       "readOnly": true,
4033       "uniqueItems": true,
4034       "type": "array"
4035     },
4036     "rts": {
4037       "items": {
4038         "enum": [
4039           "oic.r.time.period",
4040           "oic.r.energy.consumption"
4041         ],
4042         "type": "string",
4043         "maxLength": 64
4044       },
4045       "minItems": 1,
4046       "type": "array",
4047       "readOnly": true,
4048       "uniqueItems": true
4049     },
4050     "links": {
4051       "description": "A set of simple or individual OCF Links.",
4052       "type": "array",
4053       "items": {
4054         "$ref": "#/definitions/oic.oic-link"
4055       }
4056     },
4057     "n": {
4058       "$ref":
4059 "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
4060 schema.json#/definitions/n"
4061     },
4062     "id": {
4063       "$ref":
4064 "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
4065 schema.json#/definitions/id"
4066     },
4067     "if": {
4068       "description": "The OCF Interfaces supported by this Resource",
4069       "items": {
4070         "enum": [
4071           "oic.if.ll",
4072           "oic.if.b",
4073           "oic.if.baseline"
4074         ],
4075         "type": "string",
4076         "maxLength": 64
4077       },
4078       "minItems": 1,
4079       "readOnly": true,
4080       "uniqueItems": true,
4081       "type": "array"
4082     }
4083   },
4084   "type": "object",
4085   "required": ["rt","if","links"]
4086 },
4087 "EnergyUsageBatch-Retrieve" : {
4088   "type": "array",
4089   "minItems": 2,

```

```

4090     "uniqueItems": true,
4091     "items": {
4092       "type": "object",
4093       "additionalProperties": true,
4094       "properties": {
4095         "href": {
4096           "$ref":
4097 "https://openconnectivityfoundation.github.io/core/schemas/oic.links.properties.core-
4098 schema.json#/definitions/href"
4099         },
4100         "rep": {
4101           "anyOf": [
4102             {"$ref":
4103 "https://openconnectivityfoundation.github.io/IoTDataModels/TimePeriodResURI.swagger.json#/definitio
4104 ns/TimePeriod"},
4105             {"$ref":
4106 "https://openconnectivityfoundation.github.io/IoTDataModels/EnergyConsumptionResURI.swagger.json#/de
4107 finitions/Consumption"}
4108           ]
4109         }
4110       },
4111       "required": [
4112         "href",
4113         "rep"
4114       ]
4115     }
4116   },
4117   "EnergyUsageBatch-Update" : {
4118     "type": "array",
4119     "minItems": 1,
4120     "uniqueItems": true,
4121     "items": {
4122       "type": "object",
4123       "additionalProperties": true,
4124       "properties": {
4125         "href": {
4126           "$ref":
4127 "https://openconnectivityfoundation.github.io/core/schemas/oic.links.properties.core-
4128 schema.json#/definitions/href"
4129         },
4130         "rep": {
4131           "anyOf": [
4132             {"$ref":
4133 "https://openconnectivityfoundation.github.io/IoTDataModels/TimePeriodResURI.swagger.json#/definitio
4134 ns/TimePeriod"}
4135           ]
4136         }
4137       },
4138       "required": [
4139         "href",
4140         "rep"
4141       ]
4142     }
4143   }
4144 }
4145 }
4146

```

4147 **6.12.5 Property definition**

4148 Table 27 defines the Properties that are part of the "oic.r.energy.usage" Resource Type.

4149 **Table 27 – The Property definitions of the Resource with type "rt" = "oic.r.energy.usage".**

Property name	Value type	Mandatory	Access mode	Description
rep	multiple types: see schema	Yes	Read Write	

href	multiple types: see schema	Yes	Read Write	
anchor	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
href	multiple types: see schema	Yes	Read Write	
title	multiple types: see schema	No	Read Write	
rel	multiple types: see schema	No	Read Write	
p	multiple types: see schema	No	Read Write	
rt	array: see schema	Yes	Read Only	Resource Type of the target Resource
eps	multiple types: see schema	No	Read Write	
di	multiple types: see schema	No	Read Write	
ins	multiple types: see schema	No	Read Write	
rep	multiple types: see schema	Yes	Read Write	
href	multiple types: see schema	Yes	Read Write	
if	array: see schema	Yes	Read Only	The OCF Interfaces supported by this Resource

links	array: see schema	Yes	Read Write	A set of simple or individual OCF Links.
rts	array: see schema	No	Read Only	
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

4150 **6.12.6 CRUDN behaviour**

4151 Table 28 defines the CRUDN operations that are supported on the "oic.r.energy.usage" Resource
4152 Type.

4153 **Table 28 – The CRUDN operations of the Resource with type "rt" = "oic.r.energy.usage".**

Create	Read	Update	Delete	Notify
	get			observe

4154 **6.13 Humidity**

4155 **6.13.1 Introduction**

4156 This Resource describes a sensed or desired humidity.
4157 The Property "humidity" is an integer describing the percentage measured relative humidity.
4158 The Property "desiredHumidity" is an integer showing the desired target relative humidity.

4159 **6.13.2 Example URI**

4160 /HumidityResURI

4161 **6.13.3 Resource type**

4162 The Resource Type is defined as: "oic.r.humidity".

4163 **6.13.4 OpenAPI 2.0 definition**

```

4164 {
4165   "swagger": "2.0",
4166   "info": {
4167     "title": "Humidity",
4168     "version": "20190215",
4169     "license": {
4170       "name": "OCF Data Model License",
4171       "url":
4172         "https://github.com/openconnectivityfoundation/core/blob/e28a9e0a92e17042ba3e83661e4c0fbce8bdc4ba/LI
4173         CENSE.md",
4174       "x-copyright": "copyright 2016-2017, 2019 Open Connectivity Foundation, Inc. All rights
4175         reserved."
4176     },
4177     "termsOfService": "https://openconnectivityfoundation.github.io/core/DISCLAIMER.md"
4178   },
4179   "schemes": ["http"],

```

```

4180     "consumes": ["application/json"],
4181     "produces": ["application/json"],
4182     "paths": {
4183         "/HumidityResURI" : {
4184             "get": {
4185                 "description": "This Resource describes a sensed or desired humidity.\nThe Property
4186 \\"humidity\\" is an integer describing the percentage measured relative humidity.\nThe Property
4187 \\"desiredHumidity\\" is an integer showing the desired target relative humidity.",
4188                 "parameters": [
4189                     { "$ref": "#/parameters/interface" }
4190                 ],
4191                 "responses": {
4192                     "200": {
4193                         "description": "RETRIEVES the current (relative) humidity level.",
4194                         "x-example":
4195                             {
4196                                 "rt": ["oic.r.humidity"],
4197                                 "if": ["oic.if.a", "oic.if.baseline"],
4198                                 "humidity": 40,
4199                                 "desiredHumidity": 40
4200                             },
4201                         "schema": { "$ref": "#/definitions/Humidity" }
4202                     }
4203                 }
4204             },
4205             "post": {
4206                 "description": "Sets the desired relative humidity level.",
4207                 "parameters": [
4208                     { "$ref": "#/parameters/interface" },
4209                     {
4210                         "name": "body",
4211                         "in": "body",
4212                         "required": true,
4213                         "schema": { "$ref": "#/definitions/HumidityUpdate" },
4214                         "x-example":
4215                             {
4216                                 "desiredHumidity" : 45
4217                             }
4218                     }
4219                 ],
4220                 "responses": {
4221                     "200": {
4222                         "description": "Indicates that the relative humidity level was changed.\nThe new
4223 relative humidity level is provided in the response.",
4224                         "x-example":
4225                             {
4226                                 "desiredHumidity": 45
4227                             },
4228                         "schema": { "$ref": "#/definitions/HumidityUpdate" }
4229                     }
4230                 }
4231             }
4232         }
4233     },
4234     "parameters": {
4235         "interface": {
4236             "in": "query",
4237             "name": "if",
4238             "type": "string",
4239             "enum": ["oic.if.a", "oic.if.s", "oic.if.baseline"]
4240         }
4241     },
4242     "definitions": {
4243         "Humidity": {
4244             "properties": {
4245                 "rt": {
4246                     "description": "The Resource Type.",
4247                     "items": {
4248                         "enum": ["oic.r.humidity"],
4249                         "maxLength": 64,
4250                         "type": "string"
4251                     }

```

```

4252         "minItems": 1,
4253         "uniqueItems": true,
4254         "readOnly": true,
4255         "type": "array"
4256     },
4257     "desiredHumidity": {
4258         "description": "The desired value for humidity.",
4259         "maximum": 100,
4260         "minimum": 0,
4261         "type": "integer"
4262     },
4263     "humidity": {
4264         "description": "The current sensed value for humidity.",
4265         "maximum": 100,
4266         "minimum": 0,
4267         "readOnly": true,
4268         "type": "integer"
4269     },
4270     "n": {
4271         "$ref":
4272 "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
4273 schema.json#/definitions/n"
4274     },
4275     "id": {
4276         "$ref":
4277 "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
4278 schema.json#/definitions/id"
4279     },
4280     "if": {
4281         "description": "The OCF Interface set supported by this Resource.",
4282         "items": {
4283             "enum": [
4284                 "oic.if.a",
4285                 "oic.if.s",
4286                 "oic.if.baseline"
4287             ],
4288             "type": "string"
4289         },
4290         "minItems": 2,
4291         "uniqueItems": true,
4292         "readOnly": true,
4293         "type": "array"
4294     }
4295 },
4296 "type": "object",
4297 "required": ["humidity"]
4298 },
4299 "HumidityUpdate" : {
4300     "properties": {
4301         "desiredHumidity": {
4302             "description": "Desired value for Humidity",
4303             "maximum": 100,
4304             "minimum": 0,
4305             "type": "integer"
4306         }
4307     },
4308     "type": "object",
4309     "required": ["desiredHumidity"]
4310 }
4311 }
4312 }
4313

```

4314 6.13.5 Property definition

4315 Table 29 defines the Properties that are part of the "oic.r.humidity" Resource Type.

4316 **Table 29 – The Property definitions of the Resource with type "rt" = "oic.r.humidity".**

Property name	Value type	Mandatory	Access mode	Description
---------------	------------	-----------	-------------	-------------

if	array: see schema	No	Read Only	The OCF Interface set supported by this Resource.
humidity	integer	Yes	Read Only	The current sensed value for humidity.
desiredHumidity	integer	No	Read Write	The desired value for humidity.
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	
desiredHumidity	integer	Yes	Read Write	Desired value for Humidity

4317 **6.13.6 CRUDN behaviour**

4318 Table 30 defines the CRUDN operations that are supported on the "oic.r.humidity" Resource Type.

4319 **Table 30 – The CRUDN operations of the Resource with type "rt" = "oic.r.humidity".**

Create	Read	Update	Delete	Notify
	get	post		observe

4320 **6.14 Ice Maker**

4321 **6.14.1 Introduction**

4322 This Resource describes an the operational state of an Ice Maker.
 4323 The Property "status" is a string containing a value from the set of possible ice maker statuses.
 4324 The possible statuses are defined by the enumeration ["on", "off", "full"]
 4325 A status of "on" means that the Ice Maker is operating.
 4326 A status of "off" means that the Ice Maker is not operating.
 4327 A status of "full" means that the ice collection bin is full (Ice Maker is operating).

4328 **6.14.2 Example URI**

4329 /IceMakerResURI

4330 **6.14.3 Resource type**

4331 The Resource Type is defined as: "oic.r.icemaker".

4332 6.14.4 OpenAPI 2.0 definition

```
4333 {
4334   "swagger": "2.0",
4335   "info": {
4336     "title": "Ice Maker",
4337     "version": "20190215",
4338     "license": {
4339       "name": "OCF Data Model License",
4340       "url":
4341         "https://github.com/openconnectivityfoundation/core/blob/e28a9e0a92e17042ba3e83661e4c0fbce8bdc4ba/LI
4342         CENSE.md",
4343       "x-copyright": "copyright 2016-2017, 2019 Open Connectivity Foundation, Inc. All rights
4344       reserved."
4345     },
4346     "termsOfService": "https://openconnectivityfoundation.github.io/core/DISCLAIMER.md"
4347   },
4348   "schemes": ["http"],
4349   "consumes": ["application/json"],
4350   "produces": ["application/json"],
4351   "paths": {
4352     "/IceMakerResURI" : {
4353       "get": {
4354         "description": "This Resource describes an the operational state of an Ice Maker.\nThe
4355         Property \"status\" is a string containing a value from the set of possible ice maker statuses.\nThe
4356         possible statuses are defined by the enumeration [\"on\", \"off\", \"full\"]\nA status of \"on\"
4357         means that the Ice Maker is operating.\nA status of \"off\" means that the Ice Maker is not
4358         operating.\nA status of \"full\" means that the ice collection bin is full (Ice Maker is
4359         operating).",
4360         "parameters": [
4361           { "$ref": "#/parameters/interface" }
4362         ],
4363         "responses": {
4364           "200": {
4365             "description": "RETRIEVES the current Ice Maker status.",
4366             "x-example":
4367               {
4368                 "rt": ["oic.r.icemaker"],
4369                 "if": ["oic.if.a", "oic.if.baseline"],
4370                 "status": "on"
4371               },
4372             "schema": { "$ref": "#/definitions/IceMaker" }
4373           }
4374         }
4375       },
4376       "post": {
4377         "description": "Sets the desired Ice Maker status.\nOnly valid settings for \"status\" in a
4378         UPDATE shall be \"on\" or \"off\".",
4379         "parameters": [
4380           { "$ref": "#/parameters/interface" },
4381           {
4382             "name": "body",
4383             "in": "body",
4384             "required": true,
4385             "schema": { "$ref": "#/definitions/IceMakerUpdate" },
4386             "x-example":
4387               {
4388                 "status": "off"
4389               }
4390           }
4391         ],
4392         "responses": {
4393           "200": {
4394             "description": "Indicates that the Ice Maker status was changed.\nThe new status is
4395             provided in the response.\n",
4396             "x-example":
4397               {
4398                 "status": "off"
4399               },
4400             "schema": { "$ref": "#/definitions/IceMakerUpdate" }
4401           },
4402           "403": {
```

```

4403         "description" : "This response is generated by the OCF Server when the client sends:\n
4404 An UPDATE with an invalid property value for \"status\".\n\nThe OCF Server responds with the current
4405 resource representation.\n",
4406         "x-example":
4407             {
4408                 "status": "off"
4409             },
4410         "schema": { "$ref": "#/definitions/IceMakerUpdate" }
4411     }
4412 }
4413 }
4414 }
4415 },
4416 "parameters": {
4417     "interface": {
4418         "in": "query",
4419         "name": "if",
4420         "type": "string",
4421         "enum": ["oic.if.a", "oic.if.baseline"]
4422     }
4423 },
4424 "definitions": {
4425     "IceMaker" : {
4426         "properties": {
4427             "rt": {
4428                 "description": "The Resource Type.",
4429                 "items": {
4430                     "enum": ["oic.r.icemaker"],
4431                     "maxLength": 64,
4432                     "type": "string"
4433                 },
4434                 "minItems": 1,
4435                 "uniqueItems": true,
4436                 "readOnly": true,
4437                 "type": "array"
4438             },
4439             "status": {
4440                 "description": "The status of the Ice Maker.",
4441                 "enum": [
4442                     "on",
4443                     "off",
4444                     "full"
4445                 ],
4446                 "type": "string"
4447             },
4448             "n": {
4449                 "$ref":
4450 "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
4451 schema.json#/definitions/n"
4452             },
4453             "id": {
4454                 "$ref":
4455 "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
4456 schema.json#/definitions/id"
4457             },
4458             "if": {
4459                 "description": "The OCF Interface set supported by this Resource.",
4460                 "items": {
4461                     "enum": [
4462                         "oic.if.a",
4463                         "oic.if.baseline"
4464                     ],
4465                     "type": "string"
4466                 },
4467                 "minItems": 2,
4468                 "uniqueItems": true,
4469                 "readOnly": true,
4470                 "type": "array"
4471             }
4472         },
4473         "type": "object",
4474         "required": ["status"]

```

```

4475     },
4476     "IceMakerUpdate" : {
4477       "properties": {
4478         "status": {
4479           "description": "Set the status of the Ice Maker.",
4480           "enum": [
4481             "on",
4482             "off"
4483           ]
4484         }
4485       },
4486       "type": "object",
4487       "required": ["status"]
4488     }
4489   }
4490 }
4491

```

4492 **6.14.5 Property definition**

4493 Table 31 defines the Properties that are part of the "oic.r.icemaker" Resource Type.

4494 **Table 31 – The Property definitions of the Resource with type "rt" = "oic.r.icemaker".**

Property name	Value type	Mandatory	Access mode	Description
id	multiple types: see schema	No	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.
status	string	Yes	Read Write	The status of the Ice Maker.
status	multiple types: see schema	Yes	Read Write	Set the status of the Ice Maker.

4495 **6.14.6 CRUDN behaviour**

4496 Table 32 defines the CRUDN operations that are supported on the "oic.r.icemaker" Resource Type.

4497 **Table 32 – The CRUDN operations of the Resource with type "rt" = "oic.r.icemaker".**

Create	Read	Update	Delete	Notify
	get	post		observe

4498 **6.15 Lock**

4499 **6.15.1 Introduction**

4500 The Resource describing a lock.
4501 The Property "lockState" is a string. The value 'Locked' indicates that the door is Locked.
4502 The value 'Unlocked' indicates that the door is Unlocked.

4503 **6.15.2 Example URI**

4504 /LockStatusResURI

4505 **6.15.3 Resource type**

4506 The Resource Type is defined as: "oic.r.lock.status".

4507 **6.15.4 OpenAPI 2.0 definition**

```
4508 {  
4509   "swagger": "2.0",  
4510   "info": {  
4511     "title": "Lock",  
4512     "version": "20190215",  
4513     "license": {  
4514       "name": "OCF Data Model License",  
4515       "url":  
4516       "https://github.com/openconnectivityfoundation/core/blob/e28a9e0a92e17042ba3e83661e4c0fbce8bdc4ba/LI  
4517       CENSE.md",  
4518       "x-copyright": "copyright 2016-2017, 2019 Open Connectivity Foundation, Inc. All rights  
4519       reserved."  
4520     },  
4521     "termsOfService": "https://openconnectivityfoundation.github.io/core/DISCLAIMER.md"  
4522   },  
4523   "schemes": ["http"],  
4524   "consumes": ["application/json"],  
4525   "produces": ["application/json"],  
4526   "paths": {  
4527     "/LockStatusResURI" : {  
4528       "get": {  
4529         "description": "The Resource describing a lock.\n\nThe Property \"lockState\" is a string. The  
4530         value 'Locked' indicates that the door is Locked.\n\nThe value 'Unlocked' indicates that the door is  
4531         Unlocked.",  
4532         "parameters": [  
4533           { "$ref": "#/parameters/interface" }  
4534         ],  
4535         "responses": {  
4536           "200": {  
4537             "description": "RETRIEVES the state of the lock.",  
4538             "x-example":  
4539             {  
4540               "rt": ["oic.r.lock.status"],  
4541               "if": ["oic.if.a", "oic.if.baseline"],  
4542               "lockState": "Locked"  
4543             },  
4544             "schema": { "$ref": "#/definitions/Lock" }  
4545           }  
4546         }  
4547       },  
4548       "post": {  
4549         "description": "Sets the current lock state.\n\n",  
4550         "parameters": [  
4551           { "$ref": "#/parameters/interface" },  
4552           {  
4553             "name": "body",  
4554             "in": "body",  
4555             "required": true,  
4556             "schema": { "$ref": "#/definitions/Lock" },  
4557             "x-example":  
4558             {  
4559               "lockState": "Unlocked"  
4560             }  
4561           }  
4562         ]  
4563       }  
4564     }  
4565   }  
4566 }
```



```

4562     ],
4563     "responses": {
4564         "200": {
4565             "description": "",
4566             "x-example":
4567                 {
4568                     "lockState": "Unlocked"
4569                 },
4570             "schema": { "$ref": "#/definitions/Lock" }
4571         },
4572         "403": {
4573             "description": "This response is generated by the OCF Server when the client sends:\n
4574 An UPDATE with an invalid property value for \"lockState\".\nThe server responds with the current
4575 resource representation.\n",
4576             "x-example":
4577                 {
4578                     "lockState": "Unlocked"
4579                 },
4580             "schema": { "$ref": "#/definitions/Lock" }
4581         }
4582     }
4583 },
4584 },
4585 },
4586 "parameters": {
4587     "interface": {
4588         "in": "query",
4589         "name": "if",
4590         "type": "string",
4591         "enum": ["oic.if.a", "oic.if.baseline"]
4592     }
4593 },
4594 "definitions": {
4595     "Lock": {
4596         "properties": {
4597             "rt": {
4598                 "description": "Resource Type",
4599                 "items": {
4600                     "enum": ["oic.r.lock.status"],
4601                     "maxLength": 64,
4602                     "type": "string"
4603                 },
4604                 "minItems": 1,
4605                 "uniqueItems": true,
4606                 "readOnly": true,
4607                 "type": "array"
4608             },
4609             "lockState": {
4610                 "description": "The state of the lock.",
4611                 "enum": [
4612                     "Locked",
4613                     "Unlocked"
4614                 ],
4615                 "type": "string"
4616             },
4617             "n": {
4618                 "$ref":
4619 "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
4620 schema.json#/definitions/n"
4621             },
4622             "id": {
4623                 "$ref":
4624 "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
4625 schema.json#/definitions/id"
4626             },
4627             "if": {
4628                 "description": "The OCF Interface set supported by this Resource.",
4629                 "items": {
4630                     "enum": [
4631                         "oic.if.a",
4632                         "oic.if.baseline"
4633                     ],

```

```

4634         "type": "string"
4635     },
4636     "minItems": 2,
4637     "uniqueItems": true,
4638     "readOnly": true,
4639     "type": "array"
4640 }
4641 },
4642 "type": "object",
4643 "required": ["lockState"]
4644 }
4645 }
4646 }
4647

```

4648 **6.15.5 Property definition**

4649 Table 33 defines the Properties that are part of the "oic.r.lock.status" Resource Type.

4650 **Table 33 – The Property definitions of the Resource with type "rt" = "oic.r.lock.status".**

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

4651 **6.15.6 CRUDN behaviour**

4652 Table 34 defines the CRUDN operations that are supported on the "oic.r.lock.status" Resource Type.
4653

4654 **Table 34 – The CRUDN operations of the Resource with type "rt" = "oic.r.lock.status".**

Create	Read	Update	Delete	Notify
	get	post		observe

4655 **6.16 Lock Code**

4656 **6.16.1 Introduction**

4657 The Resource describing a lock code.
4658 The Property "lockCodeList" is an array of possible codes that may be associated with a lock.
4659 The codes are all presented as strings.

4660 **6.16.2 Example URI**

4661 /LockCodeResURI

4662 **6.16.3 Resource type**

4663 The Resource Type is defined as: "oic.r.lock.code".

4664 **6.16.4 OpenAPI 2.0 definition**

```
4665 {
4666   "swagger": "2.0",
4667   "info": {
4668     "title": "Lock Code",
4669     "version": "20190215",
4670     "license": {
4671       "name": "OCF Data Model License",
4672       "url":
4673 "https://github.com/openconnectivityfoundation/core/blob/e28a9e0a92e17042ba3e83661e4c0fbce8bdc4ba/LI
4674 CENSE.md",
4675       "x-copyright": "copyright 2016-2017, 2019 Open Connectivity Foundation, Inc. All rights
4676 reserved."
4677     },
4678     "termsOfService": "https://openconnectivityfoundation.github.io/core/DISCLAIMER.md"
4679   },
4680   "schemes": ["http"],
4681   "consumes": ["application/json"],
4682   "produces": ["application/json"],
4683   "paths": {
4684     "/LockCodeResURI" : {
4685       "get": {
4686         "description": "The Resource describing a lock code.\n\nThe Property \"lockCodeList\" is an
4687 array of possible codes that may be associated with a lock.\n\nThe codes are all presented as
4688 strings.",
4689         "parameters": [
4690           {"$ref": "#/parameters/interface"}
4691         ],
4692         "responses": {
4693           "200": {
4694             "description": "RETRIEVES the current lock code values.",
4695             "x-example":
4696             {
4697               "rt": ["oic.r.lock.code"],
4698               "if": ["oic.if.a", "oic.if.baseline"],
4699               "lockCodeList": ["012345", "112233"]
4700             },
4701             "schema": { "$ref": "#/definitions/LockCode" }
4702           }
4703         }
4704       },
4705       "post": {
4706         "description": "Updates the current lock code values. e.g. all value in the property
4707 \"lockCodeList\"",
4708         "parameters": [
4709           {"$ref": "#/parameters/interface"},
4710           {
4711             "name": "body",
4712             "in": "body",
4713             "required": true,
4714             "schema": { "$ref": "#/definitions/LockCode" },
4715             "x-example":
4716             {
4717               "lockCodeList": ["543210", "332211"]
4718             }
4719           }
4720         ],
4721         "responses": {
4722           "200": {
4723             "description": "",
4724             "x-example":
4725             {
4726               "lockCodeList": ["543210", "332211"]
```

```

4727         },
4728         "schema": { "$ref": "#/definitions/LockCode" }
4729     }
4730 }
4731 }
4732 }
4733 },
4734 "parameters": {
4735     "interface" : {
4736         "in" : "query",
4737         "name" : "if",
4738         "type" : "string",
4739         "enum" : ["oic.if.a", "oic.if.baseline"]
4740     }
4741 },
4742 "definitions": {
4743     "LockCode" : {
4744         "properties": {
4745             "rt": {
4746                 "description": "The Resource Type.",
4747                 "items": {
4748                     "enum": ["oic.r.lock.code"],
4749                     "maxLength": 64,
4750                     "type": "string"
4751                 },
4752                 "minItems": 1,
4753                 "uniqueItems": true,
4754                 "readOnly": true,
4755                 "type": "array"
4756             },
4757             "lockCodeList": {
4758                 "items": {
4759                     "description": "The value for the lock code.",
4760                     "type": "string"
4761                 },
4762                 "type": "array"
4763             },
4764             "n": {
4765                 "$ref":
4766 "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
4767 schema.json#/definitions/n"
4768             },
4769             "id": {
4770                 "$ref":
4771 "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
4772 schema.json#/definitions/id"
4773             },
4774             "if": {
4775                 "description": "The OCF Interface set supported by this Resource.",
4776                 "items": {
4777                     "enum": [
4778                         "oic.if.a",
4779                         "oic.if.baseline"
4780                     ],
4781                     "type": "string"
4782                 },
4783                 "minItems": 2,
4784                 "uniqueItems": true,
4785                 "readOnly": true,
4786                 "type": "array"
4787             }
4788         },
4789         "type": "object",
4790         "required": ["lockCodeList"]
4791     }
4792 }
4793 }
4794

```

4795 6.16.5 Property definition

4796 Table 35 defines the Properties that are part of the "oic.r.lock.code" Resource Type.

4797

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

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

4798

6.16.6 CRUDN behaviour

4799 Table 36 defines the CRUDN operations that are supported on the "oic.r.lock.code" Resource Type.

4800

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

Create	Read	Update	Delete	Notify
	get	post		observe

4801

6.17 Mode

4802

6.17.1 Introduction

4803 This Resource describes the modes of operation that a Device can provide.
 4804 The mode can be read or set.
 4805 The Property "supportedModes" is an array of possible modes the device supports.
 4806 The Property "modes" is an array of the currently active mode(s).

4807

6.17.2 Example URI

4808

/ModeResURI

4809

6.17.3 Resource type

4810

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

4811

6.17.4 OpenAPI 2.0 definition

```

4812 {
4813   "swagger": "2.0",
4814   "info": {
4815     "title": "Mode",
4816     "version": "20190215",
4817     "license": {
4818       "name": "OCF Data Model License",
4819       "url":
4820       "https://github.com/openconnectivityfoundation/core/blob/e28a9e0a92e17042ba3e83661e4c0fbce8bdc4ba/LI

```

```

4821 CENSE.md",
4822     "x-copyright": "copyright 2016-2017, 2019 Open Connectivity Foundation, Inc. All rights
4823 reserved."
4824 },
4825     "termsOfService": "https://openconnectivityfoundation.github.io/core/DISCLAIMER.md"
4826 },
4827     "schemes": ["http"],
4828     "consumes": ["application/json"],
4829     "produces": ["application/json"],
4830     "paths": {
4831         "/ModeResURI" : {
4832             "get": {
4833                 "description": "This Resource describes the modes of operation that a Device can
4834 provide.\nThe mode can be read or set.\nThe Property \"supportedModes\" is an array of possible
4835 modes the device supports.\nThe Property \"modes\" is an array of the currently active mode(s).",
4836                 "parameters": [
4837                     {"$ref": "#/parameters/interface"}
4838                 ],
4839                 "responses": {
4840                     "200": {
4841                         "description": "RETRIEVES the current mode.",
4842                         "x-example":
4843                             {
4844                                 "rt": ["oic.r.mode"],
4845                                 "if": ["oic.if.a", "oic.if.baseline"],
4846                                 "supportedModes": ["active", "armedAway", "armedStay", "armedInstant"],
4847                                 "modes": ["active"]
4848                             },
4849                         "schema": { "$ref": "#/definitions/Mode" }
4850                     }
4851                 }
4852             },
4853             "post": {
4854                 "description": "Sets the desired mode.",
4855                 "parameters": [
4856                     {"$ref": "#/parameters/interface"},
4857                     {
4858                         "name": "body",
4859                         "in": "body",
4860                         "required": true,
4861                         "schema": { "$ref": "#/definitions/ModeUpdate" },
4862                         "x-example":
4863                             {
4864                                 "modes": ["armedAway"]
4865                             }
4866                     }
4867                 ],
4868                 "responses": {
4869                     "200": {
4870                         "description": "",
4871                         "x-example":
4872                             {
4873                                 "modes": ["armedAway"]
4874                             }
4875                     },
4876                     "schema": { "$ref": "#/definitions/ModeUpdate" }
4877                 },
4878                     "403": {
4879                         "description": "This response is generated by the OCF Server when the client sends:\n
4880 An UPDATE with an value for \"modes\" that is not found in \"supportedModes\".\nThe server responds
4881 with the current resource representation.\n",
4882                         "x-example":
4883                             {
4884                                 "supportedModes": ["active", "armedAway", "armedStay", "armedInstant"],
4885                                 "modes": ["active"]
4886                             },
4887                         "schema": { "$ref": "#/definitions/Mode" }
4888                     }
4889                 }
4890             }
4891         }
4892     },

```

```

4893     "parameters": {
4894       "interface": {
4895         "in": "query",
4896         "name": "if",
4897         "type": "string",
4898         "enum": ["oic.if.a", "oic.if.baseline"]
4899       }
4900     },
4901     "definitions": {
4902       "Mode" : {
4903         "properties": {
4904           "rt": {
4905             "description": "The Resource Type.",
4906             "items": {
4907               "enum": ["oic.r.mode"],
4908               "maxLength": 64,
4909               "type": "string"
4910             },
4911             "minItems": 1,
4912             "uniqueItems": true,
4913             "readOnly": true,
4914             "type": "array"
4915           },
4916           "modes": {
4917             "description": "The array of the currently active mode(s).",
4918             "items": {
4919               "type": "string"
4920             },
4921             "type": "array"
4922           },
4923           "supportedModes": {
4924             "description": "The array of possible modes the device supports.",
4925             "items": {
4926               "type": "string"
4927             },
4928             "readOnly": true,
4929             "type": "array"
4930           },
4931           "n": {
4932             "$ref":
4933             "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
4934             schema.json#/definitions/n"
4935           },
4936           "id": {
4937             "$ref":
4938             "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
4939             schema.json#/definitions/id"
4940           },
4941           "if": {
4942             "description": "The OCF Interface set supported by this Resource.",
4943             "items": {
4944               "enum": [
4945                 "oic.if.a",
4946                 "oic.if.baseline"
4947               ],
4948               "type": "string"
4949             },
4950             "minItems": 2,
4951             "uniqueItems": true,
4952             "readOnly": true,
4953             "type": "array"
4954           }
4955         },
4956         "type": "object",
4957         "required": ["supportedModes", "modes"]
4958       },
4959       "ModeUpdate" : {
4960         "properties": {
4961           "modes": {
4962             "description": "Desired mode",
4963             "items": {
4964               "type": "string"

```

```

4965     },
4966     "type": "array"
4967   },
4968 },
4969 "type": "object",
4970 "required": ["modes"]
4971 }
4972 }
4973 }
4974

```

4975 **6.17.5 Property definition**

4976 Table 37 defines the Properties that are part of the "oic.r.mode" Resource Type.

4977 **Table 37 – The Property definitions of the Resource with type "rt" = "oic.r.mode".**

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

4978 **6.17.6 CRUDN behaviour**

4979 Table 38 defines the CRUDN operations that are supported on the "oic.r.mode" Resource Type.

4980 **Table 38 – The CRUDN operations of the Resource with type "rt" = "oic.r.mode".**

Create	Read	Update	Delete	Notify
	get	post		observe

4981 6.18 Open Level

4982 6.18.1 Introduction

4983 This Resource describes how open or ajar an entity such as a window, door, blind or shutter is.
4984 The Property "openLevel" can be read (acting as a sensor).
4985 The "openLevel" can also be set (acting as an actuator).
4986 The "openLevel" is device dependent across the range provided.
4987 When the Property "range" is omitted then 0 to 100 is assumed where 0 means closed, 100 means
4988 fully open.
4989 If a "range" is provided then the lower bound=closed, upper bound=open.
4990 If Property "step" is present then it represents the increment between possible values; if not
4991 provided 1 is assumed.

4992 6.18.2 Example URI

4993 /OpenLevelResURI

4994 6.18.3 Resource type

4995 The Resource Type is defined as: "oic.r.openlevel".

4996 6.18.4 OpenAPI 2.0 definition

```
4997 {
4998   "swagger": "2.0",
4999   "info": {
5000     "title": "Open Level",
5001     "version": "20190215",
5002     "license": {
5003       "name": "OCF Data Model License",
5004       "url":
5005         "https://github.com/openconnectivityfoundation/core/blob/e28a9e0a92e17042ba3e83661e4c0fbce8bdc4ba/LI
5006         CENSE.md",
5007       "x-copyright": "copyright 2016-2017, 2019 Open Connectivity Foundation, Inc. All rights
5008         reserved."
5009     },
5010     "termsOfService": "https://openconnectivityfoundation.github.io/core/DISCLAIMER.md"
5011   },
5012   "schemes": ["http"],
5013   "consumes": ["application/json"],
5014   "produces": ["application/json"],
5015   "paths": {
5016     "/OpenLevelResURI" : {
5017       "get": {
5018         "description": "This Resource describes how open or ajar an entity such as a window, door,
5019         blind or shutter is.\n\nThe Property \"openLevel\" can be read (acting as a sensor).\n\nThe
5020         \"openLevel\" can also be set (acting as an actuator).\n\nThe \"openLevel\" is device dependent across
5021         the range provided.\n\nWhen the Property \"range\" is omitted then 0 to 100 is assumed where 0 means
5022         closed, 100 means fully open.\n\nIf a \"range\" is provided then the lower bound=closed, upper
5023         bound=open.\n\nIf Property \"step\" is present then it represents the increment between possible
5024         values; if not provided 1 is assumed.",
5025         "parameters": [
5026           { "$ref": "#/parameters/interface" }
5027         ],
5028         "responses": {
5029           "200": {
5030             "description": "RETRIEVES the current openLevel.",
5031             "x-example":
5032               {
5033                 "rt": ["oic.r.openlevel"],
5034                 "if": ["oic.if.a", "oic.if.baseline"],
5035                 "openLevel": 50,
5036                 "step": 2,
5037                 "range": [0, 100]
5038               },
5039             "schema": { "$ref": "#/definitions/OpenLevel" }
5040           }
5041         }
5042       }
5043     }
5044   }
5045 }
```

```

5043     "post": {
5044         "description": "Sets the desired openLevel.",
5045         "parameters": [
5046             { "$ref": "#/parameters/interface" },
5047             {
5048                 "name": "body",
5049                 "in": "body",
5050                 "required": true,
5051                 "schema": { "$ref": "#/definitions/OpenLevel" },
5052                 "x-example":
5053                     {
5054                         "openLevel": 0
5055                     }
5056             }
5057         ],
5058         "responses": {
5059             "200": {
5060                 "description": "",
5061                 "x-example":
5062                     {
5063                         "openLevel": 0
5064                     },
5065                 "schema": { "$ref": "#/definitions/OpenLevel" }
5066             },
5067             "403": {
5068                 "description": "This response is generated by the OCF Server when the client sends:\n
5069 An UPDATE with an out of range property value for \"openLevel\".\n
5070 The OCF Server responds with the
5071 current resource representation.\n",
5072                 "x-example":
5073                     {
5074                         "openLevel": 50,
5075                         "step": 2,
5076                         "range": [0, 100]
5077                     },
5078                 "schema": { "$ref": "#/definitions/OpenLevel" }
5079             }
5080         }
5081     },
5082     "parameters": {
5083         "interface": {
5084             "in": "query",
5085             "name": "if",
5086             "type": "string",
5087             "enum": ["oic.if.a", "oic.if.baseline"]
5088         }
5089     },
5090     "definitions": {
5091         "OpenLevel": {
5092             "properties": {
5093                 "rt": {
5094                     "description": "The Resource Type.",
5095                     "items": {
5096                         "maxLength": 64,
5097                         "type": "string",
5098                         "enum": ["oic.r.openlevel"]
5099                     },
5100                     "minItems": 1,
5101                     "uniqueItems": true,
5102                     "readOnly": true,
5103                     "type": "array"
5104                 },
5105                 "openLevel": {
5106                     "description": "How open or ajar the entity is.",
5107                     "type": "integer"
5108                 },
5109                 "n": {
5110                     "$ref":
5111                         "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
5112 schema.json#/definitions/n"
5113                 }
5114             }

```

```

5115         "id": {
5116             "$ref":
5117 "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
5118 schema.json#/definitions/id"
5119         },
5120         "range": {
5121             "$ref":
5122 "https://openconnectivityfoundation.github.io/IoTDataModels/schemas/oic.baseresource.properties-
5123 schema.json#/definitions/range_integer"
5124         },
5125         "step": {
5126             "$ref":
5127 "https://openconnectivityfoundation.github.io/IoTDataModels/schemas/oic.baseresource.properties-
5128 schema.json#/definitions/step_integer"
5129         },
5130         "if": {
5131             "description": "The OCF Interface set supported by this Resource.",
5132             "items": {
5133                 "enum": [
5134                     "oic.if.a",
5135                     "oic.if.baseline"
5136                 ],
5137                 "type": "string"
5138             },
5139             "minItems": 2,
5140             "uniqueItems": true,
5141             "readOnly": true,
5142             "type": "array"
5143         }
5144     },
5145     "type": "object",
5146     "required": ["openLevel"]
5147 }
5148 }
5149 }
5150

```

6.18.5 Property definition

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

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.
if	array: see schema	No	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	
openLevel	integer	Yes	Read Write	How open or ajar the entity is.

step	multiple types: see schema	No	Read Write	
range	multiple types: see schema	No	Read Write	

5154 **6.18.6 CRUDN behaviour**

5155 Table 40 defines the CRUDN operations that are supported on the "oic.r.openlevel" Resource Type.

5156 **Table 40 – The CRUDN operations of the Resource with type "rt" = "oic.r.openlevel".**

Create	Read	Update	Delete	Notify
	get	post		observe

5157 **6.19 Operational State**

5158 **6.19.1 Introduction**

5159 This Resource describes the operational and job states on a device.
5160 The states can be read or set, setting indicates a desired state.
5161 A device may reject an attempt to set a state that would result
5162 in adverse operational characteristics.
5163 The Property "machineStates" is an array of the possible operational states.
5164 The Property "currentMachineState" is the current state of operation of the device.
5165 The Property "jobStates" is an array of the possible job states.
5166 The Property "currentJobState" is the currently active jobState.
5167 The Property "runningTime" is the ISO8601 encoded elapsed time in the current operational state.
5168 The Property "remainingTime" is the ISO8601 encoded time till completion of the current
5169 operational state.
5170 The Property "progressPercentage" is the percentage completeness of the current jobState.

5171 **6.19.2 Example URI**

5172 /OperationalStateResURI

5173 **6.19.3 Resource type**

5174 The Resource Type is defined as: "oic.r.operational.state".

5175 **6.19.4 OpenAPI 2.0 definition**

```

5176 {
5177   "swagger": "2.0",
5178   "info": {
5179     "title": "Operational State",
5180     "version": "20190215",
5181     "license": {
5182       "name": "OCF Data Model License",
5183       "url":
5184         "https://github.com/openconnectivityfoundation/core/blob/e28a9e0a92e17042ba3e83661e4c0fbce8bdc4ba/LI
5185         CENSE.md",
5186       "x-copyright": "copyright 2016-2017, 2019 Open Connectivity Foundation, Inc. All rights
5187         reserved."
5188     },
5189     "termsOfService": "https://openconnectivityfoundation.github.io/core/DISCLAIMER.md"
5190   },
5191   "schemes": ["http"],
5192   "consumes": ["application/json"],
5193   "produces": ["application/json"],
5194   "paths": {
5195     "/OperationalStateResURI": {

```

```

5196     "get": {
5197         "description": "This Resource describes the operational and job states on a device.\nThe
5198 states can be read or set, setting indicates a desired state.\nA device may reject an attempt to set
5199 a state that would result\nin adverse operational characteristics.\n\nThe Property \"machineStates\"
5200 is an array of the possible operational states.\n\nThe Property \"currentMachineState\" is the current
5201 state of operation of the device.\n\nThe Property \"jobStates\" is an array of the possible job
5202 states.\n\nThe Property \"currentJobState\" is the currently active jobState.\n\nThe Property
5203 \"runningTime\" is the ISO8601 encoded elapsed time in the current operational state.\n\nThe Property
5204 \"remainingTime\" is the ISO8601 encoded time till completion of the current operational state.\n\nThe
5205 Property \"progressPercentage\" is the percentage completeness of the current jobState.",
5206         "parameters": [
5207             { "$ref": "#/parameters/interface" }
5208         ],
5209         "responses": {
5210             "200": {
5211                 "description" : "RETRIEVES the current operational and job states.",
5212                 "x-example": {
5213                     "rt": ["oic.r.operational.state"],
5214                     "if": ["oic.if.a", "oic.if.baseline"],
5215                     "machineStates": ["pause", "stopped", "idle", "active"],
5216                     "currentMachineState": "active",
5217                     "jobStates": ["preWash", "wash", "rinse", "spin", "dry", "airDry", "wrinklePrevent"],
5218                     "currentJobState": "rinse",
5219                     "runningTime": "PT15M20S",
5220                     "remainingTime": "PT10M40S",
5221                     "progressPercentage": 75
5222                 },
5223                 "schema": { "$ref": "#/definitions/Operation" }
5224             }
5225         },
5226     },
5227     "post": {
5228         "description": "Sets the desired operational or job state.",
5229         "parameters": [
5230             { "$ref": "#/parameters/interface" },
5231             {
5232                 "name": "body",
5233                 "in": "body",
5234                 "required": true,
5235                 "schema": { "$ref": "#/definitions/OperationUpdate" },
5236                 "x-example": {
5237                     "currentMachineState": "pause",
5238                     "currentJobState": "wash"
5239                 }
5240             }
5241         ],
5242         "responses": {
5243             "200": {
5244                 "description" : "",
5245                 "x-example": {
5246                     "currentMachineState": "pause",
5247                     "currentJobState": "wash"
5248                 },
5249                 "schema": { "$ref": "#/definitions/OperationUpdate" }
5250             },
5251             "403": {
5252                 "description" : "This response is generated by the OCF Server when the client sends:\n
5253 An UPDATE with an value for \"currentMachineState\" that is not found in \"machineStates\".\n\n An
5254 UPDATE with an value for \"currentJobState\" that is not found in \"jobStates\".\n\nThe OCF Server
5255 responds with the current resource representation.\n",
5256                 "x-example": {
5257                     "machineStates": ["pause", "stopped", "idle", "active"],
5258                     "currentMachineState": "active",
5259                     "jobStates": ["preWash", "wash", "rinse", "spin", "dry", "airDry", "wrinklePrevent"],
5260                     "currentJobState": "rinse",
5261                     "runningTime": "PT15M20S",
5262                     "remainingTime": "PT10M40S",
5263                     "progressPercentage": 75
5264                 },
5265                 "schema": { "$ref": "#/definitions/Operation" }
5266             }
5267         }
5268     }

```

```

5268     }
5269   }
5270 },
5271 "parameters": {
5272   "interface": {
5273     "in": "query",
5274     "name": "if",
5275     "type": "string",
5276     "enum": ["oic.if.a", "oic.if.baseline"]
5277   }
5278 },
5279 "definitions": {
5280   "Operation" : {
5281     "properties": {
5282       "rt": {
5283         "description": "The Resource Type.",
5284         "items": {
5285           "enum": ["oic.r.operational.state"],
5286           "maxLength": 64,
5287           "type": "string"
5288         },
5289         "minItems": 1,
5290         "uniqueItems": true,
5291         "readOnly": true,
5292         "type": "array"
5293       },
5294       "currentMachineState": {
5295         "description": "The current state of operation of the device.",
5296         "type": "string"
5297       },
5298       "currentJobState": {
5299         "description": "The currently active jobState.",
5300         "type": "string"
5301       },
5302       "machineStates": {
5303         "description": "The array of the possible operational states.",
5304         "items": {
5305           "type": "string"
5306         },
5307         "readOnly": true,
5308         "type": "array"
5309       },
5310       "runningTime": {
5311         "$ref": "https://openconnectivityfoundation.github.io/core/schemas/oic.types-
5312 schema.json#/definitions/duration"
5313       },
5314       "remainingTime": {
5315         "$ref": "https://openconnectivityfoundation.github.io/core/schemas/oic.types-
5316 schema.json#/definitions/duration"
5317       },
5318       "progressPercentage": {
5319         "description": "The percentage completeness of the current jobState.",
5320         "maximum": 100,
5321         "minimum": 0,
5322         "readOnly": true,
5323         "type": "integer"
5324       },
5325       "jobStates": {
5326         "description": "The Array of the possible job states.",
5327         "items": {
5328           "type": "string"
5329         },
5330         "readOnly": true,
5331         "type": "array"
5332       },
5333       "n": {
5334         "$ref":
5335 "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
5336 schema.json#/definitions/n"
5337       },
5338       "id": {
5339         "$ref":

```

```

5340 "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
5341 schema.json#/definitions/id"
5342 },
5343   "if": {
5344     "description": "The OCF Interface set supported by this Resource.",
5345     "items": {
5346       "enum": [
5347         "oic.if.a",
5348         "oic.if.baseline"
5349       ],
5350       "type": "string"
5351     },
5352     "minItems": 2,
5353     "uniqueItems": true,
5354     "readOnly": true,
5355     "type": "array"
5356   }
5357 },
5358 "type": "object",
5359 "required": ["machineStates", "currentMachineState"]
5360 },
5361 "OperationUpdate" : {
5362   "properties": {
5363     "currentMachineState": {
5364       "description": "The current state of operation of the device.",
5365       "type": "string"
5366     },
5367     "currentJobState": {
5368       "description": "The currently active jobState.",
5369       "type": "string"
5370     }
5371   },
5372   "type": "object"
5373 }
5374 }
5375 }
5376

```

5377 6.19.5 Property definition

5378 Table 41 defines the Properties that are part of the "oic.r.operational.state" Resource Type.

5379 **Table 41 – The Property definitions of the Resource with type "rt" =**
5380 **"oic.r.operational.state".**

Property name	Value type	Mandatory	Access mode	Description
currentMachineState	string	Yes	Read Write	The current state of operation of the device.
machineStates	array: see schema	Yes	Read Only	The array of the possible operational states.
n	multiple types: see schema	No	Read Write	
jobStates	array: see schema	No	Read Only	The Array of the possible job states.

progressPercentage	integer	No	Read Only	The percentage completeness of the current jobState.
currentJobState	string	No	Read Write	The currently active jobState.
id	multiple types: see schema	No	Read Write	
runningTime	multiple types: see schema	No	Read Write	
if	array: see schema	No	Read Only	The OCF Interface set supported by this Resource.
remainingTime	multiple types: see schema	No	Read Write	
rt	array: see schema	No	Read Only	The Resource Type.
currentMachineState	string		Read Write	The current state of operation of the device.
currentJobState	string		Read Write	The currently active jobState.

5381 **6.19.6 CRUDN behaviour**

5382 Table 42 defines the CRUDN operations that are supported on the "oic.r.operational.state"
5383 Resource Type.

5384 **Table 42 – The CRUDN operations of the Resource with type "rt" = "oic.r.operational.state".**

Create	Read	Update	Delete	Notify
	get	post		observe

5385 **6.20 Ramp Time**

5386 **6.20.1 Introduction**

5387 This Resource that describes the ramp time of a dimming function.
5388 It specifies the actual speed of changing between 2 dimming values.
5389 The Property "ramptime" is specified in milliseconds [ms].
5390 When range is omitted the maximum value is 100 ms.
5391 The ramp time of 0ms indicates the minimal delay possible by the implementation.

5392 **6.20.2 Example URI**

5393 /RampTimeResURI

5394 **6.20.3 Resource type**

5395 The Resource Type is defined as: "oic.r.light.ramptime".

5396 **6.20.4 OpenAPI 2.0 definition**

```
5397 {
5398   "swagger": "2.0",
5399   "info": {
5400     "title": "Ramp Time",
5401     "version": "20190215",
5402     "license": {
5403       "name": "OCF Data Model License",
5404       "url":
5405         "https://github.com/openconnectivityfoundation/core/blob/e28a9e0a92e17042ba3e83661e4c0fbce8bdc4ba/LI
5406         CENSE.md",
5407       "x-copyright": "copyright 2016-2017, 2019 Open Connectivity Foundation, Inc. All rights
5408 reserved."
5409     },
5410     "termsOfService": "https://openconnectivityfoundation.github.io/core/DISCLAIMER.md"
5411   },
5412   "schemes": ["http"],
5413   "consumes": ["application/json"],
5414   "produces": ["application/json"],
5415   "paths": {
5416     "/RampTimeResURI" : {
5417       "get": {
5418         "description": "This Resource that describes the ramp time of a dimming function.\nIt
5419 specifies the actual speed of changing between 2 dimming values.\nThe Property \"ramptime\" is
5420 specified in milliseconds [ms].\nWhen range is omitted the maximum value is 100 ms.\nThe ramp time
5421 of 0ms indicates the minimal delay possible by the implementation.",
5422         "parameters": [
5423           { "$ref": "#/parameters/interface" }
5424         ],
5425         "responses": {
5426           "200": {
5427             "description": "RETRIEVES the current RampTime.",
5428             "x-example":
5429               {
5430                 "rt": ["oic.r.light.ramptime"],
5431                 "if": ["oic.if.a", "oic.if.baseline"],
5432                 "rampTime": 40,
5433                 "range": [0, 100]
5434               },
5435             "schema": { "$ref": "#/definitions/RampTime" }
5436           }
5437         }
5438       },
5439       "post": {
5440         "description": "Sets the current RampTime.\n",
5441         "parameters": [
5442           { "$ref": "#/parameters/interface" },
5443           {
5444             "name": "body",
5445             "in": "body",
5446             "required": true,
5447             "schema": { "$ref": "#/definitions/RampTime" },
5448             "x-example":
5449               {
5450                 "rampTime": 50
5451               }
5452           }
5453         ],
5454         "responses": {
5455           "200": {
5456             "description": "This response is generated by the OCF Server when the client sends an
5457 UPDATE with an in range Property value for \"ramptime\". The OCF Server responds with the current
5458 resource representation.",
```

```

5459         "x-example":
5460             {
5461                 "rampTime": 50,
5462                 "range": [0, 100]
5463             },
5464         "schema": { "$ref": "#/definitions/RampTime" }
5465     },
5466     "403": {
5467         "description": "Error response. This response is generated by the OCF Server when the
5468 client sends an UPDATE with an out of range Property value for \"rampTime\".",
5469         "x-example":
5470             {
5471                 "rampTime": 40,
5472                 "range": [0, 100]
5473             },
5474         "schema": { "$ref": "#/definitions/RampTime" }
5475     }
5476 }
5477 }
5478 }
5479 },
5480 "parameters": {
5481     "interface": {
5482         "in": "query",
5483         "name": "if",
5484         "type": "string",
5485         "enum": ["oic.if.a", "oic.if.baseline"]
5486     }
5487 },
5488 "definitions": {
5489     "RampTime": {
5490         "properties": {
5491             "rt": {
5492                 "description": "The Resource Type.",
5493                 "items": {
5494                     "enum": ["oic.r.light.ramptime"],
5495                     "maxLength": 64,
5496                     "type": "string"
5497                 },
5498                 "minItems": 1,
5499                 "uniqueItems": true,
5500                 "readOnly": true,
5501                 "type": "array"
5502             },
5503             "rampTime": {
5504                 {
5505                     "description": "The actual speed of changing between 2 dimming values.",
5506                     "type": "integer"
5507                 },
5508             "n": {
5509                 "$ref":
5510 "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
5511 schema.json#/definitions/n"
5512             },
5513             "id": {
5514                 "$ref":
5515 "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
5516 schema.json#/definitions/id"
5517             },
5518             "range": {
5519                 "$ref":
5520 "https://openconnectivityfoundation.github.io/IoTDataModels/schemas/oic.baseresource.properties-
5521 schema.json#/definitions/range_integer"
5522             },
5523             "step": {
5524                 "$ref":
5525 "https://openconnectivityfoundation.github.io/IoTDataModels/schemas/oic.baseresource.properties-
5526 schema.json#/definitions/step_integer"
5527             },
5528             "precision": {
5529                 "$ref":
5530 "https://openconnectivityfoundation.github.io/IoTDataModels/schemas/oic.baseresource.properties-

```

```

5531 schema.json#/definitions/precision"
5532     },
5533     "if": {
5534         "description": "The OCF Interface set supported by this Resource.",
5535         "items": {
5536             "enum": [
5537                 "oic.if.a",
5538                 "oic.if.baseline"
5539             ],
5540             "type": "string"
5541         },
5542         "minItems": 2,
5543         "uniqueItems": true,
5544         "readOnly": true,
5545         "type": "array"
5546     }
5547 },
5548 "type": "object",
5549 "required": ["rampTime"]
5550 }
5551 }
5552 }
5553

```

5554 6.20.5 Property definition

5555 Table 43 defines the Properties that are part of the "oic.r.light.ramptime" Resource Type.

5556 **Table 43 – The Property definitions of the Resource with type "rt" = "oic.r.light.ramptime".**

Property name	Value type	Mandatory	Access mode	Description
n	multiple types: see schema	No	Read Write	
rt	array: see schema	No	Read Only	The Resource Type.
rampTime	integer	Yes	Read Write	The actual speed of changing between 2 dimming values.
precision	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	

5557 **6.20.6 CRUDN behaviour**

5558 Table 44 defines the CRUDN operations that are supported on the "oic.r.light.ramptime" Resource
5559 Type.

5560 **Table 44 – The CRUDN operations of the Resource with type "rt" = "oic.r.light.ramptime".**

Create	Read	Update	Delete	Notify
	get	post		observe

5561 **6.21 Refrigeration**

5562 **6.21.1 Introduction**

5563 This Resource describes a refrigeration function.
5564 The Property "filter" is a read-only value providing the percentage life time remaining for the water
5565 filter.

5566 The Property "rapidFreeze" is a boolean that controls the rapid freeze capability if present.
5567 The Property "rapidCool" is a boolean that controls the rapid cool capability if present.
5568 The Property "defrost" is a boolean that controls the defrost cycle if present.
5569 At least one of the listed Properties shall be present in a Resource Instance.

5570 **6.21.2 Example URI**

5571 /RefrigerationResURI

5572 **6.21.3 Resource type**

5573 The Resource Type is defined as: "oic.r.refrigeration".

5574 **6.21.4 OpenAPI 2.0 definition**

```
5575 {
5576   "swagger": "2.0",
5577   "info": {
5578     "title": "Refrigeration",
5579     "version": "20190215",
5580     "license": {
5581       "name": "OCF Data Model License",
5582       "url":
5583 "https://github.com/openconnectivityfoundation/core/blob/e28a9e0a92e17042ba3e83661e4c0fbce8bdc4ba/LI
5584 CENSE.md",
5585     "x-copyright": "copyright 2016-2017, 2019 Open Connectivity Foundation, Inc. All rights
5586 reserved.",
5587   },
5588   "termsOfService": "https://openconnectivityfoundation.github.io/core/DISCLAIMER.md"
5589 },
5590   "schemes": ["http"],
5591   "consumes": ["application/json"],
5592   "produces": ["application/json"],
5593   "paths": {
5594     "/RefrigerationResURI" : {
5595       "get": {
5596         "description": "This Resource describes a refrigeration function.\nThe Property \"filter\"
5597 is a read-only value providing the percentage life time remaining for the water filter.\nThe
5598 Property \"rapidFreeze\" is a boolean that controls the rapid freeze capability if present.\nThe
5599 Property \"rapidCool\" is a boolean that controls the rapid cool capability if present.\nThe
5600 Property \"defrost\" is a boolean that controls the defrost cycle if present.\nAt least one of the
5601 listed Properties shall be present in a Resource Instance.",
5602         "parameters": [
5603           {"$ref": "#/parameters/interface"}
5604         ],
5605         "responses": {
5606           "200": {
5607             "description": "Retrieves the current Refrigeration function status; all Properties
5608 supported by the Device are returned.",

```

```

5609         "x-example":
5610             {
5611                 "rt": ["oic.r.refrigeration"],
5612                 "if": ["oic.if.a", "oic.if.baseline"],
5613                 "filter": 75,
5614                 "rapidFreeze": false,
5615                 "rapidCool": false,
5616                 "defrost": true
5617             },
5618         "schema": { "$ref": "#/definitions/Refrigeration" }
5619     }
5620 }
5621 },
5622 "post": {
5623     "description": "Activates the desired Refrigeration functions.\nSuported values are
5624 \\"rapidFreeze\\", \\"rapidCool\\" and \\"defrost\\".\nAt least on of the supported values shall be
5625 provided.\n",
5626     "parameters": [
5627         { "$ref": "#/parameters/interface" },
5628         {
5629             "name": "body",
5630             "in": "body",
5631             "required": true,
5632             "schema": { "$ref": "#/definitions/RefrigerationUpdate" },
5633             "x-example":
5634                 {
5635                     "rapidFreeze": true
5636                 }
5637         }
5638     ],
5639     "responses": {
5640         "200": {
5641             "description": "Indicates that the Refrigeration function was changed.\nThe new
5642 status can be provided in the response.\n",
5643             "x-example":
5644                 {
5645                     "rapidFreeze": true
5646                 },
5647             "schema": { "$ref": "#/definitions/RefrigerationUpdate" }
5648         }
5649     }
5650 }
5651 },
5652 "parameters": {
5653     "interface": {
5654         "in": "query",
5655         "name": "if",
5656         "type": "string",
5657         "enum": ["oic.if.a", "oic.if.baseline"]
5658     }
5659 },
5660 "definitions": {
5661     "Refrigeration": {
5662         "properties": {
5663             "rt": {
5664                 "description": "The Resource Type.",
5665                 "items": {
5666                     "enum": ["oic.r.refrigeration"],
5667                     "maxLength": 64,
5668                     "type": "string"
5669                 },
5670             },
5671             "minItems": 1,
5672             "uniqueItems": true,
5673             "readOnly": true,
5674             "type": "array"
5675         },
5676         "rapidFreeze": {
5677             "description": "Indicates whether the unit has a rapid freeze capability active.",
5678             "type": "boolean"
5679         },
5680         "defrost": {

```

```

5681         "description": "Indicates whether a defrost cycle is currently active.",
5682         "type": "boolean"
5683     },
5684     "filter": {
5685         "description": "Percentage life time remaining for the water filter.",
5686         "maximum": 100,
5687         "minimum": 0,
5688         "readOnly": true,
5689         "type": "integer"
5690     },
5691     "rapidCool": {
5692         "description": "Indicates whether the unit has a rapid cool capability active.",
5693         "type": "boolean"
5694     },
5695     "n": {
5696         "$ref":
5697         "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
5698         schema.json#/definitions/n"
5699     },
5700     "id": {
5701         "$ref":
5702         "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
5703         schema.json#/definitions/id"
5704     },
5705     "if": {
5706         "description": "The OCF Interface set supported by this Resource.",
5707         "items": {
5708             "enum": [
5709                 "oic.if.a",
5710                 "oic.if.baseline"
5711             ],
5712             "type": "string"
5713         },
5714         "minItems": 2,
5715         "readOnly": true,
5716         "type": "array"
5717     }
5718 },
5719 "anyOf": [
5720     {
5721         "required": ["filter"]
5722     },
5723     {
5724         "required": ["rapidFreeze"]
5725     },
5726     {
5727         "required": ["rapidCool"]
5728     },
5729     {
5730         "required": ["defrost"]
5731     }
5732 ],
5733 "type": "object"
5734 },
5735 "RefrigerationUpdate": {
5736     "properties": {
5737         "rapidFreeze": {
5738             "description": "Indicates whether the unit has a rapid freeze capability active.",
5739             "type": "boolean"
5740         },
5741         "defrost": {
5742             "description": "Indicates whether a defrost cycle is currently active.",
5743             "type": "boolean"
5744         },
5745         "rapidCool": {
5746             "description": "Indicates whether the unit has a rapid cool capability active.",
5747             "type": "boolean"
5748         }
5749     },
5750     "anyOf": [
5751         {
5752             "required": ["rapidFreeze"]

```

```

5753         },
5754         {
5755           "required": ["rapidCool"]
5756         },
5757         {
5758           "required": ["defrost"]
5759         }
5760       ],
5761       "type": "object"
5762     }
5763   }
5764 }
5765

```

5766 **6.21.5 Property definition**

5767 Table 45 defines the Properties that are part of the "oic.r.refrigeration" Resource Type.

5768 **Table 45 – The Property definitions of the Resource with type "rt" = "oic.r.refrigeration".**

Property name	Value type	Mandatory	Access mode	Description
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.
rapidFreeze	boolean	No	Read Write	Indicates whether the unit has a rapid freeze capability active.
rapidCool	boolean	No	Read Write	Indicates whether the unit has a rapid cool capability active.
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.

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.
filter	integer	No	Read Only	Percentage life time remaining for the water filter.

5769 **6.21.6 CRUDN behaviour**

5770 Table 46 defines the CRUDN operations that are supported on the "oic.r.refrigeration" Resource
5771 Type.

5772 **Table 46 – The CRUDN operations of the Resource with type "rt" = "oic.r.refrigeration".**

Create	Read	Update	Delete	Notify
	get	post		observe

5773 **6.22 Temperature**

5774 **6.22.1 Introduction**

5775 This Resource describes a sensed or actuated Temperature value.
5776 The Property "temperature" describes the current value measured.
5777 The Property "units" is a single value that is one of "C", "F" or "K".
5778 It provides the unit of measurement for the "temperature" value.
5779 It is a read-only value that is provided by the server.
5780 If the "units" Property is missing the default is Celsius [C].
5781 When the Property "range" is omitted the default is +/- MAXINT.
5782 A client can specify the units for the requested temperature by use of a query parameter.
5783 If no query parameter is provided the server provides its default measure or set value.
5784 It is recommended to return always the units Property in the result.

5785 **6.22.2 Example URI**

5786 /TemperatureResURI

5787 **6.22.3 Resource type**

5788 The Resource Type is defined as: "oic.r.temperature".

5789 **6.22.4 OpenAPI 2.0 definition**

```
5790 {
5791   "swagger": "2.0",
5792   "info": {
5793     "title": "Temperature",
5794     "version": "20190215",
5795     "license": {
5796       "name": "OCF Data Model License",
5797       "url":
```



```

5798 "https://github.com/openconnectivityfoundation/core/blob/e28a9e0a92e17042ba3e83661e4c0fbce8bdc4ba/LI
5799 CENSE.md",
5800 "x-copyright": "copyright 2016-2017, 2019 Open Connectivity Foundation, Inc. All rights
5801 reserved."
5802 },
5803 "termsOfService": "https://openconnectivityfoundation.github.io/core/DISCLAIMER.md"
5804 },
5805 "schemes": ["http"],
5806 "consumes": ["application/json"],
5807 "produces": ["application/json"],
5808 "paths": {
5809   "/TemperatureResURI" : {
5810     "get": {
5811       "description": "This Resource describes a sensed or actuated Temperature value.\nThe
5812 Property \"temperature\" describes the current value measured.\nThe Property \"units\" is a single
5813 value that is one of \"C\", \"F\" or \"K\".\nIt provides the unit of measurement for the
5814 \"temperature\" value.\nIt is a read-only value that is provided by the server.\nIf the \"units\"
5815 Property is missing the default is Celsius [C].\nWhen the Property \"range\" is omitted the default
5816 is +/- MAXINT.\nA client can specify the units for the requested temperature by use of a query
5817 parameter.\nIf no query parameter is provided the server provides its default measure or set
5818 value.\nIt is recommended to return always the units Property in the result.",
5819       "parameters": [
5820         {"$ref": "#/parameters/interface"},
5821         {"$ref": "#/parameters/unit"}
5822       ],
5823       "responses": {
5824         "200": {
5825           "description": "Retrieves the current temperature value.",
5826           "x-example":
5827             {
5828               "rt": ["oic.r.temperature"],
5829               "if": [ "oic.if.a", "oic.if.baseline"],
5830               "temperature": 20.0,
5831               "units": "C"
5832             }
5833         },
5834         "schema": { "$ref": "#/definitions/Temperature" }
5835       },
5836       "403": {
5837         "description": "This response is generated by the OCF Server when the client sends:\n
5838 A RETRIEVE with queryParameter indicating a unit that the server does not support.\nThe server
5839 responds with the current resource representation including the\n\"units\" property illustrating the
5840 supported units and the error.",
5841         "x-example":
5842           {
5843             "temperature": 20.0,
5844             "units": "C"
5845           },
5846         "schema": { "$ref": "#/definitions/Temperature" }
5847       }
5848     },
5849   },
5850   "post": {
5851     "description": "Sets the desired temperature value.\nIf a \"unit\" is included and the
5852 server may not support the unit indicated the request will fail.\nIf the units are omitted value is
5853 taken to be in C.",
5854     "parameters": [
5855       {"$ref": "#/parameters/interface"},
5856       {
5857         "name": "body",
5858         "in": "body",
5859         "required": true,
5860         "schema": { "$ref": "#/definitions/Temperature" },
5861         "x-example":
5862           {
5863             "temperature": 18.0,
5864             "units": "F"
5865           }
5866       }
5867     ],
5868     "responses": {
5869       "200": {

```

```

5870         "description" : "",
5871         "x-example":
5872         {
5873             "temperature": 18.0,
5874             "units": "F"
5875         }
5876     },
5877     "schema": { "$ref": "#/definitions/Temperature" }
5878 },
5879 "403": {
5880     "description": "This response is generated by the OCF Server when the client sends:\n
5881 An UPDATE with an out of range property value for temperature.\n An UPDATE with an unsupported unit
5882 for this server.\nThe OCF Server responds with the current resource representation including\nthe
5883 \"range\" property illustrating the supported range and the error.",
5884     "x-example":
5885     {
5886         "temperature": 20.0,
5887         "units": "C"
5888     }
5889 },
5890     "schema": { "$ref": "#/definitions/Temperature" }
5891 }
5892 }
5893 }
5894 },
5895 },
5896 "parameters": {
5897     "interface" : {
5898         "in" : "query",
5899         "name" : "if",
5900         "type" : "string",
5901         "enum" : ["oic.if.a", "oic.if.s", "oic.if.baseline"]
5902     },
5903     "unit" : {
5904         "in": "query",
5905         "description": "Units",
5906         "type": "string",
5907         "enum": ["C", "F", "K"],
5908         "name": "units",
5909         "x-queryexample" : "/TemperatureResURI?units=C"
5910     }
5911 },
5912 "definitions": {
5913     "Temperature" : {
5914         "properties": {
5915             "rt" : {
5916                 "description": "The Resource Type.",
5917                 "items": {
5918                     "maxLength": 64,
5919                     "type": "string",
5920                     "enum": ["oic.r.temperature"]
5921                 },
5922                 "minItems": 1,
5923                 "uniqueItems": true,
5924                 "readOnly": true,
5925                 "type": "array"
5926             },
5927             "temperature" : {
5928                 "description": "The current temperature setting or measurement.",
5929                 "type": "number"
5930             },
5931             "units" : {
5932                 "description": "The unit for the conveyed temperature value, Note that when doing an
5933 UPDATE, the unit on the device does NOT change, it only indicates the unit of the conveyed value
5934 during the UPDATE operation.",
5935                 "enum": [
5936                     "C",
5937                     "F",
5938                     "K"
5939                 ],
5940                 "type": "string"
5941             }
5942         }
5943     }
5944 }

```

```

5942         "n": {
5943             "$ref":
5944             "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
5945             schema.json#/definitions/n"
5946         },
5947         "id": {
5948             "$ref":
5949             "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
5950             schema.json#/definitions/id"
5951         },
5952         "range" : {
5953             "$ref":
5954             "https://openconnectivityfoundation.github.io/IoTDataModels/schemas/oic.baseresource.properties-
5955             schema.json#/definitions/range_number"
5956         },
5957         "step" : {
5958             "$ref":
5959             "https://openconnectivityfoundation.github.io/IoTDataModels/schemas/oic.baseresource.properties-
5960             schema.json#/definitions/step_number"
5961         },
5962         "precision" : {
5963             "$ref":
5964             "https://openconnectivityfoundation.github.io/IoTDataModels/schemas/oic.baseresource.properties-
5965             schema.json#/definitions/precision"
5966         },
5967         "if" : {
5968             "description": "The OCF Interface set supported by this Resource.",
5969             "items": {
5970                 "enum": [
5971                     "oic.if.baseline",
5972                     "oic.if.s",
5973                     "oic.if.a"
5974                 ],
5975                 "maxLength": 64,
5976                 "type": "string"
5977             },
5978             "minItems": 2,
5979             "uniqueItems": true,
5980             "readOnly": true,
5981             "type": "array"
5982         }
5983     },
5984     "type" : "object",
5985     "required": ["temperature"]
5986 }
5987 }
5988 }

```

5989 6.22.5 Property definition

5990 Table 47 defines the Properties that are part of the "oic.r.temperature" Resource Type.

5991 **Table 47 – The Property definitions of the Resource with type "rt" = "oic.r.temperature".**

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

5992 **6.22.6 CRUDN behaviour**

5993 Table 48 defines the CRUDN operations that are supported on the "oic.r.temperature" Resource
5994 Type.

5995 **Table 48 – The CRUDN operations of the Resource with type "rt" = "oic.r.temperature".**

Create	Read	Update	Delete	Notify
	get	post		observe

5996 **6.23 Time Period**

5997 **6.23.1 Introduction**

5998 This Resource describes the time period over which any additionally provided information is derived
5999 or bounded.
6000 The Property "startTime" and "stopTime" are RFC3339 encoded strings. The Property "startTime"
6001 must be present.
6002 The interval is the interval of the time period in minutes, if present this value must be no less than
6003 1 minute.
6004 The Property "stoptime" and "interval" are mutually exclusive; both Properties cannot be present

6005 in a Resource instance.
6006 The Resource defines a time period for information retrieval, action or other behaviour.

6007 6.23.2 Example URI

6008 /TimePeriodResURI

6009 6.23.3 Resource type

6010 The Resource Type is defined as: "oic.r.time.period".

6011 6.23.4 OpenAPI 2.0 definition

```
6012 {
6013   "swagger": "2.0",
6014   "info": {
6015     "title": "Time Period",
6016     "version": "20190215",
6017     "license": {
6018       "name": "OCF Data Model License",
6019       "url":
6020 "https://github.com/openconnectivityfoundation/core/blob/e28a9e0a92e17042ba3e83661e4c0fbce8bdc4ba/LI
6021 CENSE.md",
6022       "x-copyright": "copyright 2016-2017, 2019 Open Connectivity Foundation, Inc. All rights
6023 reserved."
6024     },
6025     "termsOfService": "https://openconnectivityfoundation.github.io/core/DISCLAIMER.md"
6026   },
6027   "schemes": ["http"],
6028   "consumes": ["application/json"],
6029   "produces": ["application/json"],
6030   "paths": {
6031     "/TimePeriodResURI" : {
6032       "get": {
6033         "description": "This Resource describes the time period over which any additionally provided
6034 information is derived or bounded.\n\nThe Property \"startTime\" and \"stopTime\" are RFC3339 encoded
6035 strings. The Property \"startTime\" must be present.\n\nThe interval is the interval of the time
6036 period in minutes, if present this value must be no less than 1 minute.\n\nThe Property \"stoptime\"
6037 and \"interval\" are mutually exclusive; both Properties cannot be present in a Resource
6038 instance.\n\nThe Resource defines a time period for information retrieval, action or other
6039 behaviour.",
6040         "parameters": [
6041           { "$ref": "#/parameters/interface" }
6042         ],
6043         "responses": {
6044           "200": {
6045             "description": "",
6046             "x-example":
6047               {
6048                 "rt": ["oic.r.time.period"],
6049                 "if": ["oic.if.a", "oic.if.baseline"],
6050                 "startTime": "2015-01-09T14:30:00Z",
6051                 "stopTime": "2015-01-09T14:45:00Z"
6052               },
6053             "schema": { "$ref": "#/definitions/TimePeriod" }
6054           }
6055         }
6056       },
6057       "post": {
6058         "description": "Sets or updates a time period for information retrieval, action or other
6059 behavior.",
6060         "parameters": [
6061           { "$ref": "#/parameters/interface" },
6062           {
6063             "name": "body",
6064             "in": "body",
6065             "required": true,
6066             "schema": { "$ref": "#/definitions/TimePeriod" },
6067             "x-example":
6068               {
6069                 "startTime": "2015-01-09T14:30:00Z",
```

```

6070         "stopTime": "2015-01-09T14:45:00Z"
6071     }
6072 }
6073 ],
6074 "responses": {
6075     "200": {
6076         "description": "",
6077         "x-example":
6078         {
6079             "startTime": "2015-01-09T14:30:00Z",
6080             "stopTime": "2015-01-09T14:45:00Z"
6081         },
6082         "schema": { "$ref": "#/definitions/TimePeriod" }
6083     }
6084 }
6085 }
6086 },
6087 },
6088 "parameters": {
6089     "interface": {
6090         "in": "query",
6091         "name": "if",
6092         "type": "string",
6093         "enum": ["oic.if.a", "oic.if.baseline"]
6094     }
6095 },
6096 "definitions": {
6097     "TimePeriod": {
6098         "properties": {
6099             "rt": {
6100                 "description": "The Resource Type.",
6101                 "items": {
6102                     "enum": ["oic.r.time.period"],
6103                     "maxLength": 64,
6104                     "type": "string"
6105                 },
6106                 "minItems": 1,
6107                 "uniqueItems": true,
6108                 "readOnly": true,
6109                 "type": "array"
6110             },
6111             "interval": {
6112                 "description": "The time interval in minutes after the \"startTime\", if present the
6113 Property \"stopTime\" cannot be present.",
6114                 "type": "integer"
6115             },
6116             "stopTime": {
6117                 "description": "The stop time for the time period, if present the Property \"interval\"
6118 cannot be present.",
6119                 "type": "string",
6120                 "format": "date-time"
6121             },
6122             "startTime": {
6123                 "description": "The start time for the time period.",
6124                 "type": "string",
6125                 "format": "date-time"
6126             },
6127             "n": {
6128                 "$ref":
6129 "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
6130 schema.json#/definitions/n"
6131             },
6132             "id": {
6133                 "$ref":
6134 "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
6135 schema.json#/definitions/id"
6136             },
6137             "if": {
6138                 "description": "The OCF Interface set supported by this Resource.",
6139                 "items": {
6140                     "enum": [
6141                         "oic.if.a",

```

```

6142         "oic.if.baseline"
6143     ],
6144     "type": "string"
6145 },
6146     "minItems": 2,
6147     "uniqueItems": true,
6148     "readOnly": true,
6149     "type": "array"
6150 }
6151 },
6152     "type": "object",
6153     "required": ["startTime"]
6154 }
6155 }
6156 }
6157

```

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
interval	integer	No	Read Write	The time interval in minutes after the "startTime", if present the Property "stopTime" cannot be present.
n	multiple types: see schema	No	Read Write	
startTime	string	Yes	Read Write	The start time for the time period.
id	multiple types: see schema	No	Read Write	
stopTime	string	No	Read Write	The stop time for the time period, if present the Property "interval" cannot be present.
rt	array: see schema	No	Read Only	The Resource Type.
if	array: see schema	No	Read Only	The OCF Interface set supported by this Resource.

6161 **6.23.6 CRUDN behaviour**

6162 Table 50 defines the CRUDN operations that are supported on the "oic.r.time.period" Resource
6163 Type.

6164 **Table 50 – The CRUDN operations of the Resource with type "rt" = "oic.r.time.period".**

Create	Read	Update	Delete	Notify
	get	post		observe

6165 **6.24 Activity Count**

6166 **6.24.1 Introduction**

6167 This Resource specifies an activity count.
6168 The Resource can be readonly (oic.if.s interface) in which instance it represents a count.
6169 The Resource can be readwrite (oic.if.a interface) in which instance it represents a goal or target
6170 for a count.
6171 The Property "count" is an integer representing either the current count or goal value.

6172 **6.24.2 Example URI**

6173 /ActivityCountResURI

6174 **6.24.3 Resource type**

6175 The Resource Type is defined as: "oic.r.sensor.activity.count".

6176 **6.24.4 OpenAPI 2.0 definition**

```
6177 {  
6178   "swagger": "2.0",  
6179   "info": {  
6180     "title": "Activity Count",  
6181     "version": "20190222",  
6182     "license": {  
6183       "name": "OCF Data Model License",  
6184       "url":  
6185       "https://github.com/openconnectivityfoundation/core/blob/e28a9e0a92e17042ba3e83661e4c0fbce8bdc4ba/LI  
6186       CENSE.md",  
6187       "x-copyright": "Copyright 2018-2019 Open Connectivity Foundation, Inc. All rights reserved."  
6188     },  
6189     "termsOfService": "https://openconnectivityfoundation.github.io/core/DISCLAIMER.md"  
6190   },  
6191   "schemes": ["http"],  
6192   "consumes": ["application/json"],  
6193   "produces": ["application/json"],  
6194   "paths": {  
6195     "/ActivityCountResURI" : {  
6196       "get": {  
6197         "description": "This Resource specifies an activity count.\n\nThe Resource can be readonly  
6198         (oic.if.s interface) in which instance it represents a count.\n\nThe Resource can be readwrite  
6199         (oic.if.a interface) in which instance it represents a goal or target for a count.\n\nThe Property  
6200         \"count\" is an integer representing either the current count or goal value.",  
6201         "parameters": [  
6202           {"$ref": "#/parameters/interface"}  
6203         ],  
6204         "responses": {  
6205           "200": {  
6206             "description": "",  
6207             "x-example":  
6208               {  
6209                 "rt": ["oic.r.sensor.activity.count"],  
6210                 "if": ["oic.if.a", "oic.if.baseline"],  
6211                 "count": 2500  
6212               },  
6213           "schema": { "$ref": "#/definitions/Count" }  
6214         }  
6215       }  
6216     }  
6217   }  
6218 }
```



```

6214     }
6215   },
6216 },
6217 "post": {
6218   "description": "Sets the \"count\" target.",
6219   "parameters": [
6220     { "$ref": "#/parameters/interface" },
6221     {
6222       "name": "body",
6223       "in": "body",
6224       "required": true,
6225       "schema": { "$ref": "#/definitions/Count" },
6226       "x-example":
6227         {
6228           "count": 5000
6229         }
6230     }
6231   ],
6232   "responses": {
6233     "200": {
6234       "description": "",
6235       "x-example":
6236         {
6237           "count": 5000
6238         },
6239       "schema": { "$ref": "#/definitions/Count" }
6240     }
6241   }
6242 },
6243 },
6244 },
6245 "parameters": {
6246   "interface": {
6247     "in": "query",
6248     "name": "if",
6249     "type": "string",
6250     "enum": ["oic.if.a", "oic.if.s", "oic.if.baseline"]
6251   }
6252 },
6253 "definitions": {
6254   "Count": {
6255     "properties": {
6256       "rt": {
6257         "description": "The Resource Type.",
6258         "items": {
6259           "maxLength": 64,
6260           "type": "string",
6261           "enum": ["oic.r.sensor.activity.count"]
6262         },
6263         "minItems": 1,
6264         "uniqueItems": true,
6265         "readOnly": true,
6266         "type": "array"
6267       },
6268       "count": {
6269         "description": "The current or Target count.",
6270         "type": "integer"
6271       },
6272       "n": {
6273         "$ref":
6274           "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
6275           schema.json#/definitions/n"
6276       },
6277       "id": {
6278         "$ref":
6279           "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
6280           schema.json#/definitions/id"
6281       },
6282       "range": {
6283         "$ref":
6284           "https://openconnectivityfoundation.github.io/IoTDataModels/schemas/oic.baseresource.properties-
6285           schema.json#/definitions/range_integer"

```

```

6286     },
6287     "step": {
6288         "$ref":
6289         "https://openconnectivityfoundation.github.io/IoTDataModels/schemas/oic.baseresource.properties-
6290         schema.json#/definitions/step_integer"
6291     },
6292     "if": {
6293         "description": "The OCF Interface set supported by this Resource.",
6294         "items": {
6295             "enum": [
6296                 "oic.if.a",
6297                 "oic.if.s",
6298                 "oic.if.baseline"
6299             ],
6300             "type": "string"
6301         },
6302         "minItems": 2,
6303         "readOnly": true,
6304         "uniqueItems": true,
6305         "type": "array"
6306     }
6307 },
6308 "type": "object",
6309 "required": ["count"]
6310 }
6311 }
6312 }
6313

```

6.24.5 Property definition

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

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

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

6318 **6.24.6 CRUDN behaviour**

6319 Table 52 defines the CRUDN operations that are supported on the "oic.r.sensor.activity.count"
6320 Resource Type.

6321 **Table 52 – The CRUDN operations of the Resource with type "rt" =**
6322 **"oic.r.sensor.activity.count".**

Create	Read	Update	Delete	Notify
	get	post		observe

6323 **6.25 Atmospheric Pressure Sensor**

6324 **6.25.1 Introduction**

6325 This Resource provides a measurement of Mean Sea Level Pressure experienced at the measuring
6326 point expressed in millibars.
6327 The Property "atmosphericPressure" is a float which describes the atmospheric pressure in hPa
6328 (hectoPascals).
6329 Note that hPa and the also commonly used unit of millibars (mbar) are numerically equivalent.

6330 **6.25.2 Example URI**

6331 /AtmosphericPressureResURI

6332 **6.25.3 Resource type**

6333 The Resource Type is defined as: "oic.r.sensor.atmosphericpressure".

6334 **6.25.4 OpenAPI 2.0 definition**

```

6335 {
6336   "swagger": "2.0",
6337   "info": {
6338     "title": "Atmospheric Pressure Sensor",
6339     "version": "20190225",
6340     "license": {
6341       "name": "OCF Data Model License",
6342       "url":
6343         "https://github.com/openconnectivityfoundation/core/blob/e28a9e0a92e17042ba3e83661e4c0fbce8bdc4ba/LI
6344         CENSE.md",
6345       "x-copyright": "copyright 2016-2017, 2019 Open Connectivity Foundation, Inc. All rights
6346         reserved."
6347     },
6348     "termsOfService": "https://openconnectivityfoundation.github.io/core/DISCLAIMER.md"
6349   },
6350   "schemes": ["http"],
6351   "consumes": ["application/json"],
6352   "produces": ["application/json"],
6353   "paths": {
6354     "/AtmosphericPressureResURI" : {
6355       "get": {
6356         "description": "This Resource provides a measurement of Mean Sea Level Pressure experienced
6357         at the measuring point expressed in millibars.\nThe Property \"atmosphericPressure\" is a float
6358         which describes the atmospheric pressure in hPa (hectoPascals).\nNote that hPa and the also commonly
6359         used unit of millibars (mbar) are numerically equivalent.",
6360         "parameters": [
6361           {"$ref": "#/parameters/interface"}
6362         ],
6363         "responses": {
6364           "200": {
6365             "description": "",
6366             "x-example":
6367               {
6368                 "rt": ["oic.r.sensor.atmosphericpressure"],
6369                 "if": ["oic.if.s", "oic.if.baseline"],

```

```

6370         "atmosphericPressure": 1000.4
6371     },
6372     "schema": { "$ref": "#/definitions/atmosphericPressure" }
6373 }
6374 }
6375 }
6376 }
6377 },
6378 "parameters": {
6379     "interface" : {
6380         "in": "query",
6381         "name": "if",
6382         "type": "string",
6383         "enum": ["oic.if.s", "oic.if.baseline"]
6384     }
6385 },
6386 "definitions": {
6387     "atmosphericPressure" : {
6388         "properties": {
6389             "rt" : {
6390                 "description": "The Resource Type.",
6391                 "items": {
6392                     "enum": ["oic.r.sensor.atmosphericpressure"],
6393                     "maxLength": 64,
6394                     "type": "string"
6395                 },
6396                 "minItems": 1,
6397                 "uniqueItems": true,
6398                 "readOnly": true,
6399                 "type": "array"
6400             },
6401             "atmosphericPressure": {
6402                 "description": "The current atmospheric pressure in hPa.",
6403                 "readOnly": true,
6404                 "type": "number"
6405             },
6406             "n": {
6407                 "$ref":
6408 "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
6409 schema.json#/definitions/n"
6410             },
6411             "id": {
6412                 "$ref":
6413 "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
6414 schema.json#/definitions/id"
6415             },
6416             "precision": {
6417                 "$ref":
6418 "https://openconnectivityfoundation.github.io/IoTDataModels/schemas/oic.baseresource.properties-
6419 schema.json#/definitions/precision"
6420             },
6421             "range": {
6422                 "$ref":
6423 "https://openconnectivityfoundation.github.io/IoTDataModels/schemas/oic.baseresource.properties-
6424 schema.json#/definitions/range_number"
6425             },
6426             "step": {
6427                 "$ref":
6428 "https://openconnectivityfoundation.github.io/IoTDataModels/schemas/oic.baseresource.properties-
6429 schema.json#/definitions/step_number"
6430             },
6431             "if": {
6432                 "description": "The OCF Interface set supported by this Resource.",
6433                 "items": {
6434                     "enum": [
6435                         "oic.if.s",
6436                         "oic.if.baseline"
6437                     ],
6438                     "type": "string"
6439                 },
6440                 "minItems": 2,
6441                 "uniqueItems": true,

```

```

6442         "readOnly": true,
6443         "type": "array"
6444     },
6445 },
6446     "type": "object",
6447     "required": ["atmosphericPressure"]
6448 }
6449 }
6450 }
6451

```

6452 **6.25.5 Property definition**

6453 Table 53 defines the Properties that are part of the "oic.r.sensor.atmosphericpressure" Resource
6454 Type.

6455 **Table 53 – The Property definitions of the Resource with type "rt" =**
6456 **"oic.r.sensor.atmosphericpressure".**

Property name	Value type	Mandatory	Access mode	Description
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.
rt	array: see schema	No	Read Only	The Resource Type.
precision	multiple types: see schema	No	Read Write	
n	multiple types: see schema	No	Read Write	
atmosphericPressure	number	Yes	Read Only	The current atmospheric pressure in hPa.
range	multiple types: see schema	No	Read Write	

6457 **6.25.6 CRUDN behaviour**

6458 Table 54 defines the CRUDN operations that are supported on the
6459 "oic.r.sensor.atmosphericpressure" Resource Type.

6460
6461

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

Create	Read	Update	Delete	Notify
	get			observe

6462 **6.26 Audio Controls**

6463 **6.26.1 Introduction**

6464 This Resource defines basic audio control functions.
 6465 The Property "volume" is an integer containing a percentage [0,100].
 6466 A volume of 0 (zero) means no sound produced.
 6467 A volume of 100 means maximum sound production.
 6468 The Property "mute" is implemented as a boolean.
 6469 A mute value of true means that the device is muted (no audio).
 6470 A mute value of false means that the device is not muted (audio).

6471 **6.26.2 Example URI**

6472 /AudioResURI

6473 **6.26.3 Resource type**

6474 The Resource Type is defined as: "oic.r.audio".

6475 **6.26.4 OpenAPI 2.0 definition**

```

6476 {
6477   "swagger": "2.0",
6478   "info": {
6479     "title": "Audio Controls",
6480     "version": "20190225",
6481     "license": {
6482       "name": "OCF Data Model License",
6483       "url":
6484         "https://github.com/openconnectivityfoundation/core/blob/e28a9e0a92e17042ba3e83661e4c0fbce8bdc4ba/LI
6485         CENSE.md",
6486       "x-copyright": "copyright 2016-2017, 2019 Open Connectivity Foundation, Inc. All rights
6487       reserved."
6488     },
6489     "termsOfService": "https://openconnectivityfoundation.github.io/core/DISCLAIMER.md"
6490   },
6491   "schemes": ["http"],
6492   "consumes": ["application/json"],
6493   "produces": ["application/json"],
6494   "paths": {
6495     "/AudioResURI" : {
6496       "get": {
6497         "description": "This Resource defines basic audio control functions.\nThe Property
6498         \"volume\" is an integer containing a percentage [0,100].\nA volume of 0 (zero) means no sound
6499         produced.\nA volume of 100 means maximum sound production.\nThe Property \"mute\" is implemented as
6500         a boolean.\nA mute value of true means that the device is muted (no audio).\nA mute value of false
6501         means that the device is not muted (audio).",
6502         "parameters": [
6503           {"$ref": "#/parameters/interface"}
6504         ],
6505         "responses": {
6506           "200": {
6507             "description": "",
6508             "x-example":
6509               {
6510                 "rt": ["oic.r.audio"],
6511                 "if": ["oic.if.a", "oic.if.baseline"],
6512                 "volume": 50,
6513                 "mute": false

```

```

6514         },
6515         "schema": { "$ref": "#/definitions/Audio" }
6516     }
6517 }
6518 },
6519 "post": {
6520     "description": "",
6521     "parameters": [
6522         { "$ref": "#/parameters/interface" },
6523         {
6524             "name": "body",
6525             "in": "body",
6526             "required": true,
6527             "schema": { "$ref": "#/definitions/Audio-update" },
6528             "x-example":
6529                 {
6530                     "volume": 75
6531                 }
6532         }
6533     ],
6534     "responses": {
6535         "200": {
6536             "description": "",
6537             "x-example":
6538                 {
6539                     "volume": 75,
6540                     "mute": false
6541                 },
6542             "schema": { "$ref": "#/definitions/Audio" }
6543         }
6544     }
6545 }
6546 },
6547 },
6548 "parameters": {
6549     "interface": {
6550         "in": "query",
6551         "name": "if",
6552         "type": "string",
6553         "enum": ["oic.if.a", "oic.if.baseline"]
6554     }
6555 },
6556 "definitions": {
6557     "Audio": {
6558         "properties": {
6559             "rt": {
6560                 "description": "The Resource Type.",
6561                 "items": {
6562                     "enum": ["oic.r.audio"],
6563                     "maxLength": 64,
6564                     "type": "string"
6565                 },
6566                 "minItems": 1,
6567                 "uniqueItems": true,
6568                 "readOnly": true,
6569                 "type": "array"
6570             },
6571             "mute": {
6572                 "description": "The mute setting of an audio rendering device.",
6573                 "type": "boolean"
6574             },
6575             "volume": {
6576                 "description": "The volume setting of an audio rendering device.",
6577                 "maximum": 100,
6578                 "minimum": 0,
6579                 "type": "integer"
6580             },
6581             "n": {
6582                 "$ref":
6583                 "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
6584                 schema.json#/definitions/n"
6585             }

```

```

6586         "id": {
6587             "$ref":
6588 "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
6589 schema.json#/definitions/id"
6590         },
6591         "range": {
6592             "$ref":
6593 "https://openconnectivityfoundation.github.io/IoTDataModels/schemas/oic.baseresource.properties-
6594 schema.json#/definitions/range_integer"
6595         },
6596         "step": {
6597             "$ref":
6598 "https://openconnectivityfoundation.github.io/IoTDataModels/schemas/oic.baseresource.properties-
6599 schema.json#/definitions/step_integer"
6600         },
6601         "if": {
6602             "description": "The OCF Interface set supported by this Resource.",
6603             "items": {
6604                 "enum": [
6605                     "oic.if.a",
6606                     "oic.if.baseline"
6607                 ],
6608                 "type": "string"
6609             },
6610             "minItems": 2,
6611             "uniqueItems": true,
6612             "readOnly": true,
6613             "type": "array"
6614         }
6615     },
6616     "type" : "object",
6617     "required": ["volume", "mute"]
6618 },
6619 "Audio-update" : {
6620     "properties": {
6621         "mute": {
6622             "description": "The mute setting of an audio rendering device.",
6623             "type": "boolean"
6624         },
6625         "volume": {
6626             "description": "The volume setting of an audio rendering device.",
6627             "maximum": 100,
6628             "minimum": 0,
6629             "type": "integer"
6630         }
6631     }
6632 }
6633 }
6634

```

6.26.5 Property definition

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

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

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

6638 **6.26.6 CRUDN behaviour**

6639 Table 56 defines the CRUDN operations that are supported on the "oic.r.audio" Resource Type.

6640 **Table 56 – The CRUDN operations of the Resource with type "rt" = "oic.r.audio".**

Create	Read	Update	Delete	Notify
	get	post		observe

6641 **6.27 Auto Focus**

6642 **6.27.1 Introduction**

6643 This Resource describes an auto focus on/off feature.
6644 The Property "autoFocus" is a boolean.
6645 An "autoFocus" value of 'true' means that the auto focus feature is on.
6646 An "autoFocus" value of 'false' means that the auto focus feature is off.
6647 Note that when Pan Tilt Zoom (see 'Pan Tilt Zoom' Resource definition) is used the autofocus works
6648 only in the selected area.

6649 **6.27.2 Example URI**

6650 /AutoFocusResURI

6651 **6.27.3 Resource type**

6652 The Resource Type is defined as: "oic.r.autofocus".

6653 **6.27.4 OpenAPI 2.0 definition**

```
6654 {
6655   "swagger": "2.0",
6656   "info": {
6657     "title": "Auto Focus",
6658     "version": "20190222",
6659     "license": {
6660       "name": "OCF Data Model License",
```

```

6661         "url":
6662         "https://github.com/openconnectivityfoundation/core/blob/e28a9e0a92e17042ba3e83661e4c0fbce8bdc4ba/LI
6663         CENSE.md",
6664         "x-copyright": "Copyright 2018-2019 Open Connectivity Foundation, Inc. All rights reserved."
6665     },
6666     "termsOfService": "https://openconnectivityfoundation.github.io/core/DISCLAIMER.md"
6667 },
6668 "schemes": ["http"],
6669 "consumes": ["application/json"],
6670 "produces": ["application/json"],
6671 "paths": {
6672     "/AutoFocusResURI" : {
6673         "get": {
6674             "description": "This Resource describes an auto focus on/off feature.\nThe Property
6675             \"autoFocus\" is a boolean.\nAn \"autoFocus\" value of 'true' means that the auto focus feature is
6676             on.\nAn \"autoFocus\" value of 'false' means that the auto focus feature is off.\nNote that when Pan
6677             Tilt Zoom (see 'Pan Tilt Zoom' Resource definition) is used the autofocus works only in the selected
6678             area.",
6679             "parameters": [
6680                 { "$ref": "#/parameters/interface" }
6681             ],
6682             "responses": {
6683                 "200": {
6684                     "description": "",
6685                     "x-example":
6686                     {
6687                         "rt": ["oic.r.autofocus"],
6688                         "if": ["oic.if.a", "oic.if.baseline"],
6689                         "autoFocus": false
6690                     },
6691                     "schema": { "$ref": "#/definitions/AutoFocus" }
6692                 }
6693             }
6694         },
6695         "post": {
6696             "description": "",
6697             "parameters": [
6698                 { "$ref": "#/parameters/interface" },
6699                 {
6700                     "name": "body",
6701                     "in": "body",
6702                     "required": true,
6703                     "schema": { "$ref": "#/definitions/AutoFocus" },
6704                     "x-example":
6705                     {
6706                         "autoFocus": true
6707                     }
6708                 }
6709             ],
6710             "responses": {
6711                 "200": {
6712                     "description": "",
6713                     "x-example":
6714                     {
6715                         "autoFocus": true
6716                     },
6717                     "schema": { "$ref": "#/definitions/AutoFocus" }
6718                 }
6719             }
6720         }
6721     }
6722 },
6723 "parameters": {
6724     "interface" : {
6725         "in": "query",
6726         "name": "if",
6727         "type": "string",
6728         "enum": ["oic.if.a", "oic.if.baseline"]
6729     }
6730 },
6731 "definitions": {
6732     "AutoFocus" : {

```

```

6733     "properties": {
6734       "rt": {
6735         "description": "The Resource Type.",
6736         "items": {
6737           "enum": ["oic.r.autofocus"],
6738           "maxLength": 64,
6739           "type": "string"
6740         },
6741         "minItems": 1,
6742         "uniqueItems": true,
6743         "readOnly": true,
6744         "type": "array"
6745       },
6746       "autoFocus": {
6747         "description": "The status of the Auto Focus feature.",
6748         "type": "boolean"
6749       },
6750       "n": {
6751         "$ref":
6752         "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
6753         schema.json#/definitions/n"
6754       },
6755       "id": {
6756         "$ref":
6757         "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
6758         schema.json#/definitions/id"
6759       },
6760       "if": {
6761         "description": "The OCF Interface set supported by this Resource.",
6762         "items": {
6763           "enum": [
6764             "oic.if.a",
6765             "oic.if.baseline"
6766           ],
6767           "type": "string"
6768         },
6769         "minItems": 2,
6770         "readOnly": true,
6771         "uniqueItems": true,
6772         "type": "array"
6773       }
6774     },
6775     "type": "object",
6776     "required": ["autoFocus"]
6777   }
6778 }
6779 }
6780

```

6.27.5 Property definition

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

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	

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

6784 **6.27.6 CRUDN behaviour**

6785 Table 58 defines the CRUDN operations that are supported on the "oic.r.autofocus" Resource Type.

6786 **Table 58 – The CRUDN operations of the Resource with type "rt" = "oic.r.autofocus".**

Create	Read	Update	Delete	Notify
	get	post		observe

6787 **6.28 Automatic Document Feeder**

6788 **6.28.1 Introduction**

6789 This Resource describes the state of an automatic document feeder, typically used with a scanner.
6790 The Property "adfstates" and "currentAdfState" are read only. The Property "adfStates" is an array
6791 of the possible operational states. The Property "adfProcessing" is the OK state, other states are
6792 errors or require "user attention". The "currentAdfState" is the current value of the ADF state on
6793 the device.

6794 **6.28.2 Example URI**

6795 /AutomaticDocumentFeederResURI

6796 **6.28.3 Resource type**

6797 The Resource Type is defined as: "oic.r.automaticdocumentfeeder".

6798 **6.28.4 OpenAPI 2.0 definition**

```

6799 {
6800   "swagger": "2.0",
6801   "info": {
6802     "title": "Automatic Document Feeder",
6803     "version": "20190222",
6804     "license": {
6805       "name": "OCF Data Model License",
6806       "url":
6807         "https://github.com/openconnectivityfoundation/core/blob/e28a9e0a92e17042ba3e83661e4c0fbce8bdc4ba/LI
6808         CENSE.md",
6809       "x-copyright": "Copyright 2018-2019 Open Connectivity Foundation, Inc. All rights reserved."
6810     },
6811     "termsOfService": "https://openconnectivityfoundation.github.io/core/DISCLAIMER.md"
6812   },
6813   "schemes": ["http"],
6814   "consumes": ["application/json"],
6815   "produces": ["application/json"],
6816   "paths": {
6817     "/AutomaticDocumentFeederResURI" : {
6818       "get": {
6819         "description": "This Resource describes the state of an automatic document feeder, typically
6820         used with a scanner.\n\nThe Property \"adfstates\" and \"currentAdfState\" are read only.\n\nThe
6821         Property \"adfStates\" is an array of the possible operational states.\n\nThe Property
6822         \"adfProcessing\" is the OK state, other states are errors or require 'user attention'.\n\nThe
6823         currentAdfState is the current value of the ADF state on the device.",
6824         "parameters": [

```

```

6825         {"$ref": "#/parameters/interface"}
6826     ],
6827     "responses": {
6828         "200": {
6829             "description": "",
6830             "x-example":
6831                 {
6832                     "rt": ["oic.r.automaticdocumentfeeder"],
6833                     "if": ["oic.if.s", "oic.if.baseline"],
6834                     "adfStates": ["adfProcessing", "adfEmpty", "adfJam", "adfLoaded", "adfMispick",
6835 "adfHatchOpen", "adfDuplexPageTooShort", "adfDuplexPageTooLong", "adfMultipickDetected",
6836 "adfInputTrayFailed", "adfInputTrayOverloaded"],
6837                     "currentAdfState": "adfProcessing"
6838                 },
6839             "schema": { "$ref": "#/definitions/AutomaticDocumentFeeder" }
6840         }
6841     }
6842 }
6843 },
6844 },
6845 "parameters": {
6846     "interface": {
6847         "in": "query",
6848         "name": "if",
6849         "type": "string",
6850         "enum": ["oic.if.s", "oic.if.baseline"]
6851     }
6852 },
6853 "definitions": {
6854     "AutomaticDocumentFeeder": {
6855         "properties": {
6856             "rt": {
6857                 "description": "The Resource Type.",
6858                 "items": {
6859                     "enum": ["oic.r.automaticdocumentfeeder"],
6860                     "maxLength": 64,
6861                     "type": "string"
6862                 },
6863                 "minItems": 1,
6864                 "uniqueItems": true,
6865                 "readOnly": true,
6866                 "type": "array"
6867             },
6868             "adfStates": {
6869                 "description": "The array of the possible adf states.",
6870                 "items": {
6871                     "type": "string"
6872                 },
6873                 "readOnly": true,
6874                 "uniqueItems": true,
6875                 "type": "array"
6876             },
6877             "currentAdfState": {
6878                 "description": "The current adf state.",
6879                 "readOnly": true,
6880                 "type": "string"
6881             },
6882             "n": {
6883                 "$ref":
6884 "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
6885 schema.json#/definitions/n"
6886             },
6887             "id": {
6888                 "$ref":
6889 "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
6890 schema.json#/definitions/id"
6891             },
6892             "if": {
6893                 "description": "The OCF Interface set supported by this Resource.",
6894                 "items": {
6895                     "enum": [
6896 "oic.if.s",

```

```

6897         "oic.if.baseline"
6898     ],
6899     "type": "string"
6900 },
6901 "minItems": 2,
6902 "uniqueItems": true,
6903 "readOnly": true,
6904 "type": "array"
6905 }
6906 },
6907 "type": "object",
6908 "required": ["adfStates", "currentAdfState"]
6909 }
6910 }
6911 }
6912

```

6913 **6.28.5 Property definition**

6914 Table 59 defines the Properties that are part of the "oic.r.automaticdocumentfeeder" Resource
6915 Type.

6916 **Table 59 – The Property definitions of the Resource with type "rt" =**
6917 **"oic.r.automaticdocumentfeeder".**

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

6918 **6.28.6 CRUDN behaviour**

6919 Table 60 defines the CRUDN operations that are supported on the "oic.r.automaticdocumentfeeder"
6920 Resource Type.

6921 **Table 60 – The CRUDN operations of the Resource with type "rt" =**
6922 **"oic.r.automaticdocumentfeeder".**

Create	Read	Update	Delete	Notify

	get			observe
--	-----	--	--	---------

6923 6.29 Button Switch

6924 6.29.1 Introduction

6925 This Resource describes the operation of a button style switch.
 6926 The Property "value" is a boolean.
 6927 A value of 'true' means that the button is being pushed/pressed.
 6928 A value of 'false' means that the button is not being pushed/pressed.

6929 6.29.2 Example URI

6930 /ButtonResURI

6931 6.29.3 Resource type

6932 The Resource Type is defined as: "oic.r.button".

6933 6.29.4 OpenAPI 2.0 definition

```

6934 {
6935   "swagger": "2.0",
6936   "info": {
6937     "title": "Button Switch",
6938     "version": "20190222",
6939     "license": {
6940       "name": "OCF Data Model License",
6941       "url":
6942         "https://github.com/openconnectivityfoundation/core/blob/e28a9e0a92e17042ba3e83661e4c0fbce8bdc4ba/LI
6943         CENSE.md",
6944       "x-copyright": "Copyright 2018-2019 Open Connectivity Foundation, Inc. All rights reserved."
6945     },
6946     "termsOfService": "https://openconnectivityfoundation.github.io/core/DISCLAIMER.md"
6947   },
6948   "schemes": ["http"],
6949   "consumes": ["application/json"],
6950   "produces": ["application/json"],
6951   "paths": {
6952     "/ButtonResURI" : {
6953       "get": {
6954         "description": "This Resource describes the operation of a button style switch.\n\nThe
6955         Property \"value\" is a boolean.\n\nA value of 'true' means that the button is being
6956         pushed/pressed.\n\nA value of 'false' means that the button is not being pushed/pressed.",
6957         "parameters": [
6958           { "$ref": "#/parameters/interface" }
6959         ],
6960         "responses": {
6961           "200": {
6962             "description": "",
6963             "x-example":
6964               {
6965                 "rt": ["oic.r.button"],
6966                 "if": ["oic.if.s", "oic.if.baseline"],
6967                 "value": true
6968               }
6969           },
6970           "schema": { "$ref": "#/definitions/Button" }
6971         }
6972       }
6973     }
6974   },
6975   "parameters": {
6976     "interface" : {
6977       "in": "query",
6978       "name": "if",
6979       "type": "string",
6980       "enum": ["oic.if.s", "oic.if.baseline"]
6981     }
6982   }

```

```

6983 },
6984 "definitions": {
6985   "Button": {
6986     "properties": {
6987       "rt": {
6988         "description": "The Resource Type.",
6989         "items": {
6990           "enum": ["oic.r.button"],
6991           "maxLength": 64,
6992           "type": "string"
6993         },
6994         "minItems": 1,
6995         "uniqueItems": true,
6996         "readOnly": true,
6997         "type": "array"
6998       },
6999       "value": {
7000         "description": "The status of the button",
7001         "readOnly": true,
7002         "type": "boolean"
7003       },
7004       "n": {
7005         "$ref":
7006         "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
7007         schema.json#/definitions/n"
7008       },
7009       "id": {
7010         "$ref":
7011         "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
7012         schema.json#/definitions/id"
7013       },
7014       "if": {
7015         "description": "The OCF Interface set supported by this Resource.",
7016         "items": {
7017           "enum": [
7018             "oic.if.s",
7019             "oic.if.baseline"
7020           ],
7021           "type": "string"
7022         },
7023         "minItems": 2,
7024         "uniqueItems": true,
7025         "readOnly": true,
7026         "type": "array"
7027       }
7028     },
7029     "type": "object",
7030     "required": ["value"]
7031   }
7032 }
7033 }
7034

```

7035 **6.29.5 Property definition**

7036 Table 61 defines the Properties that are part of the "oic.r.button" Resource Type.

7037 **Table 61 – The Property definitions of the Resource with type "rt" = "oic.r.button".**

Property name	Value type	Mandatory	Access mode	Description
if	array: see schema	No	Read Only	The OCF Interface set supported by this Resource.

value	boolean	Yes	Read Only	The status of the button
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	

7038 **6.29.6 CRUDN behaviour**

7039 Table 62 defines the CRUDN operations that are supported on the "oic.r.button" Resource Type.

7040 **Table 62 – The CRUDN operations of the Resource with type "rt" = "oic.r.button".**

Create	Read	Update	Delete	Notify
	get			observe

7041 **6.30 Carbon Dioxide Sensor**

7042 **6.30.1 Introduction**

7043 This Resource describes whether carbon dioxide has been sensed or not.
 7044 The Property "value" is a boolean.
 7045 A value of 'true' means that carbon dioxide has been detected.
 7046 A value of 'false' means that carbon dioxide has not been detected.

7047 **6.30.2 Example URI**

7048 /CarbonDioxideResURI

7049 **6.30.3 Resource type**

7050 The Resource Type is defined as: "oic.r.sensor.carbondioxide".

7051 **6.30.4 OpenAPI 2.0 definition**

```

7052 {
7053   "swagger": "2.0",
7054   "info": {
7055     "title": "Carbon Dioxide Sensor",
7056     "version": "20190215",
7057     "license": {
7058       "name": "OCF Data Model License",
7059       "url":
7060 "https://github.com/openconnectivityfoundation/core/blob/e28a9e0a92e17042ba3e83661e4c0fbce8bdc4ba/LI
7061 CENSE.md",
7062       "x-copyright": "copyright 2016-2017, 2019 Open Connectivity Foundation, Inc. All rights
7063 reserved."
7064     },
7065     "termsOfService": "https://openconnectivityfoundation.github.io/core/DISCLAIMER.md"
7066   },
7067   "schemes": ["http"],
7068   "consumes": ["application/json"],
7069   "produces": ["application/json"],
7070   "paths": {
7071     "/CarbonDioxideResURI" : {
7072       "get": {
7073         "description": "This Resource describes whether carbon dioxide has been sensed or not.\nThe

```

```

7074 Property \"value\" is a boolean.\nA value of 'true' means that carbon dioxide has been detected.\nA
7075 value of 'false' means that carbon dioxide has not been detected.\",
7076     \"parameters\": [
7077         { \"$ref\": \"#/parameters/interface\" }
7078     ],
7079     \"responses\": {
7080         \"200\": {
7081             \"description\": \"\",
7082             \"x-example\":
7083                 {
7084                     \"rt\": [\"oic.r.sensor.carbondioxide\"],
7085                     \"if\": [\"oic.if.s\", \"oic.if.baseline\"],
7086                     \"value\": true
7087                 },
7088             \"schema\": { \"$ref\": \"#/definitions/CO2\" }
7089         }
7090     }
7091 },
7092 },
7093 },
7094 \"parameters\": {
7095     \"interface\": {
7096         \"in\": \"query\",
7097         \"name\": \"if\",
7098         \"type\": \"string\",
7099         \"enum\": [\"oic.if.s\", \"oic.if.baseline\"]
7100     }
7101 },
7102 \"definitions\": {
7103     \"CO2\": {
7104         \"properties\": {
7105             \"rt\": {
7106                 \"description\": \"The Resource Type.\",
7107                 \"items\": {
7108                     \"enum\": [\"oic.r.sensor.carbondioxide\"],
7109                     \"maxLength\": 64,
7110                     \"type\": \"string\"
7111                 },
7112                 \"minItems\": 1,
7113                 \"uniqueItems\": true,
7114                 \"readOnly\": true,
7115                 \"type\": \"array\"
7116             },
7117             \"value\": {
7118                 \"description\": \"The carbon dioxide indicator, true = sensed, false = not sensed.\",
7119                 \"readOnly\": true,
7120                 \"type\": \"boolean\"
7121             },
7122             \"id\": {
7123                 \"$ref\":
7124                 \"https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
7125                 schema.json#/definitions/id\"
7126             },
7127             \"precision\": {
7128                 \"$ref\":
7129                 \"https://openconnectivityfoundation.github.io/IoTDataModels/schemas/oic.baseresource.properties-
7130                 schema.json#/definitions/precision\"
7131             },
7132             \"if\": {
7133                 \"description\": \"The OCF Interface set supported by this Resource.\",
7134                 \"items\": {
7135                     \"enum\": [
7136                         \"oic.if.s\",
7137                         \"oic.if.baseline\"
7138                     ],
7139                     \"maxLength\": 64,
7140                     \"type\": \"string\"
7141                 },
7142                 \"minItems\": 2,
7143                 \"uniqueItems\": true,
7144                 \"readOnly\": true,
7145                 \"type\": \"array\"

```

```

7146     },
7147     },
7148     "type" : "object",
7149     "required": ["value"]
7150   }
7151 }
7152 }
7153

```

7154 **6.30.5 Property definition**

7155 Table 63 defines the Properties that are part of the "oic.r.sensor.carbondioxide" Resource Type.

7156 **Table 63 – The Property definitions of the Resource with type "rt" =**
7157 **"oic.r.sensor.carbondioxide".**

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

7158 **6.30.6 CRUDN behaviour**

7159 Table 64 defines the CRUDN operations that are supported on the "oic.r.sensor.carbondioxide"
7160 Resource Type.

7161 **Table 64 – The CRUDN operations of the Resource with type "rt" =**
7162 **"oic.r.sensor.carbondioxide".**

Create	Read	Update	Delete	Notify
	get			observe

7163 **6.31 Carbon Monoxide Sensor**

7164 **6.31.1 Introduction**

7165 This Resource describes whether carbon monoxide has been sensed or not.
7166 The Property "value" is a boolean.
7167 A value of 'true' means that carbon monoxide has been detected.
7168 A value of 'false' means that carbon monoxide has not been detected.

7169 **6.31.2 Example URI**

7170 /CarbonMonoxideResURI

7171 **6.31.3 Resource type**

7172 The Resource Type is defined as: "oic.r.sensor.carbonmonoxide".

7173 **6.31.4 OpenAPI 2.0 definition**

```
7174 {
7175   "swagger": "2.0",
7176   "info": {
7177     "title": "Carbon Monoxide Sensor",
7178     "version": "20190215",
7179     "license": {
7180       "name": "OCF Data Model License",
7181       "url":
7182         "https://github.com/openconnectivityfoundation/core/blob/e28a9e0a92e17042ba3e83661e4c0fbce8bdc4ba/LI
7183         CENSE.md",
7184       "x-copyright": "copyright 2016-2017, 2019 Open Connectivity Foundation, Inc. All rights
7185         reserved."
7186     },
7187     "termsOfService": "https://openconnectivityfoundation.github.io/core/DISCLAIMER.md"
7188   },
7189   "schemes": ["http"],
7190   "consumes": ["application/json"],
7191   "produces": ["application/json"],
7192   "paths": {
7193     "/CarbonMonoxideResURI" : {
7194       "get": {
7195         "description": "This Resource describes whether carbon monoxide has been sensed or not.\nThe
7196         Property \"value\" is a boolean.\nA value of 'true' means that carbon monoxide has been detected.\nA
7197         value of 'false' means that carbon monoxide has not been detected.",
7198         "parameters": [
7199           {"$ref": "#/parameters/interface"}
7200         ],
7201         "responses": {
7202           "200": {
7203             "description": "",
7204             "x-example":
7205               {
7206                 "rt": ["oic.r.sensor.carbonmonoxide"],
7207                 "if": ["oic.if.s", "oic.if.baseline"],
7208                 "value": true
7209               },
7210             "schema": { "$ref": "#/definitions/CO" }
7211           }
7212         }
7213       }
7214     },
7215     "parameters": {
7216       "interface" : {
7217         "in" : "query",
7218         "name" : "if",
7219         "type" : "string",
7220         "enum" : ["oic.if.s", "oic.if.baseline"]
7221       }
7222     },
7223     "definitions": {
7224       "CO" : {
7225         "properties": {
7226           "rt" : {
7227             "description": "The Resource Type.",
7228             "items": {
7229               "enum": ["oic.r.sensor.carbonmonoxide"],
7230               "maxLength": 64,
7231               "type": "string"
7232             },
7233             "minItems": 1,
7234             "readOnly": true,
```

```

7236         "uniqueItems": true,
7237         "type": "array"
7238     },
7239     "value" : {
7240         "description": "The carbon monoxide indicator, true = sensed, false = not sensed.",
7241         "readOnly": true,
7242         "type": "boolean"
7243     },
7244     "n": {
7245         "$ref":
7246 "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
7247 schema.json#/definitions/n"
7248     },
7249     "id": {
7250         "$ref":
7251 "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
7252 schema.json#/definitions/id"
7253     },
7254     "if" : {
7255         "description": "The OCF Interface set supported by this Resource.",
7256         "items": {
7257             "enum": [
7258                 "oic.if.s",
7259                 "oic.if.baseline"
7260             ],
7261             "maxLength": 64,
7262             "type": "string"
7263         },
7264         "minItems": 2,
7265         "uniqueItems": true,
7266         "readOnly": true,
7267         "type": "array"
7268     }
7269 },
7270 "type": "object",
7271 "required": ["value"]
7272 }
7273 }
7274 }

```

7275 6.31.5 Property definition

7276 Table 65 defines the Properties that are part of the "oic.r.sensor.carbonmonoxide" Resource Type.

7277 **Table 65 – The Property definitions of the Resource with type "rt" =**
7278 **"oic.r.sensor.carbonmonoxide".**

Property name	Value type	Mandatory	Access mode	Description
n	multiple types: see schema	No	Read Write	
if	array: see schema	No	Read Only	The OCF Interface set supported by this Resource.
rt	array: see schema	No	Read Only	The Resource Type.
value	boolean	Yes	Read Only	The carbon monoxide indicator, true =

				sensed, false = not sensed.
id	multiple types: see schema	No	Read Write	

7279 **6.31.6 CRUDN behaviour**

7280 Table 66 defines the CRUDN operations that are supported on the "oic.r.sensor.carbonmonoxide"
7281 Resource Type.

7282 **Table 66 – The CRUDN operations of the Resource with type "rt" =**
7283 **"oic.r.sensor.carbonmonoxide".**

Create	Read	Update	Delete	Notify
	get			observe

7284 **6.32 Auto White Balance**

7285 **6.32.1 Introduction**

7286 This Resource describes an auto balance on/off feature.
7287 The Property "autoWhiteBalance" is a boolean.
7288 An AutoWhiteBalance value of 'true' means that the auto white balance feature is on.
7289 An AutoWhiteBalance value of 'false' means that the auto white balance feature is off.
7290

7291 **6.32.2 Example URI**

7292 /AutoWhiteBalanceResURI

7293 **6.32.3 Resource type**

7294 The Resource Type is defined as: "oic.r.colour.autowhitebalance".

7295 **6.32.4 OpenAPI 2.0 definition**

```
7296 {
7297   "swagger": "2.0",
7298   "info": {
7299     "title": "Auto White Balance",
7300     "version": "20190222",
7301     "license": {
7302       "name": "OCF Data Model License",
7303       "url":
7304         "https://github.com/openconnectivityfoundation/core/blob/e28a9e0a92e17042ba3e83661e4c0fbce8bdc4ba/LI
7305         CENSE.md",
7306       "x-copyright": "Copyright 2018-2019 Open Connectivity Foundation, Inc. All rights reserved."
7307     },
7308     "termsOfService": "https://openconnectivityfoundation.github.io/core/DISCLAIMER.md"
7309   },
7310   "schemes": ["http"],
7311   "consumes": ["application/json"],
7312   "produces": ["application/json"],
7313   "paths": {
7314     "/AutoWhiteBalanceResURI" : {
7315       "get": {
7316         "description": "This Resource describes an auto balance on/off feature.\nThe Property
7317         \"autoWhiteBalance\" is a boolean.\nAn AutoWhiteBalance value of 'true' means that the auto white
7318         balance feature is on.\nAn AutoWhiteBalance value of 'false' means that the auto white balance
7319         feature is off.\n",
7320         "parameters": [
7321           {"$ref": "#/parameters/interface"}
7322         ],

```

```

7323     "responses": {
7324         "200": {
7325             "description": "",
7326             "x-example":
7327                 {
7328                     "rt": ["oic.r.colour.autowhitebalance"],
7329                     "if": ["oic.if.a", "oic.if.baseline"],
7330                     "autoWhiteBalance": false
7331                 },
7332             "schema": { "$ref": "#/definitions/AutoWhiteBalance" }
7333         }
7334     },
7335 },
7336 "post": {
7337     "description": "",
7338     "parameters": [
7339         { "$ref": "#/parameters/interface" },
7340         {
7341             "name": "body",
7342             "in": "body",
7343             "required": true,
7344             "schema": { "$ref": "#/definitions/AutoWhiteBalance" },
7345             "x-example":
7346                 {
7347                     "autoWhiteBalance": true
7348                 }
7349         }
7350     ],
7351     "responses": {
7352         "200": {
7353             "description": "",
7354             "x-example":
7355                 {
7356                     "autoWhiteBalance": true
7357                 },
7358             "schema": { "$ref": "#/definitions/AutoWhiteBalance" }
7359         }
7360     }
7361 },
7362 },
7363 },
7364 "parameters": {
7365     "interface": {
7366         "in": "query",
7367         "name": "if",
7368         "type": "string",
7369         "enum": ["oic.if.a", "oic.if.baseline"]
7370     }
7371 },
7372 "definitions": {
7373     "AutoWhiteBalance": {
7374         "properties": {
7375             "rt": {
7376                 "description": "The Resource Type.",
7377                 "items": {
7378                     "enum": ["oic.r.colour.autowhitebalance"],
7379                     "maxLength": 64,
7380                     "type": "string"
7381                 },
7382                 "minItems": 1,
7383                 "uniqueItems": true,
7384                 "readOnly": true,
7385                 "type": "array"
7386             },
7387             "autoWhiteBalance": {
7388                 "description": "The status of the Auto White balance feature.",
7389                 "type": "boolean"
7390             },
7391             "n": {
7392                 "$ref":
7393                 "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
7394                 schema.json#/definitions/n"

```

```

7395     },
7396     "id": {
7397         "$ref":
7398         "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
7399         schema.json#/definitions/id"
7400     },
7401     "if": {
7402         "description": "The OCF Interface set supported by this Resource.",
7403         "items": {
7404             "enum": [
7405                 "oic.if.a",
7406                 "oic.if.baseline"
7407             ],
7408             "type": "string"
7409         },
7410         "minItems": 2,
7411         "uniqueItems": true,
7412         "readOnly": true,
7413         "type": "array"
7414     }
7415 },
7416 "type": "object",
7417 "required": ["autoWhiteBalance"]
7418 }
7419 }
7420 }
7421

```

7422 **6.32.5 Property definition**

7423 Table 67 defines the Properties that are part of the "oic.r.colour.autowhitebalance" Resource Type.

7424 **Table 67 – The Property definitions of the Resource with type "rt" =**
7425 **"oic.r.colour.autowhitebalance".**

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

7426 **6.32.6 CRUDN behaviour**

7427 Table 68 defines the CRUDN operations that are supported on the "oic.r.colour.autowhitebalance"
7428 Resource Type.

7429
7430

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

Create	Read	Update	Delete	Notify
	get	post		observe

7431 **6.33 Colour Saturation**

7432 **6.33.1 Introduction**

7433 This Resource describes a Colour saturation value.
7434 The Property "colourSaturation" is an integer.
7435 A "colourSaturation" has a range of [0,100].
7436 A "colourSaturation" value of 0 means producing black and white images.
7437 A "colourSaturation" value of 50 means producing device specific normal colour images.
7438 A "colourSaturation" value of 100 means producing device very full colour images.
7439

7440 **6.33.2 Example URI**

7441 /ColourSaturationResURI

7442 **6.33.3 Resource type**

7443 The Resource Type is defined as: "oic.r.colour.saturation".

7444 **6.33.4 OpenAPI 2.0 definition**

```
7445 {  
7446   "swagger": "2.0",  
7447   "info": {  
7448     "title": "Colour Saturation",  
7449     "version": "20190215",  
7450     "license": {  
7451       "name": "OCF Data Model License",  
7452       "url":  
7453       "https://github.com/openconnectivityfoundation/core/blob/e28a9e0a92e17042ba3e83661e4c0fbce8bdc4ba/LI  
7454       CENSE.md",  
7455       "x-copyright": "copyright 2016-2017, 2019 Open Connectivity Foundation, Inc. All rights  
7456       reserved."  
7457     },  
7458     "termsOfService": "https://openconnectivityfoundation.github.io/core/DISCLAIMER.md"  
7459   },  
7460   "schemes": ["http"],  
7461   "consumes": ["application/json"],  
7462   "produces": ["application/json"],  
7463   "paths": {  
7464     "/ColourSaturationResURI" : {  
7465       "get": {  
7466         "description": "This Resource describes a Colour saturation value.\n\nThe Property  
7467         \n\"colourSaturation\" is an integer.\n\nA \n\"colourSaturation\" has a range of [0,100].\n\nA  
7468         \n\"colourSaturation\" value of 0 means producing black and white images.\n\nA \n\"colourSaturation\"  
7469         value of 50 means producing device specific normal colour images.\n\nA \n\"colourSaturation\" value of  
7470         100 means producing device very full colour images.\n\n",  
7471         "parameters": [  
7472           {"$ref": "#/parameters/interface"}  
7473         ],  
7474         "responses": {  
7475           "200": {  
7476             "description": "",  
7477             "x-example":  
7478             {  
7479               "rt": ["oic.r.colour.saturation"],  
7480               "if": ["oic.if.a", "oic.if.baseline"],  
7481               "colourSaturation": 50  
7482             },  
7483           }  
7484         }  
7485       }  
7486     }  
7487   }  
7488 }
```

```

7483         "schema": { "$ref": "#/definitions/Saturation" }
7484     }
7485 },
7486 },
7487 "post": {
7488     "description": "",
7489     "parameters": [
7490         { "$ref": "#/parameters/interface" },
7491         {
7492             "name": "body",
7493             "in": "body",
7494             "required": true,
7495             "schema": { "$ref": "#/definitions/Saturation" },
7496             "x-example":
7497                 {
7498                     "colourSaturation": 60
7499                 }
7500         }
7501     ],
7502     "responses": {
7503         "200": {
7504             "description": "",
7505             "x-example":
7506                 {
7507                     "colourSaturation": 60
7508                 }
7509             ,
7510             "schema": { "$ref": "#/definitions/Saturation" }
7511         }
7512     }
7513 },
7514 },
7515 },
7516 "parameters": {
7517     "interface": {
7518         "in": "query",
7519         "name": "if",
7520         "type": "string",
7521         "enum": ["oic.if.a", "oic.if.baseline"]
7522     }
7523 },
7524 "definitions": {
7525     "Saturation": {
7526         "properties": {
7527             "rt": {
7528                 "description": "The Resource Type.",
7529                 "items": {
7530                     "enum": ["oic.r.colour.saturation"],
7531                     "maxLength": 64,
7532                     "type": "string"
7533                 },
7534                 "minItems": 1,
7535                 "uniqueItems": true,
7536                 "readOnly": true,
7537                 "type": "array"
7538             },
7539             "colourSaturation": {
7540                 "description": "The colour saturation value.",
7541                 "maximum": 100,
7542                 "minimum": 0,
7543                 "type": "integer"
7544             },
7545             "n": {
7546                 "$ref":
7547                 "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
7548                 schema.json#/definitions/n"
7549             },
7550             "id": {
7551                 "$ref":
7552                 "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
7553                 schema.json#/definitions/id"
7554             },

```

```

7555     "if": {
7556         "description": "The OCF Interface set supported by this Resource.",
7557         "items": {
7558             "enum": [
7559                 "oic.if.a",
7560                 "oic.if.baseline"
7561             ],
7562             "type": "string"
7563         },
7564         "minItems": 2,
7565         "uniqueItems": true,
7566         "readOnly": true,
7567         "type": "array"
7568     }
7569 },
7570 "type": "object",
7571 "required": ["colourSaturation"]
7572 }
7573 }
7574 }
7575

```

7576 **6.33.5 Property definition**

7577 Table 69 defines the Properties that are part of the "oic.r.colour.saturation" Resource Type.

7578 **Table 69 – The Property definitions of the Resource with type "rt" =**
7579 **"oic.r.colour.saturation".**

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

7580 **6.33.6 CRUDN behaviour**

7581 Table 70 defines the CRUDN operations that are supported on the "oic.r.colour.saturation"
7582 Resource Type.

7583 **Table 70 – The CRUDN operations of the Resource with type "rt" =**
7584 **"oic.r.colour.saturation".**

Create	Read	Update	Delete	Notify
	get	post		observe

7585 6.34 Contact Sensor

7586 6.34.1 Introduction

7587 This Resource describes whether a contact sensor has been tripped or not.
7588 Typical use case is in Security Systems detecting window or door open.
7589 The Property "value" is a boolean.
7590 A value of 'true' means that contact has been broken (open).
7591 A value of 'false' means that contact is in place (closed).
7592

7593 6.34.2 Example URI

7594 /ContactResURI

7595 6.34.3 Resource type

7596 The Resource Type is defined as: "oic.r.sensor.contact".

7597 6.34.4 OpenAPI 2.0 definition

```
7598 {  
7599   "swagger": "2.0",  
7600   "info": {  
7601     "title": "Contact Sensor",  
7602     "version": "20190215",  
7603     "license": {  
7604       "name": "OCF Data Model License",  
7605       "url":  
7606       "https://github.com/openconnectivityfoundation/core/blob/e28a9e0a92e17042ba3e83661e4c0fbce8bdc4ba/LI  
7607       CENSE.md",  
7608       "x-copyright": "copyright 2016-2017, 2019 Open Connectivity Foundation, Inc. All rights  
7609       reserved."  
7610     },  
7611     "termsOfService": "https://openconnectivityfoundation.github.io/core/DISCLAIMER.md"  
7612   },  
7613   "schemes": ["http"],  
7614   "consumes": ["application/json"],  
7615   "produces": ["application/json"],  
7616   "paths": {  
7617     "/ContactResURI" : {  
7618       "get": {  
7619         "description": "This Resource describes whether a contact sensor has been tripped or  
7620         not.\nTypical use case is in Security Systems detecting window or door open.\nThe Property \"value\  
7621         is a boolean.\nA value of 'true' means that contact has been broken (open).\nA value of 'false'  
7622         means that contact is in place (closed).\n",  
7623         "parameters": [  
7624           {"$ref": "#/parameters/interface"}  
7625         ],  
7626         "responses": {  
7627           "200": {  
7628             "description": "",  
7629             "x-example":  
7630             {  
7631               "rt": ["oic.r.sensor.contact"],  
7632               "if": ["oic.if.s", "oic.if.baseline"],  
7633               "value": true  
7634             },  
7635             "schema": { "$ref": "#/definitions/Contact" }  
7636           }  
7637         }  
7638       }  
7639     }  
7640   },  
7641   "parameters": {  
7642     "interface" : {  
7643       "in": "query",  
7644       "name": "if",  
7645       "type": "string",  
7646       "enum": ["oic.if.s", "oic.if.baseline"]  
7647     }  
}
```

```

7648 },
7649 "definitions": {
7650   "Contact" : {
7651     "properties": {
7652       "rt": {
7653         "description": "The Resource Type.",
7654         "items": {
7655           "enum": ["oic.r.sensor.contact"],
7656           "maxLength": 64,
7657           "type": "string"
7658         },
7659         "minItems": 1,
7660         "uniqueItems": true,
7661         "readOnly": true,
7662         "type": "array"
7663       },
7664       "value": {
7665         "description": "The contact indication, true = broken (open), false = in place (closed).",
7666         "readOnly": true,
7667         "type": "boolean"
7668       },
7669       "n": {
7670         "$ref":
7671 "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
7672 schema.json#/definitions/n"
7673       },
7674       "id": {
7675         "$ref":
7676 "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
7677 schema.json#/definitions/id"
7678       },
7679       "if": {
7680         "description": "The OCF Interface set supported by this Resource.",
7681         "items": {
7682           "enum": [
7683             "oic.if.s",
7684             "oic.if.baseline"
7685           ],
7686           "type": "string"
7687         },
7688         "minItems": 2,
7689         "uniqueItems": true,
7690         "readOnly": true,
7691         "type": "array"
7692       }
7693     },
7694     "type": "object",
7695     "required": ["value"]
7696   }
7697 }
7698 }
7699

```

7700 6.34.5 Property definition

7701 Table 71 defines the Properties that are part of the "oic.r.sensor.contact" Resource Type.

7702 **Table 71 – The Property definitions of the Resource with type "rt" = "oic.r.sensor.contact".**

Property name	Value type	Mandatory	Access mode	Description
value	boolean	Yes	Read Only	The contact indication, true = broken (open), false = in place (closed).

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

7703 **6.34.6 CRUDN behaviour**

7704 Table 72 defines the CRUDN operations that are supported on the "oic.r.sensor.contact" Resource
7705 Type.

7706 **Table 72 – The CRUDN operations of the Resource with type "rt" = "oic.r.sensor.contact".**

Create	Read	Update	Delete	Notify
	get			observe

7707 **6.35 Demand Response Load Control (DRLC).**

7708 **6.35.1 Introduction**

7709 This Resource describes any to be applied or currently being applied DRLC signal.
7710 The Property "DRType" is the ApplianceLoadReductionType defined in Zigbee/HA Smart Energy
7711 Profile 2.0.
7712 The Property "Start" is a string containing an RFC3339 encoded start time.
7713 The Property "duration" value is in minutes.
7714 The Property "Override" indicates whether the consumer has overridden the request (true) or not
7715 (false).
7716 The Resource provides the current DRLC action that is being applied.

7717 **6.35.2 Example URI**

7718 /DRLCResURI

7719 **6.35.3 Resource type**

7720 The Resource Type is defined as: "oic.r.energy.drlc".

7721 **6.35.4 OpenAPI 2.0 definition**

```
7722 {
7723   "swagger": "2.0",
7724   "info": {
7725     "title": "Demand Response Load Control (DRLC).",
7726     "version": "20190215",
7727     "license": {
7728       "name": "OCF Data Model License",
7729       "url":
7730 "https://github.com/openconnectivityfoundation/core/blob/e28a9e0a92e17042ba3e83661e4c0fbce8bdc4ba/LI
7731 CENSE.md",
7732     "x-copyright": "copyright 2016-2017, 2019 Open Connectivity Foundation, Inc. All rights
7733 reserved."
7734   },

```

```

7735     "termsOfService": "https://openconnectivityfoundation.github.io/core/DISCLAIMER.md"
7736   },
7737   "schemes": ["http"],
7738   "consumes": ["application/json"],
7739   "produces": ["application/json"],
7740   "paths": {
7741     "/DRLCResURI" : {
7742       "get": {
7743         "description": "This Resource describes any to be applied or currently being applied DRLC
7744 signal.\n\nThe Property \"DRType\" is the ApplianceLoadReductionType defined in Zigbee/HA Smart Energy
7745 Profile 2.0.\n\nThe Property \"Start\" is a string containing an RFC3339 encoded start time.\n\nThe
7746 Property \"duration\" value is in minutes.\n\nThe Property \"Override\" indicates whether the consumer
7747 has overridden the request (true) or not (false).\n\nThe Resource provides the current DRLC action
7748 that is being applied.",
7749         "parameters": [
7750           { "$ref": "#/parameters/interface" }
7751         ],
7752         "responses": {
7753           "200": {
7754             "description": "",
7755             "x-example":
7756               {
7757                 "rt": ["oic.r.energy.drlc"],
7758                 "if": ["oic.if.a", "oic.if.baseline"],
7759                 "DRType": 1,
7760                 "start": "2015-01-09T16:45:00Z",
7761                 "duration": 10,
7762                 "override": false,
7763                 "drlevel": 2,
7764                 "mandate": true
7765               },
7766           "schema": { "$ref": "#/definitions/DRLC" }
7767         }
7768       },
7769     },
7770     "post": {
7771       "description": "Provides the DRLC action to be applied to the device or updates an existing
7772 action.",
7773       "parameters": [
7774         { "$ref": "#/parameters/interface" },
7775         {
7776           "name": "body",
7777           "in": "body",
7778           "required": true,
7779           "schema": { "$ref": "#/definitions/DRLC" },
7780           "x-example":
7781             {
7782               "DRType": 1,
7783               "start": "2015-01-09T17:00:00Z",
7784               "duration": 10
7785             }
7786         }
7787       ],
7788       "responses": {
7789         "200": {
7790           "description": "Indicates that the target DRLC resource was changed.\n\nThe new
7791 resource attributes are provided in the response.",
7792           "x-example":
7793             {
7794               "DRType": 1,
7795               "start": "2015-01-09T17:00:00Z",
7796               "duration": 15,
7797               "override": false
7798             }
7799         },
7800         "schema": { "$ref": "#/definitions/DRLC" }
7801       },
7802       "201": {
7803         "description": "Indicates successful creation of the DRLC Resource with the
7804 attributes provided.\n\nThe response includes the URI of the created Resource.",
7805         "x-example":
7806           {

```

```

7807         "ResURI": "/MyDevice/MyDRLCURI"
7808     },
7809     "schema": {"$ref": "#/definitions/CreateResponse"}
7810 }
7811 }
7812 }
7813 }
7814 },
7815 "parameters": {
7816     "interface" : {
7817         "in" : "query",
7818         "name" : "if",
7819         "type" : "string",
7820         "enum" : ["oic.if.a", "oic.if.baseline"]
7821     }
7822 },
7823 "definitions": {
7824     "DRLC" : {
7825         "properties": {
7826             "rt": {
7827                 "description": "The Resource Type.",
7828                 "items": {
7829                     "enum": ["oic.r.energy.drlc"],
7830                     "maxLength": 64,
7831                     "type": "string"
7832                 },
7833                 "minItems": 1,
7834                 "uniqueItems": true,
7835                 "readOnly": true,
7836                 "type": "array"
7837             },
7838             "start": {
7839                 "description": "The start time for the application of DR using RFC3339 datetime format
7840 (e.g. 2007-04-05T14:30:00Z, 2007-04-05T14:30:00+09:00).",
7841                 "type": "string",
7842                 "format": "date-time"
7843             },
7844             "duration": {
7845                 "description": "The duration of the to be applied DR type.",
7846                 "type": "integer"
7847             },
7848             "override": {
7849                 "description": "Whether the consumer has overridden the application of DR.",
7850                 "type": "boolean"
7851             },
7852             "DRType": {
7853                 "description": "The to be applied demand-response type.",
7854                 "type": "integer"
7855             },
7856             "drlevel": {
7857                 "type": "integer",
7858                 "minimum": 0,
7859                 "maximum": 3,
7860                 "description": "Indicator of the strength of the DR response that is requested; 0-0%, 1-
7861 30%, 2-50%, 3-70%"
7862             },
7863             "mandate" : {
7864                 "type": "boolean",
7865                 "description": "Whether overriding the DR request by the consumer is allowed"
7866             },
7867             "n": {
7868                 "$ref":
7869 "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
7870 schema.json#/definitions/n"
7871             },
7872             "id": {
7873                 "$ref":
7874 "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
7875 schema.json#/definitions/id"
7876             },
7877             "if": {
7878                 "description": "The OCF Interface set supported by this Resource.",

```



```

7879     "items": {
7880         "enum": [
7881             "oic.if.a",
7882             "oic.if.baseline"
7883         ],
7884         "type": "string"
7885     },
7886     "minItems": 2,
7887     "uniqueItems": true,
7888     "readOnly": true,
7889     "type": "array"
7890 }
7891 },
7892 "type": "object",
7893 "required": ["DRType"]
7894 },
7895 "CreateResponse" : {
7896     "properties": {
7897         "ResURI": {
7898             "description": "The url of the created Resource.",
7899             "type": "string",
7900             "format" : "uri"
7901         }
7902     },
7903     "type": "object",
7904     "required": ["ResURI"]
7905 }
7906 }
7907 }
7908

```

7909 6.35.5 Property definition

7910 Table 73 defines the Properties that are part of the "oic.r.energy.drlc" Resource Type.

7911 **Table 73 – The Property definitions of the Resource with type "rt" = "oic.r.energy.drlc".**

Property name	Value type	Mandatory	Access mode	Description
ResURI	string	Yes	Read Write	The url of the created Resource.
duration	integer	No	Read Write	The duration of the to be applied DR type.
DRType	integer	Yes	Read Write	The to be applied demand-response type.
rt	array: see schema	No	Read Only	The Resource Type.
n	multiple types: see schema	No	Read Write	
start	string	No	Read Write	The start time for the application of DR using RFC3339 datetime format (e.g. 2007-04-05T14:30:00Z, 2007-

				04-05T14:30:00+09:00).
id	multiple types: see schema	No	Read Write	
if	array: see schema	No	Read Only	The OCF Interface set supported by this Resource.
override	boolean	No	Read Write	Whether the consumer has overridden the application of DR.
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

7912 **6.35.6 CRUDN behaviour**

7913 Table 74 defines the CRUDN operations that are supported on the "oic.r.energy.drlc" Resource
7914 Type.

7915 **Table 74 – The CRUDN operations of the Resource with type "rt" = "oic.r.energy.drlc".**

Create	Read	Update	Delete	Notify
	get	post		observe

7916 **6.36 Energy Overload/Circuit Breaker**

7917 **6.36.1 Introduction**

7918 This Resource describes whether an energy overload detector/circuit breaker is currently tripped.
7919 The Property "value" is a boolean.
7920 A value of 'true' means that energy overload has been tripped.
7921 A value of 'false' means that energy overload has not been tripped.
7922

7923 **6.36.2 Example URI**

7924 /EnergyOverloadResURI

7925 **6.36.3 Resource type**

7926 The Resource Type is defined as: "oic.r.energy.overload".

7927 **6.36.4 OpenAPI 2.0 definition**

```
7928 {
7929   "swagger": "2.0",
7930   "info": {
7931     "title": "Energy Overload/Circuit Breaker",
```

```

7932     "version": "20190215",
7933     "license": {
7934         "name": "OCF Data Model License",
7935         "url":
7936         "https://github.com/openconnectivityfoundation/core/blob/e28a9e0a92e17042ba3e83661e4c0fbce8bdc4ba/LI
7937         CENSE.md",
7938         "x-copyright": "copyright 2016-2017, 2019 Open Connectivity Foundation, Inc. All rights
7939         reserved."
7940     },
7941     "termsOfService": "https://openconnectivityfoundation.github.io/core/DISCLAIMER.md"
7942 },
7943     "schemes": ["http"],
7944     "consumes": ["application/json"],
7945     "produces": ["application/json"],
7946     "paths": {
7947         "/EnergyOverloadResURI" : {
7948             "get": {
7949                 "description": "This Resource describes whether an energy overload detector/circuit breaker
7950                 is currently tripped.\n\nThe Property \"value\" is a boolean.\n\nA value of 'true' means that energy
7951                 overload has been tripped.\n\nA value of 'false' means that energy overload has not been tripped.\n",
7952                 "parameters": [
7953                     { "$ref": "#/parameters/interface" }
7954                 ],
7955                 "responses": {
7956                     "200": {
7957                         "description": "",
7958                         "x-example":
7959                         {
7960                             "rt": ["oic.r.energy.overload"],
7961                             "if": ["oic.if.s", "oic.if.baseline"],
7962                             "value": true
7963                         },
7964                         "schema": { "$ref": "#/definitions/EnergyOverload" }
7965                     }
7966                 }
7967             }
7968         }
7969     },
7970     "parameters": {
7971         "interface": {
7972             "in": "query",
7973             "name": "if",
7974             "type": "string",
7975             "enum": ["oic.if.s", "oic.if.baseline"]
7976         }
7977     },
7978     "definitions": {
7979         "EnergyOverload" : {
7980             "properties": {
7981                 "rt": {
7982                     "description": "The Resource Type.",
7983                     "items": {
7984                         "enum": ["oic.r.energy.overload"],
7985                         "maxLength": 64,
7986                         "type": "string"
7987                     },
7988                     "minItems": 1,
7989                     "uniqueItems": true,
7990                     "readOnly": true,
7991                     "type": "array"
7992                 },
7993                 "value": {
7994                     "description": "The energy overload indication,true = tripped, false = not tripped.",
7995                     "readOnly": true,
7996                     "type": "boolean"
7997                 },
7998                 "n": {
7999                     "$ref":
8000                     "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
8001                     schema.json#/definitions/n"
8002                 },
8003                 "id": {

```

```

8004         "$ref":
8005         "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
8006         schema.json#/definitions/id"
8007     },
8008     "if": {
8009         "description": "The OCF Interface set supported by this Resource.",
8010         "items": {
8011             "enum": [
8012                 "oic.if.s",
8013                 "oic.if.baseline"
8014             ],
8015             "type": "string"
8016         },
8017         "minItems": 2,
8018         "uniqueItems": true,
8019         "readOnly": true,
8020         "type": "array"
8021     }
8022 },
8023 "type": "object",
8024 "required": ["value"]
8025 }
8026 }
8027 }
8028

```

8029 **6.36.5 Property definition**

8030 Table 75 defines the Properties that are part of the "oic.r.energy.overload" Resource Type.

8031 **Table 75 – The Property definitions of the Resource with type "rt" =**
8032 **"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.

8033 **6.36.6 CRUDN behaviour**

8034 Table 76 defines the CRUDN operations that are supported on the "oic.r.energy.overload"
8035 Resource Type.

8036 **Table 76 – The CRUDN operations of the Resource with type "rt" = "oic.r.energy.overload".**

Create	Read	Update	Delete	Notify
	get			observe

8037 **6.37 Generic Sensor**

8038 **6.37.1 Introduction**

8039 This Resource describes whether some value or property or entity has been sensed or not.
 8040 The Property "value" is a boolean.
 8041 A value of 'true' means that the target has been sensed.
 8042 A value of 'false' means that the target has not been sensed.

8043 **6.37.2 Example URI**

8044 /GenericSensorResURI

8045 **6.37.3 Resource type**

8046 The Resource Type is defined as: "oic.r.sensor".

8047 **6.37.4 OpenAPI 2.0 definition**

```

8048 {
8049   "swagger": "2.0",
8050   "info": {
8051     "title": "Generic Sensor",
8052     "version": "20190215",
8053     "license": {
8054       "name": "OCF Data Model License",
8055       "url":
8056         "https://github.com/openconnectivityfoundation/core/blob/e28a9e0a92e17042ba3e83661e4c0fbce8bdc4ba/LI
8057         CENSE.md",
8058       "x-copyright": "copyright 2016-2017, 2019 Open Connectivity Foundation, Inc. All rights
8059       reserved."
8060     },
8061     "termsOfService": "https://openconnectivityfoundation.github.io/core/DISCLAIMER.md"
8062   },
8063   "schemes": ["http"],
8064   "consumes": ["application/json"],
8065   "produces": ["application/json"],
8066   "paths": {
8067     "/GenericSensorResURI" : {
8068       "get": {
8069         "description": "This Resource describes whether some value or property or entity has been
8070         sensed or not.\n\nThe Property \"value\" is a boolean.\n\nA value of 'true' means that the target has
8071         been sensed.\n\nA value of 'false' means that the target has not been sensed.",
8072         "parameters": [
8073           {"$ref": "#/parameters/interface"}
8074         ],
8075         "responses": {
8076           "200": {
8077             "description" : "",
8078             "x-example": {
8079               "rt": ["oic.r.sensor"],
8080               "if": ["oic.if.s", "oic.if.baseline"],
8081               "value": true
8082             },
8083             "schema": { "$ref": "#/definitions/Sensor" }
8084           }
8085         }
8086       }
8087     }
8088   },
8089   "parameters": {
8090     "interface": {

```

```

8091     "in": "query",
8092     "name": "if",
8093     "type": "string",
8094     "enum": ["oic.if.s", "oic.if.baseline"]
8095   }
8096 },
8097 "definitions": {
8098   "Sensor" : {
8099     "properties": {
8100       "rt": {
8101         "description": "The Resource Type.",
8102         "items": {
8103           "enum": ["oic.r.sensor"],
8104           "maxLength": 64,
8105           "type": "string"
8106         },
8107         "minItems": 1,
8108         "uniqueItems": true,
8109         "readOnly": true,
8110         "type": "array"
8111       },
8112       "value": {
8113         "description": "true = sensed, false = not sensed.",
8114         "readOnly": true,
8115         "type": "boolean"
8116       },
8117       "n": {
8118         "$ref":
8119 "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
8120 schema.json#/definitions/n"
8121       },
8122       "id": {
8123         "$ref":
8124 "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
8125 schema.json#/definitions/id"
8126       },
8127       "if": {
8128         "description": "The OCF Interface set supported by this Resource.",
8129         "items": {
8130           "enum": [
8131             "oic.if.s",
8132             "oic.if.baseline"
8133           ],
8134           "type": "string"
8135         },
8136         "minItems": 2,
8137         "uniqueItems": true,
8138         "readOnly": true,
8139         "type": "array"
8140       }
8141     },
8142     "type": "object",
8143     "required": ["value"]
8144   }
8145 }
8146 }
8147

```

8148 **6.37.5 Property definition**

8149 Table 77 defines the Properties that are part of the "oic.r.sensor" Resource Type.

8150 **Table 77 – The Property definitions of the Resource with type "rt" = "oic.r.sensor".**

Property name	Value type	Mandatory	Access mode	Description
n	multiple types: see schema	No	Read Write	

if	array: see schema	No	Read Only	The OCF Interface set supported by this Resource.
rt	array: see schema	No	Read Only	The Resource Type.
id	multiple types: see schema	No	Read Write	
value	boolean	Yes	Read Only	true = sensed, false = not sensed.

8151 **6.37.6 CRUDN behaviour**

8152 Table 78 defines the CRUDN operations that are supported on the "oic.r.sensor" Resource Type.

8153 **Table 78 – The CRUDN operations of the Resource with type "rt" = "oic.r.sensor".**

Create	Read	Update	Delete	Notify
	get			observe

8154 **6.38 Glass Break Sensor**

8155 **6.38.1 Introduction**

8156 This Resource describes a glass break sensor.
 8157 The Property "value" is a boolean.
 8158 A value of 'true' means that glass break has been sensed.
 8159 A value of 'false' means that glass break not been sensed.

8160 **6.38.2 Example URI**

8161 /GlassBreakResURI

8162 **6.38.3 Resource type**

8163 The Resource Type is defined as: "oic.r.sensor.glassbreak".

8164 **6.38.4 OpenAPI 2.0 definition**

```

8165 {
8166   "swagger": "2.0",
8167   "info": {
8168     "title": "Glass Break Sensor",
8169     "version": "20190215",
8170     "license": {
8171       "name": "OCF Data Model License",
8172       "url":
8173 "https://github.com/openconnectivityfoundation/core/blob/e28a9e0a92e17042ba3e83661e4c0fbce8bdc4ba/LI
8174 CENSE.md",
8175       "x-copyright": "copyright 2016-2017, 2019 Open Connectivity Foundation, Inc. All rights
8176 reserved."
8177     },
8178     "termsOfService": "https://openconnectivityfoundation.github.io/core/DISCLAIMER.md"
8179   },
8180   "schemes": ["http"],
8181   "consumes": ["application/json"],
8182   "produces": ["application/json"],

```

```

8183     "paths": {
8184         "/GlassBreakResURI" : {
8185             "get": {
8186                 "description": "This Resource describes a glass break sensor.\nThe Property \"value\" is a
8187 boolean.\nA value of 'true' means that glass break has been sensed.\nA value of 'false' means that
8188 glass break not been sensed.",
8189                 "parameters": [
8190                     { "$ref": "#/parameters/interface" }
8191                 ],
8192                 "responses": {
8193                     "200": {
8194                         "description": "",
8195                         "x-example":
8196                             {
8197                                 "rt": ["oic.r.sensor.glassbreak"],
8198                                 "if": ["oic.if.s", "oic.if.baseline"],
8199                                 "value": true
8200                             },
8201                     "schema": { "$ref": "#/definitions/GlassBreak" }
8202                 }
8203             }
8204         }
8205     },
8206     "parameters": {
8207         "interface": {
8208             "in": "query",
8209             "name": "if",
8210             "type": "string",
8211             "enum": ["oic.if.s", "oic.if.baseline"]
8212         }
8213     },
8214     "definitions": {
8215         "GlassBreak" : {
8216             "properties": {
8217                 "rt": {
8218                     "description": "The Resource Type.",
8219                     "items": {
8220                         "enum": ["oic.r.sensor.glassbreak"],
8221                         "maxLength": 64,
8222                         "type": "string"
8223                     },
8224                     "minItems": 1,
8225                     "uniqueItems": true,
8226                     "readOnly": true,
8227                     "type": "array"
8228                 },
8229                 "value": {
8230                     "description": "The glassbreak indication, true = glass break sensed, false = glass break
8231 not sensed.",
8232                     "readOnly": true,
8233                     "type": "boolean"
8234                 },
8235                 "n": {
8236                     "$ref":
8237                         "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
8238 schema.json#/definitions/n"
8239                 },
8240                 "id": {
8241                     "$ref":
8242                         "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
8243 schema.json#/definitions/id"
8244                 },
8245                 "if": {
8246                     "description": "The OCF Interface set supported by this Resource.",
8247                     "items": {
8248                         "enum": [
8249                             "oic.if.s",
8250                             "oic.if.baseline"
8251                         ],
8252                     "type": "string"
8253                 }
8254             }

```



```

8255         "minItems": 2,
8256         "uniqueItems": true,
8257         "readOnly": true,
8258         "type": "array"
8259     },
8260 },
8261 "type": "object",
8262 "required": ["value"]
8263 }
8264 }
8265 }
8266

```

8267 **6.38.5 Property definition**

8268 Table 79 defines the Properties that are part of the "oic.r.sensor.glassbreak" Resource Type.

8269 **Table 79 – The Property definitions of the Resource with type "rt" =**
8270 **"oic.r.sensor.glassbreak".**

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

8271 **6.38.6 CRUDN behaviour**

8272 Table 80 defines the CRUDN operations that are supported on the "oic.r.sensor.glassbreak"
8273 Resource Type.

8274 **Table 80 – The CRUDN operations of the Resource with type "rt" =**
8275 **"oic.r.sensor.glassbreak".**

Create	Read	Update	Delete	Notify
	get			observe

8276 **6.39 Heart Rate Zone**

8277 **6.39.1 Introduction**

8278 This Resource describes a measured heart rate by the current Zone using the Zoladz method. The
8279 Zoladz method defines Zones based on maximum heart rate; Zone 1 is the lowest, Zone 5 is the
8280 highest.

8281 The heartRateZone is an enumeration containing one of: "Zone1", "Zone2", "Zone3", "Zone4", and
8282 "Zone5".
8283

8284 **6.39.2 Example URI**

8285 /HeartRateZoneResURI

8286 **6.39.3 Resource type**

8287 The Resource Type is defined as: "oic.r.sensor.heart.zone".

8288 **6.39.4 OpenAPI 2.0 definition**

```
8289 {  
8290   "swagger": "2.0",  
8291   "info": {  
8292     "title": "Heart Rate Zone",  
8293     "version": "2019-03-28",  
8294     "license": {  
8295       "name": "OCF Data Model License",  
8296       "url":  
8297         "https://github.com/openconnectivityfoundation/core/blob/e28a9e0a92e17042ba3e83661e4c0fbce8bdc4ba/LI  
8298         CENSE.md",  
8299         "x-copyright": "copyright 2016-2017, 2019 Open Connectivity Foundation, Inc. All rights  
8300         reserved."  
8301       },  
8302       "termsOfService": "https://openconnectivityfoundation.github.io/core/DISCLAIMER.md"  
8303     },  
8304     "schemes": ["http"],  
8305     "consumes": ["application/json"],  
8306     "produces": ["application/json"],  
8307     "paths": {  
8308       "/HeartRateZoneResURI" : {  
8309         "get": {  
8310           "description": "This Resource describes a measured heart rate by the current Zone using the  
8311           Zoladz method. The Zoladz method defines Zones based on maximum heart rate; Zone 1 is the lowest,  
8312           Zone 5 is the highest.\nThe heartRateZone is an enumeration containing one of: \"Zone1\", \"Zone2\",  
8313           \"Zone3\", \"Zone4\", and \"Zone5\".\n",  
8314           "parameters": [  
8315             {"$ref": "#/parameters/interface"}  
8316           ],  
8317           "responses": {  
8318             "200": {  
8319               "description": "",  
8320               "x-example":  
8321                 {  
8322                   "rt": ["oic.r.sensor.heart.zone"],  
8323                   "heartRateZone": "Zone3"  
8324                 },  
8325               "schema": {"$ref": "#/definitions/heartRateZone"}  
8326             }  
8327           }  
8328         }  
8329       }  
8330     },  
8331     "parameters": {  
8332       "interface" : {  
8333         "in" : "query",  
8334         "name" : "if",  
8335         "type" : "string",  
8336         "enum" : ["oic.if.s", "oic.if.baseline"]  
8337       }  
8338     },
```

```

8339     "definitions": {
8340         "heartRateZone" : {
8341             "properties": {
8342                 "rt": {
8343                     "description": "Resource Type",
8344                     "items": {
8345                         "enum": ["oic.r.sensor.heart.zone"],
8346                         "maxLength": 64,
8347                         "type": "string"
8348                     },
8349                     "minItems": 1,
8350                     "readOnly": true,
8351                     "uniqueItems": true,
8352                     "type": "array"
8353                 },
8354                 "n": {
8355                     "$ref":
8356                     "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
8357                     schema.json#/definitions/n"
8358                 },
8359                 "id": {
8360                     "$ref":
8361                     "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
8362                     schema.json#/definitions/id"
8363                 },
8364                 "heartRateZone": {
8365                     "description": "Current heart rate zone based on the Zoladz system.",
8366                     "enum": [
8367                         "Zone1",
8368                         "Zone2",
8369                         "Zone3",
8370                         "Zone4",
8371                         "Zone5"
8372                     ],
8373                     "readOnly": true,
8374                     "type": "string"
8375                 },
8376                 "if": {
8377                     "description": "The OCF Interface set supported by this Resource",
8378                     "items": {
8379                         "enum": [
8380                             "oic.if.s",
8381                             "oic.if.baseline"
8382                         ],
8383                         "type": "string",
8384                         "maxLength": 64
8385                     },
8386                     "minItems": 1,
8387                     "readOnly": true,
8388                     "uniqueItems": true,
8389                     "type": "array"
8390                 }
8391             },
8392             "type" : "object",
8393             "required": ["heartRateZone"]
8394         }
8395     }
8396 }
8397

```

8398 6.39.5 Property definition

8399 Table 81 defines the Properties that are part of the "oic.r.sensor.heart.zone" Resource Type.

8400 **Table 81 – The Property definitions of the Resource with type "rt" =**
8401 **"oic.r.sensor.heart.zone".**

Property name	Value type	Mandatory	Access mode	Description
---------------	------------	-----------	-------------	-------------

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

8402 **6.39.6 CRUDN behaviour**

8403 Table 82 defines the CRUDN operations that are supported on the "oic.r.sensor.heart.zone"
8404 Resource Type.

8405 **Table 82 – The CRUDN operations of the Resource with type "rt" =**
8406 **"oic.r.sensor.heart.zone".**

Create	Read	Update	Delete	Notify
	get			observe

8407

8408 **6.40 Illuminance Sensor**

8409 **6.40.1 Introduction**

8410 This Resource describes an illuminance sensor.
8411 The Property "illuminance" is a float and represents the sensed luminous flux per unit area in lux.

8412 **6.40.2 Example URI**

8413 /IlluminanceSensorResURI

8414 **6.40.3 Resource type**

8415 The Resource Type is defined as: "oic.r.sensor.illuminance".

8416 **6.40.4 OpenAPI 2.0 definition**

```
8417 {
8418   "swagger": "2.0",
8419   "info": {
8420     "title": "Illuminance Sensor",
8421     "version": "20190215",
8422     "license": {
8423       "name": "OCF Data Model License",
8424       "url":
8425       "https://github.com/openconnectivityfoundation/core/blob/e28a9e0a92e17042ba3e83661e4c0fbce8bdc4ba/LI
8426       CENSE.md",
```

```

8427         "x-copyright": "copyright 2016-2017, 2019 Open Connectivity Foundation, Inc. All rights
8428 reserved."
8429     },
8430     "termsOfService": "https://openconnectivityfoundation.github.io/core/DISCLAIMER.md"
8431 },
8432 "schemes": ["http"],
8433 "consumes": ["application/json"],
8434 "produces": ["application/json"],
8435 "paths": {
8436     "/IlluminanceSensorResURI" : {
8437         "get": {
8438             "description": "This Resource describes an illuminance sensor.\nThe Property \"illuminance\"
8439 is a float and represents the sensed luminous flux per unit area in lux.",
8440             "parameters": [
8441                 {"$ref": "#/parameters/interface"}
8442             ],
8443             "responses": {
8444                 "200": {
8445                     "description": "",
8446                     "x-example":
8447                         {
8448                             "rt": ["oic.r.sensor.illuminance"],
8449                             "if": ["oic.if.s", "oic.if.baseline"],
8450                             "illuminance": 450.0
8451                         },
8452                     "schema": { "$ref": "#/definitions/Illuminance" }
8453                 }
8454             }
8455         }
8456     },
8457 },
8458 "parameters": {
8459     "interface" : {
8460         "in" : "query",
8461         "name" : "if",
8462         "type" : "string",
8463         "enum" : ["oic.if.s", "oic.if.baseline"]
8464     }
8465 },
8466 "definitions": {
8467     "Illuminance" : {
8468         "properties": {
8469             "rt": {
8470                 "description": "The Resource Type.",
8471                 "items": {
8472                     "enum": ["oic.r.sensor.illuminance"],
8473                     "maxLength": 64,
8474                     "type": "string"
8475                 },
8476                 "minItems": 1,
8477                 "uniqueItems": true,
8478                 "readOnly": true,
8479                 "type": "array"
8480             },
8481             "illuminance": {
8482                 "description": "The sensed luminous flux per unit area in lux.",
8483                 "readOnly": true,
8484                 "type": "number"
8485             },
8486             "n": {
8487                 "$ref":
8488                 "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
8489                 schema.json#/definitions/n"
8490             },
8491             "id": {
8492                 "$ref":
8493                 "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
8494                 schema.json#/definitions/id"
8495             },
8496             "if": {
8497                 "description": "The OCF Interface set supported by this Resource.",
8498                 "items": {

```

```

8499         "enum": [
8500             "oic.if.s",
8501             "oic.if.baseline"
8502         ],
8503         "type": "string"
8504     },
8505     "minItems": 2,
8506     "uniqueItems": true,
8507     "readOnly": true,
8508     "type": "array"
8509 }
8510 },
8511 "type": "object",
8512 "required": ["illuminance"]
8513 }
8514 }
8515 }
8516

```

8517 **6.40.5 Property definition**

8518 Table 83 defines the Properties that are part of the "oic.r.sensor.illuminance" Resource Type.

8519 **Table 83 – The Property definitions of the Resource with type "rt" =**
8520 **"oic.r.sensor.illuminance".**

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

8521 **6.40.6 CRUDN behaviour**

8522 Table 84 defines the CRUDN operations that are supported on the "oic.r.sensor.illuminance"
8523 Resource Type.

8524 **Table 84 – The CRUDN operations of the Resource with type "rt" =**
8525 **"oic.r.sensor.illuminance".**

Create	Read	Update	Delete	Notify
	get			observe

8526 6.41 Magnetic Field Direction Sensor

8527 6.41.1 Introduction

8528 This Resource describes the direction of the Earth's magnetic field at the observer's current point
8529 in space.
8530 Typical use case includes measurement of compass readings on a personal device.
8531 The Property "value" is an array containing Hx, Hy, Hz (in that order) each of which are floats.
8532 Each of Hx, Hy and Hz are expressed in A/m (Amperes per metre).

8533 6.41.2 Example URI

8534 /MagneticFieldDirectionResURI

8535 6.41.3 Resource type

8536 The Resource Type is defined as: "oic.r.sensor.magneticfielddirection".

8537 6.41.4 OpenAPI 2.0 definition

```
8538 {
8539   "swagger": "2.0",
8540   "info": {
8541     "title": "Magnetic Field Direction Sensor",
8542     "version": "20190215",
8543     "license": {
8544       "name": "OCF Data Model License",
8545       "url":
8546         "https://github.com/openconnectivityfoundation/core/blob/e28a9e0a92e17042ba3e83661e4c0fbce8bdc4ba/LI
8547         CENSE.md",
8548       "x-copyright": "copyright 2016-2017, 2019 Open Connectivity Foundation, Inc. All rights
8549         reserved."
8550     },
8551     "termsOfService": "https://openconnectivityfoundation.github.io/core/DISCLAIMER.md"
8552   },
8553   "schemes": ["http"],
8554   "consumes": ["application/json"],
8555   "produces": ["application/json"],
8556   "paths": {
8557     "/MagneticFieldDirectionResURI" : {
8558       "get": {
8559         "description": "This Resource describes the direction of the Earth's magnetic field at the
8560         observer's current point in space.\n\nTypical use case includes measurement of compass readings on a
8561         personal device.\n\nThe Property \"value\" is an array containing Hx, Hy, Hz (in that order) each of
8562         which are floats.\n\nEach of Hx, Hy and Hz are expressed in A/m (Amperes per metre).",
8563         "parameters": [
8564           {"$ref": "#/parameters/interface"}
8565         ],
8566         "responses": {
8567           "200": {
8568             "description": "",
8569             "x-example":
8570               {
8571                 "rt": ["oic.r.sensor.magneticfielddirection"],
8572                 "if": ["oic.if.s", "oic.if.baseline"],
8573                 "value": [100.0, 15.0, 90.0]
8574               },
8575             "schema": { "$ref": "#/definitions/magneticFieldDirection" }
8576           }
8577         }
8578       }
8579     }
8580   },
8581   "parameters": {
8582     "interface" : {
8583       "in" : "query",
8584       "name" : "if",
8585       "type" : "string",
8586       "enum" : ["oic.if.s", "oic.if.baseline"]
8587     }
8588   },
```

```

8589 "definitions": {
8590   "magneticFieldDirection" : {
8591     "properties": {
8592       "rt": {
8593         "description": "The Resource Type.",
8594         "items": {
8595           "enum": ["oic.r.sensor.magneticfielddirection"],
8596           "maxLength": 64,
8597           "type": "string"
8598         },
8599         "minItems": 1,
8600         "uniqueItems": true,
8601         "readOnly": true,
8602         "type": "array"
8603       },
8604       "value": {
8605         "description": "The array containing Hx, Hy, Hz.",
8606         "items": {
8607           "type": "number"
8608         },
8609         "maxItems": 3,
8610         "minItems": 3,
8611         "readOnly": true,
8612         "type": "array"
8613       },
8614       "n": {
8615         "$ref":
8616         "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
8617         schema.json#/definitions/n"
8618       },
8619       "id": {
8620         "$ref":
8621         "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
8622         schema.json#/definitions/id"
8623       },
8624       "if": {
8625         "description": "The OCF Interface set supported by this Resource.",
8626         "items": {
8627           "enum": [
8628             "oic.if.s",
8629             "oic.if.baseline"
8630           ],
8631           "type": "string"
8632         },
8633         "minItems": 2,
8634         "uniqueItems": true,
8635         "readOnly": true,
8636         "type": "array"
8637       }
8638     },
8639     "type": "object",
8640     "required": ["value"]
8641   }
8642 }
8643 }
8644

```

8645 **6.41.5 Property definition**

8646 Table 85 defines the Properties that are part of the "oic.r.sensor.magneticfielddirection" Resource
8647 Type.

8648 **Table 85 – The Property definitions of the Resource with type "rt" =**
8649 **"oic.r.sensor.magneticfielddirection".**

Property name	Value type	Mandatory	Access mode	Description
---------------	------------	-----------	-------------	-------------

if	array: see schema	No	Read Only	The OCF Interface set supported by this Resource.
rt	array: see schema	No	Read Only	The Resource Type.
id	multiple types: see schema	No	Read Write	
value	array: see schema	Yes	Read Only	The array containing Hx, Hy, Hz.
n	multiple types: see schema	No	Read Write	

8650 **6.41.6 CRUDN behaviour**

8651 Table 86 defines the CRUDN operations that are supported on the
8652 "oic.r.sensor.magneticfielddirection" Resource Type.

8653 **Table 86 – The CRUDN operations of the Resource with type "rt" =**
8654 **"oic.r.sensor.magneticfielddirection".**

Create	Read	Update	Delete	Notify
	get			observe

8655 **6.42 Media**

8656 **6.42.1 Introduction**

8657 This Resource specifies the media types that an OCF Server supports.
8658 The resource is an array of media elements. Each element contains:
8659 A URL at which the specified media type can be accessed.
8660 A string array containing the definition of the media using SDP.
8661 Each entry in the sdp array is an SDP line.
8662 Each line shall follow the SDP description syntax as defined in the SDP specification.
8663 The SDP specification can be found at <http://tools.ietf.org/html/rfc4566>.

8664 **6.42.2 Example URI**

8665 /MediaResURI

8666 **6.42.3 Resource type**

8667 The Resource Type is defined as: "oic.r.media".

8668 **6.42.4 OpenAPI 2.0 definition**

```
8669 {
8670   "swagger": "2.0",
8671   "info": {
8672     "title": "Media",
8673     "version": "20190215",
8674     "license": {
8675       "name": "OCF Data Model License",
```

```

8676         "url":
8677         "https://github.com/openconnectivityfoundation/core/blob/e28a9e0a92e17042ba3e83661e4c0fbce8bdc4ba/LI
8678         CENSE.md",
8679         "x-copyright": "copyright 2016-2017, 2019 Open Connectivity Foundation, Inc. All rights
8680         reserved."
8681     },
8682     "termsOfService": "https://openconnectivityfoundation.github.io/core/DISCLAIMER.md"
8683 },
8684 "schemes": ["http"],
8685 "consumes": ["application/json"],
8686 "produces": ["application/json"],
8687 "paths": {
8688     "/MediaResURI" : {
8689         "get": {
8690             "description": "This Resource specifies the media types that an OCF Server supports.\nThe
8691             resource is an array of media elements. Each element contains:\n    A URL at which the specified
8692             media type can be accessed.\n    A string array containing the definition of the media using SDP.\n
8693             Each entry in the sdp array is an SDP line.\n    Each line shall follow the SDP description syntax
8694             as defined in the SDP specification.\nThe SDP specification can be found at
8695             http://tools.ietf.org/html/rfc4566.",
8696             "parameters": [
8697                 {"$ref": "#/parameters/interface"}
8698             ],
8699             "responses": {
8700                 "200": {
8701                     "description": "RETRIEVES the current media resource.",
8702                     "x-example":
8703                     {
8704                         "rt": ["oic.r.media"],
8705                         "if": ["oic.if.s", "oic.if.baseline"],
8706                         "media": [
8707                             {
8708                                 "url": "some example url",
8709                                 "sdp": [
8710                                     "m=video 1 RTP/AVP 96",
8711                                     "a=rtpmap:96 H264/9000",
8712                                     "a=fmtp:96 profile-level-id=42A028;packetization-mode=1"
8713                                 ]
8714                             },
8715                             {
8716                                 "url": "some other example1 url",
8717                                 "sdp": [
8718                                     "m=audio 2 RTP/AVP 97",
8719                                     "a=rtpmap:97 MP4A-LATM/90000"
8720                                 ]
8721                             },
8722                             {
8723                                 "url": "some other example2 url",
8724                                 "sdp": [
8725                                     "m=video 3 RTP/AVP 98",
8726                                     "a=rtpmap:98 jpeg/90000",
8727                                     "a=fmtp:98 sampling=YCbCr-4:2:0;width=256;height=256"
8728                                 ]
8729                             }
8730                         ]
8731                     },
8732                     "schema": { "$ref": "#/definitions/Media" }
8733                 }
8734             }
8735         }
8736     }
8737 },
8738 "parameters": {
8739     "interface": {
8740         "in": "query",
8741         "name": "if",
8742         "type": "string",
8743         "enum": ["oic.if.s", "oic.if.baseline"]
8744     }
8745 },
8746 "definitions": {
8747     "Media" : {

```

```

8748     "properties": {
8749       "rt": {
8750         "description": "The Resource Type.",
8751         "items": {
8752           "enum": ["oic.r.media"],
8753           "maxLength": 64,
8754           "type": "string"
8755         },
8756         "minItems": 1,
8757         "uniqueItems": true,
8758         "readOnly": true,
8759         "type": "array"
8760       },
8761       "media": {
8762         "items": {
8763           "properties": {
8764             "sdp": {
8765               "description": "The array of strings, one per SDP line.",
8766               "items": {
8767                 "description": "SDP media or attribute line",
8768                 "type": "string"
8769               },
8770               "type": "array"
8771             },
8772             "url": {
8773               "description": "The url for the media instance.",
8774               "type": "string"
8775             }
8776           },
8777           "type": "object"
8778         },
8779         "type": "array"
8780       },
8781       "n": {
8782         "$ref":
8783         "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
8784         schema.json#/definitions/n"
8785       },
8786       "id": {
8787         "$ref":
8788         "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
8789         schema.json#/definitions/id"
8790       },
8791       "if": {
8792         "description": "The OCF Interface set supported by this Resource.",
8793         "items": {
8794           "enum": [
8795             "oic.if.s",
8796             "oic.if.baseline"
8797           ],
8798           "type": "string"
8799         },
8800         "minItems": 2,
8801         "uniqueItems": true,
8802         "readOnly": true,
8803         "type": "array"
8804       }
8805     },
8806     "type": "object",
8807     "required": ["media"]
8808   }
8809 }
8810 }
8811

```

8812 6.42.5 Property definition

8813 Table 87 defines the Properties that are part of the "oic.r.media" Resource Type.

8814

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

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

8815 **6.42.6 CRUDN behaviour**

8816 Table 88 defines the CRUDN operations that are supported on the "oic.r.media" Resource Type.

8817 **Table 88 – The CRUDN operations of the Resource with type "rt" = "oic.r.media".**

Create	Read	Update	Delete	Notify
	get			observe

8818 **6.43 Media Source**

8819 **6.43.1 Introduction**

8820 This Resource defines a single media source that exists on a device.
 8821 The source can be an input source or output source, this resource is agnostic of that.
 8822 The Property "sourceName" specifies a pre-defined media input or output (e.g."HDMI", "DVI").
 8823 The Property "sourceNumber" is a numeric identifier to specify the instance (e.g. "PC", 1).
 8824 The Property "sourceType" is an enumeration defining whether the source is audio, video or both.
 8825 The Property "status" is a boolean that determines if the specific source instance is selected or not.
 8826 A status of true means that the source instance is selected.
 8827 A status of false means that the source instance is not selected.
 8828

8829 **6.43.2 Example URI**

8830 /mediaSourceResURI

8831 **6.43.3 Resource type**

8832 The Resource Type is defined as: "oic.r.mediasource".

8833 **6.43.4 OpenAPI 2.0 definition**

```
8834 {
8835   "swagger": "2.0",
8836   "info": {
```

```

8837     "title": "Media Source",
8838     "version": "20190215",
8839     "license": {
8840         "name": "OCF Data Model License",
8841         "url":
8842     "https://github.com/openconnectivityfoundation/core/blob/e28a9e0a92e17042ba3e83661e4c0fbce8bdc4ba/LI
8843     CENSE.md",
8844     "x-copyright": "copyright 2016-2017, 2019 Open Connectivity Foundation, Inc. All rights
8845     reserved."
8846     },
8847     "termsOfService": "https://openconnectivityfoundation.github.io/core/DISCLAIMER.md"
8848     },
8849     "schemes": ["http"],
8850     "consumes": ["application/json"],
8851     "produces": ["application/json"],
8852     "paths": {
8853         "/mediaSourceResURI" : {
8854             "get": {
8855                 "description": "This Resource defines a single media source that exists on a device.\nThe
8856                 source can be an input source or output source, this resource is agnostic of that.\nThe Property
8857                 \"sourceName\" specifies a pre-defined media input or output (e.g.\n\"HDMI\", \"DVI\").\nThe Property
8858                 \"sourceNumber\" is a numeric identifier to specify the instance (e.g. \"PC\", 1).\nThe Property
8859                 \"sourceType\" is an enumeration defining whether the source is audio, video or both.\nThe Property
8860                 \"status\" is a boolean that determines if the specific source instance is selected or not.\n    A
8861                 status of true means that the source instance is selected.\n    A status of false means that the
8862                 source instance is not selected.\n",
8863                 "parameters": [
8864                     { "$ref": "#/parameters/interface" }
8865                 ],
8866                 "responses": {
8867                     "200": {
8868                         "description": "",
8869                         "x-example":
8870                         {
8871                             "rt": ["oic.r.mediasource"],
8872                             "if": ["oic.if.a", "oic.if.baseline"],
8873                             "sourceName": "HDMI-CEC",
8874                             "sourceNumber": "1",
8875                             "sourceType": "audioPlusVideo",
8876                             "status": true
8877                         },
8878                         "schema": { "$ref": "#/definitions/mediaSource" }
8879                     }
8880                 }
8881             },
8882             "post": {
8883                 "description": "Changes the status of the source.\nAllows changes of the \"sourceName\" and
8884                 the \"status\". The sourceNumber is used to identify the object in the array.",
8885                 "parameters": [
8886                     { "$ref": "#/parameters/interface" },
8887                     {
8888                         "name": "body",
8889                         "in": "body",
8890                         "required": true,
8891                         "schema": { "$ref": "#/definitions/mediaSource" },
8892                         "x-example":
8893                         {
8894                             "sourceName": "my new name",
8895                             "sourceNumber": "1",
8896                             "status": true
8897                         }
8898                     }
8899                 ],
8900                 "responses": {
8901                     "200": {
8902                         "description": "",
8903                         "x-example":
8904                         {
8905                             "sourceName": "my new name",
8906                             "sourceNumber": "1",
8907                             "status": true
8908                         },

```

```

8909         "schema": { "$ref": "#/definitions/mediaSource" }
8910     }
8911 }
8912 }
8913 }
8914 },
8915 "parameters": {
8916     "interface": {
8917         "in": "query",
8918         "name": "if",
8919         "type": "string",
8920         "enum": ["oic.if.a", "oic.if.baseline"]
8921     }
8922 },
8923 "definitions": {
8924     "mediaSource": {
8925         "properties": {
8926             "rt": {
8927                 "description": "The Resource Type.",
8928                 "items": {
8929                     "enum": ["oic.r.mediasource"],
8930                     "maxLength": 64,
8931                     "type": "string"
8932                 },
8933                 "minItems": 1,
8934                 "uniqueItems": true,
8935                 "readOnly": true,
8936                 "type": "array"
8937             },
8938             "status": {
8939                 "description": "Specifies if the specific source instance is selected or not.",
8940                 "type": "boolean"
8941             },
8942             "sourceType": {
8943                 "description": "Specifies the type of the source.",
8944                 "enum": [
8945                     "audioOnly",
8946                     "videoOnly",
8947                     "audioPlusVideo"
8948                 ],
8949                 "readOnly": true,
8950                 "type": "string"
8951             },
8952             "sourceName": {
8953                 "description": "Specifies a pre-defined media input or output.",
8954                 "type": "string"
8955             },
8956             "sourceNumber": {
8957                 "description": "Numeric identifier to specify the instance.",
8958                 "type": [
8959                     "integer",
8960                     "string"
8961                 ]
8962             },
8963             "n": {
8964                 "$ref":
8965 "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
8966 schema.json#/definitions/n"
8967             },
8968             "id": {
8969                 "$ref":
8970 "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
8971 schema.json#/definitions/id"
8972             },
8973             "if": {
8974                 "description": "The OCF Interface set supported by this Resource.",
8975                 "items": {
8976                     "enum": [
8977                         "oic.if.a",
8978                         "oic.if.baseline"
8979                     ],
8980                     "type": "string"

```

```

8981     },
8982     "minItems": 2,
8983     "uniqueItems": true,
8984     "readOnly": true,
8985     "type": "array"
8986   }
8987 },
8988 "type": "object",
8989 "required": ["sourceName", "status"]
8990 }
8991 }
8992 }
8993

```

8994 **6.43.5 Property definition**

8995 Table 89 defines the Properties that are part of the "oic.r.mediasource" Resource Type.

8996 **Table 89 – The Property definitions of the Resource with type "rt" = "oic.r.mediasource".**

Property name	Value type	Mandatory	Access mode	Description
sourceType	string	No	Read Only	Specifies the type of the source.
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.
sourceName	string	Yes	Read Write	Specifies a pre-defined media input or output.
id	multiple types: see schema	No	Read Write	
n	multiple types: see schema	No	Read Write	
if	array: see schema	No	Read Only	The OCF Interface set supported by this Resource.
sourceNumber	['integer', 'string']	No	Read Write	Numeric identifier to specify the instance.

8997 **6.43.6 CRUDN behaviour**

8998 Table 90 defines the CRUDN operations that are supported on the "oic.r.mediasource" Resource Type.
8999

9000 **Table 90 – The CRUDN operations of the Resource with type "rt" = "oic.r.mediasource".**

Create	Read	Update	Delete	Notify
	get	post		observe

9001 **6.44 Media Source List**

9002 **6.44.1 Introduction**

9003 This Resource provides the list of media sources available on the Device.
 9004 The sources are an array of mediaSource(s) as separately defined see Resource Type
 9005 "oic.r.mediasource".

9006 The basic Resource Type "oic.r.mediasourcelist" does not provide any indications whether the
 9007 source is input or output.

9008 Hence, two specializations of this resource exist.

9009 When a device exposes input sources then an instance of this resource with a Resource Type of
 9010 "oic.r.media.input" is exposed.

9011 When a Device exposes output sources then an instance of this resource with a Resource Type of
 9012 "oic.r.media.output" is exposed.

9013 A device that exposes both input and output media sources then exposes two instances of this
 9014 resource,

9015 one with a Resource Type of "oic.r.media.input" and one with a resource type of
 9016 "oic.r.media.output"

9017

9018 **6.44.2 Example URI**

9019 /mediaSourceListResURI

9020 **6.44.3 Resource type**

9021 The Resource Type is defined as: "oic.r.mediasourcelist".

9022 **6.44.4 OpenAPI 2.0 definition**

```

9023 {
9024   "swagger": "2.0",
9025   "info": {
9026     "title": "Media Source List",
9027     "version": "20190215",
9028     "license": {
9029       "name": "OCF Data Model License",
9030       "url":
9031 "https://github.com/openconnectivityfoundation/core/blob/e28a9e0a92e17042ba3e83661e4c0fbce8bdc4ba/LI
9032 CENSE.md",
9033       "x-copyright": "copyright 2016-2017, 2019 Open Connectivity Foundation, Inc. All rights
9034 reserved."
9035     },
9036     "termsOfService": "https://openconnectivityfoundation.github.io/core/DISCLAIMER.md"
9037   },
9038   "schemes": ["http"],
9039   "consumes": ["application/json"],
9040   "produces": ["application/json"],
9041   "paths": {
9042     "/mediaSourceListResURI" : {
9043       "get": {
9044         "description": "This Resource provides the list of media sources available on the
9045 Device.\nThe sources are an array of mediaSource(s) as separately defined see Resource Type
9046 \"oic.r.mediasource\".\nThe basic Resource Type \"oic.r.mediasourcelist\" does not provide any
9047 indications whether the source is input or output.\nHence, two specializations of this resource
9048 exist.\nWhen a device exposes input sources then an instance of this resource with a Resource Type
9049 of \"oic.r.media.input\" is exposed.\nWhen a Device exposes output sources then an instance of this
9050 resource with a Resource Type of \"oic.r.media.output\" is exposed.\nA device that exposes both
9051 input and output media sources then exposes two instances of this resource,\none with a Resource
  
```



```

9052 Type of \"oic.r.media.input\" and one with a resource type of \"oic.r.media.output\"\\n\",
9053   \"parameters\": [
9054     { \"$ref\": \"#/parameters/interface\"}
9055   ],
9056   \"responses\": {
9057     \"200\": {
9058       \"description\" : \"\",
9059       \"x-example\":
9060         {
9061           \"rt\": [\"oic.r.mediasourcelist\"],
9062           \"if\": [\"oic.if.a\", \"oic.if.baseline\"],
9063           \"sources\": [
9064             {
9065               \"sourceName\": \"HDMI-CEC\",
9066               \"sourceNumber\": \"1\",
9067               \"sourceType\": \"audioPlusVideo\",
9068               \"status\": true
9069             },
9070             {
9071               \"sourceName\": \"dualRCA\",
9072               \"sourceNumber\": \"1\",
9073               \"sourceType\": \"audioOnly\",
9074               \"status\": false
9075             }
9076           ]
9077         },
9078       \"schema\": { \"$ref\": \"#/definitions/mediaSourceList\" }
9079     }
9080   }
9081 },
9082 \"post\": {
9083   \"description\": \"Changes the status of the source(s).\\nAllows changes of the sourceName and
9084 the status. The array index at sourceNumber will be changed.\",
9085   \"parameters\": [
9086     { \"$ref\": \"#/parameters/interface\"},
9087     {
9088       \"name\": \"body\",
9089       \"in\": \"body\",
9090       \"required\": true,
9091       \"schema\": { \"$ref\": \"#/definitions/mediaSourceList\" },
9092       \"x-example\":
9093         {
9094           \"sources\": [
9095             {
9096               \"sourceName\": \"my new name\",
9097               \"sourceNumber\": \"1\",
9098               \"status\": true
9099             }
9100           ]
9101         }
9102     }
9103   ],
9104   \"responses\": {
9105     \"200\": {
9106       \"description\" : \"\",
9107       \"x-example\":
9108         {
9109           \"sources\": [
9110             {
9111               \"sourceName\": \"my new name\",
9112               \"sourceNumber\": \"1\",
9113               \"status\": true
9114             }
9115           ]
9116         },
9117       \"schema\": { \"$ref\": \"#/definitions/mediaSourceList\" }
9118     }
9119   }
9120 }
9121 },
9122 },
9123 \"parameters\": {

```

```

9124     "interface": {
9125         "in": "query",
9126         "name": "if",
9127         "type": "string",
9128         "enum": ["oic.if.a", "oic.if.baseline"]
9129     }
9130 },
9131 "definitions": {
9132     "mediaSourceList" : {
9133         "properties": {
9134             "rt": {
9135                 "description": "The Resource Type.",
9136                 "items": {
9137                     "enum": ["oic.r.mediasourcelist"],
9138                     "maxLength": 64,
9139                     "type": "string"
9140                 },
9141                 "minItems": 1,
9142                 "uniqueItems": true,
9143                 "readOnly": true,
9144                 "type": "array"
9145             },
9146             "sources": {
9147                 "items": {
9148                     "properties": {
9149                         "sourceName": {
9150                             "description": "Specifies a pre-defined media input or output.",
9151                             "type": "string"
9152                         },
9153                         "sourceNumber": {
9154                             "description": "Numeric identifier to specify the instance.",
9155                             "readOnly": true,
9156                             "type": [
9157                                 "integer",
9158                                 "string"
9159                             ]
9160                         },
9161                         "sourceType": {
9162                             "description": "Specifies the type of the source.",
9163                             "enum": [
9164                                 "audioOnly",
9165                                 "videoOnly",
9166                                 "audioPlusVideo"
9167                             ],
9168                             "readOnly": true,
9169                             "type": "string"
9170                         },
9171                         "status": {
9172                             "description": "Specifies if the specific source instance is selected or not.",
9173                             "type": "boolean"
9174                         }
9175                     },
9176                     "type": "object"
9177                 },
9178                 "type": "array"
9179             },
9180             "n": {
9181                 "$ref":
9182                 "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
9183                 schema.json#/definitions/n"
9184             },
9185             "id": {
9186                 "$ref":
9187                 "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
9188                 schema.json#/definitions/id"
9189             },
9190             "if": {
9191                 "description": "The OCF Interface set supported by this Resource.",
9192                 "items": {
9193                     "enum": [
9194                         "oic.if.a",
9195                         "oic.if.baseline"

```

```

9196         ],
9197         "type": "string"
9198     },
9199     "minItems": 2,
9200     "uniqueItems": true,
9201     "readOnly": true,
9202     "type": "array"
9203 }
9204 },
9205 "type": "object",
9206 "required": ["sources"]
9207 }
9208 }
9209 }
9210

```

9211 **6.44.5 Property definition**

9212 Table 91 defines the Properties that are part of the "oic.r.mediasourcelist" Resource Type.

9213 **Table 91 – The Property definitions of the Resource with type "rt" =**
9214 **"oic.r.mediasourcelist".**

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

9215 **6.44.6 CRUDN behaviour**

9216 Table 92 defines the CRUDN operations that are supported on the "oic.r.mediasourcelist" Resource
9217 Type.

9218 **Table 92 – The CRUDN operations of the Resource with type "rt" = "oic.r.mediasourcelist".**

Create	Read	Update	Delete	Notify
	get	post		observe

9219 **6.45 Media Source Input**

9220 **6.45.1 Introduction**

9221 This resource provides the list of input media sources available on the device.
9222 The sources are an array of mediaSource(s) see Resource Type "oic.r.mediasource"
9223

9224 **6.45.2 Example URI**

9225 /mediaSourceInputResURI

9226 **6.45.3 Resource type**

9227 The Resource Type is defined as: "oic.r.media.input".

9228 **6.45.4 OpenAPI 2.0 definition**

```
9229 {
9230   "swagger": "2.0",
9231   "info": {
9232     "title": "Media Source Input",
9233     "version": "20190215",
9234     "license": {
9235       "name": "OCF Data Model License",
9236       "url":
9237         "https://github.com/openconnectivityfoundation/core/blob/e28a9e0a92e17042ba3e83661e4c0fbce8bdc4ba/LI
9238         CENSE.md",
9239       "x-copyright": "copyright 2016-2017, 2019 Open Connectivity Foundation, Inc. All rights
9240         reserved."
9241     },
9242     "termsOfService": "https://openconnectivityfoundation.github.io/core/DISCLAIMER.md"
9243   },
9244   "schemes": ["http"],
9245   "consumes": ["application/json"],
9246   "produces": ["application/json"],
9247   "paths": {
9248     "/mediaSourceInputResURI" : {
9249       "get": {
9250         "description": "This resource provides the list of input media sources available on the
9251         device.\n\nThe sources are an array of mediaSource(s) see Resource Type \"oic.r.mediasource\"\n\n",
9252         "parameters": [
9253           { "$ref": "#/parameters/interface" }
9254         ],
9255         "responses": {
9256           "200": {
9257             "description": "",
9258             "x-example":
9259               {
9260                 "rt": ["oic.r.media.input"],
9261                 "if": ["oic.if.a", "oic.if.baseline"],
9262                 "sources": [
9263                   {
9264                     "sourceName": "HDMI-CEC",
9265                     "sourceNumber": "1",
9266                     "sourceType": "audioPlusVideo",
9267                     "status": true
9268                   },
9269                   {
9270                     "sourceName": "dualRCA",
9271                     "sourceNumber": "1",
9272                     "sourceType": "audioOnly",
9273                     "status": false
9274                   }
9275                 ]
9276               },
9277             "schema": { "$ref": "#/definitions/mediaSourceList" }
9278           }
9279         }
9280       },
9281       "post": {
9282         "description": "Changes the status of the source(s).\n\nAllows changes of the sourceName and
9283         the status.The array index at sourceNumber will be changed.",
9284         "parameters": [
9285           { "$ref": "#/parameters/interface" },
9286           {
9287             "name": "body",
9288             "in": "body",
9289             "required": true,
9290             "schema": { "$ref": "#/definitions/mediaSourceList" },

```

```

9291         "x-example":
9292             {
9293                 "sources": [
9294                     {
9295                         "sourceName": "my new name",
9296                         "sourceNumber": "1",
9297                         "status": true
9298                     }
9299                 ]
9300             }
9301     },
9302 ],
9303 "responses": {
9304     "200": {
9305         "description": "",
9306         "x-example":
9307             {
9308                 "sources": [
9309                     {
9310                         "sourceName": "my new name",
9311                         "sourceNumber": "1",
9312                         "status": true
9313                     }
9314                 ]
9315             }
9316         ,
9317         "schema": { "$ref": "#/definitions/mediaSourceList" }
9318     }
9319 }
9320 },
9321 },
9322 },
9323 "parameters": {
9324     "interface": {
9325         "in": "query",
9326         "name": "if",
9327         "type": "string",
9328         "enum": ["oic.if.a", "oic.if.baseline"]
9329     }
9330 },
9331 "definitions": {
9332     "mediaSourceList" : {
9333         "properties": {
9334             "rt": {
9335                 "description": "Resource Type",
9336                 "items": {
9337                     "enum": ["oic.r.media.input"],
9338                     "maxLength": 64,
9339                     "type": "string"
9340                 },
9341                 "minItems": 1,
9342                 "uniqueItems": true,
9343                 "readOnly": true,
9344                 "type": "array"
9345             },
9346             "sources": {
9347                 "items": {
9348                     "properties": {
9349                         "sourceName": {
9350                             "description": "Specifies a pre-defined media input or output",
9351                             "type": "string"
9352                         },
9353                         "sourceNumber": {
9354                             "description": "Numeric identifier to specify the instance",
9355                             "readOnly": true,
9356                             "type": [
9357                                 "integer",
9358                                 "string"
9359                             ]
9360                         },
9361                         "sourceType": {
9362                             "description": "Specifies the type of the source",

```

```

9363         "enum": [
9364             "audioOnly",
9365             "videoOnly",
9366             "audioPlusVideo"
9367         ],
9368         "readOnly": true,
9369         "type": "string"
9370     },
9371     "status": {
9372         "description": "Specifies if the specific source instance is selected or not",
9373         "type": "boolean"
9374     }
9375 },
9376 "type": "object"
9377 },
9378 "type": "array"
9379 },
9380 "n": {
9381     "$ref":
9382     "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
9383     schema.json#/definitions/n"
9384 },
9385 "id": {
9386     "$ref":
9387     "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
9388     schema.json#/definitions/id"
9389 },
9390 "if": {
9391     "description": "The interface set supported by this resource",
9392     "items": {
9393         "enum": [
9394             "oic.if.a",
9395             "oic.if.baseline"
9396         ],
9397         "type": "string"
9398     },
9399     "minItems": 2,
9400     "uniqueItems": true,
9401     "readOnly": true,
9402     "type": "array"
9403 }
9404 },
9405 "type": "object",
9406 "required": ["sources"]
9407 }
9408 }
9409 }
9410

```

6.45.5 Property definition

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

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	

if	array: see schema	No	Read Only	The interface set supported by this resource
id	multiple types: see schema	No	Read Write	

9414 **6.45.6 CRUDN behaviour**

9415 Table 94 defines the CRUDN operations that are supported on the "oic.r.media.input" Resource
9416 Type.

9417 **Table 94 – The CRUDN operations of the Resource with type "rt" = "oic.r.media.input".**

Create	Read	Update	Delete	Notify
	get	post		observe

9418 **6.46 Media Source Output**

9419 **6.46.1 Introduction**

9420 This resource provides the list of output media sources available on the device.
9421 The sources are an array of mediaSource(s) see Resource Type "oic.r.mediasource"

9422 **6.46.2 Example URI**

9423 /mediaSourceOutputResURI

9424 **6.46.3 Resource type**

9425 The Resource Type is defined as: "oic.r.media.output".

9426 **6.46.4 OpenAPI 2.0 definition**

```

9427 {
9428   "swagger": "2.0",
9429   "info": {
9430     "title": "Media Source Output",
9431     "version": "20190215",
9432     "license": {
9433       "name": "OCF Data Model License",
9434       "url":
9435         "https://github.com/openconnectivityfoundation/core/blob/e28a9e0a92e17042ba3e83661e4c0fbce8bdc4ba/LI
9436         CENSE.md",
9437       "x-copyright": "copyright 2016-2017, 2019 Open Connectivity Foundation, Inc. All rights
9438         reserved."
9439     },
9440     "termsOfService": "https://openconnectivityfoundation.github.io/core/DISCLAIMER.md"
9441   },
9442   "schemes": ["http"],
9443   "consumes": ["application/json"],
9444   "produces": ["application/json"],
9445   "paths": {
9446     "/mediaSourceOutputResURI" : {
9447       "get": {
9448         "description": "This resource provides the list of output media sources available on the
9449         device.\n\nThe sources are an array of mediaSource(s) see Resource Type \"oic.r.mediasource\"",
9450         "parameters": [
9451           {"$ref": "#/parameters/interface"}
9452         ],
9453         "responses": {
9454           "200": {
9455             "description": "",
9456             "x-example":

```

```

9457     {
9458         "rt": ["oic.r.media.output"],
9459         "if": ["oic.if.a", "oic.if.baseline"],
9460         "sources": [
9461             {
9462                 "sourceName": "HDMI-CEC",
9463                 "sourceNumber": "1",
9464                 "sourceType": "audioPlusVideo",
9465                 "status": true
9466             },
9467             {
9468                 "sourceName": "dualRCA",
9469                 "sourceNumber": "1",
9470                 "sourceType": "audioOnly",
9471                 "status": false
9472             }
9473         ]
9474     },
9475     "schema": { "$ref": "#/definitions/mediaSourceList" }
9476 }
9477 },
9478 },
9479 "post": {
9480     "description": "Changes the status of the source(s).\nAllows changes of the sourceName and
the status. The array index at sourceNumber will be changed.",
9481     "parameters": [
9482         { "$ref": "#/parameters/interface" },
9483         {
9484             "name": "body",
9485             "in": "body",
9486             "required": true,
9487             "schema": { "$ref": "#/definitions/mediaSourceList" },
9488             "x-example":
9489                 {
9490                     "sources": [
9491                         {
9492                             "sourceName": "my new name",
9493                             "sourceNumber": "1",
9494                             "status": true
9495                         }
9496                     ]
9497                 }
9498             }
9499     ],
9500     "responses": {
9501         "200": {
9502             "description": "",
9503             "x-example":
9504                 {
9505                     "sources": [
9506                         {
9507                             "sourceName": "my new name",
9508                             "sourceNumber": "1",
9509                             "status": true
9510                         }
9511                     ]
9512                 }
9513             },
9514             "schema": { "$ref": "#/definitions/mediaSourceList" }
9515         }
9516     }
9517 },
9518 },
9519 },
9520 "parameters": {
9521     "interface": {
9522         "in": "query",
9523         "name": "if",
9524         "type": "string",
9525         "enum": ["oic.if.a", "oic.if.baseline"]
9526     }
9527 },
9528 "definitions": {

```



```

9529     "mediaSourceList" : {
9530       "properties": {
9531         "rt": {
9532           "description": "Resource Type",
9533           "items": {
9534             "enum": ["oic.r.media.output"],
9535             "maxLength": 64,
9536             "type": "string"
9537           },
9538           "minItems": 1,
9539           "uniqueItems": true,
9540           "readOnly": true,
9541           "type": "array"
9542         },
9543         "sources": {
9544           "items": {
9545             "properties": {
9546               "sourceName": {
9547                 "description": "Specifies a pre-defined media input or output.",
9548                 "type": "string"
9549               },
9550               "sourceNumber": {
9551                 "description": "Numeric identifier to specify the instance.",
9552                 "readOnly": true,
9553                 "type": [
9554                   "integer",
9555                   "string"
9556                 ]
9557               },
9558               "sourceType": {
9559                 "description": "Specifies the type of the source.",
9560                 "enum": [
9561                   "audioOnly",
9562                   "videoOnly",
9563                   "audioPlusVideo"
9564                 ],
9565                 "readOnly": true,
9566                 "type": "string"
9567               },
9568               "status": {
9569                 "description": "Specifies if the specific source instance is selected or not.",
9570                 "type": "boolean"
9571               }
9572             },
9573             "type": "object"
9574           },
9575           "type": "array"
9576         },
9577         "n": {
9578           "$ref":
9579           "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
9580           schema.json#/definitions/n"
9581         },
9582         "id": {
9583           "$ref":
9584           "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
9585           schema.json#/definitions/id"
9586         },
9587         "if": {
9588           "description": "The OCF Interface set supported by this Resource.",
9589           "items": {
9590             "enum": [
9591               "oic.if.a",
9592               "oic.if.baseline"
9593             ],
9594             "type": "string"
9595           },
9596           "minItems": 2,
9597           "uniqueItems": true,
9598           "readOnly": true,
9599           "type": "array"
9600         }

```

```

9601     },
9602     "type": "object",
9603     "required": ["sources"]
9604   }
9605 }
9606 }
9607

```

9608 **6.46.5 Property definition**

9609 Table 95 defines the Properties that are part of the "oic.r.media.output" Resource Type.

9610 **Table 95 – The Property definitions of the Resource with type "rt" = "oic.r.media.output".**

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

9611 **6.46.6 CRUDN behaviour**

9612 Table 96 defines the CRUDN operations that are supported on the "oic.r.media.output" Resource
 9613 Type.

9614 **Table 96 – The CRUDN operations of the Resource with type "rt" = "oic.r.media.output".**

Create	Read	Update	Delete	Notify
	get	post		observe

9615 **6.47 Motion Sensor**

9616 **6.47.1 Introduction**

9617 This Resource describes whether motion has been sensed or not.
 9618 The Property "value" is a boolean.
 9619 A value of 'true' means that motion has been sensed.
 9620 A value of 'false' means that motion not been sensed.
 9621

9622 **6.47.2 Example URI**

9623 /MotionResURI

9624 6.47.3 Resource type

9625 The Resource Type is defined as: "oic.r.sensor.motion".

9626 6.47.4 OpenAPI 2.0 definition

```
9627 {
9628   "swagger": "2.0",
9629   "info": {
9630     "title": "Motion Sensor",
9631     "version": "20190215",
9632     "license": {
9633       "name": "OCF Data Model License",
9634       "url":
9635         "https://github.com/openconnectivityfoundation/core/blob/e28a9e0a92e17042ba3e83661e4c0fbce8bdc4ba/LI
9636         CENSE.md",
9637       "x-copyright": "copyright 2016-2017, 2019 Open Connectivity Foundation, Inc. All rights
9638         reserved."
9639     },
9640     "termsOfService": "https://openconnectivityfoundation.github.io/core/DISCLAIMER.md"
9641   },
9642   "schemes": ["http"],
9643   "consumes": ["application/json"],
9644   "produces": ["application/json"],
9645   "paths": {
9646     "/MotionResURI" : {
9647       "get": {
9648         "description": "This Resource describes whether motion has been sensed or not.\nThe Property
9649         \"value\" is a boolean.\nA value of 'true' means that motion has been sensed.\nA value of 'false'
9650         means that motion not been sensed.\n",
9651         "parameters": [
9652           {"$ref": "#/parameters/interface"}
9653         ],
9654         "responses": {
9655           "200": {
9656             "description": "",
9657             "x-example":
9658               {
9659                 "rt": ["oic.r.sensor.motion"],
9660                 "if": ["oic.if.s", "oic.if.baseline"],
9661                 "value": true
9662               },
9663             "schema": { "$ref": "#/definitions/Motion" }
9664           }
9665         }
9666       }
9667     }
9668   },
9669   "parameters": {
9670     "interface" : {
9671       "in" : "query",
9672       "name" : "if",
9673       "type" : "string",
9674       "enum" : ["oic.if.s", "oic.if.baseline"]
9675     }
9676   },
9677   "definitions": {
9678     "Motion" : {
9679       "properties": {
9680         "rt": {
9681           "description": "The Resource Type.",
9682           "items": {
9683             "enum": ["oic.r.sensor.motion"],
9684             "maxLength": 64,
9685             "type": "string"
9686           },
9687           "minItems": 1,
9688           "uniqueItems": true,
9689           "readOnly": true,
9690           "type": "array"
9691         },
9692         "value": {
```

```

9693         "description": "The motion sensor, true = motion sensed, false = motion not sensed.",
9694         "readOnly": true,
9695         "type": "boolean"
9696     },
9697     "n": {
9698         "$ref":
9699 "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
9700 schema.json#/definitions/n"
9701     },
9702     "id": {
9703         "$ref":
9704 "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
9705 schema.json#/definitions/id"
9706     },
9707     "if": {
9708         "description": "The OCF Interface set supported by this Resource.",
9709         "items": {
9710             "enum": [
9711                 "oic.if.s",
9712                 "oic.if.baseline"
9713             ],
9714             "type": "string"
9715         },
9716         "minItems": 2,
9717         "uniqueItems": true,
9718         "readOnly": true,
9719         "type": "array"
9720     }
9721 },
9722 "type": "object",
9723 "required": ["value"]
9724 }
9725 }
9726 }
9727

```

9728 6.47.5 Property definition

9729 Table 97 defines the Properties that are part of the "oic.r.sensor.motion" Resource Type.

9730 **Table 97 – The Property definitions of the Resource with type "rt" = "oic.r.sensor.motion".**

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

9731 **6.47.6 CRUDN behaviour**

9732 Table 98 defines the CRUDN operations that are supported on the "oic.r.sensor.motion" Resource
 9733 Type.

9734 **Table 98 – The CRUDN operations of the Resource with type "rt" = "oic.r.sensor.motion".**

Create	Read	Update	Delete	Notify
	get			observe

9735 **6.48 Night Mode**

9736 **6.48.1 Introduction**

9737 This Resource describes a night mode on/off feature.
 9738 A nightMode value of 'true' means that the feature is on.
 9739 A nightMode value of 'false' means that the feature is off.

9740 **6.48.2 Example URI**

9741 /NightModeResURI

9742 **6.48.3 Resource type**

9743 The Resource Type is defined as: "oic.r.nightmode".

9744 **6.48.4 OpenAPI 2.0 definition**

```

9745 {
9746   "swagger": "2.0",
9747   "info": {
9748     "title": "Night Mode",
9749     "version": "20190215",
9750     "license": {
9751       "name": "OCF Data Model License",
9752       "url":
9753         "https://github.com/openconnectivityfoundation/core/blob/e28a9e0a92e17042ba3e83661e4c0fbce8bdc4ba/LI
9754         CENSE.md",
9755       "x-copyright": "copyright 2016-2017, 2019 Open Connectivity Foundation, Inc. All rights
9756       reserved."
9757     },
9758     "termsOfService": "https://openconnectivityfoundation.github.io/core/DISCLAIMER.md"
9759   },
9760   "schemes": ["http"],
9761   "consumes": ["application/json"],
9762   "produces": ["application/json"],
9763   "paths": {
9764     "/NightModeResURI" : {
9765       "get": {
9766         "description": "This Resource describes a night mode on/off feature.\nA nightMode value of
9767         'true' means that the feature is on.\nA nightMode value of 'false' means that the feature is off.",
9768         "parameters": [
9769           { "$ref": "#/parameters/interface" }
9770         ],
9771         "responses": {
9772           "200": {
9773             "description": "",
9774             "x-example":
9775               {
9776                 "rt": ["oic.r.nightmode"],
9777                 "if": ["oic.if.a", "oic.if.baseline"],
9778                 "nightMode": false
9779               },
9780             "schema": { "$ref": "#/definitions/NightMode" }
9781           }
9782         }
9783       }
9784     }
  
```

```

9784     "post": {
9785         "description": "",
9786         "parameters": [
9787             { "$ref": "#/parameters/interface" },
9788             {
9789                 "name": "body",
9790                 "in": "body",
9791                 "required": true,
9792                 "schema": { "$ref": "#/definitions/NightMode" },
9793                 "x-example":
9794                     {
9795                         "nightMode": true
9796                     }
9797             }
9798         ],
9799         "responses": {
9800             "200": {
9801                 "description": "",
9802                 "x-example":
9803                     {
9804                         "nightMode": true
9805                     },
9806                 "schema": { "$ref": "#/definitions/NightMode" }
9807             }
9808         }
9809     }
9810 },
9811 "parameters": {
9812     "interface": {
9813         "in": "query",
9814         "name": "if",
9815         "type": "string",
9816         "enum": ["oic.if.a", "oic.if.baseline"]
9817     }
9818 },
9819 "definitions": {
9820     "NightMode": {
9821         "properties": {
9822             "rt": {
9823                 "description": "The Resource Type.",
9824                 "items": {
9825                     "enum": ["oic.r.nightmode"],
9826                     "maxLength": 64,
9827                     "type": "string"
9828                 },
9829                 "minItems": 1,
9830                 "uniqueItems": true,
9831                 "readOnly": true,
9832                 "type": "array"
9833             },
9834             "nightMode": {
9835                 "description": "The status of the Night Mode.",
9836                 "type": "boolean"
9837             },
9838             "n": {
9839                 "$ref":
9840                     "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
9841                     schema.json#/definitions/n"
9842             },
9843             "id": {
9844                 "$ref":
9845                     "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
9846                     schema.json#/definitions/id"
9847             },
9848             "if": {
9849                 "description": "The OCF Interface set supported by this Resource.",
9850                 "items": {
9851                     "enum": [
9852                         "oic.if.a",
9853                         "oic.if.baseline"
9854                     ]
9855                 }

```

```

9856         "type": "string"
9857     },
9858     "minItems": 2,
9859     "uniqueItems": true,
9860     "readOnly": true,
9861     "type": "array"
9862 }
9863 },
9864 "type": "object",
9865 "required": ["nightMode"]
9866 }
9867 }
9868 }
9869

```

9870 **6.48.5 Property definition**

9871 Table 99 defines the Properties that are part of the "oic.r.nightmode" Resource Type.

9872 **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	
if	array: see schema	No	Read Only	The OCF Interface set supported by this Resource.
id	multiple types: see schema	No	Read Write	

9873 **6.48.6 CRUDN behaviour**

9874 Table 100 defines the CRUDN operations that are supported on the "oic.r.nightmode" Resource Type.
9875

9876 **Table 100 – The CRUDN operations of the Resource with type "rt" = "oic.r.nightmode".**

Create	Read	Update	Delete	Notify
	get	post		observe

9877 **6.49 Presence Sensor**

9878 **6.49.1 Introduction**

9879 This Resource describes whether presence has been sensed or not.
9880 The Property "value" is a boolean.
9881 A value of 'true' means that presence has been sensed.
9882 A value of 'false' means that presence not been sensed.

9883 **6.49.2 Example URI**

9884 /PresenceResURI

9885 **6.49.3 Resource type**

9886 The Resource Type is defined as: "oic.r.sensor.presence".

9887 **6.49.4 OpenAPI 2.0 definition**

```
9888 {
9889   "swagger": "2.0",
9890   "info": {
9891     "title": "Presence Sensor",
9892     "version": "20190215",
9893     "license": {
9894       "name": "OCF Data Model License",
9895       "url":
9896         "https://github.com/openconnectivityfoundation/core/blob/e28a9e0a92e17042ba3e83661e4c0fbce8bdc4ba/LI
9897         CENSE.md",
9898       "x-copyright": "copyright 2016-2017, 2019 Open Connectivity Foundation, Inc. All rights
9899       reserved."
9900     },
9901     "termsOfService": "https://openconnectivityfoundation.github.io/core/DISCLAIMER.md"
9902   },
9903   "schemes": ["http"],
9904   "consumes": ["application/json"],
9905   "produces": ["application/json"],
9906   "paths": {
9907     "/PresenceResURI" : {
9908       "get": {
9909         "description": "This Resource describes whether presence has been sensed or not.\nThe
9910         Property \"value\" is a boolean.\nA value of 'true' means that presence has been sensed.\nA value of
9911         'false' means that presence not been sensed.",
9912         "parameters": [
9913           {"$ref": "#/parameters/interface"}
9914         ],
9915         "responses": {
9916           "200": {
9917             "description": "",
9918             "x-example":
9919               {
9920                 "rt": ["oic.r.sensor.presence"],
9921                 "if": ["oic.if.s", "oic.if.baseline"],
9922                 "value": true
9923               },
9924             "schema": { "$ref": "#/definitions/Presence" }
9925           }
9926         }
9927       }
9928     }
9929   },
9930   "parameters": {
9931     "interface": {
9932       "in": "query",
9933       "name": "if",
9934       "type": "string",
9935       "enum": ["oic.if.s", "oic.if.baseline"]
9936     }
9937   },
9938   "definitions": {
9939     "Presence" : {
9940       "properties": {
9941         "rt": {
9942           "description": "The Resource Type.",
9943           "items": {
9944             "enum": ["oic.r.sensor.presence"],
9945             "maxLength": 64,
9946             "type": "string"
9947           },
9948           "minItems": 1,
9949           "uniqueItems": true,
```



```

9950         "readOnly": true,
9951         "type": "array"
9952     },
9953     "value": {
9954         "description": "The presences sensor, true = precense sensed, false = precensenot
9955 sensed.",
9956         "readOnly": true,
9957         "type": "boolean"
9958     },
9959     "n": {
9960         "$ref":
9961 "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
9962 schema.json#/definitions/n"
9963     },
9964     "id": {
9965         "$ref":
9966 "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
9967 schema.json#/definitions/id"
9968     },
9969     "if": {
9970         "description": "The OCF Interface set supported by this Resource.",
9971         "items": {
9972             "enum": [
9973                 "oic.if.s",
9974                 "oic.if.baseline"
9975             ],
9976             "type": "string"
9977         },
9978         "minItems": 2,
9979         "uniqueItems": true,
9980         "readOnly": true,
9981         "type": "array"
9982     }
9983 },
9984 "type": "object",
9985 "required": ["value"]
9986 }
9987 }
9988 }
9989

```

6.49.5 Property definition

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

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

Property name	Value type	Mandatory	Access mode	Description
rt	array: see schema	No	Read Only	The Resource Type.
if	array: see schema	No	Read Only	The OCF Interface set supported by this Resource.
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	

9994 **6.49.6 CRUDN behaviour**

9995 Table 102 defines the CRUDN operations that are supported on the "oic.r.sensor.presence"
9996 Resource Type.

9997 **Table 102 – The CRUDN operations of the Resource with type "rt" =**
9998 **"oic.r.sensor.presence".**

Create	Read	Update	Delete	Notify
	get			observe

9999 **6.50 Pan Tilt Zoom Movement**

10000 **6.50.1 Introduction**

10001 This Resource specifies the pan tilt and zoom capabilities of a device.
10002 The Resource Type is dynamic and reflects whether the values apply to
10003 physical movement of the device or digital/virtual enhancements to the image.
10004 For physical movement the Resource Type is "oic.r.movement.ptz".
10005 For digital/virtual image enhancements the Resource Type is "oic.r.image.ptz".
10006 The Properties "pan" and "tilt" are specified in degrees.
10007 The Property "zoomFactor" is a value in the range 1-100 for linear (optical) zoom.
10008 The zoom factor is a value in the range [1x, 2x, 4x, 8x, 16x, 32x] for digital zoom.
10009 If there is no zoom value to set the zoom factor shall be '1x'.
10010 The value 0 degrees means neutral, this is a vendor defined setting.
10011 Note that this resource also can be used to create an offset for physical movement.
10012 When that is the case, the Resource Type value is: "oic.r.movement.offset.ptz"
10013 Note that this resource also can be used to create an offset for image movement.
10014 When that is the case, the Resource Type value is: "oic.r.image.offset.ptz".
10015 When the Property "pan_range" value is omitted, then the range is [-180.0,180.0].
10016 If "pan" is not supported then the range shall be [0.0,0.0]
10017 When the Property "tilt_range" value is omitted, then the range is [-180.0,180.0].
10018 If "tilt" is not supported then the range shall be [0.0,0.0].

10019 **6.50.2 Example URI**

10020 /PanTiltZoomResURI

10021 **6.50.3 Resource type**

10022 The Resource Type is defined as: "oic.r.ptz".

10023 **6.50.4 OpenAPI 2.0 definition**

```
10024 {
10025   "swagger": "2.0",
10026   "info": {
10027     "title": "Pan Tilt Zoom Movement",
10028     "version": "20190215",
10029     "license": {
10030       "name": "OCF Data Model License",
10031       "url":
10032         "https://github.com/openconnectivityfoundation/core/blob/e28a9e0a92e17042ba3e83661e4c0fbce8bdc4ba/LI
10033         CENSE.md",
```

```

10034         "x-copyright": "copyright 2016-2017, 2019 Open Connectivity Foundation, Inc. All rights
10035 reserved."
10036     },
10037     "termsOfService": "https://openconnectivityfoundation.github.io/core/DISCLAIMER.md"
10038 },
10039 "schemes": ["http"],
10040 "consumes": ["application/json"],
10041 "produces": ["application/json"],
10042 "paths": {
10043     "/PanTiltZoomResURI" : {
10044         "get": {
10045             "description": "This Resource specifies the pan tilt and zoom capabilities of a device.\nThe
10046 Resource Type is dynamic and reflects whether the values apply to\n physical movement of the device
10047 or digital/virtual enhancements to the image.\nFor physical movement the Resource Type is
10048 \"oic.r.movement.ptz\".\nFor digital/virtual image enhancements the Resource Type is
10049 \"oic.r.image.ptz\".\nThe Properties \"pan\" and \"tilt\" are specified in degrees.\nThe Property
10050 \"zoomFactor\" is a value in the range 1-100 for linear (optical) zoom.\nThe zoom factor is a value
10051 in the range [1x, 2x, 4x, 8x, 16x, 32x] for digital zoom.\nIf there is no zoom value to set the zoom
10052 factor shall be '1x'.\nThe value 0 degrees means neutral, this is a vendor defined setting.\nNote
10053 that this resource also can be used to create an offset for physical movement.\nWhen that is the
10054 case, the Resource Type value is: \"oic.r.movement.offset.ptz\".\nNote that this resource also can be
10055 used to create an offset for image movement.\nWhen that is the case, the Resource Type value is:
10056 \"oic.r.image.offset.ptz\".\nWhen the Property \"pan_range\" value is omitted, then the range is [-
10057 180.0,180.0].\nIf \"pan\" is not supported then the range shall be [0.0,0.0]\nWhen the Property
10058 \"tilt_range\" value is omitted, then the range is [-180.0,180.0].\nIf \"tilt\" is not supported
10059 then the range shall be [0.0,0.0].",
10060             "parameters": [
10061                 {"$ref": "#/parameters/interface"}
10062             ],
10063             "responses": {
10064                 "200": {
10065                     "description": "Retrieves the current pan, tilt and zoom setting.",
10066                     "x-example":
10067                         {
10068                             "rt": ["oic.r.ptz"],
10069                             "if": ["oic.if.a", "oic.if.baseline"],
10070                             "pan": 0.0,
10071                             "tilt": 0.0,
10072                             "zoomFactor": "2x"
10073                         },
10074                     "schema": { "$ref": "#/definitions/PanTiltZoom" }
10075                 }
10076             }
10077         },
10078         "post": {
10079             "description": "Sets the current pan, tilt and zoom value.",
10080             "parameters": [
10081                 {"$ref": "#/parameters/interface"},
10082                 {
10083                     "name": "body",
10084                     "in": "body",
10085                     "required": true,
10086                     "schema": { "$ref": "#/definitions/PanTiltZoom" },
10087                     "x-example":
10088                         {
10089                             "pan": 10.0,
10090                             "tilt": -10.0,
10091                             "zoomFactor": "4x"
10092                         }
10093                 }
10094             ],
10095             "responses": {
10096                 "200": {
10097                     "description": "",
10098                     "x-example":
10099                         {
10100                             "pan": 10.0,
10101                             "tilt": -10.0,
10102                             "zoomFactor": "4x"
10103                         },
10104                     "schema": { "$ref": "#/definitions/PanTiltZoom" }
10105                 }
10106             }
10107         }
10108     }
10109 }

```

```

10106     }
10107   }
10108 }
10109 },
10110 "parameters": {
10111   "interface": {
10112     "in": "query",
10113     "name": "if",
10114     "type": "string",
10115     "enum": ["oic.if.a", "oic.if.baseline"]
10116   }
10117 },
10118 "definitions": {
10119   "PanTiltZoom": {
10120     "properties": {
10121       "rt": {
10122         "description": "The Resource Type.",
10123         "items": {
10124           "enum": ["oic.r.ptz"],
10125           "maxLength": 64,
10126           "type": "string"
10127         },
10128         "minItems": 1,
10129         "uniqueItems": true,
10130         "readOnly": true,
10131         "type": "array"
10132       },
10133       "tilt_range": {
10134         "$ref":
10135 "https://openconnectivityfoundation.github.io/IoTDataModels/schemas/oic.baseresource.properties-
10136 schema.json#/definitions/range_number"
10137       },
10138       "zoomFactor": {
10139         "description": "The zoom factor value.",
10140         "type": "string"
10141       },
10142       "tilt": {
10143         "description": "The vertical tilt in degrees.",
10144         "type": "number"
10145       },
10146       "precision": {
10147         "$ref":
10148 "https://openconnectivityfoundation.github.io/IoTDataModels/schemas/oic.baseresource.properties-
10149 schema.json#/definitions/precision"
10150       },
10151       "pan_range": {
10152         "$ref":
10153 "https://openconnectivityfoundation.github.io/IoTDataModels/schemas/oic.baseresource.properties-
10154 schema.json#/definitions/range_number"
10155       },
10156       "zoomFactorRange": {
10157         "description": "The allowed Zoom Factor values. Linear equates to a 1-100 min/max.",
10158         "enum": [
10159           "linear",
10160           "1x",
10161           "2x",
10162           "4x",
10163           "8x",
10164           "16x",
10165           "32x"
10166         ],
10167         "readOnly": true,
10168         "type": "string"
10169       },
10170       "pan": {
10171         "description": "The horizontal pan in degrees.",
10172         "type": "number"
10173       },
10174       "n": {
10175         "$ref":
10176 "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
10177 schema.json#/definitions/n"

```

```

10178     },
10179     "id": {
10180         "$ref":
10181         "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
10182         schema.json#/definitions/id"
10183     },
10184     "if": {
10185         "description": "The OCF Interface set supported by this Resource.",
10186         "items": {
10187             "enum": [
10188                 "oic.if.a",
10189                 "oic.if.baseline"
10190             ],
10191             "type": "string"
10192         },
10193         "minItems": 2,
10194         "uniqueItems": true,
10195         "readOnly": true,
10196         "type": "array"
10197     }
10198 },
10199 "type": "object",
10200 "required": ["pan", "tilt", "zoomFactor"]
10201 }
10202 }
10203 }
10204

```

10205 **6.50.5 Property definition**

10206 Table 103 defines the Properties that are part of the "oic.r.ptz" Resource Type.

10207 **Table 103 – The Property definitions of the Resource with type "rt" = "oic.r.ptz".**

Property name	Value type	Mandatory	Access mode	Description
zoomFactor	string	Yes	Read Write	The zoom factor value.
tilt_range	multiple types: see schema	No	Read Write	
pan	number	Yes	Read Write	The horizontal pan in degrees.
zoomFactorRange	string	No	Read Only	The allowed Zoom Factor values. Linear equates to a 1-100 min/max.
id	multiple types: see schema	No	Read Write	
tilt	number	Yes	Read Write	The vertical tilt in degrees.
rt	array: see schema	No	Read Only	The Resource Type.

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

10208 **6.50.6 CRUDN behaviour**

10209 Table 104 defines the CRUDN operations that are supported on the "oic.r.ptz" Resource Type.

10210 **Table 104 – The CRUDN operations of the Resource with type "rt" = "oic.r.ptz".**

Create	Read	Update	Delete	Notify
	get	post		observe

10211 **6.51 Signal Strength**

10212 **6.51.1 Introduction**

10213 This Resource describes the strength of a signal by means of lqi and rssi.
 10214 The Property "lqi" is a floating point number that represents Link Quality Indicator.
 10215 The Property "rssi" is a floating point number that represents the received signal strength indicator.

10216 **6.51.2 Example URI**

10217 /SignalStrengthResURI

10218 **6.51.3 Resource type**

10219 The Resource Type is defined as: "oic.r.signalstrength".

10220 **6.51.4 OpenAPI 2.0 definition**

```

10221 {
10222   "swagger": "2.0",
10223   "info": {
10224     "title": "Signal Strength",
10225     "version": "20190215",
10226     "license": {
10227       "name": "OCF Data Model License",
10228       "url":
10229       "https://github.com/openconnectivityfoundation/core/blob/e28a9e0a92e17042ba3e83661e4c0fbce8bdc4ba/LI
10230       CENSE.md",
10231       "x-copyright": "copyright 2016-2017, 2019 Open Connectivity Foundation, Inc. All rights
10232       reserved."
10233     },
10234     "termsOfService": "https://openconnectivityfoundation.github.io/core/DISCLAIMER.md"
10235   },
10236   "schemes": ["http"],
10237   "consumes": ["application/json"],
10238   "produces": ["application/json"],
10239   "paths": {
10240     "/SignalStrengthResURI" : {

```

```

10241     "get": {
10242         "description": "This Resource describes the strength of a signal by means of lqi and
10243 rssi.\nThe Property \"lqi\" is a floating point number that represents Link Quality Indicator.\nThe
10244 Property \"rssi\" is a floating point number that represents the received signal strength
10245 indicator.",
10246         "parameters": [
10247             {"$ref": "#/parameters/interface"}
10248         ],
10249         "responses": {
10250             "200": {
10251                 "description": "",
10252                 "x-example":
10253                     {
10254                         "rt": ["oic.r.signalstrength"],
10255                         "if": ["oic.if.s", "oic.if.baseline"],
10256                         "lqi": 10.0,
10257                         "rssi": 55.0
10258                     }
10259             },
10260             "schema": { "$ref": "#/definitions/SignalStrength" }
10261         }
10262     }
10263 }
10264 }
10265 },
10266 "parameters": {
10267     "interface": {
10268         "in": "query",
10269         "name": "if",
10270         "type": "string",
10271         "enum": ["oic.if.s", "oic.if.baseline"]
10272     }
10273 },
10274 "definitions": {
10275     "SignalStrength" : {
10276         "properties": {
10277             "rt": {
10278                 "description": "The Resource Type.",
10279                 "items": {
10280                     "enum": ["oic.r.signalstrength"],
10281                     "maxLength": 64,
10282                     "type": "string"
10283                 },
10284                 "minItems": 1,
10285                 "uniqueItems": true,
10286                 "readOnly": true,
10287                 "type": "array"
10288             },
10289             "lqi": {
10290                 "description": "The current value of Link Quality Indicator.",
10291                 "readOnly": true,
10292                 "type": "number"
10293             },
10294             "rssi": {
10295                 "description": "The current value of Received Signal Strength Indicator.",
10296                 "readOnly": true,
10297                 "type": "number"
10298             },
10299             "n": {
10300                 "$ref":
10301 "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
10302 schema.json#/definitions/n"
10303             },
10304             "id": {
10305                 "$ref":
10306 "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
10307 schema.json#/definitions/id"
10308             },
10309             "if": {
10310                 "description": "The OCF Interface set supported by this Resource.",
10311                 "items": {
10312                     "enum": [

```

```

10313         "oic.if.s",
10314         "oic.if.baseline"
10315     ],
10316     "type": "string"
10317 },
10318 "minItems": 2,
10319 "uniqueItems": true,
10320 "readOnly": true,
10321 "type": "array"
10322 }
10323 },
10324 "type": "object",
10325 "required": ["lqi", "rssi"]
10326 }
10327 }
10328 }
10329

```

10330 **6.51.5 Property definition**

10331 Table 105 defines the Properties that are part of the "oic.r.signalstrength" Resource Type.

10332 **Table 105 – The Property definitions of the Resource with type "rt" = "oic.r.signalstrength".**

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

10333 **6.51.6 CRUDN behaviour**

10334 Table 106 defines the CRUDN operations that are supported on the "oic.r.signalstrength" Resource Type.

10335 **Table 106 – The CRUDN operations of the Resource with type "rt" = "oic.r.signalstrength".**

Create	Read	Update	Delete	Notify

	get			observe
--	-----	--	--	---------

10337 **6.52 Speech Synthesis-TTS**

10338 **6.52.1 Introduction**

10339 This Resource may be created on the OCF Server that is capable of rendering speech by an OCF
 10340 Client and allows the client to provide an SSML document with text to render
 10341 or may be created on the OIC Server by some resident application.
 10342 The audio rendered is at this stage local to the Server (i.e. not streamed).
 10343 The utterance is an SSML document.
 10344 The supportedLanguages is an array of the RFC5646 defined language tags that are supported.
 10345 The supportedVoices is an SSML document fragment indicating the voices that are supported.
 10346 Utterance in the example shall be a properly escaped (JSON rules) SSML document. An example:
 10347 "<?xml version="1.0" encoding="ISO-8859-1"?>

```
10348
10349
10350 <speak version="1.1" xmlns="http://www.w3.org/2001/10/synthesis"
10351
10352
10353     xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
10354
10355     xsi:schemaLocation="http://www.w3.org/2001/10/synthesis
10356
10357     http://www.w3.org/TR/speech-synthesis11/synthesis.xsd"
10358
10359     xml:lang="en-US">
```

```
10360
10361
10362     The title of the movie is:
10363
10364     "Monty Pythons The Meaning of Life"
10365
10366     which is directed by Terry Jones.
10367
10368 </speak"
```

10379 **6.52.2 Example URI**

10380 /SpeechTTSResURI

10381 **6.52.3 Resource type**

10382 The Resource Type is defined as: "oic.r.speech.tts".

10383 **6.52.4 OpenAPI 2.0 definition**

```
10384 {
10385   "swagger": "2.0",
10386   "info": {
```

```

10387     "title": "Speech Synthesis-TTS",
10388     "version": "20190215",
10389     "license": {
10390         "name": "OCF Data Model License",
10391         "url":
10392     "https://github.com/openconnectivityfoundation/core/blob/e28a9e0a92e17042ba3e83661e4c0fbce8bdc4ba/LI
10393     CENSE.md",
10394     "x-copyright": "copyright 2016-2017, 2019 Open Connectivity Foundation, Inc. All rights
10395     reserved.",
10396     },
10397     "termsOfService": "https://openconnectivityfoundation.github.io/core/DISCLAIMER.md"
10398     },
10399     "schemes": ["http"],
10400     "consumes": ["application/json"],
10401     "produces": ["application/json"],
10402     "paths": {
10403         "/SpeechTTSResURI" : {
10404             "get": {
10405                 "description": "This Resource may be created on the OCF Server that is capable of rendering
10406                 speech by an OCF Client and allows the client to provide an SSML document with text to render\n or
10407                 may be created on the OIC Server by some resident application.\nThe audio rendered is at this stage
10408                 local to the Server (i.e. not streamed).\nThe utterance is an SSML document.\nThe supportedLanguages
10409                 is an array of the RFC5646 defined language tags that are supported.\nThe supportedVoices is an SSML
10410                 document fragment indicating the voices that are supported.\nUtterance in the example shall be a
10411                 properly escaped (JSON rules) SSML document. An example:\n \n <?xml version=\n"1.0\n" encoding=\n"ISO-
10412                 8859-1\n"?>\n\r\n \n <speech version=\n"1.1\n" xmlns=\n"http://www.w3.org/2001/10/synthesis\n"\n\r\n
10413                 \txmlns:xsi=\n"http://www.w3.org/2001/XMLSchema-instance\n"\n\r\n
10414                 \txsi:schemaLocation=\n"http://www.w3.org/2001/10/synthesis\n"\n\r\n
10415                 \thttp://www.w3.org/TR/speech-synthesis11/synthesis.xsd\n"\n\r\n \txml:lang=\n"en-US\n">\n\r\n
10416                 \n\r\n \tThe title of the movie is:\n\r\n \t\n"Monty Pythons The Meaning of Life\n"\n\r\n \twhich
10417                 is directed by Terry Jones.\n\r\n \n </speech\n"\n",
10418                 "parameters": [
10419                     { "$ref": "#/parameters/interface" }
10420                 ],
10421                 "responses": {
10422                     "200": {
10423                         "description": "",
10424                         "x-example":
10425                         {
10426                             "rt": ["oic.r.speech.tts"],
10427                             "if": ["oic.if.a", "oic.if.baseline"],
10428                             "utterance": "Strange women lying in ponds distributing swords is no basis for a
10429                             system of government.",
10430                             "supportedLanguages": ["en-US", "en-GB", "fr-CA"],
10431                             "supportedVoices": "<voice gender=\n"female\n" variant=\n"2\n"></voice>\n\r<voice
10432                             name=\n"Mike\n"></voice>"
10433                         },
10434                         "schema": { "$ref": "#/definitions/Speech" }
10435                     }
10436                 }
10437             },
10438             "post": {
10439                 "description": "Changes the utterance being rendered.\nExample shows a change in language
10440                 selected.\n",
10441                 "parameters": [
10442                     { "$ref": "#/parameters/interface" },
10443                     {
10444                         "name": "body",
10445                         "in": "body",
10446                         "required": true,
10447                         "schema": { "$ref": "#/definitions/Speech" },
10448                         "x-example":
10449                         {
10450                             "utterance": "Alright, but apart from the sanitation, the medicine, education, wine,
10451                             public order, irrigation, roads, the fresh-water system, and public health, what have the Romans
10452                             ever done for us?"
10453                         }
10454                     }
10455                 ],
10456                 "responses": {
10457                     "200": {
10458                         "description": "",

```

```

10459         "x-example":
10460             {
10461                 "utterance": "Alright, but apart from the sanitation, the medicine, education,
10462 wine, public order, irrigation, roads, the fresh-water system, and public health, what have the
10463 Romans ever done for us?"
10464             },
10465             "schema": { "$ref": "#/definitions/Speech" }
10466         }
10467     }
10468 }
10469 },
10470 },
10471 "parameters": {
10472     "interface": {
10473         "in": "query",
10474         "name": "if",
10475         "type": "string",
10476         "enum": ["oic.if.a", "oic.if.baseline"]
10477     }
10478 },
10479 "definitions": {
10480     "Speech" : {
10481         "properties": {
10482             "rt": {
10483                 "description": "The Resource Type.",
10484                 "items": {
10485                     "enum": ["oic.r.speech.tts"],
10486                     "maxLength": 64,
10487                     "type": "string"
10488                 },
10489                 "minItems": 1,
10490                 "uniqueItems": true,
10491                 "readOnly": true,
10492                 "type": "array"
10493             },
10494             "supportedLanguages": {
10495                 "description": "The array of supported language tags.",
10496                 "items": {
10497                     "type": "string"
10498                 },
10499                 "readOnly": true,
10500                 "type": "array"
10501             },
10502             "supportedVoices": {
10503                 "description": "The SSML document fragment indicating supported voices.",
10504                 "readOnly": true,
10505                 "maxLength": 1024,
10506                 "type": "string"
10507             },
10508             "utterance": {
10509                 "description": "The SSML document including the speech body.",
10510                 "maxLength": 1024,
10511                 "type": "string"
10512             },
10513             "n": {
10514                 "$ref":
10515 "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
10516 schema.json#/definitions/n"
10517             },
10518             "id": {
10519                 "$ref":
10520 "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
10521 schema.json#/definitions/id"
10522             },
10523             "if": {
10524                 "description": "The OCF Interface set supported by this Resource.",
10525                 "items": {
10526                     "enum": [
10527                         "oic.if.a",
10528                         "oic.if.baseline"
10529                     ],
10530                     "type": "string"

```

```

10531     },
10532     "minItems": 2,
10533     "uniqueItems": true,
10534     "readOnly": true,
10535     "type": "array"
10536   }
10537 },
10538 "type": "object",
10539 "required": ["utterance"]
10540 }
10541 }
10542 }
10543

```

10544 **6.52.5 Property definition**

10545 Table 107 defines the Properties that are part of the "oic.r.speech.tts" Resource Type.

10546 **Table 107 – The Property definitions of the Resource with type "rt" = "oic.r.speech.tts".**

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

10547 **6.52.6 CRUDN behaviour**

10548 Table 108 defines the CRUDN operations that are supported on the "oic.r.speech.tts" Resource
 10549 Type.

10550 **Table 108 – The CRUDN operations of the Resource with type "rt" = "oic.r.speech.tts".**

Create	Read	Update	Delete	Notify
	get	post		observe

10551 **6.53 Touch Sensor**

10552 **6.53.1 Introduction**

10553 This Resource describes whether a touch has been sensed or not.
 10554 The Property "value" is a boolean.
 10555 A value of 'true' means that touch has been sensed.
 10556 A value of 'false' means that touch not been sensed.
 10557

10558 **6.53.2 Example URI**

10559 /TouchResURI

10560 **6.53.3 Resource type**

10561 The Resource Type is defined as: "oic.r.sensor.touch".

10562 **6.53.4 OpenAPI 2.0 definition**

```

10563 {
10564   "swagger": "2.0",
10565   "info": {
10566     "title": "Touch Sensor",
10567     "version": "20190215",
10568     "license": {
10569       "name": "OCF Data Model License",
10570       "url":
10571         "https://github.com/openconnectivityfoundation/core/blob/e28a9e0a92e17042ba3e83661e4c0fbce8bdc4ba/LI
10572         CENSE.md",
10573       "x-copyright": "copyright 2016-2017, 2019 Open Connectivity Foundation, Inc. All rights
10574       reserved."
10575     },
10576     "termsOfService": "https://openconnectivityfoundation.github.io/core/DISCLAIMER.md"
10577   },
10578   "schemes": ["http"],
10579   "consumes": ["application/json"],
10580   "produces": ["application/json"],
10581   "paths": {
10582     "/TouchResURI" : {
10583       "get": {
10584         "description": "This Resource describes whether a touch has been sensed or not.\nThe
10585         Property \"value\" is a boolean.\nA value of 'true' means that touch has been sensed.\nA value of
10586         'false' means that touch not been sensed.\n",
10587         "parameters": [
10588           {"$ref": "#/parameters/interface"}
10589         ],
10590         "responses": {
10591           "200": {
10592             "description": "",
10593             "x-example":
10594               {
10595                 "rt": ["oic.r.sensor.touch"],
10596                 "if": ["oic.if.s", "oic.if.baseline"],
10597                 "value": true
10598               },
10599             "schema": { "$ref": "#/definitions/Touch" }
10600           }
10601         }
10602       }
10603     }
10604   },

```

```

10605     "parameters": {
10606       "interface" : {
10607         "in" : "query",
10608         "name" : "if",
10609         "type" : "string",
10610         "enum" : ["oic.if.s", "oic.if.baseline"]
10611       }
10612     },
10613     "definitions": {
10614       "Touch" : {
10615         "properties": {
10616           "rt": {
10617             "description": "The Resource Type.",
10618             "items": {
10619               "enum": ["oic.r.sensor.touch"],
10620               "maxLength": 64,
10621               "type": "string"
10622             },
10623             "minItems": 1,
10624             "uniqueItems": true,
10625             "readOnly": true,
10626             "type": "array"
10627           },
10628           "value": {
10629             "description": "The touch sensor, true = sensed, false = not sensed.",
10630             "readOnly": true,
10631             "type": "boolean"
10632           },
10633           "n": {
10634             "$ref":
10635             "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
10636             schema.json#/definitions/n"
10637           },
10638           "id": {
10639             "$ref":
10640             "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
10641             schema.json#/definitions/id"
10642           },
10643           "if": {
10644             "description": "The OCF Interface set supported by this Resource.",
10645             "items": {
10646               "enum": [
10647                 "oic.if.s",
10648                 "oic.if.baseline"
10649               ],
10650               "type": "string"
10651             },
10652             "minItems": 2,
10653             "uniqueItems": true,
10654             "readOnly": true,
10655             "type": "array"
10656           }
10657         },
10658         "type": "object",
10659         "required": ["value"]
10660       }
10661     }
10662   }
10663 }
10664

```

10665 6.53.5 Property definition

10666 Table 109 defines the Properties that are part of the "oic.r.sensor.touch" Resource Type.

10667 **Table 109 – The Property definitions of the Resource with type "rt" = "oic.r.sensor.touch".**

Property name	Value type	Mandatory	Access mode	Description
---------------	------------	-----------	-------------	-------------

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

10668 **6.53.6 CRUDN behaviour**

10669 Table 110 defines the CRUDN operations that are supported on the "oic.r.sensor.touch" Resource
10670 Type.

10671 **Table 110 – The CRUDN operations of the Resource with type "rt" = "oic.r.sensor.touch".**

Create	Read	Update	Delete	Notify
	get			observe

10672 **6.54 UV Radiation**

10673 **6.54.1 Introduction**

10674 This Resource specifies UV radiation measurement.
10675 The Property "measurement" is the current measured UV Index

10676 **6.54.2 Example URI**

10677 /UVRadiationResURI

10678 **6.54.3 Resource type**

10679 The Resource Type is defined as: "oic.r.sensor.radiation.uv".

10680 **6.54.4 OpenAPI 2.0 definition**

```
10681 {
10682   "swagger": "2.0",
10683   "info": {
10684     "title": "UV Radiation",
10685     "version": "20190215",
10686     "license": {
10687       "name": "OCF Data Model License",
10688       "url":
10689         "https://github.com/openconnectivityfoundation/core/blob/e28a9e0a92e17042ba3e83661e4c0fbce8bdc4ba/LI
10690         CENSE.md",
10691       "x-copyright": "copyright 2016-2017, 2019 Open Connectivity Foundation, Inc. All rights
10692         reserved."
10693     },

```

```

10694     "termsOfService": "https://openconnectivityfoundation.github.io/core/DISCLAIMER.md"
10695   },
10696   "schemes": ["http"],
10697   "consumes": ["application/json"],
10698   "produces": ["application/json"],
10699   "paths": {
10700     "/UVRadiationResURI" : {
10701       "get": {
10702         "description": "This Resource specifies UV radiation measurement.\nThe Property
10703 \\"measurement\" is the current measured UV Index",
10704         "parameters": [
10705           { "$ref": "#/parameters/interface" }
10706         ],
10707         "responses": {
10708           "200": {
10709             "description": "",
10710             "x-example":
10711               {
10712                 "rt": ["oic.r.sensor.radiation.uv"],
10713                 "if": ["oic.if.s", "oic.if.baseline"],
10714                 "measurement": 3.5
10715               }
10716           },
10717           "schema": { "$ref": "#/definitions/UVRadiation" }
10718         }
10719       }
10720     }
10721   },
10722 },
10723 "parameters": {
10724   "interface": {
10725     "in": "query",
10726     "name": "if",
10727     "type": "string",
10728     "enum": ["oic.if.s", "oic.if.baseline"]
10729   }
10730 },
10731 "definitions": {
10732   "UVRadiation": {
10733     "properties": {
10734       "rt": {
10735         "description": "The Resource Type.",
10736         "items": {
10737           "enum": ["oic.r.sensor.radiation.uv"],
10738           "maxLength": 64,
10739           "type": "string"
10740         },
10741         "minItems": 1,
10742         "uniqueItems": true,
10743         "readOnly": true,
10744         "type": "array"
10745       },
10746       "measurement": {
10747         "description": "The measured UV Index.",
10748         "readOnly": true,
10749         "type": "number"
10750       },
10751       "n": {
10752         "$ref":
10753 "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
10754 schema.json#/definitions/n"
10755       },
10756       "id": {
10757         "$ref":
10758 "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
10759 schema.json#/definitions/id"
10760       },
10761       "if" :
10762         {
10763           "description": "The OCF Interface set supported by this Resource.",
10764           "items": {
10765             "enum": [

```



```

10766         "oic.if.s",
10767         "oic.if.baseline"
10768     ],
10769     "type": "string"
10770 },
10771     "minItems": 2,
10772     "uniqueItems": true,
10773     "readOnly": true,
10774     "type": "array"
10775 }
10776 },
10777     "type": "object",
10778     "required": ["measurement"]
10779 }
10780 }
10781 }
10782

```

10783 **6.54.5 Property definition**

10784 Table 111 defines the Properties that are part of the "oic.r.sensor.radiation.uv" Resource Type.

10785 **Table 111 – The Property definitions of the Resource with type "rt" =**
10786 **"oic.r.sensor.radiation.uv".**

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

10787 **6.54.6 CRUDN behaviour**

10788 Table 112 defines the CRUDN operations that are supported on the "oic.r.sensor.radiation.uv"
10789 Resource Type.

10790 **Table 112 – The CRUDN operations of the Resource with type "rt" =**
10791 **"oic.r.sensor.radiation.uv".**

Create	Read	Update	Delete	Notify
	get			observe

10792 **6.55 Water Sensor**

10793 **6.55.1 Introduction**

10794 This Resource describes whether water has been sensed or not.
10795 The Property "value" is a boolean.
10796 A value of 'true' means that water has been sensed.
10797 A value of 'false' means that water not been sensed.
10798

10799 **6.55.2 Example URI**

10800 /WaterResURI

10801 **6.55.3 Resource type**

10802 The Resource Type is defined as: "oic.r.sensor.water".

10803 **6.55.4 OpenAPI 2.0 definition**

```
10804 {
10805   "swagger": "2.0",
10806   "info": {
10807     "title": "Water Sensor",
10808     "version": "20190215",
10809     "license": {
10810       "name": "OCF Data Model License",
10811       "url":
10812         "https://github.com/openconnectivityfoundation/core/blob/e28a9e0a92e17042ba3e83661e4c0fbce8bdc4ba/LI
10813         CENSE.md",
10814       "x-copyright": "copyright 2016-2017, 2019 Open Connectivity Foundation, Inc. All rights
10815         reserved."
10816     },
10817     "termsOfService": "https://openconnectivityfoundation.github.io/core/DISCLAIMER.md"
10818   },
10819   "schemes": ["http"],
10820   "consumes": ["application/json"],
10821   "produces": ["application/json"],
10822   "paths": {
10823     "/WaterResURI" : {
10824       "get": {
10825         "description": "This Resource describes whether water has been sensed or not.\n\nThe Property
10826         \"value\" is a boolean.\n\nA value of 'true' means that water has been sensed.\n\nA value of 'false'
10827         means that water not been sensed.\n\n",
10828         "parameters": [
10829           { "$ref": "#/parameters/interface" }
10830         ],
10831         "responses": {
10832           "200": {
10833             "description": "",
10834             "x-example":
10835               {
10836                 "rt": ["oic.r.sensor.water"],
10837                 "if": ["oic.if.s", "oic.if.baseline"],
10838                 "value": true
10839               },
10840             "schema": { "$ref": "#/definitions/Water" }
10841           }
10842         }
10843       }
10844     }
10845   },
10846   "parameters": {
10847     "interface": {
10848       "in": "query",
10849       "name": "if",
10850       "type": "string",
10851       "enum": ["oic.if.s", "oic.if.baseline"]
10852     }
10853   },
10854   "definitions": {
```

```

10855     "Water" : {
10856       "properties": {
10857         "rt": {
10858           "description": "The Resource Type.",
10859           "items": {
10860             "enum": ["oic.r.sensor.water"],
10861             "maxLength": 64,
10862             "type": "string"
10863           },
10864           "minItems": 1,
10865           "uniqueItems": true,
10866           "readOnly": true,
10867           "type": "array"
10868         },
10869         "value": {
10870           "description": "The water sensor, true = sensed, false = not sensed.",
10871           "readOnly": true,
10872           "type": "boolean"
10873         },
10874         "n": {
10875           "$ref":
10876           "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
10877           schema.json#/definitions/n"
10878         },
10879         "id": {
10880           "$ref":
10881           "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
10882           schema.json#/definitions/id"
10883         },
10884         "if": {
10885           "description": "The OCF Interface set supported by this Resource.",
10886           "items": {
10887             "enum": [
10888               "oic.if.s",
10889               "oic.if.baseline"
10890             ],
10891             "type": "string"
10892           },
10893           "minItems": 2,
10894           "uniqueItems": true,
10895           "readOnly": true,
10896           "type": "array"
10897         }
10898       },
10899       "type": "object",
10900       "required": ["value"]
10901     }
10902   }
10903 }
10904

```

10905 6.55.5 Property definition

10906 Table 113 defines the Properties that are part of the "oic.r.sensor.water" Resource Type.

10907 **Table 113 – The Property definitions of the Resource with type "rt" = "oic.r.sensor.water".**

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

value	boolean	Yes	Read Only	The water sensor, true = sensed, false = not sensed.
id	multiple types: see schema	No	Read Write	
rt	array: see schema	No	Read Only	The Resource Type.

10908 **6.55.6 CRUDN behaviour**

10909 Table 114 defines the CRUDN operations that are supported on the "oic.r.sensor.water" Resource
10910 Type.

10911 **Table 114 – The CRUDN operations of the Resource with type "rt" = "oic.r.sensor.water".**

Create	Read	Update	Delete	Notify
	get			observe

10912 **6.56 Acceleration Sensor**

10913 **6.56.1 Introduction**

10914 This Resource provides a measure of proper acceleration (g force) as opposed to co-ordinate
10915 acceleration (which is dependent on the co-ordinate system and the observer).
10916 The Property "value" is a float which describes the acceleration experienced by the object in "g".

10917 **6.56.2 Example URI**

10918 /AccelerationResURI

10919 **6.56.3 Resource type**

10920 The Resource Type is defined as: "oic.r.sensor.acceleration".

10921 **6.56.4 OpenAPI 2.0 definition**

```

10922 {
10923   "swagger": "2.0",
10924   "info": {
10925     "title": "Acceleration Sensor",
10926     "version": "20190215",
10927     "license": {
10928       "name": "OCF Data Model License",
10929       "url":
10930 "https://github.com/openconnectivityfoundation/core/blob/e28a9e0a92e17042ba3e83661e4c0fbce8bdc4ba/LI
10931 CENSE.md",
10932       "x-copyright": "Copyright 2018-2019 Open Connectivity Foundation, Inc. All rights reserved."
10933     },
10934     "termsOfService": "https://openconnectivityfoundation.github.io/core/DISCLAIMER.md"
10935   },
10936   "schemes": ["http"],
10937   "consumes": ["application/json"],
10938   "produces": ["application/json"],
10939   "paths": {
10940     "/AccelerationResURI" : {
10941       "get": {
10942         "description": "This Resource provides a measure of proper acceleration (g force) as opposed
10943 to co-ordinate acceleration (which is dependent on the co-ordinate system and the observer).\nThe
10944 Property \"value\" is a float which describes the acceleration experienced by the object in \"g\".",

```

```

10945     "parameters": [
10946       { "$ref": "#/parameters/interface" }
10947     ],
10948     "responses": {
10949       "200": {
10950         "description": "",
10951         "x-example":
10952           {
10953             "rt": ["oic.r.sensor.acceleration"],
10954             "if": ["oic.if.s", "oic.if.baseline"],
10955             "acceleration": 0.5
10956           },
10957         "schema": { "$ref": "#/definitions/acceleration" }
10958       }
10959     }
10960   }
10961 },
10962 },
10963 "parameters": {
10964   "interface": {
10965     "in": "query",
10966     "name": "if",
10967     "type": "string",
10968     "enum": ["oic.if.s", "oic.if.baseline"]
10969   }
10970 },
10971 "definitions": {
10972   "acceleration": {
10973     "properties": {
10974       "rt": {
10975         "description": "Resource Type",
10976         "items": {
10977           "maxLength": 64,
10978           "type": "string",
10979           "enum": ["oic.r.sensor.acceleration"]
10980         },
10981         "minItems": 1,
10982         "uniqueItems": true,
10983         "readOnly": true,
10984         "type": "array"
10985       },
10986       "acceleration": {
10987         "description": "The sensed acceleration experienced in 'g'.",
10988         "readOnly": true,
10989         "type": "number"
10990       },
10991       "n": {
10992         "$ref":
10993           "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
10994           schema.json#/definitions/n"
10995       },
10996       "id": {
10997         "$ref":
10998           "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
10999           schema.json#/definitions/id"
11000       },
11001       "range": {
11002         "$ref":
11003           "https://openconnectivityfoundation.github.io/IoTDataModels/schemas/oic.baseresource.properties-
11004           schema.json#/definitions/range_number"
11005       },
11006       "step": {
11007         "$ref":
11008           "https://openconnectivityfoundation.github.io/IoTDataModels/schemas/oic.baseresource.properties-
11009           schema.json#/definitions/step_number"
11010       },
11011       "precision": {
11012         "$ref":
11013           "https://openconnectivityfoundation.github.io/IoTDataModels/schemas/oic.baseresource.properties-
11014           schema.json#/definitions/precision"
11015       },
11016       "if": {

```

```

11017     "description": "The OCF Interface set supported by this Resource.",
11018     "items": {
11019         "enum": [
11020             "oic.if.s",
11021             "oic.if.baseline"
11022         ],
11023         "type": "string"
11024     },
11025     "minItems": 2,
11026     "readOnly": true,
11027     "uniqueItems": true,
11028     "type": "array"
11029 }
11030 },
11031 "type": "object",
11032 "required": ["acceleration"]
11033 }
11034 }
11035 }
11036

```

6.56.5 Property definition

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

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

Property name	Value type	Mandatory	Access mode	Description
precision	multiple types: see schema	No	Read Write	
id	multiple types: see schema	No	Read Write	
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	
rt	array: see schema	No	Read Only	Resource Type
step	multiple types: see schema	No	Read Write	
acceleration	number	Yes	Read Only	The sensed acceleration experienced in 'g'.

11041 **6.56.6 CRUDN behaviour**

11042 Table 116 defines the CRUDN operations that are supported on the "oic.r.sensor.acceleration"
11043 Resource Type.

11044 **Table 116 – The CRUDN operations of the Resource with type "rt" =**
11045 **"oic.r.sensor.acceleration".**

Create	Read	Update	Delete	Notify
	get			observe

11046 **6.57 Movement**

11047 **6.57.1 Introduction**

11048 This Resource specifies linear movement.
11049 The Property "movementSettings" is an array of strings containing possible movement values (e.g.
11050 spin, stop, left, right).
11051 The Property "movement" is the currently selected movement value.
11052 The Property "movementModifier" is a modifier to the movement value (e.g. "spin", "90")
11053

11054 **6.57.2 Example URI**

11055 /MovementResURI

11056 **6.57.3 Resource type**

11057 The Resource Type is defined as: "oic.r.movement.linear".

11058 **6.57.4 OpenAPI 2.0 definition**

```
11059 {  
11060   "swagger": "2.0",  
11061   "info": {  
11062     "title": "Movement",  
11063     "version": "20190215",  
11064     "license": {  
11065       "name": "OCF Data Model License",  
11066       "url":  
11067 "https://github.com/openconnectivityfoundation/core/blob/e28a9e0a92e17042ba3e83661e4c0fbce8bdc4ba/LI  
11068 CENSE.md",  
11069       "x-copyright": "copyright 2016-2017, 2019 Open Connectivity Foundation, Inc. All rights  
11070 reserved."  
11071     },  
11072     "termsOfService": "https://openconnectivityfoundation.github.io/core/DISCLAIMER.md"  
11073   },  
11074   "schemes": ["http"],  
11075   "consumes": ["application/json"],  
11076   "produces": ["application/json"],  
11077   "paths": {  
11078     "/MovementResURI" : {  
11079       "get": {  
11080         "description": "This Resource specifies linear movement.\n\nThe Property \"movementSettings\"  
11081 is an array of strings containing possible movement values (e.g. spin, stop, left, right).\n\nThe  
11082 Property \"movement\" is the currently selected movement value.\n\nThe Property \"movementModifier\"  
11083 is a modifier to the movement value (e.g. \"spin\", \"90\")\n\n",  
11084         "parameters": [  
11085           {"$ref": "#/parameters/interface"}  
11086         ],  
11087         "responses": {  
11088           "200": {  
11089             "description": "",  
11090             "x-example":  
11091             {  
11092               "rt": ["oic.r.movement.linear"],
```

```

11093         "if": ["oic.if.s", "oic.if.baseline"],
11094         "movementSettings": ["stop", "left", "right", "rotate", "forward", "backward"],
11095         "movement": "rotate",
11096         "movementModifier": "90"
11097     },
11098     "schema": { "$ref": "#/definitions/movement" }
11099 }
11100 }
11101 },
11102 "post": {
11103     "description": "Sets the current device movement.",
11104     "parameters": [
11105         { "$ref": "#/parameters/interface" },
11106         {
11107             "name": "body",
11108             "in": "body",
11109             "required": true,
11110             "schema": { "$ref": "#/definitions/movement" },
11111             "x-example":
11112                 {
11113                     "movementSettings": ["stop", "left", "right", "rotate", "forward", "backward"],
11114                     "movement": "stop"
11115                 }
11116         }
11117     ],
11118     "responses": {
11119         "200": {
11120             "description": "",
11121             "x-example":
11122                 {
11123                     "movementSettings": ["stop", "left", "right", "rotate", "forward", "backward"],
11124                     "movement": "stop"
11125                 },
11126             "schema": { "$ref": "#/definitions/movement" }
11127         }
11128     }
11129 }
11130 },
11131 },
11132 "parameters": {
11133     "interface": {
11134         "in": "query",
11135         "name": "if",
11136         "type": "string",
11137         "enum": ["oic.if.s", "oic.if.baseline"]
11138     }
11139 },
11140 "definitions": {
11141     "movement": {
11142         "properties": {
11143             "rt": {
11144                 "description": "The Resource Type.",
11145                 "items": {
11146                     "enum": ["oic.r.movement.linear"],
11147                     "maxLength": 64,
11148                     "type": "string"
11149                 },
11150                 "minItems": 1,
11151                 "uniqueItems": true,
11152                 "readOnly": true,
11153                 "type": "array"
11154             },
11155             "movementSettings": {
11156                 "description": "The array of possible movement values.",
11157                 "items": {
11158                     "type": "string"
11159                 },
11160                 "readOnly": true,
11161                 "type": "array"
11162             },
11163             "movementModifier": {
11164                 "description": "The modifier to the movement value (e.g. spin-90, left-20), units are

```



```

11165 device dependent.",
11166     "type": "string"
11167   },
11168   "movement": {
11169     "description": "The current movement value.",
11170     "type": "string"
11171   },
11172   "n": {
11173     "$ref":
11174     "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
11175     schema.json#/definitions/n"
11176   },
11177   "id": {
11178     "$ref":
11179     "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
11180     schema.json#/definitions/id"
11181   },
11182   "if": {
11183     "description": "The OCF Interface set supported by this Resource.",
11184     "items": {
11185       "enum": [
11186         "oic.if.s",
11187         "oic.if.baseline"
11188       ],
11189       "type": "string"
11190     },
11191     "minItems": 2,
11192     "uniqueItems": true,
11193     "readOnly": true,
11194     "type": "array"
11195   }
11196 },
11197 "type": "object",
11198 "required": ["movementSettings", "movement"]
11199 }
11200 }
11201 }
11202

```

11203 6.57.5 Property definition

11204 Table 117 defines the Properties that are part of the "oic.r.movement.linear" Resource Type.

11205 **Table 117 – The Property definitions of the Resource with type "rt" =**
11206 **"oic.r.movement.linear".**

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

11207 **6.57.6 CRUDN behaviour**

11208 Table 118 defines the CRUDN operations that are supported on the "oic.r.movement.linear"
11209 Resource Type.

11210 **Table 118 – The CRUDN operations of the Resource with type "rt" =**
11211 **"oic.r.movement.linear".**

Create	Read	Update	Delete	Notify
	get	post		observe

11212 **6.58 Sleep Sensor**

11213 **6.58.1 Introduction**

11214 This Resource describes whether human sleep has been sensed or not.
11215 The Property "value" is a boolean.
11216 A value of 'true' means that sleep has been sensed.
11217 A value of 'false' means that sleep not been sensed.
11218

11219 **6.58.2 Example URI**

11220 /SleepSensorResURI

11221 **6.58.3 Resource type**

11222 The Resource Type is defined as: "oic.r.sensor.sleep".

11223 **6.58.4 OpenAPI 2.0 definition**

```
11224 {
11225   "swagger": "2.0",
11226   "info": {
11227     "title": "Sleep Sensor",
11228     "version": "20190215",
11229     "license": {
11230       "name": "OCF Data Model License",
11231       "url":
11232         "https://github.com/openconnectivityfoundation/core/blob/e28a9e0a92e17042ba3e83661e4c0fbce8bdc4ba/LI
11233         CENSE.md",
11234       "x-copyright": "copyright 2016-2017, 2019 Open Connectivity Foundation, Inc. All rights
11235         reserved."
11236     },
11237     "termsOfService": "https://openconnectivityfoundation.github.io/core/DISCLAIMER.md"
11238   },
11239   "schemes": ["http"],
```

```

11240     "consumes": ["application/json"],
11241     "produces": ["application/json"],
11242     "paths": {
11243         "/SleepSensorResURI" : {
11244             "get": {
11245                 "description": "This Resource describes whether human sleep has been sensed or not.\nThe
11246 Property \"value\" is a boolean.\nA value of 'true' means that sleep has been sensed.\nA value of
11247 'false' means that sleep not been sensed.\n",
11248                 "parameters": [
11249                     { "$ref": "#/parameters/interface" }
11250                 ],
11251                 "responses": {
11252                     "200": {
11253                         "description": "",
11254                         "x-example":
11255                             {
11256                                 "rt": ["oic.r.sensor.sleep"],
11257                                 "if": ["oic.if.s", "oic.if.baseline"],
11258                                 "value": true
11259                             },
11260                         "schema": { "$ref": "#/definitions/sleep" }
11261                     }
11262                 }
11263             }
11264         },
11265     },
11266     "parameters": {
11267         "interface": {
11268             "in": "query",
11269             "name": "if",
11270             "type": "string",
11271             "enum": ["oic.if.s", "oic.if.baseline"]
11272         }
11273     },
11274     "definitions": {
11275         "sleep" : {
11276             "properties": {
11277                 "rt": {
11278                     "description": "The Resource Type.",
11279                     "items": {
11280                         "enum": ["oic.r.sensor.sleep"],
11281                         "maxLength": 64,
11282                         "type": "string"
11283                     },
11284                     "minItems": 1,
11285                     "uniqueItems": true,
11286                     "readOnly": true,
11287                     "type": "array"
11288                 },
11289                 "value": {
11290                     "description": "The sleep sensor, true = sleep sensed, false = sleep not sensed.",
11291                     "readOnly": true,
11292                     "type": "boolean"
11293                 },
11294                 "n": {
11295                     "$ref":
11296 "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
11297 schema.json#/definitions/n"
11298                 },
11299                 "id": {
11300                     "$ref":
11301 "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
11302 schema.json#/definitions/id"
11303                 },
11304                 "if": {
11305                     "description": "The OCF Interface set supported by this Resource.",
11306                     "items": {
11307                         "enum": [
11308                             "oic.if.s",
11309                             "oic.if.baseline"
11310                         ],
11311                         "type": "string"

```

```

11312     },
11313     "minItems": 2,
11314     "uniqueItems": true,
11315     "readOnly": true,
11316     "type": "array"
11317   }
11318 },
11319 "type": "object",
11320 "required": ["value"]
11321 }
11322 }
11323 }
11324

```

11325 **6.58.5 Property definition**

11326 Table 119 defines the Properties that are part of the "oic.r.sensor.sleep" Resource Type.

11327 **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.
if	array: see schema	No	Read Only	The OCF Interface set supported by this Resource.
value	boolean	Yes	Read Only	The sleep sensor, true = sleep sensed, false = sleep not sensed.
id	multiple types: see schema	No	Read Write	
n	multiple types: see schema	No	Read Write	

11328 **6.58.6 CRUDN behaviour**

11329 Table 120 defines the CRUDN operations that are supported on the "oic.r.sensor.sleep" Resource Type.

11330 **Table 120 – The CRUDN operations of the Resource with type "rt" = "oic.r.sensor.sleep".**

Create	Read	Update	Delete	Notify
	get			observe

11332 **6.59 Smoke Sensor**

11333 **6.59.1 Introduction**

11334 This Resource describes whether smoke has been sensed or not.
 11335 The Property "value" is a boolean.

11336 A value of 'true' means that smoke has been sensed.
11337 A value of 'false' means that smoke not been sensed.

11338 6.59.2 Example URI

11339 /SmokeSensorResURI

11340 6.59.3 Resource type

11341 The Resource Type is defined as: "oic.r.sensor.smoke".

11342 6.59.4 OpenAPI 2.0 definition

```
11343 {
11344   "swagger": "2.0",
11345   "info": {
11346     "title": "Smoke Sensor",
11347     "version": "20190215",
11348     "license": {
11349       "name": "OCF Data Model License",
11350       "url":
11351 "https://github.com/openconnectivityfoundation/core/blob/e28a9e0a92e17042ba3e83661e4c0fbce8bdc4ba/LI
11352 CENSE.md",
11353       "x-copyright": "copyright 2016-2017, 2019 Open Connectivity Foundation, Inc. All rights
11354 reserved."
11355     },
11356     "termsOfService": "https://openconnectivityfoundation.github.io/core/DISCLAIMER.md"
11357   },
11358   "schemes": ["http"],
11359   "consumes": ["application/json"],
11360   "produces": ["application/json"],
11361   "paths": {
11362     "/SmokeSensorResURI" : {
11363       "get": {
11364         "description": "This Resource describes whether smoke has been sensed or not.\nThe Property
11365 \n"value\" is a boolean.\nA value of 'true' means that smoke has been sensed.\nA value of 'false'
11366 means that smoke not been sensed.",
11367         "parameters": [
11368           {"$ref": "#/parameters/interface"}
11369         ],
11370         "responses": {
11371           "200": {
11372             "description": "",
11373             "x-example":
11374             {
11375               "rt": ["oic.r.sensor.smoke"],
11376               "if": ["oic.if.s", "oic.if.baseline"],
11377               "value": true
11378             }
11379           },
11380           "schema": { "$ref": "#/definitions/smoke" }
11381         }
11382       }
11383     }
11384   },
11385   "parameters": {
11386     "interface": {
11387       "in": "query",
11388       "name": "if",
11389       "type": "string",
11390       "enum": ["oic.if.s", "oic.if.baseline"]
11391     }
11392   },
11393   "definitions": {
11394     "smoke" : {
11395       "properties": {
11396         "rt": {
11397           "description": "The Resource Type.",
11398           "items": {
11399             "enum": ["oic.r.sensor.smoke"],
```

```

11401         "maxLength": 64,
11402         "type": "string"
11403     },
11404     "minItems": 1,
11405     "uniqueItems": true,
11406     "readOnly": true,
11407     "type": "array"
11408 },
11409 "value": {
11410     "description": "The smoke indicator, true = sensed, false = not sensed.",
11411     "readOnly": true,
11412     "type": "boolean"
11413 },
11414 "n": {
11415     "$ref":
11416 "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
11417 schema.json#/definitions/n"
11418 },
11419 "id": {
11420     "$ref":
11421 "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
11422 schema.json#/definitions/id"
11423 },
11424 "if": {
11425     "description": "The OCF Interface set supported by this Resource.",
11426     "items": {
11427         "enum": [
11428             "oic.if.s",
11429             "oic.if.baseline"
11430         ],
11431         "type": "string"
11432     },
11433     "minItems": 2,
11434     "uniqueItems": true,
11435     "readOnly": true,
11436     "type": "array"
11437 }
11438 },
11439 "type": "object",
11440 "required": ["value"]
11441 }
11442 }
11443 }
11444

```

6.59.5 Property definition

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

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

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

n	multiple types: see schema	No	Read Write	
value	boolean	Yes	Read Only	The smoke indicator, true = sensed, false = not sensed.

11448 **6.59.6 CRUDN behaviour**

11449 Table 122 defines the CRUDN operations that are supported on the "oic.r.sensor.smoke" Resource
11450 Type.

11451 **Table 122 – The CRUDN operations of the Resource with type "rt" = "oic.r.sensor.smoke".**

Create	Read	Update	Delete	Notify
	get			observe

11452 **6.60 Three Axis Sensor**

11453 **6.60.1 Introduction**

11454 This Resource provides a representation of the measurement from a three-axis sensor.
11455 The Property "orientation" is an array of numbers representing x-plane, y-plane and z-plane values.
11456 The unit of measurement for each pane is 'g'.

11457 **6.60.2 Example URI**

11458 /ThreeAxisResURI

11459 **6.60.3 Resource type**

11460 The Resource Type is defined as: "oic.r.sensor.threeaxis".

11461 **6.60.4 OpenAPI 2.0 definition**

```

11462 {
11463   "swagger": "2.0",
11464   "info": {
11465     "title": "Three Axis Sensor",
11466     "version": "20190215",
11467     "license": {
11468       "name": "OCF Data Model License",
11469       "url":
11470 "https://github.com/openconnectivityfoundation/core/blob/e28a9e0a92e17042ba3e83661e4c0fbce8bdc4ba/LI
11471 CENSE.md",
11472     "x-copyright": "copyright 2016-2017, 2019 Open Connectivity Foundation, Inc. All rights
11473 reserved."
11474   },
11475   "termsOfService": "https://openconnectivityfoundation.github.io/core/DISCLAIMER.md"
11476 },
11477   "schemes": ["http"],
11478   "consumes": ["application/json"],
11479   "produces": ["application/json"],
11480   "paths": {
11481     "/ThreeAxisResURI" : {
11482       "get": {
11483         "description": "This Resource provides a representation of the measurement from a three-axis
11484 sensor.\nThe Property \"orientation\" is an array of numbers representing x-plane, y-plane and z-
11485 plane values.\nThe unit of measurement for each pane is 'g'.",
11486         "parameters": [
11487           {"$ref": "#/parameters/interface"}
11488         ],

```

```

11489         "responses": {
11490             "200": {
11491                 "description": "",
11492                 "x-example":
11493                     {
11494                         "rt": ["oic.r.sensor.threeaxis"],
11495                         "if": ["oic.if.s", "oic.if.baseline"],
11496                         "orientation": [0.7, 1.1, -0.2]
11497                     },
11498                 "schema": { "$ref": "#/definitions/threeAxis" }
11499             }
11500         }
11501     },
11502 },
11503 },
11504 "parameters": {
11505     "interface": {
11506         "in": "query",
11507         "name": "if",
11508         "type": "string",
11509         "enum": ["oic.if.s", "oic.if.baseline"]
11510     }
11511 },
11512 "definitions": {
11513     "threeAxis": {
11514         "properties": {
11515             "rt": {
11516                 "description": "The Resource Type.",
11517                 "items": {
11518                     "enum": ["oic.r.sensor.threeaxis"],
11519                     "maxLength": 64,
11520                     "type": "string"
11521                 },
11522                 "minItems": 1,
11523                 "uniqueItems": true,
11524                 "readOnly": true,
11525                 "type": "array"
11526             },
11527             "orientation": {
11528                 "description": "The array containing x-plane, y-plane and z-plane orientation in 'g'.",
11529                 "items": {
11530                     "type": "number"
11531                 },
11532                 "maxItems": 3,
11533                 "minItems": 3,
11534                 "readOnly": true,
11535                 "type": "array"
11536             },
11537             "n": {
11538                 "$ref":
11539 "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
11540 schema.json#/definitions/n"
11541             },
11542             "id": {
11543                 "$ref":
11544 "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
11545 schema.json#/definitions/id"
11546             },
11547             "if": {
11548                 "description": "The OCF Interface set supported by this Resource.",
11549                 "items": {
11550                     "enum": [
11551                         "oic.if.s",
11552                         "oic.if.baseline"
11553                     ],
11554                     "type": "string"
11555                 },
11556                 "minItems": 2,
11557                 "uniqueItems": true,
11558                 "readOnly": true,
11559                 "type": "array"
11560             }

```



```

11561     },
11562     "type": "object",
11563     "required": ["orientation"]
11564   }
11565 }
11566 }
11567

```

11568 6.60.5 Property definition

11569 Table 123 defines the Properties that are part of the "oic.r.sensor.threeaxis" Resource Type.

11570 **Table 123 – The Property definitions of the Resource with type "rt" =**
11571 **"oic.r.sensor.threeaxis".**

Property name	Value type	Mandatory	Access mode	Description
n	multiple types: see schema	No	Read Write	
rt	array: see schema	No	Read Only	The Resource Type.
if	array: see schema	No	Read Only	The OCF Interface set supported by this Resource.
id	multiple types: see schema	No	Read Write	
orientation	array: see schema	Yes	Read Only	The array containing x-plane, y-plane and z-plane orientation in 'g'.

11572 6.60.6 CRUDN behaviour

11573 Table 124 defines the CRUDN operations that are supported on the "oic.r.sensor.threeaxis"
11574 Resource Type.

11575 **Table 124 – The CRUDN operations of the Resource with type "rt" =**
11576 **"oic.r.sensor.threeaxis".**

Create	Read	Update	Delete	Notify
	get			observe

11577 6.61 Altimeter

11578 6.61.1 Introduction

11579 This Resource describes the properties associated with altimeter.
11580 The Property "alt" is the distance (metres) above or below 'local' sea-level.

11581 6.61.2 Example URI

11582 /AltimeterResURI

11583 **6.61.3 Resource type**

11584 The Resource Type is defined as: "oic.r.altimeter".

11585 **6.61.4 OpenAPI 2.0 definition**

```
11586 {
11587   "swagger": "2.0",
11588   "info": {
11589     "title": "Altimeter",
11590     "version": "20190225",
11591     "license": {
11592       "name": "OCF Data Model License",
11593       "url":
11594         "https://github.com/openconnectivityfoundation/core/blob/e28a9e0a92e17042ba3e83661e4c0fbce8bdc4ba/LI
11595         CENSE.md",
11596       "x-copyright": "copyright 2016-2017, 2019 Open Connectivity Foundation, Inc. All rights
11597         reserved."
11598     },
11599     "termsOfService": "https://openconnectivityfoundation.github.io/core/DISCLAIMER.md"
11600   },
11601   "schemes": ["http"],
11602   "consumes": ["application/json"],
11603   "produces": ["application/json"],
11604   "paths": {
11605     "/AltimeterResURI" : {
11606       "get": {
11607         "description": "This Resource describes the properties associated with altimeter.\nThe
11608         Property \"alt\" is the distance (metres) above or below 'local' sea-level.",
11609         "parameters": [
11610           { "$ref": "#/parameters/interface" }
11611         ],
11612         "responses": {
11613           "200": {
11614             "description": "RETRIEVES the current the distance (metres) above or below 'local'
11615             sea-level.",
11616             "x-example":
11617               {
11618                 "rt": ["oic.r.altimeter"],
11619                 "if": ["oic.if.s", "oic.if.baseline"],
11620                 "alt": 1500.0
11621               },
11622             "schema": { "$ref": "#/definitions/Altimeter" }
11623           }
11624         }
11625       }
11626     },
11627   },
11628   "parameters": {
11629     "interface" : {
11630       "in": "query",
11631       "name": "if",
11632       "type": "string",
11633       "enum": ["oic.if.s", "oic.if.baseline"]
11634     }
11635   },
11636   "definitions": {
11637     "Altimeter" : {
11638       "properties": {
11639         "rt": {
11640           "description": "The Resource Type.",
11641           "items": {
11642             "enum": ["oic.r.altimeter"],
11643             "maxLength": 64,
11644             "type": "string"
11645           },
11646           "minItems": 1,
11647           "uniqueItems": true,
11648           "readOnly": true,
11649           "type": "array"
11650         },
11651         "alt" :
```

```

11652     {
11653         "description": "The current distance (metres) above or below 'local' sea-level.",
11654         "readOnly": true,
11655         "type": "number"
11656     },
11657     "n": {
11658         "$ref":
11659 "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
11660 schema.json#/definitions/n"
11661     },
11662     "id": {
11663         "$ref":
11664 "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
11665 schema.json#/definitions/id"
11666     },
11667     "precision": {
11668         "$ref":
11669 "https://openconnectivityfoundation.github.io/IoTDataModels/schemas/oic.baseresource.properties-
11670 schema.json#/definitions/precision"
11671     },
11672     "range": {
11673         "$ref":
11674 "https://openconnectivityfoundation.github.io/IoTDataModels/schemas/oic.baseresource.properties-
11675 schema.json#/definitions/range_number"
11676     },
11677     "step": {
11678         "$ref":
11679 "https://openconnectivityfoundation.github.io/IoTDataModels/schemas/oic.baseresource.properties-
11680 schema.json#/definitions/step_number"
11681     },
11682     "if": {
11683         "description": "The OCF Interface set supported by this Resource.",
11684         "items": {
11685             "enum": [
11686                 "oic.if.s",
11687                 "oic.if.baseline"
11688             ],
11689             "type": "string"
11690         },
11691         "minItems": 2,
11692         "uniqueItems": true,
11693         "readOnly": true,
11694         "type": "array"
11695     }
11696 },
11697 "type": "object",
11698 "required": ["alt"]
11699 }
11700 }
11701 }
11702

```

11703 6.61.5 Property definition

11704 Table 125 defines the Properties that are part of the "oic.r.altimeter" Resource Type.

11705 **Table 125 – The Property definitions of the Resource with type "rt" = "oic.r.altimeter".**

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

11706 **6.61.6 CRUDN behaviour**

11707 Table 126 defines the CRUDN operations that are supported on the "oic.r.altimeter" Resource Type.

11708 **Table 126 – The CRUDN operations of the Resource with type "rt" = "oic.r.altimeter".**

Create	Read	Update	Delete	Notify
	get			observe

11709 **6.62 Clock**

11710 **6.62.1 Introduction**

11711 This Resource describes the properties associated with clock and time.
 11712 Clock is a time information.
 11713 The Property "datetime" is using RFC3339 datetime format (e.g: "2007-04-05T14:30Z")
 11714 (Time+Date+Timezone)
 11715 The Property "countdown" is the desired total seconds for countdown.

11716 **6.62.2 Example URI**

11717 /ClockResURI

11718 **6.62.3 Resource type**

11719 The Resource Type is defined as: "oic.r.clock".

11720 **6.62.4 OpenAPI 2.0 definition**

```
11721 {
11722   "swagger": "2.0",
11723   "info": {
11724     "title": "Clock",
11725     "version": "20190215",
```

```

11726     "license": {
11727         "name": "OCF Data Model License",
11728         "url":
11729 "https://github.com/openconnectivityfoundation/core/blob/e28a9e0a92e17042ba3e83661e4c0fbce8bdc4ba/LI
11730 CENSE.md",
11731         "x-copyright": "copyright 2016-2017, 2019 Open Connectivity Foundation, Inc. All rights
11732 reserved."
11733     },
11734     "termsOfService": "https://openconnectivityfoundation.github.io/core/DISCLAIMER.md"
11735 },
11736 "schemas": ["http"],
11737 "consumes": ["application/json"],
11738 "produces": ["application/json"],
11739 "paths": {
11740     "/ClockResURI" : {
11741         "get": {
11742             "description": "This Resource describes the properties associated with clock and
11743 time.\nClock is a time information.\nThe Property \"datetime\" is using RFC3339 datetime format
11744 (e.g: \"2007-04-05T14:30:00Z\") (Time+Date+Timezone)\nThe Property \"countdown\" is the desired
11745 total seconds for countdown.",
11746             "parameters": [
11747                 { "$ref": "#/parameters/interface" }
11748             ],
11749             "responses": {
11750                 "200": {
11751                     "description": "",
11752                     "x-example":
11753                     {
11754                         "rt": ["oic.r.clock"],
11755                         "if": ["oic.if.a", "oic.if.baseline"],
11756                         "datetime": "2015-11-05T14:30:00Z",
11757                         "countdown": 0.0
11758                     },
11759                     "schema": { "$ref": "#/definitions/Clock" }
11760                 }
11761             }
11762         },
11763         "post": {
11764             "description": "Sets the desired datetime.\n",
11765             "parameters": [
11766                 { "$ref": "#/parameters/interface" },
11767                 {
11768                     "name": "body",
11769                     "in": "body",
11770                     "required": true,
11771                     "schema": { "$ref": "#/definitions/Clock" },
11772                     "x-example":
11773                     {
11774                         "datetime": "2015-11-05T14:30:00Z",
11775                         "countdown": 0.0
11776                     }
11777                 }
11778             ],
11779             "responses": {
11780                 "200": {
11781                     "description": "Indicates that the datetime value was successfully changed.\nThe new
11782 datetime value is provided in the response.\n",
11783                     "x-example":
11784                     {
11785                         "datetime": "2015-11-05T14:30:00Z",
11786                         "countdown": 0.0
11787                     }
11788                 },
11789                 "403": {
11790                     "description": "Indicates that OIC client sent an invalid property value to the
11791 server.\nThe server responds with the required input representation.\n",
11792                     "x-example":
11793                     {
11794                         "datetime": "2015-11-05T14:30:00Z",
11795                         "countdown": 0.0

```

```

11798         }
11799     },
11800     "schema": { "$ref": "#/definitions/Clock" }
11801 }
11802 }
11803 }
11804 }
11805 },
11806 "parameters": {
11807     "interface" : {
11808         "in": "query",
11809         "name": "if",
11810         "type": "string",
11811         "enum": ["oic.if.a", "oic.if.baseline"]
11812     }
11813 },
11814 "definitions": {
11815     "Clock": {
11816         "properties": {
11817             "rt": {
11818                 "description": "The Resource Type.",
11819                 "items": {
11820                     "enum": ["oic.r.clock"],
11821                     "maxLength": 64,
11822                     "type": "string"
11823                 },
11824                 "minItems": 1,
11825                 "readOnly": true,
11826                 "type": "array"
11827             },
11828             "countdown": {
11829                 "description": "The desired total seconds for countdown.",
11830                 "minimum": 0,
11831                 "type": "number"
11832             },
11833             "datetime": {
11834                 "description": "Rhe date time using RFC3339 datetime format (e.g: 2007-04-05T14:30:00Z,
11835 2007-04-05T14:30:00+09:00).",
11836                 "type": "string",
11837                 "format" : "date-time"
11838             },
11839             "n": {
11840                 "$ref":
11841 "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
11842 schema.json#/definitions/n"
11843             },
11844             "id": {
11845                 "$ref":
11846 "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
11847 schema.json#/definitions/id"
11848             },
11849             "if": {
11850                 "description": "The OCF Interface set supported by this Resource.",
11851                 "items": {
11852                     "enum": [
11853                         "oic.if.a",
11854                         "oic.if.baseline"
11855                     ],
11856                     "type": "string"
11857                 },
11858                 "minItems": 2,
11859                 "uniqueItems": true,
11860                 "readOnly": true,
11861                 "type": "array"
11862             }
11863         },
11864         "type": "object",
11865         "required": ["datetime"]
11866     }
11867 }
11868 }
11869

```

11870 **6.62.5 Property definition**

11871 Table 127 defines the Properties that are part of the "oic.r.clock" Resource Type.

11872 **Table 127 – The Property definitions of the Resource with type "rt" = "oic.r.clock".**

Property name	Value type	Mandatory	Access mode	Description
datetime	string	Yes	Read Write	The date time using RFC3339 datetime format (e.g: 2007-04-05T14:30Z, 2007-04-05T14:30+09:00).
rt	array: see schema	No	Read Only	The Resource Type.
n	multiple types: see schema	No	Read Write	
countdown	number	No	Read Write	The desired total seconds for countdown.
id	multiple types: see schema	No	Read Write	
if	array: see schema	No	Read Only	The OCF Interface set supported by this Resource.

11873 **6.62.6 CRUDN behaviour**

11874 Table 128 defines the CRUDN operations that are supported on the "oic.r.clock" Resource Type.

11875 **Table 128 – The CRUDN operations of the Resource with type "rt" = "oic.r.clock".**

Create	Read	Update	Delete	Notify
	get	post		observe

11876 **6.63 Geolocation**

11877 **6.63.1 Introduction**

11878 This Resource describes the properties associated with the current geolocation coordinate.
 11879 Geolocation is a geolocation coordinate data.
 11880 The Property "latitude" is a device's current Latitude coordinate (degrees).
 11881 The Property "longitude" is a device's current Longitude coordinate (degrees).
 11882 The Property "alt" is a device's current distance (metres) above or below 'local' sea-level.
 11883 The Property "accuracy" is the accuracy level of the latitude and longitude coordinates (metres).
 11884 The Property "altitudeAccuracy" is the accuracy level of the altitude coordinates (metres).

11885 The Property "heading" is a direction of travel of device (degree).
11886 The Property "speed" is a device's current velocity (metres per second).

11887 6.63.2 Example URI

11888 /GeolocationResURI

11889 6.63.3 Resource type

11890 The Resource Type is defined as: "oic.r.sensor.geolocation".

11891 6.63.4 OpenAPI 2.0 definition

```
11892 {
11893   "swagger": "2.0",
11894   "info": {
11895     "title": "Geolocation",
11896     "version": "20190215",
11897     "license": {
11898       "name": "OCF Data Model License",
11899       "url":
11900 "https://github.com/openconnectivityfoundation/core/blob/e28a9e0a92e17042ba3e83661e4c0fbce8bdc4ba/LI
11901 CENSE.md",
11902     "x-copyright": "copyright 2016-2017, 2019 Open Connectivity Foundation, Inc. All rights
11903 reserved."
11904   },
11905   "termsOfService": "https://openconnectivityfoundation.github.io/core/DISCLAIMER.md"
11906 },
11907   "schemes": ["http"],
11908   "consumes": ["application/json"],
11909   "produces": ["application/json"],
11910   "paths": {
11911     "/GeolocationResURI" : {
11912       "get": {
11913         "description": "This Resource describes the properties associated with the current
11914 geolocation coordinate.\nGeolocation is a geolocation coordinate data.\nThe Property \"latitude\" is
11915 a device's current Latitude coordinate (degrees).\nThe Property \"longitude\" is a device's current
11916 Longitude coordinate (degrees).\nThe Property \"alt\" is a device's current distance (metres) above
11917 or below 'local' sea-level.\nThe Property \"accuracy\" is the accuracy level of the latitude and
11918 longitude coordinates (metres).\nThe Property \"altitudeAccuracy\" is the accuracy level of the
11919 altitude coordinates (metres).\nThe Property \"heading\" is a direction of travel of device
11920 (degree).\nThe Property \"speed\" is a device's current velocity (metres per second).",
11921         "parameters": [
11922           {"$ref": "#/parameters/interface"}
11923         ],
11924         "responses": {
11925           "200": {
11926             "description": "RETRIEVES the current geolocation coordinates.",
11927             "x-example":
11928               {
11929                 "rt": ["oic.r.sensor.geolocation"],
11930                 "if": ["oic.if.s", "oic.if.baseline"],
11931                 "latitude": 55.070859,
11932                 "longitude": -3.60512,
11933                 "alt": 12.07,
11934                 "accuracy": 65.0,
11935                 "altitudeAccuracy": 0.0,
11936                 "heading": 90.0,
11937                 "speed": 0.0
11938               },
11939             "schema": { "$ref": "#/definitions/Geolocation" }
11940           }
11941         }
11942       }
11943     }
11944   },
11945   "parameters": {
11946     "interface": {
11947       "in": "query",
11948       "name": "if",
11949       "type": "string",
```



```

11950     "enum": ["oic.if.s", "oic.if.baseline"]
11951   }
11952 },
11953 "definitions": {
11954   "Geolocation": {
11955     "properties": {
11956       "rt": {
11957         "description": "The Resource Type.",
11958         "items": {
11959           "enum": ["oic.r.sensor.geolocation"],
11960           "maxLength": 64,
11961           "type": "string"
11962         },
11963         "minItems": 1,
11964         "uniqueItems": true,
11965         "readOnly": true,
11966         "type": "array"
11967       },
11968       "longitude": {
11969         "description": "The Device's Current Longitude coordinate (degrees).",
11970         "readOnly": true,
11971         "type": "number"
11972       },
11973       "heading": {
11974         "description": "The direction of travel of the Device (degree).",
11975         "maximum": 360,
11976         "minimum": 0,
11977         "readOnly": true,
11978         "type": "number"
11979       },
11980       "latitude": {
11981         "description": "The Device's Current Latitude coordinate (degrees).",
11982         "readOnly": true,
11983         "type": "number"
11984       },
11985       "altitudeAccuracy": {
11986         "description": "The accuracy level of the altitude coordinates (metres).",
11987         "minimum": 0,
11988         "readOnly": true,
11989         "type": "number"
11990       },
11991       "alt": {
11992         "description": "The current distance (metres) above or below 'local' sea-level.",
11993         "readOnly": true,
11994         "type": "number"
11995       },
11996       "accuracy": {
11997         "description": "The accuracy level of the latitude and longitude coordinates (metres).",
11998         "minimum": 0,
11999         "readOnly": true,
12000         "type": "number"
12001       },
12002       "speed": {
12003         "description": "The Device's current velocity (metres per second).",
12004         "minimum": 0,
12005         "readOnly": true,
12006         "type": "number"
12007       },
12008       "n": {
12009         "$ref":
12010         "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
12011         schema.json#/definitions/n"
12012       },
12013       "id": {
12014         "$ref":
12015         "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
12016         schema.json#/definitions/id"
12017       },
12018       "if": {
12019         "description": "The OCF Interface set supported by this Resource.",
12020         "items": {
12021         "enum": [

```

```

12022         "oic.if.s",
12023         "oic.if.baseline"
12024     ],
12025     "type": "string"
12026 },
12027     "minItems": 2,
12028     "uniqueItems": true,
12029     "readOnly": true,
12030     "type": "array"
12031 }
12032 },
12033     "type": "object",
12034     "required": ["latitude", "longitude", "alt"]
12035 }
12036 }
12037 }
12038

```

12039 **6.63.5 Property definition**

12040 Table 129 defines the Properties that are part of the "oic.r.sensor.geolocation" Resource Type.

12041 **Table 129 – The Property definitions of the Resource with type "rt" =**
12042 **"oic.r.sensor.geolocation".**

Property name	Value type	Mandatory	Access mode	Description
rt	array: see schema	No	Read Only	The Resource Type.
latitude	number	Yes	Read Only	The Device's Current Latitude coordinate (degrees).
longitude	number	Yes	Read Only	The Device's Current Longitude coordinate (degrees).
id	multiple types: see schema	No	Read Write	
speed	number	No	Read Only	The Device's current velocity (metres per second).
altitudeAccuracy	number	No	Read Only	The accuracy level of the altitude coordinates (metres).
if	array: see schema	No	Read Only	The OCF Interface set

				supported by this Resource.
alt	number	Yes	Read Only	The current distance (metres) above or below 'local' sea-level.
heading	number	No	Read Only	The direction of travel of the Device (degree).
n	multiple types: see schema	No	Read Write	
accuracy	number	No	Read Only	The accuracy level of the latitude and longitude coordinates (metres).

12043 **6.63.6 CRUDN behaviour**

12044 Table 130 defines the CRUDN operations that are supported on the "oic.r.sensor.geolocation"
12045 Resource Type.

Table 130 – The CRUDN operations of the Resource with type "rt" = "oic.r.sensor.geolocation".

12046
12047

Create	Read	Update	Delete	Notify
	get			observe

12048 **6.64 Height**

12049 **6.64.1 Introduction**

12050 This Resource describes the Properties associated with height of an object's physical size.
12051 The unit is a single value that is one of m, cm, ft or in.
12052 If the unit Property is missing the default is meters [m].
12053 The unit Property is a read-only value that is provided by the server.
12054 When range is omitted the default is 0 to +MAXFLOAT.

12055 **6.64.2 Example URI**

12056 /HeightResURI

12057 **6.64.3 Resource type**

12058 The Resource Type is defined as: "oic.r.height".

12059 **6.64.4 OpenAPI 2.0 definition**

12060 {
12061 "swagger": "2.0",
12062 "info": {
12063 "title": "Height",

```

12064     "version": "2019-03-22",
12065     "license": {
12066         "name": "OCF Data Model License",
12067         "url":
12068 "https://github.com/openconnectivityfoundation/core/blob/e28a9e0a92e17042ba3e83661e4c0fbce8bdc4ba/LI
12069 CENSE.md",
12070         "x-copyright": "Copyright 2016-2019 Open Connectivity Foundation, Inc. All rights reserved."
12071     },
12072     "termsOfService": "https://openconnectivityfoundation.github.io/core/DISCLAIMER.md"
12073 },
12074     "schemes": [
12075         "http"
12076     ],
12077     "consumes": [
12078         "application/json"
12079     ],
12080     "produces": [
12081         "application/json"
12082     ],
12083     "paths": {
12084         "/HeightResURI": {
12085             "get": {
12086                 "description": "This Resource describes the Properties associated with height of an object's
12087 physical size.\n\nThe unit is a single value that is one of m, cm, ft or in.\n\nIf the unit Property is
12088 missing the default is meters [m].\n\nThe unit Property is a read-only value that is provided by the
12089 server.\n\nWhen range is omitted the default is 0 to +MAXFLOAT.",
12090                 "parameters": [
12091                     {
12092                         "$ref": "#/parameters/interface"
12093                     }
12094                 ],
12095                 "responses": {
12096                     "200": {
12097                         "description": "",
12098                         "x-example": {
12099                             "rt": [
12100                                 "oic.r.height"
12101                             ],
12102                             "height": 1.8,
12103                             "units": "m"
12104                         },
12105                         "schema": {
12106                             "$ref": "#/definitions/Height"
12107                         }
12108                     }
12109                 }
12110             },
12111             "post": {
12112                 "description": "Sets the height.",
12113                 "parameters": [
12114                     {
12115                         "$ref": "#/parameters/interface"
12116                     },
12117                     {
12118                         "name": "body",
12119                         "in": "body",
12120                         "required": true,
12121                         "schema": {
12122                             "$ref": "#/definitions/Height"
12123                         },
12124                         "x-example": {
12125                             "height": 1.75,
12126                             "units": "m"
12127                         }
12128                     }
12129                 ],
12130                 "responses": {
12131                     "200": {
12132                         "description": "Indicates that the height was successfully changed.\n\nThe new height is
12133 provided in the response.",
12134                         "x-example": {
12135                             "height": 1.75,

```

```

12136         "units": "m"
12137     },
12138     "schema": {
12139         "$ref": "#/definitions/Height"
12140     }
12141 },
12142 "403": {
12143     "description": "Indicates that OCF Client sent an invalid Property value to the
12144 Server.\nThe Server responds with the current Resource representation.",
12145     "x-example": {
12146         "height": 1.8,
12147         "units": "m"
12148     },
12149     "schema": {
12150         "$ref": "#/definitions/Height"
12151     }
12152 }
12153 }
12154 }
12155 },
12156 "parameters": {
12157     "interface": {
12158         "in": "query",
12159         "name": "if",
12160         "type": "string",
12161         "enum": [
12162             "oic.if.a",
12163             "oic.if.s",
12164             "oic.if.baseline"
12165         ]
12166     }
12167 },
12168 },
12169 "definitions": {
12170     "Height": {
12171         "properties": {
12172             "rt": {
12173                 "description": "Resource Type",
12174                 "items": {
12175                     "enum": [
12176                         "oic.r.height"
12177                     ],
12178                     "type": "string",
12179                     "maxLength": 64
12180                 },
12181                 "minItems": 1,
12182                 "uniqueItems": true,
12183                 "readOnly": true,
12184                 "type": "array"
12185             },
12186             "height": {
12187                 "description": "Height of an object",
12188                 "minimum": 0,
12189                 "type": "number"
12190             },
12191             "units": {
12192                 "description": "Height unit",
12193                 "enum": [
12194                     "m",
12195                     "cm",
12196                     "ft",
12197                     "in"
12198                 ],
12199                 "readOnly": true,
12200                 "type": "string",
12201                 "default": "m"
12202             },
12203             "range": {
12204                 "$ref":
12205 "https://openconnectivityfoundation.github.io/IoTDataModels/schemas/oic.baseresource.properties-
12206 schema.json#/definitions/range_number"
12207             },

```

```

12208     "step": {
12209         "$ref":
12210         "https://openconnectivityfoundation.github.io/IoTDataModels/schemas/oic.baseresource.properties-
12211         schema.json#/definitions/step_number"
12212     },
12213     "precision": {
12214         "$ref":
12215         "https://openconnectivityfoundation.github.io/IoTDataModels/schemas/oic.baseresource.properties-
12216         schema.json#/definitions/precision"
12217     },
12218     "n": {
12219         "$ref":
12220         "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
12221         schema.json#/definitions/n"
12222     },
12223     "id": {
12224         "$ref":
12225         "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
12226         schema.json#/definitions/id"
12227     },
12228     "if": {
12229         "description": "The OCF Interface set supported by this Resource",
12230         "items": {
12231             "enum": [
12232                 "oic.if.a",
12233                 "oic.if.s",
12234                 "oic.if.baseline"
12235             ],
12236             "type": "string",
12237             "maxLength": 64
12238         },
12239         "minItems": 1,
12240         "readOnly": true,
12241         "uniqueItems": true,
12242         "type": "array"
12243     }
12244 },
12245 "type": "object",
12246 "required": [
12247     "height"
12248 ]
12249 }
12250 }
12251 }
12252

```

12253 6.64.5 Property definition

12254 Table 131 defines the Properties that are part of the "oic.r.height" Resource Type.

12255 **Table 131 – The Property definitions of the Resource with type "rt" = "oic.r.height".**

Property name	Value type	Mandatory	Access mode	Description
if	array: schema see	No	Read Only	The OCF Interface set supported by this Resource
height	number	Yes	Read Write	Height of an object
units	string	No	Read Only	Height unit

precision	multiple types: see schema	No	Read Write	
step	multiple types: see schema	No	Read Write	
rt	array: see schema	No	Read Only	Resource Type
id	multiple types: see schema	No	Read Write	
n	multiple types: see schema	No	Read Write	
range	multiple types: see schema	No	Read Write	

12256 **6.64.6 CRUDN behaviour**

12257 Table 132 defines the CRUDN operations that are supported on the "oic.r.height" Resource Type.

12258 **Table 132 – The CRUDN operations of the Resource with type "rt" = "oic.r.height".**

Create	Read	Update	Delete	Notify
	get	post		observe

12259 **6.65 Weight**

12260 **6.65.1 Introduction**

12261 This Resource describes the Properties associated with weight of an object.
 12262 The unit is a single value that is one of kg, g, lb or oz.
 12263 If the unit Property is missing the default is kilograms [kg].
 12264 The unit Property is a read-only value that is provided by the server.
 12265 When range is omitted the default is 0 to +MAXFLOAT.

12266 **6.65.2 Example URI**

12267 /WeightResURI

12268 **6.65.3 Resource type**

12269 The Resource Type is defined as: "oic.r.weight".

12270 **6.65.4 OpenAPI 2.0 definition**

```

12271 {
12272   "swagger": "2.0",
12273   "info": {
12274     "title": "Weight",
12275     "version": "2019-03-22",
12276     "license": {
12277       "name": "OCF Data Model License",
12278       "url":
12279         "https://github.com/openconnectivityfoundation/core/blob/e28a9e0a92e17042ba3e83661e4c0fbce8bdc4ba/LI
12280         CENSE.md",
12281       "x-copyright": "Copyright 2016-2019 Open Connectivity Foundation, Inc. All rights reserved."
12282     }
  },

```

```

12283     "termsOfService": "https://openconnectivityfoundation.github.io/core/DISCLAIMER.md"
12284   },
12285   "schemes": [
12286     "http"
12287   ],
12288   "consumes": [
12289     "application/json"
12290   ],
12291   "produces": [
12292     "application/json"
12293   ],
12294   "paths": {
12295     "/WeightResURI": {
12296       "get": {
12297         "description": "This Resource describes the Properties associated with weight of an
12298 object.\nThe unit is a single value that is one of kg, g, lb or oz.\nIf the unit Property is missing
12299 the default is kilograms [kg].\nThe unit Property is a read-only value that is provided by the
12300 server.\nWhen range is omitted the default is 0 to +MAXFLOAT.",
12301         "parameters": [
12302           {
12303             "$ref": "#/parameters/interface"
12304           }
12305         ],
12306         "responses": {
12307           "200": {
12308             "description": "",
12309             "x-example": {
12310               "rt": [
12311                 "oic.r.weight"
12312               ],
12313               "weight": 80.0,
12314               "units": "kg"
12315             },
12316             "schema": {
12317               "$ref": "#/definitions/Weight"
12318             }
12319           }
12320         }
12321       },
12322       "post": {
12323         "description": "Sets the Weight.",
12324         "parameters": [
12325           {
12326             "$ref": "#/parameters/interface"
12327           },
12328           {
12329             "name": "body",
12330             "in": "body",
12331             "required": true,
12332             "schema": {
12333               "$ref": "#/definitions/Weight"
12334             },
12335             "x-example": {
12336               "weight": 75.0,
12337               "units": "kg"
12338             }
12339           }
12340         ],
12341         "responses": {
12342           "200": {
12343             "description": "Indicates that the weight was successfully changed.\n\nThe new weight is
12344 provided in the response.",
12345             "x-example": {
12346               "weight": 75.0,
12347               "units": "kg"
12348             },
12349             "schema": {
12350               "$ref": "#/definitions/Weight"
12351             }
12352           },
12353           "403": {
12354             "description": "Indicates that OCF client sent an invalid Property value to the

```



```

12355 Server.\nThe Server responds with the current resource representation.",
12356     "x-example": {
12357         "weight": 80.0,
12358         "units": "kg"
12359     },
12360     "schema": {
12361         "$ref": "#/definitions/Weight"
12362     }
12363 }
12364 }
12365 }
12366 },
12367 },
12368 "parameters": {
12369     "interface": {
12370         "in": "query",
12371         "name": "if",
12372         "type": "string",
12373         "enum": [
12374             "oic.if.s",
12375             "oic.if.a",
12376             "oic.if.baseline"
12377         ]
12378     }
12379 },
12380 "definitions": {
12381     "Weight": {
12382         "properties": {
12383             "rt": {
12384                 "description": "Resource Type",
12385                 "items": {
12386                     "enum": [
12387                         "oic.r.weight"
12388                     ],
12389                     "type": "string",
12390                     "maxLength": 64
12391                 },
12392                 "minItems": 1,
12393                 "uniqueItems": true,
12394                 "readOnly": true,
12395                 "type": "array"
12396             },
12397             "weight": {
12398                 "description": "Weight of an object",
12399                 "minimum": 0.0,
12400                 "type": "number"
12401             },
12402             "units": {
12403                 "description": "Weight unit",
12404                 "enum": [
12405                     "kg",
12406                     "g",
12407                     "lb",
12408                     "oz"
12409                 ],
12410                 "readOnly": true,
12411                 "type": "string",
12412                 "default": "kg"
12413             },
12414             "range": {
12415                 "$ref":
12416 "https://openconnectivityfoundation.github.io/IoTDataModels/schemas/oic.baseresource.properties-
12417 schema.json#/definitions/range_number"
12418             },
12419             "step": {
12420                 "$ref":
12421 "https://openconnectivityfoundation.github.io/IoTDataModels/schemas/oic.baseresource.properties-
12422 schema.json#/definitions/step_number"
12423             },
12424             "precision": {
12425                 "$ref":
12426 "https://openconnectivityfoundation.github.io/IoTDataModels/schemas/oic.baseresource.properties-

```

```

12427 schema.json#/definitions/precision"
12428     },
12429     "n": {
12430         "$ref":
12431         "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
12432         schema.json#/definitions/n"
12433     },
12434     "id": {
12435         "$ref":
12436         "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
12437         schema.json#/definitions/id"
12438     },
12439     "if": {
12440         "description": "The OCF Interface set supported by this Resource",
12441         "items": {
12442             "enum": [
12443                 "oic.if.s",
12444                 "oic.if.a",
12445                 "oic.if.baseline"
12446             ],
12447             "type": "string",
12448             "maxLength": 64
12449         },
12450         "minItems": 1,
12451         "readOnly": true,
12452         "uniqueItems": true,
12453         "type": "array"
12454     }
12455 },
12456 "type": "object",
12457 "required": [
12458     "weight",
12459     "units"
12460 ]
12461 }
12462 }
12463 }
12464

```

12465 6.65.5 Property definition

12466 Table 133 defines the Properties that are part of the "oic.r.weight" Resource Type.

12467 **Table 133 – The Property definitions of the Resource with type "rt" = "oic.r.weight".**

Property name	Value type	Mandatory	Access mode	Description
range	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
units	string	Yes	Read Only	Weight unit
id	multiple types: see schema	No	Read Write	

step	multiple types: see schema	No	Read Write	
rt	array: see schema	No	Read Only	Resource Type
weight	number	Yes	Read Write	Weight of an object
n	multiple types: see schema	No	Read Write	

12468 **6.65.6 CRUDN behaviour**

12469 Table 134 defines the CRUDN operations that are supported on the "oic.r.weight" Resource Type.

12470 **Table 134 – The CRUDN operations of the Resource with type "rt" = "oic.r.weight".**

Create	Read	Update	Delete	Notify
	get	post		observe

12471 **6.66 Air Quality**

12472 **6.66.1 Introduction**

12473 This Resource describes a qualitative or measured contaminant that can be used to infer Air
12474 Quality.

12475 The Property "valueType" indicates a qualitative or measured reading within the
12476 contaminantvalue Property.

12477 The Property "contaminantvalue" can contain the actual sensed value with units per contaminant
12478 type.

12479 Qualitative is a representative value within the range provided where the minimum value is
12480 minimum contamination and maximum value is maximum contamination for the specific
12481 contaminant.

12482 contaminantvalue contains the actual measured or qualitative level.

12483 The Property Range contains the allowed range for the value that is being reported.

12484 If valueType is 'Measured' then the units for the contaminant types are as follows:

12485 Methanal (also known as Formaldehyde): CH₂O (ug/m³),

12486 Carbon Dioxide: CO₂ (ppm),

12487 Carbon Monoxide: CO (ppm),

12488 Particulate Matter (less than 1 micron in diameter): PM₁ (ug/m³),

12489 Particulate Matter (less than 2.5 microns in diameter): PM_{2.5} (ug/m³),

12490 Particulate Matter (less than 10 microns in diameter): PM₁₀ (ug/m³),

12491 Volatile Organic Compounds: VOC (ug/m³).

12492 **6.66.2 Example URI**

12493 /AirQualityResURI

12494 **6.66.3 Resource type**

12495 The Resource Type is defined as: "oic.r.airquality".

12496 **6.66.4 OpenAPI 2.0 definition**

12497 {
12498 "swagger": "2.0",

```

12499     "info": {
12500         "title": "Air Quality",
12501         "version": "20190225",
12502         "license": {
12503             "name": "OCF Data Model License",
12504             "url":
12505 "https://github.com/openconnectivityfoundation/core/blob/e28a9e0a92e17042ba3e83661e4c0fbce8bdc4ba/LI
12506 CENSE.md",
12507             "x-copyright": "copyright 2016-2017, 2019 Open Connectivity Foundation, Inc. All rights
12508 reserved."
12509         },
12510         "termsOfService": "https://openconnectivityfoundation.github.io/core/DISCLAIMER.md"
12511     },
12512     "schemes": ["http"],
12513     "consumes": ["application/json"],
12514     "produces": ["application/json"],
12515     "paths": {
12516         "/AirQualityResURI" : {
12517             "get": {
12518                 "description": "This Resource describes a qualitative or measured contaminant that can be
12519 used to infer Air Quality.\nThe Property \"valueType\" indicates a qualitative or measured reading
12520 within the contaminantvalue Property.\nThe Property \"contaminantvalue\" can contain the actual
12521 sensed value with units per contaminant type.\nQualitative is a representative value within the
12522 range provided where the minimum value is minimum contamination and maximum value is maximum
12523 contamination for the specific contaminant.\ncontaminantvalue contains the actual measured or
12524 qualitative level.\nThe Property Range contains the allowed range for the value that is being
12525 reported.\nIf valueType is 'Measured' then the units for the contaminant types are as follows:\n
12526 Methanal (also known as Formaldehyde): CH2O (ug/m^3),\n Carbon Dioxide: CO2 (ppm),\n Carbon
12527 Monoxide: CO (ppm),\n Particulate Matter (less than 1 micron in diameter): PM1 (ug/m^3),\n
12528 Particulate Matter (less than 2.5 microns in diameter): PM2.5 (ug/m^3),\n Particulate Matter (less
12529 than 10 microns in diameter): PM10 (ug/m^3),\n Volatile Organic Compounds: VOC (ug/m^3).",
12530                 "parameters": [
12531                     { "$ref": "#/parameters/interface" }
12532                 ],
12533                 "responses": {
12534                     "200": {
12535                         "description": "",
12536                         "x-example":
12537                             {
12538                                 "rt": ["oic.r.airquality"],
12539                                 "if": ["oic.if.s", "oic.if.baseline"],
12540                                 "contaminanttype": "CO",
12541                                 "valuetype": "Measured",
12542                                 "contaminantvalue": 10,
12543                                 "range": [0,500]
12544                             },
12545                         "schema": { "$ref": "#/definitions/AirQuality" }
12546                     }
12547                 }
12548             }
12549         },
12550     },
12551     "parameters": {
12552         "interface" : {
12553             "in" : "query",
12554             "name" : "if",
12555             "type" : "string",
12556             "enum" : ["oic.if.s", "oic.if.baseline"]
12557         }
12558     },
12559     "definitions": {
12560         "AirQuality" : {
12561             "properties": {
12562                 "rt" : {
12563                     "description": "The Resource Type.",
12564                     "items": {
12565                         "enum": ["oic.r.airquality"],
12566                         "maxLength": 64,
12567                         "type": "string"
12568                     },
12569                     "minItems": 1,
12570                     "uniqueItems": true,

```

```

12571         "readOnly": true,
12572         "type": "array"
12573     },
12574     "contaminanttype": {
12575         "description": "The contaminant being measured.",
12576         "enum": [
12577             "CH2O",
12578             "CO2",
12579             "CO",
12580             "PM1",
12581             "PM2.5",
12582             "PM10",
12583             "VOC",
12584             "Smoke",
12585             "Odor",
12586             "AirPollution"
12587         ],
12588         "readOnly": true,
12589         "type": "string"
12590     },
12591     "valuetype": {
12592         "description": "The property that indicates whether the provided value is qualitative or
12593 measured.",
12594         "enum": [
12595             "Qualitative",
12596             "Measured"
12597         ],
12598         "readOnly": true,
12599         "type": "string"
12600     },
12601     "contaminantvalue": {
12602         "description": "The measured or qualitative value for the contaminant.",
12603         "readOnly": true,
12604         "type": "integer"
12605     },
12606     "n": {
12607         "$ref":
12608 "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
12609 schema.json#/definitions/n"
12610     },
12611     "id": {
12612         "$ref":
12613 "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
12614 schema.json#/definitions/id"
12615     },
12616     "range": {
12617         "$ref":
12618 "https://openconnectivityfoundation.github.io/IoTDataModels/schemas/oic.baseresource.properties-
12619 schema.json#/definitions/range_integer"
12620     },
12621     "if" : {
12622         "description": "The OCF Interface set supported by this Resource.",
12623         "items": {
12624             "enum": [
12625                 "oic.if.s",
12626                 "oic.if.baseline"
12627             ],
12628             "type": "string"
12629         },
12630         "minItems": 2,
12631         "uniqueItems": true,
12632         "readOnly": true,
12633         "type": "array"
12634     }
12635 },
12636 "type": "object",
12637 "required": ["contaminantvalue", "contaminanttype", "valuetype"]
12638 }
12639 }
12640 }
12641

```

12642 **6.66.5 Property definition**

12643 Table 135 defines the Properties that are part of the "oic.r.airquality" Resource Type.

12644 **Table 135 – The Property definitions of the Resource with type "rt" = "oic.r.airquality".**

Property name	Value type	Mandatory	Access mode	Description
range	multiple types: see schema	No	Read Write	
n	multiple types: see schema	No	Read Write	
valuetype	string	Yes	Read Only	The property that indicates whether the provided value is qualitative or measured.
rt	array: see schema	No	Read Only	The Resource Type.
if	array: see schema	No	Read Only	The OCF Interface set supported by this Resource.
contaminanttype	string	Yes	Read Only	The contaminant being measured.
contaminantvalue	integer	Yes	Read Only	The measured or qualitative value for the contaminant.
id	multiple types: see schema	No	Read Write	

12645 **6.66.6 CRUDN behaviour**

12646 Table 136 defines the CRUDN operations that are supported on the "oic.r.airquality" Resource
12647 Type.

12648 **Table 136 – The CRUDN operations of the Resource with type "rt" = "oic.r.airquality".**

Create	Read	Update	Delete	Notify
	get			observe

12649 **6.67 Air Quality Collection**

12650 **6.67.1 Introduction**

12651 This resource describes a sensor that provides the qualitative or measured Air Quality.
12652 The resource is a collection of instances of oic.r.airquality detailing the individual exposed
12653 contaminant measures
12654 There is one collection entry per contaminant type supported by the device. A device must expose
12655 at least one measured or qualitative value.
12656 Retrieves the current air quality.
12657

12658 **6.67.2 Example URI**

12659 /AirQualityResURI

12660 **6.67.3 Resource type**

12661 The Resource Type is defined as: "oic.r.airqualitycollection, oic.wk.col".

12662 **6.67.4 OpenAPI 2.0 definition**

```
12663 {  
12664   "swagger": "2.0",  
12665   "info": {  
12666     "title": "Air Quality Collection",  
12667     "version": "20190307",  
12668     "license": {  
12669       "name": "OCF Data Model License",  
12670       "url":  
12671       "https://github.com/openconnectivityfoundation/core/blob/e28a9e0a92e17042ba3e83661e4c0fbce8bdc4ba/LI  
12672       CENSE.md",  
12673       "x-copyright": "copyright 2016-2019 Open Connectivity Foundation, Inc. All rights reserved."  
12674     },  
12675     "termsOfService": "https://openconnectivityfoundation.github.io/core/DISCLAIMER.md"  
12676   },  
12677   "schemes": ["http"],  
12678   "consumes": ["application/json"],  
12679   "produces": ["application/json"],  
12680   "paths": {  
12681     "/AirQualityCollectionResURI?if=oic.if.ll" : {  
12682       "get": {  
12683         "description": "This resource describes a sensor that provides the qualitative or measured  
12684         Air Quality.\nThe resource is a collection of instances of oic.r.airquality detailing the individual  
12685         exposed contaminant measures\nThere is one collection entry per contaminant type supported by the  
12686         device. A device must expose at least one measured or qualitative value.\nRetrieves the current air  
12687         quality.\n",  
12688         "parameters": [  
12689           {"$ref": "#/parameters/interface-all"}  
12690         ],  
12691         "responses": {  
12692           "200": {  
12693             "description" : "",  
12694             "x-example":  
12695               [  
12696                 {"href": "/myCOMeasureResURI", "rt": ["oic.r.airquality"], "if":  
12697                 ["oic.if.s","oic.if.baseline"], "eps": [{"ep": "coaps://[fe80::b1d6]:1122"}]},  
12698                 {"href": "/myCO2ResURI", "rt": ["oic.r.airquality"], "if":  
12699                 ["oic.if.s","oic.if.baseline"], "eps": [{"ep": "coaps://[fe80::b1d6]:1122"}]}  
12700               ],  
12701               "schema": { "$ref": "#/definitions/AirQuality-ll" }  
12702             }  
12703           }  
12704         },  
12705       },  
12706       "/AirQualityCollectionResURI?if=oic.if.b": {  
12707         "get": {  
12708           "description": "This resource describes a sensor that provides the qualitative or measured  
12709           Air Quality.\nThe resource is a collection of instances of oic.r.airquality detailing the individual  
12710           exposed contaminant measures\nThere is one collection entry per contaminant type supported by the
```

```

12711 device. A device must expose at least one measured or qualitative value.\nRetrieves the current air
12712 quality.\n",
12713   "parameters": [
12714     {"$ref": "#/parameters/interface-all"}
12715   ],
12716   "responses": {
12717     "200": {
12718       "description" : "",
12719       "x-example": [
12720         {
12721           "href": "/AirQualityCOResURI",
12722           "rep": {
12723             "contaminanttype": "CO",
12724             "valuetype": "Measured",
12725             "contaminantvalue": 10,
12726             "range": [0,500]
12727           }
12728         },
12729         {
12730           "href": "/AirQualitySmokeResURI",
12731           "rep": {
12732             "contaminanttype": "Smoke",
12733             "valuetype": "Measured",
12734             "contaminantvalue": 100,
12735             "range": [0,5000]
12736           }
12737         }
12738       ],
12739       "schema": { "$ref": "#/definitions/AirQualityCollectionBatch-Retrieve" }
12740     }
12741   }
12742 },
12743 ],
12744 "/AirQualityCollectionResURI?if=oic.if.baseline" : {
12745   "get": {
12746     "description": "This resource describes a sensor that provides the qualitative or measured
12747 Air Quality.\nThe resource is a collection of instances of oic.r.airquality detailing the individual
12748 exposed contaminant measures\nThere is one collection entry per contaminant type supported by the
12749 device. A device must expose at least one measured or qualitative value.\nRetrieves the current air
12750 quality.\n",
12751     "parameters": [
12752       {"$ref": "#/parameters/interface-all"}
12753     ],
12754     "responses": {
12755       "200": {
12756         "description" : "",
12757         "x-example":
12758           {
12759             "rt": ["oic.r.airqualitycollection","oic.wk.col"],
12760             "if": ["oic.if.baseline","oic.if.ll"],
12761             "links": [
12762               {"href": "/myCOMeasureResURI", "rt": ["oic.r.airquality"], "if":
12763 ["oic.if.s","oic.if.baseline"], "eps": [{"ep": "coaps://[fe80::b1d6]:1122"}]},
12764               {"href": "/myCO2ResURI", "rt": ["oic.r.airquality"], "if":
12765 ["oic.if.s","oic.if.baseline"], "eps": [{"ep": "coaps://[fe80::b1d6]:1122"}]}
12766             ]
12767           },
12768         "schema": { "$ref": "#/definitions/AirQuality" }
12769       }
12770     }
12771   }
12772 },
12773 ],
12774 "parameters": {
12775   "interface-all" : {
12776     "in" : "query",
12777     "name" : "if",
12778     "type" : "string",
12779     "enum" : ["oic.if.ll", "oic.if.b","oic.if.baseline"]
12780   }
12781 },
12782 "definitions": {

```



```

12783     "AirQuality-ll": {
12784         "items": {
12785             "$ref": "#/definitions/oic.oic-link"
12786         },
12787         "type": "array"
12788     },
12789     "oic.oic-link": {
12790         "type": "object",
12791         "properties": {
12792             "anchor": {
12793                 "$ref":
12794 "https://openconnectivityfoundation.github.io/core/schemas/oic.links.properties.core-
12795 schema.json#/definitions/anchor"
12796             },
12797             "di": {
12798                 "$ref":
12799 "https://openconnectivityfoundation.github.io/core/schemas/oic.links.properties.core-
12800 schema.json#/definitions/di"
12801             },
12802             "eps": {
12803                 "$ref":
12804 "https://openconnectivityfoundation.github.io/core/schemas/oic.links.properties.core-
12805 schema.json#/definitions/eps"
12806             },
12807             "href": {
12808                 "$ref":
12809 "https://openconnectivityfoundation.github.io/core/schemas/oic.links.properties.core-
12810 schema.json#/definitions/href"
12811             },
12812             "ins": {
12813                 "$ref":
12814 "https://openconnectivityfoundation.github.io/core/schemas/oic.links.properties.core-
12815 schema.json#/definitions/ins"
12816             },
12817             "p": {
12818                 "$ref":
12819 "https://openconnectivityfoundation.github.io/core/schemas/oic.links.properties.core-
12820 schema.json#/definitions/p"
12821             },
12822             "rel": {
12823                 "$ref":
12824 "https://openconnectivityfoundation.github.io/core/schemas/oic.links.properties.core-
12825 schema.json#/definitions/rel_array"
12826             },
12827             "title": {
12828                 "$ref":
12829 "https://openconnectivityfoundation.github.io/core/schemas/oic.links.properties.core-
12830 schema.json#/definitions/title"
12831             },
12832             "type": {
12833                 "$ref":
12834 "https://openconnectivityfoundation.github.io/core/schemas/oic.links.properties.core-
12835 schema.json#/definitions/type"
12836             },
12837             "if": {
12838                 "description": "The OCF Interfaces supported by the target Resource",
12839                 "items": {
12840                     "enum": [
12841                         "oic.if.s",
12842                         "oic.if.baseline"
12843                     ],
12844                     "type": "string",
12845                     "maxLength": 64
12846                 },
12847                 "minItems": 2,
12848                 "uniqueItems": true,
12849                 "type": "array",
12850                 "readOnly": true
12851             },
12852             "rt": {
12853                 "description": "Resource Type of the target Resource",
12854                 "items": {

```

```

12855         "maxLength": 64,
12856         "type": "string",
12857         "enum": ["oic.r.airquality"]
12858     },
12859     "minItems": 1,
12860     "type": "array",
12861     "uniqueItems": true,
12862     "readOnly": true
12863 }
12864 },
12865 "required": [
12866     "href",
12867     "rt",
12868     "if"
12869 ]
12870 },
12871 "AirQuality": {
12872     "type": "object",
12873     "properties": {
12874         "rt": {
12875             "items": {
12876                 "enum": [
12877                     "oic.r.airqualitycollection",
12878                     "oic.wk.col"
12879                 ],
12880                 "type": "string",
12881                 "maxLength": 64
12882             },
12883             "minItems": 2,
12884             "type": "array",
12885             "uniqueItems": true
12886         },
12887         "links": {
12888             "description": "A set of simple or individual OCF Links.",
12889             "type": "array",
12890             "items": {
12891                 "$ref": "#/definitions/oic.oic-link"
12892             }
12893         },
12894         "n": {
12895             "$ref":
12896 "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
12897 schema.json#/definitions/n"
12898         },
12899         "id": {
12900             "$ref":
12901 "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
12902 schema.json#/definitions/id"
12903         },
12904         "rts": {
12905             "items": {
12906                 "anyOf": [
12907                     {
12908                         "enum": [
12909                             "oic.r.airquality",
12910                             "oic.r.value.conditional"
12911                         ],
12912                         "type": "string",
12913                         "maxLength": 64
12914                     },
12915                     {
12916                         "enum": [
12917                             "oic.r.airquality"
12918                         ],
12919                         "type": "string",
12920                         "maxLength": 64
12921                     }
12922                 ]
12923             },
12924             "minItems": 1,
12925             "type": "array",
12926             "uniqueItems": true

```

```

12927     },
12928     "if": {
12929       "description": "The OCF Interfaces supported by this Resource",
12930       "items": {
12931         "enum": [
12932           "oic.if.ll",
12933           "oic.if.b",
12934           "oic.if.baseline"
12935         ],
12936         "type": "string",
12937         "maxLength": 64
12938       },
12939       "minItems": 1,
12940       "readOnly": true,
12941       "uniqueItems": true,
12942       "type": "array"
12943     }
12944   }
12945 },
12946 "AirQualityCollectionBatch-Retrieve" : {
12947   "type": "array",
12948   "minItems": 1,
12949   "uniqueItems": true,
12950   "items": {
12951     "type": "object",
12952     "additionalProperties": true,
12953     "properties": {
12954       "href": {
12955         "$ref":
12956 "https://openconnectivityfoundation.github.io/core/schemas/oic.links.properties.core-
12957 schema.json#/definitions/href"
12958       },
12959       "rep": {
12960         "$ref":
12961 "https://openconnectivityfoundation.github.io/IoTDataModels/AirQualityResURI.swagger.json#/definitio
12962 ns/AirQuality"
12963       }
12964     },
12965     "required": [
12966       "href",
12967       "rep"
12968     ]
12969   }
12970 }
12971 }
12972 }
12973

```

12974 **6.67.5 Property definition**

12975 Table 137 defines the Properties that are part of the "oic.r.airqualitycollection, oic.wk.col" Resource
 12976 Type.

12977 **Table 137 – The Property definitions of the Resource with type "rt" =**
 12978 **"oic.r.airqualitycollection, oic.wk.col".**

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

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

id	multiple types: see schema		Read Write	
----	-------------------------------	--	------------	--

12979 **6.67.6 CRUDN behaviour**

12980 Table 138 defines the CRUDN operations that are supported on the "oic.r.airqualitycollection,
12981 oic.wk.col" Resource Type.

12982 **Table 138 – The CRUDN operations of the Resource with type "rt" =**
12983 **"oic.r.airqualitycollection, oic.wk.col".**

Create	Read	Update	Delete	Notify
	get			observe

12984 **6.68 Consumable**

12985 **6.68.1 Introduction**

12986 This Resource specifies a thing that can be consumed such as filter material, printer toner etc
12987 The Property "typeofconsumable" is an enumeration defining the thing being consumed as defined
12988 by the Smart Home Device Specification
12989 The Property "remaining" is an integer capturing the percentage remaining life
12990 The Property "orderpercentage" is an integer capturing the percentage life at which replacement
12991 or replenishment is recommended by the manufacturer
12992 The Property "url" is a string containing a URL at which further information may be obtained with
12993 respect to the consumable.

12994 **6.68.2 Example URI**

12995 /ConsumableResURI

12996 **6.68.3 Resource type**

12997 The Resource Type is defined as: "oic.r.consumable".

12998 **6.68.4 OpenAPI 2.0 definition**

```

12999 {
13000   "swagger": "2.0",
13001   "info": {
13002     "title": "Consumable",
13003     "version": "20190215",
13004     "license": {
13005       "name": "OCF Data Model License",
13006       "url":
13007         "https://github.com/openconnectivityfoundation/core/blob/e28a9e0a92e17042ba3e83661e4c0fbce8bdc4ba/LI
13008         CENSE.md",
13009       "x-copyright": "copyright 2016-2017, 2019 Open Connectivity Foundation, Inc. All rights
13010       reserved."
13011     },
13012     "termsOfService": "https://openconnectivityfoundation.github.io/core/DISCLAIMER.md"
13013   },
13014   "schemes": ["http"],
13015   "consumes": ["application/json"],
13016   "produces": ["application/json"],
13017   "paths": {
13018     "/ConsumableResURI" : {
13019       "get": {
13020         "description": "This Resource specifies a thing that can be consumed such as filter
13021         material, printer toner etc\nThe Property \"typeofconsumable\" is an enumeration defining the thing
13022         being consumed as defined by the Smart Home Device Specification\nThe Property \"remaining\" is an
13023         integer capturing the percentage remaining life\nThe Property \"orderpercentage\" is an integer
13024         capturing the percentage life at which replacement or replenishment is recommended by the
13025         manufacturer\nThe Property \"url\" is a string containing a URL at which further information may be

```

```

13026 obtained with respect to the consumable.",
13027     "parameters": [
13028         {"$ref": "#/parameters/interface"}
13029     ],
13030     "responses": {
13031         "200": {
13032             "description": "",
13033             "x-example":
13034                 {
13035                     "rt": ["oic.r.consumable"],
13036                     "if": ["oic.if.s", "oic.if.baseline"],
13037                     "typeofconsumable": "tonerBlack",
13038                     "remaining": 20,
13039                     "orderpercentage": 10,
13040                     "url": "http://myreorderURL"
13041                 },
13042             "schema": { "$ref": "#/definitions/consumable" }
13043         }
13044     }
13045 },
13046 },
13047 },
13048 "parameters": {
13049     "interface": {
13050         "in": "query",
13051         "name": "if",
13052         "type": "string",
13053         "enum": ["oic.if.s", "oic.if.baseline"]
13054     }
13055 },
13056 "definitions": {
13057     "consumable": {
13058         "properties": {
13059             "rt": {
13060                 "description": "The Resource Type.",
13061                 "items": {
13062                     "enum": ["oic.r.consumable"],
13063                     "maxLength": 64,
13064                     "type": "string"
13065                 },
13066                 "minItems": 1,
13067                 "uniqueItems": true,
13068                 "readOnly": true,
13069                 "type": "array"
13070             },
13071             "remaining": {
13072                 "description": "The percentage remaining lifespan.",
13073                 "maximum": 100,
13074                 "minimum": 0,
13075                 "readOnly": true,
13076                 "type": "integer"
13077             },
13078             "typeofconsumable": {
13079                 "description": "The thing that is being consumed.",
13080                 "readOnly": true,
13081                 "type": "string"
13082             },
13083             "url": {
13084                 "description": "The URL at which additional ordering information may be found.",
13085                 "format": "uri",
13086                 "readOnly": true,
13087                 "type": "string"
13088             },
13089             "orderpercentage": {
13090                 "description": "The percentage at which re-ordering is recommended by the manufacturer.",
13091                 "maximum": 100,
13092                 "minimum": 0,
13093                 "readOnly": true,
13094                 "type": "integer"
13095             },
13096             "n": {
13097                 "$ref":

```

```

13098 "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
13099 schema.json#/definitions/n"
13100   },
13101   "id": {
13102     "$ref":
13103     "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
13104     schema.json#/definitions/id"
13105   },
13106   "if": {
13107     "description": "The OCF Interface set supported by this Resource.",
13108     "items": {
13109       "enum": [
13110         "oic.if.s",
13111         "oic.if.baseline"
13112       ],
13113       "type": "string"
13114     },
13115     "minItems": 2,
13116     "uniqueItems": true,
13117     "readOnly": true,
13118     "type": "array"
13119   }
13120 },
13121 "type": "object",
13122 "required": ["typeofconsumable", "remaining"]
13123 }
13124 }
13125 }
13126

```

13127 6.68.5 Property definition

13128 Table 139 defines the Properties that are part of the "oic.r.consumable" Resource Type.

13129 **Table 139 – The Property definitions of the Resource with type "rt" = "oic.r.consumable".**

Property name	Value type	Mandatory	Access mode	Description
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.
if	array: see schema	No	Read Only	The OCF Interface set supported by this Resource.
remaining	integer	Yes	Read Only	The percentage remaining lifespan.
n	multiple types: see schema	No	Read Write	
orderpercentage	integer	No	Read Only	The percentage at which re-ordering is

				recommended by the manufacturer.
rt	array: see schema	No	Read Only	The Resource Type.
id	multiple types: see schema	No	Read Write	

13130 **6.68.6 CRUDN behaviour**

13131 Table 140 defines the CRUDN operations that are supported on the "oic.r.consumable" Resource
13132 Type.

13133 **Table 140 – The CRUDN operations of the Resource with type "rt" = "oic.r.consumable".**

Create	Read	Update	Delete	Notify
	get			observe

13134 **6.69 Consumables**

13135 **6.69.1 Introduction**

13136 This Resource specifies things that can be consumed such as filter material, printer toner etc
13137 The resource is a Collection of instances of oic.r.consumable detailing the individual consumed
13138 items
13139 supportedconsumables is the set of consumable types that this instance of the Resource supports
13140

13141 **6.69.2 Example URI**

13142 /ConsumablesResURI

13143 **6.69.3 Resource type**

13144 The Resource Type is defined as: "oic.r.consumablecollection, oic.wk.col".

13145 **6.69.4 OpenAPI 2.0 definition**

```

13146 {
13147   "swagger": "2.0",
13148   "info": {
13149     "title": "Consumables",
13150     "version": "20190307",
13151     "license": {
13152       "name": "OCF Data Model License",
13153       "url":
13154         "https://github.com/openconnectivityfoundation/core/blob/e28a9e0a92e17042ba3e83661e4c0fbce8bdc4ba/LI
13155         CENSE.md",
13156       "x-copyright": "copyright 2016-2019 Open Connectivity Foundation, Inc. All rights reserved."
13157     },
13158     "termsOfService": "https://openconnectivityfoundation.github.io/core/DISCLAIMER.md"
13159   },
13160   "schemes": ["http"],
13161   "consumes": ["application/json"],
13162   "produces": ["application/json"],
13163   "paths": {
13164     "/ConsumablesResURI?if=oic.if.ll" : {
13165       "get": {
13166         "description": "This Resource specifies things that can be consumed such as filter material,
13167         printer toner etc\nThe resource is a Collection of instances of oic.r.consumable detailing the
13168         individual consumed items\nsupportedconsumables is the set of consumable types that this instance of

```



```

13169 the Resource supports\n",
13170     "parameters": [
13171         {"$ref": "#/parameters/interface-all"}
13172     ],
13173     "responses": {
13174         "200": {
13175             "description": "",
13176             "x-example":
13177                 [
13178                     {"href": "/myTonerBlackResURI", "rt": ["oic.r.consumable"], "if":
13179 ["oic.if.s","oic.if.baseline"], "eps": [{"ep": "coaps://[fe80::b1d6]:1122"}]},
13180                     {"href": "/myTonerCyanResURI", "rt": ["oic.r.consumable"], "if":
13181 ["oic.if.s","oic.if.baseline"], "eps": [{"ep": "coaps://[fe80::b1d6]:1122"}]},
13182                     {"href": "/myTonerMagentaResURI", "rt": ["oic.r.consumable"], "if":
13183 ["oic.if.s","oic.if.baseline"], "eps": [{"ep": "coaps://[fe80::b1d6]:1122"}]},
13184                     {"href": "/myTonerYellowResURI", "rt": ["oic.r.consumable"], "if":
13185 ["oic.if.s","oic.if.baseline"], "eps": [{"ep": "coaps://[fe80::b1d6]:1122"}]}
13186                 ],
13187             "schema": { "$ref": "#/definitions/consumables-11" }
13188         }
13189     }
13190 },
13191 },
13192 "/ConsumablesResURI?if=oic.if.b": {
13193     "get": {
13194         "description": "This Resource specifies things that can be consumed such as filter material,
13195 printer toner etc\nThe resource is a Collection of instances of oic.r.consumable detailing the
13196 individual consumed items\nsupportedconsumables is the set of consumable types that this instance of
13197 the Resource supports\n",
13198         "parameters": [
13199             {"$ref": "#/parameters/interface-all"}
13200         ],
13201         "responses": {
13202             "200": {
13203                 "description": "",
13204                 "x-example": [
13205                     {
13206                         "href": "/tonerCyanResURI",
13207                         "rep": {
13208                             "typeofconsumable": "tonerCyan",
13209                             "remaining": 70,
13210                             "orderpercentage": 10,
13211                             "url": "http://myreorderURL"
13212                         }
13213                     },
13214                     {
13215                         "href": "/tonerBlackResURI",
13216                         "rep": {
13217                             "typeofconsumable": "tonerBlack",
13218                             "remaining": 20,
13219                             "orderpercentage": 10,
13220                             "url": "http://myreorderURL"
13221                         }
13222                     }
13223                 ],
13224             "schema": { "$ref": "#/definitions/ConsumableCollectionBatch-Retrieve" }
13225         }
13226     }
13227 },
13228 },
13229 "/ConsumablesResURI?if=oic.if.baseline" : {
13230     "get": {
13231         "description": "This Resource specifies things that can be consumed such as filter material,
13232 printer toner etc\nThe resource is a Collection of instances of oic.r.consumable detailing the
13233 individual consumed items\nsupportedconsumables is the set of consumable types that this instance of
13234 the Resource supports\n",
13235         "parameters": [
13236             {"$ref": "#/parameters/interface-all"}
13237         ],
13238         "responses": {
13239             "200": {
13240                 "description": "",

```

```

13241         "x-example": {
13242             "rt": [ "oic.r.consumablecollection", "oic.wk.col" ],
13243             "if": [ "oic.if.ll", "oic.if.b", "oic.if.baseline" ],
13244             "rts": [ "oic.r.consumable", "oic.r.value.conditional" ],
13245             "supportedconsumables": [ "tonerBlack", "tonerCyan", "tonerMagenta", "tonerYellow" ],
13246             "links": [
13247                 { "href": "/myTonerBlackResURI", "rt": [ "oic.r.consumable" ], "if":
13248 ["oic.if.s", "oic.if.baseline"], "eps": [ { "ep": "coaps://[fe80::b1d6]:1122" } ] },
13249                 { "href": "/myTonerCyanResURI", "rt": [ "oic.r.consumable" ], "if":
13250 ["oic.if.s", "oic.if.baseline"], "eps": [ { "ep": "coaps://[fe80::b1d6]:1122" } ] },
13251                 { "href": "/myTonerMagentaResURI", "rt": [ "oic.r.consumable" ], "if":
13252 ["oic.if.s", "oic.if.baseline"], "eps": [ { "ep": "coaps://[fe80::b1d6]:1122" } ] },
13253                 { "href": "/myTonerYellowResURI", "rt": [ "oic.r.consumable" ], "if":
13254 ["oic.if.s", "oic.if.baseline"], "eps": [ { "ep": "coaps://[fe80::b1d6]:1122" } ] }
13255             ]
13256         },
13257         "schema": { "$ref": "#/definitions/consumables" }
13258     }
13259 }
13260 }
13261 }
13262 },
13263 "parameters": {
13264     "interface-all" : {
13265         "in" : "query",
13266         "name" : "if",
13267         "type" : "string",
13268         "enum" : [ "oic.if.ll", "oic.if.b", "oic.if.baseline" ]
13269     }
13270 },
13271 "definitions": {
13272     "consumables-ll" : {
13273         "items": {
13274             "$ref": "#/definitions/oic.oic-link"
13275         },
13276         "type": "array"
13277     },
13278     "consumables": {
13279         "properties": {
13280             "rt": {
13281                 "items": {
13282                     "enum": [
13283                         "oic.r.consumablecollection",
13284                         "oic.wk.col"
13285                     ],
13286                     "type": "string",
13287                     "maxLength": 64
13288                 },
13289                 "minItems": 2,
13290                 "type": "array",
13291                 "readOnly": true,
13292                 "uniqueItems": true
13293             },
13294             "supportedconsumables": {
13295                 "description": "Array of possible consumables the device measures.",
13296                 "items": {
13297                     "type": "string"
13298                 },
13299                 "readOnly": true,
13300                 "type": "array"
13301             },
13302             "links": {
13303                 "description": "A set of simple or individual OCF Links.",
13304                 "items": {
13305                     "$ref": "#/definitions/oic.oic-link"
13306                 },
13307                 "type": "array"
13308             },
13309             "n": {
13310                 "$ref" :
13311 "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
13312 schema.json#/definitions/n"

```

```

13313     },
13314     "id": {
13315         "$ref" :
13316         "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
13317         schema.json#/definitions/id"
13318     },
13319     "rts": {
13320         "items": {
13321             "anyOf": [
13322                 {
13323                     "enum": [
13324                         "oic.r.consumable",
13325                         "oic.r.value.conditional"
13326                     ],
13327                     "type": "string",
13328                     "maxLength": 64
13329                 },
13330                 {
13331                     "enum": [
13332                         "oic.r.consumable"
13333                     ],
13334                     "type": "string",
13335                     "maxLength": 64
13336                 }
13337             ]
13338         },
13339         "minItems": 1,
13340         "type": "array",
13341         "readOnly": true,
13342         "uniqueItems": true
13343     },
13344     "if": {
13345         "description": "The OCF Interfaces supported by this Resource",
13346         "items": {
13347             "enum": [
13348                 "oic.if.ll",
13349                 "oic.if.b",
13350                 "oic.if.baseline"
13351             ],
13352             "type": "string",
13353             "maxLength": 64
13354         },
13355         "minItems": 1,
13356         "readOnly": true,
13357         "uniqueItems": true,
13358         "type": "array"
13359     }
13360 },
13361 "type" : "object"
13362 },
13363 "ConsumableCollectionBatch-Retrieve" : {
13364     "type": "array",
13365     "minItems": 1,
13366     "uniqueItems": true,
13367     "items": {
13368         "type": "object",
13369         "additionalProperties": true,
13370         "properties": {
13371             "href": {
13372                 "$ref":
13373                 "https://openconnectivityfoundation.github.io/core/schemas/oic.links.properties.core-
13374                 schema.json#/definitions/href"
13375             },
13376             "rep": {
13377                 "$ref":
13378                 "https://openconnectivityfoundation.github.io/IoTDataModels/ConsumableResURI.swagger.json#/definitio
13379                 ns/consumable"
13380             }
13381         },
13382         "required": [
13383             "href",
13384             "rep"

```

```

13385     ]
13386   }
13387 },
13388 "oic.oic-link": {
13389   "type": "object",
13390   "properties": {
13391     "anchor": {
13392       "$ref":
13393 "https://openconnectivityfoundation.github.io/core/schemas/oic.links.properties.core-
13394 schema.json#/definitions/anchor"
13395     },
13396     "di": {
13397       "$ref":
13398 "https://openconnectivityfoundation.github.io/core/schemas/oic.links.properties.core-
13399 schema.json#/definitions/di"
13400     },
13401     "eps": {
13402       "$ref":
13403 "https://openconnectivityfoundation.github.io/core/schemas/oic.links.properties.core-
13404 schema.json#/definitions/eps"
13405     },
13406     "href": {
13407       "$ref":
13408 "https://openconnectivityfoundation.github.io/core/schemas/oic.links.properties.core-
13409 schema.json#/definitions/href"
13410     },
13411     "ins": {
13412       "$ref":
13413 "https://openconnectivityfoundation.github.io/core/schemas/oic.links.properties.core-
13414 schema.json#/definitions/ins"
13415     },
13416     "p": {
13417       "$ref":
13418 "https://openconnectivityfoundation.github.io/core/schemas/oic.links.properties.core-
13419 schema.json#/definitions/p"
13420     },
13421     "rel": {
13422       "$ref":
13423 "https://openconnectivityfoundation.github.io/core/schemas/oic.links.properties.core-
13424 schema.json#/definitions/rel_array"
13425     },
13426     "title": {
13427       "$ref":
13428 "https://openconnectivityfoundation.github.io/core/schemas/oic.links.properties.core-
13429 schema.json#/definitions/title"
13430     },
13431     "type": {
13432       "$ref":
13433 "https://openconnectivityfoundation.github.io/core/schemas/oic.links.properties.core-
13434 schema.json#/definitions/type"
13435     },
13436     "if": {
13437       "description": "The OCF Interfaces supported by the target Resource",
13438       "items": {
13439         "enum": [
13440           "oic.if.s",
13441           "oic.if.baseline"
13442         ],
13443         "type": "string",
13444         "maxLength": 64
13445       },
13446       "minItems": 2,
13447       "uniqueItems": true,
13448       "type": "array",
13449       "readOnly": true
13450     },
13451     "rt": {
13452       "description": "Resource Type of the target Resource",
13453       "items": {
13454         "maxLength": 64,
13455         "type": "string",
13456         "enum": ["oic.r.consumable"]

```

```

13457     },
13458     "minItems": 1,
13459     "type": "array",
13460     "uniqueItems": true,
13461     "readOnly": true
13462   }
13463 },
13464 "required": [
13465   "href",
13466   "rt",
13467   "if"
13468 ]
13469 }
13470 }
13471 }
13472

```

13473 **6.69.5 Property definition**

13474 Table 141 defines the Properties that are part of the "oic.r.consumablecollection, oic.wk.col"
 13475 Resource Type.

13476 **Table 141 – The Property definitions of the Resource with type "rt" =**
 13477 **"oic.r.consumablecollection, oic.wk.col".**

Property name	Value type	Mandatory	Access mode	Description
href	multiple types: see schema	Yes	Read Write	
rep	multiple types: see schema	Yes	Read Write	
title	multiple types: see schema	No	Read Write	
anchor	multiple types: see schema	No	Read Write	
p	multiple types: see schema	No	Read Write	
ins	multiple types: see schema	No	Read Write	
type	multiple types: see schema	No	Read Write	
href	multiple types: see schema	Yes	Read Write	
rt	array: see schema	Yes	Read Only	Resource Type of the target Resource
rel	multiple types: see schema	No	Read Write	

eps	multiple types: see schema	No	Read Write	
di	multiple types: see schema	No	Read Write	
if	array: see schema	Yes	Read Only	The OCF Interfaces supported by the target Resource
n	multiple types: see schema		Read Write	
if	array: see schema		Read Only	The OCF Interfaces supported by this Resource
rt	array: see schema		Read Only	
supportedconsumables	array: see schema		Read Only	Array of possible consumables the device measures.
rts	array: see schema		Read Only	
id	multiple types: see schema		Read Write	
links	array: see schema		Read Write	A set of simple or individual OCF Links.

13478 **6.69.6 CRUDN behaviour**

13479 Table 142 defines the CRUDN operations that are supported on the "oic.r.consumablecollection,
13480 oic.wk.col" Resource Type.

13481 **Table 142 – The CRUDN operations of the Resource with type "rt" =**
13482 **"oic.r.consumablecollection, oic.wk.col".**

Create	Read	Update	Delete	Notify
	get			observe

13483 **6.70 Delay Defrost**

13484 **6.70.1 Introduction**

13485 This Resource describes the delay defrost function as defined by the US Energy Star Specifications.
13486 See Energy Star Refrigerator Requirements Version 5 Section 4).
13487 (<https://www.energystar.gov/sites/default/files/specs//private/ENERGY%20STAR%20Final%20Version%205.0%20Residential%20Refrigerators%20and%20Freezers%20Program%20Requirements.pdf>)

13490 The Property "status" is a boolean indicating whether the function is on, if off then defrost is
13491 scheduled as part of normal device operation.
13492 The Property "startTime" is an ISO8601 encoded start time for the interval in which defrost shall
13493 not occur.

13494 The Property "stopTime" is an ISO8601 encoded stop time for the interval in which defrost shall
13495 not occur.

13496 The Property "interval" with additional range restrictions is the time in minutes of the period that
13497 starts at starttime (if not present the default is 240).

13498 The Properties "stopTime" and "interval" are mutually exclusive; they cannot both be present in a
13499 Resource instance.

13500 **6.70.2 Example URI**

13501 /DelayDefrostResURI

13502 **6.70.3 Resource type**

13503 The Resource Type is defined as: "oic.r.delaydefrost".

13504 **6.70.4 OpenAPI 2.0 definition**

```
13505 {  
13506   "swagger": "2.0",  
13507   "info": {  
13508     "title": "Delay Defrost",  
13509     "version": "20190215",  
13510     "license": {  
13511       "name": "OCF Data Model License",  
13512       "url":  
13513         "https://github.com/openconnectivityfoundation/core/blob/e28a9e0a92e17042ba3e83661e4c0fbce8bdc4ba/LI  
13514         CENSE.md",  
13515       "x-copyright": "copyright 2016-2017, 2019 Open Connectivity Foundation, Inc. All rights  
13516       reserved."  
13517     },  
13518     "termsOfService": "https://openconnectivityfoundation.github.io/core/DISCLAIMER.md"  
13519   },  
13520   "schemes": ["http"],  
13521   "consumes": ["application/json"],  
13522   "produces": ["application/json"],  
13523   "paths": {  
13524     "/DelayDefrostResURI" : {  
13525       "get": {  
13526         "description": "This Resource describes the delay defrost function as defined by the US  
13527         Energy Star Specifications.\nSee Energy Star Refrigerator Requirements Version 5 Section  
13528         4).\n(https://www.energystar.gov/sites/default/files/specs//private/ENERGY%20STAR%20Final%20Version%  
13529         205.0%20Residential%20Refrigerators%20and%20Freezers%20Program%20Requirements.pdf)\nThe Property  
13530         \"status\" is a boolean indicating whether the function is on, if off then defrost is scheduled as  
13531         part of normal device operation.\nThe Property \"startTime\" is an ISO8601 encoded start time for  
13532         the interval in which defrost shall not occur.\nThe Property \"stopTime\" is an ISO8601 encoded stop  
13533         time for the interval in which defrost shall not occur.\nThe Property \"interval\" with additional  
13534         range restrictions is the time in minutes of the period that starts at starttime (if not present the  
13535         default is 240).\nThe Properties \"stopTime\" and \"interval\" are mutually exclusive; they cannot  
13536         both be present in a Resource instance.",  
13537         "parameters": [  
13538           {"$ref": "#/parameters/interface"}  
13539         ],  
13540         "responses": {  
13541           "200": {  
13542             "description": "",
```

```

13543         "x-example":
13544             {
13545                 "rt": ["oic.r.delaydefrost"],
13546                 "if": ["oic.if.a", "oic.if.baseline"],
13547                 "startTime": "T06:00:00Z",
13548                 "status": false
13549             },
13550         "schema": { "$ref": "#/definitions/DelayDefrost" }
13551     }
13552 },
13553 },
13554 "post": {
13555     "description": "Activates the desired Delay Defrost functions\n",
13556     "parameters": [
13557         { "$ref": "#/parameters/interface" },
13558         {
13559             "name": "body",
13560             "in": "body",
13561             "required": true,
13562             "schema": { "$ref": "#/definitions/DelayDefrost" },
13563             "x-example":
13564                 {
13565                     "status": true,
13566                     "startTime": "T06:00:00Z",
13567                     "interval": 180
13568                 }
13569         }
13570     ],
13571     "responses": {
13572         "200": {
13573             "description": "Indicates that the DelayDefrost function was changed.\n\nThe new
13574 representation may be provided in the response.\n",
13575             "x-example":
13576                 {
13577                     "status": true,
13578                     "startTime": "T06:00:00Z",
13579                     "interval": 180
13580                 }
13581             ,
13582             "schema": { "$ref": "#/definitions/DelayDefrost" }
13583         },
13584         "403": {
13585             "description": "Indicates the update to the time properties was rejected.\n\nReasons
13586 for rejection:\n invalid time entry\n\nThe current unchanged representation may be provided in the
13587 response.\n",
13588             "x-example":
13589                 {
13590                     "status": true,
13591                     "startTime": "T06:00:00Z",
13592                     "interval": 180
13593                 },
13594             "schema": { "$ref": "#/definitions/DelayDefrost" }
13595         }
13596     }
13597 },
13598 },
13599 },
13600 "parameters": {
13601     "interface": {
13602         "in": "query",
13603         "name": "if",
13604         "type": "string",
13605         "enum": ["oic.if.a", "oic.if.baseline"]
13606     }
13607 },
13608 "definitions": {
13609     "DelayDefrost" : {
13610         "properties": {
13611             "rt": {
13612                 "description": "The Resource Type.",
13613                 "items": {
13614                     "enum": ["oic.r.delaydefrost"],

```



```

13615         "maxLength": 64,
13616         "type": "string"
13617     },
13618     "minItems": 1,
13619     "uniqueItems": true,
13620     "readOnly": true,
13621     "type": "array"
13622 },
13623 "status": {
13624     "description": "Indicates whether any supported delay defrost function is active.",
13625     "type": "boolean"
13626 },
13627 "interval": {
13628     "description": "Defrost interval as defined by Energy Star.",
13629     "minimum": 1,
13630     "maximum": 1440,
13631     "default": 240,
13632     "type": "integer"
13633 },
13634 "stopTime": {
13635     "description": "Stop time for the time period, if present interval cannot be present.
13636 This is the time of day at which the delay interval stops.",
13637     "type": "string",
13638     "pattern": "^[T]([0-2][0-9]:[0-5][0-9]:[0-5][0-9])([zZ]|([\\+\\-])([01]\\d|2[0-3])?:([0-
13639 5]\\d))$"
13640 },
13641 "startTime": {
13642     "description": "Start time for the time period. This is the time of day at which the delay
13643 interval starts.",
13644     "type": "string",
13645     "pattern": "^[T]([0-2][0-9]:[0-5][0-9]:[0-5][0-9])([zZ]|([\\+\\-])([01]\\d|2[0-3])?:([0-
13646 5]\\d))$"
13647 },
13648     "n": {
13649         "$ref":
13650 "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
13651 schema.json#/definitions/n"
13652     },
13653     "id": {
13654         "$ref":
13655 "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
13656 schema.json#/definitions/id"
13657     },
13658     "if": {
13659         "description": "The OCF Interface set supported by this Resource.",
13660         "items": {
13661             "enum": [
13662                 "oic.if.a",
13663                 "oic.if.baseline"
13664             ],
13665             "type": "string"
13666         },
13667         "minItems": 2,
13668         "uniqueItems": true,
13669         "readOnly": true,
13670         "type": "array"
13671     }
13672 },
13673 "type": "object"
13674 }
13675 }
13676 }
13677

```

13678 6.70.5 Property definition

13679 Table 143 defines the Properties that are part of the "oic.r.delaydefrost" Resource Type.

13680 **Table 143 – The Property definitions of the Resource with type "rt" = "oic.r.delaydefrost".**

Property name	Value type	Mandatory	Access mode	Description
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.
n	multiple types: see schema		Read Write	
startTime	string		Read Write	Start time for the time period. This is the time of day at which the delay interval starts.
status	boolean		Read Write	Indicates whether any supported delay defrost function is active.
if	array: see schema		Read Only	The OCF Interface set supported by this Resource.
rt	array: see schema		Read Only	The Resource Type.
id	multiple types: see schema		Read Write	

13681 **6.70.6 CRUDN behaviour**

13682 Table 144 defines the CRUDN operations that are supported on the "oic.r.delaydefrost" Resource
13683 Type.

13684 **Table 144 – The CRUDN operations of the Resource with type "rt" = "oic.r.delaydefrost".**

Create	Read	Update	Delete	Notify

	get	post		observe
--	-----	------	--	---------

13685 **6.71 Eco Mode**

13686 **6.71.1 Introduction**

13687 This Resource specifies the supported and currently active Eco Mode of a Device
 13688 The Resource is a derivative of the Mode Resource (oic.r.mode) with a restriction that the
 13689 population of supportedmodes and modes Properties is restricted to the set of values:
 13690 "disabled","enabled","notsupported".

13691 The adminforced Property indicates that the value has been set by another party (e.g. via some
 13692 offboard Smart Energy interaction)
 13693

13694 **6.71.2 Example URI**

13695 /EcomodeResURI

13696 **6.71.3 Resource type**

13697 The Resource Type is defined as: "oic.r.ecomode".

13698 **6.71.4 OpenAPI 2.0 definition**

```

13699 {
13700   "swagger": "2.0",
13701   "info": {
13702     "title": "Eco Mode",
13703     "version": "20190215",
13704     "license": {
13705       "name": "OCF Data Model License",
13706       "url":
13707         "https://github.com/openconnectivityfoundation/core/blob/e28a9e0a92e17042ba3e83661e4c0fbce8bdc4ba/LI
13708         CENSE.md",
13709       "x-copyright": "copyright 2016-2017, 2019 Open Connectivity Foundation, Inc. All rights
13710       reserved."
13711     },
13712     "termsOfService": "https://openconnectivityfoundation.github.io/core/DISCLAIMER.md"
13713   },
13714   "schemes": ["http"],
13715   "consumes": ["application/json"],
13716   "produces": ["application/json"],
13717   "paths": {
13718     "/EcomodeResURI" : {
13719       "get": {
13720         "description": "This Resource specifies the supported and currently active Eco Mode of a
13721         Device\nThe Resource is a derivative of the Mode Resource (oic.r.mode) with a restriction that the
13722         population of supportedmodes and modes Properties is restricted to the set of
13723         values:\n\n\"disabled\", \"enabled\", \"notsupported\".\n\nThe adminforced Property indicates that the
13724         value has been set by another party (e.g. via some offboard Smart Energy interaction)\n",
13725         "parameters": [
13726           { "$ref": "#/parameters/interface" }
13727         ],
13728         "responses": {
13729           "200": {
13730             "description": "",
13731             "x-example":
13732               {
13733                 "rt": ["oic.r.ecomode"],
13734                 "if": ["oic.if.a", "oic.if.baseline"],
13735                 "supportedModes": ["disabled", "enabled"],
13736                 "modes": ["disabled"],
13737                 "adminforced": false
13738               },
13739             "schema": { "$ref": "#/definitions/ecomode" }
13740           }
13741         }
13742       },
13743       "post": {

```

```

13744     "description": "",
13745     "parameters": [
13746       { "$ref": "#/parameters/interface" },
13747       {
13748         "name": "body",
13749         "in": "body",
13750         "required": true,
13751         "schema": { "$ref": "#/definitions/ecomode-update" },
13752         "x-example":
13753           {
13754             "modes": ["enabled"]
13755           }
13756       }
13757     ],
13758     "responses": {
13759       "200": {
13760         "description": "",
13761         "x-example":
13762           {
13763             "modes": ["enabled"]
13764           },
13765         "schema": { "$ref": "#/definitions/ecomode-update" }
13766       }
13767     }
13768   }
13769 },
13770 },
13771 "parameters": {
13772   "interface": {
13773     "in": "query",
13774     "name": "if",
13775     "type": "string",
13776     "enum": ["oic.if.a", "oic.if.baseline"]
13777   }
13778 },
13779 "definitions": {
13780   "ecomode": {
13781     "properties": {
13782       "rt": {
13783         "description": "The Resource Type.",
13784         "items": {
13785           "enum": ["oic.r.ecomode"],
13786           "maxLength": 64,
13787           "type": "string"
13788         },
13789         "minItems": 1,
13790         "uniqueItems": true,
13791         "readOnly": true,
13792         "type": "array"
13793       },
13794       "modes": {
13795         "description": "The array of the currently active mode(s).",
13796         "items": {
13797           "enum": ["disabled", "enabled", "notsupported"],
13798           "type": "string"
13799         },
13800         "uniqueItems": true,
13801         "type": "array"
13802       },
13803       "supportedModes": {
13804         "description": "The array of possible modes the device supports.",
13805         "items": {
13806           "enum": ["disabled", "enabled", "notsupported"],
13807           "type": "string"
13808         },
13809         "readOnly": true,
13810         "type": "array"
13811       },
13812       "adminforced": {
13813         "description": "The indicator that the current mode of operation has been forced by admin
13814 action.",
13815         "readOnly": true,

```

```

13816         "type": "boolean"
13817     },
13818     "n": {
13819         "$ref":
13820         "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
13821         schema.json#/definitions/n"
13822     },
13823     "id": {
13824         "$ref":
13825         "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
13826         schema.json#/definitions/id"
13827     },
13828     "if": {
13829         "description": "The OCF Interface set supported by this Resource.",
13830         "items": {
13831             "enum": [
13832                 "oic.if.a",
13833                 "oic.if.baseline"
13834             ],
13835             "type": "string"
13836         },
13837         "minItems": 2,
13838         "uniqueItems": true,
13839         "readOnly": true,
13840         "type": "array"
13841     }
13842 },
13843 "type": "object",
13844 "required": ["supportedModes", "modes"]
13845 },
13846 "ecomode-update" : {
13847     "properties": {
13848         "modes": {
13849             "description": "The desired mode.",
13850             "items": {
13851                 "enum": ["disabled", "enabled", "notsupported"],
13852                 "type": "string"
13853             },
13854             "type": "array"
13855         }
13856     },
13857     "type": "object",
13858     "required": ["modes"]
13859 }
13860 }
13861 }
13862

```

13863 6.71.5 Property definition

13864 Table 145 defines the Properties that are part of the "oic.r.ecomode" Resource Type.

13865 **Table 145 – The Property definitions of the Resource with type "rt" = "oic.r.ecomode".**

Property name	Value type	Mandatory	Access mode	Description
modes	array: see schema	Yes	Read Write	The array of the currently active mode(s).
id	multiple types: see schema	No	Read Write	
supportedModes	array: see schema	Yes	Read Only	The array of possible modes

				the device supports.
rt	array: see schema	No	Read Only	The Resource Type.
if	array: see schema	No	Read Only	The OCF Interface set supported by this Resource.
n	multiple types: see schema	No	Read Write	
adminforced	boolean	No	Read Only	The indicator that the current mode of operation has been forced by admin action.
modes	array: see schema	Yes	Read Write	The desired mode.

13866 **6.71.6 CRUDN behaviour**

13867 Table 146 defines the CRUDN operations that are supported on the "oic.r.ecomode" Resource
13868 Type.

13869 **Table 146 – The CRUDN operations of the Resource with type "rt" = "oic.r.ecomode".**

Create	Read	Update	Delete	Notify
	get	post		observe

13870 **6.72 Heating Zone**

13871 **6.72.1 Introduction**

13872 This Resource provides information about the status of a (single) heating zone of a Cook-Top.
13873 It describes the case of a Cook-Top whose zones can be activated dynamically (i.e. the device
13874 implements pot recognition).
13875 The Property "maxheatinglevel" defines the max level for the heating zone
13876 The Property "heatinglevel" is the current heating level of the zone
13877 For each element, the value range is from 0 (indication that the zone is not heating) to
13878 "maxheatinglevel".

13879 **6.72.2 Example URI**

13880 /HeatingZoneResURI

13881 **6.72.3 Resource type**

13882 The Resource Type is defined as: "oic.r.heatingzone".

13883 **6.72.4 OpenAPI 2.0 definition**

```
13884 {
13885   "swagger": "2.0",
13886   "info": {
13887     "title": "Heating Zone",
13888     "version": "20190215",
13889     "license": {
13890       "name": "OCF Data Model License",
13891       "url":
13892         "https://github.com/openconnectivityfoundation/core/blob/e28a9e0a92e17042ba3e83661e4c0fbce8bdc4ba/LI
13893         CENSE.md",
13894       "x-copyright": "copyright 2016-2017, 2019 Open Connectivity Foundation, Inc. All rights
13895         reserved."
13896     },
13897     "termsOfService": "https://openconnectivityfoundation.github.io/core/DISCLAIMER.md"
13898   },
13899   "schemes": ["http"],
13900   "consumes": ["application/json"],
13901   "produces": ["application/json"],
13902   "paths": {
13903     "/HeatingZoneResURI" : {
13904       "get": {
13905         "description": "This Resource provides information about the status of a (single) heating
13906         zone of a Cook-Top.\nIt describes the case of a Cook-Top whose zones can be activated dynamically
13907         (i.e. the device implements pot recognition).\nThe Property \"maxheatinglevel\" defines the max
13908         level for the heating zone\nThe Property \"heatinglevel\" is the current heating level of the zone\n
13909         For each element, the value range is from 0 (indication that the zone is not heating) to
13910         \"maxheatinglevel\".",
13911         "parameters": [
13912           {"$ref": "#/parameters/interface"}
13913         ],
13914         "responses": {
13915           "200": {
13916             "description": "RETRIEVES the current heating zone information.",
13917             "x-example":
13918               {
13919                 "rt": ["oic.r.heatingzone"],
13920                 "if": ["oic.if.s", "oic.if.baseline"],
13921                 "maxheatinglevel": 6,
13922                 "heatinglevel": 0
13923               },
13924             "schema": { "$ref": "#/definitions/HeatingZone" }
13925           }
13926         }
13927       }
13928     }
13929   },
13930   "parameters": {
13931     "interface": {
13932       "in": "query",
13933       "name": "if",
13934       "type": "string",
13935       "enum": ["oic.if.s", "oic.if.baseline"]
13936     }
13937   },
13938   "definitions": {
13939     "HeatingZone" : {
13940       "properties": {
13941         "rt": {
13942           "description": "The Resource Type.",
13943           "items": {
13944             "enum": ["oic.r.heatingzone"],
13945             "maxLength": 64,
13946             "type": "string"
13947           },
13948           "minItems": 1,
13949           "uniqueItems": true,
13950           "readOnly": true,
13951           "type": "array"
13952         },
13953         "heatinglevel": {
```

```

13954         "description": "The current heating level for the zone.",
13955         "readOnly": true,
13956         "type": "integer"
13957     },
13958     "maxheatinglevel": {
13959         "description": "The maximum heating level for the zone.",
13960         "readOnly": true,
13961         "type": "integer"
13962     },
13963     "n": {
13964         "$ref":
13965         "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
13966         schema.json#/definitions/n"
13967     },
13968     "id": {
13969         "$ref":
13970         "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
13971         schema.json#/definitions/id"
13972     },
13973     "if": {
13974         "description": "The OCF Interface set supported by this Resource.",
13975         "items": {
13976             "enum": [
13977                 "oic.if.s",
13978                 "oic.if.baseline"
13979             ],
13980             "type": "string"
13981         },
13982         "minItems": 2,
13983         "uniqueItems": true,
13984         "readOnly": true,
13985         "type": "array"
13986     }
13987 },
13988 "type": "object",
13989 "required": ["maxheatinglevel", "heatinglevel"]
13990 }
13991 }
13992 }
13993

```

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
heatinglevel	integer	Yes	Read Only	The current heating level for the zone.
id	multiple types: see schema	No	Read Write	
maxheatinglevel	integer	Yes	Read Only	The maximum heating level for the zone.
rt	array: see schema	No	Read Only	The Resource Type.

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

13997 **6.72.6 CRUDN behaviour**

13998 Table 148 defines the CRUDN operations that are supported on the "oic.r.heatingzone" Resource
13999 Type.

14000 **Table 148 – The CRUDN operations of the Resource with type "rt" = "oic.r.heatingzone".**

Create	Read	Update	Delete	Notify
	get			observe

14001 **6.73 Heating Zone Collection**

14002 **6.73.1 Introduction**

14003 This Resource provides information about the status of the heating zones of a Cook-Top.
14004 It describes the case of a Cook-Top whose zones can be activated dynamically (i.e. the device
14005 implements pot recognition).
14006 The resource is a Collection of instances of oic.r.heatingzone detailing the individual cooktop zones
14007 Retrieves the current heating zone information.
14008

14009 **6.73.2 Example URI**

14010 /HeatingZoneResURI

14011 **6.73.3 Resource type**

14012 The Resource Type is defined as: "oic.r.heatingzonecollection, oic.wk.col".

14013 **6.73.4 OpenAPI 2.0 definition**

```
14014 {
14015   "swagger": "2.0",
14016   "info": {
14017     "title": "Heating Zone Collection",
14018     "version": "20190307",
14019     "license": {
14020       "name": "OCF Data Model License",
14021       "url":
14022         "https://github.com/openconnectivityfoundation/core/blob/e28a9e0a92e17042ba3e83661e4c0fbce8bdc4ba/LI
14023         CENSE.md",
14024       "x-copyright": "copyright 2016-2019 Open Connectivity Foundation, Inc. All rights reserved."
14025     },
14026     "termsOfService": "https://openconnectivityfoundation.github.io/core/DISCLAIMER.md"
14027   },
14028   "schemes": ["http"],
14029   "consumes": ["application/json"],
14030   "produces": ["application/json"],
14031   "paths": {
14032     "/HeatingZoneResURI?if=oic.if.ll" : {
14033       "get": {
14034         "description": "This Resource provides information about the status of the heating zones of
14035         a Cook-Top.\nIt describes the case of a Cook-Top whose zones can be activated dynamically (i.e. the
14036         device implements pot recognition).\nThe resource is a Collection of instances of oic.r.heatingzone
14037         detailing the individual cooktop zones\n",
```

```

14038     "parameters": [
14039       {"$ref": "#/parameters/interface-all"}
14040     ],
14041     "responses": {
14042       "200": {
14043         "description": "",
14044         "x-example":
14045           [
14046             {"href": "/myZone1ResURI", "rt": ["oic.r.heatingzone"], "if":
14047 ["oic.if.s", "oic.if.baseline"], "eps": [{"ep": "coaps://[fe80::b1d6]:1122"}]},
14048             {"href": "/myZone2ResURI", "rt": ["oic.r.heatingzone"], "if":
14049 ["oic.if.s", "oic.if.baseline"], "eps": [{"ep": "coaps://[fe80::b1d6]:1122"}]},
14050             {"href": "/myZone3ResURI", "rt": ["oic.r.heatingzone"], "if":
14051 ["oic.if.s", "oic.if.baseline"], "eps": [{"ep": "coaps://[fe80::b1d6]:1122"}]},
14052             {"href": "/myZone4ResURI", "rt": ["oic.r.heatingzone"], "if":
14053 ["oic.if.s", "oic.if.baseline"], "eps": [{"ep": "coaps://[fe80::b1d6]:1122"}]}
14054           ],
14055         "schema": {"$ref": "#/definitions/HeatingZone-11" }
14056       }
14057     }
14058   },
14059 },
14060 "/HeatingZoneResURI?if=oic.if.b": {
14061   "get": {
14062     "description": "This Resource provides information about the status of the heating zones of
14063 a Cook-Top.\nIt describes the case of a Cook-Top whose zones can be activated dynamically (i.e. the
14064 device implements pot recognition).\nThe resource is a Collection of instances of oic.r.heatingzone
14065 detailing the individual cooktop zones\n",
14066     "parameters": [
14067       {"$ref": "#/parameters/interface-all"}
14068     ],
14069     "responses": {
14070       "200": {
14071         "description": "",
14072         "x-example": [
14073           {
14074             "href": "/heatingZoneLeftResURI",
14075             "rep": {
14076               "maxheatinglevel": 6,
14077               "heatinglevel": 0
14078             }
14079           },
14080           {
14081             "href": "/heatingZoneRightResURI",
14082             "rep": {
14083               "maxheatinglevel": 6,
14084               "heatinglevel": 3
14085             }
14086           }
14087         ],
14088         "schema": {"$ref": "#/definitions/HeatingZoneCollectionBatch-Retrieve" }
14089       }
14090     }
14091   }
14092 },
14093 "/HeatingZoneResURI?if=oic.if.baseline" : {
14094   "get": {
14095     "description": "This Resource provides information about the status of the heating zones of
14096 a Cook-Top.\nIt describes the case of a Cook-Top whose zones can be activated dynamically (i.e. the
14097 device implements pot recognition).\nThe resource is a Collection of instances of oic.r.heatingzone
14098 detailing the individual cooktop zones\nRetrieves the current heating zone information.\n",
14099     "parameters": [
14100       {"$ref": "#/parameters/interface-all"}
14101     ],
14102     "responses": {
14103       "200": {
14104         "description": "",
14105         "x-example":
14106           {
14107             "rt": ["oic.r.heatingzonecollection", "oic.wk.col"],
14108             "if": ["oic.if.ll", "oic.if.b", "oic.if.baseline"],
14109             "rts": ["oic.r.heatingzone"],

```

```

14110         "links": [
14111             { "href": "/myZone1ResURI", "rt": ["oic.r.heatingzone"], "if":
14112 ["oic.if.s", "oic.if.baseline"], "eps": [{"ep": "coaps://[fe80::b1d6]:1122"}]},
14113             { "href": "/myZone2ResURI", "rt": ["oic.r.heatingzone"], "if":
14114 ["oic.if.s", "oic.if.baseline"], "eps": [{"ep": "coaps://[fe80::b1d6]:1122"}]},
14115             { "href": "/myZone3ResURI", "rt": ["oic.r.heatingzone"], "if":
14116 ["oic.if.s", "oic.if.baseline"], "eps": [{"ep": "coaps://[fe80::b1d6]:1122"}]},
14117             { "href": "/myZone4ResURI", "rt": ["oic.r.heatingzone"], "if":
14118 ["oic.if.s", "oic.if.baseline"], "eps": [{"ep": "coaps://[fe80::b1d6]:1122"}]}
14119         ]
14120     },
14121     "schema": { "$ref": "#/definitions/HeatingZone" }
14122 }
14123 }
14124 }
14125 }
14126 },
14127 "parameters": {
14128     "interface-all" : {
14129         "in" : "query",
14130         "name" : "if",
14131         "type" : "string",
14132         "enum" : ["oic.if.ll", "oic.if.b", "oic.if.baseline"]
14133     }
14134 },
14135 "definitions": {
14136     "HeatingZone-ll" : {
14137         "items": {
14138             "$ref": "#/definitions/oic.oic-link"
14139         },
14140         "type": "array",
14141         "minItems": 1,
14142         "uniqueItems": true,
14143         "readOnly": true
14144     },
14145     "oic.oic-link": {
14146         "type": "object",
14147         "properties": {
14148             "anchor": {
14149                 "$ref":
14150 "https://openconnectivityfoundation.github.io/core/schemas/oic.links.properties.core-
14151 schema.json#/definitions/anchor"
14152             },
14153             "di": {
14154                 "$ref":
14155 "https://openconnectivityfoundation.github.io/core/schemas/oic.links.properties.core-
14156 schema.json#/definitions/di"
14157             },
14158             "eps": {
14159                 "$ref":
14160 "https://openconnectivityfoundation.github.io/core/schemas/oic.links.properties.core-
14161 schema.json#/definitions/eps"
14162             },
14163             "href": {
14164                 "$ref":
14165 "https://openconnectivityfoundation.github.io/core/schemas/oic.links.properties.core-
14166 schema.json#/definitions/href"
14167             },
14168             "ins": {
14169                 "$ref":
14170 "https://openconnectivityfoundation.github.io/core/schemas/oic.links.properties.core-
14171 schema.json#/definitions/ins"
14172             },
14173             "p": {
14174                 "$ref":
14175 "https://openconnectivityfoundation.github.io/core/schemas/oic.links.properties.core-
14176 schema.json#/definitions/p"
14177             },
14178             "rel": {
14179                 "$ref":
14180 "https://openconnectivityfoundation.github.io/core/schemas/oic.links.properties.core-
14181 schema.json#/definitions/rel_array"

```

```

14182     },
14183     "title": {
14184       "$ref":
14185       "https://openconnectivityfoundation.github.io/core/schemas/oic.links.properties.core-
14186       schema.json#/definitions/title"
14187     },
14188     "type": {
14189       "$ref":
14190       "https://openconnectivityfoundation.github.io/core/schemas/oic.links.properties.core-
14191       schema.json#/definitions/type"
14192     },
14193     "if": {
14194       "description": "The OCF Interfaces supported by the target Resource",
14195       "items": {
14196         "enum": [
14197           "oic.if.s",
14198           "oic.if.baseline"
14199         ],
14200         "type": "string",
14201         "maxLength": 64
14202       },
14203       "minItems": 2,
14204       "uniqueItems": true,
14205       "type": "array",
14206       "readOnly": true
14207     },
14208     "rt": {
14209       "description": "Resource Type of the target Resource",
14210       "items": {
14211         "maxLength": 64,
14212         "type": "string",
14213         "enum": ["oic.r.heatingzone"]
14214       },
14215       "minItems": 1,
14216       "type": "array",
14217       "uniqueItems": true,
14218       "readOnly": true
14219     }
14220   },
14221   "required": [
14222     "href",
14223     "rt",
14224     "if"
14225   ]
14226 },
14227 "HeatingZone" : {
14228   "properties": {
14229     "rt": {
14230       "items": {
14231         "enum": [
14232           "oic.r.heatingzonecollection",
14233           "oic.wk.col"
14234         ],
14235         "type": "string",
14236         "maxLength": 64
14237       },
14238       "minItems": 2,
14239       "type": "array",
14240       "uniqueItems": true
14241     },
14242     "links": {
14243       "items": {
14244         "$ref": "#/definitions/oic.oic-link"
14245       },
14246       "type": "array",
14247       "minItems": 1,
14248       "uniqueItems": true,
14249       "readOnly": true
14250     },
14251     "n": {
14252       "$ref" :
14253       "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-

```

```

14254 schema.json#/definitions/n"
14255     },
14256     "id": {
14257         "$ref" :
14258         "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
14259         schema.json#/definitions/id"
14260     },
14261     "rts": {
14262         "items": {
14263             "anyOf": [
14264                 {
14265                     "enum": [
14266                         "oic.r.heatingzone",
14267                         "oic.r.value.conditional"
14268                     ],
14269                     "type": "string",
14270                     "maxLength": 64
14271                 },
14272                 {
14273                     "enum": [
14274                         "oic.r.heatingzone"
14275                     ],
14276                     "type": "string",
14277                     "maxLength": 64
14278                 }
14279             ]
14280         },
14281         "minItems": 1,
14282         "type": "array",
14283         "readOnly": true,
14284         "uniqueItems": true
14285     },
14286     "if": {
14287         "description": "The OCF Interfaces supported by this Resource",
14288         "items": {
14289             "enum": [
14290                 "oic.if.ll",
14291                 "oic.if.b",
14292                 "oic.if.baseline"
14293             ],
14294             "type": "string",
14295             "maxLength": 64
14296         },
14297         "minItems": 1,
14298         "readOnly": true,
14299         "uniqueItems": true,
14300         "type": "array"
14301     }
14302 },
14303 "type" : "object"
14304 },
14305 "HeatingZoneCollectionBatch-Retrieve" : {
14306     "type": "array",
14307     "minItems": 1,
14308     "uniqueItems": true,
14309     "items": {
14310         "type": "object",
14311         "additionalProperties": true,
14312         "properties": {
14313             "href": {
14314                 "$ref":
14315                 "https://openconnectivityfoundation.github.io/core/schemas/oic.links.properties.core-
14316                 schema.json#/definitions/href"
14317             },
14318             "rep": {
14319                 "$ref":
14320                 "https://openconnectivityfoundation.github.io/IoTDataModels/HeatingZoneResURI.swagger.json#/definiti
14321                 ons/HeatingZone"
14322             }
14323         },
14324         "required": [
14325             "href",

```

```

14326     "rep"
14327     ]
14328   }
14329 }
14330 }
14331 }
14332

```

14333 **6.73.5 Property definition**

14334 Table 149 defines the Properties that are part of the "oic.r.heatingzonecollection, oic.wk.col"
 14335 Resource Type.

14336 **Table 149 – The Property definitions of the Resource with type "rt" =**
 14337 **"oic.r.heatingzonecollection, oic.wk.col".**

Property name	Value type	Mandatory	Access mode	Description
href	multiple types: see schema	Yes	Read Write	
rep	multiple types: see schema	Yes	Read Write	
n	multiple types: see schema		Read Write	
rts	array: see schema		Read Only	
id	multiple types: see schema		Read Write	
rt	array: see schema		Read Write	
if	array: see schema		Read Only	The OCF Interfaces supported by this Resource
links	array: see schema		Read Only	
anchor	multiple types: see schema	No	Read Write	
if	array: see schema	Yes	Read Only	The OCF Interfaces supported by the target Resource
rel	multiple types: see schema	No	Read Write	

ins	multiple types: see schema	No	Read Write	
type	multiple types: see schema	No	Read Write	
eps	multiple types: see schema	No	Read Write	
title	multiple types: see schema	No	Read Write	
href	multiple types: see schema	Yes	Read Write	
p	multiple types: see schema	No	Read Write	
di	multiple types: see schema	No	Read Write	
rt	array: see schema	Yes	Read Only	Resource Type of the target Resource

14338 **6.73.6 CRUDN behaviour**

14339 Table 150 defines the CRUDN operations that are supported on the "oic.r.heatingzonecollection,
14340 oic.wk.col" Resource Type.

14341 **Table 150 – The CRUDN operations of the Resource with type "rt" =**
14342 **"oic.r.heatingzonecollection, oic.wk.col".**

Create	Read	Update	Delete	Notify
	get			observe

14343 **6.74 Selectable Levels**

14344 **6.74.1 Introduction**

14345 This Resource provides a set of device defined levels that can be selected for an operation.
14346 For example where a humidifier has a discrete set that model different humidity levels that can be
14347 set.

14348 The Property "availablelevels" is an array of the levels that can be selected, these can be a number
14349 or an integer (as subset of integer).

14350 The Property "targetlevel" is the level that has currently been selected and is written to in order to
14351 select a new level.

14352 When retrieved the targetlevel provides the actual value that has been selected.

14353 **6.74.2 Example URI**

14354 /SelectableLevelsResURI

14355 **6.74.3 Resource type**

14356 The Resource Type is defined as: "oic.r.selectablelevels".

14357 **6.74.4 OpenAPI 2.0 definition**

```
14358 {
14359   "swagger": "2.0",
14360   "info": {
14361     "title": "Selectable Levels",
14362     "version": "20190215",
14363     "license": {
14364       "name": "OCF Data Model License",
14365       "url":
14366         "https://github.com/openconnectivityfoundation/core/blob/e28a9e0a92e17042ba3e83661e4c0fbce8bdc4ba/LI
14367         CENSE.md",
14368       "x-copyright": "copyright 2016-2017, 2019 Open Connectivity Foundation, Inc. All rights
14369         reserved."
14370     },
14371     "termsOfService": "https://openconnectivityfoundation.github.io/core/DISCLAIMER.md"
14372   },
14373   "schemes": ["http"],
14374   "consumes": ["application/json"],
14375   "produces": ["application/json"],
14376   "paths": {
14377     "/SelectableLevelsResURI" : {
14378       "get": {
14379         "description": "This Resource provides a set of device defined levels that can be selected
14380         for an operation.\nFor example where a humidifier has a discrete set that model different humidity
14381         levels that can be set.\nThe Property \"availablelevels\" is an array of the levels that can be
14382         selected, these can be a number or an integer (as subset of integer).\nThe Property \"targetlevel\"
14383         is the level that has currently been selected and is written to in order to select a new
14384         level.\nWhen retrieved the targetlevel provides the actual value that has been selected.",
14385         "parameters": [
14386           {"$ref": "#/parameters/interface"}
14387         ],
14388         "responses": {
14389           "200": {
14390             "description": "Example is using integers for selection levels.",
14391             "x-example":
14392               {
14393                 "rt": ["oic.r.selectablelevels"],
14394                 "if": ["oic.if.a", "oic.if.baseline"],
14395                 "availablelevels": [0, 2, 4, 6, 8],
14396                 "targetlevel": 2
14397               },
14398             "schema": { "$ref": "#/definitions/SelectableLevels" }
14399           }
14400         }
14401       },
14402       "post": {
14403         "description": "Sets the current level from the set \"availablelevels\".",
14404         "parameters": [
14405           {"$ref": "#/parameters/interface"},
14406           {
14407             "name": "body",
14408             "in": "body",
14409             "required": true,
14410             "schema": { "$ref": "#/definitions/UpdateSchema" },
14411             "x-example":
14412               {
14413                 "targetlevel": 4
14414               }
14415           }
14416         ],
14417         "responses": {
14418           "200": {
14419             "description": "",
14420             "x-example":
14421               {
14422                 "targetlevel": 4
14423               },
```



```

14424         "schema": { "$ref": "#/definitions/UpdateSchema" }
14425     },
14426     "403": {
14427         "description": "Generated by a OCF Server when an attempt is made to update to a
14428 targetlevel that is not in the set of availablelevels",
14429         "x-example":
14430             {
14431                 "availablelevels":[0, 2, 4, 6, 8],
14432                 "targetlevel": 2
14433             },
14434         "schema": { "$ref": "#/definitions/SelectableLevels" }
14435     }
14436 }
14437 }
14438 },
14439 },
14440 "parameters": {
14441     "interface": {
14442         "in": "query",
14443         "name": "if",
14444         "type": "string",
14445         "enum": ["oic.if.a", "oic.if.baseline"]
14446     },
14447 },
14448 "definitions": {
14449     "SelectableLevels" : {
14450         "properties": {
14451             "rt": {
14452                 "description": "The Resource Type.",
14453                 "items": {
14454                     "enum": ["oic.r.selectablelevels"],
14455                     "maxLength": 64,
14456                     "type": "string"
14457                 },
14458                 "minItems": 1,
14459                 "uniqueItems": true,
14460                 "readOnly": true,
14461                 "type": "array"
14462             },
14463             "targetlevel": {
14464                 "description": "The target level from the available selectable set.",
14465                 "type": "number"
14466             },
14467             "availablelevels": {
14468                 "description": "The set of levels to select from.",
14469                 "items": {
14470                     "type": "number"
14471                 },
14472                 "readOnly": true,
14473                 "type": "array"
14474             },
14475             "if": {
14476                 "description": "The OCF Interface set supported by this Resource.",
14477                 "items": {
14478                     "enum": [
14479                         "oic.if.a",
14480                         "oic.if.baseline"
14481                     ],
14482                     "type": "string"
14483                 },
14484                 "minItems": 2,
14485                 "uniqueItems": true,
14486                 "readOnly": true,
14487                 "type": "array"
14488             }
14489         },
14490         "type": "object",
14491         "required": ["availablelevels", "targetlevel"]
14492     },
14493     "UpdateSchema" : {
14494         "properties": {
14495             "targetlevel": {

```

```

14496         "description": "The target level from the available selectable set",
14497         "type": "number"
14498     },
14499 },
14500     "type": "object",
14501     "required": ["targetlevel"]
14502 }
14503 }
14504 }
14505

```

14506 **6.74.5 Property definition**

14507 Table 151 defines the Properties that are part of the "oic.r.selectablelevels" Resource Type.

14508 **Table 151 – The Property definitions of the Resource with type "rt" =**
14509 **"oic.r.selectablelevels".**

Property name	Value type	Mandatory	Access mode	Description
targetlevel	number	Yes	Read Write	The target level from the available selectable set
if	array: schema see	No	Read Only	The OCF Interface set supported by this Resource.
rt	array: schema see	No	Read Only	The Resource Type.
targetlevel	number	Yes	Read Write	The target level from the available selectable set.
availablelevels	array: schema see	Yes	Read Only	The set of levels to select from.

14510 **6.74.6 CRUDN behaviour**

14511 Table 152 defines the CRUDN operations that are supported on the "oic.r.selectablelevels"
14512 Resource Type.

14513 **Table 152 – The CRUDN operations of the Resource with type "rt" =**
14514 **"oic.r.selectablelevels".**

Create	Read	Update	Delete	Notify
	get	post		observe

14515 **6.75 Value Conditional**

14516 **6.75.1 Introduction**

14517 This Resource specifies conditions that can be applied to an observed value in any Resource.
14518 These conditions are applied by the OCF Server exposing the Resource to any generated
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14519 notifications because of subscriptions to the Resource.
14520 A unicast RETRIEVE to the Resource will receive the most recent value; which may not be the
14521 most recent notified value.
14522 An OCF Server exposes this Resource in association with the Resource conveying the observed
14523 value.
14524 This is done by means of a new Resource instance with an RT of ["oic.r.<thing being observed>",
14525 "oic.r.value.conditional"], e.g ["oic.r.temperature", "oic.r.value.conditional"].
14526 The Property "threshold" is the amount by which the thing being observed must change before a
14527 notification is sent.
14528 The Property "minnotifyperiod" is the minimum time in ms (milliseconds) that must elapse before a
14529 notification is sent.
14530 If the maxnotifyperiod (time in ms (milliseconds)) elapses then a notification must be sent.
14531 The Property "maxnotifyperiod" is a timer that resets each time a notification is sent.
14532 A value of '0' for any of "threshold", "minnotifyperiod" or "maxnotifyperiod" means that the capability
14533 is supported but not active.

14534 **6.75.2 Example URI**

14535 /ValueConditionalResURI

14536 **6.75.3 Resource type**

14537 The Resource Type is defined as: "oic.r.value.conditional".

14538 **6.75.4 OpenAPI 2.0 definition**

```
14539 {  
14540   "swagger": "2.0",  
14541   "info": {  
14542     "title": "Value Conditional",  
14543     "version": "20190215",  
14544     "license": {  
14545       "name": "OCF Data Model License",  
14546       "url":  
14547       "https://github.com/openconnectivityfoundation/core/blob/e28a9e0a92e17042ba3e83661e4c0fbce8bdc4ba/LI  
14548       CENSE.md",  
14549       "x-copyright": "copyright 2016-2017, 2019 Open Connectivity Foundation, Inc. All rights  
14550       reserved."  
14551     },  
14552     "termsOfService": "https://openconnectivityfoundation.github.io/core/DISCLAIMER.md"  
14553   },  
14554   "schemes": ["http"],  
14555   "consumes": ["application/json"],  
14556   "produces": ["application/json"],  
14557   "paths": {  
14558     "/ValueConditionalResURI" : {  
14559       "get": {  
14560         "description": "This Resource specifies conditions that can be applied to an observed value  
14561         in any Resource.\nThese conditions are applied by the OCF Server exposing the Resource to any  
14562         generated notifications because of subscriptions to the Resource.\nA unicast RETRIEVE to the  
14563         Resource will receive the most recent value; which may not be the most recent notified value.\nAn  
14564         OCF Server exposes this Resource in association with the Resource conveying the observed  
14565         value.\nThis is done by means of a new Resource instance with an RT of [\"oic.r.<thing being  
14566         observed>\", \"oic.r.value.conditional\"], e.g [\"oic.r.temperature\",  
14567         \"oic.r.value.conditional\"].\nThe Property \"threshold\" is the amount by which the thing being  
14568         observed must change before a notification is sent.\nThe Property \"minnotifyperiod\" is the minimum  
14569         time in ms (milliseconds) that must elapse before a notification is sent.\nIf the maxnotifyperiod  
14570         (time in ms (milliseconds)) elapses then a notification must be sent.\nThe Property  
14571         \"maxnotifyperiod\" is a timer that resets each time a notification is sent.\nA value of '0' for any  
14572         of \"threshold\", \"minnotifyperiod\" or \"maxnotifyperiod\" means that the capability is supported  
14573         but not active.",  
14574         "parameters": [  
14575           {"$ref": "#/parameters/interface"}  
14576         ],  
14577         "responses": {  
14578           "200": {  
14579             "description": "",  
14580             "x-example":
```

```

14581         {
14582             "rt": ["oic.r.value.conditional"],
14583             "if": ["oic.if.rw", "oic.if.baseline"],
14584             "threshold": 2,
14585             "minnotifyperiod": 2000,
14586             "maxnotifyperiod": 5000
14587         },
14588         "schema": { "$ref": "#/definitions/valueconditional" }
14589     }
14590 },
14591 },
14592 "post": {
14593     "description": "",
14594     "parameters": [
14595         { "$ref": "#/parameters/interface" },
14596         {
14597             "name": "body",
14598             "in": "body",
14599             "required": true,
14600             "schema": { "$ref": "#/definitions/valueconditional" },
14601             "x-example":
14602                 {
14603                     "threshold": 2,
14604                     "minnotifyperiod": 1500
14605                 }
14606         }
14607     ],
14608     "responses": {
14609         "200": {
14610             "description": "",
14611             "x-example":
14612                 {
14613                     "threshold": 2,
14614                     "minnotifyperiod": 1500
14615                 },
14616             "schema": { "$ref": "#/definitions/valueconditional" }
14617         }
14618     }
14619 },
14620 },
14621 },
14622 "parameters": {
14623     "interface": {
14624         "in": "query",
14625         "name": "if",
14626         "type": "string",
14627         "enum": ["oic.if.rw", "oic.if.baseline"]
14628     }
14629 },
14630 "definitions": {
14631     "valueconditional": {
14632         "properties": {
14633             "rt": {
14634                 "description": "The Resource Type.",
14635                 "items": {
14636                     "maxLength": 64,
14637                     "type": "string",
14638                     "enum": ["oic.r.value.conditional"]
14639                 },
14640                 "minItems": 1,
14641                 "uniqueItems": true,
14642                 "readOnly": true,
14643                 "type": "array"
14644             },
14645             "maxnotifyperiod": {
14646                 "description": "The maximum elapsed time in ms before a notification must be sent.",
14647                 "minimum": 0,
14648                 "type": "integer"
14649             },
14650             "minnotifyperiod": {
14651                 "description": "The minimum elapsed time in ms before a notification is sent.",
14652                 "minimum": 0,

```

```

14653         "type": "integer"
14654     },
14655     "threshold": {
14656         "description": "The amount by which the measured value must change before a notification
14657 is sent.",
14658         "minimum": 0,
14659         "type": "number"
14660     },
14661     "n": {
14662         "$ref":
14663 "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
14664 schema.json#/definitions/n"
14665     },
14666     "id": {
14667         "$ref":
14668 "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
14669 schema.json#/definitions/id"
14670     },
14671     "if": {
14672         "description": "The OCF Interface set supported by this Resource.",
14673         "items": {
14674             "enum": [
14675                 "oic.if.rw",
14676                 "oic.if.baseline"
14677             ],
14678             "type": "string"
14679         },
14680         "minItems": 2,
14681         "uniqueItems": true,
14682         "readOnly": true,
14683         "type": "array"
14684     }
14685 },
14686 "anyOf": [
14687     {
14688         "required": ["threshold"]
14689     },
14690     {
14691         "required": ["minnotifyperiod"]
14692     },
14693     {
14694         "required": ["maxnotifyperiod"]
14695     }
14696 ],
14697 "type": "object"
14698 }
14699 }
14700 }
14701

```

14702 **6.75.5 Property definition**

14703 Table 153 defines the Properties that are part of the "oic.r.value.conditional" Resource Type.

14704 **Table 153 – The Property definitions of the Resource with type "rt" =**
14705 **"oic.r.value.conditional".**

Property name	Value type	Mandatory	Access mode	Description
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	
minnotifyperiod	integer	No	Read Write	The minimum elapsed time in ms before a notification is sent.
maxnotifyperiod	integer	Yes	Read Write	The maximum elapsed time in ms before a notification must be sent.
rt	array: see schema	No	Read Only	The Resource Type.
if	array: see schema	No	Read Only	The OCF Interface set supported by this Resource.
id	multiple types: see schema	No	Read Write	

14706 **6.75.6 CRUDN behaviour**

14707 Table 154 defines the CRUDN operations that are supported on the "oic.r.value.conditional"
14708 Resource Type.

14709 **Table 154 – The CRUDN operations of the Resource with type "rt" =**
14710 **"oic.r.value.conditional".**

Create	Read	Update	Delete	Notify
	get	post		observe

14711 **6.76 Colour Space Coordinates**

14712 **6.76.1 Introduction**

14713 This Resource describes the colour using colour space co-ordinates.
14714 The Property "csc" is the colour space coordinates in CIE colour space.
14715 The first item in the array is the X coordinate.
14716 The second item in the array is the Y coordinate.
14717 If the Property "precision" is provided it applies to both the X and Y coordinates.
14718 The Resource provides the colour using colour space coordinates.
14719

14720 **6.76.2 Example URI**

14721 /example/ColourSpaceCoordinatesResURI

14722 **6.76.3 Resource type**

14723 The Resource Type is defined as: "oic.r.colour.csc".

14724 **6.76.4 OpenAPI 2.0 definition**

```
14725 {
14726   "swagger": "2.0",
14727   "info": {
14728     "title": "Colour Space Coordinates",
14729     "version": "20190215",
14730     "license": {
14731       "name": "OCF Data Model License",
14732       "url":
14733         "https://github.com/openconnectivityfoundation/core/blob/e28a9e0a92e17042ba3e83661e4c0fbce8bdc4ba/LI
14734         CENSE.md",
14735       "x-copyright": "copyright 2016-2017, 2019 Open Connectivity Foundation, Inc. All rights
14736         reserved."
14737     },
14738     "termsOfService": "https://openconnectivityfoundation.github.io/core/DISCLAIMER.md"
14739   },
14740   "schemes": ["http"],
14741   "consumes": ["application/json"],
14742   "produces": ["application/json"],
14743   "paths": {
14744     "/example/ColourSpaceCoordinatesResURI" : {
14745       "get": {
14746         "description": "This Resource describes the colour using colour space co-ordinates.\nThe
14747         Property \"csc\" is the colour space coordinates in CIE colour space.\n The first item in the array
14748         is the X coordinate.\n The second item in the array is the Y coordinate.\n If the Property
14749         \"precision\" is provided it applies to both the X and Y coordinates.\nThe Resource provides the
14750         colour using colour space coordinates.\n",
14751         "parameters": [
14752           { "$ref": "#/parameters/interface" }
14753         ],
14754         "responses": {
14755           "200": {
14756             "description": "",
14757             "x-example":
14758               {
14759                 "rt": ["oic.r.colour.csc"],
14760                 "if": ["oic.if.a", "oic.if.baseline"],
14761                 "csc": [0.41, 0.51]
14762               },
14763             "schema": { "$ref": "#/definitions/ColourCSC" }
14764           }
14765         }
14766       },
14767       "post": {
14768         "description": "Sets current colour space coordinates\n",
14769         "parameters": [
14770           { "$ref": "#/parameters/interface" },
14771           {
14772             "name": "body",
14773             "in": "body",
14774             "required": true,
14775             "schema": { "$ref": "#/definitions/ColourCSC" },
14776             "x-example":
14777               {
14778                 "csc": [0.40, 0.70]
14779               }
14780           }
14781         ],
14782         "responses": {
14783           "200": {
14784             "description": "",
14785             "x-example":
14786               {
14787                 "csc": [0.40, 0.70]
14788               },
14789             "schema": { "$ref": "#/definitions/ColourCSC" }
14790           }
14791         }
14792       }
14793     }
14794   }
14795 }
```

```

14791     }
14792   }
14793 }
14794 },
14795 "parameters": {
14796   "interface" : {
14797     "in": "query",
14798     "name": "if",
14799     "type": "string",
14800     "enum": ["oic.if.a", "oic.if.baseline"]
14801   }
14802 },
14803 "definitions": {
14804   "ColourCSC" : {
14805     "properties": {
14806       "rt": {
14807         "description": "The Resource Type.",
14808         "items": {
14809           "enum": ["oic.r.colour.csc"],
14810           "maxLength": 64,
14811           "type": "string"
14812         },
14813         "minItems": 1,
14814         "uniqueItems": true,
14815         "readOnly": true,
14816         "type": "array"
14817       },
14818       "csc": {
14819         "description": "The X and Y coordinates of the colour in CIE colour space.",
14820         "items": {
14821           "maximum": 1,
14822           "minimum": 0,
14823           "type": "number"
14824         },
14825         "maxItems": 2,
14826         "minItems": 2,
14827         "type": "array"
14828       },
14829       "n": {
14830         "$ref":
14831         "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
14832         schema.json#/definitions/n"
14833       },
14834       "id": {
14835         "$ref":
14836         "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
14837         schema.json#/definitions/id"
14838       },
14839       "precision": {
14840         "$ref":
14841         "https://openconnectivityfoundation.github.io/IoTDataModels/schemas/oic.baseresource.properties-
14842         schema.json#/definitions/precision"
14843       },
14844       "if": {
14845         "description": "The OCF Interface set supported by this Resource.",
14846         "items": {
14847           "enum": [
14848             "oic.if.a",
14849             "oic.if.baseline"
14850           ],
14851           "type": "string"
14852         },
14853         "minItems": 2,
14854         "uniqueItems": true,
14855         "readOnly": true,
14856         "type": "array"
14857       }
14858     },
14859     "type": "object",
14860     "required": ["csc"]
14861   }
14862 }

```


14863 }
14864

14865 6.76.5 Property definition

14866 Table 155 defines the Properties that are part of the "oic.r.colour.csc" Resource Type.

14867 **Table 155 – The Property definitions of the Resource with type "rt" = "oic.r.colour.csc".**

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

14868 6.76.6 CRUDN behaviour

14869 Table 156 defines the CRUDN operations that are supported on the "oic.r.colour.csc" Resource
14870 Type.

14871 **Table 156 – The CRUDN operations of the Resource with type "rt" = "oic.r.colour.csc".**

Create	Read	Update	Delete	Notify
	get	post		observe

14872 6.77 Colour Temperature

14873 6.77.1 Introduction

14874 This Resource describes the colour using colour temperature conventions.
14875 The Property "ct" is the Mired colour temperature.
14876 The equivalent value in Kelvin is obtained by $\text{Colour Temp(K)} = 1,000,000/\text{Colour Temp(Mired)}$
14877 The Resource provides the colour using colour temperature conventions.

14878 6.77.2 Example URI

14879 /example/ColourTemperatureResURI

14880 **6.77.3 Resource type**

14881 The Resource Type is defined as: "oic.r.colour.colourtemperature".

14882 **6.77.4 OpenAPI 2.0 definition**

```
14883 {
14884   "swagger": "2.0",
14885   "info": {
14886     "title": "Colour Temperature",
14887     "version": "20190215",
14888     "license": {
14889       "name": "OCF Data Model License",
14890       "url":
14891 "https://github.com/openconnectivityfoundation/core/blob/e28a9e0a92e17042ba3e83661e4c0fbce8bdc4ba/LI
14892 CENSE.md",
14893     "x-copyright": "copyright 2016-2017, 2019 Open Connectivity Foundation, Inc. All rights
14894 reserved."
14895   },
14896   "termsOfService": "https://openconnectivityfoundation.github.io/core/DISCLAIMER.md"
14897 },
14898 "schemes": ["http"],
14899 "consumes": ["application/json"],
14900 "produces": ["application/json"],
14901 "paths": {
14902   "/example/ColourTemperatureResURI" : {
14903     "get": {
14904       "description": "This Resource describes the colour using colour temperature
14905 conventions.\nThe Property \"ct\" is the Mired colour temperature.\nThe equivalent value in Kelvin
14906 is obtained by Colour Temp(K) = 1,000,000/Colour Temp(Mired)\nThe Resource provides the colour using
14907 colour temperature conventions.",
14908       "parameters": [
14909         { "$ref": "#/parameters/interface" }
14910       ],
14911       "responses": {
14912         "200": {
14913           "description": "",
14914           "x-example":
14915             {
14916               "rt": ["oic.r.colour.colourtemperature"],
14917               "if": ["oic.if.a", "oic.if.baseline"],
14918               "ct": 457
14919             },
14920           "schema": { "$ref": "#/definitions/ColourTemp" }
14921         }
14922       }
14923     },
14924     "post": {
14925       "description": "Sets current colour temperature value\n",
14926       "parameters": [
14927         { "$ref": "#/parameters/interface" },
14928         {
14929           "name": "body",
14930           "in": "body",
14931           "required": true,
14932           "schema": { "$ref": "#/definitions/ColourTemp" },
14933           "x-example":
14934             {
14935               "ct": 457
14936             }
14937         }
14938       ],
14939       "responses": {
14940         "200": {
14941           "description": "",
14942           "x-example":
14943             {
14944               "ct": 467
14945             },
14946           "schema": { "$ref": "#/definitions/ColourTemp" }
14947         }
14948       }
14949     }
14950   }
14951 }
```

```

14949     }
14950   }
14951 },
14952 "parameters": {
14953   "interface": {
14954     "in": "query",
14955     "name": "if",
14956     "type": "string",
14957     "enum": ["oic.if.a", "oic.if.baseline"]
14958   }
14959 },
14960 "definitions": {
14961   "ColourTemp": {
14962     "properties": {
14963       "rt": {
14964         {
14965           "description": "The Resource Type.",
14966           "items": {
14967             "maxLength": 64,
14968             "type": "string",
14969             "enum": ["oic.r.colour.colourtemperature"]
14970           },
14971           "minItems": 1,
14972           "uniqueItems": true,
14973           "readOnly": true,
14974           "type": "array"
14975         },
14976         "ct": {
14977           "description": "The Mired colour temperature.",
14978           "minimum": 0,
14979           "type": "integer"
14980         },
14981         "n": {
14982           "$ref":
14983 "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
14984 schema.json#/definitions/n"
14985         },
14986         "id": {
14987           "$ref":
14988 "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
14989 schema.json#/definitions/id"
14990         },
14991         "range": {
14992           "$ref":
14993 "https://openconnectivityfoundation.github.io/IoTDataModels/schemas/oic.baseresource.properties-
14994 schema.json#/definitions/range_integer"
14995         },
14996         "step": {
14997           "$ref":
14998 "https://openconnectivityfoundation.github.io/IoTDataModels/schemas/oic.baseresource.properties-
14999 schema.json#/definitions/step_integer"
15000         },
15001         "if": {
15002           "description": "The OCF Interface set supported by this Resource.",
15003           "items": {
15004             "enum": [
15005               "oic.if.a",
15006               "oic.if.baseline"
15007             ],
15008             "type": "string"
15009           },
15010           "minItems": 2,
15011           "uniqueItems": true,
15012           "readOnly": true,
15013           "type": "array"
15014         }
15015       },
15016       "type": "object",
15017       "required": ["ct"]
15018     }
15019   }

```

15020 }
15021

15022 6.77.5 Property definition

15023 Table 157 defines the Properties that are part of the "oic.r.colour.colourtemperature" Resource
15024 Type.

15025 **Table 157 – The Property definitions of the Resource with type "rt" =**
15026 **"oic.r.colour.colourtemperature".**

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

15027 6.77.6 CRUDN behaviour

15028 Table 158 defines the CRUDN operations that are supported on the
15029 "oic.r.colour.colourtemperature" Resource Type.

15030 **Table 158 – The CRUDN operations of the Resource with type "rt" =**
15031 **"oic.r.colour.colourtemperature".**

Create	Read	Update	Delete	Notify
	get	post		observe

15032 6.78 Colour Hue and Saturation

15033 6.78.1 Introduction

15034 This Resource describes the colour using hue-saturation conventions.
15035 The Property "hue" is the hue angle, it is a number value as defined by the CIECAM02 model
15036 definition (see reference [CIE CIE159:2004]).
15037 A Device that does not support fractional hue angles can provide integer values.

15038 If Property "precision" is provided it applies to the hue angle.
 15039 The Property "saturation" is an integer value as defined by the CIECAM02 model definition (see
 15040 reference [CIE CIE159:2004]).
 15041 The Property "saturation" can be converted to a percentage by saturation/maximumsaturation X
 15042 100; where maximumsaturation is 32767 if the Property itself is not present.
 15043 The Property "maximumsaturation" is the upper bound on the saturation supported by the Device.
 15044 If not present the maximum value for saturation is 32767.
 15045 The Resource provides the colour using hue and saturation conventions.
 15046

15047 6.78.2 Example URI

15048 /example/ColourHueSaturationResURI

15049 6.78.3 Resource type

15050 The Resource Type is defined as: "oic.r.colour.hs".

15051 6.78.4 OpenAPI 2.0 definition

```

15052 {
15053   "swagger": "2.0",
15054   "info": {
15055     "title": "Colour Hue and Saturation",
15056     "version": "20190215",
15057     "license": {
15058       "name": "OCF Data Model License",
15059       "url":
15060         "https://github.com/openconnectivityfoundation/core/blob/e28a9e0a92e17042ba3e83661e4c0fbc8bdc4ba/LI
15061         CENSE.md",
15062       "x-copyright": "copyright 2016-2017, 2019 Open Connectivity Foundation, Inc. All rights
15063         reserved."
15064     },
15065     "termsOfService": "https://openconnectivityfoundation.github.io/core/DISCLAIMER.md"
15066   },
15067   "schemes": ["http"],
15068   "consumes": ["application/json"],
15069   "produces": ["application/json"],
15070   "paths": {
15071     "/example/ColourHueSaturationResURI" : {
15072       "get": {
15073         "description": "This Resource describes the colour using hue-saturation conventions.\nThe
15074         Property \"hue\" is the hue angle, it is a number value as defined by the CIECAM02 model definition
15075         (see reference [CIE CIE159:2004]).\nA Device that does not support fractional hue angles can provide
15076         integer values.\nIf Property \"precision\" is provided it applies to the hue angle.\nThe Property
15077         \"saturation\" is an integer value as defined by the CIECAM02 model definition (see reference [CIE
15078         CIE159:2004]).\n The Property \"saturation\" can be converted to a percentage by
15079         saturation/maximumsaturation X 100; where maximumsaturation is 32767 if the Property itself is not
15080         present.\nThe Property \"maximumsaturation\" is the upper bound on the saturation supported by the
15081         Device.\nIf not present the maximum value for saturation is 32767.\n\nThe Resource provides the colour
15082         using hue and saturation conventions.\n",
15083         "parameters": [
15084           { "$ref": "#/parameters/interface" }
15085         ],
15086         "responses": {
15087           "200": {
15088             "description": "",
15089             "x-example":
15090               {
15091                 "rt": ["oic.r.colour.hs"],
15092                 "if": ["oic.if.a", "oic.if.baseline"],
15093                 "hue": 300.0,
15094                 "saturation": 212,
15095                 "maximumsaturation": 1000
15096               },
15097             "schema": { "$ref": "#/definitions/ColourHS" }
15098           }
15099         }
15100       },
15101       "post": {

```

```

15102     "description": "Sets current colour hue and saturation values.\nAt least one of hue or
15103 saturation shall be provided in the payload.\n",
15104     "parameters": [
15105         { "$ref": "#/parameters/interface" },
15106         {
15107             "name": "body",
15108             "in": "body",
15109             "required": true,
15110             "schema": { "$ref": "#/definitions/ColourHS" },
15111             "x-example":
15112                 {
15113                     "hue": 300.0,
15114                     "saturation": 212
15115                 }
15116         }
15117     ],
15118     "responses": {
15119         "200": {
15120             "description": "",
15121             "x-example":
15122                 {
15123                     "hue": 300.0,
15124                     "saturation": 212
15125                 },
15126             "schema": { "$ref": "#/definitions/ColourHS" }
15127         }
15128     }
15129 }
15130 },
15131 },
15132 "parameters": {
15133     "interface": {
15134         "in": "query",
15135         "name": "if",
15136         "type": "string",
15137         "enum": ["oic.if.a", "oic.if.baseline"]
15138     }
15139 },
15140 "definitions": {
15141     "ColourHS": {
15142         "properties": {
15143             "rt": {
15144                 "description": "The Resource Type.",
15145                 "items": {
15146                     "enum": ["oic.r.colour.hs"],
15147                     "maxLength": 64,
15148                     "type": "string"
15149                 },
15150                 "minItems": 1,
15151                 "uniqueItems": true,
15152                 "readOnly": true,
15153                 "type": "array"
15154             },
15155             "hue": {
15156                 "description": "The hue angle as defined by the CIECAM02 model definition.",
15157                 "maximum": 360.0,
15158                 "minimum": 0.0,
15159                 "type": "number"
15160             },
15161             "saturation": {
15162                 "description": "The saturation as defined by the CIECAM02 model definition.",
15163                 "maximum": 32767,
15164                 "minimum": 0,
15165                 "type": "integer"
15166             },
15167             "maximumsaturation": {
15168                 "description": "The maximum supported value of \"saturation\" for this Device.",
15169                 "maximum": 32767,
15170                 "minimum": 0,
15171                 "readOnly": true,
15172                 "type": "integer"
15173             }

```

```

15174         "n": {
15175             "$ref":
15176             "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
15177             schema.json#/definitions/n"
15178         },
15179         "id": {
15180             "$ref":
15181             "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
15182             schema.json#/definitions/id"
15183         },
15184         "precision": {
15185             "$ref":
15186             "https://openconnectivityfoundation.github.io/IoTDataModels/schemas/oic.baseresource.properties-
15187             schema.json#/definitions/precision"
15188         },
15189         "if": {
15190             "description": "The OCF Interface set supported by this Resource.",
15191             "items": {
15192                 "enum": [
15193                     "oic.if.a",
15194                     "oic.if.baseline"
15195                 ],
15196                 "type": "string"
15197             },
15198             "minItems": 2,
15199             "uniqueItems": true,
15200             "readOnly": true,
15201             "type": "array"
15202         }
15203     },
15204     "type": "object",
15205     "required": ["hue", "saturation"]
15206 }
15207 }
15208 }
15209

```

6.78.5 Property definition

Table 159 defines the Properties that are part of the "oic.r.colour.hs" Resource Type.

Table 159 – The Property definitions of the Resource with type "rt" = "oic.r.colour.hs".

Property name	Value type	Mandatory	Access mode	Description
hue	number	Yes	Read Write	The hue angle as defined by the CIECAM02 model definition.
n	multiple types: see schema	No	Read Write	
saturation	integer	Yes	Read Write	The saturation as defined by the CIECAM02 model definition.
precision	multiple types: see schema	No	Read Write	
rt	array: see schema	No	Read Only	The Resource Type.

maximumsaturation	integer	No	Read Only	The maximum supported value of "saturation" for this Device.
id	multiple types: see schema	No	Read Write	
if	array: see schema	No	Read Only	The OCF Interface set supported by this Resource.

15213 **6.78.6 CRUDN behaviour**

15214 Table 160 defines the CRUDN operations that are supported on the "oic.r.colour.hs" Resource
15215 Type.

15216 **Table 160 – The CRUDN operations of the Resource with type "rt" = "oic.r.colour.hs".**

Create	Read	Update	Delete	Notify
	get	post		observe

15217 **6.79 Battery Material**

15218 **6.79.1 Introduction**

15219 This Resource describes the battery material represented as an enumerated set of strings.

15220 **6.79.2 Example URI**

15221 /BatteryMaterialResURI

15222 **6.79.3 Resource type**

15223 The Resource Type is defined as: "oic.r.batterymaterial".

15224 **6.79.4 OpenAPI 2.0 definition**

```

15225 {
15226   "swagger": "2.0",
15227   "info": {
15228     "title": "Battery Material",
15229     "version": "20190222",
15230     "license": {
15231       "name": "OCF Data Model License",
15232       "url":
15233         "https://github.com/openconnectivityfoundation/core/blob/e28a9e0a92e17042ba3e83661e4c0fbce8bdc4ba/LI
15234         CENSE.md",
15235       "x-copyright": "Copyright 2018-2019 Open Connectivity Foundation, Inc. All rights reserved."
15236     },
15237     "termsOfService": "https://openconnectivityfoundation.github.io/core/DISCLAIMER.md"
15238   },
15239   "schemes": ["http"],
15240   "consumes": ["application/json"],
15241   "produces": ["application/json"],
15242   "paths": {
15243     "/BatteryMaterialResURI" : {
15244       "get": {
15245         "description": "This Resource describes the battery material represented as an enumerated
15246         set of strings.",
15247         "parameters": [

```



```

15248     {"$ref": "#/parameters/interface"}
15249   ],
15250   "responses": {
15251     "200": {
15252       "description": "",
15253       "x-example":
15254         {
15255           "rt": ["oic.r.batterymaterial"],
15256           "if": ["oic.if.s", "oic.if.baseline"],
15257           "material": "Alkaline"
15258         },
15259       "schema": { "$ref": "#/definitions/BatteryMaterial" }
15260     }
15261   }
15262 }
15263 }
15264 },
15265 "parameters": {
15266   "interface": {
15267     "in": "query",
15268     "name": "if",
15269     "type": "string",
15270     "enum": ["oic.if.s", "oic.if.baseline"]
15271   }
15272 },
15273 "definitions": {
15274   "BatteryMaterial": {
15275     "properties": {
15276       "rt": {
15277         "description": "The Resource Type.",
15278         "items": {
15279           "enum": ["oic.r.batterymaterial"],
15280           "maxLength": 64,
15281           "type": "string"
15282         },
15283         "minItems": 1,
15284         "uniqueItems": true,
15285         "readOnly": true,
15286         "type": "array"
15287       },
15288       "material": {
15289         "description": "The battery construction material (type).",
15290         "enum": [
15291           "Alkaline",
15292           "Aluminium Air",
15293           "Aluminium Ion",
15294           "Atomic Betavoltaics",
15295           "Atomic Optoelectric Nuclear",
15296           "Atomic Nuclear",
15297           "Bunsen Cell",
15298           "Chromic Acid Cell",
15299           "Poggendorff Cell",
15300           "Clark Cell",
15301           "Daniell Cell",
15302           "Dry Cell",
15303           "Earth",
15304           "Flow",
15305           "Flow Vanadium Redox",
15306           "Flow Zinc Bromine",
15307           "Flow Zinc Cerium",
15308           "Frog",
15309           "Fuel",
15310           "Galvanic Cell",
15311           "Glass",
15312           "Grove Cell",
15313           "Lead Acid",
15314           "Lead Acid Deep Cycle",
15315           "Lead Acid VRLA",
15316           "Lead Acid AGM",
15317           "Lead Acid Gel",
15318           "Leclanche Cell",
15319           "Lemon Potato",

```

```

15320         "Lithium",
15321         "Lithium Air",
15322         "Lithium Ion",
15323         "Lithium Ion Cobalt Oxide (ICR)",
15324         "Lithium Ion Manganese Oxide (IMR)",
15325         "Lithium Ion Polymer",
15326         "Lithium Iron Phosphate",
15327         "Lithium Sulfur",
15328         "Lithium Titanate",
15329         "Lithium Ion Thin Film",
15330         "Magnesium",
15331         "Magnesium Ion",
15332         "Mercury",
15333         "Molten Salt",
15334         "Nickel Cadmium",
15335         "Nickel Cadmium Vented Cell",
15336         "Nickel Hydrogen",
15337         "Nickel Iron ",
15338         "Nickel Metal Hydride",
15339         "Nickel Metal Hydride Low Self-Discharge",
15340         "Nickel Oxyhydroxide",
15341         "Nickel Oxyride",
15342         "Nickel Zinc",
15343         "Organic Radical",
15344         "Paper",
15345         "Polymer Based",
15346         "Polysulfide Bromide",
15347         "Potassium Ion",
15348         "Pulvermachers Chain",
15349         "Silicon Air",
15350         "Silver Calcium",
15351         "Silver Oxide",
15352         "Silver Zinc",
15353         "Sodium Ion",
15354         "Sodium Sulfur",
15355         "Solid State",
15356         "Sugar",
15357         "Super Iron",
15358         "UltraBattery",
15359         "Voltaic Pile",
15360         "Voltaic Pile Penny",
15361         "Voltaic Pile Trough",
15362         "Water Activated",
15363         "Weston Cell",
15364         "Zinc Air",
15365         "Zinc Carbon",
15366         "Zinc Chloride",
15367         "Zinc Ion",
15368         "Unknown"
15369     ],
15370     "readOnly": true,
15371     "type": "string"
15372 },
15373 "n": {
15374     "$ref":
15375     "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
15376     schema.json#/definitions/n"
15377 },
15378 "id": {
15379     "$ref":
15380     "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
15381     schema.json#/definitions/id"
15382 },
15383 "if": {
15384     "description": "The OCF Interface set supported by this Resource.",
15385     "items": {
15386         "enum": [
15387             "oic.if.s",
15388             "oic.if.baseline"
15389         ],
15390         "type": "string"
15391     },

```

```

15392         "minItems": 2,
15393         "uniqueItems": true,
15394         "readOnly": true,
15395         "type": "array"
15396     },
15397 },
15398 "type": "object",
15399 "required": ["material"]
15400 }
15401 }
15402 }
15403

```

15404 **6.79.5 Property definition**

15405 Table 161 defines the Properties that are part of the "oic.r.batterymaterial" Resource Type.

15406 **Table 161 – The Property definitions of the Resource with type "rt" =**
15407 **"oic.r.batterymaterial".**

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

15408 **6.79.6 CRUDN behaviour**

15409 Table 162 defines the CRUDN operations that are supported on the "oic.r.batterymaterial"
15410 Resource Type.

15411 **Table 162 – The CRUDN operations of the Resource with type "rt" = "oic.r.batterymaterial".**

Create	Read	Update	Delete	Notify
	get			observe

15412 **6.80 Brewing**

15413 **6.80.1 Introduction**

15414 This Resource describes the attributes associated with brewing. This resource is used for
15415 configuration only. The Operation of the Device is handled independently of this Resource. The
15416 amount requested is in ml. The strength of a brewed drink is an integer, the range of which may be
15417 enforced by the presence of a strength Property.

15418 **6.80.2 Example URI**

15419 /BrewingResURI

15420 **6.80.3 Resource type**

15421 The Resource Type is defined as: "oic.r.brewing".

15422 **6.80.4 OpenAPI 2.0 definition**

```
15423 {
15424   "swagger": "2.0",
15425   "info": {
15426     "title": "Brewing",
15427     "version": "20190222",
15428     "license": {
15429       "name": "OCF Data Model License",
15430       "url":
15431 "https://github.com/openconnectivityfoundation/core/blob/e28a9e0a92e17042ba3e83661e4c0fbce8bdc4ba/LI
15432 CENSE.md",
15433       "x-copyright": "Copyright 2018-2019 Open Connectivity Foundation, Inc. All rights reserved."
15434     },
15435     "termsOfService": "https://openconnectivityfoundation.github.io/core/DISCLAIMER.md"
15436   },
15437   "schemes": ["http"],
15438   "consumes": ["application/json"],
15439   "produces": ["application/json"],
15440   "paths": {
15441     "/BrewingResURI" : {
15442       "get": {
15443         "description": "This Resource describes the attributes associated with brewing. This
15444 resource is used for configuration only. The Operation of the Device is handled independently of
15445 this Resource. The amount requested is in ml. The strength of a brewed drink is an integer, the
15446 range of which may be enforced by the presence of a strengthrange Property.",
15447         "parameters": [
15448           {"$ref": "#/parameters/interface"}
15449         ],
15450         "responses": {
15451           "200": {
15452             "description": "",
15453             "x-example":
15454               {
15455                 "rt": ["oic.r.brewing"],
15456                 "if": ["oic.if.rw", "oic.if.baseline"],
15457                 "amountrequested": 120,
15458                 "strength": 8,
15459                 "strengthrange": [1, 10]
15460               },
15461             "schema": { "$ref": "#/definitions/Brewing" }
15462           }
15463         },
15464       },
15465       "post": {
15466         "description": "Sets the brewing values\n",
15467         "parameters": [
15468           {"$ref": "#/parameters/interface"},
15469           {
15470             "name": "body",
15471             "in": "body",
15472             "required": true,
15473             "schema": { "$ref": "#/definitions/Brewing" },
15474             "x-example":
15475               {
15476                 "amountrequested": 120,
15477                 "strength": 8
15478               }
15479           }
15480         ],
15481         "responses": {
15482           "200": {
15483             "description": "",
15484             "x-example":
```

```

15485         {
15486             "amountrequested": 120,
15487             "strength": 8
15488         }
15489     }
15490 }
15491 }
15492 }
15493 },
15494 "parameters": {
15495     "interface": {
15496         "in": "query",
15497         "name": "if",
15498         "type": "string",
15499         "enum": ["oic.if.rw", "oic.if.baseline"]
15500     }
15501 },
15502 "definitions": {
15503     "Brewing": {
15504         "properties": {
15505             "rt": {
15506                 "description": "The Resource Type.",
15507                 "items": {
15508                     "enum": ["oic.r.brewing"],
15509                     "maxLength": 64,
15510                     "type": "string"
15511                 },
15512                 "minItems": 1,
15513                 "uniqueItems": true,
15514                 "readOnly": true,
15515                 "type": "array"
15516             },
15517             "strength": {
15518                 "description": "The strength of a brewed drink.",
15519                 "type": "integer"
15520             },
15521             "amountrequested": {
15522                 "description": "The amount requested in ml.",
15523                 "type": "integer"
15524             },
15525             "strengthrange": {
15526                 "items": {
15527                     "type": "integer"
15528                 },
15529                 "maxItems": 2,
15530                 "minItems": 2,
15531                 "readOnly": true,
15532                 "type": "array"
15533             },
15534             "n": {
15535                 "$ref":
15536 "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
15537 schema.json#/definitions/n"
15538             },
15539             "id": {
15540                 "$ref":
15541 "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
15542 schema.json#/definitions/id"
15543             },
15544             "if": {
15545                 "description": "The OCF Interface set supported by this Resource.",
15546                 "items": {
15547                     "enum": [
15548                         "oic.if.rw",
15549                         "oic.if.baseline"
15550                     ],
15551                     "type": "string"
15552                 },
15553                 "minItems": 2,
15554                 "uniqueItems": true,
15555                 "readOnly": true,
15556                 "type": "array"

```

```

15557     }
15558     },
15559     "type": "object",
15560     "required": ["amountrequested"]
15561   }
15562 }
15563 }
15564

```

6.80.5 Property definition

Table 163 defines the Properties that are part of the "oic.r.brewing" Resource Type.

Table 163 – The Property definitions of the Resource with type "rt" = "oic.r.brewing".

Property name	Value type	Mandatory	Access mode	Description
amountrequested	integer	Yes	Read Write	The amount requested in ml.
strength	integer	No	Read Write	The strength of a brewed drink.
rt	array: see schema	No	Read Only	The Resource Type.
if	array: see schema	No	Read Only	The OCF Interface set supported by this Resource.
id	multiple types: see schema	No	Read Write	
n	multiple types: see schema	No	Read Write	
strengthrange	array: see schema	No	Read Only	

6.80.6 CRUDN behaviour

Table 164 defines the CRUDN operations that are supported on the "oic.r.brewing" Resource Type.

Table 164 – The CRUDN operations of the Resource with type "rt" = "oic.r.brewing".

Create	Read	Update	Delete	Notify
	get	post		observe

6.81 Energy

6.81.1 Introduction

This Resource describes the attributes associated with electrical energy. This Resource can be used for either rated (read-only), desired (read-write) or measured (read-only) energy. The Property

15575 "voltage" is in Volts (V), The Property "current" in Amps (A), and The Property "frequency" is in
15576 Hertz (Hz).

15577 **6.81.2 Example URI**

15578 /EnergyResURI

15579 **6.81.3 Resource type**

15580 The Resource Type is defined as: "oic.r.energy.electrical".

15581 **6.81.4 OpenAPI 2.0 definition**

```
15582 {  
15583   "swagger": "2.0",  
15584   "info": {  
15585     "title": "Energy",  
15586     "version": "20190215",  
15587     "license": {  
15588       "name": "OCF Data Model License",  
15589       "url":  
15590 "https://github.com/openconnectivityfoundation/core/blob/e28a9e0a92e17042ba3e83661e4c0fbce8bdc4ba/LI  
15591 CENSE.md",  
15592       "x-copyright": "copyright 2016-2017, 2019 Open Connectivity Foundation, Inc. All rights  
15593 reserved."  
15594     },  
15595     "termsOfService": "https://openconnectivityfoundation.github.io/core/DISCLAIMER.md"  
15596   },  
15597   "schemes": ["http"],  
15598   "consumes": ["application/json"],  
15599   "produces": ["application/json"],  
15600   "paths": {  
15601     "/EnergyResURI" : {  
15602       "get": {  
15603         "description": "This Resource describes the attributes associated with electrical energy.  
15604 This Resource can be used for either rated (read-only), desired (read-write) or measured (read-only)  
15605 energy. The Property \"voltage\" is in Volts (V), The Property \"current\" in Amps (A), and The  
15606 Property \"frequency\" is in Hertz (Hz).",  
15607         "parameters": [  
15608           { "$ref": "#/parameters/interface" }  
15609         ],  
15610         "responses": {  
15611           "200": {  
15612             "description": "Retrieves the current energy.",  
15613             "x-example":  
15614               {  
15615                 "rt": ["oic.r.energy.electrical"],  
15616                 "if": ["oic.if.rw", "oic.if.baseline"],  
15617                 "voltage": 120.0,  
15618                 "current": 5.0,  
15619                 "frequency": 60.0  
15620               },  
15621             "schema": { "$ref": "#/definitions/Energy" }  
15622           }  
15623         }  
15624       },  
15625       "post": {  
15626         "description": "Sets the desired energy values\n",  
15627         "parameters": [  
15628           { "$ref": "#/parameters/interface" },  
15629           {  
15630             "name": "body",  
15631             "in": "body",  
15632             "required": true,  
15633             "schema": { "$ref": "#/definitions/EnergyUpdate" },  
15634             "x-example":  
15635               {  
15636                 "desiredvoltage": 130.0,  
15637                 "desiredcurrent": 6.0  
15638               }  
15639           }  
15640         ]  
15641       }  
15642     }  
15643   }  
15644 }
```

```

15640     ],
15641     "responses": {
15642         "200": {
15643             "description": "",
15644             "x-example":
15645                 {
15646                     "desiredvoltage": 130.0,
15647                     "desiredcurrent": 6.0
15648                 }
15649         }
15650     }
15651 }
15652 },
15653 },
15654 "parameters": {
15655     "interface": {
15656         "in": "query",
15657         "name": "if",
15658         "type": "string",
15659         "enum": ["oic.if.rw", "oic.if.baseline"]
15660     }
15661 },
15662 "definitions": {
15663     "Energy": {
15664         "properties": {
15665             "rt": {
15666                 "description": "The Resource Type.",
15667                 "items": {
15668                     "enum": ["oic.r.energy.electrical"],
15669                     "maxLength": 64,
15670                     "type": "string"
15671                 },
15672                 "minItems": 1,
15673                 "uniqueItems": true,
15674                 "readOnly": true,
15675                 "type": "array"
15676             },
15677             "desiredcurrent": {
15678                 "description": "The desired electric current in Amps (A).",
15679                 "type": "number"
15680             },
15681             "current": {
15682                 "description": "The electric current in Amps (A).",
15683                 "readOnly": true,
15684                 "type": "number"
15685             },
15686             "frequency": {
15687                 "description": "The electric frequency in Hertz (Hz).",
15688                 "readOnly": true,
15689                 "type": "number"
15690             },
15691             "voltage": {
15692                 "description": "The electric voltage in Volts (V).",
15693                 "readOnly": true,
15694                 "type": "number"
15695             },
15696             "desiredfrequency": {
15697                 "description": "The desired electric frequency in Hertz (Hz).",
15698                 "type": "number"
15699             },
15700             "desiredvoltage": {
15701                 "description": "The desired electric voltage in Volts (V).",
15702                 "type": "number"
15703             },
15704             "n": {
15705                 "$ref":
15706                 "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
15707                 schema.json#/definitions/n"
15708             },
15709             "id": {
15710                 "$ref":
15711                 "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-

```



```

15712 schema.json#/definitions/id"
15713     },
15714     "if": {
15715         "description": "The OCF Interface set supported by this Resource.",
15716         "items": {
15717             "enum": [
15718                 "oic.if.rw",
15719                 "oic.if.baseline"
15720             ],
15721             "type": "string"
15722         },
15723         "minItems": 2,
15724         "uniqueItems": true,
15725         "readOnly": true,
15726         "type": "array"
15727     }
15728 },
15729 "type" : "object",
15730 "required": ["voltage", "current", "frequency"]
15731 }
15732 ,
15733 "EnergyUpdate" : {
15734     "properties": {
15735         "desiredcurrent": {
15736             "description": "The desired electric current in Amps (A).",
15737             "type": "number"
15738         },
15739         "desiredfrequency": {
15740             "description": "The desired electric frequency in Hertz (Hz).",
15741             "type": "number"
15742         },
15743         "desiredvoltage": {
15744             "description": "The desired electric voltage in Volts (V).",
15745             "type": "number"
15746         }
15747     },
15748     "anyOf": [
15749         {
15750             "required": ["desiredvoltage"]
15751         },
15752         {
15753             "required": ["desiredcurrent"]
15754         },
15755         {
15756             "required": ["desiredfrequency"]
15757         }
15758     ],
15759     "type": "object"
15760 }
15761 }
15762 }
15763

```

15764 6.81.5 Property definition

15765 Table 165 defines the Properties that are part of the "oic.r.energy.electrical" Resource Type.

15766 **Table 165 – The Property definitions of the Resource with type "rt" =**
15767 **"oic.r.energy.electrical".**

Property name	Value type	Mandatory	Access mode	Description
desiredcurrent	number	No	Read Write	The desired electric current in Amps (A).

desiredvoltage	number	No	Read Write	The desired electric voltage in Volts (V).
desiredfrequency	number	Yes	Read Write	The desired electric frequency in Hertz (Hz).
desiredcurrent	number	No	Read Write	The desired electric current in Amps (A).
id	multiple types: see schema	No	Read Write	
desiredvoltage	number	No	Read Write	The desired electric voltage in Volts (V).
rt	array: see schema	No	Read Only	The Resource Type.
if	array: see schema	No	Read Only	The OCF Interface set supported by this Resource.
frequency	number	Yes	Read Only	The electric frequency in Hertz (Hz).
current	number	Yes	Read Only	The electric current in Amps (A).
n	multiple types: see schema	No	Read Write	
voltage	number	Yes	Read Only	The electric voltage in Volts (V).
desiredfrequency	number	No	Read Write	The desired electric frequency in Hertz (Hz).

15768 **6.81.6 CRUDN behaviour**
15769 Table 166 defines the CRUDN operations that are supported on the "oic.r.energy.electrical"
15770 Resource Type.

15771
15772

Table 166 – The CRUDN operations of the Resource with type "rt" = "oic.r.energy.electrical".

Create	Read	Update	Delete	Notify
	get	post		observe

15773 **6.82 Energy Generation**

15774 **6.82.1 Introduction**

15775 This Resource describes the attributes associated with energy generation
15776 The Property "energygenerated" is a number that provides the energy generated in Watt-hour(Wh).

15777 **6.82.2 Example URI**

15778 /EnergyGenerationResURI

15779 **6.82.3 Resource type**

15780 The Resource Type is defined as: "oic.r.energy.generation".

15781 **6.82.4 OpenAPI 2.0 definition**

```
15782 {  
15783   "swagger": "2.0",  
15784   "info": {  
15785     "title": "Energy Generation",  
15786     "version": "20190215",  
15787     "license": {  
15788       "name": "OCF Data Model License",  
15789       "url":  
15790 "https://github.com/openconnectivityfoundation/core/blob/e28a9e0a92e17042ba3e83661e4c0fbce8bdc4ba/LI  
15791 CENSE.md",  
15792       "x-copyright": "copyright 2016-2017, 2019 Open Connectivity Foundation, Inc. All rights  
15793 reserved."  
15794     },  
15795     "termsOfService": "https://openconnectivityfoundation.github.io/core/DISCLAIMER.md"  
15796   },  
15797   "schemes": ["http"],  
15798   "consumes": ["application/json"],  
15799   "produces": ["application/json"],  
15800   "paths": {  
15801     "/EnergyGenerationResURI" : {  
15802       "get": {  
15803         "description": "This Resource describes the attributes associated with energy  
15804 generation\nThe Property \"energygenerated\" is a number that provides the energy generated in Watt-  
15805 hour(Wh).",  
15806         "parameters": [  
15807           { "$ref": "#/parameters/interface" }  
15808         ],  
15809         "responses": {  
15810           "200": {  
15811             "description": "",  
15812             "x-example":  
15813               {  
15814                 "rt": ["oic.r.energy.generation"],  
15815                 "if": ["oic.if.s", "oic.if.baseline"],  
15816                 "energygenerated": 3000.00  
15817               },  
15818             "schema": { "$ref": "#/definitions/EnergyGeneration" }  
15819           }  
15820         }  
15821       }  
15822     }  
15823   },  
15824   "parameters": {  
15825     "interface" : {  
15826       "in" : "query",
```

```

15827     "name" : "if",
15828     "type" : "string",
15829     "enum" : ["oic.if.s", "oic.if.baseline"]
15830   }
15831 },
15832 "definitions": {
15833   "EnergyGeneration" : {
15834     "properties": {
15835       "rt": {
15836         "description": "The Resource Type.",
15837         "items": {
15838           "enum": ["oic.r.energy.generation"],
15839           "maxLength": 64,
15840           "type": "string"
15841         },
15842         "minItems": 1,
15843         "uniqueItems": true,
15844         "readOnly": true,
15845         "type": "array"
15846       },
15847       "energygenerated": {
15848         "description": "The energy generated in Watt-hour(Wh).",
15849         "readOnly": true,
15850         "type": "number"
15851       },
15852       "n": {
15853         "$ref":
15854         "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
15855         schema.json#/definitions/n"
15856       },
15857       "id": {
15858         "$ref":
15859         "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
15860         schema.json#/definitions/id"
15861       },
15862       "if": {
15863         "description": "The OCF Interface set supported by this Resource.",
15864         "items": {
15865           "enum": [
15866             "oic.if.s",
15867             "oic.if.baseline"
15868           ],
15869           "type": "string"
15870         },
15871         "minItems": 2,
15872         "uniqueItems": true,
15873         "readOnly": true,
15874         "type": "array"
15875       }
15876     },
15877     "type": "object",
15878     "required": ["energygenerated"]
15879   }
15880 }
15881 }
15882

```

15883 6.82.5 Property definition

15884 Table 167 defines the Properties that are part of the "oic.r.energy.generation" Resource Type.

15885 **Table 167 – The Property definitions of the Resource with type "rt" =**
15886 **"oic.r.energy.generation".**

Property name	Value type	Mandatory	Access mode	Description
---------------	------------	-----------	-------------	-------------

energygenerated	number	Yes	Read Only	The energy generated in Watt-hour(Wh).
if	array: see schema	No	Read Only	The OCF Interface set supported by this Resource.
n	multiple types: see schema	No	Read Write	
rt	array: see schema	No	Read Only	The Resource Type.
id	multiple types: see schema	No	Read Write	

15887 **6.82.6 CRUDN behaviour**

15888 Table 168 defines the CRUDN operations that are supported on the "oic.r.energy.generation"
15889 Resource Type.

15890 **Table 168 – The CRUDN operations of the Resource with type "rt" =**
15891 **"oic.r.energy.generation".**

Create	Read	Update	Delete	Notify
	get			observe

15892 **6.83 Foaming**

15893 **6.83.1 Introduction**

15894 This Resource describes the attributes associated with foaming. The Property "foamstrength" of
15895 the liquid is represented as an integer.
15896 The foam strength is an integer, the range of which may be enforced by the presence of the
15897 Property "range".

15898 **6.83.2 Example URI**

15899 /FoamingResURI

15900 **6.83.3 Resource type**

15901 The Resource Type is defined as: "oic.r.foaming".

15902 **6.83.4 OpenAPI 2.0 definition**

```
15903 {
15904   "swagger": "2.0",
15905   "info": {
15906     "title": "Foaming",
15907     "version": "20190215",
15908     "license": {
15909       "name": "OCF Data Model License",
15910       "url":
15911         "https://github.com/openconnectivityfoundation/core/blob/e28a9e0a92e17042ba3e83661e4c0fbce8bdc4ba/LI
15912         CENSE.md",
15913       "x-copyright": "copyright 2016-2017, 2019 Open Connectivity Foundation, Inc. All rights
```

```

15914 reserved."
15915     },
15916     "termsOfService": "https://openconnectivityfoundation.github.io/core/DISCLAIMER.md"
15917   },
15918   "schemes": ["http"],
15919   "consumes": ["application/json"],
15920   "produces": ["application/json"],
15921   "paths": {
15922     "/FoamingResURI" : {
15923       "get": {
15924         "description": "This Resource describes the attributes associated with foaming. The Property
15925         \"foamstrength\" of the liquid is represented as an integer.\nThe foam strength is an integer, the
15926         range of which may be enforced by the presence of the Property \"range\".",
15927         "parameters": [
15928           {"$ref": "#/parameters/interface"}
15929         ],
15930         "responses": {
15931           "200": {
15932             "description": "RETRIEVES the state of foaming.",
15933             "x-example":
15934               {
15935                 "rt": ["oic.r.foaming"],
15936                 "if": ["oic.if.rw", "oic.if.baseline"],
15937                 "foamstrength": 50,
15938                 "range": [0, 100]
15939               },
15940             "schema": { "$ref": "#/definitions/Foaming" }
15941           }
15942         }
15943       },
15944       "post": {
15945         "description": "Sets foaming value\n",
15946         "parameters": [
15947           {"$ref": "#/parameters/interface"},
15948           {
15949             "name": "body",
15950             "in": "body",
15951             "required": true,
15952             "schema": { "$ref": "#/definitions/Foaming" },
15953             "x-example":
15954               {
15955                 "foamstrength": 50
15956               }
15957           }
15958         ],
15959         "responses": {
15960           "200": {
15961             "description": "",
15962             "x-example":
15963               {
15964                 "foamstrength": 50
15965               },
15966             "schema": { "$ref": "#/definitions/Foaming" }
15967           }
15968         }
15969       }
15970     }
15971   },
15972   "parameters": {
15973     "interface": {
15974       "in": "query",
15975       "name": "if",
15976       "type": "string",
15977       "enum": ["oic.if.rw", "oic.if.baseline"]
15978     }
15979   },
15980   "definitions": {
15981     "Foaming": {
15982       "properties": {
15983         "rt": {
15984           "description": "Resource Type",
15985           "items": {

```

```

15986         "enum": ["oic.r.foaming"],
15987         "maxLength": 64,
15988         "type": "string"
15989     },
15990     "minItems": 1,
15991     "uniqueItems": true,
15992     "readOnly": true,
15993     "type": "array"
15994 },
15995 "foamstrength": {
15996     "description": "The desired foaminess of the liquid.",
15997     "type": "integer"
15998 },
15999 "n": {
16000     "$ref":
16001 "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
16002 schema.json#/definitions/n"
16003 },
16004 "id": {
16005     "$ref":
16006 "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
16007 schema.json#/definitions/id"
16008 },
16009 "range": {
16010     "$ref":
16011 "https://openconnectivityfoundation.github.io/IoTDataModels/schemas/oic.baseresource.properties-
16012 schema.json#/definitions/range_integer"
16013 },
16014 "step": {
16015     "$ref":
16016 "https://openconnectivityfoundation.github.io/IoTDataModels/schemas/oic.baseresource.properties-
16017 schema.json#/definitions/step_integer"
16018 },
16019 "if": {
16020     "description": "The interface set supported by this resource",
16021     "items": {
16022         "enum": [
16023             "oic.if.rw",
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": ["foamstrength"]
16036 }
16037 }
16038 }
16039

```

16040 6.83.5 Property definition

16041 Table 169 defines the Properties that are part of the "oic.r.foaming" Resource Type.

16042 **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.
if	array: see schema	No	Read Only	The interface set supported by this resource
id	multiple types: see schema	No	Read Write	
step	multiple types: see schema	No	Read Write	
range	multiple types: see schema	No	Read Write	
n	multiple types: see schema	No	Read Write	

16043 **6.83.6 CRUDN behaviour**

16044 Table 170 defines the CRUDN operations that are supported on the "oic.r.foaming" Resource Type.

16045 **Table 170 – The CRUDN operations of the Resource with type "rt" = "oic.r.foaming".**

Create	Read	Update	Delete	Notify
	get	post		observe

16046 **6.84 Grinder**

16047 **6.84.1 Introduction**

16048 This Resource describes the attributes associated with a grinder. The Property "coarseness" of the
 16049 grounds is an integer. The higher the value, the less coarse. The Property "remaining" is a
 16050 percentage that represents the unground material left.

16051 **6.84.2 Example URI**

16052 /GrinderResURI

16053 **6.84.3 Resource type**

16054 The Resource Type is defined as: "oic.r.grinder".

16055 **6.84.4 OpenAPI 2.0 definition**

```

16056 {
16057   "swagger": "2.0",
16058   "info": {
16059     "title": "Grinder",
16060     "version": "20190215",
16061     "license": {
16062       "name": "OCF Data Model License",
16063       "url":
16064         "https://github.com/openconnectivityfoundation/core/blob/e28a9e0a92e17042ba3e83661e4c0fbce8bdc4ba/LI
16065         CENSE.md",
16066       "x-copyright": "copyright 2016-2017, 2019 Open Connectivity Foundation, Inc. All rights
16067       reserved."

```



```

16068     },
16069     "termsOfService": "https://openconnectivityfoundation.github.io/core/DISCLAIMER.md"
16070 },
16071 "schemes": ["http"],
16072 "consumes": ["application/json"],
16073 "produces": ["application/json"],
16074 "paths": {
16075     "/GrinderResURI" : {
16076         "get": {
16077             "description": "This Resource describes the attributes associated with a grinder. The
16078 Property \"coarseness\" of the grounds is an integer. The higher the value, the less coarse. The
16079 Property \"remaining\" is a percentage that represents the unground material left.",
16080             "parameters": [
16081                 { "$ref": "#/parameters/interface" }
16082             ],
16083             "responses": {
16084                 "200": {
16085                     "description": "RETRIEVES the state of a grinder.",
16086                     "x-example":
16087                         {
16088                             "rt": ["oic.r.grinder"],
16089                             "if": ["oic.if.rw", "oic.if.baseline"],
16090                             "coarseness": 10,
16091                             "remaining": 50
16092                         },
16093                     "schema": { "$ref": "#/definitions/Grinder" }
16094                 }
16095             }
16096         },
16097         "post": {
16098             "description": "Sets grinding values.",
16099             "parameters": [
16100                 { "$ref": "#/parameters/interface" },
16101                 {
16102                     "name": "body",
16103                     "in": "body",
16104                     "required": true,
16105                     "schema": { "$ref": "#/definitions/GrinderUpdate" },
16106                     "x-example":
16107                         {
16108                             "coarseness": 10
16109                         }
16110                 }
16111             ],
16112             "responses": {
16113                 "200": {
16114                     "description": "",
16115                     "x-example":
16116                         {
16117                             "coarseness": 10
16118                         },
16119                     "schema": { "$ref": "#/definitions/GrinderUpdate" }
16120                 }
16121             }
16122         }
16123     }
16124 },
16125 "parameters": {
16126     "interface": {
16127         "in": "query",
16128         "name": "if",
16129         "type": "string",
16130         "enum": ["oic.if.rw", "oic.if.baseline"]
16131     }
16132 },
16133 "definitions": {
16134     "Grinder" : {
16135         "properties": {
16136             "rt": {
16137                 "description": "Resource Type",
16138                 "items": {
16139                     "enum": ["oic.r.grinder"],

```

```

16140         "maxLength": 64,
16141         "type": "string"
16142     },
16143     "minItems": 1,
16144     "uniqueItems": true,
16145     "readOnly": true,
16146     "type": "array"
16147 },
16148 "coarseness": {
16149     "description": "The desired coarseness when grinding.",
16150     "type": "integer"
16151 },
16152 "remaining": {
16153     "description": "The percentage of unground material left.",
16154     "maximum": 100,
16155     "minimum": 0,
16156     "readOnly": true,
16157     "type": "integer"
16158 },
16159 "n": {
16160     "$ref":
16161 "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
16162 schema.json#/definitions/n"
16163 },
16164 "id": {
16165     "$ref":
16166 "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
16167 schema.json#/definitions/id"
16168 },
16169 "range": {
16170     "$ref":
16171 "https://openconnectivityfoundation.github.io/IoTDataModels/schemas/oic.baseresource.properties-
16172 schema.json#/definitions/range_integer"
16173 },
16174 "step": {
16175     "$ref":
16176 "https://openconnectivityfoundation.github.io/IoTDataModels/schemas/oic.baseresource.properties-
16177 schema.json#/definitions/step_integer"
16178 },
16179 "if": {
16180     "description": "The OCF Interface set supported by this Resource.",
16181     "items": {
16182         "enum": [
16183             "oic.if.rw",
16184             "oic.if.baseline"
16185         ],
16186         "type": "string"
16187     },
16188     "minItems": 2,
16189     "uniqueItems": true,
16190     "readOnly": true,
16191     "type": "array"
16192 }
16193 },
16194 "type": "object",
16195 "required": ["coarseness"]
16196 },
16197 "GrinderUpdate" : {
16198     "properties": {
16199         "coarseness": {
16200             "description": "The desired coarseness when grinding.",
16201             "type": "integer"
16202         }
16203     },
16204     "type": "object",
16205     "required": ["coarseness"]
16206 }
16207 }
16208 }
16209

```

16210 **6.84.5 Property definition**

16211 Table 171 defines the Properties that are part of the "oic.r.grinder" Resource Type.

16212 **Table 171 – The Property definitions of the Resource with type "rt" = "oic.r.grinder".**

Property name	Value type	Mandatory	Access mode	Description
remaining	integer	No	Read Only	The percentage of unground material left.
step	multiple types: see schema	No	Read Write	
range	multiple types: see schema	No	Read Write	
id	multiple types: see schema	No	Read Write	
rt	array: see schema	No	Read Only	Resource Type
coarseness	integer	Yes	Read Write	The desired coarseness when grinding.
if	array: see schema	No	Read Only	The OCF Interface set supported by this Resource.
n	multiple types: see schema	No	Read Write	
coarseness	integer	Yes	Read Write	The desired coarseness when grinding.

16213 **6.84.6 CRUDN behaviour**

16214 Table 172 defines the CRUDN operations that are supported on the "oic.r.grinder" Resource Type.

16215 **Table 172 – The CRUDN operations of the Resource with type "rt" = "oic.r.grinder".**

Create	Read	Update	Delete	Notify
	get	post		observe

16216 **6.85 Liquid Level**

16217 **6.85.1 Introduction**

16218 This Resource describes the attributes associated with liquid level. The Property "currentlevel" and
16219 "desiredlevel" are defined in terms of a percentage. The behaviour of when the currentlevel and
16220 desiredlevel are not equal is determined by the device manufacturer.

16221 **6.85.2 Example URI**

16222 /LiquidLevelResURI

16223 **6.85.3 Resource type**

16224 The Resource Type is defined as: "oic.r.liquid.level".

16225 **6.85.4 OpenAPI 2.0 definition**

```
16226 {  
16227   "swagger": "2.0",  
16228   "info": {  
16229     "title": "Liquid Level",  
16230     "version": "20190215",  
16231     "license": {  
16232       "name": "OCF Data Model License",  
16233       "url":  
16234       "https://github.com/openconnectivityfoundation/core/blob/e28a9e0a92e17042ba3e83661e4c0fbce8bdc4ba/LI  
16235       CENSE.md",  
16236       "x-copyright": "copyright 2016-2017, 2019 Open Connectivity Foundation, Inc. All rights  
16237       reserved."  
16238     },  
16239     "termsOfService": "https://openconnectivityfoundation.github.io/core/DISCLAIMER.md"  
16240   },  
16241   "schemes": ["http"],  
16242   "consumes": ["application/json"],  
16243   "produces": ["application/json"],  
16244   "paths": {  
16245     "/LiquidLevelResURI" : {  
16246       "get": {  
16247         "description": "This Resource describes the attributes associated with liquid level. The  
16248         Property \"currentlevel\" and \"desiredlevel\" are defined in terms of a percentage. The behaviour  
16249         of when the currentlevel and desiredlevel are not equal is determined by the device manufacturer.",  
16250         "parameters": [  
16251           { "$ref": "#/parameters/interface" }  
16252         ],  
16253         "responses": {  
16254           "200": {  
16255             "description": "RETRIEVES the state of liquid level.",  
16256             "x-example":  
16257               {  
16258                 "rt": ["oic.r.liquid.level"],  
16259                 "if": ["oic.if.rw", "oic.if.r", "oic.if.baseline"],  
16260                 "currentlevel": 60,  
16261                 "desiredlevel": 80  
16262               },  
16263             "schema": { "$ref": "#/definitions/LiquidLevel" }  
16264           }  
16265         }  
16266       },  
16267       "post": {  
16268         "description": "Sets liquid level value.",  
16269         "parameters": [  
16270           { "$ref": "#/parameters/interface-rw" },  
16271           {  
16272             "name": "body",  
16273             "in": "body",  
16274             "required": true,  
16275             "schema": { "$ref": "#/definitions/LiquidLevelUpdate" },  
16276             "x-example":  
16277               {  
16278                 "desiredlevel": 80  
16279               }  
16280           }  
16281         ]  
16282       }  
16283     }  
16284   }  
16285 }
```

```

16280     }
16281   ],
16282   "responses": {
16283     "200": {
16284       "description": "",
16285       "x-example":
16286         {
16287           "desiredlevel": 80
16288         },
16289       "schema": { "$ref": "#/definitions/LiquidLevelUpdate" }
16290     }
16291   }
16292 }
16293 },
16294 },
16295 "parameters": {
16296   "interface" : {
16297     "in" : "query",
16298     "name" : "if",
16299     "type" : "string",
16300     "enum" : ["oic.if.rw", "oic.if.r", "oic.if.baseline"]
16301   },
16302   "interface-rw" : {
16303     "in" : "query",
16304     "name" : "if",
16305     "type" : "string",
16306     "enum" : ["oic.if.rw", "oic.if.baseline"]
16307   }
16308 },
16309 "definitions": {
16310   "LiquidLevel" : {
16311     "properties": {
16312       "rt": {
16313         "description": "The Resource Type.",
16314         "items": {
16315           "enum": ["oic.r.liquid.level"],
16316           "maxLength": 64,
16317           "type": "string"
16318         },
16319         "minItems": 1,
16320         "uniqueItems": true,
16321         "readOnly": true,
16322         "type": "array"
16323       },
16324       "currentlevel": {
16325         "description": "The current level of the liquid in percentage.",
16326         "maximum": 100,
16327         "minimum": 0,
16328         "readOnly": true,
16329         "type": "integer"
16330       },
16331       "desiredlevel": {
16332         "description": "The desired level of the liquid in percentage.",
16333         "maximum": 100,
16334         "minimum": 0,
16335         "type": "integer"
16336       },
16337       "n": {
16338         "$ref":
16339           "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
16340           schema.json#/definitions/n"
16341       },
16342       "id": {
16343         "$ref":
16344           "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
16345           schema.json#/definitions/id"
16346       },
16347       "step": {
16348         "$ref":
16349           "https://openconnectivityfoundation.github.io/IoTDataModels/schemas/oic.baseresource.properties-
16350           schema.json#/definitions/step_integer"
16351     },

```

```

16352     "if": {
16353         "description": "The OCF Interface set supported by this Resource.",
16354         "items": {
16355             "enum": [
16356                 "oic.if.rw",
16357                 "oic.if.r",
16358                 "oic.if.baseline"
16359             ],
16360             "type": "string"
16361         },
16362         "minItems": 2,
16363         "uniqueItems": true,
16364         "readOnly": true,
16365         "type": "array"
16366     },
16367 },
16368 "type": "object",
16369 "required": ["currentlevel"]
16370 },
16371 "LiquidLevelUpdate" : {
16372     "properties": {
16373         "desiredlevel": {
16374             "description": "The desired level of the liquid in percentage.",
16375             "maximum": 100,
16376             "minimum": 0,
16377             "type": "integer"
16378         }
16379     },
16380     "type": "object",
16381     "required": ["desiredlevel"]
16382 }
16383 }
16384 }
16385

```

16386 **6.85.5 Property definition**

16387 Table 173 defines the Properties that are part of the "oic.r.liquid.level" Resource Type.

16388 **Table 173 – The Property definitions of the Resource with type "rt" = "oic.r.liquid.level".**

Property name	Value type	Mandatory	Access mode	Description
if	array: see schema	No	Read Only	The OCF Interface set supported by this Resource.
n	multiple types: see schema	No	Read Write	
currentlevel	integer	Yes	Read Only	The current level of the liquid in percentage.
rt	array: see schema	No	Read Only	The Resource Type.
desiredlevel	integer	No	Read Write	The desired level of the liquid in percentage.

id	multiple types: see schema	No	Read Write	
step	multiple types: see schema	No	Read Write	
desiredlevel	integer	Yes	Read Write	The desired level of the liquid in percentage.

16389 **6.85.6 CRUDN behaviour**

16390 Table 174 defines the CRUDN operations that are supported on the "oic.r.liquid.level" Resource
16391 Type.

16392 **Table 174 – The CRUDN operations of the Resource with type "rt" = "oic.r.liquid.level".**

Create	Read	Update	Delete	Notify
	get	post		observe

16393 **6.86 Vehicle Connector**

16394 **6.86.1 Introduction**

16395 This Resource describes the attributes associated with an electric vehicle charging connector. The
16396 Property "connected" is a boolean indicating the status of the connector (False = disconnected,
16397 True = connected). The Property "ratedchargingcapacity" and "rateddischargingcapacity" are in
16398 Amps (A).

16399 **6.86.2 Example URI**

16400 /VehicleConnectorResURI

16401 **6.86.3 Resource type**

16402 The Resource Type is defined as: "oic.r.vehicle.connector".

16403 **6.86.4 OpenAPI 2.0 definition**

```
16404 {
16405   "swagger": "2.0",
16406   "info": {
16407     "title": "Vehicle Connector",
16408     "version": "20190215",
16409     "license": {
16410       "name": "OCF Data Model License",
16411       "url":
16412         "https://github.com/openconnectivityfoundation/core/blob/e28a9e0a92e17042ba3e83661e4c0fbce8bdc4ba/LI
16413         CENSE.md",
16414       "x-copyright": "copyright 2016-2017, 2019 Open Connectivity Foundation, Inc. All rights
16415         reserved."
16416     },
16417     "termsOfService": "https://openconnectivityfoundation.github.io/core/DISCLAIMER.md"
16418   },
16419   "schemes": ["http"],
16420   "consumes": ["application/json"],
16421   "produces": ["application/json"],
16422   "paths": {
16423     "/VehicleConnectorResURI" : {
16424       "get": {
16425         "description": "This Resource describes the attributes associated with an electric vehicle
16426         charging connector. The Property \"connected\" is a boolean indicating the status of the connector
```

```

16427 (False = disconnected, True = connected). The Property \"ratedchargingcapacity\" and
16428 \"rateddischargingcapacity\" are in Amps (A).\",
16429     \"parameters\": [
16430         { \"$ref\": \"#/parameters/interface\" }
16431     ],
16432     \"responses\": {
16433         \"200\": {
16434             \"description\": \"\",
16435             \"x-example\":
16436                 {
16437                     \"rt\": [\"oic.r.vehicle.connector\"],
16438                     \"if\": [\"oic.if.s\", \"oic.if.baseline\"],
16439                     \"connected\": true,
16440                     \"ratedchargingcapacity\": 20.0,
16441                     \"rateddischargingcapacity\": 5.0
16442                 },
16443             \"schema\": { \"$ref\": \"#/definitions/VehicleConnector\" }
16444         }
16445     }
16446 }
16447 }
16448 },
16449 \"parameters\": {
16450     \"interface\": {
16451         \"in\": \"query\",
16452         \"name\": \"if\",
16453         \"type\": \"string\",
16454         \"enum\": [\"oic.if.s\", \"oic.if.baseline\"]
16455     }
16456 },
16457 \"definitions\": {
16458     \"VehicleConnector\" : {
16459         \"properties\": {
16460             \"rt\": {
16461                 \"description\": \"The Resource Type.\",
16462                 \"items\": {
16463                     \"enum\": [\"oic.r.vehicle.connector\"],
16464                     \"maxLength\": 64,
16465                     \"type\": \"string\"
16466                 },
16467                 \"minItems\": 1,
16468                 \"uniqueItems\": true,
16469                 \"readOnly\": true,
16470                 \"type\": \"array\"
16471             },
16472             \"connected\": {
16473                 \"description\": \"The connection state.\",
16474                 \"readOnly\": true,
16475                 \"type\": \"boolean\"
16476             },
16477             \"ratedchargingcapacity\": {
16478                 \"description\": \"The rated charging capacity in Amps (A).\",
16479                 \"readOnly\": true,
16480                 \"type\": \"number\"
16481             },
16482             \"rateddischargingcapacity\": {
16483                 \"description\": \"The rated discharging capacity in Amps (A).\",
16484                 \"readOnly\": true,
16485                 \"type\": \"number\"
16486             },
16487             \"n\": {
16488                 \"$ref\":
16489                 \"https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
16490                 schema.json#/definitions/n\"
16491             },
16492             \"id\": {
16493                 \"$ref\":
16494                 \"https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
16495                 schema.json#/definitions/id\"
16496             },
16497             \"if\": {
16498                 \"description\": \"The OCF Interface set supported by this Resource.\",

```



```

16499     "items": {
16500         "enum": [
16501             "oic.if.s",
16502             "oic.if.baseline"
16503         ],
16504         "type": "string"
16505     },
16506     "minItems": 2,
16507     "uniqueItems": true,
16508     "readOnly": true,
16509     "type": "array"
16510 }
16511 },
16512 "type": "object",
16513 "required": ["connected"]
16514 }
16515 }
16516 }
16517

```

16518 **6.86.5 Property definition**

16519 Table 175 defines the Properties that are part of the "oic.r.vehicle.connector" Resource Type.

16520 **Table 175 – The Property definitions of the Resource with type "rt" =**
16521 **"oic.r.vehicle.connector".**

Property name	Value type	Mandatory	Access mode	Description
id	multiple types: see schema	No	Read Write	
ratedchargingcapacity	number	No	Read Only	The rated charging capacity in Amps (A).
connected	boolean	Yes	Read Only	The connection state.
n	multiple types: see schema	No	Read Write	
rt	array: see schema	No	Read Only	The Resource Type.
rateddischargingcapacity	number	No	Read Only	The rated discharging capacity in Amps (A).
if	array: see schema	No	Read Only	The OCF Interface set supported by this Resource.

16522 **6.86.6 CRUDN behaviour**

16523 Table 176 defines the CRUDN operations that are supported on the "oic.r.vehicle.connector"
16524 Resource Type.

16525
16526

Table 176 – The CRUDN operations of the Resource with type "rt" = "oic.r.vehicle.connector".

Create	Read	Update	Delete	Notify
	get			observe

16527 **6.87 Time Stamp**

16528 **6.87.1 Introduction**

16529 This Resource describes Properties associated with a timestamp.
16530 The "timestamp" Property is a string that captures a timestamp using the RFC3339 datetime format
16531 (e.g: 2007-04-05T14:30Z) (Time+Date+Timezone).

16532 **6.87.2 Example URI**

16533 /TimeStampResURI

16534 **6.87.3 Resource type**

16535 The Resource Type is defined as: "oic.r.time.stamp".

16536 **6.87.4 OpenAPI 2.0 definition**

```
16537 {  
16538   "swagger": "2.0",  
16539   "info": {  
16540     "title": "Time Stamp",  
16541     "version": "20190215",  
16542     "license": {  
16543       "name": "OCF Data Model License",  
16544       "url":  
16545         "https://github.com/openconnectivityfoundation/core/blob/e28a9e0a92e17042ba3e83661e4c0fbce8bdc4ba/LI  
16546         CENSE.md",  
16547       "x-copyright": "copyright 2016-2017, 2019 Open Connectivity Foundation, Inc. All rights  
16548       reserved."  
16549     },  
16550     "termsOfService": "https://openconnectivityfoundation.github.io/core/DISCLAIMER.md"  
16551   },  
16552   "schemes": ["http"],  
16553   "consumes": ["application/json"],  
16554   "produces": ["application/json"],  
16555   "paths": {  
16556     "/TimeStampResURI" : {  
16557       "get": {  
16558         "description": "This Resource describes Properties associated with a timestamp.\n\nThe  
16559         \"timestamp\" Property is a string that captures a timestamp using the RFC3339 datetime format (e.g:  
16560         2007-04-05T14:30Z) (Time+Date+Timezone).",  
16561         "parameters": [  
16562           { "$ref": "#/parameters/interface" }  
16563         ],  
16564         "responses": {  
16565           "200": {  
16566             "description": "",  
16567             "x-example":  
16568               {  
16569                 "rt": ["oic.r.time.stamp"],  
16570                 "if": ["oic.if.s", "oic.if.r", "oic.if.baseline"],  
16571                 "timestamp": "2015-11-05T14:30:00Z"  
16572               },  
16573             "schema": { "$ref": "#/definitions/TimeStamp" }  
16574           }  
16575         }  
16576       }  
16577     }  
16578   },  
16579   "parameters": {
```

```

16580     "interface": {
16581         "in": "query",
16582         "name": "if",
16583         "type": "string",
16584         "enum": ["oic.if.s", "oic.if.r", "oic.if.baseline"]
16585     }
16586 },
16587 "definitions": {
16588     "TimeStamp" : {
16589         "properties": {
16590             "rt": {
16591                 "description": "The Resource Type.",
16592                 "items": {
16593                     "enum": ["oic.r.time.stamp"],
16594                     "maxLength": 64,
16595                     "type": "string"
16596                 },
16597                 "minItems": 1,
16598                 "uniqueItems": true,
16599                 "readOnly": true,
16600                 "type": "array"
16601             },
16602             "timestamp": {
16603                 "description": "An RFC3339 formatted time indicating when the data was observed (e.g.:
16604 2016-02-15T09:19Z, 1996-12-19T16:39:57-08:00).",
16605                 "format": "date-time",
16606                 "readOnly": true,
16607                 "type": "string"
16608             },
16609             "n": {
16610                 "$ref":
16611 "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
16612 schema.json#/definitions/n"
16613             },
16614             "id": {
16615                 "$ref":
16616 "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
16617 schema.json#/definitions/id"
16618             },
16619             "if": {
16620                 "description": "The OCF Interface set supported by this Resource.",
16621                 "items": {
16622                     "enum": [
16623                         "oic.if.s",
16624                         "oic.if.r",
16625                         "oic.if.baseline"
16626                     ],
16627                     "type": "string"
16628                 },
16629                 "minItems": 2,
16630                 "uniqueItems": true,
16631                 "readOnly": true,
16632                 "type": "array"
16633             }
16634         },
16635         "type": "object",
16636         "required": ["timestamp"]
16637     }
16638 }
16639 }
16640

```

16641 **6.87.5 Property definition**

16642 Table 177 defines the Properties that are part of the "oic.r.time.stamp" Resource Type.

16643 **Table 177 – The Property definitions of the Resource with type "rt" = "oic.r.time.stamp".**

Property name	Value type	Mandatory	Access mode	Description
---------------	------------	-----------	-------------	-------------

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

16644 **6.87.6 CRUDN behaviour**

16645 Table 178 defines the CRUDN operations that are supported on the "oic.r.time.stamp" Resource
16646 Type.

16647 **Table 178 – The CRUDN operations of the Resource with type "rt" = "oic.r.time.stamp".**

Create	Read	Update	Delete	Notify
	get			observe

16648 **6.88 3D Printer**

16649 **6.88.1 Introduction**

16650 This Resource describes the attributes associated with 3D Printer. The type of 3D printing
16651 technology is specified by an enumerated string value. The maximum sizes in mm are included for
16652 the x, y, and z dimensions. A designation of whether the device is capable of WAN connectivity is
16653 represented in a boolean. The memory capacity is captured in MB.

16654 **6.88.2 Example URI**

16655 /3DPrinterResURI

16656 **6.88.3 Resource type**

16657 The Resource Type is defined as: "oic.r.printer.3d".

16658 **6.88.4 OpenAPI 2.0 definition**

16659 {
16660 "swagger": "2.0",
16661 "info": {

```

16662     "title": "3D Printer",
16663     "version": "20190222",
16664     "license": {
16665         "name": "OCF Data Model License",
16666         "url":
16667 "https://github.com/openconnectivityfoundation/core/blob/e28a9e0a92e17042ba3e83661e4c0fbce8bdc4ba/LI
16668 CENSE.md",
16669     "x-copyright": "Copyright 2018-2019 Open Connectivity Foundation, Inc. All rights reserved."
16670     },
16671     "termsOfService": "https://openconnectivityfoundation.github.io/core/DISCLAIMER.md"
16672 },
16673 "schemas": ["http"],
16674 "consumes": ["application/json"],
16675 "produces": ["application/json"],
16676 "paths": {
16677     "/3DPrinterResURI" : {
16678         "get": {
16679             "description": "This Resource describes the attributes associated with 3D Printer. The type
16680 of 3D printing technology is specified by an enumerated string value. The maximum sizes in mm are
16681 included for the x, y, and z dimensions. A designation of whether the device is capable of WAN
16682 connectivity is represented in a boolean. The memory capacity is captured in MB.",
16683             "parameters": [
16684                 {"$ref": "#/parameters/interface"}
16685             ],
16686             "responses": {
16687                 "200": {
16688                     "description": "",
16689                     "x-example":
16690                     {
16691                         "rt" : ["oic.r.printer.3d"],
16692                         "if" : ["oic.if.r", "oic.if.baseline"],
16693                         "3dprinttype" : "Digital Light Processing",
16694                         "printsizex" : 300.00,
16695                         "printsizex" : 200.50,
16696                         "printsizex" : 250.75,
16697                         "wanconnected" : false,
16698                         "memorysize" : 120.5
16699                     },
16700                 "schema": { "$ref": "#/definitions/3DPrinter" }
16701             }
16702         }
16703     }
16704 },
16705 },
16706 "parameters": {
16707     "interface" : {
16708         "in": "query",
16709         "name": "if",
16710         "type": "string",
16711         "enum": ["oic.if.r", "oic.if.baseline"]
16712     }
16713 },
16714 "definitions": {
16715     "3DPrinter": {
16716         "properties": {
16717             "rt": {
16718                 "description": "The Resource Type",
16719                 "items": {
16720                     "maxLength": 64,
16721                     "type": "string",
16722                     "enum": ["oic.r.printer.3d"]
16723                 },
16724                 "minItems": 1,
16725                 "uniqueItems": true,
16726                 "readOnly": true,
16727                 "type": "array"
16728             },
16729             "printsizex": {
16730                 "description": "This Property represents the maximum size of printing object in the
16731 direction of Y-axis. The unit is mm.",
16732                 "readOnly": true,
16733                 "type": "number"

```

```

16734     },
16735     "memorysize": {
16736       "description": "This Property represents the total memory size of the printer. The unit is
16737 MB(Mega Bytes)",
16738       "readOnly": true,
16739       "type": "number"
16740     },
16741     "3dprinttype": {
16742       "description": "The type of 3D printing technology.",
16743       "enum": [
16744         "Fused Filament Fabrication",
16745         "Fused Deposition Modeling",
16746         "Digital Light Processing",
16747         "Powder Bed & inkjet head 3D Printing",
16748         "Photopolymer Jetting Technology",
16749         "Laminated Object Manufacturing",
16750         "Stereolithography Apparatus",
16751         "Selective Laser Sintering",
16752         "Unknown"
16753       ],
16754       "readOnly": true,
16755       "type": "string"
16756     },
16757     "wanconnected": {
16758       "description": "This Property indicates the connectivity capability of the 3D printer. If
16759 the value is false, the printer does not have network facility to Wide Area Network such as internet
16760 and GSM. If the value is true, the printer has network connectivity",
16761       "readOnly": true,
16762       "type": "boolean"
16763     },
16764     "printsizex": {
16765       "description": "This Property represents the maximum size of printing object in the
16766 direction of X-axis. The unit is mm.",
16767       "readOnly": true,
16768       "type": "number"
16769     },
16770     "printsizex": {
16771       "description": "This Property represents the maximum size of printing object in the
16772 direction of Z-axis. The unit is mm.",
16773       "readOnly": true,
16774       "type": "number"
16775     },
16776     "n": {
16777       "$ref":
16778 "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
16779 schema.json#/definitions/n"
16780     },
16781     "id": {
16782       "$ref":
16783 "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
16784 schema.json#/definitions/id"
16785     },
16786     "if": {
16787       "description": "The OCF Interface set supported by this Resource.",
16788       "items": {
16789         "enum": [
16790           "oic.if.r",
16791           "oic.if.baseline"
16792         ],
16793         "type": "string"
16794       },
16795       "minItems": 2,
16796       "readOnly": true,
16797       "uniqueItems": true,
16798       "type": "array"
16799     }
16800   },
16801   "type": "object",
16802   "required": ["3dprinttype", "printsizex", "printsizex", "printsizex", "wanconnected",
16803 "memorysize"]
16804 }
16805 }

```

16806 }
16807

16808 6.88.5 Property definition

16809 Table 179 defines the Properties that are part of the "oic.r.printer.3d" Resource Type.

16810 **Table 179 – The Property definitions of the Resource with type "rt" = "oic.r.printer.3d".**

Property name	Value type	Mandatory	Access mode	Description
printsizetz	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	
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 X-axis. The unit is mm.
printsizey	number	Yes	Read Only	This Property represents the maximum size of printing object in the direction of Y-axis. The unit is mm.
3dprinttype	string	Yes	Read Only	The type of 3D printing technology.
memorysize	number	Yes	Read Only	This Property represents the total memory size of the printer. The unit

				is MB(Mega Bytes)
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
if	array: schema see	No	Read Only	The OCF Interface set supported by this Resource.

16811 **6.88.6 CRUDN behaviour**

16812 Table 180 defines the CRUDN operations that are supported on the "oic.r.printer.3d" Resource
16813 Type.

16814 **Table 180 – The CRUDN operations of the Resource with type "rt" = "oic.r.printer.3d".**

Create	Read	Update	Delete	Notify
	get			observe

16815 **6.89 Blood Pressure**

16816 **6.89.1 Introduction**

16817 This Resource describes the Properties associated with a person's blood pressure.
16818 The unit is a single value that is one of mmHg or kPa.
16819 If the unit Property is missing the default is a millimeter of mercury [mmHg].
16820 The bloodpressure and unit Properties are read-only values that are provided by the Server.
16821 When range is omitted the default is 0 to +MAXFLOAT.

16822 **6.89.2 Example URI**

16823 /BloodPressureResURI

16824 **6.89.3 Resource type**

16825 The Resource Type is defined as: "oic.r.blood.pressure".

16826 **6.89.4 OpenAPI 2.0 definition**

16827 {
16828 "swagger": "2.0",
16829 "info": {


```

16830     "title": "Blood Pressure",
16831     "version": "2019-03-22",
16832     "license": {
16833         "name": "OCF Data Model License",
16834         "url":
16835     "https://github.com/openconnectivityfoundation/core/blob/e28a9e0a92e17042ba3e83661e4c0fbce8bdc4ba/LI
16836     CENSE.md",
16837         "x-copyright": "Copyright 2016-2019 Open Connectivity Foundation, Inc. All rights reserved."
16838     },
16839     "termsOfService": "https://openconnectivityfoundation.github.io/core/DISCLAIMER.md"
16840 },
16841     "schemes": [
16842         "http"
16843     ],
16844     "consumes": [
16845         "application/json"
16846     ],
16847     "produces": [
16848         "application/json"
16849     ],
16850     "paths": {
16851         "/BloodPressureResURI": {
16852             "get": {
16853                 "description": "This Resource describes the Properties associated with a person's blood
16854 pressure.\nThe unit is a single value that is one of mmHg or kPa.\nIf the unit Property is missing
16855 the default is a millimeter of mercury [mmHg].\nThe bloodpressure and unit Properties are read-only
16856 values that are provided by the Server.\nWhen range is omitted the default is 0 to +MAXFLOAT.",
16857                 "parameters": [
16858                     {
16859                         "$ref": "#/parameters/interface"
16860                     }
16861                 ],
16862                 "responses": {
16863                     "200": {
16864                         "description": "",
16865                         "x-example": {
16866                             "rt": [
16867                                 "oic.r.blood.pressure"
16868                             ],
16869                             "systolic": 110.0,
16870                             "diastolic": 85.0,
16871                             "map": 93.0,
16872                             "range": [20.0, 300.0],
16873                             "step": 1.0,
16874                             "units": "mmHg"
16875                         },
16876                         "schema": {
16877                             "$ref": "#/definitions/BloodPressure"
16878                         }
16879                     }
16880                 }
16881             }
16882         }
16883     },
16884     "parameters": {
16885         "interface": {
16886             "in": "query",
16887             "name": "if",
16888             "type": "string",
16889             "enum": [
16890                 "oic.if.s",
16891                 "oic.if.baseline"
16892             ]
16893         }
16894     },
16895     "definitions": {
16896         "BloodPressure": {
16897             "properties": {
16898                 "rt": {
16899                     "description": "Resource Type",
16900                     "items": {
16901                         "enum": [

```

```

16902         "oic.r.blood.pressure"
16903     ],
16904     "type": "string",
16905     "maxLength": 64
16906 },
16907 "minItems": 1,
16908 "uniqueItems": true,
16909 "readOnly": true,
16910 "type": "array"
16911 },
16912 "map": {
16913     "description": "Mean arterial pressure (MAP)",
16914     "minimum": 0.0,
16915     "readOnly": true,
16916     "type": "number"
16917 },
16918 "units": {
16919     "description": "Blood pressure unit",
16920     "enum": [
16921         "mmHg",
16922         "kPa"
16923     ],
16924     "readOnly": true,
16925     "type": "string",
16926     "default": "mmHg"
16927 },
16928 "systolic": {
16929     "description": "Systolic blood pressure",
16930     "minimum": 0.0,
16931     "readOnly": true,
16932     "type": "number"
16933 },
16934 "diastolic": {
16935     "description": "Diastolic blood pressure",
16936     "minimum": 0.0,
16937     "readOnly": true,
16938     "type": "number"
16939 },
16940 "if": {
16941     "description": "The OCF Interface set supported by this Resource",
16942     "items": {
16943         "enum": [
16944             "oic.if.s",
16945             "oic.if.baseline"
16946         ],
16947         "type": "string",
16948         "maxLength": 64
16949     },
16950     "minItems": 1,
16951     "readOnly": true,
16952     "uniqueItems": true,
16953     "type": "array"
16954 },
16955 "range": {
16956     "$ref":
16957     "https://openconnectivityfoundation.github.io/IoTDataModels/schemas/oic.baseresource.properties-
16958     schema.json#/definitions/range_number"
16959 },
16960 "step": {
16961     "$ref":
16962     "https://openconnectivityfoundation.github.io/IoTDataModels/schemas/oic.baseresource.properties-
16963     schema.json#/definitions/step_number"
16964 },
16965 "precision": {
16966     "$ref":
16967     "https://openconnectivityfoundation.github.io/IoTDataModels/schemas/oic.baseresource.properties-
16968     schema.json#/definitions/precision"
16969 },
16970 "n": {
16971     "$ref":
16972     "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
16973     schema.json#/definitions/n"

```

```

16974     }
16975     },
16976     "type": "object",
16977     "required": [
16978         "systolic",
16979         "diastolic"
16980     ]
16981     }
16982 }
16983 }
16984

```

16985 **6.89.5 Property definition**

16986 Table 181 defines the Properties that are part of the "oic.r.blood.pressure" Resource Type.

16987 **Table 181 – The Property definitions of the Resource with type "rt" =**
16988 **"oic.r.blood.pressure".**

Property name	Value type	Mandatory	Access mode	Description
precision	multiple types: see schema	No	Read Write	
diastolic	number	Yes	Read Only	Diastolic blood pressure
units	string	No	Read Only	Blood pressure unit
rt	array: see schema	No	Read Only	Resource Type
if	array: see schema	No	Read Only	The OCF Interface set supported by this Resource
n	multiple types: see schema	No	Read Write	
systolic	number	Yes	Read Only	Systolic blood pressure
range	multiple types: see schema	No	Read Write	
step	multiple types: see schema	No	Read Write	
map	number	No	Read Only	Mean arterial pressure (MAP)

16989 **6.89.6 CRUDN behaviour**

16990 Table 182 defines the CRUDN operations that are supported on the "oic.r.blood.pressure"
16991 Resource Type.

16992 **Table 182 – The CRUDN operations of the Resource with type "rt" = "oic.r.blood.pressure".**

Create	Read	Update	Delete	Notify
	get			observe

16993 **6.90 Blood Pressure Monitor Atomic Measurement**

16994 **6.90.1 Introduction**

16995 This Resource describes the Properties associated with a blood pressure monitor.
 16996 The Resource is an Atomic Measurement of blood pressure (oic.r.blood.pressure), pulse rate
 16997 (oic.r.pulserate), observed time (oic.r.time.stamp), and user id (oic.r.userid).

16998 **6.90.2 Example URI**

16999 /BloodPressureMonitorAMResURI

17000 **6.90.3 Resource type**

17001 The Resource Type is defined as: "oic.r.bloodpressuremonitor-am, oic.wk.atomicmeasurement".

17002 **6.90.4 OpenAPI 2.0 definition**

```

17003 {
17004   "swagger": "2.0",
17005   "info": {
17006     "title": "Blood Pressure Monitor Atomic Measurement",
17007     "version": "2019-03-22",
17008     "license": {
17009       "name": "OCF Data Model License",
17010       "url":
17011         "https://github.com/openconnectivityfoundation/core/blob/e28a9e0a92e17042ba3e83661e4c0fbce8bdc4ba/LI
17012         CENSE.md",
17013       "x-copyright": "Copyright 2016-2019 Open Connectivity Foundation, Inc. All rights reserved."
17014     },
17015     "termsOfService": "https://openconnectivityfoundation.github.io/core/DISCLAIMER.md"
17016   },
17017   "schemes": [
17018     "http"
17019   ],
17020   "consumes": [
17021     "application/json"
17022   ],
17023   "produces": [
17024     "application/json"
17025   ],
17026   "paths": {
17027     "/BloodPressureMonitorAMResURI?if=oic.if.b": {
17028       "get": {
17029         "description": "This Resource describes the Properties associated with a blood pressure
17030         monitor.\n\nThe Resource is an Atomic Measurement of blood pressure (oic.r.blood.pressure), pulse
17031         rate (oic.r.pulserate), observed time (oic.r.time.stamp), and user id (oic.r.userid).",
17032         "parameters": [
17033           {
17034             "$ref": "#/parameters/interface-all"
17035           }
17036         ],
17037         "responses": {
17038           "200": {
17039             "description": "",
17040             "x-example": [
17041               {
17042                 "href": "/myBloodPressureResURI",
17043                 "rep": {
17044                   "systolic": 120.0,
17045                   "diastolic": 80.0,
17046                   "map": 93.0,
17047                   "range": [20.0, 300.0],

```

```

17048         "step": 1,
17049         "units": "mmHg"
17050     }
17051 },
17052 {
17053     "href": "/myPulseRateResURI",
17054     "rep": {
17055         "pulserate": 70,
17056         "range": [20, 220],
17057         "step": 1
17058     }
17059 },
17060 {
17061     "href": "/myUserId",
17062     "rep": {
17063         "userid": "USER1"
17064     }
17065 },
17066 {
17067     "href": "/myTimeStamp",
17068     "rep": {
17069         "timestamp": "2018-11-08T21:00+08:00"
17070     }
17071 }
17072 ],
17073 "schema": {
17074     "$ref": "#/definitions/batch-retrieve"
17075 }
17076 }
17077 }
17078 }
17079 },
17080 "/BloodPressureMonitorAMResURI?if=oic.if.ll": {
17081     "get": {
17082         "description": "This Resource describes the Properties associated with a blood pressure
17083 monitor.\n\nThe Resource is an Atomic Measurement of blood pressure (oic.r.blood.pressure), pulse
17084 rate (oic.r.pulserate), observed time (oic.r.time.stamp), and user id (oic.r.userid).",
17085         "parameters": [
17086             {
17087                 "$ref": "#/parameters/interface-all"
17088             }
17089         ],
17090         "responses": {
17091             "200": {
17092                 "description": "",
17093                 "x-example": [
17094                     {
17095                         "href": "/myBloodPressureResURI",
17096                         "rt": [
17097                             "oic.r.blood.pressure"
17098                         ],
17099                         "if": [
17100                             "oic.if.s",
17101                             "oic.if.baseline"
17102                         ]
17103                     },
17104                     {
17105                         "href": "/myPulseRateResURI",
17106                         "rt": [
17107                             "oic.r.pulserate"
17108                         ],
17109                         "if": [
17110                             "oic.if.s",
17111                             "oic.if.baseline"
17112                         ]
17113                     },
17114                     {
17115                         "href": "/myUserId",
17116                         "rt": [
17117                             "oic.r.userid"
17118                         ],
17119                         "if": [

```

```

17120         "oic.if.r",
17121         "oic.if.baseline"
17122     ]
17123 },
17124 {
17125     "href": "/myTimeStamp",
17126     "rt": [
17127         "oic.r.time.stamp"
17128     ],
17129     "if": [
17130         "oic.if.r",
17131         "oic.if.baseline"
17132     ]
17133 }
17134 ],
17135 "schema": {
17136     "$ref": "#/definitions/links"
17137 }
17138 }
17139 }
17140 }
17141 },
17142 "/BloodPressureMonitorAMResURI?if=oic.if.baseline": {
17143     "get": {
17144         "description": "This Resource describes the Properties associated with a blood pressure
17145 monitor.\n\nThe Resource is an Atomic Measurement of blood pressure (oic.r.blood.pressure), pulse
17146 rate (oic.r.pulserate), observed time (oic.r.time.stamp), and user id (oic.r.userid).",
17147         "parameters": [
17148             {
17149                 "$ref": "#/parameters/interface-all"
17150             }
17151         ],
17152         "responses": {
17153             "200": {
17154                 "description": "",
17155                 "x-example": {
17156                     "rt": [
17157                         "oic.r.bloodpressuremonitor-am",
17158                         "oic.wk.atomicmeasurement"
17159                     ],
17160                     "if": [
17161                         "oic.if.b",
17162                         "oic.if.ll",
17163                         "oic.if.baseline"
17164                     ],
17165                     "rts-m": [
17166                         "oic.r.blood.pressure"
17167                     ],
17168                     "rts": [
17169                         "oic.r.blood.pressure",
17170                         "oic.r.pulserate",
17171                         "oic.r.userid",
17172                         "oic.r.time.stamp"
17173                     ],
17174                     "links": [
17175                         {
17176                             "href": "/myBloodPressureResURI",
17177                             "rt": [
17178                                 "oic.r.blood.pressure"
17179                             ],
17180                             "if": [
17181                                 "oic.if.s",
17182                                 "oic.if.baseline"
17183                             ]
17184                         },
17185                         {
17186                             "href": "/myPulseRateResURI",
17187                             "rt": [
17188                                 "oic.r.pulserate"
17189                             ],
17190                             "if": [
17191                                 "oic.if.s",

```

```

17192         "oic.if.baseline"
17193     ]
17194 },
17195 {
17196     "href": "/myUserId",
17197     "rt": [
17198         "oic.r.userid"
17199     ],
17200     "if": [
17201         "oic.if.r",
17202         "oic.if.baseline"
17203     ]
17204 },
17205 {
17206     "href": "/myTimeStamp",
17207     "rt": [
17208         "oic.r.time.stamp"
17209     ],
17210     "if": [
17211         "oic.if.r",
17212         "oic.if.baseline"
17213     ]
17214 }
17215 ]
17216 },
17217 "schema": {
17218     "$ref": "#/definitions/baseline"
17219 }
17220 }
17221 }
17222 }
17223 }
17224 },
17225 "parameters": {
17226     "interface-all": {
17227         "in": "query",
17228         "name": "if",
17229         "type": "string",
17230         "enum": [
17231             "oic.if.b",
17232             "oic.if.ll",
17233             "oic.if.baseline"
17234         ]
17235     }
17236 },
17237 "definitions": {
17238     "batch-retrieve": {
17239         "minItems": 1,
17240         "items": {
17241             "properties": {
17242                 "href": {
17243                     "$ref":
17244 "https://openconnectivityfoundation.github.io/core/schemas/oic.links.properties.core-
17245 schema.json#/definitions/href"
17246                 },
17247                 "rep": {
17248                     "type": "object",
17249                     "anyOf": [
17250                         {
17251                             "$ref":
17252 "https://openconnectivityfoundation.github.io/IoTDataModels/BloodPressureResURI.swagger.json#/defini-
17253 tions/BloodPressure"
17254                         },
17255                         {
17256                             "$ref":
17257 "https://openconnectivityfoundation.github.io/IoTDataModels/PulseRateResURI.swagger.json#/definition-
17258 s/PulseRate"
17259                         }
17260                     ]
17261                 },
17262                 "$ref":
17263 "https://openconnectivityfoundation.github.io/IoTDataModels/UserIDResURI.swagger.json#/definitions/U-
17264 serID"

```

```

17264         },
17265         {
17266             "$ref":
17267             "https://openconnectivityfoundation.github.io/IoTDataModels/TimeStampResURI.swagger.json#/definitions/TimeStamp"
17268         }
17269     ]
17270 }
17271 },
17272 "required": [
17273     "href",
17274     "rep"
17275 ],
17276 "type": "object"
17277 },
17278 "type": "array"
17279 },
17280 "links": {
17281     "type": "array",
17282     "items": {
17283         "$ref": "#/definitions/oic.oic-link"
17284     }
17285 },
17286 "baseline": {
17287     "properties": {
17288         "rt": {
17289             "items": {
17290                 "enum": [
17291                     "oic.r.bloodpressuremonitor-am",
17292                     "oic.wk.atomicmeasurement"
17293                 ],
17294                 "type": "string",
17295                 "maxLength": 64
17296             },
17297             "minItems": 2,
17298             "uniqueItems": true,
17299             "readOnly": true,
17300             "type": "array"
17301         },
17302         "rts": {
17303             "description": "This contains all possible Resource Types for this Atomic Measurement.",
17304             "items": {
17305                 "enum": [
17306                     "oic.r.blood.pressure",
17307                     "oic.r.pulserate",
17308                     "oic.r.userid",
17309                     "oic.r.time.stamp"
17310                 ],
17311                 "type": "string",
17312                 "maxLength": 64
17313             },
17314             "minItems": 1,
17315             "uniqueItems": true,
17316             "readOnly": true,
17317             "type": "array"
17318         },
17319         "rts-m": {
17320             "description": "This contains all mandatory Resource Types for this Atomic Measurement.",
17321             "items": {
17322                 "enum": [
17323                     "oic.r.blood.pressure"
17324                 ],
17325                 "type": "string",
17326                 "maxLength": 64
17327             },
17328             "maxItems": 1,
17329             "minItems": 1,
17330             "uniqueItems": true,
17331             "readOnly": true,
17332             "type": "array"
17333         },
17334         "if": {
17335

```



```

17336         "description": "The OCF Interface set supported by this Resource",
17337         "items": {
17338             "enum": [
17339                 "oic.if.b",
17340                 "oic.if.ll",
17341                 "oic.if.baseline"
17342             ],
17343             "type": "string"
17344         },
17345         "minItems": 3,
17346         "uniqueItems": true,
17347         "readOnly": true,
17348         "type": "array"
17349     },
17350     "n": {
17351         "$ref":
17352         "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
17353         schema.json#/definitions/n"
17354     },
17355     "id": {
17356         "$ref":
17357         "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
17358         schema.json#/definitions/id"
17359     },
17360     "links": {
17361         "$ref": "#/definitions/links"
17362     }
17363 },
17364 "type": "object",
17365 "required": [
17366     "rt", "if", "rts", "rts-m", "links"
17367 ]
17368 },
17369 "oic.oic-link": {
17370     "properties": {
17371         "if": {
17372             "type": "array",
17373             "readOnly": true,
17374             "uniqueItems": true,
17375             "minItems": 1,
17376             "items": {
17377                 "type": "string",
17378                 "maxLength": 64,
17379                 "enum": [
17380                     "oic.if.s",
17381                     "oic.if.r",
17382                     "oic.if.baseline"
17383                 ]
17384             }
17385         },
17386         "rt": {
17387             "type": "array",
17388             "readOnly": true,
17389             "uniqueItems": true,
17390             "minItems": 1,
17391             "items": {
17392                 "type": "string",
17393                 "maxLength": 64,
17394                 "enum": [
17395                     "oic.r.blood.pressure",
17396                     "oic.r.pulserate",
17397                     "oic.r.userid",
17398                     "oic.r.time.stamp"
17399                 ]
17400             }
17401         },
17402         "anchor": {
17403             "$ref":
17404             "https://openconnectivityfoundation.github.io/core/schemas/oic.links.properties.core-
17405             schema.json#/definitions/anchor"
17406         },
17407         "di": {

```

```

17408         "$ref":
17409         "https://openconnectivityfoundation.github.io/core/schemas/oic.links.properties.core-
17410         schema.json#/definitions/di"
17411     },
17412     "eps": {
17413         "$ref":
17414         "https://openconnectivityfoundation.github.io/core/schemas/oic.links.properties.core-
17415         schema.json#/definitions/eps"
17416     },
17417     "href": {
17418         "$ref":
17419         "https://openconnectivityfoundation.github.io/core/schemas/oic.links.properties.core-
17420         schema.json#/definitions/href"
17421     },
17422     "ins": {
17423         "$ref":
17424         "https://openconnectivityfoundation.github.io/core/schemas/oic.links.properties.core-
17425         schema.json#/definitions/ins"
17426     },
17427     "p": {
17428         "$ref":
17429         "https://openconnectivityfoundation.github.io/core/schemas/oic.links.properties.core-
17430         schema.json#/definitions/p"
17431     },
17432     "rel": {
17433         "$ref":
17434         "https://openconnectivityfoundation.github.io/core/schemas/oic.links.properties.core-
17435         schema.json#/definitions/rel_array"
17436     },
17437     "title": {
17438         "$ref":
17439         "https://openconnectivityfoundation.github.io/core/schemas/oic.links.properties.core-
17440         schema.json#/definitions/title"
17441     },
17442     "type": {
17443         "$ref":
17444         "https://openconnectivityfoundation.github.io/core/schemas/oic.links.properties.core-
17445         schema.json#/definitions/type"
17446     }
17447 },
17448 "required": [
17449     "href",
17450     "rt",
17451     "if"
17452 ],
17453 "type": "object"
17454 }
17455 }
17456 }
17457

```

17458 6.90.5 Property definition

17459 Table 183 defines the Properties that are part of the "oic.r.bloodpressuremonitor-am,
17460 oic.wk.atomicmeasurement" Resource Type.

17461 **Table 183 – The Property definitions of the Resource with type "rt" =**
17462 **"oic.r.bloodpressuremonitor-am, oic.wk.atomicmeasurement".**

Property name	Value type	Mandatory	Access mode	Description
rep	object: see schema	Yes	Read Write	
href	multiple types: see schema	Yes	Read Write	

rts	array: see schema	Yes	Read Only	This contains all possible Resource Types for this Atomic Measurement.
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 Interface set supported by this Resource
rts-m	array: see schema	Yes	Read Only	This contains all mandatory Resource Types for this Atomic Measurement.
rt	array: see schema	Yes	Read Only	
links	multiple types: see schema	Yes	Read Write	
rel	multiple types: see schema	No	Read Write	
ins	multiple types: see schema	No	Read Write	
href	multiple types: see schema	Yes	Read Write	
eps	multiple types: see schema	No	Read Write	
title	multiple types: see schema	No	Read Write	
if	array: see schema	Yes	Read Only	
p	multiple types: see schema	No	Read Write	

anchor	multiple types: see schema	No	Read Write	
rt	array: see schema	Yes	Read Only	
di	multiple types: see schema	No	Read Write	
type	multiple types: see schema	No	Read Write	

17463 **6.90.6 CRUDN behaviour**

17464 Table 184 defines the CRUDN operations that are supported on the "oic.r.bloodpressuremonitor-
17465 am, oic.wk.atomicmeasurement" Resource Type.

17466 **Table 184 – The CRUDN operations of the Resource with type "rt" =**
17467 **"oic.r.bloodpressuremonitor-am, oic.wk.atomicmeasurement".**

Create	Read	Update	Delete	Notify
	get			observe

17468 **6.91 Body Mass Index(BMI)**

17469 **6.91.1 Introduction**

17470 This Resource describes the Properties associated with a person's Body Mass Index (BMI).
17471 The unit, which is the default unit, is kg/m².
17472 The bmi and unit Properties are read-only values that are provided by the server.
17473 When range is omitted the default is 0 to +MAXFLOAT.

17474 **6.91.2 Example URI**

17475 /BMIResURI

17476 **6.91.3 Resource type**

17477 The Resource Type is defined as: "oic.r.bmi".

17478 **6.91.4 OpenAPI 2.0 definition**

```
17479 {
17480   "swagger": "2.0",
17481   "info": {
17482     "title": "Body Mass Index(BMI)",
17483     "version": "2019-03-22",
17484     "license": {
17485       "name": "OCF Data Model License",
17486       "url":
17487         "https://github.com/openconnectivityfoundation/core/blob/e28a9e0a92e17042ba3e83661e4c0fbce8bdc4ba/LI
17488         CENSE.md",
17489       "x-copyright": "Copyright 2016-2019 Open Connectivity Foundation, Inc. All rights reserved."
17490     },
17491     "termsOfService": "https://openconnectivityfoundation.github.io/core/DISCLAIMER.md"
17492   },
17493   "schemes": [
17494     "http"
17495   ],
17496   "consumes": [
17497     "application/json"
```

```

17498 ],
17499 "produces": [
17500 "application/json"
17501 ],
17502 "paths": {
17503 "/BMIResURI": {
17504 "get": {
17505 "description": "This Resource describes the Properties associated with a person's Body Mass
17506 Index (BMI).\n\nThe unit, which is the default unit, is kg/m^2.\n\nThe bmi and unit Properties are read-
17507 only values that are provided by the server.\n\nWhen range is omitted the default is 0 to +MAXFLOAT.",
17508 "parameters": [
17509 {
17510 "$ref": "#/parameters/interface"
17511 }
17512 ],
17513 "responses": {
17514 "200": {
17515 "description": "",
17516 "x-example": {
17517 "rt": [
17518 "oic.r.bmi"
17519 ],
17520 "bmi": 20.0
17521 },
17522 "schema": {
17523 "$ref": "#/definitions/BMI"
17524 }
17525 }
17526 }
17527 }
17528 },
17529 "parameters": {
17530 "interface": {
17531 "in": "query",
17532 "name": "if",
17533 "type": "string",
17534 "enum": [
17535 "oic.if.s",
17536 "oic.if.baseline"
17537 ]
17538 }
17539 },
17540 "definitions": {
17541 "BMI": {
17542 "properties": {
17543 "rt": {
17544 "description": "Resource Type",
17545 "items": {
17546 "enum": [
17547 "oic.r.bmi"
17548 ],
17549 "type": "string",
17550 "maxLength": 64
17551 },
17552 "minItems": 1,
17553 "uniqueItems": true,
17554 "readOnly": true,
17555 "type": "array"
17556 },
17557 "bmi": {
17558 "description": "Body Mass Index (BMI) in kg/m^2",
17559 "minimum": 0.0,
17560 "readOnly": true,
17561 "type": "number"
17562 },
17563 "range": {
17564 "$ref":
17565 "https://openconnectivityfoundation.github.io/IoTDataModels/schemas/oic.baseresource.properties-
17566 schema.json#/definitions/range_number"
17567 },
17568 "step": {

```

```

17570         "$ref":
17571         "https://openconnectivityfoundation.github.io/IoTDataModels/schemas/oic.baseresource.properties-
17572         schema.json#/definitions/step_number"
17573     },
17574     "precision": {
17575         "$ref":
17576         "https://openconnectivityfoundation.github.io/IoTDataModels/schemas/oic.baseresource.properties-
17577         schema.json#/definitions/precision"
17578     },
17579     "n": {
17580         "$ref":
17581         "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
17582         schema.json#/definitions/n"
17583     },
17584     "id": {
17585         "$ref":
17586         "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
17587         schema.json#/definitions/id"
17588     },
17589     "if": {
17590         "description": "The OCF Interface set supported by this Resource",
17591         "items": {
17592             "enum": [
17593                 "oic.if.s",
17594                 "oic.if.baseline"
17595             ],
17596             "type": "string",
17597             "maxLength": 64
17598         },
17599         "minItems": 1,
17600         "readOnly": true,
17601         "uniqueItems": true,
17602         "type": "array"
17603     }
17604 },
17605 "type": "object",
17606 "required": [
17607     "bmi"
17608 ]
17609 }
17610 }
17611 }
17612

```

17613 6.91.5 Property definition

17614 Table 185 defines the Properties that are part of the "oic.r.bmi" Resource Type.

17615 **Table 185 – The Property definitions of the Resource with type "rt" = "oic.r.bmi".**

Property name	Value type	Mandatory	Access mode	Description
precision	multiple types: see schema	No	Read Write	
rt	array: see schema	No	Read Only	Resource Type
step	multiple types: see schema	No	Read Write	
range	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
bmi	number	Yes	Read Only	Body Mass Index (BMI) in kg/m ²

17616 **6.91.6 CRUDN behaviour**

17617 Table 186 defines the CRUDN operations that are supported on the "oic.r.bmi" Resource Type.

17618 **Table 186 – The CRUDN operations of the Resource with type "rt" = "oic.r.bmi".**

Create	Read	Update	Delete	Notify
	get			observe

17619 **6.92 Body Fat**

17620 **6.92.1 Introduction**

17621 This Resource describes the Properties associated with a person's body fat.
 17622 The unit is a single value that is one of kg, lb or percent.
 17623 If the unit Property is missing the default is kilograms [kg].
 17624 The bodyfat and unit Properties are read-only values that are provided by the Server.
 17625 When range is omitted the default is 0 to +MAXFLOAT.

17626 **6.92.2 Example URI**

17627 /BodyFatResURI

17628 **6.92.3 Resource type**

17629 The Resource Type is defined as: "oic.r.body.fat".

17630 **6.92.4 OpenAPI 2.0 definition**

```

17631 {
17632   "swagger": "2.0",
17633   "info": {
17634     "title": "Body Fat",
17635     "version": "2019-03-22",
17636     "license": {
17637       "name": "OCF Data Model License",
17638       "url":
17639 "https://github.com/openconnectivityfoundation/core/blob/e28a9e0a92e17042ba3e83661e4c0fbce8bdc4ba/LI
17640 CENSE.md",
17641       "x-copyright": "Copyright 2016-2019 Open Connectivity Foundation, Inc. All rights reserved."
17642     },
17643     "termsOfService": "https://openconnectivityfoundation.github.io/core/DISCLAIMER.md"
17644   },
17645   "schemes": [
17646     "http"
17647   ],
17648   "consumes": [

```

```

17649     "application/json"
17650   ],
17651   "produces": [
17652     "application/json"
17653   ],
17654   "paths": {
17655     "/BodyFatResURI": {
17656       "get": {
17657         "description": "This Resource describes the Properties associated with a person's body
17658 fat.\n\nThe unit is a single value that is one of kg, lb or percent.\n\nIf the unit Property is missing
17659 the default is kilograms [kg].\n\nThe bodyfat and unit Properties are read-only values that are
17660 provided by the Server.\n\nWhen range is omitted the default is 0 to +MAXFLOAT.",
17661         "parameters": [
17662           {
17663             "$ref": "#/parameters/interface"
17664           }
17665         ],
17666         "responses": {
17667           "200": {
17668             "description": "",
17669             "x-example": {
17670               "rt": [
17671                 "oic.r.body.fat"
17672               ],
17673               "bodyfat": 20.0,
17674               "units": "kg"
17675             },
17676             "schema": {
17677               "$ref": "#/definitions/BodyFat"
17678             }
17679           }
17680         }
17681       }
17682     }
17683   },
17684   "parameters": {
17685     "interface": {
17686       "in": "query",
17687       "name": "if",
17688       "type": "string",
17689       "enum": [
17690         "oic.if.s",
17691         "oic.if.baseline"
17692       ]
17693     }
17694   },
17695   "definitions": {
17696     "BodyFat": {
17697       "properties": {
17698         "rt": {
17699           "description": "Resource Type",
17700           "items": {
17701             "enum": [
17702               "oic.r.body.fat"
17703             ],
17704             "type": "string",
17705             "maxLength": 64
17706           },
17707           "minItems": 1,
17708           "uniqueItems": true,
17709           "readOnly": true,
17710           "type": "array"
17711         },
17712         "bodyfat": {
17713           "description": "Body fat.",
17714           "minimum": 0.0,
17715           "readOnly": true,
17716           "type": "number"
17717         },
17718         "units": {
17719           "description": "Body fat units",
17720           "enum": [

```



```

17721         "kg",
17722         "lb",
17723         "percent"
17724     ],
17725     "readOnly": true,
17726     "type": "string",
17727     "default": "kg"
17728 },
17729 "range": {
17730     "$ref":
17731 "https://openconnectivityfoundation.github.io/IoTDataModels/schemas/oic.baseresource.properties-
17732 schema.json#/definitions/range_number"
17733 },
17734 "step": {
17735     "$ref":
17736 "https://openconnectivityfoundation.github.io/IoTDataModels/schemas/oic.baseresource.properties-
17737 schema.json#/definitions/step_number"
17738 },
17739 "precision": {
17740     "$ref":
17741 "https://openconnectivityfoundation.github.io/IoTDataModels/schemas/oic.baseresource.properties-
17742 schema.json#/definitions/precision"
17743 },
17744 "n": {
17745     "$ref":
17746 "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
17747 schema.json#/definitions/n"
17748 },
17749 "id": {
17750     "$ref":
17751 "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
17752 schema.json#/definitions/id"
17753 },
17754 "if": {
17755     "description": "The OCF Interface set supported by this Resource",
17756     "items": {
17757         "enum": [
17758             "oic.if.s",
17759             "oic.if.baseline"
17760         ],
17761         "type": "string",
17762         "maxLength": 64
17763     },
17764     "minItems": 1,
17765     "readOnly": true,
17766     "type": "array"
17767 }
17768 },
17769 "type": "object",
17770 "required": [
17771     "bodyfat"
17772 ]
17773 }
17774 }
17775 }
17776

```

17777 6.92.5 Property definition

17778 Table 187 defines the Properties that are part of the "oic.r.body.fat" Resource Type.

17779 **Table 187 – The Property definitions of the Resource with type "rt" = "oic.r.body.fat".**

Property name	Value type	Mandatory	Access mode	Description
n	multiple types: see schema	No	Read Write	

if	array: see schema	No	Read Only	The OCF Interface set supported by this Resource
step	multiple types: see schema	No	Read Write	
units	string	No	Read Only	Body fat units
range	multiple types: see schema	No	Read Write	
bodyfat	number	Yes	Read Only	Body fat.
precision	multiple types: see schema	No	Read Write	
id	multiple types: see schema	No	Read Write	
rt	array: see schema	No	Read Only	Resource Type

17780 **6.92.6 CRUDN behaviour**

17781 Table 188 defines the CRUDN operations that are supported on the "oic.r.body.fat" Resource Type.

17782 **Table 188 – The CRUDN operations of the Resource with type "rt" = "oic.r.body.fat".**

Create	Read	Update	Delete	Notify
	get			observe

17783 **6.93 Body Fat Free Mass**

17784 **6.93.1 Introduction**

17785 This Resource describes the Properties associated with a person's body fat free mass.
 17786 The unit is a single value that is one of kg, lb or percent.
 17787 If the unit Property is missing the default is kilograms [kg].
 17788 The ffm and unit Properties are read-only values that are provided by the Server.
 17789 When range is omitted the default is 0 to +MAXFLOAT.

17790 **6.93.2 Example URI**

17791 /BodyFatFreeMassResURI

17792 **6.93.3 Resource type**

17793 The Resource Type is defined as: "oic.r.body.ffm".

17794 **6.93.4 OpenAPI 2.0 definition**

17795 {
 17796 "swagger": "2.0",
 17797 "info": {

```

17798     "title": "Body Fat Free Mass",
17799     "version": "2019-03-22",
17800     "license": {
17801       "name": "OCF Data Model License",
17802       "url":
17803         "https://github.com/openconnectivityfoundation/core/blob/e28a9e0a92e17042ba3e83661e4c0fbce8bdc4ba/LI
17804         CENSE.md",
17805       "x-copyright": "Copyright 2016-2019 Open Connectivity Foundation, Inc. All rights reserved."
17806     },
17807     "termsOfService": "https://openconnectivityfoundation.github.io/core/DISCLAIMER.md"
17808   },
17809   "schemes": [
17810     "http"
17811   ],
17812   "consumes": [
17813     "application/json"
17814   ],
17815   "produces": [
17816     "application/json"
17817   ],
17818   "paths": {
17819     "/BodyFatFreeMassResURI": {
17820       "get": {
17821         "description": "This Resource describes the Properties associated with a person's body fat
17822         free mass.\n\nThe unit is a single value that is one of kg, lb or percent.\n\nIf the unit Property is
17823         missing the default is kilograms [kg].\n\nThe ffm and unit Properties are read-only values that are
17824         provided by the Server.\n\nWhen range is omitted the default is 0 to +MAXFLOAT.",
17825         "parameters": [
17826           {
17827             "$ref": "#/parameters/interface"
17828           }
17829         ],
17830         "responses": {
17831           "200": {
17832             "description": "",
17833             "x-example": {
17834               "rt": [
17835                 "oic.r.body.ffm"
17836               ],
17837               "ffm": 40.0,
17838               "units": "kg"
17839             },
17840             "schema": {
17841               "$ref": "#/definitions/BodyFatFreeMass"
17842             }
17843           }
17844         }
17845       }
17846     }
17847   },
17848   "parameters": {
17849     "interface": {
17850       "in": "query",
17851       "name": "if",
17852       "type": "string",
17853       "enum": [
17854         "oic.if.s",
17855         "oic.if.baseline"
17856       ]
17857     }
17858   },
17859   "definitions": {
17860     "BodyFatFreeMass": {
17861       "properties": {
17862         "rt": {
17863           "description": "Resource Type",
17864           "items": {
17865             "enum": [
17866               "oic.r.body.ffm"
17867             ],
17868             "type": "string",
17869             "maxLength": 64

```

```

17870     },
17871     "minItems": 1,
17872     "uniqueItems": true,
17873     "readOnly": true,
17874     "type": "array"
17875   },
17876   "ffm": {
17877     "description": "Body fat free mass.",
17878     "minimum": 0.0,
17879     "readOnly": true,
17880     "type": "number"
17881   },
17882   "units": {
17883     "description": "Body fat free mass units",
17884     "enum": [
17885       "kg",
17886       "lb",
17887       "percent"
17888     ],
17889     "readOnly": true,
17890     "type": "string",
17891     "default": "kg"
17892   },
17893   "range": {
17894     "$ref":
17895     "https://openconnectivityfoundation.github.io/IoTDataModels/schemas/oic.baseresource.properties-
17896     schema.json#/definitions/range_number"
17897   },
17898   "step": {
17899     "$ref":
17900     "https://openconnectivityfoundation.github.io/IoTDataModels/schemas/oic.baseresource.properties-
17901     schema.json#/definitions/step_number"
17902   },
17903   "precision": {
17904     "$ref":
17905     "https://openconnectivityfoundation.github.io/IoTDataModels/schemas/oic.baseresource.properties-
17906     schema.json#/definitions/precision"
17907   },
17908   "n": {
17909     "$ref":
17910     "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
17911     schema.json#/definitions/n"
17912   },
17913   "id": {
17914     "$ref":
17915     "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
17916     schema.json#/definitions/id"
17917   },
17918   "if": {
17919     "description": "The OCF Interface set supported by this Resource",
17920     "items": {
17921       "enum": [
17922         "oic.if.s",
17923         "oic.if.baseline"
17924       ],
17925       "type": "string",
17926       "maxLength": 64
17927     },
17928     "minItems": 1,
17929     "readOnly": true,
17930     "uniqueItems": true,
17931     "type": "array"
17932   }
17933 },
17934 "type": "object",
17935 "required": [
17936   "ffm"
17937 ]
17938 }
17939 }
17940 }
17941

```

17942 **6.93.5 Property definition**

17943 Table 189 defines the Properties that are part of the "oic.r.body.ffm" Resource Type.

17944 **Table 189 – The Property definitions of the Resource with type "rt" = "oic.r.body.ffm".**

Property name	Value type	Mandatory	Access mode	Description
step	multiple types: see schema	No	Read Write	
n	multiple types: see schema	No	Read Write	
units	string	No	Read Only	Body fat free mass units
id	multiple types: see schema	No	Read Write	
rt	array: see schema	No	Read Only	Resource Type
if	array: see schema	No	Read Only	The OCF Interface set supported by this Resource
range	multiple types: see schema	No	Read Write	
ffm	number	Yes	Read Only	Body fat free mass.
precision	multiple types: see schema	No	Read Write	

17945 **6.93.6 CRUDN behaviour**

17946 Table 190 defines the CRUDN operations that are supported on the "oic.r.body.ffm" Resource Type.

17947 **Table 190 – The CRUDN operations of the Resource with type "rt" = "oic.r.body.ffm".**

Create	Read	Update	Delete	Notify
	get			observe

17948 **6.94 Body Location Temperature**

17949 **6.94.1 Introduction**

17950 This Resource describes the Properties associated with body location for temperature
17951 measurement of a person.

17952 The bloc Property is a read-only value that is provided by the Server.

17953 **6.94.2 Example URI**

17954 /BodyLocationTemperatureResURI

17955 **6.94.3 Resource type**

17956 The Resource Type is defined as: "oic.r.body.location.temperature".

17957 **6.94.4 OpenAPI 2.0 definition**

```
17958 {
17959   "swagger": "2.0",
17960   "info": {
17961     "title": "Body Location Temperature",
17962     "version": "2019-03-22",
17963     "license": {
17964       "name": "OCF Data Model License",
17965       "url":
17966         "https://github.com/openconnectivityfoundation/core/blob/e28a9e0a92e17042ba3e83661e4c0fbce8bdc4ba/LI
17967         CENSE.md",
17968       "x-copyright": "Copyright 2016-2019 Open Connectivity Foundation, Inc. All rights reserved."
17969     },
17970     "termsOfService": "https://openconnectivityfoundation.github.io/core/DISCLAIMER.md"
17971   },
17972   "schemes": [
17973     "http"
17974   ],
17975   "consumes": [
17976     "application/json"
17977   ],
17978   "produces": [
17979     "application/json"
17980   ],
17981   "paths": {
17982     "/BodyLocationTemperatureResURI": {
17983       "get": {
17984         "description": "This Resource describes the Properties associated with body location for
17985         temperature measurement of a person.\n\nThe bloc Property is a read-only value that is provided by the
17986         Server.",
17987         "parameters": [
17988           {
17989             "$ref": "#/parameters/interface"
17990           }
17991         ],
17992         "responses": {
17993           "200": {
17994             "description": "",
17995             "x-example": {
17996               "rt": [
17997                 "oic.r.body.location.temperature"
17998               ],
17999               "bloc": "ear"
18000             },
18001             "schema": {
18002               "$ref": "#/definitions/BodyLocationTemperature"
18003             }
18004           }
18005         }
18006       }
18007     }
18008   },
18009   "parameters": {
18010     "interface": {
18011       "in": "query",
18012       "name": "if",
18013       "type": "string",
18014       "enum": [
18015         "oic.if.s",
18016         "oic.if.baseline"
18017       ]
18018     }
18019   },

```

```

18020 "definitions": {
18021   "BodyLocationTemperature": {
18022     "properties": {
18023       "rt": {
18024         "description": "Resource Type",
18025         "items": {
18026           "enum": [
18027             "oic.r.body.location.temperature"
18028           ],
18029           "type": "string",
18030           "maxLength": 64
18031         },
18032         "minItems": 1,
18033         "uniqueItems": true,
18034         "readOnly": true,
18035         "type": "array"
18036       },
18037       "bloc": {
18038         "description": "A list specific to temperature site",
18039         "enum": [
18040           "axillary",
18041           "body",
18042           "ear",
18043           "finger",
18044           "gitract",
18045           "mouth",
18046           "rectum",
18047           "toe",
18048           "tympanum"
18049         ],
18050         "readOnly": true,
18051         "type": "string"
18052       },
18053       "n": {
18054         "$ref":
18055         "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
18056         schema.json#/definitions/n"
18057       },
18058       "id": {
18059         "$ref":
18060         "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
18061         schema.json#/definitions/id"
18062       },
18063       "if": {
18064         "description": "The OCF Interface set supported by this Resource",
18065         "items": {
18066           "enum": [
18067             "oic.if.s",
18068             "oic.if.baseline"
18069           ],
18070           "type": "string",
18071           "maxLength": 64
18072         },
18073         "minItems": 1,
18074         "readOnly": true,
18075         "uniqueItems": true,
18076         "type": "array"
18077       }
18078     },
18079     "type": "object",
18080     "required": [
18081       "bloc"
18082     ]
18083   }
18084 }
18085 }
18086

```

18087 6.94.5 Property definition

18088 Table 191 defines the Properties that are part of the "oic.r.body.location.temperature" Resource
18089 Type.

18090
18091

Table 191 – The Property definitions of the Resource with type "rt" = "oic.r.body.location.temperature".

Property name	Value type	Mandatory	Access mode	Description
if	array: see schema	No	Read Only	The OCF Interface set supported by this Resource
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	

18092 **6.94.6 CRUDN behaviour**

18093 Table 192 defines the CRUDN operations that are supported on the
18094 "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

18097 **6.95 Body Scale Atomic Measurement**

18098 **6.95.1 Introduction**

18099 This Resource describes the Properties associated with body scale.
18100 The Resource is an Atomic Measurement of weight (oic.r.weight), body mass index (BMI)
18101 (oic.r.bmi), height (oic.r.height), body fat (oic.r.body.fat), body water (oic.r.body.water), body soft
18102 lean mass (oic.r.body.slm), body fat free mass (oic.r.body.ffm), observed time (oic.r.time.stamp),
18103 and user id (oic.r.userid).

18104 **6.95.2 Example URI**

18105 /BodyScaleAMResURI

18106 **6.95.3 Resource type**

18107 The Resource Type is defined as: "oic.r.bodyscale-am, oic.wk.atomicmeasurement".

18108 **6.95.4 OpenAPI 2.0 definition**

```
18109 {
18110   "swagger": "2.0",
18111   "info": {
18112     "title": "Body Scale Atomic Measurement",
```



```

18113     "version": "2019-03-22",
18114     "license": {
18115         "name": "OCF Data Model License",
18116         "url":
18117 "https://github.com/openconnectivityfoundation/core/blob/e28a9e0a92e17042ba3e83661e4c0fbce8bdc4ba/LI
18118 CENSE.md",
18119         "x-copyright": "Copyright 2016-2019 Open Connectivity Foundation, Inc. All rights reserved."
18120     },
18121     "termsOfService": "https://openconnectivityfoundation.github.io/core/DISCLAIMER.md"
18122 },
18123     "schemes": [
18124         "http"
18125     ],
18126     "consumes": [
18127         "application/json"
18128     ],
18129     "produces": [
18130         "application/json"
18131     ],
18132     "paths": {
18133         "/BodyScaleAMResURI?if=oic.if.b": {
18134             "get": {
18135                 "description": "This Resource describes the Properties associated with body scale.\nThe
18136 Resource is an Atomic Measurement of weight (oic.r.weight), body mass index (BMI) (oic.r.bmi),
18137 height (oic.r.height), body fat (oic.r.body.fat), body water (oic.r.body.water), body soft lean mass
18138 (oic.r.body.slm), body fat free mass (oic.r.body.ffm), observed time (oic.r.time.stamp), and user id
18139 (oic.r.userid).",
18140                 "parameters": [
18141                     {
18142                         "$ref": "#/parameters/interface-all"
18143                     }
18144                 ],
18145                 "responses": {
18146                     "200": {
18147                         "description": "",
18148                         "x-example": [
18149                             {
18150                                 "href": "/myWeight",
18151                                 "rep": {
18152                                     "weight": 80.0,
18153                                     "units": "kg"
18154                                 }
18155                             },
18156                             {
18157                                 "href": "/myBMI",
18158                                 "rep": {
18159                                     "bmi": 20.0
18160                                 }
18161                             },
18162                             {
18163                                 "href": "/myHeight",
18164                                 "rep": {
18165                                     "height": 1.8,
18166                                     "units": "m"
18167                                 }
18168                             },
18169                             {
18170                                 "href": "/myBodyFat",
18171                                 "rep": {
18172                                     "bodyfat": 20.0,
18173                                     "units": "kg"
18174                                 }
18175                             },
18176                             {
18177                                 "href": "/myBodyWater",
18178                                 "rep": {
18179                                     "bwater": 20.0,
18180                                     "units": "kg"
18181                                 }
18182                             },
18183                             {
18184                                 "href": "/myBodySoftLeanMass",

```

```

18185         "rep": {
18186             "slm": 20.0,
18187             "units": "kg"
18188         }
18189     },
18190     {
18191         "href": "/myBodyFatFreeMass",
18192         "rep": {
18193             "ffm": 40.0,
18194             "units": "kg"
18195         }
18196     },
18197     {
18198         "href": "/myUserId",
18199         "rep": {
18200             "userid": "USER1"
18201         }
18202     },
18203     {
18204         "href": "/myTimeStamp",
18205         "rep": {
18206             "timestamp": "2018-11-09T12:15+08:00"
18207         }
18208     }
18209 ],
18210 "schema": {
18211     "$ref": "#/definitions/batch-retrieve"
18212 }
18213 }
18214 }
18215 }
18216 },
18217 "/BodyScaleAMResURI?if=oic.if.ll": {
18218     "get": {
18219         "description": "This Resource describes the Properties associated with body scale.\nThe
18220 Resource is an Atomic Measurement of weight (oic.r.weight), body mass index (BMI) (oic.r.bmi),
18221 height (oic.r.height), body fat (oic.r.body.fat), body water (oic.r.body.water), body soft lean mass
18222 (oic.r.body.slm), body fat free mass (oic.r.body.ffm), observed time (oic.r.time.stamp), and user id
18223 (oic.r.userid).",
18224         "parameters": [
18225             {
18226                 "$ref": "#/parameters/interface-all"
18227             }
18228         ],
18229         "responses": {
18230             "200": {
18231                 "description": "",
18232                 "x-example": [
18233                     {
18234                         "href": "/myWeight",
18235                         "rt": [
18236                             "oic.r.weight"
18237                         ],
18238                         "if": [
18239                             "oic.if.s",
18240                             "oic.if.baseline"
18241                         ]
18242                     },
18243                     {
18244                         "href": "/myBMI",
18245                         "rt": [
18246                             "oic.r.bmi"
18247                         ],
18248                         "if": [
18249                             "oic.if.s",
18250                             "oic.if.baseline"
18251                         ]
18252                     }
18253                 ],
18254                 {
18255                     "href": "/myHeight",
18256                     "rt": [

```

```

18257     ],
18258     "if": [
18259         "oic.if.s",
18260         "oic.if.baseline"
18261     ]
18262 },
18263 {
18264     "href": "/myBodyFat",
18265     "rt": [
18266         "oic.r.body.fat"
18267     ],
18268     "if": [
18269         "oic.if.s",
18270         "oic.if.baseline"
18271     ]
18272 },
18273 {
18274     "href": "/myBodyWater",
18275     "rt": [
18276         "oic.r.body.water"
18277     ],
18278     "if": [
18279         "oic.if.s",
18280         "oic.if.baseline"
18281     ]
18282 },
18283 {
18284     "href": "/myBodySoftLeanMass",
18285     "rt": [
18286         "oic.r.body.slm"
18287     ],
18288     "if": [
18289         "oic.if.s",
18290         "oic.if.baseline"
18291     ]
18292 },
18293 {
18294     "href": "/myBodyFatFreeMass",
18295     "rt": [
18296         "oic.r.body.ffm"
18297     ],
18298     "if": [
18299         "oic.if.s",
18300         "oic.if.baseline"
18301     ]
18302 },
18303 {
18304     "href": "/myUserId",
18305     "rt": [
18306         "oic.r.userid"
18307     ],
18308     "if": [
18309         "oic.if.r",
18310         "oic.if.baseline"
18311     ]
18312 },
18313 {
18314     "href": "/myTimeStamp",
18315     "rt": [
18316         "oic.r.time.stamp"
18317     ],
18318     "if": [
18319         "oic.if.r",
18320         "oic.if.baseline"
18321     ]
18322 }
18323 ],
18324 "schema": {
18325     "$ref": "#/definitions/links"
18326 }
18327 }
18328 }

```

```

18329     }
18330   },
18331   "/BodyScaleAMResURI?if=oic.if.baseline": {
18332     "get": {
18333       "description": "This Resource describes the Properties associated with body scale.\nThe
18334 Resource is an Atomic Measurement of weight (oic.r.weight), body mass index (BMI) (oic.r.bmi),
18335 height (oic.r.height), body fat (oic.r.body.fat), body water (oic.r.body.water), body soft lean mass
18336 (oic.r.body.slm), body fat free mass (oic.r.body.ffm), observed time (oic.r.time.stamp), and user id
18337 (oic.r.userid).",
18338       "parameters": [
18339         {
18340           "$ref": "#/parameters/interface-all"
18341         }
18342       ],
18343       "responses": {
18344         "200": {
18345           "description": "",
18346           "x-example": {
18347             "rt": [
18348               "oic.r.bodyscale-am",
18349               "oic.wk.atomicmeasurement"
18350             ],
18351             "if": [
18352               "oic.if.b",
18353               "oic.if.ll",
18354               "oic.if.baseline"
18355             ],
18356             "rts": [
18357               "oic.r.weight",
18358               "oic.r.bmi",
18359               "oic.r.height",
18360               "oic.r.body.fat",
18361               "oic.r.body.water",
18362               "oic.r.body.slm",
18363               "oic.r.body.ffm",
18364               "oic.r.userid",
18365               "oic.r.time.stamp"
18366             ],
18367             "rts-m": [
18368               "oic.r.weight"
18369             ],
18370             "links": [
18371               {
18372                 "href": "/myWeight",
18373                 "rt": [
18374                   "oic.r.weight"
18375                 ],
18376                 "if": [
18377                   "oic.if.s",
18378                   "oic.if.baseline"
18379                 ]
18380               },
18381               {
18382                 "href": "/myBMI",
18383                 "rt": [
18384                   "oic.r.bmi"
18385                 ],
18386                 "if": [
18387                   "oic.if.s",
18388                   "oic.if.baseline"
18389                 ]
18390               },
18391               {
18392                 "href": "/myHeight",
18393                 "rt": [
18394                   "oic.r.height"
18395                 ],
18396                 "if": [
18397                   "oic.if.s",
18398                   "oic.if.baseline"
18399                 ]
18400               }
18401             ]
18402           }
18403         }
18404       }
18405     }
18406   }

```

```

18401     {
18402         "href": "/myBodyFat",
18403         "rt": [
18404             "oic.r.body.fat"
18405         ],
18406         "if": [
18407             "oic.if.s",
18408             "oic.if.baseline"
18409         ]
18410     },
18411     {
18412         "href": "/myBodyWater",
18413         "rt": [
18414             "oic.r.body.water"
18415         ],
18416         "if": [
18417             "oic.if.s",
18418             "oic.if.baseline"
18419         ]
18420     },
18421     {
18422         "href": "/myBodySoftLeanMass",
18423         "rt": [
18424             "oic.r.body.slm"
18425         ],
18426         "if": [
18427             "oic.if.s",
18428             "oic.if.baseline"
18429         ]
18430     },
18431     {
18432         "href": "/myBodyFatFreeMass",
18433         "rt": [
18434             "oic.r.body.ffm"
18435         ],
18436         "if": [
18437             "oic.if.s",
18438             "oic.if.baseline"
18439         ]
18440     },
18441     {
18442         "href": "/myUserId",
18443         "rt": [
18444             "oic.r.userid"
18445         ],
18446         "if": [
18447             "oic.if.r",
18448             "oic.if.baseline"
18449         ]
18450     },
18451     {
18452         "href": "/myTimeStamp",
18453         "rt": [
18454             "oic.r.time.stamp"
18455         ],
18456         "if": [
18457             "oic.if.r",
18458             "oic.if.baseline"
18459         ]
18460     }
18461 ],
18462 },
18463 "schema": {
18464     "$ref": "#/definitions/baseline"
18465 }
18466 }
18467 }
18468 }
18469 },
18470 },
18471 "parameters": {
18472     "interface-all": {

```

```

18473     "in": "query",
18474     "name": "if",
18475     "type": "string",
18476     "enum": [
18477         "oic.if.b",
18478         "oic.if.ll",
18479         "oic.if.baseline"
18480     ]
18481 }
18482 },
18483 "definitions": {
18484     "links": {
18485         "type": "array",
18486         "items": {
18487             "$ref": "#/definitions/oic.oic-link"
18488         }
18489     },
18490     "baseline": {
18491         "properties": {
18492             "rt": {
18493                 "items": {
18494                     "enum": [
18495                         "oic.r.bodyscale-am",
18496                         "oic.wk.atomicmeasurement"
18497                     ],
18498                     "type": "string",
18499                     "maxLength": 64
18500                 },
18501                 "minItems": 2,
18502                 "uniqueItems": true,
18503                 "readOnly": true,
18504                 "type": "array"
18505             },
18506             "rts": {
18507                 "description": "This contains all possible Resource Types for this Atomic Measurement.",
18508                 "items": {
18509                     "enum": [
18510                         "oic.r.weight",
18511                         "oic.r.bmi",
18512                         "oic.r.height",
18513                         "oic.r.body.fat",
18514                         "oic.r.body.water",
18515                         "oic.r.body.slm",
18516                         "oic.r.body.ffm",
18517                         "oic.r.time.stamp",
18518                         "oic.r.userid"
18519                     ],
18520                     "type": "string",
18521                     "maxLength": 64
18522                 },
18523                 "minItems": 1,
18524                 "uniqueItems": true,
18525                 "readOnly": true,
18526                 "type": "array"
18527             },
18528             "rts-m": {
18529                 "description": "This contains all mandatory Resource Types for this Atomic Measurement.",
18530                 "items": {
18531                     "enum": [
18532                         "oic.r.weight"
18533                     ],
18534                     "type": "string",
18535                     "maxLength": 64
18536                 },
18537                 "maxItems": 1,
18538                 "minItems": 1,
18539                 "uniqueItems": true,
18540                 "readOnly": true,
18541                 "type": "array"
18542             },
18543             "if": {
18544                 "description": "The OCF Interface set supported by this Resource",

```

```

18545         "items": {
18546             "enum": [
18547                 "oic.if.b",
18548                 "oic.if.ll",
18549                 "oic.if.baseline"
18550             ],
18551             "type": "string",
18552             "maxLength": 64
18553         },
18554         "minItems": 3,
18555         "uniqueItems": true,
18556         "readOnly": true,
18557         "type": "array"
18558     },
18559     "n": {
18560         "$ref":
18561         "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
18562         schema.json#/definitions/n"
18563     },
18564     "id": {
18565         "$ref":
18566         "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
18567         schema.json#/definitions/id"
18568     },
18569     "links": {
18570         "$ref": "#/definitions/links"
18571     }
18572 },
18573 "type": "object",
18574 "required": [
18575     "rt", "if", "links", "rts", "rts-m"
18576 ]
18577 },
18578 "batch-retrieve": {
18579     "minItems": 1,
18580     "items": {
18581         "properties": {
18582             "href": {
18583                 "$ref":
18584                 "https://openconnectivityfoundation.github.io/core/schemas/oic.links.properties.core-
18585                 schema.json#/definitions/href"
18586             },
18587             "rep": {
18588                 "type": "object",
18589                 "anyOf": [
18590                     {
18591                         "$ref":
18592                         "https://openconnectivityfoundation.github.io/IoTDataModels/WeightResURI.swagger.json#/definitions/W
18593                         eight"
18594                     },
18595                     {
18596                         "$ref":
18597                         "https://openconnectivityfoundation.github.io/IoTDataModels/BMIResURI.swagger.json#/definitions/BMI"
18598                     },
18599                     {
18600                         "$ref":
18601                         "https://openconnectivityfoundation.github.io/IoTDataModels/HeightResURI.swagger.json#/definitions/H
18602                         eight"
18603                     },
18604                     {
18605                         "$ref":
18606                         "https://openconnectivityfoundation.github.io/IoTDataModels/BodyFatResURI.swagger.json#/definitions/
18607                         BodyFat"
18608                     },
18609                     {
18610                         "$ref":
18611                         "https://openconnectivityfoundation.github.io/IoTDataModels/BodyWaterResURI.swagger.json#/definition
18612                         s/BodyWater"
18613                     },
18614                     {
18615                         "$ref":
18616                         "https://openconnectivityfoundation.github.io/IoTDataModels/BodySoftLeanMassResURI.swagger.json#/def

```

```

18617   initions/BodySoftLeanMass"
18618       },
18619       {
18620         "$ref":
18621         "https://openconnectivityfoundation.github.io/IoTDataModels/BodyFatFreeMassResURI.swagger.json#/defi
18622         nitions/BodyFatFreeMass"
18623       },
18624       {
18625         "$ref":
18626         "https://openconnectivityfoundation.github.io/IoTDataModels/UserIDResURI.swagger.json#/definitions/U
18627         serID"
18628       },
18629       {
18630         "$ref":
18631         "https://openconnectivityfoundation.github.io/IoTDataModels/TimeStampResURI.swagger.json#/definition
18632         s/TimeStamp"
18633       }
18634     ]
18635   }
18636 },
18637 "required": [
18638   "href",
18639   "rep"
18640 ],
18641 "type": "object"
18642 },
18643 "type": "array"
18644 },
18645 "oic.oic-link": {
18646   "properties": {
18647     "rt": {
18648       "description": "Resource Type of the target Resource",
18649       "items": {
18650         "enum": [
18651           "oic.r.weight",
18652           "oic.r.bmi",
18653           "oic.r.height",
18654           "oic.r.body.fat",
18655           "oic.r.body.water",
18656           "oic.r.body.slm",
18657           "oic.r.body.ffm",
18658           "oic.r.time.stamp",
18659           "oic.r.userid"
18660         ],
18661         "type": "string",
18662         "maxLength": 64
18663       },
18664       "minItems": 1,
18665       "uniqueItems": true,
18666       "readOnly": true,
18667       "type": "array"
18668     },
18669     "if": {
18670       "description": "The OCF Interface set supported by the target Resource",
18671       "items": {
18672         "enum": [
18673           "oic.if.s",
18674           "oic.if.r",
18675           "oic.if.baseline"
18676         ],
18677         "type": "string",
18678         "maxLength": 64
18679       },
18680       "minItems": 1,
18681       "uniqueItems": true,
18682       "readOnly": true,
18683       "type": "array"
18684     },
18685     "anchor": {
18686       "$ref":
18687       "https://openconnectivityfoundation.github.io/core/schemas/oic.links.properties.core-
18688       schema.json#/definitions/anchor"

```



```

18689     },
18690     "di": {
18691       "$ref":
18692       "https://openconnectivityfoundation.github.io/core/schemas/oic.links.properties.core-
18693       schema.json#/definitions/di"
18694     },
18695     "eps": {
18696       "$ref":
18697       "https://openconnectivityfoundation.github.io/core/schemas/oic.links.properties.core-
18698       schema.json#/definitions/eps"
18699     },
18700     "href": {
18701       "$ref":
18702       "https://openconnectivityfoundation.github.io/core/schemas/oic.links.properties.core-
18703       schema.json#/definitions/href"
18704     },
18705     "ins": {
18706       "$ref":
18707       "https://openconnectivityfoundation.github.io/core/schemas/oic.links.properties.core-
18708       schema.json#/definitions/ins"
18709     },
18710     "p": {
18711       "$ref":
18712       "https://openconnectivityfoundation.github.io/core/schemas/oic.links.properties.core-
18713       schema.json#/definitions/p"
18714     },
18715     "rel": {
18716       "$ref":
18717       "https://openconnectivityfoundation.github.io/core/schemas/oic.links.properties.core-
18718       schema.json#/definitions/rel_array"
18719     },
18720     "title": {
18721       "$ref":
18722       "https://openconnectivityfoundation.github.io/core/schemas/oic.links.properties.core-
18723       schema.json#/definitions/title"
18724     },
18725     "type": {
18726       "$ref":
18727       "https://openconnectivityfoundation.github.io/core/schemas/oic.links.properties.core-
18728       schema.json#/definitions/type"
18729     }
18730   },
18731   "required": [
18732     "href",
18733     "rt",
18734     "if"
18735   ],
18736   "type": "object"
18737 }
18738 }
18739 }
18740

```

18741 6.95.5 Property definition

18742 Table 193 defines the Properties that are part of the "oic.r.bodyscale-am,
18743 oic.wk.atomicmeasurement" Resource Type.

18744 **Table 193 – The Property definitions of the Resource with type "rt" = "oic.r.bodyscale-am,
18745 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	Resource Type of the target Resource
rel	multiple types: see schema	No	Read Write	
eps	multiple types: see schema	No	Read Write	
type	multiple types: see schema	No	Read Write	
ins	multiple types: see schema	No	Read Write	
if	array: see schema	Yes	Read Only	The OCF Interface set supported by the target Resource
href	multiple types: see schema	Yes	Read Write	
p	multiple types: see schema	No	Read Write	
title	multiple types: see schema	No	Read Write	
anchor	multiple types: see schema	No	Read Write	
di	multiple types: see schema	No	Read Write	
n	multiple types: see schema	No	Read Write	
rt	array: see schema	Yes	Read Only	
id	multiple types: see schema	No	Read Write	
if	array: see schema	Yes	Read Only	The OCF Interface set

				supported by this Resource
rts	array: see schema	Yes	Read Only	This contains all possible Resource Types for this Atomic Measurement.
links	multiple types: see schema	Yes	Read Write	
rts-m	array: see schema	Yes	Read Only	This contains all mandatory Resource Types for this Atomic Measurement.

18746 **6.95.6 CRUDN behaviour**

18747 Table 194 defines the CRUDN operations that are supported on the "oic.r.bodyscale-am,
18748 oic.wk.atomicmeasurement" Resource Type.

18749 **Table 194 – The CRUDN operations of the Resource with type "rt" = "oic.r.bodyscale-am,**
18750 **oic.wk.atomicmeasurement".**

Create	Read	Update	Delete	Notify
	get			observe

18751 **6.96 Body Soft Lean Mass**

18752 **6.96.1 Introduction**

18753 This Resource describes the Properties associated with a person's body soft lean mass.
18754 The unit is a single value that is one of kg, lb or percent.
18755 If the unit Property is missing the default is kilograms [kg].
18756 The slm and unit Properties are read-only values that are provided by the Server.
18757 When range is omitted the default is 0 to +MAXFLOAT.

18758 **6.96.2 Example URI**

18759 /BodySoftLeanMassResURI

18760 **6.96.3 Resource type**

18761 The Resource Type is defined as: "oic.r.body.slm".

18762 **6.96.4 OpenAPI 2.0 definition**

```
18763 {
18764   "swagger": "2.0",
18765   "info": {
18766     "title": "Body Soft Lean Mass",
18767     "version": "2019-03-22",
18768     "license": {
18769       "name": "OCF Data Model License",
18770       "url":
18771         "https://github.com/openconnectivityfoundation/core/blob/e28a9e0a92e17042ba3e83661e4c0fbce8bdc4ba/LI
18772         CENSE.md",
18773       "x-copyright": "Copyright 2016-2019 Open Connectivity Foundation, Inc. All rights reserved."

```

```

18774     },
18775     "termsOfService": "https://openconnectivityfoundation.github.io/core/DISCLAIMER.md"
18776   },
18777   "schemes": [
18778     "http"
18779   ],
18780   "consumes": [
18781     "application/json"
18782   ],
18783   "produces": [
18784     "application/json"
18785   ],
18786   "paths": {
18787     "/BodySoftLeanMassResURI": {
18788       "get": {
18789         "description": "This Resource describes the Properties associated with a person's body soft
18790 lean mass.\n\nThe unit is a single value that is one of kg, lb or percent.\n\nIf the unit Property is
18791 missing the default is kilograms [kg].\n\nThe slm and unit Properties are read-only values that are
18792 provided by the Server.\n\nWhen range is omitted the default is 0 to +MAXFLOAT.",
18793         "parameters": [
18794           {
18795             "$ref": "#/parameters/interface"
18796           }
18797         ],
18798         "responses": {
18799           "200": {
18800             "description": "",
18801             "x-example": {
18802               "rt": [
18803                 "oic.r.body.slm"
18804               ],
18805               "slm": 20.0,
18806               "units": "kg"
18807             },
18808             "schema": {
18809               "$ref": "#/definitions/BodySoftLeanMass"
18810             }
18811           }
18812         }
18813       }
18814     }
18815   },
18816   "parameters": {
18817     "interface": {
18818       "in": "query",
18819       "name": "if",
18820       "type": "string",
18821       "enum": [
18822         "oic.if.s",
18823         "oic.if.baseline"
18824       ]
18825     }
18826   },
18827   "definitions": {
18828     "BodySoftLeanMass": {
18829       "properties": {
18830         "rt": {
18831           "description": "Resource Type",
18832           "items": {
18833             "enum": [
18834               "oic.r.body.slm"
18835             ],
18836             "type": "string",
18837             "maxLength": 64
18838           },
18839           "minItems": 1,
18840           "uniqueItems": true,
18841           "readOnly": true,
18842           "type": "array"
18843         },
18844         "slm": {
18845           "description": "Body soft lean mass.",

```

```

18846         "minimum": 0.0,
18847         "readOnly": true,
18848         "type": "number"
18849     },
18850     "units": {
18851         "description": "Body soft lean mass units",
18852         "enum": [
18853             "kg",
18854             "lb",
18855             "percent"
18856         ],
18857         "readOnly": true,
18858         "type": "string",
18859         "default": "kg"
18860     },
18861     "range": {
18862         "$ref":
18863         "https://openconnectivityfoundation.github.io/IoTDataModels/schemas/oic.baseresource.properties-
18864         schema.json#/definitions/range_number"
18865     },
18866     "step": {
18867         "$ref":
18868         "https://openconnectivityfoundation.github.io/IoTDataModels/schemas/oic.baseresource.properties-
18869         schema.json#/definitions/step_number"
18870     },
18871     "precision": {
18872         "$ref":
18873         "https://openconnectivityfoundation.github.io/IoTDataModels/schemas/oic.baseresource.properties-
18874         schema.json#/definitions/precision"
18875     },
18876     "n": {
18877         "$ref":
18878         "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
18879         schema.json#/definitions/n"
18880     },
18881     "id": {
18882         "$ref":
18883         "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
18884         schema.json#/definitions/id"
18885     },
18886     "if": {
18887         "description": "The OCF Interface set supported by this Resource",
18888         "items": {
18889             "enum": [
18890                 "oic.if.s",
18891                 "oic.if.baseline"
18892             ],
18893             "type": "string",
18894             "maxLength": 64
18895         },
18896         "minItems": 1,
18897         "readOnly": true,
18898         "uniqueItems": true,
18899         "type": "array"
18900     }
18901 },
18902 "type": "object",
18903 "required": [
18904     "slm"
18905 ]
18906 }
18907 }
18908 }
18909

```

18910 6.96.5 Property definition

18911 Table 195 defines the Properties that are part of the "oic.r.body.slm" Resource Type.

Table 195 – The Property definitions of the Resource with type "rt" = "oic.r.body.slm".

Property name	Value type	Mandatory	Access mode	Description
n	multiple types: see schema	No	Read Write	
slm	number	Yes	Read Only	Body soft lean mass.
id	multiple types: see schema	No	Read Write	
units	string	No	Read Only	Body soft lean mass units
range	multiple types: see schema	No	Read Write	
if	array: see schema	No	Read Only	The OCF Interface set supported by this Resource
rt	array: see schema	No	Read Only	Resource Type
step	multiple types: see schema	No	Read Write	
precision	multiple types: see schema	No	Read Write	

18913 **6.96.6 CRUDN behaviour**

18914 Table 196 defines the CRUDN operations that are supported on the "oic.r.body.slm" Resource Type.

18915 **Table 196 – The CRUDN operations of the Resource with type "rt" = "oic.r.body.slm".**

Create	Read	Update	Delete	Notify
	get			observe

18916 **6.97 Body Thermometer Atomic Measurement**18917 **6.97.1 Introduction**

18918 This Resource describes the Properties associated with body thermometer.
 18919 The Resource is an Atomic Measurement of temperature (oic.r.temperature), body location for
 18920 temperature (oic.r.body.location.temperature), observed time (oic.r.time.stamp), and user id
 18921 (oic.r.userid).

18922 **6.97.2 Example URI**

18923 /BodyThermometerAMResURI

18924 **6.97.3 Resource type**

18925 The Resource Type is defined as: "oic.r.bodythermometer-am, oic.wk.atomicmeasurement".

18926 **6.97.4 OpenAPI 2.0 definition**

```
18927 {
18928   "swagger": "2.0",
18929   "info": {
18930     "title": "Body Thermometer Atomic Measurement",
18931     "version": "2019-03-22",
18932     "license": {
18933       "name": "OCF Data Model License",
18934       "url":
18935         "https://github.com/openconnectivityfoundation/core/blob/e28a9e0a92e17042ba3e83661e4c0fbce8bdc4ba/LI
18936         CENSE.md",
18937       "x-copyright": "Copyright 2016-2019 Open Connectivity Foundation, Inc. All rights reserved."
18938     },
18939     "termsOfService": "https://openconnectivityfoundation.github.io/core/DISCLAIMER.md"
18940   },
18941   "schemes": [
18942     "http"
18943   ],
18944   "consumes": [
18945     "application/json"
18946   ],
18947   "produces": [
18948     "application/json"
18949   ],
18950   "paths": {
18951     "/BodyThermometerAMResURI?if=oic.if.b": {
18952       "get": {
18953         "description": "This Resource describes the Properties associated with body
18954         thermometer.\n\nThe Resource is an Atomic Measurement of temperature (oic.r.temperature), body
18955         location for temperature (oic.r.body.location.temperature), observed time (oic.r.time.stamp), and
18956         user id (oic.r.userid).",
18957         "parameters": [
18958           {
18959             "$ref": "#/parameters/interface-all"
18960           }
18961         ],
18962         "responses": {
18963           "200": {
18964             "description": "",
18965             "x-example": [
18966               {
18967                 "href": "/myTemperature",
18968                 "rep": {
18969                   "temperature": 38.0,
18970                   "units": "C"
18971                 }
18972             },
18973             {
18974               "href": "/myBodyLocationForTemperature",
18975               "rep": {
18976                 "bloc": "mouth"
18977             }
18978           },
18979           {
18980             "href": "/myUserId",
18981             "rep": {
18982               "userid": "USER1"
18983           }
18984         ],
18985         {
18986           "href": "/myTimeStamp",
18987           "rep": {
18988             "timestamp": "2018-11-09T12:15+08:00"
```

```

18989     }
18990     }
18991   ],
18992   "schema": {
18993     "$ref": "#/definitions/batch-retrieve"
18994   }
18995 }
18996 }
18997 }
18998 },
18999 "/BodyThermometerAMResURI?if=oic.if.ll": {
19000   "get": {
19001     "description": "This Resource describes the Properties associated with body
19002 thermometer.\n\nThe Resource is an Atomic Measurement of temperature (oic.r.temperature), body
19003 location for temperature (oic.r.body.location.temperature), observed time (oic.r.time.stamp), and
19004 user id (oic.r.userid).",
19005     "parameters": [
19006       {
19007         "$ref": "#/parameters/interface-all"
19008       }
19009     ],
19010     "responses": {
19011       "200": {
19012         "description": "",
19013         "x-example": [
19014           {
19015             "href": "/myTemperature",
19016             "rt": [
19017               "oic.r.temperature"
19018             ],
19019             "if": [
19020               "oic.if.s",
19021               "oic.if.baseline"
19022             ]
19023           },
19024           {
19025             "href": "/myBodyLocationForTemperature",
19026             "rt": [
19027               "oic.r.body.location.temperature"
19028             ],
19029             "if": [
19030               "oic.if.s",
19031               "oic.if.baseline"
19032             ]
19033           },
19034           {
19035             "href": "/myUserId",
19036             "rt": [
19037               "oic.r.userid"
19038             ],
19039             "if": [
19040               "oic.if.r",
19041               "oic.if.baseline"
19042             ]
19043           },
19044           {
19045             "href": "/myTimeStamp",
19046             "rt": [
19047               "oic.r.time.stamp"
19048             ],
19049             "if": [
19050               "oic.if.r",
19051               "oic.if.baseline"
19052             ]
19053           }
19054         ],
19055         "schema": {
19056           "$ref": "#/definitions/links"
19057         }
19058       }
19059     }
19060   }

```



```

19061     },
19062     "/BodyThermometerAMResURI?if=oic.if.baseline": {
19063         "get": {
19064             "description": "This Resource describes the Properties associated with body
19065 thermometer.\nThe Resource is an Atomic Measurement of temperature (oic.r.temperature), body
19066 location for temperature (oic.r.body.location.temperature), observed time (oic.r.time.stamp), and
19067 user id (oic.r.userid).",
19068             "parameters": [
19069                 {
19070                     "$ref": "#/parameters/interface-all"
19071                 }
19072             ],
19073             "responses": {
19074                 "200": {
19075                     "description": "",
19076                     "x-example": {
19077                         "rt": [
19078                             "oic.r.bodythermometer-am",
19079                             "oic.wk.atomicmeasurement"
19080                         ],
19081                         "if": [
19082                             "oic.if.b",
19083                             "oic.if.ll",
19084                             "oic.if.baseline"
19085                         ],
19086                         "rts": [
19087                             "oic.r.temperature",
19088                             "oic.r.body.location.temperature",
19089                             "oic.r.userid",
19090                             "oic.r.time.stamp"
19091                         ],
19092                         "rts-m": [
19093                             "oic.r.temperature"
19094                         ],
19095                         "links": [
19096                             {
19097                                 "href": "/myTemperature",
19098                                 "rt": [
19099                                     "oic.r.temperature"
19100                                 ],
19101                                 "if": [
19102                                     "oic.if.s",
19103                                     "oic.if.baseline"
19104                                 ]
19105                             },
19106                             {
19107                                 "href": "/myBodyLocationForTemperature",
19108                                 "rt": [
19109                                     "oic.r.body.location.temperature"
19110                                 ],
19111                                 "if": [
19112                                     "oic.if.s",
19113                                     "oic.if.baseline"
19114                                 ]
19115                             },
19116                             {
19117                                 "href": "/myUserId",
19118                                 "rt": [
19119                                     "oic.r.userid"
19120                                 ],
19121                                 "if": [
19122                                     "oic.if.r",
19123                                     "oic.if.baseline"
19124                                 ]
19125                             },
19126                             {
19127                                 "href": "/myTimeStamp",
19128                                 "rt": [
19129                                     "oic.r.time.stamp"
19130                                 ],
19131                                 "if": [
19132                                     "oic.if.r",

```

```

19133         "oic.if.baseline"
19134     ]
19135     }
19136 ]
19137 },
19138 "schema": {
19139     "$ref": "#/definitions/baseline"
19140 }
19141 }
19142 }
19143 }
19144 },
19145 },
19146 "parameters": {
19147     "interface-all": {
19148         "in": "query",
19149         "name": "if",
19150         "type": "string",
19151         "enum": [
19152             "oic.if.b",
19153             "oic.if.ll",
19154             "oic.if.baseline"
19155         ]
19156     }
19157 },
19158 "definitions": {
19159     "batch-retrieve": {
19160         "minItems": 1,
19161         "items": {
19162             "additionalProperties": true,
19163             "properties": {
19164                 "href": {
19165                     "$ref":
19166 "https://openconnectivityfoundation.github.io/core/schemas/oic.links.properties.core-
19167 schema.json#/definitions/href"
19168                 },
19169                 "rep": {
19170                     "type": "object",
19171                     "anyOf": [
19172                         {
19173                             "$ref":
19174 "https://openconnectivityfoundation.github.io/IoTDataModels/TemperatureResURI.swagger.json#/definiti
19175 ons/Temperature"
19176                         },
19177                         {
19178                             "$ref":
19179 "https://openconnectivityfoundation.github.io/IoTDataModels/BodyLocationTemperatureResURI.swagger.js
19180 on#/definitions/BodyLocationTemperature"
19181                         },
19182                         {
19183                             "$ref":
19184 "https://openconnectivityfoundation.github.io/IoTDataModels/UserIDResURI.swagger.json#/definitions/U
19185 serID"
19186                         },
19187                         {
19188                             "$ref":
19189 "https://openconnectivityfoundation.github.io/IoTDataModels/TimeStampResURI.swagger.json#/definition
19190 s/TimeStamp"
19191                         }
19192                     ]
19193                 }
19194             },
19195             "required": [
19196                 "href",
19197                 "rep"
19198             ],
19199             "type": "object"
19200         },
19201         "type": "array"
19202     },
19203     "links": {
19204         "type": "array",

```

```

19205     "items": {
19206       "$ref": "#/definitions/oic.oic-link"
19207     }
19208   },
19209   "baseline": {
19210     "properties": {
19211       "rt": {
19212         "items": {
19213           "enum": [
19214             "oic.r.bodythermometer-am",
19215             "oic.wk.atomicmeasurement"
19216           ],
19217           "type": "string",
19218           "maxLength": 64
19219         },
19220         "minItems": 2,
19221         "uniqueItems": true,
19222         "readOnly": true,
19223         "type": "array"
19224       },
19225       "rts": {
19226         "description": "This contains all possible Resource Types for this Atomic Measurement.",
19227         "items": {
19228           "enum": [
19229             "oic.r.temperature",
19230             "oic.r.body.location.temperature",
19231             "oic.r.time.stamp",
19232             "oic.r.userid"
19233           ],
19234           "type": "string",
19235           "maxLength": 64
19236         },
19237         "minItems": 1,
19238         "uniqueItems": true,
19239         "readOnly": true,
19240         "type": "array"
19241       },
19242       "rts-m": {
19243         "description": "This contains all mandatory Resource Types for this Atomic Measurement.",
19244         "items": {
19245           "enum": [
19246             "oic.r.temperature"
19247           ],
19248           "type": "string",
19249           "maxLength": 64
19250         },
19251         "maxItems": 1,
19252         "minItems": 1,
19253         "uniqueItems": true,
19254         "readOnly": true,
19255         "type": "array"
19256       },
19257       "if": {
19258         "description": "The OC Interface set supported by this Resource",
19259         "items": {
19260           "enum": [
19261             "oic.if.b",
19262             "oic.if.ll",
19263             "oic.if.baseline"
19264           ],
19265           "type": "string",
19266           "maxLength": 64
19267         },
19268         "minItems": 3,
19269         "uniqueItems": true,
19270         "readOnly": true,
19271         "type": "array"
19272       },
19273       "n": {
19274         "$ref":
19275         "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
19276         schema.json#/definitions/n"

```

```

19277     },
19278     "id": {
19279       "$ref":
19280       "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
19281       schema.json#/definitions/id"
19282     },
19283     "links": {
19284       "$ref": "#/definitions/links"
19285     }
19286   },
19287   "type": "object",
19288   "required": [
19289     "rt", "if", "links", "rts", "rts-m"
19290   ]
19291 },
19292 "oic.oic-link": {
19293   "properties": {
19294     "if": {
19295       "description": "The OCF Interface set supported by target Resource",
19296       "items": {
19297         "enum": [
19298           "oic.if.baseline",
19299           "oic.if.s",
19300           "oic.if.r"
19301         ],
19302         "type": "string",
19303         "maxLength": 64
19304       },
19305       "minItems": 1,
19306       "uniqueItems": true,
19307       "readOnly": true,
19308       "type": "array"
19309     },
19310     "rt": {
19311       "description": "Resource Type of the target Resource",
19312       "items": {
19313         "enum": [
19314           "oic.r.temperature",
19315           "oic.r.body.location.temperature",
19316           "oic.r.time.stamp",
19317           "oic.r.userid"
19318         ],
19319         "type": "string",
19320         "maxLength": 64
19321       },
19322       "minItems": 1,
19323       "uniqueItems": true,
19324       "readOnly": true,
19325       "type": "array"
19326     },
19327     "anchor": {
19328       "$ref":
19329       "https://openconnectivityfoundation.github.io/core/schemas/oic.links.properties.core-
19330       schema.json#/definitions/anchor"
19331     },
19332     "di": {
19333       "$ref":
19334       "https://openconnectivityfoundation.github.io/core/schemas/oic.links.properties.core-
19335       schema.json#/definitions/di"
19336     },
19337     "eps": {
19338       "$ref":
19339       "https://openconnectivityfoundation.github.io/core/schemas/oic.links.properties.core-
19340       schema.json#/definitions/eps"
19341     },
19342     "href": {
19343       "$ref":
19344       "https://openconnectivityfoundation.github.io/core/schemas/oic.links.properties.core-
19345       schema.json#/definitions/href"
19346     },
19347     "ins": {
19348       "$ref":

```

```

19349 "https://openconnectivityfoundation.github.io/core/schemas/oic.links.properties.core-
19350 schema.json#/definitions/ins"
19351     },
19352     "p": {
19353       "$ref":
19354 "https://openconnectivityfoundation.github.io/core/schemas/oic.links.properties.core-
19355 schema.json#/definitions/p"
19356     },
19357     "rel": {
19358       "$ref":
19359 "https://openconnectivityfoundation.github.io/core/schemas/oic.links.properties.core-
19360 schema.json#/definitions/rel_array"
19361     },
19362     "title": {
19363       "$ref":
19364 "https://openconnectivityfoundation.github.io/core/schemas/oic.links.properties.core-
19365 schema.json#/definitions/title"
19366     },
19367     "type": {
19368       "$ref":
19369 "https://openconnectivityfoundation.github.io/core/schemas/oic.links.properties.core-
19370 schema.json#/definitions/type"
19371     }
19372   },
19373   "required": [
19374     "href",
19375     "rt",
19376     "if"
19377   ],
19378   "type": "object"
19379 }
19380 }
19381 }
19382

```

19383 6.97.5 Property definition

19384 Table 197 defines the Properties that are part of the "oic.r.bodythermometer-am,
19385 oic.wk.atomicmeasurement" Resource Type.

19386 **Table 197 – The Property definitions of the Resource with type "rt" =**
19387 **"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	
links	multiple types: see schema	Yes	Read Write	
rts	array: see schema	Yes	Read Only	This contains all possible Resource Types for this Atomic Measurement.
n	multiple types: see schema	No	Read Write	

id	multiple types: see schema	No	Read Write	
if	array: see schema	Yes	Read Only	The OC Interface set supported by this Resource
rts-m	array: see schema	Yes	Read Only	This contains all mandatory Resource Types for this Atomic Measurement.
rt	array: see schema	Yes	Read Only	
di	multiple types: see schema	No	Read Write	
p	multiple types: see schema	No	Read Write	
type	multiple types: see schema	No	Read Write	
anchor	multiple types: see schema	No	Read Write	
title	multiple types: see schema	No	Read Write	
ins	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 target Resource
rel	multiple types: see schema	No	Read Write	
eps	multiple types: see schema	No	Read Write	
rt	array: see schema	Yes	Read Only	Resource Type of the target Resource

19388 **6.97.6 CRUDN behaviour**

19389 Table 198 defines the CRUDN operations that are supported on the "oic.r.bodythermometer-am,
19390 oic.wk.atomicmeasurement" Resource Type.

19391 **Table 198 – The CRUDN operations of the Resource with type "rt" =**
19392 **"oic.r.bodythermometer-am, oic.wk.atomicmeasurement".**

Create	Read	Update	Delete	Notify
	get			observe

19393 **6.98 Body Water**

19394 **6.98.1 Introduction**

19395 This Resource describes the Properties associated with a person's body water.
19396 The unit is a single value that is one of kg or lb.
19397 If the unit Property is missing the default is kilograms [kg].
19398 The bwater and unit Properties are read-only values that are provided by the Server.
19399 When range is omitted the default is 0 to +MAXFLOAT.

19400 **6.98.2 Example URI**

19401 /BodyWaterResURI

19402 **6.98.3 Resource type**

19403 The Resource Type is defined as: "oic.r.body.water".

19404 **6.98.4 OpenAPI 2.0 definition**

```

19405 {
19406   "swagger": "2.0",
19407   "info": {
19408     "title": "Body Water",
19409     "version": "2019-03-22",
19410     "license": {
19411       "name": "OCF Data Model License",
19412       "url":
19413         "https://github.com/openconnectivityfoundation/core/blob/e28a9e0a92e17042ba3e83661e4c0fbce8bdc4ba/LI
19414         CENSE.md",
19415       "x-copyright": "Copyright 2016-2019 Open Connectivity Foundation, Inc. All rights reserved."
19416     },
19417     "termsOfService": "https://openconnectivityfoundation.github.io/core/DISCLAIMER.md"
19418   },
19419   "schemes": [
19420     "http"
19421   ],
19422   "consumes": [
19423     "application/json"
19424   ],
19425   "produces": [
19426     "application/json"
19427   ],
19428   "paths": {
19429     "/BodyWaterResURI": {
19430       "get": {
19431         "description": "This Resource describes the Properties associated with a person's body
19432         water.\nThe unit is a single value that is one of kg or lb.\nIf the unit Property is missing the
19433         default is kilograms [kg].\nThe bwater and unit Properties are read-only values that are provided by
19434         the Server.\nWhen range is omitted the default is 0 to +MAXFLOAT.",
19435         "parameters": [
19436           {
19437             "$ref": "#/parameters/interface"
19438           }
19439         ],

```

```

19440     "responses": {
19441         "200": {
19442             "description": "",
19443             "x-example": {
19444                 "rt": [
19445                     "oic.r.body.water"
19446                 ],
19447                 "bwater": 20.0,
19448                 "units": "kg"
19449             },
19450             "schema": {
19451                 "$ref": "#/definitions/BodyWater"
19452             }
19453         }
19454     }
19455 }
19456 },
19457 },
19458 "parameters": {
19459     "interface": {
19460         "in": "query",
19461         "name": "if",
19462         "type": "string",
19463         "enum": [
19464             "oic.if.s",
19465             "oic.if.baseline"
19466         ]
19467     }
19468 },
19469 "definitions": {
19470     "BodyWater": {
19471         "properties": {
19472             "rt": {
19473                 "description": "Resource Type",
19474                 "items": {
19475                     "enum": [
19476                         "oic.r.body.water"
19477                     ],
19478                     "type": "string",
19479                     "maxLength": 64
19480                 },
19481                 "minItems": 1,
19482                 "uniqueItems": true,
19483                 "readOnly": true,
19484                 "type": "array"
19485             },
19486             "bwater": {
19487                 "description": "Body water.",
19488                 "minimum": 0.0,
19489                 "readOnly": true,
19490                 "type": "number"
19491             },
19492             "units": {
19493                 "description": "Body water unit",
19494                 "enum": [
19495                     "kg",
19496                     "lb"
19497                 ],
19498                 "readOnly": true,
19499                 "type": "string",
19500                 "default": "kg"
19501             },
19502             "range": {
19503                 "$ref":
19504 "https://openconnectivityfoundation.github.io/IoTDataModels/schemas/oic.baseresource.properties-
19505 schema.json#/definitions/range_number"
19506             },
19507             "step": {
19508                 "$ref":
19509 "https://openconnectivityfoundation.github.io/IoTDataModels/schemas/oic.baseresource.properties-
19510 schema.json#/definitions/step_number"
19511             },

```



```

19512     "precision": {
19513         "$ref":
19514         "https://openconnectivityfoundation.github.io/IoTDataModels/schemas/oic.baseresource.properties-
19515         schema.json#/definitions/precision"
19516     },
19517     "n": {
19518         "$ref":
19519         "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
19520         schema.json#/definitions/n"
19521     },
19522     "id": {
19523         "$ref":
19524         "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
19525         schema.json#/definitions/id"
19526     },
19527     "if": {
19528         "description": "The OCF Interface set supported by this Resource",
19529         "items": {
19530             "enum": [
19531                 "oic.if.s",
19532                 "oic.if.baseline"
19533             ],
19534             "type": "string",
19535             "maxLength": 64
19536         },
19537         "minItems": 1,
19538         "readOnly": true,
19539         "uniqueItems": true,
19540         "type": "array"
19541     }
19542 },
19543 "type": "object",
19544 "required": [
19545     "bwater"
19546 ]
19547 }
19548 }
19549 }
19550

```

19551 **6.98.5 Property definition**

19552 Table 199 defines the Properties that are part of the "oic.r.body.water" Resource Type.

19553 **Table 199 – The Property definitions of the Resource with type "rt" = "oic.r.body.water".**

Property name	Value type	Mandatory	Access mode	Description
step	multiple types: see schema	No	Read Write	
bwater	number	Yes	Read Only	Body water.
if	array: see schema	No	Read Only	The OCF Interface set supported by this Resource
range	multiple types: see schema	No	Read Write	
precision	multiple types: see schema	No	Read Write	

n	multiple types: see schema	No	Read Write	
rt	array: see schema	No	Read Only	Resource Type
units	string	No	Read Only	Body water unit
id	multiple types: see schema	No	Read Write	

19554 **6.98.6 CRUDN behaviour**

19555 Table 200 defines the CRUDN operations that are supported on the "oic.r.body.water" Resource
19556 Type.

19557 **Table 200 – The CRUDN operations of the Resource with type "rt" = "oic.r.body.water".**

Create	Read	Update	Delete	Notify
	get			observe

19558 **6.99 Glucose**

19559 **6.99.1 Introduction**

19560 This Resource describes the Properties associated with a person's glucose level.
19561 The unit is a single value that is one of mg/dL, mmol/L.
19562 If the unit Property is missing the default is milligrams per decilitre [mg/dL].
19563 The glucose and unit Properties are read-only values that are provided by the Server.
19564 When range is omitted the default is 0 to +MAXFLOAT.

19565 **6.99.2 Example URI**

19566 /GlucoseResURI

19567 **6.99.3 Resource type**

19568 The Resource Type is defined as: "oic.r.glucose".

19569 **6.99.4 OpenAPI 2.0 definition**

```

19570 {
19571   "swagger": "2.0",
19572   "info": {
19573     "title": "Glucose",
19574     "version": "2019-03-22",
19575     "license": {
19576       "name": "OCF Data Model License",
19577       "url":
19578 "https://github.com/openconnectivityfoundation/core/blob/e28a9e0a92e17042ba3e83661e4c0fbce8bdc4ba/LI
19579 CENSE.md",
19580       "x-copyright": "Copyright 2016-2019 Open Connectivity Foundation, Inc. All rights reserved."
19581     },
19582     "termsOfService": "https://openconnectivityfoundation.github.io/core/DISCLAIMER.md"
19583   },
19584   "schemes": [
19585     "http"
19586   ],
19587   "consumes": [
19588     "application/json"
19589   ],

```

```

19590     "produces": [
19591         "application/json"
19592     ],
19593     "paths": {
19594         "/GlucoseResURI": {
19595             "get": {
19596                 "description": "This Resource describes the Properties associated with a person's glucose
19597 level.\nThe unit is a single value that is one of mg/dL, mmol/L.\nIf the unit Property is missing
19598 the default is milligrams per decilitre [mg/dL].\nThe glucose and unit Properties are read-only
19599 values that are provided by the Server.\nWhen range is omitted the default is 0 to +MAXFLOAT.",
19600                 "parameters": [
19601                     {
19602                         "$ref": "#/parameters/interface"
19603                     }
19604                 ],
19605                 "responses": {
19606                     "200": {
19607                         "description": "",
19608                         "x-example": {
19609                             "rt": [
19610                                 "oic.r.glucose"
19611                             ],
19612                             "glucose": 90.0,
19613                             "units": "mg/dL",
19614                             "range": [
19615                                 20.0,
19616                                 600.0
19617                             ],
19618                             "step": 1
19619                         },
19620                         "schema": {
19621                             "$ref": "#/definitions/Glucose"
19622                         }
19623                     }
19624                 }
19625             }
19626         }
19627     },
19628     "parameters": {
19629         "interface": {
19630             "in": "query",
19631             "name": "if",
19632             "type": "string",
19633             "enum": [
19634                 "oic.if.s",
19635                 "oic.if.baseline"
19636             ]
19637         }
19638     },
19639     "definitions": {
19640         "Glucose": {
19641             "properties": {
19642                 "rt": {
19643                     "description": "Resource Type",
19644                     "items": {
19645                         "enum": [
19646                             "oic.r.glucose"
19647                         ],
19648                         "type": "string",
19649                         "maxLength": 64
19650                     },
19651                     "minItems": 1,
19652                     "uniqueItems": true,
19653                     "readOnly": true,
19654                     "type": "array"
19655                 },
19656                 "glucose": {
19657                     "description": "A measurement of glucose concentration in the blood",
19658                     "minimum": 0.0,
19659                     "readOnly": true,
19660                     "type": "number"
19661                 }
19662             }
19663         }
19664     }
19665 }

```

```

19662     "units": {
19663         "description": "Glucose unit",
19664         "enum": [
19665             "mg/dL",
19666             "mmol/L"
19667         ],
19668         "readOnly": true,
19669         "type": "string",
19670         "default": "mg/dL"
19671     },
19672     "range": {
19673         "$ref":
19674         "https://openconnectivityfoundation.github.io/IoTDataModels/schemas/oic.baseresource.properties-
19675         schema.json#/definitions/range_number"
19676     },
19677     "step": {
19678         "$ref":
19679         "https://openconnectivityfoundation.github.io/IoTDataModels/schemas/oic.baseresource.properties-
19680         schema.json#/definitions/step_number"
19681     },
19682     "precision": {
19683         "$ref":
19684         "https://openconnectivityfoundation.github.io/IoTDataModels/schemas/oic.baseresource.properties-
19685         schema.json#/definitions/precision"
19686     },
19687     "n": {
19688         "$ref":
19689         "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
19690         schema.json#/definitions/n"
19691     },
19692     "id": {
19693         "$ref":
19694         "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
19695         schema.json#/definitions/id"
19696     },
19697     "if": {
19698         "description": "The OCF Interface set supported by this Resource",
19699         "items": {
19700             "enum": [
19701                 "oic.if.s",
19702                 "oic.if.baseline"
19703             ],
19704             "type": "string",
19705             "maxLength": 64
19706         },
19707         "minItems": 1,
19708         "readOnly": true,
19709         "uniqueItems": true,
19710         "type": "array"
19711     }
19712 },
19713 "type": "object",
19714 "required": [
19715     "glucose"
19716 ]
19717 }
19718 }
19719 }
19720

```

19721 **6.99.5 Property definition**

19722 Table 201 defines the Properties that are part of the "oic.r.glucose" Resource Type.

19723 **Table 201 – The Property definitions of the Resource with type "rt" = "oic.r.glucose".**

Property name	Value type	Mandatory	Access mode	Description
---------------	------------	-----------	-------------	-------------

n	multiple types: see schema	No	Read Write	
precision	multiple types: see schema	No	Read Write	
units	string	No	Read Only	Glucose unit
if	array: see schema	No	Read Only	The OCF Interface set supported by this Resource
id	multiple types: see schema	No	Read Write	
glucose	number	Yes	Read Only	A measurement of glucose concentration in the blood
step	multiple types: see schema	No	Read Write	
rt	array: see schema	No	Read Only	Resource Type
range	multiple types: see schema	No	Read Write	

19724 **6.99.6 CRUDN behaviour**

19725 Table 202 defines the CRUDN operations that are supported on the "oic.r.glucose" Resource Type.

19726 **Table 202 – The CRUDN operations of the Resource with type "rt" = "oic.r.glucose".**

Create	Read	Update	Delete	Notify
	get			observe

19727 **6.100 Context Carbohydrates for Glucose Meter**

19728 **6.100.1 Introduction**

19729 This Resource describes the Properties associated with a context carbohydrates.
 19730 The carb Property has a default unit of grams[g].
 19731 The carb and meal Properties are read-only values that are provided by the Server.
 19732 When range is omitted the default is 0 to +MAXFLOAT.

19733 **6.100.2 Example URI**

19734 /GlucoseCarbResURI

19735 **6.100.3 Resource type**

19736 The Resource Type is defined as: "oic.r.glucose.carb".

19737 **6.100.4 OpenAPI 2.0 definition**

```
19738 {
19739   "swagger": "2.0",
19740   "info": {
19741     "title": "Context Carbohydrates for Glucose Meter",
19742     "version": "2019-03-22",
19743     "license": {
19744       "name": "OCF Data Model License",
19745       "url":
19746         "https://github.com/openconnectivityfoundation/core/blob/e28a9e0a92e17042ba3e83661e4c0fbce8bdc4ba/LI
19747         CENSE.md",
19748       "x-copyright": "Copyright 2016-2019 Open Connectivity Foundation, Inc. All rights reserved."
19749     },
19750     "termsOfService": "https://openconnectivityfoundation.github.io/core/DISCLAIMER.md"
19751   },
19752   "schemes": [
19753     "http"
19754   ],
19755   "consumes": [
19756     "application/json"
19757   ],
19758   "produces": [
19759     "application/json"
19760   ],
19761   "paths": {
19762     "/GlucoseCarbResURI": {
19763       "get": {
19764         "description": "This Resource describes the Properties associated with a context
19765         carbohydrates.\n\nThe carb Property has a default unit of grams[g].\n\nThe carb and meal Properties are
19766         read-only values that are provided by the Server.\n\nWhen range is omitted the default is 0 to
19767         +MAXFLOAT.",
19768         "parameters": [
19769           {
19770             "$ref": "#/parameters/interface"
19771           }
19772         ],
19773         "responses": {
19774           "200": {
19775             "description": "",
19776             "x-example": {
19777               "rt": [
19778                 "oic.r.glucose.carb"
19779               ],
19780               "carb": 100.0,
19781               "meal": "breakfast"
19782             },
19783             "schema": {
19784               "$ref": "#/definitions/GlucoseCarb"
19785             }
19786           }
19787         }
19788       }
19789     }
19790   },
19791   "parameters": {
19792     "interface": {
19793       "in": "query",
19794       "name": "if",
19795       "type": "string",
19796       "enum": [
19797         "oic.if.s",
19798         "oic.if.baseline"
19799       ]
19800     }
19801   },
19802   "definitions": {
19803     "GlucoseCarb": {
```

```

19804     "properties": {
19805       "rt": {
19806         "description": "Resource Type",
19807         "items": {
19808           "enum": [
19809             "oic.r.glucose.carb"
19810           ],
19811           "type": "string",
19812           "maxLength": 64
19813         },
19814         "minItems": 1,
19815         "uniqueItems": true,
19816         "readOnly": true,
19817         "type": "array"
19818       },
19819       "carb": {
19820         "description": "The amount of carbohydrates undertaken in grams",
19821         "readOnly": true,
19822         "type": "number",
19823         "minimum": 0.0
19824       },
19825       "meal": {
19826         "description": "Recorded time of carbohydrates intake",
19827         "enum": [
19828           "breakfast",
19829           "lunch",
19830           "dinner",
19831           "snack",
19832           "drink",
19833           "supper",
19834           "brunch",
19835           "undetermined",
19836           "other",
19837           "no_entry",
19838           "no_ingestion"
19839         ],
19840         "readOnly": true,
19841         "type": "string"
19842       },
19843       "range": {
19844         "description": "The range applies to the carb property only",
19845         "$ref":
19846         "https://openconnectivityfoundation.github.io/IoTDataModels/schemas/oic.baseresource.properties-
19847         schema.json#/definitions/range_number"
19848       },
19849       "step": {
19850         "description": "The step applies to the carb property only",
19851         "$ref":
19852         "https://openconnectivityfoundation.github.io/IoTDataModels/schemas/oic.baseresource.properties-
19853         schema.json#/definitions/step_number"
19854       },
19855       "precision": {
19856         "description": "The precision applies to the carb property only",
19857         "$ref":
19858         "https://openconnectivityfoundation.github.io/IoTDataModels/schemas/oic.baseresource.properties-
19859         schema.json#/definitions/precision"
19860       },
19861       "n": {
19862         "$ref":
19863         "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
19864         schema.json#/definitions/n"
19865       },
19866       "id": {
19867         "$ref":
19868         "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
19869         schema.json#/definitions/id"
19870       },
19871       "if": {
19872         "description": "The OCF Interface set supported by this Resource",
19873         "items": {
19874           "enum": [
19875             "oic.if.s",

```

```

19876         "oic.if.baseline"
19877     ],
19878     "type": "string",
19879     "maxLength": 64
19880 },
19881 "minItems": 1,
19882 "readOnly": true,
19883 "uniqueItems": true,
19884 "type": "array"
19885 }
19886 },
19887 "type": "object",
19888 "required": [
19889     "carb",
19890     "meal"
19891 ]
19892 }
19893 }
19894 }
19895

```

19896 **6.100.5 Property definition**

19897 Table 203 defines the Properties that are part of the "oic.r.glucose.carb" Resource Type.

19898 **Table 203 – The Property definitions of the Resource with type "rt" = "oic.r.glucose.carb".**

Property name	Value type	Mandatory	Access mode	Description
n	multiple types: see schema	No	Read Write	
meal	string	Yes	Read Only	Recorded time of carbohydrates intake
if	array: see schema	No	Read Only	The OCF Interface set supported by this Resource
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
rt	array: see schema	No	Read Only	Resource Type
id	multiple types: see schema	No	Read Write	
precision	multiple types: see schema	No	Read Write	The precision applies to the

				carb property only
carb	number	Yes	Read Only	The amount of carbohydrates undertaken in grams

19899 **6.100.6 CRUDN behaviour**

19900 Table 204 defines the CRUDN operations that are supported on the "oic.r.glucose.carb" Resource
19901 Type.

19902 **Table 204 – The CRUDN operations of the Resource with type "rt" = "oic.r.glucose.carb".**

Create	Read	Update	Delete	Notify
	get			observe

19903 **6.101 Exercise for Glucose Meter**

19904 **6.101.1 Introduction**

19905 This Resource describes the Properties associated with glucose exercise.
19906 The exercise Property has a default unit of percentage.
19907 The exercise Property is a read-only value that is provided by the Server.

19908 **6.101.2 Example URI**

19909 /ExerciseResURI

19910 **6.101.3 Resource type**

19911 The Resource Type is defined as: "oic.r.glucose.exercise".

19912 **6.101.4 OpenAPI 2.0 definition**

```
19913 {
19914   "swagger": "2.0",
19915   "info": {
19916     "title": "Exercise for Glucose Meter",
19917     "version": "2019-03-22",
19918     "license": {
19919       "name": "OCF Data Model License",
19920       "url":
19921         "https://github.com/openconnectivityfoundation/core/blob/e28a9e0a92e17042ba3e83661e4c0fbce8bdc4ba/LI
19922         CENSE.md",
19923       "x-copyright": "Copyright 2016-2019 Open Connectivity Foundation, Inc. All rights reserved."
19924     },
19925     "termsOfService": "https://openconnectivityfoundation.github.io/core/DISCLAIMER.md"
19926   },
19927   "schemes": [
19928     "http"
19929   ],
19930   "consumes": [
19931     "application/json"
19932   ],
19933   "produces": [
19934     "application/json"
19935   ],
19936   "paths": {
19937     "/ExerciseResURI": {
19938       "get": {
19939         "description": "This Resource describes the Properties associated with glucose
19940 exercise.\nThe exercise Property has a default unit of percentage.\nThe exercise Property is a read-
```

```

19941 only value that is provided by the Server.",
19942     "parameters": [
19943     {
19944         "$ref": "#/parameters/interface"
19945     }
19946     ],
19947     "responses": {
19948         "200": {
19949             "description": "",
19950             "x-example": {
19951                 "rt": [
19952                     "oic.r.glucose.exercise"
19953                 ],
19954                 "exercise": 30.0
19955             },
19956             "schema": {
19957                 "$ref": "#/definitions/Exercise"
19958             }
19959         }
19960     }
19961 }
19962 },
19963 "parameters": {
19964     "interface": {
19965         "in": "query",
19966         "name": "if",
19967         "type": "string",
19968         "enum": [
19969             "oic.if.s",
19970             "oic.if.baseline"
19971         ]
19972     }
19973 },
19974 },
19975 "definitions": {
19976     "Exercise": {
19977         "properties": {
19978             "rt": {
19979                 "description": "Resource Type",
19980                 "items": {
19981                     "enum": [
19982                         "oic.r.glucose.exercise"
19983                     ],
19984                     "type": "string",
19985                     "maxLength": 64
19986                 },
19987                 "minItems": 1,
19988                 "uniqueItems": true,
19989                 "readOnly": true,
19990                 "type": "array"
19991             },
19992             "exercise": {
19993                 "description": "The level of exercise undertaken in percentage",
19994                 "maximum": 100.0,
19995                 "minimum": 0.0,
19996                 "readOnly": true,
19997                 "type": "number"
19998             },
19999             "range": {
20000                 "$ref":
20001 "https://openconnectivityfoundation.github.io/IoTDataModels/schemas/oic.baseresource.properties-
20002 schema.json#/definitions/range_number"
20003             },
20004             "step": {
20005                 "$ref":
20006 "https://openconnectivityfoundation.github.io/IoTDataModels/schemas/oic.baseresource.properties-
20007 schema.json#/definitions/step_number"
20008             },
20009             "precision": {
20010                 "$ref":
20011 "https://openconnectivityfoundation.github.io/IoTDataModels/schemas/oic.baseresource.properties-
20012 schema.json#/definitions/precision"

```

```

20013     },
20014     "n": {
20015       "$ref":
20016       "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
20017       schema.json#/definitions/n"
20018     },
20019     "id": {
20020       "$ref":
20021       "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
20022       schema.json#/definitions/id"
20023     },
20024     "if": {
20025       "description": "The OCF Interface set supported by this Resource",
20026       "items": {
20027         "enum": [
20028           "oic.if.s",
20029           "oic.if.baseline"
20030         ],
20031         "type": "string",
20032         "maxLength": 64
20033       },
20034       "minItems": 1,
20035       "readOnly": true,
20036       "uniqueItems": true,
20037       "type": "array"
20038     }
20039   },
20040   "type": "object",
20041   "required": [
20042     "exercise"
20043   ]
20044 }
20045 }
20046 }
20047

```

20048 **6.101.5 Property definition**

20049 Table 205 defines the Properties that are part of the "oic.r.glucose.exercise" Resource Type.

20050 **Table 205 – The Property definitions of the Resource with type "rt" =**
20051 **"oic.r.glucose.exercise".**

Property name	Value type	Mandatory	Access mode	Description
rt	array: see schema	No	Read Only	Resource Type
precision	multiple types: see schema	No	Read Write	
n	multiple types: see schema	No	Read Write	
if	array: see schema	No	Read Only	The OCF Interface set supported by this Resource
exercise	number	Yes	Read Only	The level of exercise undertaken in percentage

id	multiple types: see schema	No	Read Write	
step	multiple types: see schema	No	Read Write	
range	multiple types: see schema	No	Read Write	

20052 **6.101.6 CRUDN behaviour**

20053 Table 206 defines the CRUDN operations that are supported on the "oic.r.glucose.exercise"
20054 Resource Type.

20055 **Table 206 – The CRUDN operations of the Resource with type "rt" =**
20056 **"oic.r.glucose.exercise".**

Create	Read	Update	Delete	Notify
	get			observe

20057 **6.102 Hemoglobin Bound to Glucose A1c Form (HbA1c) for Glucose Meter**

20058 **6.102.1 Introduction**

20059 This Resource describes the Properties associated with a person's hba1c level.
20060 The unit is a single value that is percentage.
20061 The hba1c Property is a read-only value that is provided by the Server.

20062 **6.102.2 Example URI**

20063 /GlucoseHbA1cResURI

20064 **6.102.3 Resource type**

20065 The Resource Type is defined as: "oic.r.glucose.hba1c".

20066 **6.102.4 OpenAPI 2.0 definition**

```

20067 {
20068   "swagger": "2.0",
20069   "info": {
20070     "title": "Hemoglobin Bound to Glucose A1c Form (HbA1c) for Glucose Meter",
20071     "version": "2019-03-22",
20072     "license": {
20073       "name": "OCF Data Model License",
20074       "url":
20075       "https://github.com/openconnectivityfoundation/core/blob/e28a9e0a92e17042ba3e83661e4c0fbce8bdc4ba/LI
20076       CENSE.md",
20077       "x-copyright": "Copyright 2016-2019 Open Connectivity Foundation, Inc. All rights reserved."
20078     },
20079     "termsOfService": "https://openconnectivityfoundation.github.io/core/DISCLAIMER.md"
20080   },
20081   "schemes": [
20082     "http"
20083   ],
20084   "consumes": [
20085     "application/json"
20086   ],
20087   "produces": [
20088     "application/json"
20089   ],
20090   "paths": {

```

```

20091     "/GlucoseHbA1cResURI": {
20092       "get": {
20093         "description": "This Resource describes the Properties associated with a person's hbalc
20094 level.\nThe unit is a single value that is percentage.\nThe hbalc Property is a read-only value that
20095 is provided by the Server.",
20096         "parameters": [
20097           {
20098             "$ref": "#/parameters/interface"
20099           }
20100         ],
20101         "responses": {
20102           "200": {
20103             "description": "",
20104             "x-example": {
20105               "rt": [
20106                 "oic.r.glucose.hbalc"
20107               ],
20108               "hbalc": 5.0
20109             },
20110             "schema": {
20111               "$ref": "#/definitions/HbA1c"
20112             }
20113           }
20114         }
20115       }
20116     },
20117     "parameters": {
20118       "interface": {
20119         "in": "query",
20120         "name": "if",
20121         "type": "string",
20122         "enum": [
20123           "oic.if.s",
20124           "oic.if.baseline"
20125         ]
20126       }
20127     },
20128     "definitions": {
20129       "HbA1c": {
20130         "properties": {
20131           "rt": {
20132             "description": "Resource Type",
20133             "items": {
20134               "enum": [
20135                 "oic.r.glucose.hbalc"
20136               ],
20137               "type": "string",
20138               "maxLength": 64
20139             },
20140             "minItems": 1,
20141             "uniqueItems": true,
20142             "readOnly": true,
20143             "type": "array"
20144           },
20145           "hbalc": {
20146             "description": "Current HbA1c measurement in percentage",
20147             "maximum": 100.0,
20148             "minimum": 0.0,
20149             "readOnly": true,
20150             "type": "number"
20151           },
20152           "range": {
20153             "$ref":
20154 "https://openconnectivityfoundation.github.io/IoTDataModels/schemas/oic.baseresource.properties-
20155 schema.json#/definitions/range_number"
20156           },
20157           "step": {
20158             "$ref":
20159 "https://openconnectivityfoundation.github.io/IoTDataModels/schemas/oic.baseresource.properties-
20160 schema.json#/definitions/step_number"
20161           }
20162         }

```

```

20163     "precision": {
20164         "$ref":
20165         "https://openconnectivityfoundation.github.io/IoTDataModels/schemas/oic.baseresource.properties-
20166         schema.json#/definitions/precision"
20167     },
20168     "n": {
20169         "$ref":
20170         "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
20171         schema.json#/definitions/n"
20172     },
20173     "id": {
20174         "$ref":
20175         "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
20176         schema.json#/definitions/id"
20177     },
20178     "if": {
20179         "description": "The OCF Interface set supported by this Resource",
20180         "items": {
20181             "enum": [
20182                 "oic.if.s",
20183                 "oic.if.baseline"
20184             ],
20185             "type": "string",
20186             "maxLength": 64
20187         },
20188         "minItems": 1,
20189         "readOnly": true,
20190         "uniqueItems": true,
20191         "type": "array"
20192     }
20193 },
20194 "type": "object",
20195 "required": [
20196     "hbalc"
20197 ]
20198 }
20199 }
20200 }
20201

```

20202 6.102.5 Property definition

20203 Table 207 defines the Properties that are part of the "oic.r.glucose.hba1c" Resource Type.

20204 **Table 207 – The Property definitions of the Resource with type "rt" = "oic.r.glucose.hba1c".**

Property name	Value type	Mandatory	Access mode	Description
precision	multiple types: see schema	No	Read Write	
range	multiple types: see schema	No	Read Write	
n	multiple types: see schema	No	Read Write	
step	multiple types: see schema	No	Read Write	
hba1c	number	Yes	Read Only	Current HbA1c measurement in percentage

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

20205 **6.102.6 CRUDN behaviour**

20206 Table 208 defines the CRUDN operations that are supported on the "oic.r.glucose.hba1c" Resource
20207 Type.

20208 **Table 208 – The CRUDN operations of the Resource with type "rt" = "oic.r.glucose.hba1c".**

Create	Read	Update	Delete	Notify
	get			observe

20209 **6.103 Context Health for Glucose Meter**

20210 **6.103.1 Introduction**

20211 This Resource describes the Properties associated with context health.
20212 The health Property is a read-only value that is provided by the Server where
20213 minor and major are related to the general health or the level of illness of the person;
20214 menses refers to the female menstrual cycle;
20215 stress refers to physiological or psychological stress.

20216 **6.103.2 Example URI**

20217 /GlucoseHealthResURI

20218 **6.103.3 Resource type**

20219 The Resource Type is defined as: "oic.r.glucose.health".

20220 **6.103.4 OpenAPI 2.0 definition**

```

20221 {
20222   "swagger": "2.0",
20223   "info": {
20224     "title": "Context Health for Glucose Meter",
20225     "version": "2019-03-22",
20226     "license": {
20227       "name": "OCF Data Model License",
20228       "url":
20229 "https://github.com/openconnectivityfoundation/core/blob/e28a9e0a92e17042ba3e83661e4c0fbce8bdc4ba/LI
20230 CENSE.md",
20231       "x-copyright": "Copyright 2016-2019 Open Connectivity Foundation, Inc. All rights reserved."
20232     },
20233     "termsOfService": "https://openconnectivityfoundation.github.io/core/DISCLAIMER.md"
20234   },
20235   "schemes": [
20236     "http"
20237   ],
20238   "consumes": [
20239     "application/json"
20240   ],
20241   "produces": [

```

```

20242     "application/json"
20243   ],
20244   "paths": {
20245     "/GlucoseHealthResURI": {
20246       "get": {
20247         "description": "This Resource describes the Properties associated with context health.\nThe
20248 health Property is a read-only value that is provided by the Server where\nminor and major are
20249 related to the general health or the level of illness of the person;\nmenses refers to the female
20250 menstrual cycle;\nstress refers to physiological or psychological stress.",
20251         "parameters": [
20252           {
20253             "$ref": "#/parameters/interface"
20254           }
20255         ],
20256         "responses": {
20257           "200": {
20258             "description": "",
20259             "x-example": {
20260               "rt": [
20261                 "oic.r.glucose.health"
20262               ],
20263               "health": "major"
20264             },
20265             "schema": {
20266               "$ref": "#/definitions/GlucoseHealth"
20267             }
20268           }
20269         }
20270       }
20271     }
20272   },
20273   "parameters": {
20274     "interface": {
20275       "in": "query",
20276       "name": "if",
20277       "type": "string",
20278       "enum": [
20279         "oic.if.s",
20280         "oic.if.baseline"
20281       ]
20282     }
20283   },
20284   "definitions": {
20285     "GlucoseHealth": {
20286       "properties": {
20287         "rt": {
20288           "description": "Resource Type",
20289           "items": {
20290             "enum": [
20291               "oic.r.glucose.health"
20292             ],
20293             "type": "string",
20294             "maxLength": 64
20295           },
20296           "minItems": 1,
20297           "readOnly": true,
20298           "type": "array"
20299         },
20300         "health": {
20301           "description": "The various levels of health a person feels when taking a glucose.",
20302           "enum": [
20303             "minor",
20304             "major",
20305             "menses",
20306             "stress",
20307             "none"
20308           ],
20309           "readOnly": true,
20310           "type": "string"
20311         }
20312       },
20313       "n": {

```



```

20314 "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
20315 schema.json#/definitions/n"
20316   },
20317   "id": {
20318     "$ref":
20319     "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
20320     schema.json#/definitions/id"
20321   },
20322   "if": {
20323     "description": "The OCF Interface set supported by this Resource",
20324     "items": {
20325       "enum": [
20326         "oic.if.s",
20327         "oic.if.baseline"
20328       ],
20329       "type": "string",
20330       "maxLength": 64
20331     },
20332     "minItems": 1,
20333     "readOnly": true,
20334     "uniqueItems": true,
20335     "type": "array"
20336   }
20337 },
20338 "type": "object",
20339 "required": [
20340   "health"
20341 ]
20342 }
20343 }
20344 }
20345

```

6.103.5 Property definition

Table 209 defines the Properties that are part of the "oic.r.glucose.health" Resource Type.

Table 209 – The Property definitions of the Resource with type "rt" = "oic.r.glucose.health".

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

20350 **6.103.6 CRUDN behaviour**

20351 Table 210 defines the CRUDN operations that are supported on the "oic.r.glucose.health" Resource
 20352 Type.

20353 **Table 210 – The CRUDN operations of the Resource with type "rt" = "oic.r.glucose.health".**

Create	Read	Update	Delete	Notify
	get			observe

20354 **6.104 Context Meal for Glucose Meter**

20355 **6.104.1 Introduction**

20356 This Resource describes the Properties associated with context meal.
 20357 Preprandial means pre-meal.
 20358 Postprandial means post-meal.
 20359 Fasting means the effect of long-term absence of food intake (overnight).
 20360 The meal Property is a read-only value that is provided by the Server.

20361 **6.104.2 Example URI**

20362 /GlucoseMealResURI

20363 **6.104.3 Resource type**

20364 The Resource Type is defined as: "oic.r.glucose.meal".

20365 **6.104.4 OpenAPI 2.0 definition**

```

20366 {
20367   "swagger": "2.0",
20368   "info": {
20369     "title": "Context Meal for Glucose Meter",
20370     "version": "2019-03-22",
20371     "license": {
20372       "name": "OCF Data Model License",
20373       "url":
20374 "https://github.com/openconnectivityfoundation/core/blob/e28a9e0a92e17042ba3e83661e4c0fbce8bdc4ba/LI
20375 CENSE.md",
20376       "x-copyright": "Copyright 2016-2019 Open Connectivity Foundation, Inc. All rights reserved."
20377     },
20378     "termsOfService": "https://openconnectivityfoundation.github.io/core/DISCLAIMER.md"
20379   },
20380   "schemes": [
20381     "http"
20382   ],
20383   "consumes": [
20384     "application/json"
20385   ],
20386   "produces": [
20387     "application/json"
20388   ],
20389   "paths": {
20390     "/GlucoseMealResURI": {
20391       "get": {
20392         "description": "This Resource describes the Properties associated with context
20393 meal.\nPreprandial means pre-meal.\nPostprandial means post-meal.\nFasting means the effect of long-
20394 term absence of food intake (overnight).\nThe meal Property is a read-only value that is provided by
20395 the Server.",
20396         "parameters": [
20397           {
20398             "$ref": "#/parameters/interface"
20399           }
20400         ],
20401         "responses": {
20402           "200": {

```

```

20403         "description": "",
20404         "x-example": {
20405             "rt": [
20406                 "oic.r.glucose.meal"
20407             ],
20408             "meal": "preprandial"
20409         },
20410         "schema": {
20411             "$ref": "#/definitions/GlucoseMeal"
20412         }
20413     }
20414 }
20415 }
20416 },
20417 },
20418 "parameters": {
20419     "interface": {
20420         "in": "query",
20421         "name": "if",
20422         "type": "string",
20423         "enum": [
20424             "oic.if.s",
20425             "oic.if.baseline"
20426         ]
20427     }
20428 },
20429 "definitions": {
20430     "GlucoseMeal": {
20431         "properties": {
20432             "rt": {
20433                 "description": "Resource Type",
20434                 "items": {
20435                     "enum": [
20436                         "oic.r.glucose.meal"
20437                     ],
20438                     "type": "string",
20439                     "maxLength": 64
20440                 },
20441                 "minItems": 1,
20442                 "uniqueItems": true,
20443                 "readOnly": true,
20444                 "type": "array"
20445             },
20446             "meal": {
20447                 "description": "Time of day when the measurement is taken.",
20448                 "enum": [
20449                     "preprandial",
20450                     "postprandial",
20451                     "fasting",
20452                     "bedtime",
20453                     "casual"
20454                 ],
20455                 "readOnly": true,
20456                 "type": "string"
20457             },
20458             "n": {
20459                 "$ref":
20460 "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
20461 schema.json#/definitions/n"
20462             },
20463             "id": {
20464                 "$ref":
20465 "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
20466 schema.json#/definitions/id"
20467             },
20468             "if": {
20469                 "description": "The OCF Interface set supported by this Resource",
20470                 "items": {
20471                     "enum": [
20472                         "oic.if.s",
20473                         "oic.if.baseline"
20474                     ],

```

```

20475         "type": "string",
20476         "maxLength": 64
20477     },
20478     "minItems": 1,
20479     "readOnly": true,
20480     "uniqueItems": true,
20481     "type": "array"
20482 }
20483 },
20484 "type": "object",
20485 "required": [
20486     "meal"
20487 ]
20488 }
20489 }
20490 }
20491

```

20492 **6.104.5 Property definition**

20493 Table 211 defines the Properties that are part of the "oic.r.glucose.meal" Resource Type.

20494 **Table 211 – The Property definitions of the Resource with type "rt" = "oic.r.glucose.meal".**

Property name	Value type	Mandatory	Access mode	Description
meal	string	Yes	Read Only	Time of day when the measurement is taken.
if	array: see schema	No	Read Only	The OCF Interface set supported by this Resource
id	multiple types: see schema	No	Read Write	
n	multiple types: see schema	No	Read Write	
rt	array: see schema	No	Read Only	Resource Type

20495 **6.104.6 CRUDN behaviour**

20496 Table 212 defines the CRUDN operations that are supported on the "oic.r.glucose.meal" Resource Type.

20498 **Table 212 – The CRUDN operations of the Resource with type "rt" = "oic.r.glucose.meal".**

Create	Read	Update	Delete	Notify
	get			observe

20499 **6.105 Context Medication for Glucose Meter**

20500 **6.105.1 Introduction**

20501 This Resource describes the Properties associated with context medication.
20502 The unit is a single value that is one of mg and mL.
20503 The medication Property has a default unit of milligrams[mg].
20504 The medication, unit and regimen Properties are read-only values that are provided by the Server.
20505 When range is omitted the default is 0 to +MAXFLOAT.

20506 **6.105.2 Example URI**

20507 /GlucoseMedicationResURI

20508 **6.105.3 Resource type**

20509 The Resource Type is defined as: "oic.r.glucose.medication".

20510 **6.105.4 OpenAPI 2.0 definition**

```
20511 {  
20512   "swagger": "2.0",  
20513   "info": {  
20514     "title": "Context Medication for Glucose Meter",  
20515     "version": "2019-03-22",  
20516     "license": {  
20517       "name": "OCF Data Model License",  
20518       "url":  
20519       "https://github.com/openconnectivityfoundation/core/blob/e28a9e0a92e17042ba3e83661e4c0fbce8bdc4ba/LI  
20520       CENSE.md",  
20521       "x-copyright": "Copyright 2016-2019 Open Connectivity Foundation, Inc. All rights reserved."  
20522     },  
20523     "termsOfService": "https://openconnectivityfoundation.github.io/core/DISCLAIMER.md"  
20524   },  
20525   "schemes": [  
20526     "http"  
20527   ],  
20528   "consumes": [  
20529     "application/json"  
20530   ],  
20531   "produces": [  
20532     "application/json"  
20533   ],  
20534   "paths": {  
20535     "/GlucoseMedicationResURI": {  
20536       "get": {  
20537         "description": "This Resource describes the Properties associated with context  
20538         medication.\n\nThe unit is a single value that is one of mg and mL.\n\nThe medication Property has a  
20539         default unit of milligrams[mg].\n\nThe medication, unit and regimen Properties are read-only values  
20540         that are provided by the Server.\n\nWhen range is omitted the default is 0 to +MAXFLOAT.",  
20541         "parameters": [  
20542           {  
20543             "$ref": "#/parameters/interface"  
20544           }  
20545         ],  
20546         "responses": {  
20547           "200": {  
20548             "description": "",  
20549             "x-example": {  
20550               "rt": [  
20551                 "oic.r.glucose.medication"  
20552               ],  
20553               "medication": 100.0,  
20554               "units": "mg",  
20555               "regimen": "rapidacting"  
20556             },  
20557             "schema": {  
20558               "$ref": "#/definitions/GlucoseMedication"  
20559             }  
20560           }  
20561         }  
20562       }  
20563     }  
20564   }  
20565 }
```

```

20562     }
20563   }
20564 },
20565 "parameters": {
20566   "interface": {
20567     "in": "query",
20568     "name": "if",
20569     "type": "string",
20570     "enum": [
20571       "oic.if.s",
20572       "oic.if.baseline"
20573     ]
20574   }
20575 },
20576 "definitions": {
20577   "GlucoseMedication": {
20578     "properties": {
20579       "rt": {
20580         "description": "Resource Type",
20581         "items": {
20582           "enum": [
20583             "oic.r.glucose.medication"
20584           ],
20585           "type": "string",
20586           "maxLength": 64
20587         },
20588         "minItems": 1,
20589         "uniqueItems": true,
20590         "readOnly": true,
20591         "type": "array"
20592       },
20593       "regimen": {
20594         "description": "Medication regimen",
20595         "enum": [
20596           "rapidacting",
20597           "shortacting",
20598           "intermediateacting",
20599           "longacting",
20600           "premix"
20601         ],
20602         "readOnly": true,
20603         "type": "string"
20604       },
20605       "medication": {
20606         "description": "The amount of medication taken",
20607         "readOnly": true,
20608         "type": "number",
20609         "minimum": 0.0
20610       },
20611       "units": {
20612         "description": "Unit for the amount of medication taken",
20613         "enum": [
20614           "mg",
20615           "mL"
20616         ],
20617         "readOnly": true,
20618         "type": "string",
20619         "default": "mg"
20620       },
20621       "range": {
20622         "$ref":
20623         "https://openconnectivityfoundation.github.io/IoTDataModels/schemas/oic.baseresource.properties-
20624         schema.json#/definitions/range_number"
20625       },
20626       "step": {
20627         "$ref":
20628         "https://openconnectivityfoundation.github.io/IoTDataModels/schemas/oic.baseresource.properties-
20629         schema.json#/definitions/step_number"
20630       },
20631       "precision": {
20632         "$ref":
20633         "https://openconnectivityfoundation.github.io/IoTDataModels/schemas/oic.baseresource.properties-

```

```

20634 schema.json#/definitions/precision"
20635     },
20636     "n": {
20637       "$ref":
20638       "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
20639       schema.json#/definitions/n"
20640     },
20641     "id": {
20642       "$ref":
20643       "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
20644       schema.json#/definitions/id"
20645     },
20646     "if": {
20647       "description": "The OCF Interface set supported by this Resource",
20648       "items": {
20649         "enum": [
20650           "oic.if.s",
20651           "oic.if.baseline"
20652         ],
20653         "type": "string",
20654         "maxLength": 64
20655       },
20656       "minItems": 1,
20657       "readOnly": true,
20658       "uniqueItems": true,
20659       "type": "array"
20660     }
20661   },
20662   "type": "object",
20663   "required": [
20664     "medication"
20665   ]
20666 }
20667 }
20668 }
20669

```

6.105.5 Property definition

Table 213 defines the Properties that are part of the "oic.r.glucose.medication" Resource Type.

Table 213 – The Property definitions of the Resource with type "rt" = "oic.r.glucose.medication".

Property name	Value type	Mandatory	Access mode	Description
id	multiple types: see schema	No	Read Write	
if	array: see schema	No	Read Only	The OCF Interface set supported by this Resource
medication	number	Yes	Read Only	The amount of medication taken
n	multiple types: see schema	No	Read Write	
precision	multiple types: see schema	No	Read Write	

range	multiple types: see schema	No	Read Write	
regimen	string	No	Read Only	Medication regimen
rt	array: see schema	No	Read Only	Resource Type
units	string	No	Read Only	Unit for the amount of medication taken
step	multiple types: see schema	No	Read Write	

20674 **6.105.6 CRUDN behaviour**

20675 Table 214 defines the CRUDN operations that are supported on the "oic.r.glucose.medication"
20676 Resource Type.

20677 **Table 214 – The CRUDN operations of the Resource with type "rt" =**
20678 **"oic.r.glucose.medication".**

Create	Read	Update	Delete	Notify
	get			observe

20679 **6.106 Glucose Meter Atomic Measurement**

20680 **6.106.1 Introduction**

20681 This Resource describes the Properties associated with glucose meter.
20682 The Resource is an Atomic Measurement of glucose (oic.r.glucose), context carbohydrates
20683 (oic.r.glucose.carb), context exercise (oic.r.glucose.exercise), Hemoglobin Bound to glucose a1c
20684 Form (HbA1c) (oic.r.glucose.hba1c), context health (oic.r.glucose.health), context meal
20685 (oic.r.glucose.meal), context medication (oic.r.glucose.medication), context sample location
20686 (oic.r.glucose.samplelocation), context tester (oic.r.glucose.tester), observed time
20687 (oic.r.time.stamp), and user id (oic.r.userid).

20688 **6.106.2 Example URI**

20689 /GlucoseMeterAMResURI

20690 **6.106.3 Resource type**

20691 The Resource Type is defined as: "oic.r.glucosemeter-am, oic.wk.atomicmeasurement".

20692 **6.106.4 OpenAPI 2.0 definition**

20693 {
20694 "swagger": "2.0",
20695 "info": {
20696 "title": "Glucose Meter Atomic Measurement",
20697 "version": "2019-03-22",
20698 "license": {
20699 "name": "OCF Data Model License",
20700 "url":
20701 "https://github.com/openconnectivityfoundation/core/blob/e28a9e0a92e17042ba3e83661e4c0fbce8bdc4ba/LI
20702 CENSE.md",


```

20703     "x-copyright": "Copyright 2016-2019 Open Connectivity Foundation, Inc. All rights reserved."
20704   },
20705   "termsOfService": "https://openconnectivityfoundation.github.io/core/DISCLAIMER.md"
20706 },
20707 "schemes": [
20708   "http"
20709 ],
20710 "consumes": [
20711   "application/json"
20712 ],
20713 "produces": [
20714   "application/json"
20715 ],
20716 "paths": {
20717   "/GlucoseMeterAMResURI?if=oic.if.b": {
20718     "get": {
20719       "description": "This Resource describes the Properties associated with glucose meter.\nThe
20720 Resource is an Atomic Measurement of glucose (oic.r.glucose), context carbohydrates
20721 (oic.r.glucose.carb), context exercise (oic.r.glucose.exercise), hemoglobin bound to glucose alc
20722 Form (HbA1c) (oic.r.glucose.hbalc), context health (oic.r.glucose.health), context meal
20723 (oic.r.glucose.meal), context medication (oic.r.glucose.medication), context sample location
20724 (oic.r.glucose.samplelocation), context tester (oic.r.glucose.tester), observed time
20725 (oic.r.time.stamp), and user id (oic.r.userid).",
20726       "parameters": [
20727         {
20728           "$ref": "#/parameters/interface-all"
20729         }
20730       ],
20731       "responses": {
20732         "200": {
20733           "description": "",
20734           "x-example": [
20735             {
20736               "href": "/myGlucose",
20737               "rep": {
20738                 "glucose": 100.0,
20739                 "units": "mg/dL",
20740                 "range": [
20741                   20.0,
20742                   600.0
20743                 ],
20744                 "step": 1
20745               }
20746             },
20747             {
20748               "href": "/myGlucoseCarb",
20749               "rep": {
20750                 "carb": 100.0,
20751                 "meal": "breakfast"
20752               }
20753             },
20754             {
20755               "href": "/myGlucoseExercise",
20756               "rep": {
20757                 "exercise": 30.0
20758               }
20759             },
20760             {
20761               "href": "/myGlucoseHbA1c",
20762               "rep": {
20763                 "hbalc": 5.0
20764               }
20765             },
20766             {
20767               "href": "/myGlucoseHealth",
20768               "rep": {
20769                 "health": "major"
20770               }
20771             },
20772             {
20773               "href": "/myGlucoseMeal",
20774               "rep": {

```

```

20775         "meal": "preprandial"
20776     }
20777 },
20778 {
20779     "href": "/myGlucoseMeditation",
20780     "rep": {
20781         "medication": 100.0,
20782         "units": "mg",
20783         "regimen": "rapidacting"
20784     }
20785 },
20786 {
20787     "href": "/myGlucoseSampleLocation",
20788     "rep": {
20789         "samplelocation": "finger"
20790     }
20791 },
20792 {
20793     "href": "/myGlucoseTester",
20794     "rep": {
20795         "tester": "self"
20796     }
20797 },
20798 {
20799     "href": "/myUserId",
20800     "rep": {
20801         "userid": "USER1"
20802     }
20803 },
20804 {
20805     "href": "/myTimeStamp",
20806     "rep": {
20807         "timestamp": "2018-11-09T12:15+08:00"
20808     }
20809 },
20810 ],
20811 "schema": {
20812     "$ref": "#/definitions/batch-retrieve"
20813 }
20814 }
20815 }
20816 },
20817 {
20818     "/GlucoseMeterAMResURI?if=oic.if.ll": {
20819         "get": {
20820             "description": "This Resource describes the Properties associated with glucose meter.\nThe
20821 Resource is an Atomic Measurement of glucose (oic.r.glucose), context carbohydrates
20822 (oic.r.glucose.carb), context exercise (oic.r.glucose.exercise), hemoglobin bound to glucose alc
20823 Form (HbA1c) (oic.r.glucose.hb1c), context health (oic.r.glucose.health), context meal
20824 (oic.r.glucose.meal), context medication (oic.r.glucose.medication), context sample location
20825 (oic.r.glucose.samplelocation), context tester (oic.r.glucose.tester), observed time
20826 (oic.r.time.stamp), and user id (oic.r.userid).",
20827             "parameters": [
20828                 {
20829                     "$ref": "#/parameters/interface-all"
20830                 }
20831             ],
20832             "responses": {
20833                 "200": {
20834                     "description": "",
20835                     "x-example": [
20836                         {
20837                             "href": "/myGlucose",
20838                             "rt": [
20839                                 "oic.r.glucose"
20840                             ],
20841                             "if": [
20842                                 "oic.if.s",
20843                                 "oic.if.baseline"
20844                             ]
20845                         },
20846                     ]

```

```

20847     "href": "/myGlucoseCarb",
20848     "rt": [
20849         "oic.r.glucose.carb"
20850     ],
20851     "if": [
20852         "oic.if.s",
20853         "oic.if.baseline"
20854     ]
20855 },
20856 {
20857     "href": "/myGlucoseExercise",
20858     "rt": [
20859         "oic.r.glucose.exercise"
20860     ],
20861     "if": [
20862         "oic.if.s",
20863         "oic.if.baseline"
20864     ]
20865 },
20866 {
20867     "href": "/myGlucoseHbA1c",
20868     "rt": [
20869         "oic.r.glucose.hb1c"
20870     ],
20871     "if": [
20872         "oic.if.s",
20873         "oic.if.baseline"
20874     ]
20875 },
20876 {
20877     "href": "/myGlucoseHealth",
20878     "rt": [
20879         "oic.r.glucose.health"
20880     ],
20881     "if": [
20882         "oic.if.s",
20883         "oic.if.baseline"
20884     ]
20885 },
20886 {
20887     "href": "/myGlucoseMeal",
20888     "rt": [
20889         "oic.r.glucose.meal"
20890     ],
20891     "if": [
20892         "oic.if.s",
20893         "oic.if.baseline"
20894     ]
20895 },
20896 {
20897     "href": "/myGlucoseMedication",
20898     "rt": [
20899         "oic.r.glucose.medication"
20900     ],
20901     "if": [
20902         "oic.if.s",
20903         "oic.if.baseline"
20904     ]
20905 },
20906 {
20907     "href": "/myGlucoseSampleLocation",
20908     "rt": [
20909         "oic.r.glucose.samplelocation"
20910     ],
20911     "if": [
20912         "oic.if.r",
20913         "oic.if.baseline"
20914     ]
20915 },
20916 {
20917     "href": "/myGlucoseTester",
20918     "rt": [

```

```

20919         "oic.r.glucose.tester"
20920     ],
20921     "if": [
20922         "oic.if.r",
20923         "oic.if.baseline"
20924     ]
20925 },
20926 {
20927     "href": "/myUserId",
20928     "rt": [
20929         "oic.r.userid"
20930     ],
20931     "if": [
20932         "oic.if.r",
20933         "oic.if.baseline"
20934     ]
20935 },
20936 {
20937     "href": "/myTimeStamp",
20938     "rt": [
20939         "oic.r.time.stamp"
20940     ],
20941     "if": [
20942         "oic.if.r",
20943         "oic.if.baseline"
20944     ]
20945 }
20946 ],
20947 "schema": {
20948     "$ref": "#/definitions/links"
20949 }
20950 }
20951 }
20952 },
20953 "/GlucoseMeterAMResURI?if=oic.if.baseline": {
20954     "get": {
20955         "description": "This Resource describes the Properties associated with glucose meter.\nThe
20956 Resource is an Atomic Measurement of glucose (oic.r.glucose), context carbohydrates
20957 (oic.r.glucose.carb), context exercise (oic.r.glucose.exercise), Hemoglobin Bound to glucose alc
20958 Form (HbA1c) (oic.r.glucose.hb1c), context health (oic.r.glucose.health), context meal
20959 (oic.r.glucose.meal), context medication (oic.r.glucose.medication), context sample location
20960 (oic.r.glucose.samplelocation), context tester (oic.r.glucose.tester), observed time
20961 (oic.r.time.stamp), and user id (oic.r.userid).",
20962         "parameters": [
20963             {
20964                 "$ref": "#/parameters/interface-all"
20965             }
20966         ],
20967         "responses": {
20968             "200": {
20969                 "description": "",
20970                 "x-example": {
20971                     "rt": [
20972                         "oic.r.glucosemeter-am",
20973                         "oic.wk.atomicmeasurement"
20974                     ],
20975                     "if": [
20976                         "oic.if.b",
20977                         "oic.if.ll",
20978                         "oic.if.baseline"
20979                     ],
20980                     "rts": [
20981                         "oic.r.glucose",
20982                         "oic.r.glucose.carb",
20983                         "oic.r.glucose.exercise",
20984                         "oic.r.glucose.hb1c",
20985                         "oic.r.glucose.health",
20986                         "oic.r.glucose.meal",
20987                         "oic.r.glucose.medication",
20988                         "oic.r.glucose.samplelocation",
20989                         "oic.r.glucose.tester",
20990

```

```

20991         "oic.r.userid",
20992         "oic.r.time.stamp"
20993     ],
20994     "rts-m": [
20995         "oic.r.glucose"
20996     ],
20997     "links": [
20998         {
20999             "href": "/myGlucose",
21000             "rt": [
21001                 "oic.r.glucose"
21002             ],
21003             "if": [
21004                 "oic.if.s",
21005                 "oic.if.baseline"
21006             ]
21007         },
21008         {
21009             "href": "/myGlucoseCarb",
21010             "rt": [
21011                 "oic.r.glucose.carb"
21012             ],
21013             "if": [
21014                 "oic.if.s",
21015                 "oic.if.baseline"
21016             ]
21017         },
21018         {
21019             "href": "/myGlucoseExercise",
21020             "rt": [
21021                 "oic.r.glucose.exercise"
21022             ],
21023             "if": [
21024                 "oic.if.s",
21025                 "oic.if.baseline"
21026             ]
21027         },
21028         {
21029             "href": "/myGlucoseHbA1c",
21030             "rt": [
21031                 "oic.r.glucose.hbA1c"
21032             ],
21033             "if": [
21034                 "oic.if.s",
21035                 "oic.if.baseline"
21036             ]
21037         },
21038         {
21039             "href": "/myGlucoseHealth",
21040             "rt": [
21041                 "oic.r.glucose.health"
21042             ],
21043             "if": [
21044                 "oic.if.s",
21045                 "oic.if.baseline"
21046             ]
21047         },
21048         {
21049             "href": "/myGlucoseMeal",
21050             "rt": [
21051                 "oic.r.glucose.meal"
21052             ],
21053             "if": [
21054                 "oic.if.s",
21055                 "oic.if.baseline"
21056             ]
21057         },
21058         {
21059             "href": "/myGlucoseMedication",
21060             "rt": [
21061                 "oic.r.glucose.medication"
21062             ],

```

```

21063         "if": [
21064             "oic.if.s",
21065             "oic.if.baseline"
21066         ]
21067     },
21068     {
21069         "href": "/myGlucoseSampleLocation",
21070         "rt": [
21071             "oic.r.glucose.samplelocation"
21072         ],
21073         "if": [
21074             "oic.if.r",
21075             "oic.if.baseline"
21076         ]
21077     },
21078     {
21079         "href": "/myGlucoseTester",
21080         "rt": [
21081             "oic.r.glucose.testster"
21082         ],
21083         "if": [
21084             "oic.if.r",
21085             "oic.if.baseline"
21086         ]
21087     },
21088     {
21089         "href": "/myUserId",
21090         "rt": [
21091             "oic.r.userid"
21092         ],
21093         "if": [
21094             "oic.if.r",
21095             "oic.if.baseline"
21096         ]
21097     },
21098     {
21099         "href": "/myTimeStamp",
21100         "rt": [
21101             "oic.r.time.stamp"
21102         ],
21103         "if": [
21104             "oic.if.r",
21105             "oic.if.baseline"
21106         ]
21107     }
21108 ]
21109 },
21110 "schema": {
21111     "$ref": "#/definitions/baseline"
21112 }
21113 }
21114 }
21115 }
21116 }
21117 },
21118 "parameters": {
21119     "interface-all": {
21120         "in": "query",
21121         "name": "if",
21122         "type": "string",
21123         "enum": [
21124             "oic.if.b",
21125             "oic.if.ll",
21126             "oic.if.baseline"
21127         ]
21128     }
21129 },
21130 "definitions": {
21131     "links": {
21132         "type": "array",
21133         "items": {
21134             "$ref": "#/definitions/oic.oic-link"

```

```

21135     }
21136   },
21137   "batch-retrieve": {
21138     "minItems": 1,
21139     "items": {
21140       "properties": {
21141         "href": {
21142           "$ref":
21143             "https://openconnectivityfoundation.github.io/core/schemas/oic.links.properties.core-
21144             schema.json#/definitions/href"
21145         },
21146         "rep": {
21147           "type": "object",
21148           "anyOf": [
21149             {
21150               "$ref":
21151                 "https://openconnectivityfoundation.github.io/IoTDataModels/GlucoseResURI.swagger.json#/definitions/
21152                 Glucose"
21153             },
21154             {
21155               "$ref":
21156                 "https://openconnectivityfoundation.github.io/IoTDataModels/GlucoseCarbResURI.swagger.json#/definiti
21157                 ons/GlucoseCarb"
21158             },
21159             {
21160               "$ref":
21161                 "https://openconnectivityfoundation.github.io/IoTDataModels/ExerciseResURI.swagger.json#/definitions
21162                 /Exercise"
21163             },
21164             {
21165               "$ref":
21166                 "https://openconnectivityfoundation.github.io/IoTDataModels/GlucoseHbA1cResURI.swagger.json#/definit
21167                 ions/HbA1c"
21168             },
21169             {
21170               "$ref":
21171                 "https://openconnectivityfoundation.github.io/IoTDataModels/GlucoseHealthResURI.swagger.json#/defini
21172                 tions/GlucoseHealth"
21173             },
21174             {
21175               "$ref":
21176                 "https://openconnectivityfoundation.github.io/IoTDataModels/GlucoseMealResURI.swagger.json#/definiti
21177                 ons/GlucoseMeal"
21178             },
21179             {
21180               "$ref":
21181                 "https://openconnectivityfoundation.github.io/IoTDataModels/GlucoseMedicationResURI.swagger.json#/de
21182                 finitions/GlucoseMedication"
21183             },
21184             {
21185               "$ref":
21186                 "https://openconnectivityfoundation.github.io/IoTDataModels/GlucoseSampleLocationResURI.swagger.json
21187                 #/definitions/GlucoseSampleLocation"
21188             },
21189             {
21190               "$ref":
21191                 "https://openconnectivityfoundation.github.io/IoTDataModels/GlucoseTesterResURI.swagger.json#/defini
21192                 tions/GlucoseTester"
21193             },
21194             {
21195               "$ref":
21196                 "https://openconnectivityfoundation.github.io/IoTDataModels/UserIDResURI.swagger.json#/definitions/U
21197                 serID"
21198             },
21199             {
2200               "$ref":
2201                 "https://openconnectivityfoundation.github.io/IoTDataModels/TimeStampResURI.swagger.json#/definition
2202                 s/TimeStamp"
2203             }
2204           ]
2205         }
2206       },

```

```

21207         "required": [
21208             "href",
21209             "rep"
21210         ],
21211         "type": "object"
21212     },
21213     "type": "array"
21214 },
21215 "baseline": {
21216     "properties": {
21217         "rt": {
21218             "items": {
21219                 "enum": [
21220                     "oic.r.glucosemeter-am",
21221                     "oic.wk.atomicmeasurement"
21222                 ],
21223                 "type": "string",
21224                 "maxLength": 64
21225             },
21226             "minItems": 2,
21227             "uniqueItems": true,
21228             "readOnly": true,
21229             "type": "array"
21230         },
21231         "rts": {
21232             "description": "This contains all possible Resource Types for this Atomic Measurement.",
21233             "items": {
21234                 "enum": [
21235                     "oic.r.glucose",
21236                     "oic.r.glucose.carb",
21237                     "oic.r.glucose.exercise",
21238                     "oic.r.glucose.hbabc",
21239                     "oic.r.glucose.health",
21240                     "oic.r.glucose.meal",
21241                     "oic.r.glucose.medication",
21242                     "oic.r.glucose.samplelocation",
21243                     "oic.r.glucose.testers",
21244                     "oic.r.time.stamp",
21245                     "oic.r.userid"
21246                 ],
21247                 "type": "string",
21248                 "maxLength": 64
21249             },
21250             "minItems": 1,
21251             "uniqueItems": true,
21252             "readOnly": true,
21253             "type": "array"
21254         },
21255         "rts-m": {
21256             "description": "This contains all mandatory Resource Types for this Atomic Measurement.",
21257             "items": {
21258                 "enum": [
21259                     "oic.r.glucose"
21260                 ],
21261                 "type": "string",
21262                 "maxLength": 64
21263             },
21264             "maxItems": 1,
21265             "minItems": 1,
21266             "uniqueItems": true,
21267             "readOnly": true,
21268             "type": "array"
21269         },
21270         "if": {
21271             "description": "The OCF Interface set supported by this Resource",
21272             "items": {
21273                 "enum": [
21274                     "oic.if.b",
21275                     "oic.if.ll",
21276                     "oic.if.baseline"
21277                 ],
21278                 "type": "string",

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21279         "maxLength": 64
21280     },
21281     "minItems": 3,
21282     "uniqueItems": true,
21283     "readOnly": true,
21284     "type": "array"
21285 },
21286 "n": {
21287     "$ref":
21288 "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
21289 schema.json#/definitions/n"
21290 },
21291 "id": {
21292     "$ref":
21293 "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
21294 schema.json#/definitions/id"
21295 },
21296 "links": {
21297     "$ref": "#/definitions/links"
21298 }
21299 },
21300 "type": "object",
21301 "required": [
21302     "rt", "if", "links", "rts", "rts-m"
21303 ]
21304 },
21305 "oic.oic-link": {
21306     "properties": {
21307         "if": {
21308             "description": "The OCF Interface set supported by the target Resource",
21309             "items": {
21310                 "enum": [
21311                     "oic.if.s",
21312                     "oic.if.r",
21313                     "oic.if.baseline"
21314                 ],
21315                 "type": "string",
21316                 "maxLength": 64
21317             },
21318             "minItems": 1,
21319             "uniqueItems": true,
21320             "readOnly": true,
21321             "type": "array"
21322         },
21323         "rt": {
21324             "description": "Resource Type of the target Resource",
21325             "items": {
21326                 "enum": [
21327                     "oic.r.glucose",
21328                     "oic.r.glucose.carb",
21329                     "oic.r.glucose.exercise",
21330                     "oic.r.glucose.hb1c",
21331                     "oic.r.glucose.health",
21332                     "oic.r.glucose.meal",
21333                     "oic.r.glucose.medication",
21334                     "oic.r.glucose.samplelocation",
21335                     "oic.r.glucose.tester",
21336                     "oic.r.time.stamp",
21337                     "oic.r.userid"
21338                 ],
21339                 "type": "string",
21340                 "maxLength": 64
21341             },
21342             "minItems": 1,
21343             "uniqueItems": true,
21344             "readOnly": true,
21345             "type": "array"
21346         },
21347         "anchor": {
21348             "$ref":
21349 "https://openconnectivityfoundation.github.io/core/schemas/oic.links.properties.core-
21350 schema.json#/definitions/anchor"

```

```

21351     },
21352     "di": {
21353       "$ref":
21354       "https://openconnectivityfoundation.github.io/core/schemas/oic.links.properties.core-
21355       schema.json#/definitions/di"
21356     },
21357     "eps": {
21358       "$ref":
21359       "https://openconnectivityfoundation.github.io/core/schemas/oic.links.properties.core-
21360       schema.json#/definitions/eps"
21361     },
21362     "href": {
21363       "$ref":
21364       "https://openconnectivityfoundation.github.io/core/schemas/oic.links.properties.core-
21365       schema.json#/definitions/href"
21366     },
21367     "ins": {
21368       "$ref":
21369       "https://openconnectivityfoundation.github.io/core/schemas/oic.links.properties.core-
21370       schema.json#/definitions/ins"
21371     },
21372     "p": {
21373       "$ref":
21374       "https://openconnectivityfoundation.github.io/core/schemas/oic.links.properties.core-
21375       schema.json#/definitions/p"
21376     },
21377     "rel": {
21378       "$ref":
21379       "https://openconnectivityfoundation.github.io/core/schemas/oic.links.properties.core-
21380       schema.json#/definitions/rel_array"
21381     },
21382     "title": {
21383       "$ref":
21384       "https://openconnectivityfoundation.github.io/core/schemas/oic.links.properties.core-
21385       schema.json#/definitions/title"
21386     },
21387     "type": {
21388       "$ref":
21389       "https://openconnectivityfoundation.github.io/core/schemas/oic.links.properties.core-
21390       schema.json#/definitions/type"
21391     }
21392   },
21393   "required": [
21394     "href",
21395     "rt",
21396     "if"
21397   ],
21398   "type": "object"
21399 }
21400 }
21401 }
21402

```

21403 6.106.5 Property definition

21404 Table 215 defines the Properties that are part of the "oic.r.glucosemeter-am,
21405 oic.wk.atomicmeasurement" Resource Type.

21406 **Table 215 – The Property definitions of the Resource with type "rt" = "oic.r.glucosemeter-
21407 am, oic.wk.atomicmeasurement".**

Property name	Value type	Mandatory	Access mode	Description
rep	object: see schema	Yes	Read Write	

href	multiple types: see schema	Yes	Read Write	
anchor	multiple types: see schema	No	Read Write	
ins	multiple types: see schema	No	Read Write	
href	multiple types: see schema	Yes	Read Write	
type	multiple types: see schema	No	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
eps	multiple types: see schema	No	Read Write	
p	multiple types: see schema	No	Read Write	
title	multiple types: see schema	No	Read Write	
rel	multiple types: see schema	No	Read Write	
di	multiple types: see schema	No	Read Write	
id	multiple types: see schema	No	Read Write	
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
rt	array: see schema	Yes	Read Only	
rts	array: see schema	Yes	Read Only	This contains all possible Resource Types for this Atomic Measurement.
n	multiple types: see schema	No	Read Write	
links	multiple types: see schema	Yes	Read Write	

21408 **6.106.6 CRUDN behaviour**

21409 Table 216 defines the CRUDN operations that are supported on the "oic.r.glucosemeter-am,
21410 oic.wk.atomicmeasurement" Resource Type.

21411 **Table 216 – The CRUDN operations of the Resource with type "rt" = "oic.r.glucosemeter-
21412 am, oic.wk.atomicmeasurement".**

Create	Read	Update	Delete	Notify
	get			observe

21413 **6.107 Context Sample Location for Glucose Meter**

21414 **6.107.1 Introduction**

21415 This Resource describes the Properties associated with context sample Location.
21416 AST means Alternative Site Test specifying that the location of test performed was from an
21417 alternative site on the body.
21418 The samplelocation Property is a read-only value that is provided by the Server.

21419 **6.107.2 Example URI**

21420 /GlucoseSampleLocationResURI

21421 **6.107.3 Resource type**

21422 The Resource Type is defined as: "oic.r.glucose.samplelocation".

21423 **6.107.4 OpenAPI 2.0 definition**

```
21424 {
21425   "swagger": "2.0",
21426   "info": {
21427     "title": "Context Sample Location for Glucose Meter",
21428     "version": "2019-03-22",
21429     "license": {
21430       "name": "OCF Data Model License",
21431       "url":
21432         "https://github.com/openconnectivityfoundation/core/blob/e28a9e0a92e17042ba3e83661e4c0fbce8bdc4ba/LI
21433         CENSE.md",
21434       "x-copyright": "Copyright 2016-2019 Open Connectivity Foundation, Inc. All rights reserved."
```

```

21435     },
21436     "termsOfService": "https://openconnectivityfoundation.github.io/core/DISCLAIMER.md"
21437   },
21438   "schemes": [
21439     "http"
21440   ],
21441   "consumes": [
21442     "application/json"
21443   ],
21444   "produces": [
21445     "application/json"
21446   ],
21447   "paths": {
21448     "/GlucoseSampleLocationResURI": {
21449       "get": {
21450         "description": "This Resource describes the Properties associated with context sample
21451 Location.\nAST means Alternative Site Test specifying that the location of test performed was from
21452 an alternative site on the body.\nThe samplelocation Property is a read-only value that is provided
21453 by the Server.",
21454         "parameters": [
21455           {
21456             "$ref": "#/parameters/interface"
21457           }
21458         ],
21459         "responses": {
21460           "200": {
21461             "description": "",
21462             "x-example": {
21463               "rt": [
21464                 "oic.r.glucose.samplelocation"
21465               ],
21466               "samplelocation": "finger"
21467             },
21468             "schema": {
21469               "$ref": "#/definitions/GlucoseSampleLocation"
21470             }
21471           }
21472         }
21473       }
21474     }
21475   },
21476   "parameters": {
21477     "interface": {
21478       "in": "query",
21479       "name": "if",
21480       "type": "string",
21481       "enum": [
21482         "oic.if.r",
21483         "oic.if.baseline"
21484       ]
21485     }
21486   },
21487   "definitions": {
21488     "GlucoseSampleLocation": {
21489       "properties": {
21490         "rt": {
21491           "description": "Resource Type",
21492           "items": {
21493             "enum": [
21494               "oic.r.glucose.samplelocation"
21495             ],
21496             "type": "string",
21497             "maxLength": 64
21498           },
21499           "minItems": 1,
21500           "uniqueItems": true,
21501           "readOnly": true,
21502           "type": "array"
21503         },
21504         "samplelocation": {
21505           "description": "The possible blood locations where the blood sample may be taken.",
21506           "enum": [

```

```

21507         "finger",
21508         "ast",
21509         "earlobe",
21510         "ctrlsolution"
21511     ],
21512     "readOnly": true,
21513     "type": "string"
21514 },
21515 "n": {
21516     "$ref":
21517 "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
21518 schema.json#/definitions/n"
21519 },
21520 "id": {
21521     "$ref":
21522 "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
21523 schema.json#/definitions/id"
21524 },
21525 "if": {
21526     "description": "The OCF Interface set supported by this Resource",
21527     "items": {
21528         "enum": [
21529             "oic.if.r",
21530             "oic.if.baseline"
21531         ],
21532         "type": "string",
21533         "maxLength": 64
21534     },
21535     "minItems": 1,
21536     "readOnly": true,
21537     "uniqueItems": true,
21538     "type": "array"
21539 }
21540 },
21541 "type": "object",
21542 "required": [
21543     "samplelocation"
21544 ]
21545 }
21546 }
21547 }
21548

```

21549 **6.107.5 Property definition**

21550 Table 217 defines the Properties that are part of the "oic.r.glucose.samplelocation" Resource Type.

21551 **Table 217 – The Property definitions of the Resource with type "rt" =**
21552 **"oic.r.glucose.samplelocation".**

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

n	multiple types: see schema	No	Read Write	
samplelocation	string	Yes	Read Only	The possible blood locations where the blood sample may be taken.

21553 **6.107.6 CRUDN behaviour**

21554 Table 218 defines the CRUDN operations that are supported on the "oic.r.glucose.samplelocation"
21555 Resource Type.

21556 **Table 218 – The CRUDN operations of the Resource with type "rt" =**
21557 **"oic.r.glucose.samplelocation".**

Create	Read	Update	Delete	Notify
	get			observe

21558 **6.108 Context Tester for Glucose Meter**

21559 **6.108.1 Introduction**

21560 This Resource describes the Properties associated with context tester.
21561 The tester Property is a read-only value that is provided by the Server where especially
21562 hcp stands for HealthCare Professional.

21563 **6.108.2 Example URI**

21564 /GlucoseTesterResURI

21565 **6.108.3 Resource type**

21566 The Resource Type is defined as: "oic.r.glucose.testers".

21567 **6.108.4 OpenAPI 2.0 definition**

```

21568 {
21569   "swagger": "2.0",
21570   "info": {
21571     "title": "Context Tester for Glucose Meter",
21572     "version": "2019-03-22",
21573     "license": {
21574       "name": "OCF Data Model License",
21575       "url":
21576 "https://github.com/openconnectivityfoundation/core/blob/e28a9e0a92e17042ba3e83661e4c0fbce8bdc4ba/LI
21577 CENSE.md",
21578       "x-copyright": "Copyright 2016-2019 Open Connectivity Foundation, Inc. All rights reserved."
21579     },
21580     "termsOfService": "https://openconnectivityfoundation.github.io/core/DISCLAIMER.md"
21581   },
21582   "schemes": [
21583     "http"
21584   ],
21585   "consumes": [
21586     "application/json"
21587   ],
21588   "produces": [
21589     "application/json"
21590   ],
21591   "paths": {
21592     "/GlucoseTesterResURI": {

```

```

21593     "get": {
21594         "description": "This Resource describes the Properties associated with context tester.\nThe
21595 tester Property is a read-only value that is provided by the Server where especially\nnhcp stands for
21596 HealthCare Professional.",
21597         "parameters": [
21598             {
21599                 "$ref": "#/parameters/interface"
21600             }
21601         ],
21602         "responses": {
21603             "200": {
21604                 "description": "",
21605                 "x-example": {
21606                     "rt": [
21607                         "oic.r.glucose.tester"
21608                     ],
21609                     "tester": "self"
21610                 },
21611                 "schema": {
21612                     "$ref": "#/definitions/GlucoseTester"
21613                 }
21614             }
21615         }
21616     }
21617 },
21618 },
21619 "parameters": {
21620     "interface": {
21621         "in": "query",
21622         "name": "if",
21623         "type": "string",
21624         "enum": [
21625             "oic.if.r",
21626             "oic.if.baseline"
21627         ]
21628     }
21629 },
21630 "definitions": {
21631     "GlucoseTester": {
21632         "properties": {
21633             "rt": {
21634                 "description": "Resource Type",
21635                 "items": {
21636                     "enum": [
21637                         "oic.r.glucose.tester"
21638                     ],
21639                     "type": "string",
21640                     "maxLength": 64
21641                 },
21642                 "minItems": 1,
21643                 "uniqueItems": true,
21644                 "readOnly": true,
21645                 "type": "array"
21646             },
21647             "tester": {
21648                 "description": "The possible cases of testers who may perform the blood sugar
21649 measurement.",
21650                 "enum": [
21651                     "self",
21652                     "hcp",
21653                     "lab"
21654                 ],
21655                 "readOnly": true,
21656                 "type": "string"
21657             },
21658             "n": {
21659                 "$ref":
21660 "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
21661 schema.json#/definitions/n"
21662             },
21663             "id": {
21664                 "$ref":

```



```

21665 "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
21666 schema.json#/definitions/id"
21667 },
21668 "if": {
21669 "description": "The OCF Interface set supported by this Resource",
21670 "items": {
21671 "enum": [
21672 "oic.if.r",
21673 "oic.if.baseline"
21674 ],
21675 "type": "string",
21676 "maxLength": 64
21677 },
21678 "minItems": 1,
21679 "readOnly": true,
21680 "uniqueItems": true,
21681 "type": "array"
21682 }
21683 },
21684 "type": "object",
21685 "required": [
21686 "tester"
21687 ]
21688 }
21689 }
21690 }
21691

```

21692 6.108.5 Property definition

21693 Table 219 defines the Properties that are part of the "oic.r.glucose.tester" Resource Type.

21694 **Table 219 – The Property definitions of the Resource with type "rt" = "oic.r.glucose.tester".**

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

21695 6.108.6 CRUDN behaviour

21696 Table 220 defines the CRUDN operations that are supported on the "oic.r.glucose.tester" Resource
21697 Type.

21698 **Table 220 – The CRUDN operations of the Resource with type "rt" = "oic.r.glucose.tester".**

Create	Read	Update	Delete	Notify
	get			observe

21699 **6.109 Optical RFID Station**

21700 **6.109.1 Introduction**

21701 The Property "process" represents the stage of the product in the product line which has an optical
 21702 RFID tag on its body.
 21703 The Property "event" is represented by a Boolean value set to "true" and "false" alarming the issue
 21704 when additional action is requested for the tagged product.
 21705 The Property "actionrequest" represent necessary actions like the isolation of the product, to send
 21706 the product back to other specific line to modify or fix the issue.

21707 **6.109.2 Example URI**

21708 /ORFIDStationResURI

21709 **6.109.3 Resource type**

21710 The Resource Type is defined as: "oic.r.orfid.station".

21711 **6.109.4 OpenAPI 2.0 definition**

```

21712 {
21713   "swagger": "2.0",
21714   "info": {
21715     "title": "Optical RFID Station",
21716     "version": "20190215",
21717     "license": {
21718       "name": "OCF Data Model License",
21719       "url":
21720 "https://github.com/openconnectivityfoundation/core/blob/e28a9e0a92e17042ba3e83661e4c0fbce8bdc4ba/LI
21721 CENSE.md",
21722     "x-copyright": "copyright 2016-2017, 2019 Open Connectivity Foundation, Inc. All rights
21723 reserved."
21724   },
21725   "termsOfService": "https://openconnectivityfoundation.github.io/core/DISCLAIMER.md"
21726 },
21727 "schemes": ["http"],
21728 "consumes": ["application/json"],
21729 "produces": ["application/json"],
21730 "paths": {
21731   "/ORFIDStationResURI" : {
21732     "get": {
21733       "description": "The Property \"process\" represents the stage of the product in the product
21734 line which has an optical RFID tag on its body.\nThe Property \"event\" is represented by a Boolean
21735 value set to \"true\" and \"false\" alarming the issue when additional action is requested for the
21736 tagged product.\nThe Property \"actionrequest\" represent necessary actions like the isolation of
21737 the product, to send the product back to other specific line to modify or fix the issue.",
21738       "parameters": [
21739         {"$ref": "#/parameters/interface"}
21740       ],
21741       "responses": {
21742         "200": {
21743           "description": "RETRIEVES the station information from optical augmented RFID reader
21744 in smart factory environment.",
21745           "x-example":
21746             {
21747               "rt": ["oic.r.orfid.station"],
21748               "if": ["oic.if.rw", "oic.if.baseline"],
21749               "process": 17,
21750               "event": true,
21751               "actionrequest": 2
21752             }
21753         }
21754       }
21755     }
21756   }
21757 }
    
```

```

21753         "schema": { "$ref": "#/definitions/ORFID" }
21754     }
21755 }
21756 },
21757 "post": {
21758     "description": "Sets necessary action in accordance with Tag Information.",
21759     "parameters": [
21760         {"$ref": "#/parameters/interface"},
21761         {
21762             "name": "body",
21763             "in": "body",
21764             "required": true,
21765             "schema": { "$ref": "#/definitions/ORFID" },
21766             "x-example":
21767                 {
21768                     "event": false,
21769                     "actionrequest": 0
21770                 }
21771         }
21772     ],
21773     "responses": {
21774         "200": {
21775             "description": "",
21776             "x-example":
21777                 {
21778                     "event": false,
21779                     "actionrequest": 0
21780                 },
21781             "schema": { "$ref": "#/definitions/ORFID" }
21782         }
21783     }
21784 }
21785 },
21786 },
21787 "parameters": {
21788     "interface": {
21789         "in": "query",
21790         "name": "if",
21791         "type": "string",
21792         "enum": ["oic.if.rw", "oic.if.baseline"]
21793     }
21794 },
21795 "definitions": {
21796     "ORFID": {
21797         "properties": {
21798             "rt": {
21799                 "description": "The Resource Type.",
21800                 "items": {
21801                     "enum": ["oic.r.orfid.station"],
21802                     "maxLength": 64,
21803                     "type": "string"
21804                 },
21805                 "minItems": 1,
21806                 "uniqueItems": true,
21807                 "readOnly": true,
21808                 "type": "array"
21809             },
21810             "process": {
21811                 "description": "The process step that is being performed at this station.",
21812                 "readOnly": true,
21813                 "type": "integer"
21814             },
21815             "actionrequest": {
21816                 "description": "The action request identifier.",
21817                 "type": "integer"
21818             },
21819             "event": {
21820                 "description": "The Event indicator, when True, the action request should be applied to
21821 the product identified by the tagid.",
21822                 "type": "boolean"
21823             },
21824             "n": {

```

```

21825         "$ref":
21826         "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
21827         schema.json#/definitions/n"
21828     },
21829     "id": {
21830         "$ref":
21831         "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
21832         schema.json#/definitions/id"
21833     },
21834     "if": {
21835         "description": "The OCF Interface set supported by this Resource.",
21836         "items": {
21837             "enum": [
21838                 "oic.if.rw",
21839                 "oic.if.baseline"
21840             ],
21841             "type": "string"
21842         },
21843         "minItems": 2,
21844         "uniqueItems": true,
21845         "readOnly": true,
21846         "type": "array"
21847     }
21848 },
21849 "type": "object",
21850 "required": ["event", "actionrequest"]
21851 }
21852 }
21853 }
21854

```

21855 6.109.5 Property definition

21856 Table 221 defines the Properties that are part of the "oic.r.orfid.station" Resource Type.

21857 **Table 221 – The Property definitions of the Resource with type "rt" = "oic.r.orfid.station".**

Property name	Value type	Mandatory	Access mode	Description
if	array: see schema	No	Read Only	The OCF Interface set supported by this Resource.
rt	array: see schema	No	Read Only	The Resource Type.
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	

process	integer	No	Read Only	The process step that is being performed at this station.
actionrequest	integer	Yes	Read Write	The action request identifier.

21858 **6.109.6 CRUDN behaviour**

21859 Table 222 defines the CRUDN operations that are supported on the "oic.r.orfid.station" Resource
21860 Type.

21861 **Table 222 – The CRUDN operations of the Resource with type "rt" = "oic.r.orfid.station".**

Create	Read	Update	Delete	Notify
	get	post		observe

21862 **6.110 Optical RFID Tag**

21863 **6.110.1 Introduction**

21864 The Property "tagid" is an integer showing the currently read optical augmented RFID tag's identity
21865 information.

21866 **6.110.2 Example URI**

21867 /ORFIDTagResURI

21868 **6.110.3 Resource type**

21869 The Resource Type is defined as: "oic.r.orfid.tag".

21870 **6.110.4 OpenAPI 2.0 definition**

```

21871 {
21872   "swagger": "2.0",
21873   "info": {
21874     "title": "Optical RFID Tag",
21875     "version": "20190215",
21876     "license": {
21877       "name": "OCF Data Model License",
21878       "url":
21879         "https://github.com/openconnectivityfoundation/core/blob/e28a9e0a92e17042ba3e83661e4c0fbce8bdc4ba/LI
21880 CENSE.md",
21881       "x-copyright": "copyright 2016-2017, 2019 Open Connectivity Foundation, Inc. All rights
21882 reserved."
21883     },
21884     "termsOfService": "https://openconnectivityfoundation.github.io/core/DISCLAIMER.md"
21885   },
21886   "schemes": ["http"],
21887   "consumes": ["application/json"],
21888   "produces": ["application/json"],
21889   "paths": {
21890     "/ORFIDTagResURI" : {
21891       "get": {
21892         "description": "The Property \"tagid\" is an integer showing the currently read optical
21893 augmented RFID tag's identity information.",
21894         "parameters": [
21895           {"$ref": "#/parameters/interface"}
21896         ],
21897         "responses": {

```

```

21898         "200": {
21899             "description": "RETRIEVES the tag information from optical augmented RFID reader in
21900 smart factory environment.",
21901             "x-example":
21902                 {
21903                     "rt": ["oic.r.orfid.tag"],
21904                     "if": ["oic.if.r", "oic.if.baseline"],
21905                     "tagid": 10965742,
21906                     "reading": true
21907                 },
21908             "schema": { "$ref": "#/definitions/ORFID" }
21909         }
21910     }
21911 }
21912 },
21913 },
21914 "parameters": {
21915     "interface": {
21916         "in": "query",
21917         "name": "if",
21918         "type": "string",
21919         "enum": ["oic.if.r", "oic.if.baseline"]
21920     }
21921 },
21922 "definitions": {
21923     "ORFID": {
21924         "properties": {
21925             "rt": {
21926                 "description": "The Resource Type.",
21927                 "items": {
21928                     "enum": ["oic.r.orfid.tag"],
21929                     "maxLength": 64,
21930                     "type": "string"
21931                 },
21932                 "minItems": 1,
21933                 "uniqueItems": true,
21934                 "readOnly": true,
21935                 "type": "array"
21936             },
21937             "tagid": {
21938                 "description": "The tag read by the RFID reader.",
21939                 "readOnly": true,
21940                 "type": "integer"
21941             },
21942             "reading": {
21943                 "description": "The reading indication. true: the tagid is read e.g. being valid. false:
21944 the tagid is invalid.",
21945                 "readOnly": true,
21946                 "type": "boolean"
21947             },
21948             "n": {
21949                 "$ref":
21950 "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
21951 schema.json#/definitions/n"
21952             },
21953             "id": {
21954                 "$ref":
21955 "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
21956 schema.json#/definitions/id"
21957             },
21958             "if": {
21959                 "description": "The OCF Interface set supported by this Resource.",
21960                 "items": {
21961                     "enum": [
21962                         "oic.if.r",
21963                         "oic.if.baseline"
21964                     ],
21965                     "type": "string"
21966                 },
21967                 "minItems": 2,
21968                 "uniqueItems": true,
21969                 "readOnly": true,

```

```

21970         "type": "array"
21971     },
21972 },
21973     "type": "object",
21974     "required": ["tagid", "reading"]
21975 }
21976 }
21977 }
21978

```

21979 **6.110.5 Property definition**

21980 Table 223 defines the Properties that are part of the "oic.r.orfid.tag" Resource Type.

21981 **Table 223 – The Property definitions of the Resource with type "rt" = "oic.r.orfid.tag".**

Property name	Value type	Mandatory	Access mode	Description
if	array: see schema	No	Read Only	The OCF Interface set supported by this Resource.
id	multiple types: see schema	No	Read Write	
tagid	integer	Yes	Read Only	The tag read by the RFID reader.
rt	array: see schema	No	Read Only	The Resource Type.
n	multiple types: see schema	No	Read Write	
reading	boolean	Yes	Read Only	The reading indication. true: the tagid is read e.g. being valid. false: the tagid is invalid.

21982 **6.110.6 CRUDN behaviour**

21983 Table 224 defines the CRUDN operations that are supported on the "oic.r.orfid.tag" Resource Type.

21984 **Table 224 – The CRUDN operations of the Resource with type "rt" = "oic.r.orfid.tag".**

Create	Read	Update	Delete	Notify
	get			observe

21985 **6.111 Power Source**

21986 **6.111.1 Introduction**

21987 This Resource list the available power sources for the Device. The Property "powersources" is a
 21988 list that is read only and is informative only.

21989 If there is more than 1 power source active, use multiple Resources to indicate the active power
21990 sources. If the power source is unknown use the value "unknown".

21991 **6.111.2 Example URI**

21992 /PowerSourceResURI

21993 **6.111.3 Resource type**

21994 The Resource Type is defined as: "oic.r.powersource".

21995 **6.111.4 OpenAPI 2.0 definition**

```
21996 {  
21997   "swagger": "2.0",  
21998   "info": {  
21999     "title": "PowerSource",  
22000     "version": "20190513",  
22001     "license": {  
22002       "name": "OCF Data Model License",  
22003       "url":  
22004         "https://github.com/openconnectivityfoundation/core/blob/e28a9e0a92e17042ba3e83661e4c0fbce8bdc4ba/LI  
22005         CENSE.md",  
22006       "x-copyright": "copyright 2016-2017, 2019 Open Connectivity Foundation, Inc. All rights  
22007       reserved."  
22008     },  
22009     "termsOfService": "https://openconnectivityfoundation.github.io/core/DISCLAIMER.md"  
22010   },  
22011   "schemes": ["http"],  
22012   "consumes": ["application/json"],  
22013   "produces": ["application/json"],  
22014   "paths": {  
22015     "/PowerSourceResURI" : {  
22016       "get": {  
22017         "description": "This Resource list the available power sources for the Device. The Property  
22018         \"powersources\" is a list that is read only and is informative only.\nIf there is more than 1 power  
22019         source active, use multiple Resources to indicate the active power sources. If the power source is  
22020         unknown use the value \"unknown\".",  
22021         "parameters": [  
22022           { "$ref": "#/parameters/interface" }  
22023         ],  
22024         "responses": {  
22025           "200": {  
22026             "description" : "Retrieves the list of available power sources.",  
22027             "x-example":  
22028               {  
22029                 "rt": ["oic.r.powersource"],  
22030                 "if": ["oic.if.r", "oic.if.baseline"],  
22031                 "powersources": [  
22032                   "DC power",  
22033                   "Internal Battery",  
22034                   "External Battery",  
22035                   "Power over Ethernet",  
22036                   "USB",  
22037                   "AC (Mains) Power",  
22038                   "Solar"  
22039                 ],  
22040                 "sourcefault": false  
22041               },  
22042                 "schema": { "$ref": "#/definitions/powerSourceSchema" }  
22043             }  
22044           }  
22045         }  
22046       }  
22047     },  
22048     "parameters": {  
22049       "interface": {  
22050         "in": "query",  
22051         "name": "if",  
22052         "type": "string",  
22053         "enum": ["oic.if.r", "oic.if.baseline"]
```



```

22054     }
22055   },
22056   "definitions": {
22057     "powerSourceSchema" : {
22058       "properties": {
22059         "rt": {
22060           "description": "The Resource Type.",
22061           "items": {
22062             "enum": ["oic.r.powersource"],
22063             "maxLength": 64,
22064             "type": "string"
22065           },
22066           "minItems": 1,
22067           "uniqueItems": true,
22068           "readOnly": true,
22069           "type": "array"
22070         },
22071         "powersources": {
22072           "items": {
22073             "enum": [
22074               "unknown",
22075               "DC power",
22076               "Internal Battery",
22077               "External Battery",
22078               "Power over Ethernet",
22079               "USB",
22080               "AC (Mains) Power",
22081               "Solar"
22082             ],
22083             "minItems": 1,
22084             "type": "string",
22085             "uniqueItems": true
22086           },
22087           "type": "array"
22088         },
22089         "sourcefault": {
22090           "description": "Fault detected in currently active power source. True = fault detected",
22091           "readOnly": true,
22092           "type": "boolean"
22093         },
22094         "n": {
22095           "$ref":
22096           "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
22097           schema.json#/definitions/n"
22098         },
22099         "id": {
22100           "$ref":
22101           "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
22102           schema.json#/definitions/id"
22103         },
22104         "if": {
22105           "description": "The OCF Interface set supported by this Resource.",
22106           "items": {
22107             "enum": [
22108               "oic.if.r",
22109               "oic.if.baseline"
22110             ],
22111             "type": "string"
22112           },
22113           "minItems": 2,
22114           "uniqueItems": true,
22115           "readOnly": true,
22116           "type": "array"
22117         }
22118       },
22119       "type": "object",
22120       "required": ["powersources"]
22121     }
22122   }
22123 }
22124

```

22125 **6.111.5 Property definition**

22126 Table 225 defines the Properties that are part of the "oic.r.powersource" Resource Type.

22127 **Table 225 – The Property definitions of the Resource with type "rt" = "oic.r.powersource".**

Property name	Value type	Mandatory	Access mode	Description
if	array: see schema	No	Read Only	The OCF Interface set supported by this Resource.
powersources	array: see schema	Yes	Read Write	
n	multiple types: see schema	No	Read Write	
sourcefault	boolean	No	Read Only	Fault detected in currently active power source. True = fault detected
rt	array: see schema	No	Read Only	The Resource Type.
id	multiple types: see schema	No	Read Write	

22128 **6.111.6 CRUDN behaviour**

22129 Table 226 defines the CRUDN operations that are supported on the "oic.r.powersource" Resource
22130 Type.

22131 **Table 226 – The CRUDN operations of the Resource with type "rt" = "oic.r.powersource".**

Create	Read	Update	Delete	Notify
	get			observe

22132 **6.112 Print Queue**

22133 **6.112.1 Introduction**

22134 This Resource describes the items in a Printer Queue. The Properties "uri" and "status" are read
22135 only items that cannot be changed through this resource.

22136 **6.112.2 Example URI**

22137 /PrintQueueResURI

22138 **6.112.3 Resource type**

22139 The Resource Type is defined as: "oic.r.printer.queue".

22140 **6.112.4 OpenAPI 2.0 definition**

```

22141 {
22142   "swagger": "2.0",
22143   "info": {
22144     "title": "Print Queue",
22145     "version": "20190215",
22146     "license": {
22147       "name": "OCF Data Model License",
22148       "url":
22149         "https://github.com/openconnectivityfoundation/core/blob/e28a9e0a92e17042ba3e83661e4c0fbce8bdc4ba/LI
22150 CENSE.md",
22151       "x-copyright": "copyright 2016-2017, 2019 Open Connectivity Foundation, Inc. All rights
22152 reserved."
22153     },

```

```

22154     "termsOfService": "https://openconnectivityfoundation.github.io/core/DISCLAIMER.md"
22155   },
22156   "schemes": ["http"],
22157   "consumes": ["application/json"],
22158   "produces": ["application/json"],
22159   "paths": {
22160     "/PrintQueueResURI" : {
22161       "get": {
22162         "description": "This Resource describes the items in a Printer Queue. The Properties \"uri\"
22163 and \"status\" are read only items that cannot be changed through this resource.",
22164         "parameters": [
22165           { "$ref": "#/parameters/interface" }
22166         ],
22167         "responses": {
22168           "200": {
22169             "description" : "Retrieves the current Print Queue.",
22170             "x-example": {
22171               "rt": ["oic.r.printer.queue"],
22172               "if": ["oic.if.r", "oic.if.baseline"],
22173               "queue": [
22174                 {
22175                   "uri": "file://10.10.10.10/3dprinter/queueitem/1",
22176                   "status": "Printing"
22177                 },
22178                 {
22179                   "uri": "file://10.10.10.10/3dprinter/queueitem/2",
22180                   "status": "Pending"
22181                 }
22182               ]
22183             },
22184             "schema": { "$ref": "#/definitions/PrintQueue" }
22185           }
22186         }
22187       }
22188     }
22189   },
22190   "parameters": {
22191     "interface": {
22192       "in": "query",
22193       "name": "if",
22194       "type": "string",
22195       "enum": ["oic.if.r", "oic.if.baseline"]
22196     }
22197   },
22198   "definitions": {
22199     "PrintQueue" : {
22200       "properties": {
22201         "rt": {
22202           "description": "The Resource Type.",
22203           "items": {
22204             "enum": ["oic.r.printer.queue"],
22205             "maxLength": 64,
22206             "type": "string"
22207           },
22208           "minItems": 1,
22209           "uniqueItems": true,
22210           "readOnly": true,
22211           "type": "array"
22212         },
22213         "queue": {
22214           "description": "The array of queue items for the printer.",
22215           "items": {
22216             "properties": {
22217               "status": {
22218                 "description": "The status of the queue item.",
22219                 "enum": [
22220                   "Printing",
22221                   "Pending",
22222                   "Paused",
22223                   "Error",
22224                   "Unknown"
22225                 ],

```

```

22226         "readOnly": true,
22227         "type": "string"
22228     },
22229     "uri": {
22230         "description": "The uri of the queue item (i.e. the actual file).",
22231         "format": "uri",
22232         "maxLength": 256,
22233         "readOnly": true,
22234         "type": "string"
22235     }
22236 },
22237 "required": [
22238     "uri",
22239     "status"
22240 ],
22241 "type": "object"
22242 },
22243 "readOnly": true,
22244 "type": "array"
22245 },
22246 "n": {
22247     "$ref":
22248 "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
22249 schema.json#/definitions/n"
22250 },
22251 "id": {
22252     "$ref":
22253 "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
22254 schema.json#/definitions/id"
22255 },
22256 "if": {
22257     "description": "The OCF Interface set supported by this Resource.",
22258     "items": {
22259         "enum": [
22260             "oic.if.r",
22261             "oic.if.baseline"
22262         ],
22263         "type": "string"
22264     },
22265     "minItems": 2,
22266     "uniqueItems": true,
22267     "readOnly": true,
22268     "type": "array"
22269 }
22270 },
22271 "type": "object",
22272 "required": ["queue"]
22273 }
22274 }
22275 }
22276

```

22277 6.112.5 Property definition

22278 Table 227 defines the Properties that are part of the "oic.r.printer.queue" Resource Type.

22279 **Table 227 – The Property definitions of the Resource with type "rt" = "oic.r.printer.queue".**

Property name	Value type	Mandatory	Access mode	Description
n	multiple types: see schema	No	Read Write	
queue	array: see schema	Yes	Read Only	The array of queue items for the printer.

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

22280 **6.112.6 CRUDN behaviour**

22281 Table 228 defines the CRUDN operations that are supported on the "oic.r.printer.queue" Resource
22282 Type.

22283 **Table 228 – The CRUDN operations of the Resource with type "rt" = "oic.r.printer.queue".**

Create	Read	Update	Delete	Notify
	get			observe

22284 **6.113 Pulse Rate**

22285 **6.113.1 Introduction**

22286 This Resource describes the Properties associated with a person's pulse rate.
22287 The unit, which is the default unit, is bpm.
22288 The pulserate and unit Properties are read-only values that are provided by the Server.
22289 When range is omitted the default is 0 to +MAXFLOAT.

22290 **6.113.2 Example URI**

22291 /PulseRateResURI

22292 **6.113.3 Resource type**

22293 The Resource Type is defined as: "oic.r.pulserate".

22294 **6.113.4 OpenAPI 2.0 definition**

```

22295 {
22296   "swagger": "2.0",
22297   "info": {
22298     "title": "Pulse Rate",
22299     "version": "2019-03-22",
22300     "license": {
22301       "name": "OCF Data Model License",
22302       "url":
22303 "https://github.com/openconnectivityfoundation/core/blob/e28a9e0a92e17042ba3e83661e4c0fbce8bdc4ba/LI
22304 CENSE.md",
22305       "x-copyright": "Copyright 2016-2019 Open Connectivity Foundation, Inc. All rights reserved."
22306     },
22307     "termsOfService": "https://openconnectivityfoundation.github.io/core/DISCLAIMER.md"
22308   },
22309   "schemes": [
22310     "http"
22311   ],
22312   "consumes": [
22313     "application/json"
22314   ],
22315   "produces": [
22316     "application/json"

```

```

22317 ],
22318 "paths": {
22319   "/PulseRateResURI": {
22320     "get": {
22321       "description": "This Resource describes the Properties associated with a person's pulse
22322 rate.\nThe unit, which is the default unit, is bpm.\nThe pulserate and unit Properties are read-only
22323 values that are provided by the Server.\nWhen range is omitted the default is 0 to +MAXFLOAT.",
22324       "parameters": [
22325         {
22326           "$ref": "#/parameters/interface"
22327         }
22328       ],
22329       "responses": {
22330         "200": {
22331           "description": "",
22332           "x-example": {
22333             "rt": [
22334               "oic.r.pulserate"
22335             ],
22336             "pulserate": 80,
22337             "range": [20, 220],
22338             "step": 1
22339           },
22340           "schema": {
22341             "$ref": "#/definitions/PulseRate"
22342           }
22343         }
22344       }
22345     }
22346   },
22347 },
22348 "parameters": {
22349   "interface": {
22350     "in": "query",
22351     "name": "if",
22352     "type": "string",
22353     "enum": [
22354       "oic.if.s",
22355       "oic.if.baseline"
22356     ]
22357   }
22358 },
22359 "definitions": {
22360   "PulseRate": {
22361     "properties": {
22362       "rt": {
22363         "description": "Resource Type",
22364         "items": {
22365           "enum": [
22366             "oic.r.pulserate"
22367           ],
22368           "type": "string",
22369           "maxLength": 64
22370         },
22371         "minItems": 1,
22372         "uniqueItems": true,
22373         "readOnly": true,
22374         "type": "array"
22375       },
22376       "pulserate": {
22377         "description": "Pulse rate in bpm.",
22378         "minimum": 0,
22379         "readOnly": true,
22380         "type": "integer"
22381       },
22382       "if": {
22383         "description": "The OCF Interface set supported by this Resource",
22384         "items": {
22385           "enum": [
22386             "oic.if.s",
22387             "oic.if.baseline"
22388           ],

```

```

22389         "type": "string",
22390         "maxLength": 64
22391     },
22392     "minItems": 1,
22393     "readOnly": true,
22394     "uniqueItems": true,
22395     "type": "array"
22396 },
22397 "range": {
22398     "$ref":
22399 "https://openconnectivityfoundation.github.io/IoTDataModels/schemas/oic.baseresource.properties-
22400 schema.json#/definitions/range_integer"
22401 },
22402 "step": {
22403     "$ref":
22404 "https://openconnectivityfoundation.github.io/IoTDataModels/schemas/oic.baseresource.properties-
22405 schema.json#/definitions/step_integer"
22406 },
22407 "n": {
22408     "$ref":
22409 "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
22410 schema.json#/definitions/n"
22411 }
22412 },
22413 "type": "object",
22414 "required": [
22415     "pulserate"
22416 ]
22417 }
22418 }
22419 }
22420

```

22421 **6.113.5 Property definition**

22422 Table 229 defines the Properties that are part of the "oic.r.pulserate" Resource Type.

22423 **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
step	multiple types: see schema	No	Read Write	
pulserate	integer	Yes	Read Only	Pulse rate in bpm.
if	array: see schema	No	Read Only	The OCF Interface set supported by this Resource
n	multiple types: see schema	No	Read Write	
range	multiple types: see schema	No	Read Write	

22424 **6.113.6 CRUDN behaviour**

22425 Table 230 defines the CRUDN operations that are supported on the "oic.r.pulserate" Resource
22426 Type.

22427 **Table 230 – The CRUDN operations of the Resource with type "rt" = "oic.r.pulserate".**

Create	Read	Update	Delete	Notify
	get			observe

22428 **6.114 Sensor Properties**

22429 **6.114.1 Introduction**

22430 This Resource describes the properties which guide the reporting of a state change of a Sensor.
 22431 The Property "silenttime" represents the period after which a state change report was sent where
 22432 the Sensor state change is not reported.
 22433 The Property "sensitivity" represents the level at which the sensor detects a state change.
 22434 These values are completely dependent on the type of Sensor and the manufacturer capability, so
 22435 no range restrictions are used.
 22436 The Properties "range", "step" and "precision" are only applied to the "sensitivity" Property.

22437 **6.114.2 Example URI**

22438 /SensorPropsResURI

22439 **6.114.3 Resource type**

22440 The Resource Type is defined as: "oic.r.sensor.props".

22441 **6.114.4 OpenAPI 2.0 definition**

```

22442 {
22443   "swagger": "2.0",
22444   "info": {
22445     "title": "Sensor Properties",
22446     "version": "20190215",
22447     "license": {
22448       "name": "OCF Data Model License",
22449       "url":
22450 "https://github.com/openconnectivityfoundation/core/blob/e28a9e0a92e17042ba3e83661e4c0fbce8bdc4ba/LI
22451 CENSE.md",
22452     "x-copyright": "copyright 2016-2017, 2019 Open Connectivity Foundation, Inc. All rights
22453 reserved."
22454   },
22455   "termsOfService": "https://openconnectivityfoundation.github.io/core/DISCLAIMER.md"
22456 },
22457   "schemes": ["http"],
22458   "consumes": ["application/json"],
22459   "produces": ["application/json"],
22460   "paths": {
22461     "/SensorPropsResURI" : {
22462       "get": {
22463         "description": "This Ressource describes the properties which guide the reporting of a state
22464 change of a Sensor.\nThe Property \"silenttime\" represents the period after which a state change
22465 report was sent where the Sensor state change is not reported.\nThe Property \"sensitivity\"
22466 represents the level at which the sensor detects a state change.\nThese values are completely
22467 dependend on the type of Sensor and the manufacturer capability, so no range restrictions are
22468 used.\nThe Properties \"range\", \"step\" and \"precision\" are only applied to the \"sensitivity\"
22469 Property.",
22470         "parameters": [
22471           {"$ref": "#/parameters/interface"}
22472         ],
22473         "responses": {
22474           "200": {
22475             "description": "Gets current Sensor Property values.",

```



```

22476         "x-example":
22477             {
22478                 "rt": ["oic.r.sensor.props"],
22479                 "if": ["oic.if.rw", "oic.if.baseline"],
22480                 "silenttime": 10,
22481                 "sensitivity": 20.5
22482             },
22483         "schema": { "$ref": "#/definitions/SensorProps" }
22484     }
22485 },
22486 },
22487 "post": {
22488     "description": "Sets Sensor Property values\n",
22489     "parameters": [
22490         { "$ref": "#/parameters/interface" },
22491         {
22492             "name": "body",
22493             "in": "body",
22494             "required": true,
22495             "schema": { "$ref": "#/definitions/SensorProps" },
22496             "x-example":
22497                 {
22498                     "silenttime": 20,
22499                     "sensitivity": 10.75
22500                 }
22501         }
22502     ],
22503     "responses": {
22504         "200": {
22505             "description": "",
22506             "x-example":
22507                 {
22508                     "silenttime": 20,
22509                     "sensitivity": 10.75
22510                 },
22511             "schema": { "$ref": "#/definitions/SensorProps" }
22512         }
22513     }
22514 },
22515 },
22516 },
22517 "parameters": {
22518     "interface": {
22519         "in": "query",
22520         "name": "if",
22521         "type": "string",
22522         "enum": ["oic.if.rw", "oic.if.baseline"]
22523     }
22524 },
22525 "definitions": {
22526     "SensorProps": {
22527         "properties": {
22528             "rt": {
22529                 "description": "The Resource Type.",
22530                 "items": {
22531                     "enum": ["oic.r.sensor.props"],
22532                     "maxLength": 64,
22533                     "type": "string"
22534                 },
22535                 "minItems": 1,
22536                 "uniqueItems": true,
22537                 "readOnly": true,
22538                 "type": "array"
22539             },
22540             "silenttime": {
22541                 "description": "The time in seconds from the previous report that the Sensor restrains
22542 from sending a state change. This is used to avoid repeated state change reports.",
22543                 "type": "integer"
22544             },
22545             "sensitivity": {
22546                 "description": "The level of the detection accuracy of the Sensor. This is used to control
22547 the level at which the Sensor detects a state change. The \"range\" Property should be specified per

```

```

22548 manufacturer device capabilities.",
22549     "type": "number"
22550   },
22551   "n": {
22552     "$ref":
22553     "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
22554     schema.json#/definitions/n"
22555   },
22556   "id": {
22557     "$ref":
22558     "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
22559     schema.json#/definitions/id"
22560   },
22561   "range": {
22562     "$ref":
22563     "https://openconnectivityfoundation.github.io/IoTDataModels/schemas/oic.baseresource.properties-
22564     schema.json#/definitions/range_number"
22565   },
22566   "step": {
22567     "$ref":
22568     "https://openconnectivityfoundation.github.io/IoTDataModels/schemas/oic.baseresource.properties-
22569     schema.json#/definitions/step_number"
22570   },
22571   "precision": {
22572     "$ref":
22573     "https://openconnectivityfoundation.github.io/IoTDataModels/schemas/oic.baseresource.properties-
22574     schema.json#/definitions/precision"
22575   },
22576   "if": {
22577     "description": "The OCF Interface set supported by this Resource.",
22578     "items": {
22579       "enum": [
22580         "oic.if.rw",
22581         "oic.if.baseline"
22582       ],
22583       "type": "string"
22584     },
22585     "minItems": 2,
22586     "uniqueItems": true,
22587     "readOnly": true,
22588     "type": "array"
22589   }
22590 },
22591 "type": "object",
22592 "required": ["silenttime", "sensitivity"]
22593 }
22594 }
22595 }
22596

```

22597 6.114.5 Property definition

22598 Table 231 defines the Properties that are part of the "oic.r.sensor.props" Resource Type.

22599 **Table 231 – The Property definitions of the Resource with type "rt" = "oic.r.sensor.props".**

Property name	Value type	Mandatory	Access mode	Description
n	multiple types: see schema	No	Read Write	
range	multiple types: see schema	No	Read Write	
step	multiple types: see schema	No	Read Write	

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

22600 **6.114.6 CRUDN behaviour**

22601 Table 232 defines the CRUDN operations that are supported on the "oic.r.sensor.props" Resource
22602 Type.

22603 **Table 232 – The CRUDN operations of the Resource with type "rt" = "oic.r.sensor.props".**

Create	Read	Update	Delete	Notify
	get	post		observe

22604 6.115 User ID

22605 6.115.1 Introduction

22606 This Resource describes the Properties associated with user id of an OCF Client.
22607 The userid Property is a single value of type string.
22608 The userid Property is a read-only value that is provided by the Server.

22609 6.115.2 Example URI

22610 /UserIDResURI

22611 6.115.3 Resource type

22612 The Resource Type is defined as: "oic.r.userid".

22613 6.115.4 OpenAPI 2.0 definition

```
22614 {
22615   "swagger": "2.0",
22616   "info": {
22617     "title": "User ID",
22618     "version": "2019-03-22",
22619     "license": {
22620       "name": "OCF Data Model License",
22621       "url":
22622 "https://github.com/openconnectivityfoundation/core/blob/e28a9e0a92e17042ba3e83661e4c0fbce8bdc4ba/LI
22623 CENSE.md",
22624       "x-copyright": "Copyright 2016-2019 Open Connectivity Foundation, Inc. All rights reserved."
22625     },
22626     "termsOfService": "https://openconnectivityfoundation.github.io/core/DISCLAIMER.md"
22627   },
22628   "schemes": [
22629     "http"
22630   ],
22631   "consumes": [
22632     "application/json"
22633   ],
22634   "produces": [
22635     "application/json"
22636   ],
22637   "paths": {
22638     "/UserIDResURI": {
22639       "get": {
22640         "description": "This Resource describes the Properties associated with user id of an OCF
22641 Client.\n\nThe userid Property is a single value of type string.\n\nThe userid Property is a read-only
22642 value that is provided by the Server.",
22643         "parameters": [
22644           {
22645             "$ref": "#/parameters/interface"
22646           }
22647         ],
22648         "responses": {
22649           "200": {
22650             "description": "",
22651             "x-example": {
22652               "rt": [
22653                 "oic.r.userid"
22654               ],
22655               "userid": "USER1"
22656             },
22657             "schema": {
22658               "$ref": "#/definitions/UserID"
22659             }
22660           }
22661         }
22662       }
22663     }
22664   },
22665   "parameters": {
22666     "interface": {
22667       "in": "query",
```

```

22668     "name": "if",
22669     "type": "string",
22670     "enum": [
22671         "oic.if.r",
22672         "oic.if.baseline"
22673     ]
22674 }
22675 },
22676 "definitions": {
22677     "UserID": {
22678         "properties": {
22679             "rt": {
22680                 "description": "Resource Type",
22681                 "items": {
22682                     "enum": [
22683                         "oic.r.userid"
22684                     ],
22685                     "type": "string",
22686                     "maxLength": 64
22687                 },
22688                 "minItems": 1,
22689                 "uniqueItems": true,
22690                 "readOnly": true,
22691                 "type": "array"
22692             },
22693             "userid": {
22694                 "description": "Id of a patient/user of healthcare devices",
22695                 "readOnly": true,
22696                 "type": "string"
22697             },
22698             "n": {
22699                 "$ref":
22700                 "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
22701                 schema.json#/definitions/n"
22702             },
22703             "if": {
22704                 "description": "The OCF Interface set supported by this Resource",
22705                 "items": {
22706                     "enum": [
22707                         "oic.if.r",
22708                         "oic.if.baseline"
22709                     ],
22710                     "type": "string",
22711                     "maxLength": 64
22712                 },
22713                 "minItems": 1,
22714                 "readOnly": true,
22715                 "uniqueItems": true,
22716                 "type": "array"
22717             }
22718         },
22719         "type": "object",
22720         "required": [
22721             "userid"
22722         ]
22723     }
22724 }
22725 }
22726

```

22727 **6.115.5 Property definition**

22728 Table 233 defines the Properties that are part of the "oic.r.userid" Resource Type.

22729 **Table 233 – The Property definitions of the Resource with type "rt" = "oic.r.userid".**

Property name	Value type	Mandatory	Access mode	Description
---------------	------------	-----------	-------------	-------------

n	multiple types: see schema	No	Read Write	
userid	string	Yes	Read Only	Id of a patient/user of healthcare devices
if	array: see schema	No	Read Only	The OCF Interface set supported by this Resource
rt	array: see schema	No	Read Only	Resource Type

22730 **6.115.6 CRUDN behaviour**

22731 Table 234 defines the CRUDN operations that are supported on the "oic.r.userid" Resource Type.

22732 **Table 234 – The CRUDN operations of the Resource with type "rt" = "oic.r.userid".**

Create	Read	Update	Delete	Notify
	get			observe

22733 **6.116 Calorific Value**

22734 **6.116.1 Introduction**

22735 This Resource describes Properties associated with the energy associated with the consumption
 22736 of different fuels (including natural gas)
 22737 The calorific value is a number
 22738 the calorific value is a measure of the available heat energy, used as part of the calculation to
 22739 convert a volume of a fuel (e.g. m3) to an energy value (e.g. KWh).
 22740

22741 **6.116.2 Example URI**

22742 /CalorificValueResURI

22743 **6.116.3 Resource type**

22744 The Resource Type is defined as: "oic.r.calorificvalue".

22745 **6.116.4 OpenAPI 2.0 definition**

```

22746 {
22747   "swagger": "2.0",
22748   "info": {
22749     "title": "Calorific Value",
22750     "version": "2019-03-18",
22751     "license": {
22752       "name": "OCF Data Model License",
22753       "url": "https://openconnectivityfoundation.github.io/core/LICENSE.md",
22754       "x-copyright": "Copyright 2019 Open Connectivity Foundation, Inc. All rights reserved."
22755     },
22756     "termsOfService": "https://openconnectivityfoundation.github.io/core/DISCLAIMER.md"
22757   },
22758   "schemes": ["http"],
22759   "consumes": ["application/json"],

```

```

22760     "produces": ["application/json"],
22761     "paths": {
22762         "/CalorificValueResURI" : {
22763             "get": {
22764                 "description": "This Resource describes Properties associated with the energy associated
22765 with the consumption of different fuels (including natural gas)\nThe calorific value is a
22766 number\nthe calorific value is a measure of the available heat energy, used as part of the
22767 calculation to convert a volume of a fuel (e.g. m3) to an energy value (e.g. KWh).\n",
22768                 "parameters": [
22769                     { "$ref": "#/parameters/interface" }
22770                 ],
22771                 "responses": {
22772                     "200": {
22773                         "description" : "Success path response for the Resource",
22774                         "x-example": {
22775                             "rt": [ "oic.r.calorificvalue" ],
22776                             "calorific": 39.2
22777                         },
22778                         "schema": { "$ref": "#/definitions/Calorific" }
22779                     }
22780                 }
22781             }
22782         },
22783     },
22784     "parameters": {
22785         "interface" : {
22786             "in" : "query",
22787             "name" : "if",
22788             "type" : "string",
22789             "enum" : [ "oic.if.r", "oic.if.baseline" ]
22790         }
22791     },
22792     "definitions": {
22793         "Calorific" : {
22794             "properties": {
22795                 "rt" : {
22796                     "description": "Resource Type",
22797                     "items": {
22798                         "maxLength": 64,
22799                         "type": "string",
22800                         "enum": [ "oic.r.calorificvalue" ]
22801                     },
22802                     "minItems": 1,
22803                     "readOnly": true,
22804                     "uniqueItems": true,
22805                     "type": "array"
22806                 },
22807                 "if" : {
22808                     "description": "The OCF Interfaces supported by this Resource",
22809                     "items": {
22810                         "enum": [ "oic.if.baseline", "oic.if.r" ],
22811                         "type": "string",
22812                         "maxLength": 64
22813                     },
22814                     "minItems": 2,
22815                     "readOnly": true,
22816                     "uniqueItems": true,
22817                     "type": "array"
22818                 },
22819                 "n": {
22820                     "$ref" :
22821 "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
22822 schema.json#/definitions/n"
22823                 },
22824                 "id": {
22825                     "$ref" :
22826 "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
22827 schema.json#/definitions/id"
22828                 },
22829                 "precision" : {
22830                     "description": "Accuracy granularity of the exposed value",
22831                     "readOnly": true,

```

```

22832     "type": "number"
22833   },
22834   "calorific" : {
22835     "description": "Calorific value of fuel",
22836     "readOnly": true,
22837     "type": "number",
22838     "minimum": 0,
22839     "exclusiveMinimum": true
22840   }
22841 },
22842 "type" : "object",
22843 "required": ["calorific"]
22844 }
22845 }
22846 }
22847

```

22848 **6.116.5 Property definition**

22849 Table 235 defines the Properties that are part of the "oic.r.calorificvalue" Resource Type.

22850 **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
calorific	number	Yes	Read Only	Calorific value of fuel
precision	number	No	Read Only	Accuracy granularity of the exposed value
n	multiple types: see schema	No	Read Write	
if	array: see schema	No	Read Only	The OCF Interfaces supported by this Resource
id	multiple types: see schema	No	Read Write	

22851 **6.116.6 CRUDN behaviour**

22852 Table 236 defines the CRUDN operations that are supported on the "oic.r.calorificvalue" Resource
 22853 Type.

22854 **Table 236 – The CRUDN operations of the Resource with type "rt" = "oic.r.calorificvalue".**

Create	Read	Update	Delete	Notify
	get			observe

22855 6.117 Conversion Factor

22856 6.117.1 Introduction

22857 This Resource describes Properties associated with the energy associated with the consumption
22858 of different fuels (including natural gas)
22859 The conversion factor is a number used as part of the calculation to convert gas volume to gas
22860 energy. The value used for this calculation is generally defined by local regulations and the
22861 conversion factor resource is therefore configurable.
22862 Provides the conversion factor used/required as part of the calculation to convert from fuel volume
22863 (m3) to fuel energy (kWh).
22864

22865 6.117.2 Example URI

22866 /ConversionFactorResURI

22867 6.117.3 Resource type

22868 The Resource Type is defined as: "oic.r.conversionfactor".

22869 6.117.4 OpenAPI 2.0 definition

```
22870 {  
22871   "swagger": "2.0",  
22872   "info": {  
22873     "title": "Conversion Factor",  
22874     "version": "2019-03-18",  
22875     "license": {  
22876       "name": "OCF Data Model License",  
22877       "url": "https://openconnectivityfoundation.github.io/core/LICENSE.md",  
22878       "x-copyright": "Copyright 2019 Open Connectivity Foundation, Inc. All rights reserved."  
22879     },  
22880     "termsOfService": "https://openconnectivityfoundation.github.io/core/DISCLAIMER.md"  
22881   },  
22882   "schemes": ["http"],  
22883   "consumes": ["application/json"],  
22884   "produces": ["application/json"],  
22885   "paths": {  
22886     "/ConversionFactorResURI" : {  
22887       "get": {  
22888         "description": "This Resource describes Properties associated with the energy associated  
22889         with the consumption of different fuels (including natural gas)\nThe conversion factor is a number  
22890         used as part of the calculation to convert gas volume to gas energy. The value used for this  
22891         calculation is generally defined by local regulations and the conversion factor resource is  
22892         therefore configurable.\nProvides the conversion factor used/required as part of the calculation to  
22893         convert from fuel volume (m3) to fuel energy (kWh).\n",  
22894         "parameters": [  
22895           {"$ref": "#/parameters/interface"}  
22896         ],  
22897         "responses": {  
22898           "200": {  
22899             "description" : "Success path response for the Resource",  
22900             "x-example": {  
22901               "rt": ["oic.r.conversionfactor"],  
22902               "conversion": 1.02264  
22903             },  
22904             "schema": { "$ref": "#/definitions/Conversion" }  
22905           }  
22906         }  
22907       }  
22908     },  
22909   },  
22910   "parameters": {  
22911     "interface" : {  
22912       "in" : "query",  
22913       "name" : "if",  
22914       "type" : "string",  
22915       "enum" : ["oic.if.r", "oic.if.baseline"]  
22916     }  
22917   }  
22918 }
```

```

22917 },
22918 "definitions": {
22919   "Conversion" : {
22920     "properties": {
22921       "rt" : {
22922         "description": "Resource Type",
22923         "items": {
22924           "maxLength": 64,
22925           "type": "string",
22926           "enum": ["oic.r.conversionfactor"]
22927         },
22928         "minItems": 1,
22929         "readOnly": true,
22930         "uniqueItems": true,
22931         "type": "array"
22932       },
22933       "if" : {
22934         "description": "The OCF Interfaces supported by this Resource",
22935         "items": {
22936           "enum": [
22937             "oic.if.r",
22938             "oic.if.baseline"
22939           ],
22940           "type": "string",
22941           "maxLength": 64
22942         },
22943         "minItems": 2,
22944         "readOnly": true,
22945         "uniqueItems": true,
22946         "type": "array"
22947       },
22948       "n" : {
22949         "$ref" :
22950         "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
22951         schema.json#/definitions/n"
22952       },
22953       "id" : {
22954         "$ref" :
22955         "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
22956         schema.json#/definitions/id"
22957       },
22958       "conversion" : {
22959         "description": "Conversion factor to convert a volume of a fuel to energy consumption",
22960         "readOnly": true,
22961         "type": "number",
22962         "minimum": 0,
22963         "exclusiveMinimum": true
22964       },
22965       "precision" : {
22966         "description": "Accuracy granularity of the exposed value",
22967         "readOnly": true,
22968         "type": "number"
22969       }
22970     },
22971     "type" : "object",
22972     "required": ["conversion"]
22973   }
22974 }
22975 }
22976

```

22977 **6.117.5 Property definition**

22978 Table 237 defines the Properties that are part of the "oic.r.conversionfactor" Resource Type.

22979 **Table 237 – The Property definitions of the Resource with type "rt" =**
22980 **"oic.r.conversionfactor".**

Property name	Value type	Mandatory	Access mode	Description
---------------	------------	-----------	-------------	-------------

if	array: see schema	No	Read Only	The OCF Interfaces supported by this Resource
conversion	number	Yes	Read Only	Conversion factor to convert a volume of a fuel to energy consumption
id	multiple types: see schema	No	Read Write	
rt	array: see schema	No	Read Only	Resource Type
n	multiple types: see schema	No	Read Write	
precision	number	No	Read Only	Accuracy granularity of the exposed value

22981 **6.117.6 CRUDN behaviour**

22982 Table 238 defines the CRUDN operations that are supported on the "oic.r.conversionfactor"
22983 Resource Type.

22984 **Table 238 – The CRUDN operations of the Resource with type "rt" =**
22985 **"oic.r.conversionfactor".**

Create	Read	Update	Delete	Notify
	get			observe

22986 **6.118 Gas Consumption**

22987 **6.118.1 Introduction**

22988 This Resource describes Properties associated with the energy associated with the consumption
22989 of natural gas
22990 The gas value is in kilowatt hours [kWh].
22991 The volume value is in metres cubed [m3].
22992 Provides the cumulative gas energy, the cumulative gas volume and the calorific value and
22993 conversion factor used/required to convert from gas volume (m3[TB1]) to gas energy (KWh).
22994

22995 **6.118.2 Example URI**

22996 /GasConsumptionResURI

22997 **6.118.3 Resource type**

22998 The Resource Type is defined as: "oic.r.gas.consumption".

22999 6.118.4 OpenAPI 2.0 definition

```
23000 {
23001   "swagger": "2.0",
23002   "info": {
23003     "title": "Gas Consumption",
23004     "version": "2019-03-18",
23005     "license": {
23006       "name": "OCF Data Model License",
23007       "url": "https://openconnectivityfoundation.github.io/core/LICENSE.md",
23008       "x-copyright": "Copyright 2019 Open Connectivity Foundation, Inc. All rights reserved."
23009     },
23010     "termsOfService": "https://openconnectivityfoundation.github.io/core/DISCLAIMER.md"
23011   },
23012   "schemes": ["http"],
23013   "consumes": ["application/json"],
23014   "produces": ["application/json"],
23015   "paths": {
23016     "/GasConsumptionResURI" : {
23017       "get": {
23018         "description": "This Resource describes Properties associated with the energy associated
23019 with the consumption of natural gas\nThe gas value is in kilowatt hours [kWh].\nThe volume value is
23020 in metres cubed [m3].\nProvides the cumulative gas energy, the cumulative gas volume and the
23021 calorific value and conversion factor used/required to convert from gas volume (m3[TB1]) to gas
23022 energy (KWh).\n",
23023         "parameters": [
23024           {"$ref": "#/parameters/interface"}
23025         ],
23026         "responses": {
23027           "200": {
23028             "description": "Success path response for the Resource",
23029             "x-example": {
23030               "rt": ["oic.r.gas.consumption"],
23031               "gas": 11135.41,
23032               "volume": 1000.0
23033             },
23034             "schema": {"$ref": "#/definitions/Consumption"}
23035           }
23036         }
23037       }
23038     }
23039   },
23040   "parameters": {
23041     "interface" : {
23042       "in" : "query",
23043       "name" : "if",
23044       "type" : "string",
23045       "enum" : ["oic.if.s", "oic.if.baseline"]
23046     }
23047   },
23048   "definitions": {
23049     "Consumption" : {
23050       "properties": {
23051         "rt": {
23052           "description": "Resource Type",
23053           "items": {
23054             "maxLength": 64,
23055             "type": "string",
23056             "enum": ["oic.r.gas.consumption"]
23057           },
23058           "minItems": 1,
23059           "uniqueItems": true,
23060           "readOnly": true,
23061           "type": "array"
23062         },
23063         "if": {
23064           "description": "The OCF Interfaces supported by this Resource",
23065           "items": {
23066             "enum": ["oic.if.r", "oic.if.baseline"],
23067             "type": "string"
23068           },
23069           "minItems": 1,
```

```

23070         "readOnly": true,
23071         "uniqueItems": true,
23072         "type": "array"
23073     },
23074     "n": {
23075         "$ref" :
23076         "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
23077         schema.json#/definitions/n"
23078     },
23079     "id": {
23080         "$ref" :
23081         "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
23082         schema.json#/definitions/id"
23083     },
23084     "gas" : {
23085         "description": "gas energy consumed in kWh",
23086         "readOnly": true,
23087         "type": "number",
23088         "minimum": 0
23089     },
23090     "precision" : {
23091         "description": "Accuracy granularity of the exposed value",
23092         "readOnly": true,
23093         "type": "number"
23094     },
23095     "volume" : {
23096         "description": "gas volume consumed in m3 (metres cubed)",
23097         "readOnly": true,
23098         "type": "number",
23099         "minimum": 0
23100     }
23101 },
23102 "type" : "object",
23103 "required": ["gas"]
23104 }
23105 }
23106 }
23107

```

23108 6.118.5 Property definition

23109 Table 239 defines the Properties that are part of the "oic.r.gas.consumption" Resource Type.

23110 **Table 239 – The Property definitions of the Resource with type "rt" =**
23111 **"oic.r.gas.consumption".**

Property name	Value type	Mandatory	Access mode	Description
id	multiple types: see schema	No	Read Write	
rt	array: see schema	No	Read Only	Resource Type
if	array: see schema	No	Read Only	The OCF Interfaces supported by this Resource
volume	number	No	Read Only	gas volume consumed in m3 (metres cubed)

n	multiple types: see schema	No	Read Write	
precision	number	No	Read Only	Accuracy granularity of the exposed value
gas	number	Yes	Read Only	gas energy consumed in kWh

23112 **6.118.6 CRUDN behaviour**

23113 Table 240 defines the CRUDN operations that are supported on the "oic.r.gas.consumption"
23114 Resource Type.

23115 **Table 240 – The CRUDN operations of the Resource with type "rt" =**
23116 **"oic.r.gas.consumption".**

Create	Read	Update	Delete	Notify
	get			observe

23117 **6.119 Gas Usage**

23118 **6.119.1 Introduction**

23119 This Resource describes a cumulative time-based gas usage query.
23120 The Resource is a Collection of:
23121 TimePeriod Resource
23122 Gas Consumption Resource
23123

23124 **6.119.2 Example URI**

23125 /GasUsageResURI

23126 **6.119.3 Resource type**

23127 The Resource Type is defined as: "oic.r.gas.usage".

23128 **6.119.4 OpenAPI 2.0 definition**

```
23129 {
23130   "swagger": "2.0",
23131   "info": {
23132     "title": "Gas Usage",
23133     "version": "2019-03-18",
23134     "license": {
23135       "name": "OCF Data Model License",
23136       "url": "https://openconnectivityfoundation.github.io/core/LICENSE.md",
23137       "x-copyright": "Copyright 2019 Open Connectivity Foundation, Inc. All rights reserved."
23138     },
23139     "termsOfService": "https://openconnectivityfoundation.github.io/core/DISCLAIMER.md"
23140   },
23141   "schemes": ["http"],
23142   "consumes": ["application/json"],
23143   "produces": ["application/json"],
23144   "paths": {
23145     "/GasUsageResURI?if=oic.if.ll" : {
23146       "get": {
23147         "description": "This Resource describes a cumulative time-based gas usage query.\nThe
```

```

23148 Resource is a Collection of:\n TimePeriod Resource\n Gas Consumption Resource\nThe Collection has
23149 a single instance of a Link per Resource Type.\n",
23150 "parameters": [
23151   {"$ref": "#/parameters/interface-all"}
23152 ],
23153 "responses": {
23154   "200": {
23155     "description" : "Success path response for the Resource",
23156     "x-example":
23157     [
23158       {
23159         "href": "/TimeIntervalResURI",
23160         "rt": ["oic.r.time.period"],
23161         "if": ["oic.if.a","oic.if.baseline"],
23162         "eps": [{"ep": "coaps://[fe80::bld6]:1122"}]
23163       },
23164       {
23165         "href": "/GasConsumptionResURI",
23166         "rt": ["oic.r.gas.consumption"],
23167         "if": ["oic.if.s","oic.if.baseline"],
23168         "eps": [{"ep": "coaps://[fe80::bld6]:1122"}]
23169       }
23170     ],
23171     "schema": { "$ref": "#/definitions/links" }
23172   }
23173 }
23174 },
23175 "/GasUsageResURI?if=oic.if.baseline" : {
23176 "get": {
23177   "description": "This Resource describes a cumulative time-based gas usage query.\nThe
23178 Resource is a Collection of:\n TimePeriod Resource\n Gas Consumption Resource\n",
23179 "parameters": [
23180   {"$ref": "#/parameters/interface-all"}
23181 ],
23182 "responses": {
23183   "200": {
23184     "description" : "Success path response for the Resource",
23185     "x-example":
23186     {
23187       "rt": ["oic.r.gas.usage"],
23188       "if": ["oic.if.ll","oic.if.b","oic.if.baseline"],
23189       "resources": [
23190         {
23191           "href": "/TimeIntervalResURI",
23192           "rt": ["oic.r.time.period"],
23193           "if": ["oic.if.a","oic.if.baseline"],
23194           "eps": [{"ep": "coaps://[fe80::bld6]:1122"}]
23195         },
23196         {
23197           "href": "/GasConsumptionResURI",
23198           "rt": ["oic.r.gas.consumption"],
23199           "if": ["oic.if.s","oic.if.baseline"],
23200           "eps": [{"ep": "coaps://[fe80::bld6]:1122"}]
23201         }
23202       ]
23203     },
23204     "schema": { "$ref": "#/definitions/Usage" }
23205   }
23206 }
23207 },
23208 },
23209 "/GasUsageResURI?if=oic.if.b" : {
23210 "get": {
23211   "description": "This Resource describes a cumulative time-based gas usage query.\nThe
23212 Resource is a Collection of:\n TimePeriod Resource\n Gas Consumption Resource\n",
23213 "parameters": [
23214   {"$ref": "#/parameters/interface-all"}
23215 ],
23216 "responses": {
23217   "200": {
23218     "description" : "Success path response for the Resource",
23219

```

```

23220         "x-example":
23221         [
23222             {
23223                 "href": "/TimeIntervalResURI",
23224                 "rep": {
23225                     "startTime": "2018-01-09T14:30Z",
23226                     "stopTime": "2018-01-09T14:45Z"
23227                 }
23228             },
23229             {
23230                 "href": "/GasConsumptionResURI",
23231                 "rep": {
23232                     "gas": 11135.41,
23233                     "volume": 1000.0
23234                 }
23235             }
23236         ],
23237         "schema": { "$ref": "#/definitions/batch" }
23238     }
23239 },
23240 },
23241 "post": {
23242     "description": "Sets the current time period. A Client may also post directly to the exposed
23243     URL for the Time Period Resource.\n",
23244     "x-method": ["optional"],
23245     "parameters": [
23246         { "$ref": "#/parameters/interface-b" },
23247         {
23248             "name": "body",
23249             "in": "body",
23250             "required": true,
23251             "schema": { "$ref": "#/definitions/batchupdate" },
23252             "x-example":
23253             [
23254                 {
23255                     "href": "/TimePeriodResURI",
23256                     "rep": {
23257                         "startTime": "2018-01-15T16:30Z",
23258                         "stopTime": "2018-01-16T16:30Z"
23259                     }
23260                 }
23261             ]
23262         }
23263     ],
23264     "responses": {
23265         "200": {
23266             "description": "Success path response code\n"
23267         }
23268     }
23269 }
23270 },
23271 },
23272 "parameters": {
23273     "interface-all" : {
23274         "in" : "query",
23275         "name" : "if",
23276         "type" : "string",
23277         "enum" : ["oic.if.ll", "oic.if.b", "oic.if.baseline"]
23278     },
23279     "interface-b" : {
23280         "in" : "query",
23281         "name" : "if",
23282         "type" : "string",
23283         "enum" : ["oic.if.b"]
23284     }
23285 },
23286 "definitions": {
23287     "links": {
23288         "type": "array",
23289         "items": {
23290             "$ref": "#/definitions/oic.oic-link"
23291         }

```



```

23292     "minItems": 2,
23293     "maxItems": 4
23294   },
23295   "oic.oic-link": {
23296     "properties": {
23297       "if": {
23298         "description": "The interface set supported by the Linked Resource",
23299         "items": {
23300           "enum": [
23301             "oic.if.baseline",
23302             "oic.if.a",
23303             "oic.if.s"
23304           ],
23305           "type": "string"
23306         },
23307         "minItems": 1,
23308         "uniqueItems": true,
23309         "readOnly": true,
23310         "type": "array"
23311       },
23312       "rt": {
23313         "description": "Resource Type of the linked Resource",
23314         "items": {
23315           "enum": [
23316             "oic.r.time.period",
23317             "oic.r.gas.consumption",
23318             "oic.r.conversionfactor",
23319             "oic.r.calorificvalue"
23320           ],
23321           "type": "string",
23322           "maxLength": 64
23323         },
23324         "minItems": 1,
23325         "uniqueItems": true,
23326         "readOnly": true,
23327         "type": "array"
23328       },
23329       "anchor": {
23330         "$ref":
23331         "https://openconnectivityfoundation.github.io/core/schemas/oic.links.properties.core-
23332         schema.json#/definitions/anchor"
23333       },
23334       "di": {
23335         "$ref":
23336         "https://openconnectivityfoundation.github.io/core/schemas/oic.links.properties.core-
23337         schema.json#/definitions/di"
23338       },
23339       "eps": {
23340         "$ref":
23341         "https://openconnectivityfoundation.github.io/core/schemas/oic.links.properties.core-
23342         schema.json#/definitions/eps"
23343       },
23344       "href": {
23345         "$ref":
23346         "https://openconnectivityfoundation.github.io/core/schemas/oic.links.properties.core-
23347         schema.json#/definitions/href"
23348       },
23349       "ins": {
23350         "$ref":
23351         "https://openconnectivityfoundation.github.io/core/schemas/oic.links.properties.core-
23352         schema.json#/definitions/ins"
23353       },
23354       "p": {
23355         "$ref":
23356         "https://openconnectivityfoundation.github.io/core/schemas/oic.links.properties.core-
23357         schema.json#/definitions/p"
23358       },
23359       "rel": {
23360         "$ref":
23361         "https://openconnectivityfoundation.github.io/core/schemas/oic.links.properties.core-
23362         schema.json#/definitions/rel_array"
23363     },

```

```

23364         "title": {
23365             "$ref":
23366 "https://openconnectivityfoundation.github.io/core/schemas/oic.links.properties.core-
23367 schema.json#/definitions/title"
23368         },
23369         "type": {
23370             "$ref":
23371 "https://openconnectivityfoundation.github.io/core/schemas/oic.links.properties.core-
23372 schema.json#/definitions/type"
23373         }
23374     },
23375     "required": [
23376         "href",
23377         "rt",
23378         "if"
23379     ],
23380     "type": "object"
23381 },
23382 "batch": {
23383     "title": "Collection Batch Retrieve Format",
23384     "minItems": 2,
23385     "maxItems": 4,
23386     "type": "array",
23387     "items": {
23388         "additionalProperties": true,
23389         "type": "object",
23390         "properties": {
23391             "href": {
23392                 "$ref":
23393 "https://openconnectivityfoundation.github.io/core/schemas/oic.links.properties.core-
23394 schema.json#/definitions/href"
23395             },
23396             "rep": {
23397                 "anyOf": [
23398                     {
23399                         "$ref":
23400 "https://openconnectivityfoundation.github.io/IoTDataModels/TimePeriodResURI.swagger.json#/definitio
23401 ns/TimePeriod"
23402                     },
23403                     {
23404                         "$ref":
23405 "https://openconnectivityfoundation.github.io/IoTDataModels/GasConsumptionResURI.swagger.json#/defin
23406 itions/Consumption"
23407                     },
23408                     {
23409                         "$ref":
23410 "https://openconnectivityfoundation.github.io/IoTDataModels/CalorificValueResURI.swagger.json#/defin
23411 itions/Calorific"
23412                     },
23413                     {
23414                         "$ref":
23415 "https://openconnectivityfoundation.github.io/IoTDataModels/ConversionFactorResURI.swagger.json#/def
23416 initions/Conversion"
23417                     }
23418                 ]
23419             }
23420         },
23421         "required": ["href", "rep"]
23422     }
23423 },
23424 "batchupdate": {
23425     "title": "Collection Batch Update Format",
23426     "minItems": 1,
23427     "type": "array",
23428     "items": {
23429         "additionalProperties": true,
23430         "type": "object",
23431         "properties": {
23432             "href": {
23433                 "$ref":
23434 "https://openconnectivityfoundation.github.io/core/schemas/oic.links.properties.core-
23435 schema.json#/definitions/href"

```

```

23436     },
23437     "rep": {
23438       "$ref":
23439       "https://openconnectivityfoundation.github.io/IoTDataModels/TimePeriodResURI.swagger.json#/definitions/TimePeriod"
23440     }
23441   }
23442 }
23443 }
23444 },
23445 "Usage" : {
23446   "properties": {
23447     "rt" : {
23448       "description": "Resource Type",
23449       "items": {
23450         "type": "string",
23451         "enum": ["oic.r.gas.usage"],
23452         "maxLength": 64
23453       },
23454       "minItems": 1,
23455       "readOnly": true,
23456       "uniqueItems": true,
23457       "type": "array"
23458     },
23459     "rts" : {
23460       "description": "Allowed Resource Type",
23461       "items": {
23462         "type": "string",
23463         "enum":
23464         ["oic.r.gas.consumption", "oic.r.time.period", "oic.r.calorificvalue", "oic.r.conversionfactor"],
23465         "maxLength": 64
23466       },
23467       "minItems": 2,
23468       "readOnly": true,
23469       "uniqueItems": true,
23470       "type": "array"
23471     },
23472     "rts-m" : {
23473       "description": "Mandatory Resource Type",
23474       "items": {
23475         "type": "string",
23476         "enum": ["oic.r.gas.consumption", "oic.r.time.period"],
23477         "maxLength": 64
23478       },
23479       "minItems": 2,
23480       "readOnly": true,
23481       "uniqueItems": true,
23482       "type": "array"
23483     },
23484     "n": {
23485       "$ref" :
23486       "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-schema.json#/definitions/n"
23487     },
23488     "id": {
23489       "$ref" :
23490       "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-schema.json#/definitions/id"
23491     },
23492     "resources" : {
23493       "$ref": "#/definitions/links"
23494     },
23495   },
23496   "if" : {
23497     "description": "The interface set supported by this resource",
23498     "items": {
23499       "enum": [
23500         "oic.if.ll",
23501         "oic.if.b",
23502         "oic.if.baseline"
23503       ],
23504       "type": "string",
23505       "maxLength": 64
23506     },
23507   },

```

```

23508         "minItems": 1,
23509         "readOnly": true,
23510         "uniqueItems": true,
23511         "type": "array"
23512     }
23513 },
23514 "type" : "object",
23515 "required": ["resources"]
23516 }
23517 }
23518 }
23519

```

23520 **6.119.5 Property definition**

23521 Table 241 defines the Properties that are part of the "oic.r.gas.usage" Resource Type.

23522 **Table 241 – The Property definitions of the Resource with type "rt" = "oic.r.gas.usage".**

Property name	Value type	Mandatory	Access mode	Description
href	multiple types: see schema	Yes	Read Write	
rep	multiple types: see schema	Yes	Read Write	
p	multiple types: see schema	No	Read Write	
if	array: see schema	Yes	Read Only	The interface set supported by the Linked Resource
anchor	multiple types: see schema	No	Read Write	
type	multiple types: see schema	No	Read Write	
di	multiple types: see schema	No	Read Write	
rt	array: see schema	Yes	Read Only	Resource Type of the linked Resource
eps	multiple types: see schema	No	Read Write	
title	multiple types: see schema	No	Read Write	
href	multiple types: see schema	Yes	Read Write	

ins	multiple types: see schema	No	Read Write	
rel	multiple types: see schema	No	Read Write	
n	multiple types: see schema	No	Read Write	
if	array: see schema	No	Read Only	The interface set supported by this resource
rts	array: see schema	No	Read Only	Allowed Resource Type
rt	array: see schema	No	Read Only	Resource Type
rts-m	array: see schema	No	Read Only	Mandatory Resource Type
id	multiple types: see schema	No	Read Write	
resources	multiple types: see schema	Yes	Read Write	
href	multiple types: see schema		Read Write	
rep	multiple types: see schema		Read Write	

23523 **6.119.6 CRUDN behaviour**

23524 Table 242 defines the CRUDN operations that are supported on the "oic.r.gas.usage" Resource
23525 Type.

23526 **Table 242 – The CRUDN operations of the Resource with type "rt" = "oic.r.gas.usage".**

Create	Read	Update	Delete	Notify
	get			observe

23527 **6.120 Impact Sensor**

23528 **6.120.1 Introduction**

23529 This Resource provides a status and properties of an impact sensor. Included is the current status
23530 (boolean), horizontal and vertical direction (in degrees) and impact level (g force).

23531 **6.120.2 Example URI**

23532 /ImpactSensorResURI

23533 **6.120.3 Resource type**

23534 The Resource Type is defined as: "oic.r.impactsensor".

23535 **6.120.4 OpenAPI 2.0 definition**

```
23536 {
23537   "swagger": "2.0",
23538   "info": {
23539     "title": "Impact Sensor",
23540     "version": "12122018",
23541     "license": {
23542       "name": "OCF Data Model License",
23543       "url":
23544         "https://github.com/openconnectivityfoundation/core/blob/e28a9e0a92e17042ba3e83661e4c0fbce8bdc4ba/LI
23545         CENSE.md",
23546       "x-copyright": "copyright 2018-2019 Open Connectivity Foundation, Inc. All rights reserved."
23547     },
23548     "termsOfService": "https://openconnectivityfoundation.github.io/core/DISCLAIMER.md"
23549   },
23550   "schemes": ["http"],
23551   "consumes": ["application/json"],
23552   "produces": ["application/json"],
23553   "paths": {
23554     "/ImpactSensorResURI" : {
23555       "get": {
23556         "description": "This Resource provides a status and properties of an impact sensor. Included
23557         is the current status (boolean), horizontal and vertical direction (in degrees) and impact level (g
23558         force).",
23559         "parameters": [
23560           { "$ref": "#/parameters/interface" }
23561         ],
23562         "responses": {
23563           "200": {
23564             "description": "The success path response for the Resource.",
23565             "x-example":
23566               {
23567                 "rt": ["oic.r.impactsensor"],
23568                 "if": ["oic.if.s", "oic.if.baseline"],
23569                 "impactstatus": true,
23570                 "impactlevel": 2.25,
23571                 "impactdirectionhorizontal": 120.0,
23572                 "impactdirectionvertical": 240.0
23573               },
23574             "schema": { "$ref": "#/definitions/ImpactSensor" }
23575           }
23576         }
23577       }
23578     }
23579   },
23580   "parameters": {
23581     "interface": {
23582       "in": "query",
23583       "name": "if",
23584       "type": "string",
23585       "enum": ["oic.if.s", "oic.if.baseline"]
23586     }
23587   },
23588   "definitions": {
23589     "ImpactSensor": {
23590       "properties": {
23591         "rt": {
23592           "description": "The Resource Type.",
23593           "items": {
23594             "maxLength": 64,
23595             "type": "string",
23596             "enum": ["oic.r.impactsensor"]
23597           }

```

```

23598         "minItems": 1,
23599         "uniqueItems": true,
23600         "readOnly": true,
23601         "type": "array"
23602     },
23603     "impactstatus": {
23604         "type": "boolean",
23605         "readOnly": true,
23606         "description": "The \"impactstatus\" Property indicates the impact as: \"true\" A physical
23607 impact is detected, \"false\" Normal status, an impact is not detected."
23608     },
23609     "impactlevel": {
23610         "type": "number",
23611         "readOnly": true,
23612         "description": "The \"impactlevel\" Property provides the level of impact. The unit is in
23613 \"G\" (G-force)."
23614     },
23615     "impactdirectionhorizontal": {
23616         "type": "number",
23617         "readOnly": true,
23618         "description": "The \"impactdirectionhorizontal\" Property shows a horizontal direction
23619 where the impact comes from. The value is 0 to 360 degrees. 0 is the front of the sensor and
23620 clockwise increment.",
23621         "minimum": 0,
23622         "maximum": 360
23623     },
23624     "impactdirectionvertical": {
23625         "type": "number",
23626         "readOnly": true,
23627         "description": "The \"impactdirectionvertical\" Property shows a vertical direction where
23628 the impact comes from. The value is 0 to 360 degrees. 0 is the front of the sensor and upward
23629 increment.",
23630         "minimum": 0,
23631         "maximum": 360
23632     },
23633     "n": {
23634         "$ref":
23635 "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
23636 schema.json#/definitions/n"
23637     },
23638     "id": {
23639         "$ref":
23640 "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
23641 schema.json#/definitions/id"
23642     },
23643     "if": {
23644         "description": "The OCF Interface set supported by this Resource.",
23645         "items": {
23646             "enum": [
23647                 "oic.if.s",
23648                 "oic.if.baseline"
23649             ],
23650             "type": "string"
23651         },
23652         "minItems": 2,
23653         "uniqueItems": true,
23654         "readOnly": true,
23655         "type": "array"
23656     }
23657 },
23658 "type": "object",
23659 "required": [ "impactstatus" ]
23660 }
23661 }
23662 }
23663

```

23664 6.120.5 Property definition

23665 Table 243 defines the Properties that are part of the "oic.r.impactsensor" Resource Type.

23666 **Table 243 – The Property definitions of the Resource with type "rt" = "oic.r.impactsensor".**

Property name	Value type	Mandatory	Access mode	Description
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.
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.
rt	array: see schema	No	Read Only	The Resource Type.
id	multiple types: see schema	No	Read Write	
n	multiple types: see schema	No	Read Write	
if	array: see schema	No	Read Only	The OCF Interface set supported by this Resource.
impactlevel	number	No	Read Only	The "impactlevel" Property provides the level of impact. The unit is in "G" (G-force).
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.

23667 **6.120.6 CRUDN behaviour**

23668 Table 244 defines the CRUDN operations that are supported on the "oic.r.impactsensor" Resource
 23669 Type.

23670 **Table 244 – The CRUDN operations of the Resource with type "rt" = "oic.r.impactsensor".**

Create	Read	Update	Delete	Notify
	get			observe

23671 **6.121 Keypad Character**

23672 **6.121.1 Introduction**

23673 This Resource describes a char (0-9,*,#) which is selected on a number keypad.

23674 **6.121.2 Example URI**

23675 /KeyPadCharResURI

23676 **6.121.3 Resource type**

23677 The Resource Type is defined as: "oic.r.keypadchar".

23678 **6.121.4 OpenAPI 2.0 definition**

```

23679 {
23680   "swagger": "2.0",
23681   "info": {
23682     "title": "KeyPadChar",
23683     "version": "12122018",
23684     "license": {
23685       "name": "OCF Data Model License",
23686       "url":
23687         "https://github.com/openconnectivityfoundation/core/blob/e28a9e0a92e17042ba3e83661e4c0fbce8bdc4ba/LI
23688         CENSE.md",
23689       "x-copyright": "copyright 2018-2019 Open Connectivity Foundation, Inc. All rights reserved."
23690     },
23691     "termsOfService": "https://openconnectivityfoundation.github.io/core/DISCLAIMER.md"
23692   },
23693   "schemes": ["http"],
23694   "consumes": ["application/json"],
23695   "produces": ["application/json"],
23696   "paths": {
23697     "/KeyPadCharResURI" : {
23698       "get": {
23699         "description": "This Resource describes a char (0-9,*,#) which is selected on a number
23700 keypad.",
23701         "parameters": [
23702           {"$ref": "#/parameters/interface"}
23703         ],
23704         "responses": {
23705           "200": {
23706             "description": "Success path response for the Resource",
23707             "x-example":
23708               {
23709                 "rt": ["oic.r.keypadchar"],
23710                 "if": ["oic.if.rw", "oic.if.baseline"],
23711                 "keyvalue": "7"
23712               },
23713             "schema": { "$ref": "#/definitions/KeyPadChar" }
23714           }
23715         }
23716       },
23717       "post": {
23718         "description": "This Resource describes a char (0-9, *, #) which is selected on a number
23719 keypad.\n",
23720         "parameters": [
  
```

```

23721         {"$ref": "#/parameters/interface"},
23722         {
23723             "name": "body",
23724             "in": "body",
23725             "required": true,
23726             "schema": { "$ref": "#/definitions/KeyPadChar" },
23727             "x-example":
23728                 {
23729                     "keyvalue": "4"
23730                 }
23731         }
23732     ],
23733     "responses": {
23734         "200": {
23735             "description": "",
23736             "x-example":
23737                 {
23738                     "keyvalue": "4"
23739                 },
23740             "schema": { "$ref": "#/definitions/KeyPadChar" }
23741         }
23742     }
23743 }
23744 }
23745 },
23746 "parameters": {
23747     "interface": {
23748         "in": "query",
23749         "name": "if",
23750         "type": "string",
23751         "enum": ["oic.if.rw", "oic.if.baseline"]
23752     }
23753 },
23754 "definitions": {
23755     "KeyPadChar": {
23756         "properties": {
23757             "rt": {
23758                 "description": "The Resource Type.",
23759                 "items": {
23760                     "maxLength": 64,
23761                     "type": "string",
23762                     "enum": ["oic.r.keypadchar"]
23763                 },
23764                 "minItems": 1,
23765                 "uniqueItems": true,
23766                 "readOnly": true,
23767                 "type": "array"
23768             },
23769             "keyvalue": {
23770                 "type": "string",
23771                 "enum": [
23772                     "0",
23773                     "1",
23774                     "2",
23775                     "3",
23776                     "4",
23777                     "5",
23778                     "6",
23779                     "7",
23780                     "8",
23781                     "9",
23782                     "*",
23783                     "#"
23784                 ],
23785                 "description": "The value of the key pad char."
23786             },
23787             "n": {
23788                 "$ref":
23789                 "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
23790                 schema.json#/definitions/n"
23791             },
23792             "id": {

```

```

23793         "$ref":
23794         "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
23795         schema.json#/definitions/id"
23796     },
23797     "if": {
23798         "description": "The OCF Interface set supported by this Resource.",
23799         "items": {
23800             "enum": [
23801                 "oic.if.baseline",
23802                 "oic.if.rw"
23803             ],
23804             "type": "string"
23805         },
23806         "minItems": 2,
23807         "uniqueItems": true,
23808         "readOnly": true,
23809         "type": "array"
23810     }
23811 },
23812 "type": "object",
23813 "required": ["keyvalue"]
23814 }
23815 }
23816 }

```

23817 6.121.5 Property definition

23818 Table 245 defines the Properties that are part of the "oic.r.keypadchar" Resource Type.

23819 **Table 245 – The Property definitions of the Resource with type "rt" = "oic.r.keypadchar".**

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

23820 6.121.6 CRUDN behaviour

23821 Table 246 defines the CRUDN operations that are supported on the "oic.r.keypadchar" Resource
23822 Type.

23823 **Table 246 – The CRUDN operations of the Resource with type "rt" = "oic.r.keypadchar".**

Create	Read	Update	Delete	Notify
	get	post		observe

23824 6.122 Opaque Data

23825 6.122.1 Introduction

23826 This Resource defines opaque data that can be transferred between endpoints where the data itself
23827 is not interpretable by the OCF endpoints.
23828 The stringdata is a string of ASCII characters.

23829 6.122.2 Example URI

23830 /OpaqueDataResURI

23831 6.122.3 Resource type

23832 The Resource Type is defined as: "oic.r.opaquedata".

23833 6.122.4 OpenAPI 2.0 definition

```
23834 {
23835   "swagger": "2.0",
23836   "info": {
23837     "title": "Opaque Data",
23838     "version": "12122018",
23839     "license": {
23840       "name": "OCF Data Model License",
23841       "url":
23842         "https://github.com/openconnectivityfoundation/core/blob/e28a9e0a92e17042ba3e83661e4c0fbce8bdc4ba/LI
23843 CENSE.md",
23844       "x-copyright": "copyright 2018-2019 Open Connectivity Foundation, Inc. All rights reserved."
23845     },
23846     "termsOfService": "https://openconnectivityfoundation.github.io/core/DISCLAIMER.md"
23847   },
23848   "schemes": ["http"],
23849   "consumes": ["application/json"],
23850   "produces": ["application/json"],
23851   "paths": {
23852     "/OpaqueDataResURI" : {
23853       "get": {
23854         "description": "This Resource defines opaque data that can be transferred between endpoints
23855 where the data itself is not interpretable by the OCF endpoints.\n\nThe stringdata is a string of
23856 ASCII characters.",
23857         "parameters": [
23858           { "$ref": "#/parameters/interface" }
23859         ],
23860         "responses": {
23861           "200": {
23862             "description": "",
23863             "x-example":
23864               {
23865                 "rt": ["oic.r.opaquedata"],
23866                 "if": ["oic.if.rw", "oic.if.baseline"],
23867                 "payload": "asdf0123",
23868                 "payloadtype": "switch-get",
23869                 "encoding": "base64",
23870                 "size": 8,
23871                 "hash": "AlA1",
23872                 "system": "foreign system"
23873               },
23874             "schema": { "$ref": "#/definitions/OpaqueData" }
23875           }
23876         }
23877       },
23878       "post": {
23879         "description": "",
23880         "parameters": [
23881           { "$ref": "#/parameters/interface" },
23882           {
23883             "name": "body",
23884             "in": "body",
23885             "required": true,
23886             "schema": { "$ref": "#/definitions/OpaqueData" },
23887             "x-example":
```

```

23888         {
23889             "payload": "asdf0123",
23890             "payloadtype": "switch-get",
23891             "encoding": "base64",
23892             "size": 8,
23893             "hash": "AlAl",
23894             "system": "foreign system"
23895         }
23896     },
23897 ],
23898 "responses": {
23899     "200": {
23900         "description": "",
23901         "x-example":
23902             {
23903                 "payload": "asdf0123",
23904                 "payloadtype": "switch-get",
23905                 "encoding": "base64",
23906                 "size": 8,
23907                 "hash": "AlAl",
23908                 "system": "foreign system"
23909             },
23910         "schema": { "$ref": "#/definitions/OpaqueData" }
23911     }
23912 }
23913 },
23914 },
23915 },
23916 "parameters": {
23917     "interface": {
23918         "in": "query",
23919         "name": "if",
23920         "type": "string",
23921         "enum": ["oic.if.rw", "oic.if.baseline"]
23922     }
23923 },
23924 "definitions": {
23925     "OpaqueData" : {
23926         "properties": {
23927             "rt": {
23928                 "description": "The Resource Type.",
23929                 "items": {
23930                     "maxLength": 64,
23931                     "type": "string",
23932                     "enum": ["oic.r.opaquedata"]
23933                 },
23934                 "minItems": 1,
23935                 "uniqueItems": true,
23936                 "readOnly": true,
23937                 "type": "array"
23938             },
23939             "payload": {
23940                 "type": "string",
23941                 "description": "This Property contains the opaque data."
23942             },
23943             "encoding": {
23944                 "type": "string",
23945                 "description": "This Property describes the encoding of the payload, e.g. binary as
23946 base64, json, xml, utf-8."
23947             },
23948             "payloadtype": {
23949                 "type": "string",
23950                 "description": "This Property describes the identification of the payload, e.g. what the
23951 payload is representing ."
23952             },
23953             "size": {
23954                 "type": "integer",
23955                 "description": "The size in bytes of the decoded binary object."
23956             },
23957             "hash": {
23958                 "type": "string",
23959                 "description": "The hash code of the blob. If present, it is used to check the decoded

```

```

23960 content of the object data point for integrity. The algorithm used for generating the hash value is
23961 SHA-2 [15]. The data point contains the hash as a hex encoded value."
23962 },
23963 "system": {
23964   "type": "string",
23965   "description": "The eco system that is using the payload."
23966 },
23967 "if": {
23968   "description": "The OCF Interface set supported by this Resource.",
23969   "items": {
23970     "enum": [
23971       "oic.if.baseline",
23972       "oic.if.rw"
23973     ],
23974     "type": "string"
23975   },
23976   "minItems": 2,
23977   "uniqueItems": true,
23978   "readOnly": true,
23979   "type": "array"
23980 },
23981 },
23982 "type": "object",
23983 "required": [ "payload", "encoding", "system" ]
23984 }
23985 }
23986 }

```

23987 **6.122.5 Property definition**

23988 Table 247 defines the Properties that are part of the "oic.r.opaquedata" Resource Type.

23989 **Table 247 – The Property definitions of the Resource with type "rt" = "oic.r.opaquedata".**

Property name	Value type	Mandatory	Access mode	Description
size	integer	No	Read Write	The size in bytes of the decoded binary object.
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.
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.
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 .
rt	array: see schema	No	Read Only	The Resource Type.

23990 **6.122.6 CRUDN behaviour**

23991 Table 248 defines the CRUDN operations that are supported on the "oic.r.opaquedata" Resource
23992 Type.

23993 **Table 248 – The CRUDN operations of the Resource with type "rt" = "oic.r.opaquedata".**

Create	Read	Update	Delete	Notify
	get	post		observe

23994 **6.123 User Info for Application Layer**

23995 **6.123.1 Introduction**

23996 This Resource defines credentials for user to application layer login. This does not relate to OCF
23997 Device to Device or Device to Cloud authentication. The username, password and token are strings.

23998 **6.123.2 Example URI**

23999 /UserInfoResURI

24000 **6.123.3 Resource type**

24001 The Resource Type is defined as: "oic.r.userinfo".

24002 **6.123.4 OpenAPI 2.0 definition**

```
24003 {
24004   "swagger": "2.0",
24005   "info": {
24006     "title": "User Info for Application Layer",
24007     "version": "12122018",
```

```

24008     "license": {
24009         "name": "OCF Data Model License",
24010         "url":
24011         "https://github.com/openconnectivityfoundation/core/blob/e28a9e0a92e17042ba3e83661e4c0fbce8bdc4ba/LI
24012 CENSE.md",
24013         "x-copyright": "copyright 2018-2019 Open Connectivity Foundation, Inc. All rights reserved."
24014     },
24015     "termsOfService": "https://openconnectivityfoundation.github.io/core/DISCLAIMER.md"
24016 },
24017 "schemes": ["http"],
24018 "consumes": ["application/json"],
24019 "produces": ["application/json"],
24020 "paths": {
24021     "/UserInfoResURI" : {
24022         "get": {
24023             "description": "This Resource defines credentials for user to application layer login. This
24024 does not relate to OCF Device to Device or Device to Cloud authentication. The username, password
24025 and token are strings.",
24026             "parameters": [
24027                 {"$ref": "#/parameters/interface"}
24028             ],
24029             "responses": {
24030                 "200": {
24031                     "description": "Success path response for the Resource, note that the info supplied
24032 is NOT returned on RETRIEVE",
24033                     "x-example":
24034                     {
24035                         "rt": ["oic.r.userinfo"],
24036                         "if": ["oic.if.rw", "oic.if.baseline"]
24037                     },
24038                     "schema": { "$ref": "#/definitions/UserInfo-retrieve" }
24039                 }
24040             }
24041         },
24042         "post": {
24043             "description": "This Resource defines credentials for user to application layer login. This
24044 does not relate to OCF Device to Device or Device to Cloud authentication. The username, password
24045 and token are strings.",
24046             "parameters": [
24047                 {"$ref": "#/parameters/interface"},
24048                 {
24049                     "name": "body",
24050                     "in": "body",
24051                     "required": true,
24052                     "schema": { "$ref": "#/definitions/UserInfo-update" },
24053                     "x-example":
24054                     {
24055                         "username": "username",
24056                         "password": "password",
24057                         "token": "A1A1"
24058                     }
24059                 }
24060             ],
24061             "responses": {
24062                 "200": {
24063                     "description": "The success path response for the Resource.",
24064                     "x-example":
24065                     {
24066                         "username": "username",
24067                         "password": "password",
24068                         "token": "A1A1"
24069                     },
24070                     "schema": { "$ref": "#/definitions/UserInfo-update" }
24071                 }
24072             }
24073         }
24074     }
24075 },
24076 "parameters": {
24077     "interface" : {
24078         "in": "query",
24079         "name": "if",

```



```

24080         "type": "string",
24081         "enum": ["oic.if.rw", "oic.if.baseline"]
24082     },
24083 },
24084 "definitions": {
24085     "UserInfo-retrieve": {
24086         "properties": {
24087             "rt": {
24088                 "description": "The Resource Type.",
24089                 "items": {
24090                     "maxLength": 64,
24091                     "type": "string",
24092                     "enum": ["oic.r.userinfo"]
24093                 },
24094                 "minItems": 1,
24095                 "uniqueItems": true,
24096                 "readOnly": true,
24097                 "type": "array"
24098             },
24099             "n": {
24100                 "$ref":
24101                 "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
24102                 schema.json#/definitions/n"
24103             },
24104             "id": {
24105                 "$ref":
24106                 "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
24107                 schema.json#/definitions/id"
24108             },
24109             "if": {
24110                 "description": "The OCF Interface set supported by this Resource.",
24111                 "items": {
24112                     "enum": [
24113                         "oic.if.rw",
24114                         "oic.if.baseline"
24115                     ],
24116                     "type": "string"
24117                 },
24118                 "minItems": 2,
24119                 "uniqueItems": true,
24120                 "readOnly": true,
24121                 "type": "array"
24122             }
24123         },
24124         "type": "object",
24125         "required": [ ]
24126     },
24127     "UserInfo-update": {
24128         "properties": {
24129             "username": {
24130                 "type": "string",
24131                 "description": "Login name."
24132             },
24133             "password": {
24134                 "type": "string",
24135                 "description": "Login password."
24136             },
24137             "token": {
24138                 "type": "string",
24139                 "description": "Authentication token."
24140             }
24141         },
24142         "type": "object",
24143         "required": [ ]
24144     }
24145 }
24146 }
24147

```

24148 6.123.5 Property definition

24149 Table 249 defines the Properties that are part of the "oic.r.userinfo" Resource Type.

24150 **Table 249 – The Property definitions of the Resource with type "rt" = "oic.r.userinfo".**

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

24151 **6.123.6 CRUDN behaviour**

24152 Table 250 defines the CRUDN operations that are supported on the "oic.r.userinfo" Resource Type.

24153 **Table 250 – The CRUDN operations of the Resource with type "rt" = "oic.r.userinfo".**

Create	Read	Update	Delete	Notify
	get	post		observe

24154

24155 **6.124 IAS Zone Info**

24156 **6.124.1 Introduction**

24157 This Resource describes information associated with an Intruder Alert System (IAS) Zone.

24158 Zone Type provides the information about the type of device/alarm.

24159 Zone Status provides an array which has 10 items representing various status information(e.g., battery status, mode, alarm (Up to two), supervision of IAS network, etc.

24160 A Device implementing this Resource can be enrolled to IAS Control and Indicator Equipment (CIE). IAS CIE can allocate an ID for the Device and update this Resource on the Device.

24161 This Resource may provide multiple sensitivity levels (>2).

24162 NumberofZoneSensitivityLevelSupported provides the number of the levels. A specific level can be selected as currentzonesensitivityLevel.

24166 **6.124.2 Example URI**

24167 /IASZoneInfoResURI

24168 **6.124.3 Resource type**

24169 The Resource Type is defined as: "oic.r.iaszoneinfo".

24170 **6.124.4 OpenAPI 2.0 definition**

```
24171 {
24172   "swagger": "2.0",
24173   "info": {
24174     "title": "IAS Zone Info",
24175     "version": "20190513",
24176     "license": {
24177       "name": "OCF Data Model License",
24178       "url":
24179 "https://github.com/openconnectivityfoundation/core/blob/e28a9e0a92e17042ba3e83661e4c0fbce8bdc4ba/LI
24180 CENSE.md",
24181       "x-copyright": "Copyright 2019 Open Connectivity Foundation, Inc. All rights reserved."
24182     },
24183     "termsOfService": "https://openconnectivityfoundation.github.io/core/DISCLAIMER.md"
24184   },
24185   "schemes": ["http"],
24186   "consumes": ["application/json"],
24187   "produces": ["application/json"],
24188   "paths": {
24189     "/IASZoneInfoResURI" : {
24190       "get": {
24191         "description": "This Resource describes information associated with an Intruder Alert System
24192 (IAS) Zone.\nZone Type provides the information about the type of device/alarm.\nZone Status
24193 provides an array which has 10 items representing various status information(e.g., battery status,
24194 mode, alarm (Up to two), supervision of IAS network, etc.\nA Device implementing this Resource can
24195 be enrolled to IAS Control and Indicator Equipment (CIE). IAS CIE can allocate an ID for the Device
24196 and update this Resource on the Device.\nThis Resource may provide multiple sensitivity levels (>2).
24197 NumberofZoneSensitivityLevelSupported provides the number of the levels. A specific level can be
24198 selected as currentzonesensitivityLevel.",
24199         "parameters": [
24200           { "$ref": "#/parameters/interface-all" }
24201         ],
24202         "responses": {
24203           "200": {
24204             "description": "",
24205             "x-example":
24206             {
24207               "rt": ["oic.r.iaszoneinfo"],
24208               "zonetype": "motionsensor",
24209               "zonestatus": {
24210                 "alarms": ["presence"],
24211                 "tamper": false,
24212                 "zonestatusreports": "statuschangeonly",
24213                 "fault": false,
24214                 "test": false
24215               },
24216               "iascieaddress": "ACDE9F56A3FE6B98",
24217               "zonestate": true,
24218               "zoneid": 64,
24219               "numzonesensitivitylevel": 3,
24220               "currentzonesensitivitylevel": 2
24221             },
24222             "schema": { "$ref": "#/definitions/IASZoneInfo" }
24223           }
24224         }
24225       },
24226       "post": {
24227         "description": "Sets the current sensitivity level of the IASZone.\n",
24228         "parameters": [
24229           { "$ref": "#/parameters/interface-rw" },
24230           {
24231             "name": "body",
24232             "in": "body",
24233             "required": true,
24234             "schema": { "$ref": "#/definitions/IASZoneInfo-Update" },
24235             "x-example":
24236             {
```

```

24237         "currentzonesensitivitylevel": 3
24238     }
24239 }
24240 ],
24241 "responses": {
24242     "200": {
24243         "description" : "Success path response code\n"
24244     }
24245 }
24246 }
24247 },
24248 },
24249 "parameters": {
24250     "interface-all" : {
24251         "in" : "query",
24252         "name" : "if",
24253         "type" : "string",
24254         "enum" : ["oic.if.rw", "oic.if.baseline"]
24255     },
24256     "interface-rw" : {
24257         "in" : "query",
24258         "name" : "if",
24259         "type" : "string",
24260         "enum" : ["oic.if.rw"]
24261     }
24262 },
24263 "definitions": {
24264     "IASZoneInfo" : {
24265         "properties": {
24266             "rt" : {
24267                 "description": "Resource Type",
24268                 "items": {
24269                     "type": "string",
24270                     "enum": ["oic.r.iaszoneinfo"]
24271                 },
24272                 "minItems": 1,
24273                 "readOnly": true,
24274                 "type": "array"
24275             },
24276             "zonestate" : {
24277                 "description": "The IAS zone state. True = enrolled, False = not enrolled.",
24278                 "readOnly": true,
24279                 "type": "boolean"
24280             },
24281             "zonestatus" : {
24282                 "description": "Set of alarm indicators.",
24283                 "properties": {
24284                     "alarms": {
24285                         "type": "array",
24286                         "description": "Array of alarms. The alarms exposed are dependent on the zonetype.",
24287                         "readOnly": true,
24288                         "minItems": 1,
24289                         "maxItems": 2,
24290                         "items": {
24291                             "type": "string",
24292                             "enum":
24293 ["system", "intrusion", "presence", "1stportalopenclose", "2ndportalopenclose", "fire", "wateroverflow", "C
24294 0", "cooking", "fall", "emergencybutton", "movement", "vibration", "panic", "emergency", "glassbreak"]
24295                         }
24296                     },
24297                     "zonestatusreports": {
24298                         "description": "Controls the generation of status indications",
24299                         "type": "string",
24300                         "enum": ["none", "statuschangeonly", "alarmclearonly", "statuschangeandalarmclear"]
24301                     },
24302                     "tamper": {
24303                         "description": "Tamper status. True = tampered, False = not tampered.",
24304                         "readOnly": true,
24305                         "type": "boolean"
24306                     },
24307                     "test": {
24308                         "description": "Test mode indicator. True = sensor is in test mode, False = sensor is

```

```

24309 in operational mode",
24310     "readOnly": true,
24311     "type": "boolean"
24312   },
24313   "fault": {
24314     "description": "Fault indicator. True = fault detected, False = no fault detected",
24315     "readOnly": true,
24316     "type": "boolean"
24317   }
24318 },
24319 "readOnly": true,
24320 "type": "object"
24321 },
24322 "numzonesensitivitylevel" : {
24323   "description": "Number of supported zone sensitivity levels",
24324   "minimum": 2,
24325   "readOnly": true,
24326   "type": "integer"
24327 },
24328 "zoneid" : {
24329   "description": "ID allocated by the IAS CIE",
24330   "readOnly": true,
24331   "type": "integer"
24332 },
24333 "iascieaddress" : {
24334   "description": "EUI-64 Address of the enrolled IAS Control and Indicating Equipment
(CIE)",
24335   "readOnly": true,
24336   "type": "string"
24337 },
24338 },
24339 "zonetype" : {
24340   "description": "IAS zone type. See OCF enumeration map for set of valid values.",
24341   "readOnly": true,
24342   "type": "string"
24343 },
24344 "currentzonesensitivitylevel" : {
24345   "description": "Current zone sensitivity level",
24346   "minimum": 0,
24347   "type": "integer"
24348 },
24349 "n" : {
24350   "$ref":
24351   "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
24352   schema.json#/definitions/n"
24353 },
24354 "id" : {
24355   "$ref":
24356   "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
24357   schema.json#/definitions/id"
24358 },
24359 "if" : {
24360   "description": "The OCF Interface set supported by this Resource",
24361   "items": {
24362     "enum": [
24363       "oic.if.rw",
24364       "oic.if.baseline"
24365     ],
24366     "type": "string"
24367   },
24368   "minItems": 2,
24369   "maxItems": 2,
24370   "readOnly": true,
24371   "type": "array"
24372 }
24373 },
24374 "required": ["zonetype", "zonestate", "zonestatus", "zoneid", "iascieaddress"]
24375 },
24376 "IASZoneInfo-Update" : {
24377   "properties": {
24378     "currentzonesensitivitylevel" : {
24379       "description": "Current zone sensitivity level, Client can only set 1 or higher.",
24380       "minimum": 1,

```

```

24381         "type": "integer"
24382     },
24383 },
24384     "required": ["currentzonesensitivitylevel"]
24385 }
24386 }
24387 }
24388

```

24389 **6.124.5 Property definition**

24390 Table 251 defines the Properties that are part of the "oic.r.iaszoneinfo" Resource Type.

24391 **Table 251 – The Property definitions of the Resource with type "rt" = "oic.r.iaszoneinfo".**

Property name	Value type	Mandatory	Access mode	Description
zoneid	integer	Yes	Read Only	ID allocated by the IAS CIE
numzonesensitivitylevel	integer	No	Read Only	Number of supported zone sensitivity levels
if	array: see schema	No	Read Only	The OCF Interface set supported by this Resource
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.
rt	array: see schema	No	Read Only	Resource Type
iascieaddress	string	Yes	Read Only	EUI-64 Address of the enrolled IAS Control and Indicating Equipment (CIE)
id	multiple types: see schema	No	Read Write	
currentzonesensitivitylevel	integer	No	Read Write	Current zone sensitivity level
zonetype	string	Yes	Read Only	IAS zone type. See OCF enumeration map for set of valid values.
n	multiple types: see schema	No	Read Write	
currentzonesensitivitylevel	integer	Yes	Read Write	Current zone sensitivity level, Client can only set 1 or higher.

24392 **6.124.6 CRUDN behaviour**

24393 Table 252 defines the CRUDN operations that are supported on the "oic.r.iaszoneinfo" Resource
24394 Type.

24395 **Table 252 – The CRUDN operations of the Resource with type "rt" = "oic.r.iaszoneinfo".**

Create	Read	Update	Delete	Notify
	get	post		observe

24396 **6.125 IAS Zone Collection**

24397 **6.125.1 Introduction**

24398 This Resource is Collection that fully describes an Intruder Alert System (IAS) Zone. It is made
24399 up of an instance of IAS Zone Info, Battery, and Power Source.

24400 **6.125.2 Example URI**

24401 /IASZoneResURI

24402 **6.125.3 Resource type**

24403 The Resource Type is defined as: "oic.r.iaszone".

24404 **6.125.4 OpenAPI 2.0 definition**

```
24405 {  
24406   "swagger": "2.0",  
24407   "info": {  
24408     "title": "IAS Zone Collection",  
24409     "version": "20190513",  
24410     "license": {  
24411       "name": "OCF Data Model License",  
24412       "url":  
24413 "https://github.com/openconnectivityfoundation/core/blob/e28a9e0a92e17042ba3e83661e4c0fbce8bdc4ba/LI  
24414 CENSE.md",  
24415       "x-copyright": "Copyright 2019 Open Connectivity Foundation, Inc. All rights reserved."  
24416     },  
24417     "termsOfService": "https://openconnectivityfoundation.github.io/core/DISCLAIMER.md"  
24418   },  
24419   "schemes": ["http"],  
24420   "consumes": ["application/json"],  
24421   "produces": ["application/json"],  
24422   "paths": {  
24423     "/IASZoneResURI?if=oic.if.baseline" : {  
24424       "get": {  
24425         "description": "This Resource is Collection that fully describes an Intruder Alert System  
24426 (IAS) Zone. It is made up of an instance of IAS Zone Info, Battery, and Power Source.",  
24427         "parameters": [  
24428           {"$ref": "#/parameters/interface-baseline"}  
24429         ],  
24430         "responses": {  
24431           "200": {  
24432             "description" : "",  
24433             "schema": { "$ref": "#/definitions/baseline"},  
24434             "x-example":  
24435             {  
24436               "rt": ["oic.r.iaszone"],  
24437               "if": ["oic.if.ll", "oic.if.b", "oic.if.baseline"],  
24438               "links": [  
24439                 {  
24440                   "href": "/myIASZoneInfoResURI",  
24441                   "rt": ["oic.r.iaszoneinfo"],  
24442                   "if": ["oic.if.rw", "oic.if.baseline"]  
24443                 },  
24444                 {  
24445                   "href": "/myBatteryResURI",  
24446                   "rt": ["oic.r.energy.battery"],  
24447                   "if": ["oic.if.rw", "oic.if.baseline"]  
24448                 }  
24449               ]  
24450             }  
24451           }  
24452         }  
24453       }  
24454     }  
24455   }  
24456 }
```

```

24449         {
24450             "href": "/myPowersourceResURI",
24451             "rt": ["oic.r.powersource"],
24452             "if": ["oic.if.r", "oic.if.baseline"]
24453         }
24454     ]
24455 }
24456 }
24457 }
24458 }
24459 },
24460 "/IASZoneResURI?if=oic.if.ll" : {
24461     "get": {
24462         "description": "This Resource is Collection that fully describes an Intruder Alert System
24463 (IAS) Zone. It is made up of an instance of IAS Zone Info, Battery, and Power Source.",
24464         "parameters": [
24465             {"$ref": "#/parameters/interface-ll"}
24466         ],
24467         "responses": {
24468             "200": {
24469                 "description" : "",
24470                 "schema": {"$ref": "#/definitions/links"},
24471                 "x-example":
24472                 [
24473                     {
24474                         "href": "/myIASZoneInfoResURI",
24475                         "rt": ["oic.r.iaszoneinfo"],
24476                         "if": ["oic.if.rw", "oic.if.baseline"]
24477                     },
24478                     {
24479                         "href": "/myBatteryResURI",
24480                         "rt": ["oic.r.energy.battery"],
24481                         "if": ["oic.if.rw", "oic.if.baseline"]
24482                     },
24483                     {
24484                         "href": "/myPowersourceResURI",
24485                         "rt": ["oic.r.powersource"],
24486                         "if": ["oic.if.r", "oic.if.baseline"]
24487                     }
24488                 ]
24489             }
24490         }
24491     }
24492 },
24493 "/IASZoneResURI?if=oic.if.b" : {
24494     "get": {
24495         "description": "This Resource is Collection that fully describes an Intruder Alert System
24496 (IAS) Zone. It is made up of an instance of IAS Zone Info, Battery, and Power Source.",
24497         "parameters": [
24498             {"$ref": "#/parameters/interface-b"}
24499         ],
24500         "responses": {
24501             "200": {
24502                 "description" : "",
24503                 "schema": {"$ref": "#/definitions/IASZoneCollectionBatch-Retrieve" },
24504                 "x-example":
24505                 [
24506                     {
24507                         "href": "/myIASZoneInfoResURI",
24508                         "rep": {
24509                             "zonetype": "motionsensor",
24510                             "zonestatus": {
24511                                 "alarms": ["presence"],
24512                                 "tamper": false,
24513                                 "zonestatusreports": "statuschangeonly",
24514                                 "fault": false,
24515                                 "test": false
24516                             },
24517                             "iascieaddress": "ACDE9F56A3FE6B98",
24518                             "zonestate": true,
24519                             "zoneid": 64,
24520                             "numzonesensitivitylevel": 3,

```



```

24521         "currentzonesensitivitylevel": 2
24522     }
24523 },
24524 {
24525     "href": "/myBatteryResURI",
24526     "rep": {
24527         "charge": 70,
24528         "defect": false
24529     }
24530 },
24531 {
24532     "href": "/myPowersourceResURI",
24533     "rep": {
24534         "powerSources": ["AC (Mains) Power"],
24535         "sourcefault": false
24536     }
24537 }
24538 ]
24539 }
24540 },
24541 },
24542 "post": {
24543     "description": "Sets the current sensitivity level of the IASZone.\n",
24544     "parameters": [
24545         {"$ref": "#/parameters/interface-b"},
24546         {
24547             "name": "body",
24548             "in": "body",
24549             "required": true,
24550             "schema": { "$ref": "#/definitions/IASZoneCollectionBatch-Update" },
24551             "x-example":
24552             [
24553                 {
24554                     "href": "/myIASZoneInfoResURI",
24555                     "rep": {
24556                         "currentzonesensitivitylevel": 3
24557                     }
24558                 }
24559             ]
24560         }
24561     ],
24562     "responses": {
24563         "200": {
24564             "description": "Success path response code\n"
24565         }
24566     }
24567 }
24568 },
24569 },
24570 "parameters": {
24571     "interface-all" : {
24572         "in" : "query",
24573         "name" : "if",
24574         "type" : "string",
24575         "enum" : ["oic.if.ll", "oic.if.b", "oic.if.baseline"]
24576     },
24577     "interface-ll" : {
24578         "in" : "query",
24579         "name" : "if",
24580         "type" : "string",
24581         "enum" : ["oic.if.ll"]
24582     },
24583     "interface-b" : {
24584         "in" : "query",
24585         "name" : "if",
24586         "type" : "string",
24587         "enum" : ["oic.if.b"]
24588     },
24589     "interface-baseline" : {
24590         "in" : "query",
24591         "name" : "if",
24592         "type" : "string",

```

```

24593     "enum" : ["oic.if.baseline"]
24594   }
24595 },
24596 "definitions": {
24597   "baseline": {
24598     "properties": {
24599       "rt" : {
24600         "description": "Resource Type",
24601         "items": {
24602           "type": "string",
24603           "enum": ["oic.r.iaszone"]
24604         },
24605         "minItems": 1,
24606         "readOnly": true,
24607         "type": "array"
24608       },
24609       "rts" : {
24610         "description": "Allowed Resources",
24611         "type": "array",
24612         "minItems": 3,
24613         "maxItems": 3,
24614         "items": {
24615           "type": "string",
24616           "enum": ["oic.r.iaszoneinfo", "oic.r.energy.battery", "oic.r.powersource"]
24617         }
24618       },
24619       "rts-m" : {
24620         "description": "Mandatory Resources",
24621         "type": "array",
24622         "minItems": 3,
24623         "maxItems": 3,
24624         "items": {
24625           "type": "string",
24626           "enum": ["oic.r.iaszoneinfo", "oic.r.energy.battery", "oic.r.powersource"]
24627         }
24628       },
24629       "n": {
24630         "$ref":
24631         "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
24632         schema.json#/definitions/n"
24633       },
24634       "id": {
24635         "$ref":
24636         "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
24637         schema.json#/definitions/id"
24638       },
24639       "links" : {
24640         "$ref": "#/definitions/links"
24641       },
24642       "if" : {
24643         "description": "The OCF Interface set supported by this Resource",
24644         "items": {
24645           "enum": [
24646             "oic.if.ll",
24647             "oic.if.b",
24648             "oic.if.baseline"
24649           ],
24650           "type": "string"
24651         },
24652         "minItems": 1,
24653         "readOnly": true,
24654         "type": "array"
24655       }
24656     },
24657     "type" : "object",
24658     "required": ["links"]
24659   },
24660   "links": {
24661     "type": "array",
24662     "items": {
24663       "$ref": "#/definitions/oic.oic-link"
24664     }

```

```

24665     },
24666     "oic.oic-link": {
24667         "properties": {
24668             "if": {
24669                 "description": "The OCF Interface set supported by this resource",
24670                 "items": {
24671                     "enum": [
24672                         "oic.if.baseline",
24673                         "oic.if.rw",
24674                         "oic.if.r"
24675                     ],
24676                     "type": "string"
24677                 },
24678                 "minItems": 1,
24679                 "uniqueItems": true,
24680                 "readOnly": true,
24681                 "type": "array"
24682             },
24683             "rt": {
24684                 "description": "Resource Type of the Resource",
24685                 "items": {
24686                     "enum": [
24687                         "oic.r.iaszoneinfo",
24688                         "oic.r.energy.battery",
24689                         "oic.r.powersource"
24690                     ],
24691                     "type": "string"
24692                 },
24693                 "minItems": 1,
24694                 "maxItems": 1,
24695                 "uniqueItems": true,
24696                 "readOnly": true,
24697                 "type": "array"
24698             },
24699             "anchor": {
24700                 "$ref":
24701                 "https://openconnectivityfoundation.github.io/core/schemas/oic.links.properties.core-
24702                 schema.json#/definitions/anchor"
24703             },
24704             "di": {
24705                 "$ref":
24706                 "https://openconnectivityfoundation.github.io/core/schemas/oic.links.properties.core-
24707                 schema.json#/definitions/di"
24708             },
24709             "eps": {
24710                 "$ref":
24711                 "https://openconnectivityfoundation.github.io/core/schemas/oic.links.properties.core-
24712                 schema.json#/definitions/eps"
24713             },
24714             "href": {
24715                 "$ref":
24716                 "https://openconnectivityfoundation.github.io/core/schemas/oic.links.properties.core-
24717                 schema.json#/definitions/href"
24718             },
24719             "ins": {
24720                 "$ref":
24721                 "https://openconnectivityfoundation.github.io/core/schemas/oic.links.properties.core-
24722                 schema.json#/definitions/ins"
24723             },
24724             "p": {
24725                 "$ref":
24726                 "https://openconnectivityfoundation.github.io/core/schemas/oic.links.properties.core-
24727                 schema.json#/definitions/p"
24728             },
24729             "rel": {
24730                 "$ref":
24731                 "https://openconnectivityfoundation.github.io/core/schemas/oic.links.properties.core-
24732                 schema.json#/definitions/rel_array"
24733             },
24734             "title": {
24735                 "$ref":
24736                 "https://openconnectivityfoundation.github.io/core/schemas/oic.links.properties.core-

```

```

24737 schema.json#/definitions/title"
24738     },
24739     "type": {
24740       "$ref":
24741       "https://openconnectivityfoundation.github.io/core/schemas/oic.links.properties.core-
24742       schema.json#/definitions/type"
24743     }
24744   },
24745   "required": [
24746     "href",
24747     "rt",
24748     "if"
24749   ],
24750   "type": "object"
24751 },
24752 "IASZoneCollectionBatch-Retrieve": {
24753   "title": "Collection Batch Retrieve Format",
24754   "minItems": 3,
24755   "maxItems": 3,
24756   "type": "array",
24757   "uniqueItems": true,
24758   "items": {
24759     "additionalProperties": true,
24760     "type": "object",
24761     "properties": {
24762       "href": {
24763         "$ref":
24764         "https://openconnectivityfoundation.github.io/core/schemas/oic.links.properties.core-
24765         schema.json#/definitions/href"
24766       },
24767       "rep": {
24768         "anyOf": [
24769           {
24770             "$ref":
24771             "https://openconnectivityfoundation.github.io/IoTDataModels/IASZoneInfoResURI.swagger.json#/definiti
24772             ons/IASZoneInfo"
24773           },
24774           {
24775             "$ref":
24776             "https://openconnectivityfoundation.github.io/IoTDataModels/BatteryResURI.swagger.json#/definitions/
24777             Battery"
24778           },
24779           {
24780             "$ref":
24781             "https://openconnectivityfoundation.github.io/IoTDataModels/PowerSourcesResourceURI.swagger.json#/de
24782             finitions/powerSourceSchema"
24783           }
24784         ]
24785       }
24786     },
24787     "required": ["href", "rep"]
24788   }
24789 },
24790 "IASZoneCollectionBatch-Update" : {
24791   "title": "Collection Batch Update Format",
24792   "minItems": 1,
24793   "type": "array",
24794   "items": {
24795     "additionalProperties": true,
24796     "type": "object",
24797     "properties": {
24798       "href": {
24799         "$ref":
24800         "https://openconnectivityfoundation.github.io/core/schemas/oic.links.properties.core-
24801         schema.json#/definitions/href"
24802       },
24803       "rep": {
24804         "type": "object",
24805         "anyOf": [
24806           {
24807             "$ref":
24808             "https://openconnectivityfoundation.github.io/IoTDataModels/IASZoneInfoResURI.swagger.json#/definiti

```

```

24809 ons/IASZoneInfo-Update"
24810     },
24811     {
24812         "$ref":
24813         "https://openconnectivityfoundation.github.io/IoTDataModels/BatteryResURI.swagger.json#/definitions/
24814         BatteryUpdate"
24815     }
24816 ]
24817 }
24818 }
24819 }
24820 }
24821 }
24822 }
24823 }

```

24824 **6.125.5 Property definition**

24825 Table 253 defines the Properties that are part of the "oic.r.iaszone" Resource Type.

24826 **Table 253 – The Property definitions of the Resource with type "rt" = "oic.r.iaszone".**

Property name	Value type	Mandatory	Access mode	Description
rep	multiple types: see schema	Yes	Read Write	
href	multiple types: see schema	Yes	Read Write	
rep	object: see schema		Read Write	
href	multiple types: see schema		Read Write	
ins	multiple types: see schema	No	Read Write	
if	array: see schema	Yes	Read Only	The OCF Interface set supported by this resource
type	multiple types: see schema	No	Read Write	
anchor	multiple types: see schema	No	Read Write	
di	multiple types: see schema	No	Read Write	
rt	array: see schema	Yes	Read Only	Resource Type of the Resource
title	multiple types: see schema	No	Read Write	
rel	multiple types: see schema	No	Read Write	
p	multiple types: see schema	No	Read Write	
href	multiple types: see schema	Yes	Read Write	
eps	multiple types: see schema	No	Read Write	
if	array: see schema	No	Read Only	The OCF Interface set supported by this Resource
rts-m	array: see schema	No	Read Write	Mandatory Resources

rts	array: see schema	No	Read Write	Allowed Resources
rt	array: see schema	No	Read Only	Resource Type
id	multiple types: see schema	No	Read Write	
n	multiple types: see schema	No	Read Write	
links	multiple types: see schema	Yes	Read Write	

24827 **6.125.6 CRUDN behaviour**

24828 Table 254 defines the CRUDN operations that are supported on the "oic.r.iaszone" Resource Type.

24829 **Table 254 – The CRUDN operations of the Resource with type "rt" = "oic.r.iaszone".**

Create	Read	Update	Delete	Notify
	get			observe

24830 **6.126 Window Covering**

24831 **6.126.1 Introduction**

24832 This Resource describes the information of a window covering, i.e., type, configuration status, and mode.

24834 Velocity associated with lifting the window covering can be changed by updating Lift_Velocity(cm/sec).

24836 Ramp up/down times to reaching the velocity setting can be changed by updating Lift_Acceleration Time/Lift_Deceleration Time (0.1sec).

24838 **6.126.2 Example URI**

24839 /WindowCoveringResURI

24840 **6.126.3 Resource type**

24841 The Resource Type is defined as: "oic.r.windowcovering".

24842 **6.126.4 OpenAPI 2.0 definition**

```

24843 {
24844   "swagger": "2.0",
24845   "info": {
24846     "title": "Window Covering",
24847     "version": "20190513",
24848     "license": {
24849       "name": "OCF Data Model License",
24850       "url":
24851 "https://github.com/openconnectivityfoundation/core/blob/e28a9e0a92e17042ba3e83661e4c0fbce8bdc4ba/LI
24852 CENSE.md",
24853       "x-copyright": "Copyright 2018-2019 Open Connectivity Foundation, Inc. All rights reserved."
24854     },
24855     "termsOfService": "https://openconnectivityfoundation.github.io/core/DISCLAIMER.md"
24856   },
24857   "schemes": ["http"],
24858   "consumes": ["application/json"],
24859   "produces": ["application/json"],
24860   "paths": {
24861     "/WindowCoveringResURI" : {
24862       "get": {
24863         "description": "This Resource describes the information of a window covering, i.e., type,
24864 configuration status, and mode.\nVelocity associated with lifting the window covering can be changed
24865 by updating Lift_Velocity(cm/sec).\nRamp up/down times to reaching the velocity setting can be
24866 changed by updating Lift_Acceleration Time/Lift_Deceleration Time (0.1sec).",
24867         "parameters": [
24868           {"$ref": "#/parameters/interface-all"}

```

```

24869     ],
24870     "responses": {
24871         "200": {
24872             "description" : "",
24873             "x-example":
24874                 {
24875                     "rt": ["oic.r.windowcovering"],
24876                     "windowcoveringtype": "shutter",
24877                     "configstatus": {
24878                         "operational": true,
24879                         "online": true,
24880                         "rotationdirection": "normal",
24881                         "controllift": "closedloop",
24882                         "controltilt": "closedloop",
24883                         "closedloopliftcontrol": "encoder",
24884                         "closedlooptiltcontrol": "encoder"
24885                     },
24886                     "mode": {
24887                         "motordirection": false,
24888                         "calibration": false,
24889                         "maintenance": false,
24890                         "ledfeedback": true
24891                     },
24892                     "liftvelocity": 5,
24893                     "liftaccelerationtime": 200,
24894                     "liftdecelerationtime": 200
24895                 },
24896             "schema": { "$ref": "#/definitions/WindowCovering" }
24897         }
24898     },
24899 },
24900 "post": {
24901     "description": "Update window covering settings.\n",
24902     "parameters": [
24903         { "$ref": "#/parameters/interface-all" },
24904         {
24905             "name": "body",
24906             "in": "body",
24907             "required": true,
24908             "schema": { "$ref": "#/definitions/WindowCovering-Update" },
24909             "x-example":
24910                 {
24911                     "mode": {
24912                         "motordirection": true,
24913                         "calibration": false,
24914                         "maintenance": false,
24915                         "ledfeedback": true
24916                     },
24917                     "liftvelocity": 10,
24918                     "liftaccelerationtime": 500,
24919                     "liftdecelerationtime": 500
24920                 }
24921         }
24922     ],
24923     "responses": {
24924         "200": {
24925             "description" : "Success path response code\n"
24926         }
24927     }
24928 },
24929 },
24930 },
24931 "parameters": {
24932     "interface-all" : {
24933         "in" : "query",
24934         "name" : "if",
24935         "type" : "string",
24936         "enum" : ["oic.if.rw", "oic.if.baseline"]
24937     }
24938 },
24939 "definitions": {
24940     "WindowCovering" : {

```

```

24941     "properties": {
24942         "rt" : {
24943             "description": "Resource Type",
24944             "items": {
24945                 "maxLength": 64,
24946                 "type": "string",
24947                 "enum": ["oic.r.windowcovering"]
24948             },
24949             "minItems": 1,
24950             "readOnly": true,
24951             "type": "array"
24952         },
24953         "windowcoveringtype" : {
24954             "description": "Window covering type. See OCF enumeration map for set of valid values.",
24955             "readOnly": true,
24956             "type": "string"
24957         },
24958         "liftvelocity" : {
24959             "description": "Velocity in cm/sec associated with lifting the covering",
24960             "type": "integer"
24961         },
24962         "configstatus" : {
24963             "description": "Set of config status indicators.",
24964             "properties": {
24965                 "controllift": {
24966                     "description": "Closed loop control allows for intermediate settings, open loop
24967 supports only up or down",
24968                     "readOnly": true,
24969                     "type": "string",
24970                     "enum": ["closedloop","openloop"]
24971                 },
24972                 "controltilt": {
24973                     "description": "Closed loop control allows for intermediate settings, open loop
24974 supports only tilted or not tilted",
24975                     "readOnly": true,
24976                     "type": "string",
24977                     "enum": ["closedloop","openloop"]
24978                 },
24979                 "closedloopliftcontrol": {
24980                     "description": "Encoder or timer controlled",
24981                     "readOnly": true,
24982                     "type": "string",
24983                     "enum": ["encoder","timer"]
24984                 },
24985                 "closedlooptiltcontrol": {
24986                     "description": "Encoder or timer controlled",
24987                     "readOnly": true,
24988                     "type": "string",
24989                     "enum": ["encoder","timer"]
24990                 },
24991                 "online": {
24992                     "description": "True = online, False = not online",
24993                     "readOnly": true,
24994                     "type": "boolean"
24995                 },
24996                 "operational": {
24997                     "description": "True = operational, False = not operational",
24998                     "readOnly": true,
24999                     "type": "boolean"
25000                 },
25001                 "rotationdirection": {
25002                     "description": "Identifies if the direction of rotation has been reversed to match
25003 physical installation.",
25004                     "readOnly": true,
25005                     "type": "string",
25006                     "enum": ["normal","reversed"]
25007                 }
25008             },
25009             "readOnly": true,
25010             "type": "object"
25011         },
25012         "liftaccelerationtime" : {

```



```

25013         "description": "Ramp up time to reach lift velocity (ms)",
25014         "type": "integer"
25015     },
25016     "liftdecelerationtime" : {
25017         "description": "Ramp down time from the velocity setting (ms)",
25018         "type": "integer"
25019     },
25020     "mode" : {
25021         "description": "Set of operational modes.",
25022         "properties": {
25023             "calibration": {
25024                 "description": "True = calibration mode, False = normal mode",
25025                 "type": "boolean"
25026             },
25027             "ledfeedback": {
25028                 "description": "True = feedback enabled, False = LEDs are off",
25029                 "type": "boolean"
25030             },
25031             "maintenance": {
25032                 "description": "True = maintenance mode, False = normal mode",
25033                 "type": "boolean"
25034             },
25035             "motordirection": {
25036                 "description": "True = direction reversed, False = direction normal",
25037                 "type": "boolean"
25038             }
25039         },
25040         "type": "object"
25041     },
25042     "n": {
25043         "$ref":
25044         "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
25045         schema.json#/definitions/n"
25046     },
25047     "id": {
25048         "$ref":
25049         "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
25050         schema.json#/definitions/id"
25051     },
25052     "if" : {
25053         "description": "The interface set supported by this resource",
25054         "items": {
25055             "enum": [
25056                 "oic.if.rw",
25057                 "oic.if.baseline"
25058             ],
25059             "type": "string"
25060         },
25061         "minItems": 2,
25062         "maxItems": 2,
25063         "readOnly": true,
25064         "type": "array"
25065     }
25066 },
25067 "required": ["windowcoveringtype", "configstatus", "mode"]
25068 },
25069 "WindowCovering-Update" : {
25070     "properties": {
25071         "liftaccelerationtime" : {
25072             "description": "Ramp up time to reach lift velocity (ms)",
25073             "type": "integer"
25074         },
25075         "liftdecelerationtime" : {
25076             "description": "Ramp down time from the velocity setting (ms)",
25077             "type": "integer"
25078         },
25079         "liftvelocity" : {
25080             "description": "Velocity in cm/sec associated with lifting the covering",
25081             "type": "integer"
25082         },
25083         "mode" : {
25084             "description": "Set of operational modes.",

```

```

25085     "properties": {
25086         "calibration": {
25087             "description": "True = calibration mode, False = normal mode",
25088             "type": "boolean"
25089         },
25090         "ledfeedback": {
25091             "description": "True = feedback enabled, False = LEDs are off",
25092             "type": "boolean"
25093         },
25094         "maintenance": {
25095             "description": "True = maintenance mode, False = normal mode",
25096             "type": "boolean"
25097         },
25098         "motordirection": {
25099             "description": "True = direction reversed, False = direction normal",
25100             "type": "boolean"
25101         }
25102     },
25103     "type": "object"
25104 },
25105 },
25106 "required": ["mode"]
25107 }
25108 }
25109 }
25110

```

25111 6.126.5 Property definition

25112 Table 255 defines the Properties that are part of the "oic.r.windowcovering" Resource Type.

25113 **Table 255 – The Property definitions of the Resource with type "rt" =**
25114 **"oic.r.windowcovering".**

Property name	Value type	Mandatory	Access mode	Description
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
if	array: see schema	No	Read Only	The interface set supported by this resource
windowcoveringtype	string	Yes	Read Only	Window covering type. See OCF enumeration map for set of valid values.
mode	object: see schema	Yes	Read Write	Set of operational modes.
configstatus	object: see schema	Yes	Read Only	Set of config status indicators.
id	multiple types: see schema	No	Read Write	
liftaccelerationtime	integer	No	Read Write	Ramp up time to reach lift velocity (ms)

n	multiple types: see schema	No	Read Write	
rt	array: see schema	No	Read Only	Resource Type
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
liftaccelerationtime	integer	No	Read Write	Ramp up time to reach lift velocity (ms)
mode	object: see schema	Yes	Read Write	Set of operational modes.

25115 **6.126.6 CRUDN behaviour**

25116 Table 256 defines the CRUDN operations that are supported on the "oic.r.windowcovering"
25117 Resource Type.

25118 **Table 256 – The CRUDN operations of the Resource with type "rt" =**
25119 **"oic.r.windowcovering".**

Create	Read	Update	Delete	Notify
	get	post		observe

25120

25121 **6.127 Activity**

25122 **6.127.1 Introduction**

25123 This Resource describes the Properties associated with a person's physical activity.

25124 All Properties are read-only values that are provided by the server.

25125 When range (from "oic.r.baseresource") is omitted the default is 0 to +MAXFLOAT.

25126 **6.127.2 Example URI**

25127 /ActivityResURI

25128 **6.127.3 Resource type**

25129 The Resource Type is defined as: "oic.r.activity".

25130 **6.127.4 OpenAPI 2.0 definition**

```

25131 {
25132   "swagger": "2.0",
25133   "info": {
25134     "title": "Activity",
25135     "version": "2019-03-04",
25136     "license": {
25137       "name": "OCF Data Model License",
25138       "url":
25139         "https://github.com/openconnectivityfoundation/core/blob/e28a9e0a92e17042ba3e83661e4c0fbce8bdc4ba/LI
25140 CENSE.md",
25141       "x-copyright": "Copyright 2018-2019 Open Connectivity Foundation, Inc. All rights reserved."
25142     },
25143     "termsOfService": "https://openconnectivityfoundation.github.io/core/DISCLAIMER.md"
25144   },
25145   "schemes": [
25146     "http"

```

```

25147 ],
25148 "consumes": [
25149   "application/json"
25150 ],
25151 "produces": [
25152   "application/json"
25153 ],
25154 "paths": {
25155   "/ActivityResURI": {
25156     "get": {
25157       "description": "This Resource describes the Properties associated with a person's physical
25158 activity.\n All Properties are read-only values that are provided by the server.\n When range (from
25159 \"oic.r.baseresource\") is omitted the default is 0 to +MAXFLOAT.",
25160       "parameters": [
25161         {
25162           "$ref": "#/parameters/interface"
25163         }
25164       ],
25165       "responses": {
25166         "200": {
25167           "description": "",
25168           "x-example": {
25169             "rt": [
25170               "oic.r.activity"
25171             ],
25172             "activity": "sleep",
25173             "steps_day": 1000,
25174             "steps_reset": 500,
25175             "ccal_day": 3000.0,
25176             "ccal_reset": 1500.0
25177           },
25178           "schema": {
25179             "$ref": "#/definitions/Activity"
25180           }
25181         }
25182       }
25183     }
25184   },
25185   "parameters": {
25186     "interface": {
25187       "in": "query",
25188       "name": "if",
25189       "type": "string",
25190       "enum": [
25191         "oic.if.s",
25192         "oic.if.baseline"
25193       ]
25194     }
25195   },
25196   "definitions": {
25197     "Activity": {
25198       "properties": {
25199         "activity": {
25200           "description": "This Property describes the recognized current activity type of user",
25201           "type": "string",
25202           "enum": [
25203             "sleep",
25204             "sit",
25205             "stand",
25206             "walk",
25207             "run",
25208             "unknown"
25209           ],
25210           "readOnly": true
25211         },
25212         "steps_day": {
25213           "description": "This Property describes the user's step count that measures the number of
25214 steps the user has taken since the beginning of the day.",
25215           "type": "integer",
25216           "minimum": 0,
25217           "readOnly": true
25218

```

```

25219     },
25220     "steps_reset": {
25221       "description": "This Property describes the user's step count that measures the number of
25222 steps the user has taken since the last reset.",
25223       "type": "integer",
25224       "minimum": 0,
25225       "readOnly": true
25226     },
25227     "ccal_day": {
25228       "description": "This Property describes the burned off calories of user since the
25229 beginning of the day.",
25230       "type": "number",
25231       "minimum": 0.0,
25232       "readOnly": true
25233     },
25234     "ccal_reset": {
25235       "description": "This Property describes the burned off calories of user since the last
25236 reset.",
25237       "type": "number",
25238       "minimum": 0.0,
25239       "readOnly": true
25240     },
25241     "rt": {
25242       "description": "The Resource Type.",
25243       "items": {
25244         "enum": [
25245           "oic.r.activity"
25246         ],
25247         "type": "string"
25248       },
25249       "minItems": 1,
25250       "uniqueItems": true,
25251       "readOnly": true,
25252       "type": "array"
25253     },
25254     "n": {
25255       "$ref":
25256 "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
25257 schema.json#/definitions/n"
25258     },
25259     "if": {
25260       "description": "The OCF Interface set supported by this Resource.",
25261       "items": {
25262         "enum": [
25263           "oic.if.s", "oic.if.baseline"
25264         ],
25265         "type": "string"
25266       },
25267       "minItems": 1,
25268       "uniqueItems": true,
25269       "readOnly": true,
25270       "type": "array"
25271     },
25272     "steps_day_range": {
25273       "$ref":
25274 "https://openconnectivityfoundation.github.io/IoTDataModels/schemas/oic.baseresource.properties-
25275 schema.json#/definitions/range_integer"
25276     },
25277     "steps_day_step": {
25278       "$ref":
25279 "https://openconnectivityfoundation.github.io/IoTDataModels/schemas/oic.baseresource.properties-
25280 schema.json#/definitions/step_integer"
25281     },
25282     "steps_reset_range": {
25283       "$ref":
25284 "https://openconnectivityfoundation.github.io/IoTDataModels/schemas/oic.baseresource.properties-
25285 schema.json#/definitions/range_integer"
25286     },
25287     "steps_reset_step": {
25288       "$ref":
25289 "https://openconnectivityfoundation.github.io/IoTDataModels/schemas/oic.baseresource.properties-
25290 schema.json#/definitions/step_integer"

```

```

25291     },
25292     "ccal_day_range": {
25293       "$ref":
25294       "https://openconnectivityfoundation.github.io/IoTDataModels/schemas/oic.baseresource.properties-
25295       schema.json#/definitions/range_number"
25296     },
25297     "ccal_day_step": {
25298       "$ref":
25299       "https://openconnectivityfoundation.github.io/IoTDataModels/schemas/oic.baseresource.properties-
25300       schema.json#/definitions/step_number"
25301     },
25302     "ccal_day_precision": {
25303       "$ref":
25304       "https://openconnectivityfoundation.github.io/IoTDataModels/schemas/oic.baseresource.properties-
25305       schema.json#/definitions/precision"
25306     },
25307     "ccal_reset_range": {
25308       "$ref":
25309       "https://openconnectivityfoundation.github.io/IoTDataModels/schemas/oic.baseresource.properties-
25310       schema.json#/definitions/range_number"
25311     },
25312     "ccal_reset_step": {
25313       "$ref":
25314       "https://openconnectivityfoundation.github.io/IoTDataModels/schemas/oic.baseresource.properties-
25315       schema.json#/definitions/step_number"
25316     },
25317     "ccal_reset_precision": {
25318       "$ref":
25319       "https://openconnectivityfoundation.github.io/IoTDataModels/schemas/oic.baseresource.properties-
25320       schema.json#/definitions/precision"
25321     }
25322   },
25323   "type": "object",
25324   "required": [
25325     "activity"
25326   ]
25327 }
25328 }
25329 }

```

25330 6.127.5 Property definition

25331 Table 257 defines the Properties that are part of the "oic.r.activity" Resource Type.

25332 **Table 257 – The Property definitions of the Resource with type "rt" = "oic.r.activity".**

Property name	Value type	Mandatory	Access mode	Description
ccal_day_range	multiple types: see schema	No	Read Write	
steps_day_range	multiple types: see schema	No	Read Write	
ccal_day_precision	multiple types: see schema	No	Read Write	
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.
ccal_reset	number	No	Read Only	This Property describes the burned off

				calories of user since the last reset.
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_step	multiple types: see schema	No	Read Write	
steps_reset_range	multiple types: see schema	No	Read Write	
steps_day_step	multiple types: see schema	No	Read Write	
ccal_reset_step	multiple types: see schema	No	Read Write	
if	array: see schema	No	Read Only	The OCF Interface set supported by this Resource.
ccal_day	number	No	Read Only	This Property describes the burned off calories of user since the beginning of the day.
steps_reset_step	multiple types: see schema	No	Read Write	
ccal_reset_range	multiple types: see schema	No	Read Write	
ccal_reset_precision	multiple types: see schema	No	Read Write	
n	multiple types: see schema	No	Read Write	
rt	array: see schema	No	Read Only	The Resource Type.
activity	string	Yes	Read Only	This Property describes the recognized current activity type of user

25333 **6.127.6 CRUDN behaviour**

25334 Table 258 defines the CRUDN operations that are supported on the "oic.r.activity" Resource Type.

25335 **Table 258 – The CRUDN operations of the Resource with type "rt" = "oic.r.activity".**

Create	Read	Update	Delete	Notify
	get			observe

25336 6.128 Activity Tracker Atomic Measurement Representation

25337 6.128.1 Introduction

25338 This Resource describes the Properties associated with Activity Tracker.

25339 The Resource is an Atomic Measurement of activity ("oic.r.activity"), heart rate ("oic.r.heartrate"),
25340 observed time ("oic.r.time.stamp"), and user ID ("oic.r.userid").

25341 6.128.2 Example URI

25342 /ActivityTrackerAMResURI

25343 6.128.3 Resource type

25344 The Resource Type is defined as: "oic.r.activitytracker-am, oic.wk.atomicmeasurement".

25345 6.128.4 OpenAPI 2.0 definition

```
25346 {
25347   "swagger": "2.0",
25348   "info": {
25349     "title": "Activity Tracker Atomic Measurement Representation",
25350     "version": "2019-03-04",
25351     "license": {
25352       "name": "OCF Data Model License",
25353       "url":
25354 "https://github.com/openconnectivityfoundation/core/blob/e28a9e0a92e17042ba3e83661e4c0fbc8bdc4ba/LI
25355 CENSE.md",
25356       "x-copyright": "Copyright 2018-2019 Open Connectivity Foundation, Inc. All rights reserved."
25357     },
25358     "termsOfService": "https://openconnectivityfoundation.github.io/core/DISCLAIMER.md"
25359   },
25360   "schemes": [
25361     "http"
25362   ],
25363   "consumes": [
25364     "application/json"
25365   ],
25366   "produces": [
25367     "application/json"
25368   ],
25369   "paths": {
25370     "/ActivityTrackerAMResURI?if=oic.if.b": {
25371       "get": {
25372         "description": "This Resource describes the Properties associated with Activity Tracker.\n
25373 The Resource is an Atomic Measurement of activity (\\"oic.r.activity\\"), heart rate
25374 (\\"oic.r.heartrate\\"), observed time (\\"oic.r.time.stamp\\"), and user ID (\\"oic.r.userid\\").",
25375         "parameters": [
25376           {
25377             "$ref": "#/parameters/interface-all"
25378           }
25379         ],
25380         "responses": {
25381           "200": {
25382             "description": "",
25383             "x-example": [
25384               {
25385                 "href": "/myActivity",
25386                 "rep": {
25387                   "activity": "sleep",
25388                   "steps_day": 1000,
25389                   "steps_reset": 500,
25390                   "ccal_day": 3000.0,
25391                   "ccal_reset": 1500.0
25392                 }
25393             },
25394             {
25395                 "href": "/myHeartRate",
25396                 "rep": {
25397                   "heartrate": 80
25398                 }
25399             }
25400           ]
25401         }
25402       }
25403     }
25404   }
25405 }
```



```

25400         {
25401             "href": "/myUserId",
25402             "rep": {
25403                 "userid": "USER1"
25404             }
25405         },
25406         {
25407             "href": "/myTimeStamp",
25408             "rep": {
25409                 "timestamp": "2018-11-09T12:15:00+08:00"
25410             }
25411         }
25412     ],
25413     "schema": {
25414         "$ref": "#/definitions/batch-retrieve"
25415     }
25416 }
25417 }
25418 },
25419 ],
25420 "/ActivityTrackerAMResURI?if=oic.if.ll": {
25421     "get": {
25422         "description": "This Resource describes the Properties associated with Activity Tracker.\n
25423 The Resource is an Atomic Measurement of activity (\\"oic.r.activity\\"), heart rate
25424 (\\"oic.r.heartrate\\"), observed time (\\"oic.r.time.stamp\\"), and user ID (\\"oic.r.userid\\").",
25425         "parameters": [
25426             {
25427                 "$ref": "#/parameters/interface-all"
25428             }
25429         ],
25430         "responses": {
25431             "200": {
25432                 "description": "",
25433                 "x-example": [
25434                     {
25435                         "href": "/myActivity",
25436                         "rt": [
25437                             "oic.r.activity"
25438                         ],
25439                         "if": [
25440                             "oic.if.s",
25441                             "oic.if.baseline"
25442                         ]
25443                     },
25444                     {
25445                         "href": "/myHeartRate",
25446                         "rt": [
25447                             "oic.r.heartrate"
25448                         ],
25449                         "if": [
25450                             "oic.if.s",
25451                             "oic.if.baseline"
25452                         ]
25453                     },
25454                     {
25455                         "href": "/myUserId",
25456                         "rt": [
25457                             "oic.r.userid"
25458                         ],
25459                         "if": [
25460                             "oic.if.r",
25461                             "oic.if.baseline"
25462                         ]
25463                     },
25464                     {
25465                         "href": "/myTimeStamp",
25466                         "rt": [
25467                             "oic.r.time.stamp"
25468                         ],
25469                         "if": [
25470                             "oic.if.r",
25471                             "oic.if.baseline"

```

```

25472         ]
25473     },
25474 ],
25475     "schema": {
25476         "$ref": "#/definitions/links"
25477     }
25478 }
25479 }
25480 },
25481 },
25482 "/ActivityTrackerAMResURI?if=oic.if.baseline": {
25483     "get": {
25484         "description": "This Resource describes the Properties associated with Activity Tracker.\n
25485 The Resource is an Atomic Measurement of activity (\\"oic.r.activity\\"), heart rate
25486 (\\"oic.r.heartrate\\"), observed time (\\"oic.r.time.stamp\\"), and user ID (\\"oic.r.userid\\").",
25487         "parameters": [
25488             {
25489                 "$ref": "#/parameters/interface-all"
25490             }
25491         ],
25492         "responses": {
25493             "200": {
25494                 "description": "",
25495                 "x-example":
25496                 {
25497                     "rt": [
25498                         "oic.r.activitytracker-am",
25499                         "oic.wk.atomicmeasurement"
25500                     ],
25501                     "if": [
25502                         "oic.if.b",
25503                         "oic.if.ll",
25504                         "oic.if.baseline"
25505                     ],
25506                     "rts-m": [
25507                         "oic.r.activity"
25508                     ],
25509                     "rts": [
25510                         "oic.r.activity", "oic.r.heartrate", "oic.r.userid", "oic.r.time.stamp"
25511                     ],
25512                     "links": [
25513                         {
25514                             "href": "/myActivity",
25515                             "rt": [
25516                                 "oic.r.activity"
25517                             ],
25518                             "if": [
25519                                 "oic.if.s",
25520                                 "oic.if.baseline"
25521                             ]
25522                         },
25523                         {
25524                             "href": "/myHeartRate",
25525                             "rt": [
25526                                 "oic.r.heartrate"
25527                             ],
25528                             "if": [
25529                                 "oic.if.s",
25530                                 "oic.if.baseline"
25531                             ]
25532                         },
25533                         {
25534                             "href": "/myUserId",
25535                             "rt": [
25536                                 "oic.r.userid"
25537                             ],
25538                             "if": [
25539                                 "oic.if.r",
25540                                 "oic.if.baseline"
25541                             ]
25542                         }
25543                     ]
25544                 }
25545         }

```

```

25544         "href": "/myTimeStamp",
25545         "rt": [
25546             "oic.r.time.stamp"
25547         ],
25548         "if": [
25549             "oic.if.r",
25550             "oic.if.baseline"
25551         ]
25552     }
25553 ]
25554 },
25555 "schema": {
25556     "$ref": "#/definitions/baseline"
25557 }
25558 }
25559 }
25560 }
25561 }
25562 },
25563 "parameters": {
25564     "interface-all": {
25565         "in": "query",
25566         "name": "if",
25567         "type": "string",
25568         "enum": [
25569             "oic.if.b",
25570             "oic.if.ll",
25571             "oic.if.baseline"
25572         ]
25573     }
25574 },
25575 "definitions": {
25576     "batch-retrieve": {
25577         "title": "Collection Batch Retrieve Format",
25578         "minItems": 1,
25579         "items": {
25580             "additionalProperties": true,
25581             "properties": {
25582                 "href": {
25583                     "$ref":
25584 "https://openconnectivityfoundation.github.io/core/schemas/oic.links.properties.core-
25585 schema.json#/definitions/href"
25586                 },
25587                 "rep": {
25588                     "type": "object",
25589                     "anyOf": [
25590                         {
25591                             "$ref":
25592 "https://openconnectivityfoundation.github.io/IoTDataModels/Activity.swagger.json#/definitions/Activ
25593 ity"
25594                         },
25595                         {
25596                             "$ref":
25597 "https://openconnectivityfoundation.github.io/IoTDataModels/HeartRate.swagger.json#/definitions/Hear
25598 tRate"
25599                         },
25600                         {
25601                             "$ref":
25602 "https://openconnectivityfoundation.github.io/IoTDataModels/UserIDResURI.swagger.json#/definitions/U
25603 serID"
25604                         },
25605                         {
25606                             "$ref":
25607 "https://openconnectivityfoundation.github.io/IoTDataModels/TimeStampResURI.swagger.json#/definition
25608 s/TimeStamp"
25609                         }
25610                     ]
25611                 }
25612             },
25613             "required": [
25614                 "href",
25615                 "rep"

```

```

25616         ],
25617         "type": "object"
25618     },
25619     "type": "array"
25620 },
25621 "links": {
25622     "type": "array",
25623     "items": {
25624         "$ref": "#/definitions/oic.oic-link"
25625     }
25626 },
25627 "baseline": {
25628     "properties": {
25629         "rt": {
25630             "items": {
25631                 "enum": [
25632                     "oic.r.activitytracker-am",
25633                     "oic.wk.atomicmeasurement"
25634                 ]
25635             },
25636             "minItems": 2,
25637             "type": "array",
25638             "uniqueItems": true,
25639             "readOnly": true
25640         },
25641         "links": {
25642             "$ref": "#/definitions/links"
25643         },
25644         "n": {
25645             "$ref":
25646 "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
25647 schema.json#/definitions/n"
25648         },
25649         "rts": {
25650             "description": "This Property contains all possible Resource Types for this Atomic
25651 Measurement.",
25652             "items": {
25653                 "enum": [
25654                     "oic.r.activity",
25655                     "oic.r.heartrate",
25656                     "oic.r.time.stamp",
25657                     "oic.r.userid"
25658                 ]
25659             },
25660             "minItems": 1,
25661             "type": "array",
25662             "uniqueItems": true
25663         },
25664         "id": {
25665             "$ref":
25666 "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
25667 schema.json#/definitions/id"
25668         },
25669         "rts-m": {
25670             "description": "This Property contains all mandatory Resource Types for this Atomic
25671 Measurement.",
25672             "items": {
25673                 "enum": [
25674                     "oic.r.activity"
25675                 ]
25676             },
25677             "maxItems": 1,
25678             "minItems": 1,
25679             "type": "array",
25680             "readOnly": true,
25681             "uniqueItems": true
25682         },
25683         "if": {
25684             "description": "The OCF Interface set supported by this Resource.",
25685             "items": {
25686                 "enum": [
25687                     "oic.if.baseline",

```

```

25688         "oic.if.ll",
25689         "oic.if.b"
25690     ],
25691     "type": "string"
25692 },
25693     "minItems": 1,
25694     "uniqueItems": true,
25695     "readOnly": true,
25696     "type": "array"
25697 }
25698 },
25699     "type": "object",
25700     "required": [
25701         "rts-m"
25702     ]
25703 },
25704     "oic.oic-link": {
25705         "properties": {
25706             "anchor": {
25707                 "$ref":
25708 "https://openconnectivityfoundation.github.io/core/schemas/oic.links.properties.core-
25709 schema.json#/definitions/anchor"
25710             },
25711             "di": {
25712                 "$ref":
25713 "https://openconnectivityfoundation.github.io/core/schemas/oic.links.properties.core-
25714 schema.json#/definitions/di"
25715             },
25716             "eps": {
25717                 "$ref":
25718 "https://openconnectivityfoundation.github.io/core/schemas/oic.links.properties.core-
25719 schema.json#/definitions/eps"
25720             },
25721             "href": {
25722                 "$ref":
25723 "https://openconnectivityfoundation.github.io/core/schemas/oic.links.properties.core-
25724 schema.json#/definitions/href"
25725             },
25726             "if": {
25727                 "description": "The OCF Interface set supported by this Resource.",
25728                 "items": {
25729                     "enum": [
25730                         "oic.if.baseline",
25731                         "oic.if.s",
25732                         "oic.if.r"
25733                     ],
25734                     "type": "string"
25735                 },
25736                 "minItems": 1,
25737                 "uniqueItems": true,
25738                 "type": "array"
25739             },
25740             "ins": {
25741                 "$ref":
25742 "https://openconnectivityfoundation.github.io/core/schemas/oic.links.properties.core-
25743 schema.json#/definitions/ins"
25744             },
25745             "p": {
25746                 "$ref":
25747 "https://openconnectivityfoundation.github.io/core/schemas/oic.links.properties.core-
25748 schema.json#/definitions/p"
25749             },
25750             "rel": {
25751                 "$ref":
25752 "https://openconnectivityfoundation.github.io/core/schemas/oic.links.properties.core-
25753 schema.json#/definitions/rel_array"
25754             },
25755             "rt": {
25756                 "description": "The Resource Type.",
25757                 "items": {
25758                     "enum": [
25759                         "oic.r.activity",

```

```

25760         "oic.r.heartrate",
25761         "oic.r.time.stamp",
25762         "oic.r.userid"
25763     ],
25764     "type": "string"
25765 },
25766 "minItems": 1,
25767 "uniqueItems": true,
25768 "readOnly": true,
25769 "type": "array"
25770 },
25771 "title": {
25772     "$ref":
25773 "https://openconnectivityfoundation.github.io/core/schemas/oic.links.properties.core-
25774 schema.json#/definitions/title"
25775 },
25776 "type": {
25777     "$ref":
25778 "https://openconnectivityfoundation.github.io/core/schemas/oic.links.properties.core-
25779 schema.json#/definitions/type"
25780 }
25781 },
25782 "required": [
25783     "href",
25784     "rt",
25785     "if"
25786 ],
25787 "type": "object"
25788 }
25789 }
25790 }

```

25791 **6.128.5 Property definition**

25792 Table 259 defines the Properties that are part of the "oic.r.activitytracker-am,
25793 oic.wk.atomicmeasurement" Resource Type.

25794 **Table 259 – The Property definitions of the Resource with type "rt" = "oic.r.activitytracker-
25795 am, oic.wk.atomicmeasurement".**

Property name	Value type	Mandatory	Access mode	Description
title	multiple types: see schema	No	Read Write	
if	array: see schema	Yes	Read Write	The OCF Interface set supported by this Resource.
rel	multiple types: see schema	No	Read Write	
ins	multiple types: see schema	No	Read Write	
anchor	multiple types: see schema	No	Read Write	
href	multiple types: see schema	Yes	Read Write	
eps	multiple types: see schema	No	Read Write	
type	multiple types: see schema	No	Read Write	
p	multiple types: see schema	No	Read Write	
di	multiple types: see schema	No	Read Write	

rt	array: see schema	Yes	Read Only	The Resource Type.
id	multiple types: see schema	No	Read Write	
links	multiple types: see schema	No	Read Write	
n	multiple types: see schema	No	Read Write	
rt	array: see schema	No	Read Only	
if	array: see schema	No	Read Only	The OCF Interface set supported by this Resource.
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.
href	multiple types: see schema	Yes	Read Write	
rep	object: see schema	Yes	Read Write	

25796 **6.128.6 CRUDN behaviour**

25797 Table 260 – The CRUDN operations of the Resource with type "rt" = "oic.r.activitytracker-am,
25798 oic.wk.atomicmeasurement".

Table 260 – The CRUDN operations of the Resource with type "rt" = "oic.r.activitytracker-am, oic.wk.atomicmeasurement".

Create	Read	Update	Delete	Notify
	get			observe

25801 **6.129 Alarm**

25802 **6.129.1 Introduction**

25803 This Resource describes the Properties associated with alarm status.

25804 **6.129.2 Example URI**

25805 /AlarmResURI

25806 **6.129.3 Resource type**

25807 The Resource Type is defined as: "oic.r.alarm".

25808 **6.129.4 OpenAPI 2.0 definition**

```
25809 {
25810   "swagger": "2.0",
25811   "info": {
25812     "title": "Alarm",
```

```

25813     "version": "2019-03-04",
25814     "license": {
25815         "name": "OCF Data Model License",
25816         "url":
25817 "https://github.com/openconnectivityfoundation/core/blob/e28a9e0a92e17042ba3e83661e4c0fbce8bdc4ba/LI
25818 CENSE.md",
25819         "x-copyright": "Copyright 2018-2019 Open Connectivity Foundation, Inc. All rights reserved."
25820     },
25821     "termsOfService": "https://openconnectivityfoundation.github.io/core/DISCLAIMER.md"
25822 },
25823     "schemes": [
25824         "http"
25825     ],
25826     "consumes": [
25827         "application/json"
25828     ],
25829     "produces": [
25830         "application/json"
25831     ],
25832     "paths": {
25833         "/AlarmResURI": {
25834             "get": {
25835                 "description": "This Resource describes the Properties associated with alarm status.",
25836                 "parameters": [
25837                     {
25838                         "$ref": "#/parameters/interface"
25839                     }
25840                 ],
25841                 "responses": {
25842                     "200": {
25843                         "description": "",
25844                         "x-example": {
25845                             "rt": [ "oic.r.alarm" ],
25846                             "if": [ "oic.if.rw", "oic.if.baseline" ],
25847                             "status": false,
25848                             "duration": 0.0,
25849                             "time": "2018-06-20T14:30Z",
25850                             "alarmtype": "General"
25851                         },
25852                         "schema": {
25853                             "$ref": "#/definitions/Alarm"
25854                         }
25855                     }
25856                 }
25857             },
25858             "post": {
25859                 "description": "This Resource describes the Properties associated with alarm status.",
25860                 "parameters": [
25861                     {
25862                         "$ref": "#/parameters/interface"
25863                     },
25864                     {
25865                         "name": "body",
25866                         "in": "body",
25867                         "required": true,
25868                         "schema": { "$ref": "#/definitions/Alarm" },
25869                         "x-example": {
25870                             "status": true,
25871                             "duration": 30.0,
25872                             "time": "2019-01-31T14:30Z"
25873                         }
25874                     }
25875                 ],
25876                 "responses": {
25877                     "200": {
25878                         "description": "",
25879                         "x-example": {
25880                             "rt": [
25881                                 "oic.r.alarm"
25882                             ],
25883                         "status": true,

```



```

25885         "duration": 30.0,
25886         "time": "2019-01-31T14:30Z",
25887         "alarmtype": "General"
25888     },
25889     "schema": {
25890         "$ref": "#/definitions/Alarm"
25891     }
25892 }
25893 }
25894 }
25895 },
25896 },
25897 "parameters": {
25898     "interface": {
25899         "in": "query",
25900         "name": "if",
25901         "type": "string",
25902         "enum": [
25903             "oic.if.rw",
25904             "oic.if.baseline"
25905         ]
25906     }
25907 },
25908 "definitions": {
25909     "Alarm": {
25910         "properties": {
25911             "rt": {
25912                 "description": "The Resource Type.",
25913                 "items": {
25914                     "enum": [
25915                         "oic.r.alarm"
25916                     ],
25917                     "type": "string"
25918                 },
25919                 "minItems": 1,
25920                 "uniqueItems": true,
25921                 "readOnly": true,
25922                 "type": "array"
25923             },
25924             "status": {
25925                 "description": "This Property describes the status of the alarm: true - on, false - off.",
25926                 "type": "boolean",
25927                 "readOnly": false
25928             },
25929             "duration": {
25930                 "description": "This Property describes the alarm duration (seconds).",
25931                 "type": "number",
25932                 "minimum": 0.0,
25933                 "readOnly": false
25934             },
25935             "time": {
25936                 "description": "This Property describes the alarm time using ISO 8601 datetime format
25937 (e.g: 2007-04-05T14:30Z, 2007-04-05T14:30+09:00).",
25938                 "type": "string",
25939                 "readOnly": false
25940             },
25941             "alarmtype": {
25942                 "description": "The Alarm Type.",
25943                 "type": "string",
25944                 "enum": [
25945                     "General",
25946                     "Fire",
25947                     "Flood",
25948                     "Weather",
25949                     "Security"
25950                 ],
25951                 "readOnly": true
25952             },
25953             "n": {
25954                 "$ref":
25955 "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
25956 schema.json#/definitions/n"

```

```

25957     },
25958     "id": {
25959       "$ref":
25960       "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
25961       schema.json#/definitions/id"
25962     },
25963     "if": {
25964       "description": "The OCF Interface set supported by this Resource.",
25965       "items": {
25966         "enum": [
25967           "oic.if.baseline",
25968           "oic.if.rw"
25969         ],
25970         "type": "string"
25971       },
25972       "minItems": 1,
25973       "uniqueItems": true,
25974       "readOnly": true,
25975       "type": "array"
25976     },
25977     "range": {
25978       "$ref":
25979       "https://openconnectivityfoundation.github.io/IoTDataModels/schemas/oic.baseresource.properties-
25980       schema.json#/definitions/range_number"
25981     },
25982     "step": {
25983       "$ref":
25984       "https://openconnectivityfoundation.github.io/IoTDataModels/schemas/oic.baseresource.properties-
25985       schema.json#/definitions/step_number"
25986     },
25987     "precision": {
25988       "$ref":
25989       "https://openconnectivityfoundation.github.io/IoTDataModels/schemas/oic.baseresource.properties-
25990       schema.json#/definitions/precision"
25991     }
25992   },
25993   "type": "object",
25994   "required": [
25995     "status"
25996   ]
25997 }
25998 }
25999 }

```

26000 6.129.5 Property definition

26001 Table 261 defines the Properties that are part of the "oic.r.alarm" Resource Type.

26002 **Table 261 – The Property definitions of the Resource with type "rt" = "oic.r.alarm".**

Property name	Value type	Mandatory	Access mode	Description
status	boolean	Yes	Read Write	This Property describes the status of the alarm: true - on, false - off.
rt	array: see schema	No	Read Only	The Resource Type.
step	multiple types: see schema	No	Read Write	
duration	number	No	Read Write	This Property describes the alarm duration (seconds).
if	array: see schema	No	Read Only	The OCF Interface set

				supported by this Resource.
id	multiple types: see schema	No	Read Write	
range	multiple types: see schema	No	Read Write	
precision	multiple types: see schema	No	Read Write	
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).
n	multiple types: see schema	No	Read Write	
alarmtype	string	No	Read Only	The Alarm Type.

26003 **6.129.6 CRUDN behaviour**

26004 Table 262 defines the CRUDN operations that are supported on the "oic.r.alarm" Resource Type.

26005 **Table 262 – The CRUDN operations of the Resource with type "rt" = "oic.r.alarm".**

Create	Read	Update	Delete	Notify
	get	post		observe

26006 **6.130 Continuous Glucose Meter (CGM) Atomic Measurement Representation**

26007 **6.130.1 Introduction**

26008 This Resource describes the Properties associated with Continuous Glucose Meter.

26009 The Resource is an Atomic Measurement of glucose ("oic.r.glucose"), sensor
26010 ("oic.r.cgm.sensor"), observed time ("oic.r.time.stamp"), and user ID ("oic.r.userid").

26011 **6.130.2 Example URI**

26012 /ContinuousGlucoseMeterAMResURI

26013 **6.130.3 Resource type**

26014 The Resource Type is defined as: "oic.r.cgm-am, oic.wk.atomicmeasurement".

26015 **6.130.4 OpenAPI 2.0 definition**

```

26016 {
26017   "swagger": "2.0",
26018   "info": {
26019     "title": "Continuous Glucose Meter (CGM) Atomic Measurement Representation",
26020     "version": "2019-03-04",
26021     "license": {
26022       "name": "OCF Data Model License",
26023       "url":
26024         "https://github.com/openconnectivityfoundation/core/blob/e28a9e0a92e17042ba3e83661e4c0fbce8bdc4ba/LI
26025         CENSE.md",
26026       "x-copyright": "Copyright 2018-2019 Open Connectivity Foundation, Inc. All rights reserved."
26027     },
26028     "termsOfService": "https://openconnectivityfoundation.github.io/core/DISCLAIMER.md"
26029   },
26030   "schemes": [
26031     "http"
26032   ],

```

```

26033     "consumes": [
26034         "application/json"
26035     ],
26036     "produces": [
26037         "application/json"
26038     ],
26039     "paths": {
26040         "/ContinuousGlucoseMeterAMResURI?if=oic.if.b": {
26041             "get": {
26042                 "description": "This Resource describes the Properties associated with Continuous Glucose
26043 Meter.\n The Resource is an Atomic Measurement of glucose (\\"oic.r.glucose\\"), sensor
26044 (\\"oic.r.cgm.sensor\\"), observed time (\\"oic.r.time.stamp\\"), and user ID (\\"oic.r.userid\\").",
26045                 "parameters": [
26046                     {
26047                         "$ref": "#/parameters/interface-all"
26048                     }
26049                 ],
26050                 "responses": {
26051                     "200": {
26052                         "description": "",
26053                         "x-example": [
26054                             {
26055                                 "href": "/myGlucose",
26056                                 "rep": {
26057                                     "glucose": 100.0,
26058                                     "units": "mg/dL"
26059                                 }
26060                             },
26061                             {
26062                                 "href": "/myContinuousGlucoseMeterSensor",
26063                                 "rep": {
26064                                     "starttime": "2018-06-20T14:30Z",
26065                                     "runtime": 7.0
26066                                 }
26067                             },
26068                             {
26069                                 "href": "/myUserId",
26070                                 "rep": {
26071                                     "userid": "USER1"
26072                                 }
26073                             },
26074                             {
26075                                 "href": "/myTimeStamp",
26076                                 "rep": {
26077                                     "timestamp": "2018-11-09T12:15:00+08:00"
26078                                 }
26079                             }
26080                         ],
26081                         "schema": {
26082                             "$ref": "#/definitions/batch-retrieve"
26083                         }
26084                     }
26085                 }
26086             },
26087         },
26088         "/ContinuousGlucoseMeterAMResURI?if=oic.if.ll": {
26089             "get": {
26090                 "description": "This Resource describes the Properties associated with Continuous Glucose
26091 Meter.\n The Resource is an Atomic Measurement of glucose (\\"oic.r.glucose\\"), sensor
26092 (\\"oic.r.cgm.sensor\\"), observed time (\\"oic.r.time.stamp\\"), and user ID (\\"oic.r.userid\\").",
26093                 "parameters": [
26094                     {
26095                         "$ref": "#/parameters/interface-all"
26096                     }
26097                 ],
26098                 "responses": {
26099                     "200": {
26100                         "description": "",
26101                         "x-example": [
26102                             {
26103                                 "href": "/myGlucose",
26104                                 "rt": [

```

```

26105         "oic.r.glucose"
26106     ],
26107     "if": [
26108         "oic.if.s",
26109         "oic.if.baseline"
26110     ]
26111 },
26112 {
26113     "href": "/myContinuousGlucoseMeterSensor",
26114     "rt": [
26115         "oic.r.cgm.sensor"
26116     ],
26117     "if": [
26118         "oic.if.s",
26119         "oic.if.baseline"
26120     ]
26121 },
26122 {
26123     "href": "/myUserId",
26124     "rt": [
26125         "oic.r.userid"
26126     ],
26127     "if": [
26128         "oic.if.r",
26129         "oic.if.baseline"
26130     ]
26131 },
26132 {
26133     "href": "/myTimeStamp",
26134     "rt": [
26135         "oic.r.time.stamp"
26136     ],
26137     "if": [
26138         "oic.if.r",
26139         "oic.if.baseline"
26140     ]
26141 }
26142 ],
26143 "schema": {
26144     "$ref": "#/definitions/links"
26145 }
26146 }
26147 }
26148 }
26149 },
26150 "/ContinuousGlucoseMeterAMResURI?if=oic.if.baseline": {
26151     "get": {
26152         "description": "This Resource describes the Properties associated with Continuous Glucose
26153 Meter.\n The Resource is an Atomic Measurement of glucose (\\"oic.r.glucose\\"), sensor
26154 (\\"oic.r.cgm.sensor\\"), observed time (\\"oic.r.time.stamp\\"), and user ID (\\"oic.r.userid\\").",
26155         "parameters": [
26156             {
26157                 "$ref": "#/parameters/interface-all"
26158             }
26159         ],
26160         "responses": {
26161             "200": {
26162                 "description": "",
26163                 "x-example":
26164                 {
26165                     "rt": [
26166                         "oic.r.cgm-am",
26167                         "oic.wk.atomicmeasurement"
26168                     ],
26169                     "if": [
26170                         "oic.if.b",
26171                         "oic.if.ll",
26172                         "oic.if.baseline"
26173                     ],
26174                     "rts-m": [
26175                         "oic.r.glucose"
26176                     ],

```

```

26177         "rts": [
26178             "oic.r.glucose", "oic.r.cgm.sensor"
26179         ],
26180         "links": [
26181             {
26182                 "href": "/myGlucose",
26183                 "rt": [
26184                     "oic.r.glucose"
26185                 ],
26186                 "if": [
26187                     "oic.if.s",
26188                     "oic.if.baseline"
26189                 ]
26190             },
26191             {
26192                 "href": "/myContinuousGlucoseMeterSensor",
26193                 "rt": [
26194                     "oic.r.cgm.sensor"
26195                 ],
26196                 "if": [
26197                     "oic.if.s",
26198                     "oic.if.baseline"
26199                 ]
26200             },
26201             {
26202                 "href": "/myUserId",
26203                 "rt": [
26204                     "oic.r.userid"
26205                 ],
26206                 "if": [
26207                     "oic.if.r",
26208                     "oic.if.baseline"
26209                 ]
26210             },
26211             {
26212                 "href": "/myTimeStamp",
26213                 "rt": [
26214                     "oic.r.time.stamp"
26215                 ],
26216                 "if": [
26217                     "oic.if.r",
26218                     "oic.if.baseline"
26219                 ]
26220             }
26221         ]
26222     },
26223     "schema": {
26224         "$ref": "#/definitions/baseline"
26225     }
26226 }
26227 }
26228 }
26229 }
26230 },
26231 "parameters": {
26232     "interface-all": {
26233         "in": "query",
26234         "name": "if",
26235         "type": "string",
26236         "enum": [
26237             "oic.if.b",
26238             "oic.if.ll",
26239             "oic.if.baseline"
26240         ]
26241     }
26242 },
26243 "definitions": {
26244     "batch-retrieve": {
26245         "title": "Collection Batch Retrieve Format",
26246         "minItems": 1,
26247         "items": {
26248             "properties": {

```

```

26249         "href": {
26250             "$ref":
26251 "https://openconnectivityfoundation.github.io/core/schemas/oic.links.properties.core-
26252 schema.json#/definitions/href"
26253         },
26254         "rep": {
26255             "type": "object",
26256             "anyOf": [
26257                 {
26258                     "$ref":
26259 "https://openconnectivityfoundation.github.io/IoTDataModels/GlucoseResURI.swagger.json#/definitions/
26260 Glucose"
26261                 },
26262                 {
26263                     "$ref":
26264 "https://openconnectivityfoundation.github.io/IoTDataModels/ContinuousGlucoseMeterSensor.swagger.jso
26265 n#/definitions/ContinuousGlucoseMeterSensor"
26266                 },
26267                 {
26268                     "$ref":
26269 "https://openconnectivityfoundation.github.io/IoTDataModels/UserIDResURI.swagger.json#/definitions/U
26270 serID"
26271                 },
26272                 {
26273                     "$ref":
26274 "https://openconnectivityfoundation.github.io/IoTDataModels/TimeStampResURI.swagger.json#/definition
26275 s/TimeStamp"
26276                 }
26277             ]
26278         },
26279     },
26280     "required": [
26281         "href",
26282         "rep"
26283     ],
26284     "type": "object"
26285 },
26286 "type": "array"
26287 },
26288 "links": {
26289     "type": "array",
26290     "items": {
26291         "$ref": "#/definitions/oic.oic-link"
26292     }
26293 },
26294 "baseline": {
26295     "properties": {
26296         "rt": {
26297             "items": {
26298                 "enum": [
26299                     "oic.r.cgm-am",
26300                     "oic.wk.atomicmeasurement"
26301                 ]
26302             },
26303             "minItems": 2,
26304             "type": "array",
26305             "uniqueItems": true,
26306             "readOnly": true
26307         },
26308         "links": {
26309             "$ref": "#/definitions/links"
26310         },
26311         "n": {
26312             "$ref":
26313 "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
26314 schema.json#/definitions/n"
26315         },
26316         "rts": {
26317             "description": "This Property contains all possible Resource Types for this Atomic
26318 Measurement.",
26319             "items": {
26320                 "enum": [

```

```

26321         "oic.r.glucose",
26322         "oic.r.cgm.sensor",
26323         "oic.r.time.stamp",
26324         "oic.r.userid"
26325     ]
26326 },
26327     "minItems": 1,
26328     "type": "array",
26329     "uniqueItems": true
26330 },
26331     "id": {
26332         "$ref":
26333         "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
26334         schema.json#/definitions/id"
26335     },
26336     "rts-m": {
26337         "description": "This Property contains all mandatory Resource Types for this Atomic
26338 Measurement.",
26339         "items": {
26340             "enum": [
26341                 "oic.r.glucose"
26342             ]
26343         },
26344         "maxItems": 1,
26345         "minItems": 1,
26346         "type": "array",
26347         "readOnly": true,
26348         "uniqueItems": true
26349     },
26350     "if": {
26351         "description": "The OCF Interface set supported by this Resource.",
26352         "items": {
26353             "enum": [
26354                 "oic.if.baseline",
26355                 "oic.if.ll",
26356                 "oic.if.b"
26357             ],
26358             "type": "string"
26359         },
26360         "minItems": 1,
26361         "uniqueItems": true,
26362         "readOnly": true,
26363         "type": "array"
26364     }
26365 },
26366     "type": "object",
26367     "required": [
26368         "rts-m"
26369     ]
26370 },
26371     "oic.oic-link": {
26372         "properties": {
26373             "anchor": {
26374                 "$ref":
26375                 "https://openconnectivityfoundation.github.io/core/schemas/oic.links.properties.core-
26376                 schema.json#/definitions/anchor"
26377             },
26378             "di": {
26379                 "$ref":
26380                 "https://openconnectivityfoundation.github.io/core/schemas/oic.links.properties.core-
26381                 schema.json#/definitions/di"
26382             },
26383             "eps": {
26384                 "$ref":
26385                 "https://openconnectivityfoundation.github.io/core/schemas/oic.links.properties.core-
26386                 schema.json#/definitions/eps"
26387             },
26388             "href": {
26389                 "$ref":
26390                 "https://openconnectivityfoundation.github.io/core/schemas/oic.links.properties.core-
26391                 schema.json#/definitions/href"
26392             },

```



```

26393     "if": {
26394         "description": "The OCF Interface set supported by this Resource.",
26395         "items": {
26396             "enum": [
26397                 "oic.if.baseline",
26398                 "oic.if.s",
26399                 "oic.if.r"
26400             ],
26401             "type": "string"
26402         },
26403         "minItems": 1,
26404         "uniqueItems": true,
26405         "type": "array"
26406     },
26407     "ins": {
26408         "$ref":
26409         "https://openconnectivityfoundation.github.io/core/schemas/oic.links.properties.core-
26410         schema.json#/definitions/ins"
26411     },
26412     "p": {
26413         "$ref":
26414         "https://openconnectivityfoundation.github.io/core/schemas/oic.links.properties.core-
26415         schema.json#/definitions/p"
26416     },
26417     "rel": {
26418         "$ref":
26419         "https://openconnectivityfoundation.github.io/core/schemas/oic.links.properties.core-
26420         schema.json#/definitions/rel_array"
26421     },
26422     "rt": {
26423         "description": "The Resource Type.",
26424         "items": {
26425             "enum": [
26426                 "oic.r.glucose",
26427                 "oic.r.cgm.sensor",
26428                 "oic.r.time.stamp",
26429                 "oic.r.userid"
26430             ],
26431             "type": "string"
26432         },
26433         "minItems": 1,
26434         "uniqueItems": true,
26435         "readOnly": true,
26436         "type": "array"
26437     },
26438     "title": {
26439         "$ref":
26440         "https://openconnectivityfoundation.github.io/core/schemas/oic.links.properties.core-
26441         schema.json#/definitions/title"
26442     },
26443     "type": {
26444         "$ref":
26445         "https://openconnectivityfoundation.github.io/core/schemas/oic.links.properties.core-
26446         schema.json#/definitions/type"
26447     }
26448 },
26449 "required": [
26450     "href",
26451     "rt",
26452     "if"
26453 ],
26454 "type": "object"
26455 }
26456 }
26457 }

```

26458 **6.130.5 Property definition**

26459 Table 263 defines the Properties that are part of the "oic.r.cgm-am, oic.wk.atomicmeasurement"
26460 Resource Type.

Table 263 – The Property definitions of the Resource with type "rt" = "oic.r.cgm-am, oic.wk.atomicmeasurement".

Property name	Value type	Mandatory	Access mode	Description
rts-m	array: see schema	Yes	Read Only	This Property contains all mandatory Resource Types for this Atomic Measurement.
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.
links	multiple types: see schema	No	Read Write	
if	array: see schema	No	Read Only	The OCF Interface set supported by this Resource.
id	multiple types: see schema	No	Read Write	
rt	array: see schema	No	Read Only	
rep	object: see schema	Yes	Read Write	
href	multiple types: see schema	Yes	Read Write	
rt	array: see schema	Yes	Read Only	The Resource Type.
rel	multiple types: see schema	No	Read Write	
ins	multiple types: see schema	No	Read Write	
title	multiple types: see schema	No	Read Write	
if	array: see schema	Yes	Read Write	The OCF Interface set supported by this Resource.
eps	multiple types: see schema	No	Read Write	
p	multiple types: see schema	No	Read Write	
di	multiple types: see schema	No	Read Write	
type	multiple types: see schema	No	Read Write	
href	multiple types: see schema	Yes	Read Write	
anchor	multiple types: see schema	No	Read Write	

26463 **6.130.6 CRUDN behaviour**

26464 Table 264 defines the CRUDN operations that are supported on the "oic.r.cgm-am,
26465 oic.wk.atomicmeasurement" Resource Type.

**Table 264 – The CRUDN operations of the Resource with type "rt" = "oic.r.cgm-am,
oic.wk.atomicmeasurement".**

Create	Read	Update	Delete	Notify
	get			observe

26468 **6.131 Calibrate for Continuous Glucose Meter (CGM)**

26469 **6.131.1 Introduction**

26470 This Resource describes the Properties associated with Calibrate for Continuous Glucose Meter
26471 (CGM).

26472 **6.131.2 Example URI**

26473 /ContinuousGlucoseMeterCalibrateResURI

26474 **6.131.3 Resource type**

26475 The Resource Type is defined as: "oic.r.cgm.calibrate".

26476 **6.131.4 OpenAPI 2.0 definition**

```

26477 {
26478   "swagger": "2.0",
26479   "info": {
26480     "title": "Calibrate for Continuous Glucose Meter (CGM)",
26481     "version": "2019-03-04",
26482     "license": {
26483       "name": "OCF Data Model License",
26484       "url":
26485 "https://github.com/openconnectivityfoundation/core/blob/e28a9e0a92e17042ba3e83661e4c0fbce8bdc4ba/LI
26486 CENSE.md",
26487       "x-copyright": "Copyright 2018-2019 Open Connectivity Foundation, Inc. All rights reserved."
26488     },
26489     "termsOfService": "https://openconnectivityfoundation.github.io/core/DISCLAIMER.md"
26490   },
26491   "schemes": [
26492     "http"
26493   ],
26494   "consumes": [
26495     "application/json"
26496   ],
26497   "produces": [
26498     "application/json"
26499   ],
26500   "paths": {
26501     "/ContinuousGlucoseMeterCalibrateResURI": {
26502       "get": {
26503         "description": "This Resource describes the Properties associated with Calibrate for
26504 Continuous Glucose Meter (CGM).",
26505         "parameters": [
26506           {
26507             "$ref": "#/parameters/interface"
26508           }
26509         ],
26510         "responses": {
26511           "200": {
26512             "description": "",
26513             "x-example": {
26514               "rt": [
26515                 "oic.r.cgm.calibrate"
26516               ],
26517               "Cvalue": 128.0,
26518               "Cstatus": true

```

```

26519         },
26520         "schema": {
26521             "$ref": "#/definitions/ContinuousGlucoseMeterCalibrate"
26522         }
26523     }
26524 },
26525 "post": {
26526     "description": "This Resource describes the Properties associated with Calibrate for
26527 Continuous Glucose Meter (CGM).",
26528     "parameters": [
26529         {
26530             "$ref": "#/parameters/interface"
26531         },
26532         {
26533             "name": "body",
26534             "in": "body",
26535             "required": true,
26536             "schema": { "$ref": "#/definitions/ContinuousGlucoseMeterCalibrate" },
26537             "x-example": {
26538                 "Cvalue": 130.0,
26539                 "Cstatus": true
26540             }
26541         }
26542     ],
26543     "responses": {
26544         "200": {
26545             "description": "",
26546             "x-example": {
26547                 "rt": [
26548                     "oic.r.cgm.calibrate"
26549                 ],
26550                 "Cvalue": 130.0,
26551                 "Cstatus": true
26552             },
26553             "schema": {
26554                 "$ref": "#/definitions/ContinuousGlucoseMeterCalibrate"
26555             }
26556         }
26557     }
26558 },
26559 },
26560 },
26561 "parameters": {
26562     "interface": {
26563         "in": "query",
26564         "name": "if",
26565         "type": "string",
26566         "enum": [
26567             "oic.if.rw",
26568             "oic.if.baseline"
26569         ]
26570     }
26571 },
26572 },
26573 "definitions": {
26574     "ContinuousGlucoseMeterCalibrate": {
26575         "properties": {
26576             "Cvalue": {
26577                 "description": "This Property describes the Sensor Calibration Value in mg/dL units. This
26578 blood glucose measurement using other external glucose meter.",
26579                 "type": "number",
26580                 "minimum": 0,
26581                 "readOnly": false
26582             },
26583             "Cstatus": {
26584                 "description": "Sensor calibration required flag",
26585                 "type": "boolean",
26586                 "readOnly": true
26587             },
26588             "rt": {
26589                 "description": "The Resource Type.",
26590                 "items": {

```

```

26591         "enum": [
26592             "oic.r.cgm.calibrate"
26593         ],
26594         "type": "string"
26595     },
26596     "minItems": 1,
26597     "uniqueItems": true,
26598     "readOnly": true,
26599     "type": "array"
26600 },
26601 "n": {
26602     "$ref":
26603 "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
26604 schema.json#/definitions/n"
26605 },
26606 "if": {
26607     "description": "The OCF Interface set supported by this Resource.",
26608     "items": {
26609         "enum": [
26610             "oic.if.rw",
26611             "oic.if.baseline"
26612         ],
26613         "type": "string"
26614     },
26615     "minItems": 1,
26616     "uniqueItems": true,
26617     "readOnly": true,
26618     "type": "array"
26619 },
26620 "range": {
26621     "$ref":
26622 "https://openconnectivityfoundation.github.io/IoTDataModels/schemas/oic.baseresource.properties-
26623 schema.json#/definitions/range_number"
26624 },
26625 "step": {
26626     "$ref":
26627 "https://openconnectivityfoundation.github.io/IoTDataModels/schemas/oic.baseresource.properties-
26628 schema.json#/definitions/step_number"
26629 },
26630 "precision": {
26631     "$ref":
26632 "https://openconnectivityfoundation.github.io/IoTDataModels/schemas/oic.baseresource.properties-
26633 schema.json#/definitions/precision"
26634 }
26635 },
26636 "type": "object",
26637 "required": [
26638     "Cvalue", "Cstatus"
26639 ]
26640 }
26641 }
26642 }

```

26643 6.131.5 Property definition

26644 Table 265 defines the Properties that are part of the "oic.r.cgm.calibrate" Resource Type.

26645 **Table 265 – The Property definitions of the Resource with type "rt" = "oic.r.cgm.calibrate".**

Property name	Value type	Mandatory	Access mode	Description
step	multiple types: see schema	No	Read Write	
n	multiple types: see schema	No	Read Write	
rt	array: see schema	No	Read Only	The Resource Type.
precision	multiple types: see schema	No	Read Write	

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.
if	array: see schema	No	Read Only	The OCF Interface set supported by this Resource.
range	multiple types: see schema	No	Read Write	
Cstatus	boolean	Yes	Read Only	Sensor calibration required flag

26646 **6.131.6 CRUDN behaviour**

26647 Table 266 defines the CRUDN operations that are supported on the "oic.r.cgm.calibrate" Resource
26648 Type.

26649 **Table 266 – The CRUDN operations of the Resource with type "rt" = "oic.r.cgm.calibrate".**

Create	Read	Update	Delete	Notify
	get	post		observe

26650 **6.132 Sampling Interval for Continuous Glucose Meter (CGM)**

26651 **6.132.1 Introduction**

26652 This Resource describes the Properties associated with Sampling Interval for Continuous
26653 Glucose Meter (CGM).

26654 **6.132.2 Example URI**

26655 /ContinuousGlucoseMeterSamplingIntervalResURI

26656 **6.132.3 Resource type**

26657 The Resource Type is defined as: "oic.r.cgm.samplinginterval".

26658 **6.132.4 OpenAPI 2.0 definition**

```
26659 {
26660   "swagger": "2.0",
26661   "info": {
26662     "title": "Sampling Interval for Continuous Glucose Meter (CGM)",
26663     "version": "2019-03-04",
26664     "license": {
26665       "name": "OCF Data Model License",
26666       "url":
26667         "https://github.com/openconnectivityfoundation/core/blob/e28a9e0a92e17042ba3e83661e4c0fbce8bdc4ba/LI
26668         CENSE.md",
26669       "x-copyright": "Copyright 2018-2019 Open Connectivity Foundation, Inc. All rights reserved."
26670     },
26671     "termsOfService": "https://openconnectivityfoundation.github.io/core/DISCLAIMER.md"
26672   },
26673   "schemes": [
26674     "http"
26675   ],
```

```

26676     "consumes": [
26677         "application/json"
26678     ],
26679     "produces": [
26680         "application/json"
26681     ],
26682     "paths": {
26683         "/ContinuousGlucoseMeterSamplingIntervalResURI": {
26684             "get": {
26685                 "description": "This Resource describes the Properties associated with Sampling Interval for
Continuous Glucose Meter (CGM).",
26686                 "parameters": [
26687                     {
26688                         "$ref": "#/parameters/interface"
26689                     }
26690                 ],
26691                 "responses": {
26692                     "200": {
26693                         "description": "",
26694                         "x-example": {
26695                             "rt": [
26696                                 "oic.r.cgm.samplinginterval"
26697                             ],
26698                             "interval": 10.0
26699                         },
26700                         "schema": {
26701                             "$ref": "#/definitions/ContinuousGlucoseMeterSamplingInterval"
26702                         }
26703                     }
26704                 }
26705             },
26706             "post": {
26707                 "description": "This Resource describes the Properties associated with Sampling Interval for
Continuous Glucose Meter (CGM).",
26708                 "parameters": [
26709                     {
26710                         "$ref": "#/parameters/interface"
26711                     },
26712                     {
26713                         "name": "body",
26714                         "in": "body",
26715                         "required": true,
26716                         "schema": { "$ref": "#/definitions/ContinuousGlucoseMeterSamplingInterval" },
26717                         "x-example": {
26718                             "interval": 20.0
26719                         }
26720                     }
26721                 ]
26722             },
26723             "responses": {
26724                 "200": {
26725                     "description": "",
26726                     "x-example": {
26727                         "rt": [
26728                             "oic.r.cgm.samplinginterval"
26729                         ],
26730                         "interval": 20.0
26731                     },
26732                     "schema": {
26733                         "$ref": "#/definitions/ContinuousGlucoseMeterSamplingInterval"
26734                     }
26735                 }
26736             }
26737         }
26738     },
26739     "parameters": {
26740         "interface": {
26741             "in": "query",
26742             "name": "if",
26743             "type": "string",
26744             "enum": [
26745                 "oic.if.a",

```

```

26748         "oic.if.baseline"
26749     ]
26750 }
26751 },
26752 "definitions": {
26753     "ContinuousGlucoseMeterSamplingInterval": {
26754         "properties": {
26755             "interval": {
26756                 "description": "This Property describes the Sampling interval in seconds.",
26757                 "type": "number",
26758                 "minimum": 0.0,
26759                 "readOnly": false
26760             },
26761             "rt": {
26762                 "description": "The Resource Type.",
26763                 "items": {
26764                     "enum": [
26765                         "oic.r.cgm.samplinginterval"
26766                     ],
26767                     "type": "string"
26768                 },
26769                 "minItems": 1,
26770                 "uniqueItems": true,
26771                 "readOnly": true,
26772                 "type": "array"
26773             },
26774             "n": {
26775                 "$ref":
26776                 "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
26777                 schema.json#/definitions/n"
26778             },
26779             "id": {
26780                 "$ref":
26781                 "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
26782                 schema.json#/definitions/id"
26783             },
26784             "if": {
26785                 "description": "The OCF Interface set supported by this Resource.",
26786                 "items": {
26787                     "enum": [
26788                         "oic.if.a",
26789                         "oic.if.baseline"
26790                     ],
26791                     "type": "string"
26792                 },
26793                 "minItems": 1,
26794                 "uniqueItems": true,
26795                 "readOnly": true,
26796                 "type": "array"
26797             },
26798             "range": {
26799                 "$ref":
26800                 "https://openconnectivityfoundation.github.io/IoTDataModels/schemas/oic.baseresource.properties-
26801                 schema.json#/definitions/range_number"
26802             },
26803             "step": {
26804                 "$ref":
26805                 "https://openconnectivityfoundation.github.io/IoTDataModels/schemas/oic.baseresource.properties-
26806                 schema.json#/definitions/step_number"
26807             },
26808             "precision": {
26809                 "$ref":
26810                 "https://openconnectivityfoundation.github.io/IoTDataModels/schemas/oic.baseresource.properties-
26811                 schema.json#/definitions/precision"
26812             }
26813         },
26814         "type": "object",
26815         "required": [
26816             "interval"
26817         ]
26818     }

```


26819 }
 26820 }

26821 **6.132.5 Property definition**

26822 Table 267 defines the Properties that are part of the "oic.r.cgm.samplinginterval" Resource Type.

26823 **Table 267 – The Property definitions of the Resource with type "rt" =**
 26824 **"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.
step	multiple types: see schema	No	Read Write	
id	multiple types: see schema	No	Read Write	
range	multiple types: see schema	No	Read Write	
precision	multiple types: see schema	No	Read Write	
n	multiple types: see schema	No	Read Write	
if	array: see schema	No	Read Only	The OCF Interface set supported by this Resource.
rt	array: see schema	No	Read Only	The Resource Type.

26825 **6.132.6 CRUDN behaviour**

26826 Table 268 defines the CRUDN operations that are supported on the "oic.r.cgm.samplinginterval"
 26827 Resource Type.

26828 **Table 268 – The CRUDN operations of the Resource with type "rt" =**
 26829 **"oic.r.cgm.samplinginterval".**

Create	Read	Update	Delete	Notify
	get	post		observe

26830 **6.133 Sensor for Continuous Glucose Meter (CGM)**

26831 **6.133.1 Introduction**

26832 This Resource describes the Properties associated with Sensor for Continuous Glucose Meter
 26833 (CGM).

26834 **6.133.2 Example URI**

26835 /ContinuousGlucoseMeterSensorResURI

26836 **6.133.3 Resource type**

26837 The Resource Type is defined as: "oic.r.cgm.sensor".

26838 **6.133.4 OpenAPI 2.0 definition**

26839 {
 26840 "swagger": "2.0",
 26841 "info": {
 26842 "title": "Sensor for Continuous Glucose Meter (CGM)",

```

26843     "version": "2019-03-04",
26844     "license": {
26845         "name": "OCF Data Model License",
26846         "url":
26847 "https://github.com/openconnectivityfoundation/core/blob/e28a9e0a92e17042ba3e83661e4c0fbce8bdc4ba/LI
26848 CENSE.md",
26849         "x-copyright": "Copyright 2018-2019 Open Connectivity Foundation, Inc. All rights reserved."
26850     },
26851     "termsOfService": "https://openconnectivityfoundation.github.io/core/DISCLAIMER.md"
26852 },
26853     "schemes": [
26854         "http"
26855     ],
26856     "consumes": [
26857         "application/json"
26858     ],
26859     "produces": [
26860         "application/json"
26861     ],
26862     "paths": {
26863         "/ContinuousGlucoseMeterSensorResURI": {
26864             "get": {
26865                 "description": "This Resource describes the Properties associated with Sensor for Continuous
26866 Glucose Meter (CGM).",
26867                 "parameters": [
26868                     {
26869                         "$ref": "#/parameters/interface"
26870                     }
26871                 ],
26872                 "responses": {
26873                     "200": {
26874                         "description": "",
26875                         "x-example": {
26876                             "rt": [
26877                                 "oic.r.cgm.sensor"
26878                             ],
26879                             "starttime": "2018-06-20T14:30Z",
26880                             "runtime": 7.0
26881                         },
26882                         "schema": {
26883                             "$ref": "#/definitions/ContinuousGlucoseMeterSensor"
26884                         }
26885                     }
26886                 }
26887             }
26888         }
26889     },
26890     "parameters": {
26891         "interface": {
26892             "in": "query",
26893             "name": "if",
26894             "type": "string",
26895             "enum": [
26896                 "oic.if.s",
26897                 "oic.if.baseline"
26898             ]
26899         }
26900     },
26901     "definitions": {
26902         "ContinuousGlucoseMeterSensor": {
26903             "properties": {
26904                 "starttime": {
26905                     "description": "This Property describes the Sensor start time using ISO 8601 datetime
26906 format (e.g: 2007-04-05T14:30Z, 2007-04-05T14:30+09:00)",
26907                     "type": "string",
26908                     "readOnly": true
26909                 },
26910                 "runtime": {
26911                     "description": "This Property describes the recommended runtime days using CGM",
26912                     "type": "number",
26913                     "minimum": 0.0,
26914                     "readOnly": true

```

```

26915     },
26916     "rt": {
26917       "description": "The Resource Type.",
26918       "items": {
26919         "enum": [
26920           "oic.r.cgm.sensor"
26921         ],
26922         "type": "string"
26923       },
26924       "minItems": 1,
26925       "uniqueItems": true,
26926       "readOnly": true,
26927       "type": "array"
26928     },
26929     "n": {
26930       "$ref":
26931       "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
26932       schema.json#/definitions/n"
26933     },
26934     "if": {
26935       "description": "The OCF Interface set supported by this Resource.",
26936       "items": {
26937         "enum": [
26938           "oic.if.s",
26939           "oic.if.baseline"
26940         ],
26941         "type": "string"
26942       },
26943       "minItems": 1,
26944       "uniqueItems": true,
26945       "readOnly": true,
26946       "type": "array"
26947     },
26948     "range": {
26949       "$ref":
26950       "https://openconnectivityfoundation.github.io/IoTDataModels/schemas/oic.baseresource.properties-
26951       schema.json#/definitions/range_number"
26952     },
26953     "step": {
26954       "$ref":
26955       "https://openconnectivityfoundation.github.io/IoTDataModels/schemas/oic.baseresource.properties-
26956       schema.json#/definitions/step_number"
26957     },
26958     "precision": {
26959       "$ref":
26960       "https://openconnectivityfoundation.github.io/IoTDataModels/schemas/oic.baseresource.properties-
26961       schema.json#/definitions/precision"
26962     }
26963   },
26964   "type": "object",
26965   "required": [
26966     "starttime", "runtime"
26967   ]
26968 }
26969 }
26970 }

```

26971 6.133.5 Property definition

26972 Table 269 defines the Properties that are part of the "oic.r.cgm.sensor" Resource Type.

26973 **Table 269 – The Property definitions of the Resource with type "rt" = "oic.r.cgm.sensor".**

Property name	Value type	Mandatory	Access mode	Description
runtime	number	Yes	Read Only	This Property describes the recommended runtime days using CGM

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)
range	multiple types: see schema	No	Read Write	
step	multiple types: see schema	No	Read Write	
precision	multiple types: see schema	No	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.

26974 **6.133.6 CRUDN behaviour**

26975 Table 270 defines the CRUDN operations that are supported on the "oic.r.cgm.sensor" Resource
26976 Type.

26977 **Table 270 – The CRUDN operations of the Resource with type "rt" = "oic.r.cgm.sensor".**

Create	Read	Update	Delete	Notify
	get			observe

26978 **6.134 Status for Continuous Glucose Meter (CGM)**

26979 **6.134.1 Introduction**

26980 This Resource describes the Properties associated with Status for Continuous Glucose Meter
26981 (CGM).

26982 **6.134.2 Example URI**

26983 /ContinuousGlucoseMeterStatusResURI

26984 **6.134.3 Resource type**

26985 The Resource Type is defined as: "oic.r.cgm.status".

26986 **6.134.4 OpenAPI 2.0 definition**

```

26987 {
26988   "swagger": "2.0",
26989   "info": {
26990     "title": "Status for Continuous Glucose Meter (CGM)",
26991     "version": "2019-03-04",
26992     "license": {
26993       "name": "OCF Data Model License",
26994       "url":
26995         "https://github.com/openconnectivityfoundation/core/blob/e28a9e0a92e17042ba3e83661e4c0fbce8bdc4ba/LI
26996         CENSE.md",
26997       "x-copyright": "Copyright 2018-2019 Open Connectivity Foundation, Inc. All rights reserved."
26998     },
26999     "termsOfService": "https://openconnectivityfoundation.github.io/core/DISCLAIMER.md"
27000   },

```

```

27001     "schemes": [
27002         "http"
27003     ],
27004     "consumes": [
27005         "application/json"
27006     ],
27007     "produces": [
27008         "application/json"
27009     ],
27010     "paths": {
27011         "/ContinuousGlucoseMeterStatusResURI": {
27012             "get": {
27013                 "description": "This Resource describes the Properties associated with Status for Continuous
27014 Glucose Meter (CGM).",
27015                 "parameters": [
27016                     {
27017                         "$ref": "#/parameters/interface"
27018                     }
27019                 ],
27020                 "responses": {
27021                     "200": {
27022                         "description": "",
27023                         "x-example": {
27024                             "rt": [
27025                                 "oic.r.cgm.status"
27026                             ],
27027                             "cgmtime": "Interstitial Fluid",
27028                             "cgmstatus": "working",
27029                             "gtrend": 100.0,
27030                             "malfunction": false
27031                         },
27032                         "schema": {
27033                             "$ref": "#/definitions/ContinuousGlucoseMeterStatus"
27034                         }
27035                     }
27036                 }
27037             }
27038         }
27039     },
27040     "parameters": {
27041         "interface": {
27042             "in": "query",
27043             "name": "if",
27044             "type": "string",
27045             "enum": [
27046                 "oic.if.s",
27047                 "oic.if.baseline"
27048             ]
27049         }
27050     },
27051     "definitions": {
27052         "ContinuousGlucoseMeterStatus": {
27053             "properties": {
27054                 "cgmtime": {
27055                     "description": "This Property describes the CGM measurement type.",
27056                     "type": "string",
27057                     "enum": [
27058                         "Capillary Whole blood",
27059                         "Capillary Plasma",
27060                         "Venous Plasma",
27061                         "Arterial Whole blood",
27062                         "Arterial Plasma",
27063                         "Undetermined Whole blood",
27064                         "Undetermined Plasma",
27065                         "Interstitial Fluid"
27066                     ],
27067                     "readOnly": true
27068                 },
27069                 "cgmstatus": {
27070                     "description": "This Property describes the specific notifications given by the CGM device
27071 including, but not limited to, warnings, errors, and handling events.",
27072                     "type": "string",

```

```

27073         "readOnly": true
27074     },
27075     "gtrend": {
27076         "description": "This Property describes the rate of change in glucose measurements at a
27077 time instant.",
27078         "type": "number",
27079         "minimum": 0.0,
27080         "readOnly": true
27081     },
27082     "malfunction": {
27083         "description": "This Property describes the sensor malfunction detection check.",
27084         "type": "boolean",
27085         "readOnly": true
27086     },
27087     "rt": {
27088         "description": "The Resource Type.",
27089         "items": {
27090             "enum": [
27091                 "oic.r.cgm.status"
27092             ],
27093             "type": "string"
27094         },
27095         "minItems": 1,
27096         "uniqueItems": true,
27097         "readOnly": true,
27098         "type": "array"
27099     },
27100     "n": {
27101         "$ref":
27102 "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
27103 schema.json#/definitions/n"
27104     },
27105     "if": {
27106         "description": "The OCF Interface set supported by this Resource.",
27107         "items": {
27108             "enum": [
27109                 "oic.if.s",
27110                 "oic.if.baseline"
27111             ],
27112             "type": "string"
27113         },
27114         "minItems": 1,
27115         "uniqueItems": true,
27116         "readOnly": true,
27117         "type": "array"
27118     },
27119     "range": {
27120         "$ref":
27121 "https://openconnectivityfoundation.github.io/IoTDataModels/schemas/oic.baseresource.properties-
27122 schema.json#/definitions/range_number"
27123     },
27124     "step": {
27125         "$ref":
27126 "https://openconnectivityfoundation.github.io/IoTDataModels/schemas/oic.baseresource.properties-
27127 schema.json#/definitions/step_number"
27128     },
27129     "precision": {
27130         "$ref":
27131 "https://openconnectivityfoundation.github.io/IoTDataModels/schemas/oic.baseresource.properties-
27132 schema.json#/definitions/precision"
27133     }
27134 },
27135 "type": "object",
27136 "required": [
27137     "cgmttype",
27138     "cgmstatus",
27139     "gtrend",
27140     "malfunction"
27141 ]
27142 }
27143 }
27144 }

```

27145 **6.134.5 Property definition**

27146 Table 271 defines the Properties that are part of the "oic.r.cgm.status" Resource Type.

27147 **Table 271 – The Property definitions of the Resource with type "rt" = "oic.r.cgm.status".**

Property name	Value type	Mandatory	Access mode	Description
malfunction	boolean	Yes	Read Only	This Property describes the sensor malfunction detection check.
step	multiple types: see schema	No	Read Write	
gtrend	number	Yes	Read Only	This Property describes the rate of change in glucose measurements at a time instant.
precision	multiple types: see schema	No	Read Write	
cgmtype	string	Yes	Read Only	This Property describes the CGM measurement type.
rt	array: see schema	No	Read Only	The Resource 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.
if	array: see schema	No	Read Only	The OCF Interface set supported by this Resource.
n	multiple types: see schema	No	Read Write	
range	multiple types: see schema	No	Read Write	

27148 **6.134.6 CRUDN behaviour**

27149 Table 272 defines the CRUDN operations that are supported on the "oic.r.cgm.status" Resource
27150 Type.

27151 **Table 272 – The CRUDN operations of the Resource with type "rt" = "oic.r.cgm.status".**

Create	Read	Update	Delete	Notify
	get			observe

27152 **6.135 Threshold for Continuous Glucose Meter (CGM)**

27153 **6.135.1 Introduction**

27154 This Resource describes the Properties associated with Threshold for Continuous Glucose Meter
27155 (CGM).

27156 **6.135.2 Example URI**

27157 /ContinuousGlucoseMeterThresholdResURI

27158 **6.135.3 Resource type**

27159 The Resource Type is defined as: "oic.r.cgm.threshold".

27160 **6.135.4 OpenAPI 2.0 definition**

```
27161 {
27162   "swagger": "2.0",
27163   "info": {
27164     "title": "Threshold for Continuous Glucose Meter (CGM)",
27165     "version": "2019-03-04",
27166     "license": {
27167       "name": "OCF Data Model License",
27168       "url":
27169         "https://github.com/openconnectivityfoundation/core/blob/e28a9e0a92e17042ba3e83661e4c0fbce8bdc4ba/LI
27170 CENSE.md",
27171       "x-copyright": "Copyright 2018-2019 Open Connectivity Foundation, Inc. All rights reserved."
27172     },
27173     "termsOfService": "https://openconnectivityfoundation.github.io/core/DISCLAIMER.md"
27174   },
27175   "schemes": [
27176     "http"
27177   ],
27178   "consumes": [
27179     "application/json"
27180   ],
27181   "produces": [
27182     "application/json"
27183   ],
27184   "paths": {
27185     "/ContinuousGlucoseMeterThresholdResURI": {
27186       "get": {
27187         "description": "This Resource describes the Properties associated with Threshold for
27188 Continuous Glucose Meter (CGM).",
27189         "parameters": [
27190           {
27191             "$ref": "#/parameters/interface"
27192           }
27193         ],
27194         "responses": {
27195           "200": {
27196             "description": "",
27197             "x-example": {
27198               "rt": [
27199                 "oic.r.cgm.threshold"
27200               ],
27201               "plow": 100.0,
27202               "phigh": 180.0,
27203               "dhypo": 80.0,
27204               "dhyper": 125.0,
27205               "gir": 5.0,
27206               "gdr": 5.0
27207             },
27208             "schema": {
27209               "$ref": "#/definitions/ContinuousGlucoseMeterThreshold"
27210             }
27211           }
27212         }
27213       },
27214       "post": {
27215         "description": "This Resource describes the Properties associated with Threshold for
```



```

27216 Continuous Glucose Meter (CGM).",
27217     "parameters": [
27218         {
27219             "$ref": "#/parameters/interface"
27220         },
27221         {
27222             "name": "body",
27223             "in": "body",
27224             "required": true,
27225             "schema": { "$ref": "#/definitions/ContinuousGlucoseMeterThreshold" },
27226             "x-example": {
27227                 "plow": 70.0,
27228                 "phigh": 150.0,
27229                 "dhypo": 60.0,
27230                 "dhyper": 90.0,
27231                 "gir": 3.0,
27232                 "gdr": 3.0
27233             }
27234         }
27235     ],
27236     "responses": {
27237         "200": {
27238             "description": "",
27239             "x-example": {
27240                 "rt": [
27241                     "oic.r.cgm.threshold"
27242                 ],
27243                 "plow": 70.0,
27244                 "phigh": 150.0,
27245                 "dhypo": 60.0,
27246                 "dhyper": 90.0,
27247                 "gir": 3.0,
27248                 "gdr": 3.0
27249             },
27250             "schema": {
27251                 "$ref": "#/definitions/ContinuousGlucoseMeterThreshold"
27252             }
27253         }
27254     }
27255 },
27256 },
27257 },
27258 "parameters": {
27259     "interface": {
27260         "in": "query",
27261         "name": "if",
27262         "type": "string",
27263         "enum": [
27264             "oic.if.rw",
27265             "oic.if.baseline"
27266         ]
27267     }
27268 },
27269 "definitions": {
27270     "ContinuousGlucoseMeterThreshold": {
27271         "properties": {
27272             "plow": {
27273                 "description": "This Property describes the Patient low threshold (mg/dL)",
27274                 "type": "number",
27275                 "minimum": 0.0,
27276                 "readOnly": false
27277             },
27278             "phigh": {
27279                 "description": "This Property describes the Patient high threshold (mg/dL)",
27280                 "type": "number",
27281                 "minimum": 0.0,
27282                 "readOnly": false
27283             },
27284             "dhypo": {
27285                 "description": "This Property describes the Device hypoglycemia threshold (mg/dL)",
27286                 "type": "number",
27287                 "minimum": 0.0,

```

```

27288         "readOnly": false
27289     },
27290     "dhyper": {
27291         "description": "This Property describes the Device hyperglycemia threshold (mg/dL)",
27292         "type": "number",
27293         "minimum": 0.0,
27294         "readOnly": false
27295     },
27296     "gir": {
27297         "description": "This Property describes the Glucose Increase rate of change threshold
27298 (%)",
27299         "type": "number",
27300         "minimum": 0.0,
27301         "readOnly": false
27302     },
27303     "gdr": {
27304         "description": "This Property describes the Glucose Decrease rate of change threshold
27305 (%)",
27306         "type": "number",
27307         "minimum": 0.0,
27308         "readOnly": false
27309     },
27310     "rt": {
27311         "description": "The Resource Type.",
27312         "items": {
27313             "enum": [
27314                 "oic.r.cgm.threshold"
27315             ],
27316             "type": "string"
27317         },
27318         "minItems": 1,
27319         "uniqueItems": true,
27320         "readOnly": true,
27321         "type": "array"
27322     },
27323     "n": {
27324         "$ref":
27325 "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
27326 schema.json#/definitions/n"
27327     },
27328     "if": {
27329         "description": "The OCF Interface set supported by this Resource.",
27330         "items": {
27331             "enum": [
27332                 "oic.if.rw",
27333                 "oic.if.baseline"
27334             ],
27335             "type": "string"
27336         },
27337         "minItems": 1,
27338         "uniqueItems": true,
27339         "readOnly": true,
27340         "type": "array"
27341     },
27342     "range": {
27343         "$ref":
27344 "https://openconnectivityfoundation.github.io/IoTDataModels/schemas/oic.baseresource.properties-
27345 schema.json#/definitions/range_number"
27346     },
27347     "step": {
27348         "$ref":
27349 "https://openconnectivityfoundation.github.io/IoTDataModels/schemas/oic.baseresource.properties-
27350 schema.json#/definitions/step_number"
27351     },
27352     "precision": {
27353         "$ref":
27354 "https://openconnectivityfoundation.github.io/IoTDataModels/schemas/oic.baseresource.properties-
27355 schema.json#/definitions/precision"
27356     }
27357 },
27358 "type": "object",
27359 "required": [

```

```

27360     "plow",
27361     "phigh",
27362     "dhypo",
27363     "dhyper",
27364     "gir",
27365     "gdr"
27366   ]
27367 }
27368 }
27369 }

```

27370 **6.135.5 Property definition**

27371 Table 273 defines the Properties that are part of the "oic.r.cgm.threshold" Resource Type.

27372 **Table 273 – The Property definitions of the Resource with type "rt" = "oic.r.cgm.threshold".**

Property name	Value type	Mandatory	Access mode	Description
rt	array: see schema	No	Read Only	The Resource Type.
dhyper	number	Yes	Read Write	This Property describes the Device hyperglycemia threshold (mg/dL)
range	multiple types: see schema	No	Read Write	
n	multiple types: see schema	No	Read Write	
gir	number	Yes	Read Write	This Property describes the Glucose Increase rate of change threshold (%)
dhypo	number	Yes	Read Write	This Property describes the Device hypoglycemia threshold (mg/dL)
if	array: see schema	No	Read Only	The OCF Interface set supported by this Resource.
phigh	number	Yes	Read Write	This Property describes the Patient high threshold (mg/dL)
gdr	number	Yes	Read Write	This Property describes the Glucose Decrease rate of change threshold (%)
precision	multiple types: see schema	No	Read Write	

plow	number	Yes	Read Write	This Property describes the Patient low threshold (mg/dL)
step	multiple types: see schema	No	Read Write	

27373 **6.135.6 CRUDN behaviour**

27374 Table 274 defines the CRUDN operations that are supported on the "oic.r.cgm.threshold" Resource
27375 Type.

27376 **Table 274 – The CRUDN operations of the Resource with type "rt" = "oic.r.cgm.threshold".**

Create	Read	Update	Delete	Notify
	get	post		observe

27377 **6.136 Heart Rate**

27378 **6.136.1 Introduction**

27379 This Resource describes the Properties associated with a person's heart rate.
27380 The unit, which is the default unit, is bpm.
27381 The heartrate Property is a read-only value that is provided by the server.
27382 When range (from "oic.r.baseresource") is omitted the default is 0 to +MAXFLOAT.

27383 **6.136.2 Example URI**

27384 /HeartRateResURI

27385 **6.136.3 Resource type**

27386 The Resource Type is defined as: "oic.r.heartrate".

27387 **6.136.4 OpenAPI 2.0 definition**

```

27388 {
27389   "swagger": "2.0",
27390   "info": {
27391     "title": "Heart Rate",
27392     "version": "2019-03-04",
27393     "license": {
27394       "name": "OCF Data Model License",
27395       "url":
27396         "https://github.com/openconnectivityfoundation/core/blob/e28a9e0a92e17042ba3e83661e4c0fbce8bdc4ba/LI
27397         CENSE.md",
27398       "x-copyright": "Copyright 2018-2019 Open Connectivity Foundation, Inc. All rights reserved."
27399     },
27400     "termsOfService": "https://openconnectivityfoundation.github.io/core/DISCLAIMER.md"
27401   },
27402   "schemes": [
27403     "http"
27404   ],
27405   "consumes": [
27406     "application/json"
27407   ],
27408   "produces": [
27409     "application/json"
27410   ],
27411   "paths": {
27412     "/HeartRateResURI": {
27413       "get": {
27414         "description": "This Resource describes the Properties associated with a person's heart
27415         rate.\n The unit, which is the default unit, is bpm.\n The heartrate Property is a read-only value
27416         that is provided by the server.\n When range (from \"oic.r.baseresource\") is omitted the default is
27417         0 to +MAXFLOAT.",
27418         "parameters": [
27419           {
27420             "name": "range",
27421             "in": "query",
27422             "required": false,
27423             "type": "string",
27424             "description": "The range of the heart rate, from 0 to +MAXFLOAT."
27425           }
27426         ]
27427       }
27428     }
27429   }

```

```

27420         "$ref": "#/parameters/interface"
27421     }
27422 ],
27423 "responses": {
27424     "200": {
27425         "description": "",
27426         "x-example": {
27427             "rt": [
27428                 "oic.r.heartrate"
27429             ],
27430             "heartrate": 80
27431         },
27432         "schema": {
27433             "$ref": "#/definitions/HeartRate"
27434         }
27435     }
27436 }
27437 }
27438 },
27439 },
27440 "parameters": {
27441     "interface": {
27442         "in": "query",
27443         "name": "if",
27444         "type": "string",
27445         "enum": [
27446             "oic.if.s",
27447             "oic.if.baseline"
27448         ]
27449     }
27450 },
27451 "definitions": {
27452     "HeartRate": {
27453         "properties": {
27454             "heartrate": {
27455                 "description": "This Property describes the heart rate in bpm.",
27456                 "type": "integer",
27457                 "minimum": 0,
27458                 "readOnly": true
27459             },
27460             "rt": {
27461                 "description": "The Resource Type.",
27462                 "items": {
27463                     "enum": [
27464                         "oic.r.heartrate"
27465                     ],
27466                     "type": "string"
27467                 },
27468                 "minItems": 1,
27469                 "uniqueItems": true,
27470                 "readOnly": true,
27471                 "type": "array"
27472             },
27473             "n": {
27474                 "$ref":
27475                 "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
27476                 schema.json#/definitions/n"
27477             },
27478             "if": {
27479                 "description": "The OCF Interface set supported by this Resource.",
27480                 "items": {
27481                     "enum": [
27482                         "oic.if.s",
27483                         "oic.if.baseline"
27484                     ],
27485                     "type": "string"
27486                 },
27487                 "minItems": 1,
27488                 "uniqueItems": true,
27489                 "readOnly": true,
27490                 "type": "array"
27491             },

```

```

27492     "range": {
27493         "$ref":
27494         "https://openconnectivityfoundation.github.io/IoTDataModels/schemas/oic.baseresource.properties-
27495         schema.json#/definitions/range_integer"
27496     },
27497     "step": {
27498         "$ref":
27499         "https://openconnectivityfoundation.github.io/IoTDataModels/schemas/oic.baseresource.properties-
27500         schema.json#/definitions/step_integer"
27501     }
27502 },
27503 "type": "object",
27504 "required": [
27505     "heartrate"
27506 ]
27507 }
27508 }
27509 }

```

27510 6.136.5 Property definition

27511 Table 275 defines the Properties that are part of the "oic.r.heartrate" Resource Type.

27512 **Table 275 – The Property definitions of the Resource with type "rt" = "oic.r.heartrate".**

Property name	Value type	Mandatory	Access mode	Description
range	multiple types: see schema	No	Read Write	
heartrate	integer	Yes	Read Only	This Property describes the heart rate in bpm.
if	array: see schema	No	Read Only	The OCF Interface set supported by this Resource.
rt	array: see schema	No	Read Only	The Resource Type.
n	multiple types: see schema	No	Read Write	
step	multiple types: see schema	No	Read Write	

27513 6.136.6 CRUDN behaviour

27514 Table 276 defines the CRUDN operations that are supported on the "oic.r.heartrate" Resource
27515 Type.

27516 **Table 276 – The CRUDN operations of the Resource with type "rt" = "oic.r.heartrate".**

Create	Read	Update	Delete	Notify
	get			observe

27517 6.137 Heart Rate Monitor Atomic Measurement Representation

27518 6.137.1 Introduction

27519 This Resource describes the Properties associated with Heart Rate Monitor.

27520 The Resource is an Atomic Measurement of heart rate ("oic.r.heartrate"), observed time
27521 ("oic.r.time.stamp"), and user ID ("oic.r.userid").

27522 6.137.2 Example URI

27523 /HeartRateMonitorAMResURI

27524 **6.137.3 Resource type**

27525 The Resource Type is defined as: "oic.r.heartratemonitor-am, oic.wk.atomicmeasurement".

27526 **6.137.4 OpenAPI 2.0 definition**

```
27527 {
27528   "swagger": "2.0",
27529   "info": {
27530     "title": "Heart Rate Monitor Atomic Measurement Representation",
27531     "version": "2019-03-04",
27532     "license": {
27533       "name": "OCF Data Model License",
27534       "url":
27535 "https://github.com/openconnectivityfoundation/core/blob/e28a9e0a92e17042ba3e83661e4c0fbce8bdc4ba/LI
27536 CENSE.md",
27537       "x-copyright": "Copyright 2018-2019 Open Connectivity Foundation, Inc. All rights reserved."
27538     },
27539     "termsOfService": "https://openconnectivityfoundation.github.io/core/DISCLAIMER.md"
27540   },
27541   "schemes": [
27542     "http"
27543   ],
27544   "consumes": [
27545     "application/json"
27546   ],
27547   "produces": [
27548     "application/json"
27549   ],
27550   "paths": {
27551     "/HeartRateMonitorAMResURI?if=oic.if.b": {
27552       "get": {
27553         "description": "This Resource describes the Properties associated with Heart Rate Monitor.\n
27554 The Resource is an Atomic Measurement of heart rate (\\"oic.r.heartrate\\"), observed time
27555 (\\"oic.r.time.stamp\\"), and user ID (\\"oic.r.userid\\").",
27556         "parameters": [
27557           {
27558             "$ref": "#/parameters/interface-all"
27559           }
27560         ],
27561         "responses": {
27562           "200": {
27563             "description": "",
27564             "x-example": [
27565               {
27566                 "href": "/myHeartrate",
27567                 "rep": {
27568                   "heartrate": 80
27569                 }
27570             },
27571               {
27572                 "href": "/myUserId",
27573                 "rep": {
27574                   "userid": "USER1"
27575                 }
27576             },
27577               {
27578                 "href": "/myTimeStamp",
27579                 "rep": {
27580                   "timestamp": "2018-11-09T12:15:00+08:00"
27581                 }
27582             }
27583           ],
27584           "schema": {
27585             "$ref": "#/definitions/batch-retrieve"
27586           }
27587         }
27588       }
27589     },
27590     "/HeartRateMonitorAMResURI?if=oic.if.ll": {
27591       "get": {
```

```

27593         "description": "This Resource describes the Properties associated with Heart Rate Monitor.\n
27594 The Resource is an Atomic Measurement of heart rate (\\"oic.r.heartrate\\"), observed time
27595 (\\"oic.r.time.stamp\\"), and user ID (\\"oic.r.userid\\").",
27596         "parameters": [
27597             {
27598                 "$ref": "#/parameters/interface-all"
27599             }
27600         ],
27601         "responses": {
27602             "200": {
27603                 "description": "",
27604                 "x-example": [
27605                     {
27606                         "href": "/myHeartrate",
27607                         "rt": [
27608                             "oic.r.heartrate"
27609                         ],
27610                         "if": [
27611                             "oic.if.s",
27612                             "oic.if.baseline"
27613                         ]
27614                     },
27615                     {
27616                         "href": "/myUserId",
27617                         "rt": [
27618                             "oic.r.userid"
27619                         ],
27620                         "if": [
27621                             "oic.if.r",
27622                             "oic.if.baseline"
27623                         ]
27624                     },
27625                     {
27626                         "href": "/myTimeStamp",
27627                         "rt": [
27628                             "oic.r.time.stamp"
27629                         ],
27630                         "if": [
27631                             "oic.if.r",
27632                             "oic.if.baseline"
27633                         ]
27634                     }
27635                 ],
27636                 "schema": {
27637                     "$ref": "#/definitions/links"
27638                 }
27639             }
27640         }
27641     },
27642     "/HeartRateMonitorAMResURI?if=oic.if.baseline": {
27643         "get": {
27644             "description": "This Resource describes the Properties associated with Heart Rate Monitor.\n
27645 The Resource is an Atomic Measurement of heart rate (\\"oic.r.heartrate\\"), observed time
27646 (\\"oic.r.time.stamp\\"), and user ID (\\"oic.r.userid\\").",
27647             "parameters": [
27648                 {
27649                     "$ref": "#/parameters/interface-all"
27650                 }
27651             ],
27652             "responses": {
27653                 "200": {
27654                     "description": "",
27655                     "x-example":
27656                     {
27657                         "rt": [
27658                             "oic.r.heartratemonitor-am",
27659                             "oic.wk.atomicmeasurement"
27660                         ],
27661                         "if": [
27662                             "oic.if.b",
27663                             "oic.if.ll",
27664

```



```

27665         "oic.if.baseline"
27666     ],
27667     "rts-m": [
27668         "oic.r.heartrate"
27669     ],
27670     "rts": [
27671         "oic.r.heartrate",
27672         "oic.r.userid",
27673         "oic.r.time.stamp"
27674     ],
27675     "links": [
27676         {
27677             "href": "/myHeartRateMonitor",
27678             "rt": [
27679                 "oic.r.heartrate"
27680             ],
27681             "if": [
27682                 "oic.if.s",
27683                 "oic.if.baseline"
27684             ]
27685         },
27686         {
27687             "href": "/myUserId",
27688             "rt": [
27689                 "oic.r.userid"
27690             ],
27691             "if": [
27692                 "oic.if.r",
27693                 "oic.if.baseline"
27694             ]
27695         },
27696         {
27697             "href": "/myTimeStamp",
27698             "rt": [
27699                 "oic.r.time.stamp"
27700             ],
27701             "if": [
27702                 "oic.if.r",
27703                 "oic.if.baseline"
27704             ]
27705         }
27706     ]
27707 }
27708
27709     "schema": {
27710         "$ref": "#/definitions/baseline"
27711     }
27712 }
27713 }
27714 }
27715 }
27716 },
27717 "parameters": {
27718     "interface-all": {
27719         "in": "query",
27720         "name": "if",
27721         "type": "string",
27722         "enum": [
27723             "oic.if.b",
27724             "oic.if.ll",
27725             "oic.if.baseline"
27726         ]
27727     }
27728 },
27729 "definitions": {
27730     "batch-retrieve": {
27731         "title": "Collection Batch Retrieve Format",
27732         "minItems": 1,
27733         "items": {
27734             "properties": {
27735                 "href": {
27736                     "$ref":

```

```

27737 "https://openconnectivityfoundation.github.io/core/schemas/oic.links.properties.core-
27738 schema.json#/definitions/href"
27739     },
27740     "rep": {
27741         "type": "object",
27742         "anyOf": [
27743             {
27744                 "$ref":
27745 "https://openconnectivityfoundation.github.io/IoTDataModels/HeartRate.swagger.json#/definitions/HeartRate"
27746             },
27747             {
27748                 "$ref":
27749 "https://openconnectivityfoundation.github.io/IoTDataModels/UserIDResURI.swagger.json#/definitions/UserID"
27750             },
27751             {
27752                 "$ref":
27753 "https://openconnectivityfoundation.github.io/IoTDataModels/TimeStampResURI.swagger.json#/definitions/TimeStamps/TimeStamp"
27754             }
27755         ]
27756     },
27757     "required": [
27758         "href",
27759         "rep"
27760     ],
27761     "type": "object"
27762 },
27763 "type": "array"
27764 },
27765 "links": {
27766     "type": "array",
27767     "items": {
27768         "$ref": "#/definitions/oic.oic-link"
27769     }
27770 },
27771 "baseline": {
27772     "properties": {
27773         "rt": {
27774             "items": {
27775                 "enum": [
27776                     "oic.r.heartratemonitor-am",
27777                     "oic.wk.atomicmeasurement"
27778                 ]
27779             },
27780             "minItems": 2,
27781             "type": "array",
27782             "uniqueItems": true,
27783             "readOnly": true
27784         },
27785         "links": {
27786             "$ref": "#/definitions/links"
27787         },
27788         "n": {
27789             "$ref":
27790 "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-schema.json#/definitions/n"
27791         },
27792         "rts": {
27793             "description": "This Property contains all possible Resource Types for this Atomic Measurement.",
27794             "items": {
27795                 "enum": [
27796                     "oic.r.heartrate",
27797                     "oic.r.userid",
27798                     "oic.r.time.stamp"
27799                 ]
28000             },
28001             "minItems": 1,
28002             "type": "array",

```

```

27809         "uniqueItems": true,
27810         "readOnly": true
27811     },
27812     "rts-m": {
27813         "description": "This Property contains all mandatory Resource Types for this Atomic
27814 Measurement.",
27815         "items": {
27816             "enum": [
27817                 "oic.r.heartrate"
27818             ]
27819         },
27820         "maxItems": 1,
27821         "minItems": 1,
27822         "type": "array",
27823         "readOnly": true,
27824         "uniqueItems": true
27825     },
27826     "if": {
27827         "description": "The OCF Interface set supported by this Resource.",
27828         "items": {
27829             "enum": [
27830                 "oic.if.b",
27831                 "oic.if.ll",
27832                 "oic.if.baseline"
27833             ],
27834             "type": "string"
27835         },
27836         "minItems": 1,
27837         "uniqueItems": true,
27838         "readOnly": true,
27839         "type": "array"
27840     }
27841 },
27842 "type": "object",
27843 "required": [
27844     "rts-m"
27845 ]
27846 },
27847 "oic.oic-link": {
27848     "properties": {
27849         "anchor": {
27850             "$ref":
27851 "https://openconnectivityfoundation.github.io/core/schemas/oic.links.properties.core-
27852 schema.json#/definitions/anchor"
27853         },
27854         "di": {
27855             "$ref":
27856 "https://openconnectivityfoundation.github.io/core/schemas/oic.links.properties.core-
27857 schema.json#/definitions/di"
27858         },
27859         "eps": {
27860             "$ref":
27861 "https://openconnectivityfoundation.github.io/core/schemas/oic.links.properties.core-
27862 schema.json#/definitions/eps"
27863         },
27864         "href": {
27865             "$ref":
27866 "https://openconnectivityfoundation.github.io/core/schemas/oic.links.properties.core-
27867 schema.json#/definitions/href"
27868         },
27869         "if": {
27870             "description": "The OCF Interface set supported by this Resource.",
27871             "items": {
27872                 "enum": [
27873                     "oic.if.baseline",
27874                     "oic.if.s",
27875                     "oic.if.r"
27876                 ],
27877                 "type": "string"
27878             },
27879             "minItems": 1,
27880             "uniqueItems": true,

```

```

27881         "readOnly": true,
27882         "type": "array"
27883     },
27884     "ins": {
27885         "$ref":
27886         "https://openconnectivityfoundation.github.io/core/schemas/oic.links.properties.core-
27887         schema.json#/definitions/ins"
27888     },
27889     "p": {
27890         "$ref":
27891         "https://openconnectivityfoundation.github.io/core/schemas/oic.links.properties.core-
27892         schema.json#/definitions/p"
27893     },
27894     "rel": {
27895         "$ref":
27896         "https://openconnectivityfoundation.github.io/core/schemas/oic.links.properties.core-
27897         schema.json#/definitions/rel_array"
27898     },
27899     "rt": {
27900         "description": "The Resource Type.",
27901         "items": {
27902             "enum": [
27903                 "oic.r.heartrate",
27904                 "oic.r.time.stamp",
27905                 "oic.r.userid"
27906             ],
27907             "type": "string"
27908         },
27909         "minItems": 1,
27910         "uniqueItems": true,
27911         "readOnly": true,
27912         "type": "array"
27913     },
27914     "title": {
27915         "$ref":
27916         "https://openconnectivityfoundation.github.io/core/schemas/oic.links.properties.core-
27917         schema.json#/definitions/title"
27918     },
27919     "type": {
27920         "$ref":
27921         "https://openconnectivityfoundation.github.io/core/schemas/oic.links.properties.core-
27922         schema.json#/definitions/type"
27923     }
27924 },
27925 "required": [
27926     "href",
27927     "rt",
27928     "if"
27929 ],
27930 "type": "object"
27931 }
27932 }
27933 }

```

27934 6.137.5 Property definition

27935 Table 277 defines the Properties that are part of the "oic.r.heartratemonitor-am,
27936 oic.wk.atomicmeasurement" Resource Type.

27937 **Table 277 – The Property definitions of the Resource with type "rt" =**
27938 **"oic.r.heartratemonitor-am, oic.wk.atomicmeasurement".**

Property name	Value type	Mandatory	Access mode	Description
links	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.
rt	array: see schema	No	Read Only	
n	multiple types: see schema	No	Read Write	
rep	object: see schema	Yes	Read Write	
href	multiple types: see schema	Yes	Read Write	
type	multiple types: see schema	No	Read Write	
title	multiple types: see schema	No	Read Write	
ins	multiple types: see schema	No	Read Write	
href	multiple types: see schema	Yes	Read Write	
rel	multiple types: see schema	No	Read Write	
anchor	multiple types: see schema	No	Read Write	
eps	multiple types: see schema	No	Read Write	
di	multiple types: see schema	No	Read Write	
p	multiple types: see schema	No	Read Write	
if	array: see schema	Yes	Read Only	The OCF Interface set supported by this Resource.
rt	array: see schema	Yes	Read Only	The Resource Type.

27939 **6.137.6 CRUDN behaviour**

27940 Table 278 defines the CRUDN operations that are supported on the "oic.r.heartrate-monitor-am,
27941 oic.wk.atomicmeasurement" Resource Type.

27942 **Table 278 – The CRUDN operations of the Resource with type "rt" =**
27943 **"oic.r.heartrate-monitor-am, oic.wk.atomicmeasurement".**

Create	Read	Update	Delete	Notify
	get			observe

27944 **6.138 Pulsatile Characteristic for Pulse Oximeter**

27945 **6.138.1 Introduction**

27946 This Resource describes the Properties associated with a pulsatile characteristic of the pulsative
27947 wave of a Pulse Oximeter.

27948 The characteristic Property is a read-only value that is provided by the server.
27949 When range (from "oic.r.baseresource") is omitted the default is 0 to +MAXFLOAT.

27950 **6.138.2 Example URI**

27951 /PulsatileCharacteristicResURI

27952 **6.138.3 Resource type**

27953 The Resource Type is defined as: "oic.r.pulsatilecharacteristic".

27954 **6.138.4 OpenAPI 2.0 definition**

```
27955 {  
27956   "swagger": "2.0",  
27957   "info": {  
27958     "title": "Pulsatile Characteristic for Pulse Oximeter",  
27959     "version": "2019-03-04",  
27960     "license": {  
27961       "name": "OCF Data Model License",  
27962       "url":  
27963       "https://github.com/openconnectivityfoundation/core/blob/e28a9e0a92e17042ba3e83661e4c0fbce8bdc4ba/LI  
27964       CENSE.md",  
27965       "x-copyright": "Copyright 2018-2019 Open Connectivity Foundation, Inc. All rights reserved."  
27966     },  
27967     "termsOfService": "https://openconnectivityfoundation.github.io/core/DISCLAIMER.md"  
27968   },  
27969   "schemes": [  
27970     "http"  
27971   ],  
27972   "consumes": [  
27973     "application/json"  
27974   ],  
27975   "produces": [  
27976     "application/json"  
27977   ],  
27978   "paths": {  
27979     "/PulsatileCharacteristicResURI": {  
27980       "get": {  
27981         "description": "This Resource describes the Properties associated with a pulsatile  
27982         characteristic of the pulsative wave of a Pulse Oximeter.\n The characteristic Property is a read-  
27983         only value that is provided by the server.\n When range (from \"oic.r.baseresource\") is omitted the  
27984         default is 0 to +MAXFLOAT.",  
27985         "parameters": [  
27986           {  
27987             "$ref": "#/parameters/interface"  
27988           }  
27989         ],  
27990         "responses": {  
27991           "200": {  
27992             "description": "",  
27993             "x-example": {  
27994               "rt": [  
27995                 "oic.r.pulsatilecharacteristic"  
27996               ],  
27997               "characteristic": 1  
27998             },  
27999             "schema": {  
28000               "$ref": "#/definitions/pulsatilecharacteristic"  
28001             }  
28002           }  
28003         }  
28004       }  
28005     }  
28006   },
```

```

28007     "parameters": {
28008       "interface": {
28009         "in": "query",
28010         "name": "if",
28011         "type": "string",
28012         "enum": [
28013           "oic.if.s",
28014           "oic.if.baseline"
28015         ]
28016       }
28017     },
28018     "definitions": {
28019       "pulsatilecharacteristic": {
28020         "properties": {
28021           "characteristic": {
28022             "description": "This Property describes the current pulsatile characteristic measurement.
28023 The value is an integer bit mapped value. The following describes what each integer means. 0 -
28024 Quality of the detected pulse is nominal, in that there are no recognized abnormalities in the
28025 detected pulse. 1 - Perfusion or quality of the detected pulse is marginal. 2 - Perfusion or quality
28026 of the detected pulse is minimal. 3 - Perfusion or quality of the detected pulse is unacceptable.",
28027             "type": "integer",
28028             "minimum": 0,
28029             "maximum": 3,
28030             "readOnly": true
28031           },
28032           "rt": {
28033             "description": "The Resource Type.",
28034             "items": {
28035               "enum": [
28036                 "oic.r.pulsatilecharacteristic"
28037               ],
28038               "type": "string"
28039             },
28040             "minItems": 1,
28041             "uniqueItems": true,
28042             "readOnly": true,
28043             "type": "array"
28044           },
28045           "n": {
28046             "$ref":
28047 "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
28048 schema.json#/definitions/n"
28049           },
28050           "if": {
28051             "description": "The OCF Interface set supported by this Resource.",
28052             "items": {
28053               "enum": [
28054                 "oic.if.s",
28055                 "oic.if.baseline"
28056               ],
28057               "type": "string"
28058             },
28059             "minItems": 1,
28060             "uniqueItems": true,
28061             "readOnly": true,
28062             "type": "array"
28063           },
28064           "range": {
28065             "$ref":
28066 "https://openconnectivityfoundation.github.io/IoTDataModels/schemas/oic.baseresource.properties-
28067 schema.json#/definitions/range_integer"
28068           },
28069           "step": {
28070             "$ref":
28071 "https://openconnectivityfoundation.github.io/IoTDataModels/schemas/oic.baseresource.properties-
28072 schema.json#/definitions/step_integer"
28073           }
28074         },
28075         "type": "object",
28076         "required": [
28077           "characteristic"
28078         ]

```

28079 }
 28080 }
 28081 }

28082 **6.138.5 Property definition**

28083 Table 279 defines the Properties that are part of the "oic.r.pulsatilecharacteristic" Resource Type.

28084 **Table 279 – The Property definitions of the Resource with type "rt" =**
 28085 **"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.
step	multiple types: see schema	No	Read Write	
range	multiple types: see schema	No	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.

28086 **6.138.6 CRUDN behaviour**

28087 Table 280 defines the CRUDN operations that are supported on the "oic.r.pulsatilecharacteristic"
28088 Resource Type.

28089 **Table 280 – The CRUDN operations of the Resource with type "rt" =**
28090 **"oic.r.pulsatilecharacteristic".**

Create	Read	Update	Delete	Notify
	get			observe

28091 **6.139 Pulsatile Occurrence for Pulse Oximeter**

28092 **6.139.1 Introduction**

28093 This Resource describes the Properties associated with a Pulsatile Occurrence detected by a
28094 Pulse Oximeter.

28095 The occurrence Property is a read-only value that is provided by the server.

28096 When range (from "oic.r.baseresource") is omitted the default is 0 to +MAXFLOAT.

28097 **6.139.2 Example URI**

28098 /PulsatileOccurrenceResURI

28099 **6.139.3 Resource type**

28100 The Resource Type is defined as: "oic.r.pulsatileoccurrence".

28101 **6.139.4 OpenAPI 2.0 definition**

```
28102 {  
28103   "swagger": "2.0",  
28104   "info": {  
28105     "title": "Pulsatile Occurrence for Pulse Oximeter",  
28106     "version": "2019-03-04",  
28107     "license": {  
28108       "name": "OCF Data Model License",  
28109       "url":  
28110       "https://github.com/openconnectivityfoundation/core/blob/e28a9e0a92e17042ba3e83661e4c0fbce8bdc4ba/LI  
28111       CENSE.md",  
28112       "x-copyright": "Copyright 2018-2019 Open Connectivity Foundation, Inc. All rights reserved."  
28113     },  
28114     "termsOfService": "https://openconnectivityfoundation.github.io/core/DISCLAIMER.md"  
28115   },  
28116   "schemes": [  
28117     "http"  
28118   ],  
28119   "consumes": [  
28120     "application/json"  
28121   ],  
28122   "produces": [  
28123     "application/json"  
28124   ],  
28125   "paths": {  
28126     "/PulsatileOccurrenceResURI": {  
28127       "get": {  
28128         "description": "This Resource describes the Properties associated with a Pulsatile  
28129         Occurrence detected by a Pulse Oximeter.\n The occurrence Property is a read-only value that is  
28130         provided by the server.\n When range (from \"oic.r.baseresource\") is omitted the default is 0 to  
28131         +MAXFLOAT.",  
28132         "parameters": [  
28133           {  
28134             "$ref": "#/parameters/interface"  
28135           }  
28136         ],  
28137         "responses": {  
28138           "200": {  
28139             "description": "",  
28140             "x-example": {  
28141               "rt": [  

```

```

28142         "oic.r.pulsatileoccurrence"
28143     ],
28144     "occurrence": "BEAT"
28145 },
28146     "schema": {
28147         "$ref": "#/definitions/pulsatileoccurrence"
28148     }
28149 }
28150 }
28151 }
28152 },
28153 },
28154 "parameters": {
28155     "interface": {
28156         "in": "query",
28157         "name": "if",
28158         "type": "string",
28159         "enum": [
28160             "oic.if.s",
28161             "oic.if.baseline"
28162         ]
28163     }
28164 },
28165 "definitions": {
28166     "pulsatileoccurrence": {
28167         "properties": {
28168             "occurrence": {
28169                 "type": "string",
28170                 "readOnly": true,
28171                 "enum": [
28172                     "BEAT",
28173                     "BEAT_MAX_INRUSH",
28174                     "NOS"
28175                 ],
28176                 "description": "This Property describes the Pulsatile Occurrence detected by a Pulse
28177 Oximeter. BEAT - Pulsatile occurrence has occurred. BEAT_MAX_INRUSH - Maximal inrush of the
28178 pulsatile wave has occurred. NOS - No pulsatile event occurred.",
28179                 "default": "NOS"
28180             },
28181             "rt": {
28182                 "description": "The Resource Type.",
28183                 "items": {
28184                     "enum": [
28185                         "oic.r.pulsatileoccurrence"
28186                     ],
28187                     "type": "string"
28188                 },
28189                 "minItems": 1,
28190                 "uniqueItems": true,
28191                 "readOnly": true,
28192                 "type": "array"
28193             },
28194             "n": {
28195                 "$ref":
28196 "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
28197 schema.json#/definitions/n"
28198             },
28199             "if": {
28200                 "description": "The OCF Interface set supported by this Resource.",
28201                 "items": {
28202                     "enum": [
28203                         "oic.if.s",
28204                         "oic.if.baseline"
28205                     ],
28206                     "type": "string"
28207                 },
28208                 "minItems": 1,
28209                 "uniqueItems": true,
28210                 "readOnly": true,
28211                 "type": "array"
28212             }
28213         },

```

```

28214     "type": "object",
28215     "required": [
28216         "occurrence"
28217     ]
28218 }
28219 }
28220 }

```

28221 6.139.5 Property definition

28222 Table 281 defines the Properties that are part of the "oic.r.pulsatileoccurrence" Resource Type.

28223 **Table 281 – The Property definitions of the Resource with type "rt" =**
28224 **"oic.r.pulsatileoccurrence".**

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

28225 6.139.6 CRUDN behaviour

28226 Table 282 defines the CRUDN operations that are supported on the "oic.r.pulsatileoccurrence"
28227 Resource Type.

28228 **Table 282 – The CRUDN operations of the Resource with type "rt" =**
28229 **"oic.r.pulsatileoccurrence".**

Create	Read	Update	Delete	Notify
	get			observe

28230 6.140 Pulse Oximeter Atomic Measurement Representation

28231 6.140.1 Introduction

28232 This Resource describes the Properties associated with Pulse Oximeter.
28233 The Resource is an Atomic Measurement of SpO2 ("oic.r.spo2"), pulse rate ("oic.r.pulserate"),
28234 pulsatile characteristic ("oic.r.pulsatilecharacteristic"), pulsatileoccurrence
28235 ("oic.r.pulsatileoccurrence"), observed time ("oic.r.time.stamp"), and user ID ("oic.r.userid").

28236 6.140.2 Example URI

28237 /PulseOximeterAMResURI

28238 6.140.3 Resource type

28239 The Resource Type is defined as: "oic.r.pulseoximeter-am, oic.wk.atomicmeasurement".

28240 6.140.4 OpenAPI 2.0 definition

```
28241 {
28242   "swagger": "2.0",
28243   "info": {
28244     "title": "Pulse Oximeter Atomic Measurement Representation",
28245     "version": "2019-03-04",
28246     "license": {
28247       "name": "OCF Data Model License",
28248       "url":
28249         "https://github.com/openconnectivityfoundation/core/blob/e28a9e0a92e17042ba3e83661e4c0fbce8bdc4ba/LI
28250 CENSE.md",
28251       "x-copyright": "Copyright 2018-2019 Open Connectivity Foundation, Inc. All rights reserved."
28252     },
28253     "termsOfService": "https://openconnectivityfoundation.github.io/core/DISCLAIMER.md"
28254   },
28255   "schemes": [
28256     "http"
28257   ],
28258   "consumes": [
28259     "application/json"
28260   ],
28261   "produces": [
28262     "application/json"
28263   ],
28264   "paths": {
28265     "/PulseOximeterAMResURI?if=oic.if.b": {
28266       "get": {
28267         "description": "This Resource describes the Properties associated with Pulse Oximeter.\n The
28268 Resource is an Atomic Measurement of SpO2 (\\"oic.r.spo2\\"), pulse rate (\\"oic.r.pulserate\\"),
28269 pulsatile characteristic (\\"oic.r.pulsatilecharacteristic\\"), pulsatileoccurrence
28270 (\\"oic.r.pulsatileoccurrence\\"), observed time (\\"oic.r.time.stamp\\"), and user ID
28271 (\\"oic.r.userid\\").",
28272         "parameters": [
28273           {
28274             "$ref": "#/parameters/interface-all"
28275           }
28276         ],
28277         "responses": {
28278           "200": {
28279             "description": "",
28280             "x-example": [
28281               {
28282                 "href": "/mySpO2",
28283                 "rep": {
28284                   "spo2": 99.0,
28285                   "perfusion": 20.0
28286                 }
28287               },
28288               {
28289                 "href": "/myPulseRate",
28290                 "rep": {
28291                   "pulserate": 80
28292                 }
28293               },
28294               {
28295                 "href": "/myPulsatileOccurrence",
28296                 "rep": {
28297                   "occurrence": "BEAT"
28298                 }
28299               },
28300               {
28301                 "href": "/myPulsatileCharacteristic",
28302                 "rep": {
28303                   "characteristic": 1
28304                 }
28305               },
28306               {
28307                 "href": "/myUserId",
28308                 "rep": {
28309                   "userid": "USER1"
28310                 }
28311             ]
28312           }
28313         }
28314       }
28315     }
28316   }
28317 }
```

```

28311         },
28312         {
28313             "href": "/myTimeStamp",
28314             "rep": {
28315                 "timestamp": "2018-11-09T12:15:00+08:00"
28316             }
28317         }
28318     ],
28319     "schema": {
28320         "$ref": "#/definitions/batch-retrieve"
28321     }
28322 }
28323 }
28324 }
28325 },
28326 "/PulseOximeterAMResURI?if=oic.if.ll": {
28327     "get": {
28328         "description": "This Resource describes the Properties associated with Pulse Oximeter.\n The
28329 Resource is an Atomic Measurement of SpO2 (\\"oic.r.spo2\\"), pulse rate (\\"oic.r.pulserate\\"),
28330 pulsatile characteristic (\\"oic.r.pulsatilecharacteristic\\"), pulsatileoccurrence
28331 (\\"oic.r.pulsatileoccurrence\\"), observed time (\\"oic.r.time.stamp\\"), and user ID
28332 (\\"oic.r.userid\\").",
28333         "parameters": [
28334             {
28335                 "$ref": "#/parameters/interface-all"
28336             }
28337         ],
28338         "responses": {
28339             "200": {
28340                 "description": "",
28341                 "x-example": [
28342                     {
28343                         "href": "/mySpO2",
28344                         "rt": [
28345                             "oic.r.spo2"
28346                         ],
28347                         "if": [
28348                             "oic.if.s",
28349                             "oic.if.baseline"
28350                         ]
28351                     },
28352                     {
28353                         "href": "/myPulseRate",
28354                         "rt": [
28355                             "oic.r.pulserate"
28356                         ],
28357                         "if": [
28358                             "oic.if.s",
28359                             "oic.if.baseline"
28360                         ]
28361                     }
28362                 ],
28363                 {
28364                     "href": "/myPulsatileOccurrence",
28365                     "rt": [
28366                         "oic.r.pulsatileoccurrence"
28367                     ],
28368                     "if": [
28369                         "oic.if.s",
28370                         "oic.if.baseline"
28371                     ]
28372                 },
28373                 {
28374                     "href": "/myPulsatileCharacteristic",
28375                     "rt": [
28376                         "oic.r.pulsatilecharacteristic"
28377                     ],
28378                     "if": [
28379                         "oic.if.s",
28380                         "oic.if.baseline"
28381                     ]
28382                 }
28383             ]
28384         }
28385     }
28386 }

```

```

28383         "href": "/myUserId",
28384         "rt": [
28385             "oic.r.userid"
28386         ],
28387         "if": [
28388             "oic.if.r",
28389             "oic.if.baseline"
28390         ]
28391     },
28392     {
28393         "href": "/myTimeStamp",
28394         "rt": [
28395             "oic.r.time.stamp"
28396         ],
28397         "if": [
28398             "oic.if.r",
28399             "oic.if.baseline"
28400         ]
28401     }
28402 ],
28403 "schema": {
28404     "$ref": "#/definitions/links"
28405 }
28406 }
28407 }
28408 }
28409 },
28410 "/PulseOximeterAMResURI?if=oic.if.baseline": {
28411     "get": {
28412         "description": "This Resource describes the Properties associated with Pulse Oximeter.\n The
28413 Resource is an Atomic Measurement of SpO2 (\\"oic.r.spo2\\"), pulse rate (\\"oic.r.pulserate\\"),
28414 pulsatile characteristic (\\"oic.r.pulsatilecharacteristic\\"), pulsatileoccurrence
28415 (\\"oic.r.pulsatileoccurrence\\"), observed time (\\"oic.r.time.stamp\\"), and user ID
28416 (\\"oic.r.userid\").",
28417         "parameters": [
28418             {
28419                 "$ref": "#/parameters/interface-all"
28420             }
28421         ],
28422         "responses": {
28423             "200": {
28424                 "description": "",
28425                 "x-example":
28426                 {
28427                     "rt": [
28428                         "oic.r.pulseoximeter-am",
28429                         "oic.wk.atomicmeasurement"
28430                     ],
28431                     "if": [
28432                         "oic.if.b",
28433                         "oic.if.ll",
28434                         "oic.if.baseline"
28435                     ],
28436                     "rts-m": [
28437                         "oic.r.spo2",
28438                         "oic.r.pulserate"
28439                     ],
28440                     "rts": [
28441                         "oic.r.spo2",
28442                         "oic.r.pulserate",
28443                         "oic.r.pulsatileoccurrence",
28444                         "oic.r.pulsatilecharacteristic",
28445                         "oic.r.userid",
28446                         "oic.r.time.stamp"
28447                     ],
28448                     "links": [
28449                         {
28450                             "href": "/mySpO2",
28451                             "rt": [
28452                                 "oic.r.spo2"
28453                             ],
28454                             "if": [

```

```

28455         "oic.if.s",
28456         "oic.if.baseline"
28457     ]
28458 },
28459 {
28460     "href": "/myPulseRate",
28461     "rt": [
28462         "oic.r.pulserate"
28463     ],
28464     "if": [
28465         "oic.if.s",
28466         "oic.if.baseline"
28467     ]
28468 },
28469 {
28470     "href": "/myPulsatileOccurrence",
28471     "rt": [
28472         "oic.r.pulsatileoccurrence"
28473     ],
28474     "if": [
28475         "oic.if.s",
28476         "oic.if.baseline"
28477     ]
28478 },
28479 {
28480     "href": "/myPulsatileCharacteristic",
28481     "rt": [
28482         "oic.r.pulsatilecharacteristic"
28483     ],
28484     "if": [
28485         "oic.if.s",
28486         "oic.if.baseline"
28487     ]
28488 },
28489 {
28490     "href": "/myUserId",
28491     "rt": [
28492         "oic.r.userid"
28493     ],
28494     "if": [
28495         "oic.if.r",
28496         "oic.if.baseline"
28497     ]
28498 },
28499 {
28500     "href": "/myTimeStamp",
28501     "rt": [
28502         "oic.r.time.stamp"
28503     ],
28504     "if": [
28505         "oic.if.r",
28506         "oic.if.baseline"
28507     ]
28508 }
28509 ]
28510 },
28511 "schema": {
28512     "$ref": "#/definitions/baseline"
28513 }
28514 }
28515 }
28516 }
28517 }
28518 },
28519 "parameters": {
28520     "interface-all": {
28521         "in": "query",
28522         "name": "if",
28523         "type": "string",
28524         "enum": [
28525             "oic.if.b",
28526             "oic.if.ll",

```

```

28527         "oic.if.baseline"
28528     ]
28529 }
28530 },
28531 "definitions": {
28532     "batch-retrieve": {
28533         "title": "Collection Batch Retrieve Format",
28534         "minItems": 1,
28535         "items": {
28536             "additionalProperties": true,
28537             "properties": {
28538                 "href": {
28539                     "$ref":
28540 "https://openconnectivityfoundation.github.io/core/schemas/oic.links.properties.core-
28541 schema.json#/definitions/href"
28542                 },
28543                 "rep": {
28544                     "type": "object",
28545                     "anyOf": [
28546                         {
28547                             "$ref":
28548 "https://openconnectivityfoundation.github.io/IoTDataModels/SpO2.swagger.json#/definitions/SpO2"
28549                         },
28550                         {
28551                             "$ref":
28552 "https://openconnectivityfoundation.github.io/IoTDataModels/PulseRateResURI.swagger.json#/definition
28553 s/PulseRate"
28554                         },
28555                         {
28556                             "$ref":
28557 "https://openconnectivityfoundation.github.io/IoTDataModels/PulsatileCharacteristic.swagger.json#/de
28558 finitions/pulsatilecharacteristic"
28559                         },
28560                         {
28561                             "$ref":
28562 "https://openconnectivityfoundation.github.io/IoTDataModels/PulsatileOccurrence.swagger.json#/defini
28563 tions/pulsatileoccurrence"
28564                         },
28565                         {
28566                             "$ref":
28567 "https://openconnectivityfoundation.github.io/IoTDataModels/UserIDResURI.swagger.json#/definitions/U
28568 serID"
28569                         },
28570                         {
28571                             "$ref":
28572 "https://openconnectivityfoundation.github.io/IoTDataModels/TimeStampResURI.swagger.json#/definition
28573 s/TimeStamp"
28574                         }
28575                     ]
28576                 }
28577             },
28578             "required": [
28579                 "href",
28580                 "rep"
28581             ],
28582             "type": "object"
28583         },
28584         "type": "array"
28585     },
28586     "links": {
28587         "type": "array",
28588         "items": {
28589             "$ref": "#/definitions/oic.oic-link"
28590         }
28591     },
28592     "baseline": {
28593         "properties": {
28594             "rt": {
28595                 "items": {
28596                     "enum": [
28597                         "oic.r.pulseoximeter-am",
28598                         "oic.wk.atomicmeasurement"

```



```

28599     ]
28600   },
28601   "minItems": 2,
28602   "type": "array",
28603   "uniqueItems": true,
28604   "readOnly": true
28605 },
28606 "links": {
28607   "$ref": "#/definitions/links"
28608 },
28609 "n": {
28610   "$ref":
28611 "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
28612 schema.json#/definitions/n"
28613 },
28614 "rts": {
28615   "description": "This Property contains all possible Resource Types for this Atomic
28616 Measurement.",
28617   "items": {
28618     "enum": [
28619       "oic.r.spo2",
28620       "oic.r.pulserate",
28621       "oic.r.pulsatilecharacteristic",
28622       "oic.r.pulsatileoccurrence",
28623       "oic.r.time.stamp",
28624       "oic.r.userid"
28625     ]
28626   },
28627   "minItems": 1,
28628   "type": "array",
28629   "uniqueItems": true
28630 },
28631 "rts-m": {
28632   "description": "This Property contains all mandatory Resource Types for this Atomic
28633 Measurement.",
28634   "items": {
28635     "enum": [
28636       "oic.r.spo2",
28637       "oic.r.pulserate"
28638     ]
28639   },
28640   "maxItems": 2,
28641   "minItems": 2,
28642   "type": "array",
28643   "readOnly": true,
28644   "uniqueItems": true
28645 },
28646 "if": {
28647   "description": "The OCF Interface set supported by this Resource.",
28648   "items": {
28649     "enum": [
28650       "oic.if.b",
28651       "oic.if.ll",
28652       "oic.if.baseline"
28653     ],
28654     "type": "string"
28655   },
28656   "minItems": 1,
28657   "uniqueItems": true,
28658   "readOnly": true,
28659   "type": "array"
28660 }
28661 },
28662 "type": "object",
28663 "required": [
28664   "rts-m"
28665 ]
28666 },
28667 "oic.oic-link": {
28668   "properties": {
28669     "anchor": {
28670       "$ref":

```

```

28671 "https://openconnectivityfoundation.github.io/core/schemas/oic.links.properties.core-
28672 schema.json#/definitions/anchor"
28673 },
28674 "di": {
28675   "$ref":
28676   "https://openconnectivityfoundation.github.io/core/schemas/oic.links.properties.core-
28677   schema.json#/definitions/di"
28678 },
28679 "eps": {
28680   "$ref":
28681   "https://openconnectivityfoundation.github.io/core/schemas/oic.links.properties.core-
28682   schema.json#/definitions/eps"
28683 },
28684 "href": {
28685   "$ref":
28686   "https://openconnectivityfoundation.github.io/core/schemas/oic.links.properties.core-
28687   schema.json#/definitions/href"
28688 },
28689 "if": {
28690   "description": "The interface set supported by this resource",
28691   "items": {
28692     "enum": [
28693       "oic.if.baseline",
28694       "oic.if.s",
28695       "oic.if.r"
28696     ],
28697     "type": "string"
28698   },
28699   "minItems": 1,
28700   "type": "array"
28701 },
28702 "ins": {
28703   "$ref":
28704   "https://openconnectivityfoundation.github.io/core/schemas/oic.links.properties.core-
28705   schema.json#/definitions/ins"
28706 },
28707 "p": {
28708   "$ref":
28709   "https://openconnectivityfoundation.github.io/core/schemas/oic.links.properties.core-
28710   schema.json#/definitions/p"
28711 },
28712 "rel": {
28713   "$ref":
28714   "https://openconnectivityfoundation.github.io/core/schemas/oic.links.properties.core-
28715   schema.json#/definitions/rel_array"
28716 },
28717 "rt": {
28718   "description": "The Resource Type.",
28719   "items": {
28720     "enum": [
28721       "oic.r.spo2",
28722       "oic.r.pulserate",
28723       "oic.r.pulsatilecharacteristic",
28724       "oic.r.pulsatileoccurrence",
28725       "oic.r.time.stamp",
28726       "oic.r.userid"
28727     ],
28728     "type": "string"
28729   },
28730   "minItems": 1,
28731   "uniqueItems": true,
28732   "readOnly": true,
28733   "type": "array"
28734 },
28735 "title": {
28736   "$ref":
28737   "https://openconnectivityfoundation.github.io/core/schemas/oic.links.properties.core-
28738   schema.json#/definitions/title"
28739 },
28740 "type": {
28741   "$ref":
28742   "https://openconnectivityfoundation.github.io/core/schemas/oic.links.properties.core-

```

```

28743 schema.json#/definitions/type"
28744     }
28745     },
28746     "required": [
28747         "href",
28748         "rt",
28749         "if"
28750     ],
28751     "type": "object"
28752 }
28753 }
28754 }

```

28755 6.140.5 Property definition

28756 Table 283 defines the Properties that are part of the "oic.r.pulseoximeter-am,
28757 oic.wk.atomicmeasurement" Resource Type.

28758 **Table 283 – The Property definitions of the Resource with type "rt" = "oic.r.pulseoximeter-
28759 am, oic.wk.atomicmeasurement".**

Property name	Value type	Mandatory	Access mode	Description
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.
rt	array: see schema	No	Read Only	
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.
href	multiple types: see schema	Yes	Read Write	
rep	object: see schema	Yes	Read Write	
rt	array: see schema	Yes	Read Only	The Resource Type.
eps	multiple types: see schema	No	Read Write	
ins	multiple types: see schema	No	Read Write	
type	multiple types: see schema	No	Read Write	
anchor	multiple types: see schema	No	Read Write	
title	multiple types: see schema	No	Read Write	

rel	multiple types: see schema	No	Read Write	
p	multiple types: see schema	No	Read Write	
di	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

28760 **6.140.6 CRUDN behaviour**

28761 Table 284 defines the CRUDN operations that are supported on the "oic.r.pulseoximeter-am,
28762 oic.wk.atomicmeasurement" Resource Type.

28763 **Table 284 – The CRUDN operations of the Resource with type "rt" = "oic.r.pulseoximeter-
28764 am, oic.wk.atomicmeasurement".**

Create	Read	Update	Delete	Notify
	get			observe

28765 **6.141 Sleep**

28766 **6.141.1 Introduction**

28767 This Resource describes the Properties associated with Sleep.
28768 Sleep shows the time spent in each of the sleep stages (awake, nrem1, nrem2, nrem3, nrem4,
28769 rem, light sleep, deep sleep), along with a sleep score indicating the quality of sleep.

28770 **6.141.2 Example URI**

28771 /SleepResURI

28772 **6.141.3 Resource type**

28773 The Resource Type is defined as: "oic.r.sleep".

28774 **6.141.4 OpenAPI 2.0 definition**

```

28775 {
28776   "swagger": "2.0",
28777   "info": {
28778     "title": "Sleep",
28779     "version": "2018-07-12",
28780     "license": {
28781       "name": "OCF Data Model License",
28782       "url":
28783 "https://github.com/openconnectivityfoundation/core/blob/e28a9e0a92e17042ba3e83661e4c0fbce8bdc4ba/LI
28784 CENSE.md",
28785       "x-copyright": "Copyright 2018-2019 Open Connectivity Foundation, Inc. All rights reserved."
28786     },
28787     "termsOfService": "https://openconnectivityfoundation.github.io/core/DISCLAIMER.md"
28788   },
28789   "schemes": [
28790     "http"
28791   ],
28792   "consumes": [
28793     "application/json"
28794   ],
28795   "produces": [
28796     "application/json"
28797   ],
28798   "paths": {
28799     "/SleepResURI": {
28800       "get": {

```

```

28801     "description": "This Resource describes the Properties associated with Sleep.\nSleep shows
28802 the time spent in each of the sleep stages (awake, nrem1, nrem2, nrem3, nrem4, rem, light sleep,
28803 deep sleep), along with a sleep score indicating the quality of sleep.",
28804     "parameters": [
28805         {
28806             "$ref": "#/parameters/interface"
28807         }
28808     ],
28809     "responses": {
28810         "200": {
28811             "description": "Retrieves the sleep information.",
28812             "x-example": {
28813                 "rt": [
28814                     "oic.r.sleep"
28815                 ],
28816                 "if": [
28817                     "oic.if.s",
28818                     "oic.if.baseline"
28819                 ],
28820                 "awake": 1440,
28821                 "nrem1": 1440,
28822                 "nrem2": 14400,
28823                 "nrem3": 1440,
28824                 "nrem4": 4320,
28825                 "rem": 5760,
28826                 "lightsleep": 15840,
28827                 "deepsleep": 5760,
28828                 "sleepscore": 70.0
28829             },
28830             "schema": {
28831                 "$ref": "#/definitions/Sleep"
28832             }
28833         }
28834     }
28835 }
28836 }
28837 },
28838 "parameters": {
28839     "interface": {
28840         "in": "query",
28841         "name": "if",
28842         "type": "string",
28843         "enum": [
28844             "oic.if.s",
28845             "oic.if.baseline"
28846         ]
28847     }
28848 },
28849 "definitions": {
28850     "Sleep": {
28851         "properties": {
28852             "awake": {
28853                 "type": "integer",
28854                 "minimum": 0,
28855                 "readOnly": true,
28856                 "description": "Time spent in Awake stage (in seconds)"
28857             },
28858             "nrem1": {
28859                 "type": "integer",
28860                 "minimum": 0,
28861                 "readOnly": true,
28862                 "description": "Time spent in Non Rapid Eye Movement stage 1 (in seconds)"
28863             },
28864             "nrem2": {
28865                 "type": "integer",
28866                 "minimum": 0,
28867                 "readOnly": true,
28868                 "description": "Time spent in Non Rapid Eye Movement stage 2 (in seconds)"
28869             },
28870             "nrem3": {
28871                 "type": "integer",
28872                 "minimum": 0,

```

```

28873         "readOnly": true,
28874         "description": "Time spent in Non Rapid Eye Movement stage 3 (in seconds)"
28875     },
28876     "nrem4": {
28877         "type": "integer",
28878         "minimum": 0,
28879         "readOnly": true,
28880         "description": "Time spent in Non Rapid Eye Movement stage 4 (in seconds)"
28881     },
28882     "rem": {
28883         "type": "integer",
28884         "minimum": 0,
28885         "readOnly": true,
28886         "description": "Time spent in Rapid Eye Movement (in seconds)"
28887     },
28888     "lightsleep": {
28889         "type": "integer",
28890         "minimum": 0,
28891         "readOnly": true,
28892         "description": "Time spent in Light Sleep stage, consisting in NREM stages 1 and 2 (in
28893 seconds)"
28894     },
28895     "deepsleep": {
28896         "type": "integer",
28897         "minimum": 0,
28898         "readOnly": true,
28899         "description": "Time spent in Deep Sleep stage, consisting in NREM stages 3 and 4 (in
28900 seconds)"
28901     },
28902     "sleepscore": {
28903         "type": "number",
28904         "minimum": 0,
28905         "readOnly": true,
28906         "description": "Score computed from the time spent in each sleep stage, indicative of the
28907 quality of sleep"
28908     },
28909     "if": {
28910         "description": "The Interface set supported by this Resource",
28911         "type": "array",
28912         "minItems": 1,
28913         "uniqueItems": true,
28914         "readOnly": true,
28915         "items": {
28916             "type": "string",
28917             "enum": [
28918                 "oic.if.s",
28919                 "oic.if.baseline"
28920             ]
28921         }
28922     },
28923     "rt": {
28924         "description": "Resource Type",
28925         "type": "array",
28926         "minItems": 1,
28927         "uniqueItems": true,
28928         "readOnly": true,
28929         "items": {
28930             "type": "string",
28931             "enum": [
28932                 "oic.r.sleep"
28933             ]
28934         }
28935     },
28936     "n": {
28937         "$ref":
28938         "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
28939         schema.json#/definitions/n"
28940     },
28941     "range_phases": {
28942         "$ref":
28943         "https://openconnectivityfoundation.github.io/IoTDataModels/schemas/oic.baseresource.properties-
28944         schema.json#/definitions/range_integer"

```

```

28945     },
28946     "step_phases": {
28947       "$ref":
28948       "https://openconnectivityfoundation.github.io/IoTDataModels/schemas/oic.baseresource.properties-
28949       schema.json#/definitions/step_integer"
28950     },
28951     "range_score": {
28952       "$ref":
28953       "https://openconnectivityfoundation.github.io/IoTDataModels/schemas/oic.baseresource.properties-
28954       schema.json#/definitions/range_number"
28955     },
28956     "step_score": {
28957       "$ref":
28958       "https://openconnectivityfoundation.github.io/IoTDataModels/schemas/oic.baseresource.properties-
28959       schema.json#/definitions/step_number"
28960     },
28961     "precision": {
28962       "$ref":
28963       "https://openconnectivityfoundation.github.io/IoTDataModels/schemas/oic.baseresource.properties-
28964       schema.json#/definitions/precision"
28965     }
28966   },
28967   "type": "object",
28968   "required": [
28969     "awake",
28970     "nrem1",
28971     "nrem2",
28972     "nrem3",
28973     "rem"
28974   ]
28975 }
28976 }
28977 }

```

28978 6.141.5 Property definition

28979 Table 285 defines the Properties that are part of the "oic.r.sleep" Resource Type.

28980 **Table 285 – The Property definitions of the Resource with type "rt" = "oic.r.sleep".**

Property name	Value type	Mandatory	Access mode	Description
range_phases	multiple types: see schema	No	Read Write	
deepsleep	integer	No	Read Only	Time spent in Deep Sleep stage, consisting in NREM stages 3 and 4 (in seconds)
awake	integer	Yes	Read Only	Time spent in Awake stage (in seconds)
nrem3	integer	Yes	Read Only	Time spent in Non Rapid Eye Movement stage 3 (in seconds)
range_score	multiple types: see schema	No	Read Write	
precision	multiple types: see schema	No	Read Write	
sleepscore	number	No	Read Only	Score computed from the time spent in each sleep stage,

				indicative of the quality of sleep
lightsleep	integer	No	Read Only	Time spent in Light Sleep stage, consisting in NREM stages 1 and 2 (in seconds)
n	multiple types: see schema	No	Read Write	
rem	integer	Yes	Read Only	Time spent in Rapid Eye Movement (in seconds)
nrem2	integer	Yes	Read Only	Time spent in Non Rapid Eye Movement stage 2 (in seconds)
step_score	multiple types: see schema	No	Read Write	
if	array: see schema	No	Read Only	The Interface set supported by this Resource
step_phases	multiple types: see schema	No	Read Write	
nrem4	integer	No	Read Only	Time spent in Non Rapid Eye Movement stage 4 (in seconds)
rt	array: see schema	No	Read Only	Resource Type
nrem1	integer	Yes	Read Only	Time spent in Non Rapid Eye Movement stage 1 (in seconds)

28981 **6.141.6 CRUDN behaviour**

28982 Table 286 defines the CRUDN operations that are supported on the "oic.r.sleep" Resource Type.

28983 **Table 286 – The CRUDN operations of the Resource with type "rt" = "oic.r.sleep".**

Create	Read	Update	Delete	Notify
	get			observe

28984 **6.142 Sleep Monitor Atomic Measurement Batch Representation**

28985 **6.142.1 Introduction**

28986 This Resource describes the Properties associated with Sleep Monitor.

28987 The Resource is an Atomic Measurement of sleep (oic.r.sleep).

28988 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.

28990 **6.142.2 Example URI**

28991 /SleepMonitorAMResURI

28992 **6.142.3 Resource type**

28993 The Resource Type is defined as: "oic.r.sleepmonitor-am, oic.wk.atomicmeasurement".

28994 6.142.4 OpenAPI 2.0 definition

```
28995 {
28996   "swagger": "2.0",
28997   "info": {
28998     "title": "Sleep Monitor Atomic Measurement Batch Representation",
28999     "version": "2019-05-24",
29000     "license": {
29001       "name": "OCF Data Model License",
29002       "url":
29003         "https://github.com/openconnectivityfoundation/core/blob/e28a9e0a92e17042ba3e83661e4c0fbce8bdc4ba/LI
29004         CENSE.md",
29005       "x-copyright": "Copyright 2018-2019 Open Connectivity Foundation, Inc. All rights reserved."
29006     },
29007     "termsOfService": "https://openconnectivityfoundation.github.io/core/DISCLAIMER.md"
29008   },
29009   "schemes": [
29010     "http"
29011   ],
29012   "consumes": [
29013     "application/json"
29014   ],
29015   "produces": [
29016     "application/json"
29017   ],
29018   "paths": {
29019     "/SleepMonitorAMResURI?if=oic.if.b": {
29020       "get": {
29021         "description": "This Resource describes the Properties associated with Sleep Monitor.\nThe
29022         Resource is an Atomic Measurement of sleep (oic.r.sleep).\nSleep shows the time spent in each of the
29023         sleep stages (awake, nrem1, nrem2, nrem3, nrem4, rem, light sleep, deep sleep), along with a sleep
29024         score indicating the quality of sleep.",
29025         "parameters": [
29026           {
29027             "$ref": "#/parameters/interface-all"
29028           }
29029         ],
29030         "responses": {
29031           "200": {
29032             "description": "Retrieves the sleep monitor's information.",
29033             "x-example": [
29034               {
29035                 "href": "/mySleepMonitor",
29036                 "rep": {
29037                   "awake": 1440,
29038                   "nrem1": 1440,
29039                   "nrem2": 14400,
29040                   "nrem3": 1440,
29041                   "nrem4": 4320,
29042                   "rem": 5760,
29043                   "lightsleep": 15840,
29044                   "deepsleep": 5760,
29045                   "sleepscore": 70.0
29046                 }
29047               },
29048               {
29049                 "href": "/myHeartRate",
29050                 "rep": {
29051                   "heartrate": 70
29052                 }
29053               },
29054               {
29055                 "href": "/myUserId",
29056                 "rep": {
29057                   "userid": "USER1"
29058                 }
29059               },
29060               {
29061                 "href": "/myTimeStamp",
29062                 "rep": {
29063                   "timestamp": "2018-11-08T21:00:00+08:00"
29064                 }

```

```

29065         }
29066     ],
29067     "schema": {
29068         "$ref": "#/definitions/batch-retrieve"
29069     }
29070 }
29071 }
29072 }
29073 },
29074 "/SleepMonitorAMResURI?if=oic.if.ll": {
29075     "get": {
29076         "description": "This Resource describes the Properties associated with Sleep Monitor.\nThe
29077 Resource is an Atomic Measurement of sleep (oic.r.sleep).\nSleep shows the time spent in each of the
29078 sleep stages (awake, nrem1, nrem2, nrem3, nrem4, rem, light sleep, deep sleep), along with a sleep
29079 score indicating the quality of sleep.",
29080         "parameters": [
29081             {
29082                 "$ref": "#/parameters/interface-all"
29083             }
29084         ],
29085         "responses": {
29086             "200": {
29087                 "description": "Retrieves the sleep monitor's information.",
29088                 "x-example": [
29089                     {
29090                         "href": "/mySleepMonitor",
29091                         "rt": [
29092                             "oic.r.sleep"
29093                         ],
29094                         "if": [
29095                             "oic.if.s",
29096                             "oic.if.baseline"
29097                         ]
29098                     },
29099                     {
29100                         "href": "/myHeartRate",
29101                         "rt": [
29102                             "oic.r.heartrate"
29103                         ],
29104                         "if": [
29105                             "oic.if.s",
29106                             "oic.if.baseline"
29107                         ]
29108                     },
29109                     {
29110                         "href": "/myUserId",
29111                         "rt": [
29112                             "oic.r.userid"
29113                         ],
29114                         "if": [
29115                             "oic.if.r",
29116                             "oic.if.baseline"
29117                         ]
29118                     },
29119                     {
29120                         "href": "/myTimeStamp",
29121                         "rt": [
29122                             "oic.r.time.stamp"
29123                         ],
29124                         "if": [
29125                             "oic.if.r",
29126                             "oic.if.baseline"
29127                         ]
29128                     }
29129                 ],
29130                 "schema": {
29131                     "$ref": "#/definitions/links"
29132                 }
29133             }
29134         }
29135     }
29136 },

```

```

29137     "/SleepMonitorAMResURI?if=oic.if.baseline": {
29138         "get": {
29139             "description": "This Resource describes the Properties associated with Sleep Monitor.\nThe
29140 Resource is an Atomic Measurement of sleep (oic.r.sleep).\nSleep shows the time spent in each of the
29141 sleep stages (awake, nrem1, nrem2, nrem3, nrem4, rem, light sleep, deep sleep), along with a sleep
29142 score indicating the quality of sleep.",
29143             "parameters": [
29144                 {
29145                     "$ref": "#/parameters/interface-all"
29146                 }
29147             ],
29148             "responses": {
29149                 "200": {
29150                     "description": "Retrieves the sleep monitor's information.",
29151                     "x-example":
29152                     {
29153                         "rt": [
29154                             "oic.r.sleepmonitor-am",
29155                             "oic.wk.atomicmeasurement"
29156                         ],
29157                         "if": [
29158                             "oic.if.b",
29159                             "oic.if.ll",
29160                             "oic.if.baseline"
29161                         ],
29162                         "rts-m": [
29163                             "oic.r.sleep"
29164                         ],
29165                         "rts": [
29166                             "oic.r.sleep",
29167                             "oic.r.heartrate",
29168                             "oic.r.time.stamp",
29169                             "oic.r.userid"
29170                         ],
29171                         "links": [
29172                             {
29173                                 "href": "/mySleepMonitor",
29174                                 "rt": [
29175                                     "oic.r.sleep"
29176                                 ],
29177                                 "if": [
29178                                     "oic.if.s",
29179                                     "oic.if.baseline"
29180                                 ]
29181                             },
29182                             {
29183                                 "href": "/myHeartRate",
29184                                 "rt": [
29185                                     "oic.r.heartrate"
29186                                 ],
29187                                 "if": [
29188                                     "oic.if.s",
29189                                     "oic.if.baseline"
29190                                 ]
29191                             },
29192                             {
29193                                 "href": "/myUserId",
29194                                 "rt": [
29195                                     "oic.r.userid"
29196                                 ],
29197                                 "if": [
29198                                     "oic.if.r",
29199                                     "oic.if.baseline"
29200                                 ]
29201                             },
29202                             {
29203                                 "href": "/myTimeStamp",
29204                                 "rt": [
29205                                     "oic.r.time.stamp"
29206                                 ],
29207                                 "if": [
29208                                     "oic.if.r",

```

```

29209         "oic.if.baseline"
29210     ]
29211 }
29212 ]
29213 },
29214 "schema": {
29215     "$ref": "#/definitions/baseline"
29216 }
29217 }
29218 }
29219 }
29220 }
29221 },
29222 "parameters": {
29223     "interface-all": {
29224         "in": "query",
29225         "name": "if",
29226         "type": "string",
29227         "enum": [
29228             "oic.if.b",
29229             "oic.if.ll",
29230             "oic.if.baseline"
29231         ]
29232     }
29233 },
29234 "definitions": {
29235     "batch-retrieve": {
29236         "title": "Atomic Measurement Batch Retrieve Format",
29237         "minItems": 1,
29238         "uniqueItems": true,
29239         "readOnly": true,
29240         "items": {
29241             "properties": {
29242                 "href": {
29243                     "$ref":
29244 "https://openconnectivityfoundation.github.io/core/schemas/oic.links.properties.core-
29245 schema.json#/definitions/href"
29246                 },
29247                 "rep": {
29248                     "description": " The response payload from an Atomic Measurement (batch) resource",
29249                     "type": "object",
29250                     "items": {
29251                         "anyOf": [
29252                             {
29253                                 "$ref":
29254 "https://openconnectivityfoundation.github.io/IoTDataModels/Sleep.swagger.json#/definitions/Sleep"
29255                             },
29256                             {
29257                                 "$ref":
29258 "https://openconnectivityfoundation.github.io/IoTDataModels/HeartRate.swagger.json#/definitions/HeartRate"
29259                             }
29260                         ],
29261                         {
29262                             "$ref":
29263 "https://openconnectivityfoundation.github.io/IoTDataModels/UserIDResURI.swagger.json#/definitions/UserID"
29264                         },
29265                         {
29266                             "$ref":
29267 "https://openconnectivityfoundation.github.io/IoTDataModels/TimeStampResURI.swagger.json#/definitions/TimeStamps/TimeStamp"
29268                         }
29269                     ]
29270                 }
29271             }
29272         }
29273     },
29274     "required": [
29275         "href",
29276         "rep"
29277     ],
29278     "type": "object"
29279 },
29280 },

```

```

29281     "type": "array"
29282   },
29283   "links": {
29284     "type": "array",
29285     "items": {
29286       "$ref": "#/definitions/oic.oic-link"
29287     }
29288   },
29289   "baseline": {
29290     "properties": {
29291       "rt": {
29292         "type": "array",
29293         "readOnly": true,
29294         "uniqueItems": true,
29295         "minItems": 2,
29296         "items": {
29297           "type": "string",
29298           "enum": [
29299             "oic.r.sleepmonitor-am",
29300             "oic.wk.atomicmeasurement"
29301           ]
29302         }
29303       },
29304       "rts": {
29305         "description": "This contains all possible resource types for this atomic measurement.",
29306         "type": "array",
29307         "uniqueItems": true,
29308         "minItems": 1,
29309         "readOnly": true,
29310         "items": {
29311           "type": "string",
29312           "enum": [
29313             "oic.r.sleep",
29314             "oic.r.heartrate",
29315             "oic.r.userid",
29316             "oic.r.time.stamp"
29317           ]
29318         }
29319       },
29320       "rts-m": {
29321         "description": "This contains all mandatory resource types for this atomic measurement.",
29322         "type": "array",
29323         "uniqueItems": true,
29324         "minItems": 1,
29325         "maxItems": 1,
29326         "readOnly": true,
29327         "items": {
29328           "type": "string",
29329           "enum": [
29330             "oic.r.sleep"
29331           ]
29332         }
29333       },
29334       "if": {
29335         "description": "The interface set supported by this resource",
29336         "type": "array",
29337         "readOnly": true,
29338         "minItems": 3,
29339         "uniqueItems": true,
29340         "items": {
29341           "type": "string",
29342           "enum": [
29343             "oic.if.b",
29344             "oic.if.ll",
29345             "oic.if.baseline"
29346           ]
29347         }
29348       },
29349       "links": {
29350         "$ref": "#/definitions/links"
29351       },
29352       "n": {

```

```

29353         "$ref":
29354         "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
29355         schema.json#/definitions/n"
29356     }
29357 },
29358     "type": "object",
29359     "required": [
29360         "rt",
29361         "if",
29362         "rts-m"
29363     ]
29364 },
29365     "oic.oic-link": {
29366         "properties": {
29367             "if": {
29368                 "type": "array",
29369                 "readOnly": true,
29370                 "uniqueItems": true,
29371                 "minItems": 1,
29372                 "items": {
29373                     "type": "string",
29374                     "enum": [
29375                         "oic.if.baseline",
29376                         "oic.if.s",
29377                         "oic.if.r"
29378                     ]
29379                 }
29380             },
29381             "rt": {
29382                 "type": "array",
29383                 "readOnly": true,
29384                 "uniqueItems": true,
29385                 "minItems": 1,
29386                 "items": {
29387                     "type": "string",
29388                     "enum": [
29389                         "oic.r.sleep",
29390                         "oic.r.heartrate",
29391                         "oic.r.userid",
29392                         "oic.r.time.stamp"
29393                     ]
29394                 }
29395             },
29396             "anchor": {
29397                 "$ref":
29398                 "https://openconnectivityfoundation.github.io/core/schemas/oic.links.properties.core-
29399                 schema.json#/definitions/anchor"
29400             },
29401             "di": {
29402                 "$ref":
29403                 "https://openconnectivityfoundation.github.io/core/schemas/oic.links.properties.core-
29404                 schema.json#/definitions/di"
29405             },
29406             "eps": {
29407                 "$ref":
29408                 "https://openconnectivityfoundation.github.io/core/schemas/oic.links.properties.core-
29409                 schema.json#/definitions/eps"
29410             },
29411             "href": {
29412                 "$ref":
29413                 "https://openconnectivityfoundation.github.io/core/schemas/oic.links.properties.core-
29414                 schema.json#/definitions/href"
29415             },
29416             "ins": {
29417                 "$ref":
29418                 "https://openconnectivityfoundation.github.io/core/schemas/oic.links.properties.core-
29419                 schema.json#/definitions/ins"
29420             },
29421             "p": {
29422                 "$ref":
29423                 "https://openconnectivityfoundation.github.io/core/schemas/oic.links.properties.core-
29424                 schema.json#/definitions/p"

```

```

29425     },
29426     "rel": {
29427       "$ref":
29428       "https://openconnectivityfoundation.github.io/core/schemas/oic.links.properties.core-
29429       schema.json#/definitions/rel_array"
29430     },
29431     "title": {
29432       "$ref":
29433       "https://openconnectivityfoundation.github.io/core/schemas/oic.links.properties.core-
29434       schema.json#/definitions/title"
29435     },
29436     "type": {
29437       "$ref":
29438       "https://openconnectivityfoundation.github.io/core/schemas/oic.links.properties.core-
29439       schema.json#/definitions/type"
29440     }
29441   },
29442   "required": [
29443     "href",
29444     "rt",
29445     "if"
29446   ],
29447   "type": "object"
29448 }
29449 }
29450 }

```

29451 **6.142.5 Property definition**

29452 Table 287 defines the Properties that are part of the "oic.r.sleepmonitor-am,
29453 oic.wk.atomicmeasurement" Resource Type.

29454 **Table 287 – The Property definitions of the Resource with type "rt" = "oic.r.sleepmonitor-
29455 am, oic.wk.atomicmeasurement".**

Property name	Value type	Mandatory	Access mode	Description
rts	array: see schema	No	Read Only	This contains all possible resource types for this atomic measurement.
rt	array: see schema	Yes	Read Only	
n	multiple types: see schema	No	Read Write	
links	multiple types: see schema	No	Read Write	
if	array: see schema	Yes	Read Only	The interface set supported by this resource
rts-m	array: see schema	Yes	Read Only	This contains all mandatory resource types for this atomic measurement.
rt	array: see schema	Yes	Read Only	
rel	multiple types: see schema	No	Read Write	
anchor	multiple types: see schema	No	Read Write	
type	multiple types: see schema	No	Read Write	

if	array: see schema	Yes	Read Only	
eps	multiple types: see schema	No	Read Write	
p	multiple types: see schema	No	Read Write	
title	multiple types: see schema	No	Read Write	
href	multiple types: see schema	Yes	Read Write	
di	multiple types: see schema	No	Read Write	
ins	multiple types: see schema	No	Read Write	
rep	object: see schema	Yes	Read Write	The response payload from an Atomic Measurement (batch) resource
href	multiple types: see schema	Yes	Read Write	

29456 **6.142.6 CRUDN behaviour**

29457 Table 288 defines the CRUDN operations that are supported on the "oic.r.sleepmonitor-am,
29458 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

29461 **6.143 SpO2 for Pulse Oximeter**

29462 **6.143.1 Introduction**

29463 This Resource describes the Properties associated with a person's blood oxygen saturation level.
29464 The spo2 and perfusion Properties are read-only value that is provided by the server.
29465 When range (from "oic.r.baseresource") is omitted the default is 0 to +MAXFLOAT.

29466 **6.143.2 Example URI**

29467 /SpO2ResURI

29468 **6.143.3 Resource type**

29469 The Resource Type is defined as: "oic.r.spo2".

29470 **6.143.4 OpenAPI 2.0 definition**

```

29471 {
29472   "swagger": "2.0",
29473   "info": {
29474     "title": "SpO2 for Pulse Oximeter",
29475     "version": "2019-03-04",
29476     "license": {
29477       "name": "OCF Data Model License",
29478       "url":
29479         "https://github.com/openconnectivityfoundation/core/blob/e28a9e0a92e17042ba3e83661e4c0fbce8bdc4ba/LI
29480 CENSE.md",
29481       "x-copyright": "Copyright 2018-2019 Open Connectivity Foundation, Inc. All rights reserved."
29482     },
29483     "termsOfService": "https://openconnectivityfoundation.github.io/core/DISCLAIMER.md"

```



```

29484     },
29485     "schemes": [
29486         "http"
29487     ],
29488     "consumes": [
29489         "application/json"
29490     ],
29491     "produces": [
29492         "application/json"
29493     ],
29494     "paths": {
29495         "/SpO2ResURI": {
29496             "get": {
29497                 "description": "This Resource describes the Properties associated with a person's blood
29498 oxygen saturation level.\n The spo2 and perfusion Properties are read-only value that is provided by
29499 the server.\n When range (from \"oic.r.baseresource\") is omitted the default is 0 to +MAXFLOAT.",
29500                 "parameters": [
29501                     {
29502                         "$ref": "#/parameters/interface"
29503                     }
29504                 ],
29505                 "responses": {
29506                     "200": {
29507                         "description": "",
29508                         "x-example": {
29509                             "rt": [
29510                                 "oic.r.spo2"
29511                             ],
29512                             "spo2": 99.0,
29513                             "perfusion": 20.0
29514                         },
29515                         "schema": {
29516                             "$ref": "#/definitions/SpO2"
29517                         }
29518                     }
29519                 }
29520             }
29521         }
29522     },
29523     "parameters": {
29524         "interface": {
29525             "in": "query",
29526             "name": "if",
29527             "type": "string",
29528             "enum": [
29529                 "oic.if.s",
29530                 "oic.if.baseline"
29531             ]
29532         }
29533     },
29534     "definitions": {
29535         "SpO2": {
29536             "properties": {
29537                 "spo2": {
29538                     "description": "This Property describes the estimation of the oxygen saturation level in
29539 percentage.",
29540                     "type": "number",
29541                     "minimum": 0.0,
29542                     "maximum": 100.0,
29543                     "readOnly": true
29544                 },
29545                 "perfusion": {
29546                     "description": "This Property describes the ratio of AC over DC of PPG.",
29547                     "type": "number",
29548                     "minimum": 0.0,
29549                     "readOnly": true
29550                 },
29551                 "rt": {
29552                     "description": "The Resource Type.",
29553                     "items": {
29554                         "enum": [
29555                             "oic.r.spo2"

```

```

29556         ],
29557         "type": "string"
29558     },
29559     "minItems": 1,
29560     "uniqueItems": true,
29561     "readOnly": true,
29562     "type": "array"
29563 },
29564 "n": {
29565     "$ref":
29566 "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
29567 schema.json#/definitions/n"
29568 },
29569 "if": {
29570     "description": "The OCF Interface set supported by this Resource.",
29571     "items": {
29572         "enum": [
29573             "oic.if.s",
29574             "oic.if.baseline"
29575         ],
29576         "type": "string"
29577     },
29578     "minItems": 1,
29579     "uniqueItems": true,
29580     "readOnly": true,
29581     "type": "array"
29582 },
29583 "spo2_range": {
29584     "$ref":
29585 "https://openconnectivityfoundation.github.io/IoTDataModels/schemas/oic.baseresource.properties-
29586 schema.json#/definitions/range_number"
29587 },
29588 "perfusion_range": {
29589     "$ref":
29590 "https://openconnectivityfoundation.github.io/IoTDataModels/schemas/oic.baseresource.properties-
29591 schema.json#/definitions/range_number"
29592 },
29593 "spo2_step": {
29594     "$ref":
29595 "https://openconnectivityfoundation.github.io/IoTDataModels/schemas/oic.baseresource.properties-
29596 schema.json#/definitions/step_number"
29597 },
29598 "perfusion_step": {
29599     "$ref":
29600 "https://openconnectivityfoundation.github.io/IoTDataModels/schemas/oic.baseresource.properties-
29601 schema.json#/definitions/step_number"
29602 },
29603 "spo2_precision": {
29604     "$ref":
29605 "https://openconnectivityfoundation.github.io/IoTDataModels/schemas/oic.baseresource.properties-
29606 schema.json#/definitions/precision"
29607 },
29608 "perfusion_precision": {
29609     "$ref":
29610 "https://openconnectivityfoundation.github.io/IoTDataModels/schemas/oic.baseresource.properties-
29611 schema.json#/definitions/precision"
29612 }
29613 },
29614 "type": "object",
29615 "required": [
29616     "spo2"
29617 ]
29618 }
29619 }
29620 }

```

29621 **6.143.5 Property definition**

29622 Table 289 defines the Properties that are part of the "oic.r.spo2" Resource Type.

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_range	multiple types: see schema	No	Read Write	
perfusion_precision	multiple types: see schema	No	Read Write	
n	multiple types: see schema	No	Read Write	
spo2_precision	multiple types: see schema	No	Read Write	
spo2_step	multiple types: see schema	No	Read Write	
rt	array: see schema	No	Read Only	The Resource Type.
spo2_range	multiple types: see schema	No	Read Write	
perfusion	number	No	Read Only	This Property describes the ratio of AC over DC of PPG.
perfusion_step	multiple types: see schema	No	Read Write	
if	array: see schema	No	Read Only	The OCF Interface set supported by this Resource.

29624 **6.143.6 CRUDN behaviour**

29625 Table 290 defines the CRUDN operations that are supported on the "oic.r.spo2" Resource Type.

29626 **Table 290 – The CRUDN operations of the Resource with type "rt" = "oic.r.spo2".**

Create	Read	Update	Delete	Notify
	get			observe

29627

29628

29629

29630 **6.144 Cadence**29631 **6.144.1 Introduction**29632 This Resource describes the cadence, which is the number of revolutions of crank per minute
29633 when cyclists pedal the pedals.

29634 The unit, which is the default unit, is rpm (revolutions per minute).

29635 The cadence Property is a read-only value that is provided by the server.

29636 When range (from "oic.r.baseresource") is omitted the default is 0 to +MAXFLOAT.

29637 **6.144.2 Example URI**

29638 /CadenceResURI

29639 6.144.3 Resource type

29640 The Resource Type is defined as: "oic.r.cadence".

29641 6.144.4 OpenAPI 2.0 definition

```
29642 {
29643   "swagger": "2.0",
29644   "info": {
29645     "title": "Cadence",
29646     "version": "2019-06-11",
29647     "license": {
29648       "name": "OCF Data Model License",
29649       "url":
29650 "https://github.com/openconnectivityfoundation/core/blob/e28a9e0a92e17042ba3e83661e4c0fbce8bdc4ba/LI
29651 CENSE.md",
29652       "x-copyright": "Copyright 2018-2019 Open Connectivity Foundation, Inc. All rights reserved."
29653     },
29654     "termsOfService": "https://openconnectivityfoundation.github.io/core/DISCLAIMER.md"
29655   },
29656   "schemes": [
29657     "http"
29658   ],
29659   "consumes": [
29660     "application/json"
29661   ],
29662   "produces": [
29663     "application/json"
29664   ],
29665   "paths": {
29666     "/CadenceResURI": {
29667       "get": {
29668         "description": "This Resource describes the cadence, which is the number of revolutions of
29669 crank per minute when cyclists pedal the pedals.\n The unit, which is the default unit, is rpm
29670 (revolutions per minute).\n The cadence Property is a read-only value that is provided by the
29671 server.\n When range (from \"oic.r.baseresource\") is omitted the default is 0 to +MAXFLOAT.",
29672         "parameters": [
29673           {
29674             "$ref": "#/parameters/interface"
29675           }
29676         ],
29677         "responses": {
29678           "200": {
29679             "description": "",
29680             "x-example": {
29681               "rt": [
29682                 "oic.r.cadence"
29683               ],
29684               "cadence": 60
29685             },
29686             "schema": {
29687               "$ref": "#/definitions/Cadence"
29688             }
29689           }
29690         }
29691       }
29692     }
29693   },
29694   "parameters": {
29695     "interface": {
29696       "in": "query",
29697       "name": "if",
29698       "type": "string",
29699       "enum": [
29700         "oic.if.s",
29701         "oic.if.baseline"
29702       ]
29703     }
29704   },
29705   "definitions": {
29706     "Cadence": {
29707       "properties": {
```

```

29708         "cadence": {
29709             "description": "This Property describes the rate at which a cyclist is pedalling/turning
29710 the pedals.",
29711             "type": "integer",
29712             "minimum": 0,
29713             "readOnly": true
29714         },
29715         "rt": {
29716             "description": "The Resource Type.",
29717             "items": {
29718                 "enum": [
29719                     "oic.r.cadence"
29720                 ],
29721                 "type": "string"
29722             },
29723             "minItems": 1,
29724             "uniqueItems": true,
29725             "readOnly": true,
29726             "type": "array"
29727         },
29728         "n": {
29729             "$ref":
29730 "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
29731 schema.json#/definitions/n"
29732         },
29733         "if": {
29734             "description": "The OCF Interface set supported by this Resource.",
29735             "items": {
29736                 "enum": [
29737                     "oic.if.s",
29738                     "oic.if.baseline"
29739                 ],
29740                 "type": "string"
29741             },
29742             "minItems": 1,
29743             "uniqueItems": true,
29744             "readOnly": true,
29745             "type": "array"
29746         },
29747         "range": {
29748             "$ref":
29749 "https://openconnectivityfoundation.github.io/IoTDataModels/schemas/oic.baseresource.properties-
29750 schema.json#/definitions/range_integer"
29751         },
29752         "step": {
29753             "$ref":
29754 "https://openconnectivityfoundation.github.io/IoTDataModels/schemas/oic.baseresource.properties-
29755 schema.json#/definitions/step_integer"
29756         }
29757     },
29758     "type": "object",
29759     "required": [
29760         "cadence"
29761     ]
29762 }
29763 }
29764 }

```

29765 6.144.5 Property definition

29766 Table 291 defines the Properties that are part of the "oic.r.cadence" Resource Type.

29767 **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	

29768 **6.144.6 CRUDN behaviour**

29769 Table 292 defines the CRUDN operations that are supported on the "oic.r.cadence" Resource Type.

29770 **Table 292 – The CRUDN operations of the Resource with type "rt" = "oic.r.cadence".**

Create	Read	Update	Delete	Notify
	get			observe

29771

29772

29773 **6.145 Circuit Breaker (IEC 61850)**

29774 **6.145.1 Introduction**

29775 This Resource describes functions for the control and monitoring of IEC 61850 based circuit
29776 breaker.

29777 **6.145.2 Example URI**

29778 /CircuitBreakerResURI

29779 **6.145.3 Resource type**

29780 The Resource Type is defined as: "oic.r.circuitbreaker".

29781 **6.145.4 OpenAPI 2.0 definition**

```

29782 {
29783   "swagger": "2.0",
29784   "info": {
29785     "title": "Circuit Breaker (IEC 61850)",
29786     "version": "20190613",
29787     "license": {
29788       "name": "OCF Data Model License",
29789       "url":
29790 "https://github.com/openconnectivityfoundation/core/blob/e28a9e0a92e17042ba3e83661e4c0fbce8bdc4ba/LI
29791 CENSE.md",
29792     "x-copyright": "copyright 2019 Open Connectivity Foundation, Inc. All rights reserved."
29793   },
29794   "termsOfService": "https://openconnectivityfoundation.github.io/core/DISCLAIMER.md"
29795 },
29796   "schemes": ["http"],
29797   "consumes": ["application/json"],
29798   "produces": ["application/json"],
29799   "paths": {
29800     "/CircuitBreakerResURI" : {
29801       "get": {
29802         "description": "This Resource describes functions for the control and monitoring of IEC
29803         61850 based circuit breaker.",
29804         "parameters": [

```

```

29805     {"$ref": "#/parameters/interface"}
29806   ],
29807   "responses": {
29808     "200": {
29809       "description": "",
29810       "x-example":
29811         {
29812           "rt": ["oic.r.circuitbreaker"],
29813           "if": ["oic.if.s", "oic.if.baseline"],
29814           "status": "on",
29815           "ratedcurrent": 10.0,
29816           "ratedbreakingcurrent": 2500.0,
29817           "ratedvoltage": 460.0,
29818           "leakagecurrent": 0.5,
29819           "insulationresistance": 0.3,
29820           "timestamp": "2015-11-05T14:30:00.10Z"
29821         },
29822       "schema": { "$ref": "#/definitions/CircuitBreaker" }
29823     }
29824   }
29825 }
29826 }
29827 },
29828 "parameters": {
29829   "interface" : {
29830     "in": "query",
29831     "name": "if",
29832     "type": "string",
29833     "enum": ["oic.if.s", "oic.if.baseline"]
29834   }
29835 },
29836 "definitions": {
29837   "CircuitBreaker" : {
29838     "properties": {
29839       "rt" : {
29840         "description": "The Resource Type",
29841         "items": {
29842           "enum": ["oic.r.circuitbreaker"],
29843           "maxLength": 64,
29844           "type": "string"
29845         },
29846         "minItems": 1,
29847         "uniqueItems": true,
29848         "readOnly": true,
29849         "type": "array"
29850       },
29851       "status" : {
29852         "description": "The circuit breaker status. The status can only be reset out of bounds.",
29853         "readOnly": true,
29854         "type": "string",
29855         "enum" : [ "on", "off", "trip" ]
29856       },
29857       "ratedcurrent" : {
29858         "description": "The rated current in Ampere, defined at manufacturing time.",
29859         "readOnly": true,
29860         "type": "number"
29861       },
29862       "ratedbreakingcurrent" : {
29863         "description": "The rated breaking current in Ampere, defined at manufacturing time.",
29864         "readOnly": true,
29865         "type": "number"
29866       },
29867       "ratedvoltage" : {
29868         "description": "The rated voltage in Volts, defined at manufacturing time.",
29869         "readOnly": true,
29870         "type": "number"
29871       },
29872       "leakagecurrent" : {
29873         "description": "The leakage current in mA.",
29874         "readOnly": true,
29875         "type": "number"
29876       }
29877     }
29878   }

```

```

29877     "insulationresistance" : {
29878         "description": "Insulation resistance of circuit breaker (M Ohm).",
29879         "readOnly": true,
29880         "type": "number"
29881     },
29882     "timestamp": {
29883         "description": "An RFC3339 formatted time indicating when the data was observed (e.g.:
29884 2016-02-15T09:19Z, 1996-12-19T16:39:57-08:00). Note that 1/100 time resolution should be used.",
29885         "format": "date-time",
29886         "readOnly": true,
29887         "type": "string"
29888     },
29889     "n": {
29890         "$ref":
29891 "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
29892 schema.json#/definitions/n"
29893     },
29894     "id": {
29895         "$ref":
29896 "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
29897 schema.json#/definitions/id"
29898     },
29899     "if": {
29900         "description": "The OCF Interface set supported by this Resource.",
29901         "items": {
29902             "enum": [
29903                 "oic.if.s",
29904                 "oic.if.baseline"
29905             ],
29906             "type": "string"
29907         },
29908         "minItems": 2,
29909         "uniqueItems": true,
29910         "readOnly": true,
29911         "type": "array"
29912     }
29913 },
29914 "type": "object",
29915 "required": ["status", "ratedcurrent", "ratedbreakingcurrent", "ratedvoltage", "timestamp"]
29916 }
29917 }
29918 }
29919

```

29920 6.145.5 Property definition

29921 Table 293 defines the Properties that are part of the "oic.r.circuitbreaker" Resource Type.

29922 **Table 293 – The Property definitions of the Resource with type "rt" = "oic.r.circuitbreaker".**

Property name	Value type	Mandatory	Access mode	Description
id	multiple types: see schema	No	Read Write	
ratedvoltage	number	Yes	Read Only	The rated voltage in Volts, defined at manufacturing time.
ratedbreakingcurrent	number	Yes	Read Only	The rated breaking current in Ampere, defined at manufacturing time.
n	multiple types: see schema	No	Read Write	

ratedcurrent	number	Yes	Read Only	The rated current in Ampere, defined at manufacturing time.
if	array: see schema	No	Read Only	The OCF Interface set supported by this Resource.
leakagecurrent	number	No	Read Only	The leakage current in mA.
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.
rt	array: see schema	No	Read Only	The Resource Type
insulationresistance	number	No	Read Only	Insulation resistance of circuit breaker (M Ohm).
status	string	Yes	Read Only	The circuit breaker status. The status can only be reset out of bounds.

29923 **6.145.6 CRUDN behaviour**

29924 Table 294 defines the CRUDN operations that are supported on the "oic.r.circuitbreaker" Resource
29925 Type.

29926 **Table 294 – The CRUDN operations of the Resource with type "rt" = "oic.r.circuitbreaker".**

Create	Read	Update	Delete	Notify
	get			observe

29927

29928

29929

29930 **6.146 Cycling Power**

29931 **6.146.1 Introduction**

29932 This Resource describes the cycling power, which is the amount of energy transferred or
29933 converted per unit time.

29934 The unit, which is the default SI (International System of Units) unit, is W (watts, which is equal
29935 to one joule per second).

29936 The power Property is a read-only value that is provided by the server.
29937 When range (from "oic.r.baseresource") is omitted the default is 0 to +MAXFLOAT.

29938 6.146.2 Example URI

29939 /CyclingPowerResURI

29940 6.146.3 Resource type

29941 The Resource Type is defined as: "oic.r.cyclingpower".

29942 6.146.4 OpenAPI 2.0 definition

```
29943 {
29944   "swagger": "2.0",
29945   "info": {
29946     "title": "Cycling Power",
29947     "version": "2019-06-11",
29948     "license": {
29949       "name": "OCF Data Model License",
29950       "url":
29951 "https://github.com/openconnectivityfoundation/core/blob/e28a9e0a92e17042ba3e83661e4c0fbce8bdc4ba/LI
29952 CENSE.md",
29953       "x-copyright": "Copyright 2018-2019 Open Connectivity Foundation, Inc. All rights reserved."
29954     },
29955     "termsOfService": "https://openconnectivityfoundation.github.io/core/DISCLAIMER.md"
29956   },
29957   "schemes": [
29958     "http"
29959   ],
29960   "consumes": [
29961     "application/json"
29962   ],
29963   "produces": [
29964     "application/json"
29965   ],
29966   "paths": {
29967     "/CyclingPowerResURI": {
29968       "get": {
29969         "description": "This Resource describes the cycling power, which is the amount of energy
29970 transferred or converted per unit time.\n The unit, which is the default SI (International System of
29971 Units) unit, is W (watts, which is equal to one joule per second).\n The power Property is a read-
29972 only value that is provided by the server.\n When range (from \"oic.r.baseresource\") is omitted the
29973 default is 0 to +MAXFLOAT.",
29974         "parameters": [
29975           {
29976             "$ref": "#/parameters/interface"
29977           }
29978         ],
29979         "responses": {
29980           "200": {
29981             "description": "",
29982             "x-example": {
29983               "rt": [
29984                 "oic.r.cyclingpower"
29985               ],
29986               "power": 200.0,
29987               "power-left": 100.0,
29988               "power-right": 100.0
29989             },
29990             "schema": {
29991               "$ref": "#/definitions/CyclingPower"
29992             }
29993           }
29994         }
29995       }
29996     }
29997   },
29998   "parameters": {
29999     "interface": {
30000       "in": "query",
```

```

30001     "name": "if",
30002     "type": "string",
30003     "enum": [
30004         "oic.if.s",
30005         "oic.if.baseline"
30006     ]
30007 }
30008 },
30009 "definitions": {
30010     "CyclingPower": {
30011         "properties": {
30012             "power": {
30013                 "description": "The current overall power output in watts.",
30014                 "$ref": "#/definitions/power"
30015             },
30016             "power-left": {
30017                 "description": "The current power output in watts from the left pedal.",
30018                 "$ref": "#/definitions/power"
30019             },
30020             "power-right": {
30021                 "description": "The current power output in watts from the right pedal.",
30022                 "$ref": "#/definitions/power"
30023             },
30024             "rt": {
30025                 "description": "The Resource Type.",
30026                 "items": {
30027                     "enum": [
30028                         "oic.r.cyclingpower"
30029                     ],
30030                     "type": "string"
30031                 },
30032                 "minItems": 1,
30033                 "uniqueItems": true,
30034                 "readOnly": true,
30035                 "type": "array"
30036             },
30037             "n": {
30038                 "$ref":
30039 "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
30040 schema.json#/definitions/n"
30041             },
30042             "if": {
30043                 "description": "The OCF Interface set supported by this Resource.",
30044                 "items": {
30045                     "enum": [
30046                         "oic.if.s",
30047                         "oic.if.baseline"
30048                     ],
30049                     "type": "string"
30050                 },
30051                 "minItems": 1,
30052                 "uniqueItems": true,
30053                 "readOnly": true,
30054                 "type": "array"
30055             },
30056             "range": {
30057                 "$ref":
30058 "https://openconnectivityfoundation.github.io/IoTDataModels/schemas/oic.baseresource.properties-
30059 schema.json#/definitions/range_number"
30060             },
30061             "step": {
30062                 "$ref":
30063 "https://openconnectivityfoundation.github.io/IoTDataModels/schemas/oic.baseresource.properties-
30064 schema.json#/definitions/step_number"
30065             }
30066         },
30067         "type": "object",
30068         "required": [
30069             "power"
30070         ]
30071     },
30072     "power": {

```

```

30073         "description": "This Resource describes the power, which is the amount of energy transferred
30074 or converted per unit time, in W (watts, which is equal to one joule per second).",
30075         "type": "number",
30076         "minimum": 0.0,
30077         "readOnly": true
30078     }
30079 }
30080 }

```

30081 **6.146.5 Property definition**

30082 Table 295 defines the Properties that are part of the "oic.r.cyclingpower" Resource Type.

30083 **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	

30084 **6.146.6 CRUDN behaviour**

30085 Table 296 defines the CRUDN operations that are supported on the "oic.r.cyclingpower" Resource
30086 Type.

30087 **Table 296 – The CRUDN operations of the Resource with type "rt" = "oic.r.cyclingpower".**

Create	Read	Update	Delete	Notify
	get			observe

30088

30089 **6.147 Inverter (IEC 61850)**

30090 **6.147.1 Introduction**

30091 This Resource describes functions for the control and monitoring of IEC 61850 based circuit
30092 breaker.

30093 **6.147.2 Example URI**

30094 /InverterResURI

30095 **6.147.3 Resource type**

30096 The Resource Type is defined as: "oic.r.inverter".

30097 **6.147.4 OpenAPI 2.0 definition**

```
30098 {
30099   "swagger": "2.0",
30100   "info": {
30101     "title": "Inverter (IEC 61850)",
30102     "version": "20190613",
30103     "license": {
30104       "name": "OCF Data Model License",
30105       "url":
30106         "https://github.com/openconnectivityfoundation/core/blob/e28a9e0a92e17042ba3e83661e4c0fbce8bdc4ba/LI
30107         CENSE.md",
30108       "x-copyright": "copyright 2019 Open Connectivity Foundation, Inc. All rights reserved."
30109     },
30110     "termsOfService": "https://openconnectivityfoundation.github.io/core/DISCLAIMER.md"
30111   },
30112   "schemes": ["http"],
30113   "consumes": ["application/json"],
30114   "produces": ["application/json"],
30115   "paths": {
30116     "/InverterResURI" : {
30117       "get": {
30118         "description": "This Resource describes functions for the control and monitoring of IEC
30119         61850 based circuit breaker.",
30120         "parameters": [
30121           {"$ref": "#/parameters/interface"}
30122         ],
30123         "responses": {
30124           "200": {
30125             "description": "",
30126             "x-example":
30127               {
30128                 "rt": ["oic.r.inverter"],
30129                 "if": ["oic.if.s", "oic.if.baseline"],
30130                 "status": "on",
30131                 "ratedpower": 36.0,
30132                 "minvoltmppt": 200.0,
30133                 "maxvoltmppt": 1000.0,
30134                 "inputvoltage": 980.0,
30135                 "inputcurrent": 22.0,
30136                 "outputpower": 61.0,
30137                 "timestamp": "2015-11-05T14:30:00.13Z"
30138               },
30139             "schema": { "$ref": "#/definitions/Inverter" }
30140           }
30141         }
30142       }
30143     }
30144   },
30145   "parameters": {
30146     "interface" : {
30147       "in": "query",
30148       "name": "if",
30149       "type": "string",
30150       "enum": ["oic.if.s", "oic.if.baseline"]
30151     }
30152   },
30153   "definitions": {
30154     "Inverter" : {
30155       "properties": {
30156         "rt" : {
30157           "description": "The Resource Type",
30158           "items": {
30159             "enum": ["oic.r.inverter"],
30160             "maxLength": 64,
30161             "type": "string"
30162           },
30163           "minItems": 1,
```

```

30164         "uniqueItems": true,
30165         "readOnly": true,
30166         "type": "array"
30167     },
30168     "status" : {
30169         "description": "The inverter status. The status can only be reset out of bounds.",
30170         "readOnly": true,
30171         "type": "string",
30172         "enum" : [ "on", "off", "trip"]
30173     },
30174     "ratedpower" : {
30175         "description": "The rated power in kW, defined at manufacturing time.",
30176         "readOnly": true,
30177         "type": "number"
30178     },
30179     "minvoltmppt" : {
30180         "description": "Minimum voltage for MPPT (Maximum power point tracking) control method
30181 (V), defined at manufacturing time.",
30182         "readOnly": true,
30183         "type": "number"
30184     },
30185     "maxvoltmppt" : {
30186         "description": "Maximum voltage for MPPT (Maximum power point tracking) control method
30187 (V), defined at manufacturing time.",
30188         "readOnly": true,
30189         "type": "number"
30190     },
30191     "inputvoltage" : {
30192         "description": "input voltage in Volts.",
30193         "readOnly": true,
30194         "type": "number"
30195     },
30196     "inputcurrent" : {
30197         "description": "input current in Amperes.",
30198         "readOnly": true,
30199         "type": "number"
30200     },
30201     "outputpower" : {
30202         "description": "output power in kW.",
30203         "readOnly": true,
30204         "type": "number"
30205     },
30206     "timestamp": {
30207         "description": "An RFC3339 formatted time indicating when the data was observed (e.g.:
30208 2016-02-15T09:19Z, 1996-12-19T16:39:57-08:00). Resolution in 1/100 second.",
30209         "format": "date-time",
30210         "readOnly": true,
30211         "type": "string"
30212     },
30213     "n": {
30214         "$ref":
30215 "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
30216 schema.json#/definitions/n"
30217     },
30218     "id": {
30219         "$ref":
30220 "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
30221 schema.json#/definitions/id"
30222     },
30223     "if": {
30224         "description": "The OCF Interface set supported by this Resource.",
30225         "items": {
30226             "enum": [
30227                 "oic.if.s",
30228                 "oic.if.baseline"
30229             ],
30230             "type": "string"
30231         },
30232         "minItems": 2,
30233         "uniqueItems": true,
30234         "readOnly": true,
30235         "type": "array"

```

```

30236     }
30237     },
30238     "type": "object",
30239     "required": ["status", "ratedpower", "minvoltmppt", "maxvoltmppt",
30240 "inputvoltage", "inputcurrent", "outputpower", "timestamp"]
30241     }
30242 }
30243 }
30244

```

30245 **6.147.5 Property definition**

30246 Table 297 defines the Properties that are part of the "oic.r.inverter" Resource Type.

30247 **Table 297 – The Property definitions of the Resource with type "rt" = "oic.r.inverter".**

Property name	Value type	Mandatory	Access mode	Description
if	array: see schema	No	Read Only	The OCF Interface set supported by this Resource.
id	multiple types: see schema	No	Read Write	
maxvoltmppt	number	Yes	Read Only	Maximum voltage for MPPT (Maximum power point tracking) control method (V), defined at manufacturing time.
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). Resolution in 1/100 second.
status	string	Yes	Read Only	The inverter status. The status can only be reset out of bounds.
outputpower	number	Yes	Read Only	output power in kW.
ratedpower	number	Yes	Read Only	The rated power in kW, defined at manufacturing time.
inputcurrent	number	Yes	Read Only	input current in Amperes.
inputvoltage	number	Yes	Read Only	input voltage in Volts.

minvoltmppt	number	Yes	Read Only	Minimum voltage for MPPT (Maximum power point tracking) control method (V), defined at manufacturing time.
n	multiple types: see schema	No	Read Write	

30248 **6.147.6 CRUDN behaviour**

30249 Table 298 defines the CRUDN operations that are supported on the "oic.r.inverter" Resource Type.

30250 **Table 298 – The CRUDN operations of the Resource with type "rt" = "oic.r.inverter".**

Create	Read	Update	Delete	Notify
	get			observe

30251

30252

30253 **6.148 PV array system connection terminal (IEC 61850)**

30254 **6.148.1 Introduction**

30255 This Resource describes functions for the control and monitoring of IEC 61850 based PV Array
30256 system connection terminal.

30257 **6.148.2 Example URI**

30258 /PVConnectionTerminalResURI

30259 **6.148.3 Resource type**

30260 The Resource Type is defined as: "oic.r.pvconnectionterminal".

30261 **6.148.4 OpenAPI 2.0 definition**

```

30262 {
30263   "swagger": "2.0",
30264   "info": {
30265     "title": "PV array system connection terminal (IEC 61850)",
30266     "version": "20190613",
30267     "license": {
30268       "name": "OCF Data Model License",
30269       "url":
30270 "https://github.com/openconnectivityfoundation/core/blob/e28a9e0a92e17042ba3e83661e4c0fbce8bdc4ba/LI
30271 CENSE.md",
30272     "x-copyright": "copyright 2019 Open Connectivity Foundation, Inc. All rights reserved."
30273   },
30274   "termsOfService": "https://openconnectivityfoundation.github.io/core/DISCLAIMER.md"
30275 },
30276   "schemes": ["http"],
30277   "consumes": ["application/json"],
30278   "produces": ["application/json"],
30279   "paths": {
30280     "/PVConnectionTerminalResURI" : {
30281       "get": {
30282         "description": "This Resource describes functions for the control and monitoring of IEC
30283 61850 based PV Array system connection terminal.",
30284         "parameters": [
30285           {"$ref": "#/parameters/interface"}
30286         ],
30287         "responses": {
30288           "200": {

```



```

30289         "description" : "",
30290         "x-example":
30291             {
30292                 "rt": ["oic.r.pvconnectionterminal"],
30293                 "if": ["oic.if.s", "oic.if.baseline"],
30294                 "ratedarrayvoltage": 46.6,
30295                 "ratedarraycurrent": 10.2,
30296                 "arrayvoltage": 37.0,
30297                 "arraycurrent": 9.1,
30298                 "leakagecurrent": 0.5,
30299                 "insulationresistance": 0.3,
30300                 "timestamp": "2015-11-05T14:30:00.15Z"
30301             },
30302         "schema": { "$ref": "#/definitions/PVArrayConnectionTerminal" }
30303     }
30304 }
30305 }
30306 }
30307 },
30308 "parameters": {
30309     "interface" : {
30310         "in": "query",
30311         "name": "if",
30312         "type": "string",
30313         "enum": ["oic.if.s", "oic.if.baseline"]
30314     }
30315 },
30316 "definitions": {
30317     "PVArrayConnectionTerminal" : {
30318         "properties": {
30319             "rt" : {
30320                 "description": "The Resource Type",
30321                 "items": {
30322                     "enum": ["oic.r.pvconnectionterminal"],
30323                     "maxLength": 64,
30324                     "type": "string"
30325                 },
30326                 "minItems": 1,
30327                 "uniqueItems": true,
30328                 "readOnly": true,
30329                 "type": "array"
30330             },
30331             "ratedarrayvoltage" : {
30332                 "description": "Rated voltage of array (Nominal values of maximum power voltage * number
30333 of modules) (V)",
30334                 "readOnly": true,
30335                 "type": "number"
30336             },
30337             "ratedarraycurrent" : {
30338                 "description": "Rated current of array (Nominal values of maximum power current * number
30339 of modules) (A), defined at manufacturing time.",
30340                 "readOnly": true,
30341                 "type": "number"
30342             },
30343             "arrayvoltage" : {
30344                 "description": "Output voltage of array in volts (V).",
30345                 "readOnly": true,
30346                 "type": "number"
30347             },
30348             "arraycurrent" : {
30349                 "description": "Output current of array in Amperes (A).",
30350                 "readOnly": true,
30351                 "type": "number"
30352             },
30353             "leakagecurrent" : {
30354                 "description": "The leakage current in mA.",
30355                 "readOnly": true,
30356                 "type": "number"
30357             },
30358             "insulationresistance" : {
30359                 "description": "Insulation resistance of circuit breaker (M Ohm).",
30360                 "readOnly": true,

```

```

30361         "type": "number"
30362     },
30363     "timestamp": {
30364         "description": "An RFC3339 formatted time indicating when the data was observed (e.g.:
30365 2016-02-15T09:19Z, 1996-12-19T16:39:57-08:00). Note that 1/100 time resolution should be used.",
30366         "format": "date-time",
30367         "readOnly": true,
30368         "type": "string"
30369     },
30370     "n": {
30371         "$ref":
30372 "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
30373 schema.json#/definitions/n"
30374     },
30375     "id": {
30376         "$ref":
30377 "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
30378 schema.json#/definitions/id"
30379     },
30380     "if": {
30381         "description": "The OCF Interface set supported by this Resource.",
30382         "items": {
30383             "enum": [
30384                 "oic.if.s",
30385                 "oic.if.baseline"
30386             ],
30387             "type": "string"
30388         },
30389         "minItems": 2,
30390         "uniqueItems": true,
30391         "readOnly": true,
30392         "type": "array"
30393     }
30394 },
30395 "type": "object",
30396 "required": ["ratedarrayvoltage", "ratedarraycurrent", "arrayvoltage", "arraycurrent",
30397 "timestamp"]
30398 }
30399 }
30400 }

```

30401 6.148.5 Property definition

30402 Table 299 defines the Properties that are part of the "oic.r.pvconnectionterminal" Resource Type.

30403 **Table 299 – The Property definitions of the Resource with type "rt" =**
30404 **"oic.r.pvconnectionterminal".**

Property name	Value type	Mandatory	Access mode	Description
id	multiple types: see schema	No	Read Write	
arrayvoltage	number	Yes	Read Only	Output voltage of array in volts (V).
ratedarrayvoltage	number	Yes	Read Only	Rated voltage of array (Nominal values of maximum power voltage * number of modules) (V)
n	multiple types: see schema	No	Read Write	
insulationresistance	number	No	Read Only	Insulation resistance of circuit breaker (M Ohm).

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). Note that 1/100 time resolution should be used.
leakagecurrent	number	No	Read Only	The leakage current in mA.
arraycurrent	number	Yes	Read Only	Output current of array in Amperes (A).
ratedarraycurrent	number	Yes	Read Only	Rated current of array (Nominal values of maximum power current * number of modules) (A), defined at manufacturing time.
if	array: see schema	No	Read Only	The OCF Interface set supported by this Resource.

30405 **6.148.6 CRUDN behaviour**

30406 Table 300 defines the CRUDN operations that are supported on the "oic.r.pvconnectionterminal"
30407 Resource Type.

30408 **Table 300 – The CRUDN operations of the Resource with type "rt" =**
30409 **"oic.r.pvconnectionterminal".**

Create	Read	Update	Delete	Notify
	get			observe

30410

30411

30412

30413

30414 **6.149 Speed**

30415 **6.149.1 Introduction**

30416 This Resource describes the speed of an object, which is the magnitude of its velocity.

30417 The unit, which is the default SI (International System of Units) unit, is metres per second.

30418 The speed Property is a read-only value that is provided by the server.

30419 When range (from "oic.r.baseresource") is omitted the default is 0 to +MAXFLOAT.

30420 **6.149.2 Example URI**

30421 /SpeedResURI

30422 **6.149.3 Resource type**

30423 The Resource Type is defined as: "oic.r.speed".

30424 **6.149.4 OpenAPI 2.0 definition**

```
30425 {
30426   "swagger": "2.0",
30427   "info": {
30428     "title": "Speed",
30429     "version": "2019-05-13",
30430     "license": {
30431       "name": "OCF Data Model License",
30432       "url":
30433         "https://github.com/openconnectivityfoundation/core/blob/e28a9e0a92e17042ba3e83661e4c0fbce8bdc4ba/LI
30434         CENSE.md",
30435       "x-copyright": "Copyright 2018-2019 Open Connectivity Foundation, Inc. All rights reserved."
30436     },
30437     "termsOfService": "https://openconnectivityfoundation.github.io/core/DISCLAIMER.md"
30438   },
30439   "schemes": [
30440     "http"
30441   ],
30442   "consumes": [
30443     "application/json"
30444   ],
30445   "produces": [
30446     "application/json"
30447   ],
30448   "paths": {
30449     "/SpeedResURI": {
30450       "get": {
30451         "description": "This Resource describes the speed of an object, which is the magnitude of
30452         its velocity.\n The unit, which is the default SI (International System of Units) unit, is metres
30453         per second.\n The speed Property is a read-only value that is provided by the server.\n When range
30454         (from \"oic.r.baseresource\") is omitted the default is 0 to +MAXFLOAT.",
30455         "parameters": [
30456           {
30457             "$ref": "#/parameters/interface"
30458           }
30459         ],
30460         "responses": {
30461           "200": {
30462             "description": "",
30463             "x-example": {
30464               "rt": [
30465                 "oic.r.speed"
30466               ],
30467               "speed": 10.0
30468             },
30469             "schema": {
30470               "$ref": "#/definitions/Speed"
30471             }
30472           }
30473         }
30474       }
30475     }
30476   },
30477   "parameters": {
30478     "interface": {
30479       "in": "query",
30480       "name": "if",
30481       "type": "string",
30482       "enum": [
30483         "oic.if.s",
30484         "oic.if.baseline"
30485       ]
30486     }
30487   }
30488 }
```

```

30487 },
30488 "definitions": {
30489   "Speed": {
30490     "properties": {
30491       "speed": {
30492         "description": "This Property describes the speed of an object in metres per second (SI
30493 Unit). It should be noted, however, that the most common unit of speed everyday usage is the
30494 kilometre per hour or, in the US and the UK, miles per hour.",
30495         "type": "number",
30496         "minimum": 0.0,
30497         "readOnly": true
30498       },
30499       "rt": {
30500         "description": "The Resource Type.",
30501         "items": {
30502           "enum": [
30503             "oic.r.speed"
30504           ],
30505           "type": "string"
30506         },
30507         "minItems": 1,
30508         "uniqueItems": true,
30509         "readOnly": true,
30510         "type": "array"
30511       },
30512       "n": {
30513         "$ref":
30514 "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
30515 schema.json#/definitions/n"
30516       },
30517       "if": {
30518         "description": "The OCF Interface set supported by this Resource.",
30519         "items": {
30520           "enum": [
30521             "oic.if.s",
30522             "oic.if.baseline"
30523           ],
30524           "type": "string"
30525         },
30526         "minItems": 1,
30527         "uniqueItems": true,
30528         "readOnly": true,
30529         "type": "array"
30530       },
30531       "range": {
30532         "$ref":
30533 "https://openconnectivityfoundation.github.io/IoTDataModels/schemas/oic.baseresource.properties-
30534 schema.json#/definitions/range_number"
30535       },
30536       "step": {
30537         "$ref":
30538 "https://openconnectivityfoundation.github.io/IoTDataModels/schemas/oic.baseresource.properties-
30539 schema.json#/definitions/step_number"
30540       },
30541     },
30542     "type": "object",
30543     "required": [
30544       "speed"
30545     ]
30546   }
30547 }
30548 }

```

30549 6.149.5 Property definition

30550 Table 301 defines the Properties that are part of the "oic.r.speed" Resource Type.

30551 **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 metres per second (SI Unit). It should be noted, however, that the most common unit of speed everyday usage is the kilometres 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	

30552 **6.149.6 CRUDN behaviour**

30553 Table 302 defines the CRUDN operations that are supported on the "oic.r.speed" Resource Type.

30554 **Table 302 – The CRUDN operations of the Resource with type "rt" = "oic.r.speed".**

Create	Read	Update	Delete	Notify
	get			observe

30555

30556

30557

30558 **6.150 Torque**

30559 **6.150.1 Introduction**

30560 This Resource describes the torque, which is the rotational equivalent of linear force.

30561 The unit, which is the default SI (International System of Units) unit, is N·m (Newton metre).

30562 The torque Property is a read-only value that is provided by the server.

30563 When range (from "oic.r.baseresource") is omitted the default is 0 to +MAXFLOAT.

30564 **6.150.2 Example URI**

30565 /TorqueResURI

30566 **6.150.3 Resource type**

30567 The Resource Type is defined as: "oic.r.torque".

30568 **6.150.4 OpenAPI 2.0 definition**

```
30569 {
30570   "swagger": "2.0",
30571   "info": {
30572     "title": "Torque",
30573     "version": "2019-05-13",
30574     "license": {
30575       "name": "OCF Data Model License",
30576       "url":
30577         "https://github.com/openconnectivityfoundation/core/blob/e28a9e0a92e17042ba3e83661e4c0fbce8bdc4ba/LI
30578 CENSE.md",
30579       "x-copyright": "Copyright 2018-2019 Open Connectivity Foundation, Inc. All rights reserved."
30580     },
30581     "termsOfService": "https://openconnectivityfoundation.github.io/core/DISCLAIMER.md"
30582   },
30583   "schemes": [
30584     "http"
30585   ],
30586   "consumes": [
30587     "application/json"
30588   ],
30589   "produces": [
30590     "application/json"
30591   ],
30592   "paths": {
30593     "/TorqueResURI": {
30594       "get": {
30595         "description": "This Resource describes the torque, which is the rotational equivalent of
30596 linear force.\n The unit, which is the default SI (International System of Units) unit, is N·m
30597 (Newton metre).\n The torque Property is a read-only value that is provided by the server.\n When
30598 range (from \"oic.r.baseresource\") is omitted the default is 0 to +MAXFLOAT.",
30599         "parameters": [
30600           {
30601             "$ref": "#/parameters/interface"
30602           }
30603         ],
30604         "responses": {
30605           "200": {
30606             "description": "",
30607             "x-example": {
30608               "rt": [
30609                 "oic.r.torque"
30610               ],
30611               "torque": 10.0
30612             },
30613             "schema": {
30614               "$ref": "#/definitions/Torque"
30615             }
30616           }
30617         }
30618       }
30619     }
30620   },
30621   "parameters": {
30622     "interface": {
30623       "in": "query",
30624       "name": "if",
30625       "type": "string",
30626       "enum": [
30627         "oic.if.s",
30628         "oic.if.baseline"
30629       ]
30630     }
30631   },
30632   "definitions": {
30633     "Torque": {
30634       "properties": {
30635         "torque": {
30636           "description": "This Resource describes the torque, which is the rotational equivalent of
30637 linear force, in N·m (Newton metre).",
30638           "type": "number",
```

```

30639         "minimum": 0.0,
30640         "readOnly": true
30641     },
30642     "rt": {
30643         "description": "The Resource Type.",
30644         "items": {
30645             "enum": [
30646                 "oic.r.torque"
30647             ],
30648             "type": "string"
30649         },
30650         "minItems": 1,
30651         "uniqueItems": true,
30652         "readOnly": true,
30653         "type": "array"
30654     },
30655     "n": {
30656         "$ref":
30657         "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
30658         schema.json#/definitions/n"
30659     },
30660     "if": {
30661         "description": "The OCF Interface set supported by this Resource.",
30662         "items": {
30663             "enum": [
30664                 "oic.if.s",
30665                 "oic.if.baseline"
30666             ],
30667             "type": "string"
30668         },
30669         "minItems": 1,
30670         "uniqueItems": true,
30671         "readOnly": true,
30672         "type": "array"
30673     },
30674     "range": {
30675         "$ref":
30676         "https://openconnectivityfoundation.github.io/IoTDataModels/schemas/oic.baseresource.properties-
30677         schema.json#/definitions/range_number"
30678     },
30679     "step": {
30680         "$ref":
30681         "https://openconnectivityfoundation.github.io/IoTDataModels/schemas/oic.baseresource.properties-
30682         schema.json#/definitions/step_number"
30683     }
30684 },
30685 "type": "object",
30686 "required": [
30687     "torque"
30688 ]
30689 }
30690 }
30691 }

```

6.150.5 Property definition

Table 303 defines the Properties that are part of the "oic.r.torque" Resource Type.

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	

30695 **6.150.6 CRUDN behaviour**

30696 Table 304 defines the CRUDN operations that are supported on the "oic.r.torque" Resource Type.

30697 **Table 304 – The CRUDN operations of the Resource with type "rt" = "oic.r.torque".**

Create	Read	Update	Delete	Notify
	get			observe

30698
30699

30700 **6.151 Water Info**

30701 **6.151.1 Introduction**

30702 This Resource describes the water information to indicate type of water currently provided by the
30703 device. The water type can be read or set.

30704 The Property "supportedwatertypes" is an array of the possible water types are defined by the
30705 enumeration ["cold", "hot", "ambient", "ice"].

30706 The Property "supportedadditivetypes" is an array of the possible additive types for water. The
30707 additive types mean optional types that can be added to the specific water type according to
30708 Client's preference and are defined by the enumeration ["none", "soda", "mineral"]. If absent, the
30709 default value is "none".

30710 The Property "currentwatertype" is the currently desired water type.

30711 The Property "currentadditivetypes" is the currently desired additive type(s).

30712 For example, if "cold" is selected with the "currentwatertype", "soda" and "mineral" or both can be
30713 selected as "currentadditivetypes". Note that if "hot" is selected with the "currentwatertype",
30714 "soda" and "mineral" may be restricted for the "currentadditivetypes".

30715 **6.151.2 Example URI**

30716 /WaterInfoResURI

30717 **6.151.3 Resource type**

30718 The Resource Type is defined as: "oic.r.waterinfo".

30719 **6.151.4 OpenAPI 2.0 definition**

```
30720 {
30721   "swagger": "2.0",
30722   "info": {
30723     "title": "Water Info",
30724     "version": "2019-06-13",
30725     "license": {
30726       "name": "OCF Date Model License",
30727       "url":
30728         "https://github.com/openconnectivityfoundation/core/blob/e28a9e0a92e17042ba3e83661e4c0fbce8bdc4ba/LI
30729 CENSE.md",
30730       "x-copyright": "Copyright 2019 Open Connectivity Foundation, Inc. All rights reserved."
30731     },
30732   }
```

```

30732     "termsOfService": "https://openconnectivityfoundation.github.io/core/DISCLAIMER.md"
30733   },
30734   "schemes": ["http"],
30735   "consumes": ["application/json"],
30736   "produces": ["application/json"],
30737   "paths": {
30738     "/WaterInfoResURI":{
30739       "get": {
30740         "description": "This Resource describes the water information to indicate type of water
30741 currently provided by the device. The water type can be read or set.\nThe Property
30742 \\"supportedwatertypes\\" is an array of the possible water types are defined by the enumeration
30743 [\\"cold\\", \\"hot\\", \\"ambient\\", \\"ice\\"].\nThe Property \\"supportedadditivetypes\\" is an array of
30744 the possible additive types for water. The additive types mean optional types that can be added to
30745 the specific water type according to Client's preference and are defined by the enumeration
30746 [\\"none\\", \\"soda\\", \\"mineral\\"]. If absent, the default value is \\"none\\". \nThe Property
30747 \\"currentwatertype\\" is the currently desired water type. \nThe Property \\"currentadditivetypes\\" is
30748 the currently desired additive type(s). \nFor example, if \\"cold\\" is selected with the
30749 \\"currentwatertype\\", \\"soda\\" and \\"mineral\\" or both can be selected as \\"currentadditivetypes\\".
30750 Note that if \\"hot\\" is selected with the \\"currentwatertype\\", \\"soda\\" and \\"mineral\\" may be
30751 restricted for the \\"currentadditivetypes\\".",
30752     "parameters": [
30753       {"$ref": "#/parameters/interface"}
30754     ],
30755     "responses": {
30756       "200": {
30757         "description" : "RETRIEVES the set of supported water type information and current
30758 desired water type information.",
30759         "x-example": {
30760           "rt": ["oic.r.waterinfo"],
30761           "if": ["oic.if.rw", "oic.if.baseline"],
30762           "supportedwatertypes": ["cold", "hot", "ambient", "ice"],
30763           "supportedadditivetypes": ["none", "soda", "mineral"],
30764           "currentwatertype": "cold",
30765           "currentadditivetypes": ["soda", "mineral"]
30766         },
30767         "schema": {"$ref": "#/definitions/WaterInfo" }
30768       }
30769     },
30770     "post":{
30771       "description": "Sets the desired water type.",
30772       "parameters": [
30773         {"$ref": "#/parameters/interface"},
30774         {
30775           "name": "body",
30776           "in": "body",
30777           "required": true,
30778           "schema": { "$ref": "#/definitions/WaterInfoUpdate" },
30779           "x-example": {
30780             "currentwatertype": "hot",
30781             "currentadditivetypes": ["none"]
30782           }
30783         }
30784       ],
30785     },
30786     "responses":{
30787       "200": {
30788         "description" : "Indicates that the current desired water type and additive type(s) were
30789 changed. \n\nThe new desired water type info is provided in the response.\n",
30790         "x-example": {
30791           "currentwatertype": "hot",
30792           "currentadditivetypes": ["none"]
30793         },
30794         "schema": { "$ref": "#/definitions/WaterInfoUpdate" }
30795       },
30796       "403":{
30797         "description" : "This response is generated by the OCF Server when the client sends:\n
30798 An UPDATE with an invalid property value for \\"currentwatertype\\".\n\nThe OCF Server responds with the
30799 current resource representation.\n",
30800         "x-example": {
30801           "supportedwatertypes": ["cold", "hot", "ambient", "ice"],
30802           "supportedadditivetypes": ["none", "soda", "mineral"],
30803           "currentwatertype": "cold",

```

```

30804         "currentadditivetypes": ["soda", "mineral"]
30805     },
30806     "schema": { "$ref": "#/definitions/WaterInfo" }
30807 }
30808 }
30809 }
30810 }
30811 },
30812 "parameters": {
30813     "interface": {
30814         "in": "query",
30815         "name": "if",
30816         "type": "string",
30817         "enum": ["oic.if.rw", "oic.if.baseline"]
30818     }
30819 },
30820 "definitions": {
30821     "WaterInfo" : {
30822         "properties": {
30823             "rt": {
30824                 "description": "The Resource Type.",
30825                 "items": {
30826                     "enum": ["oic.r.waterinfo"],
30827                     "maxLength": 64,
30828                     "type": "string"
30829                 },
30830                 "minItems": 1,
30831                 "uniqueItems": true,
30832                 "readOnly": true,
30833                 "type": "array"
30834             },
30835             "supportedwatertypes":{
30836                 "description": "The array of the possible water types.",
30837                 "items": {
30838                     "type": "string"
30839                 },
30840                 "readOnly": true,
30841                 "type": "array"
30842             },
30843             "supportedadditivetypes":{
30844                 "description": "The array of the possible additive types.",
30845                 "items": {
30846                     "type": "string"
30847                 },
30848                 "readOnly": true,
30849                 "type": "array"
30850             },
30851             "currentwatertype": {
30852                 "description": " The currently desired water type.",
30853                 "type": "string"
30854             },
30855             "currentadditivetypes":{
30856                 "description": "The currently desired additive type(s) according to Client's
30857 preference.",
30858                 "items": {
30859                     "type": "string"
30860                 },
30861                 "minItems": 1,
30862                 "type": "array"
30863             },
30864             "n": {
30865                 "$ref":
30866 "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
30867 schema.json#/definitions/n"
30868             },
30869             "id": {
30870                 "$ref":
30871 "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
30872 schema.json#/definitions/id"
30873             },
30874             "if": {
30875                 "description": "The OCF Interface set supported by this Resource.",

```

```

30876         "items": {
30877             "enum": [
30878                 "oic.if.rw",
30879                 "oic.if.baseline"
30880             ],
30881             "type": "string"
30882         },
30883         "minItems": 2,
30884         "uniqueItems": true,
30885         "readOnly": true,
30886         "type": "array"
30887     }
30888 },
30889     "type": "object",
30890     "required": ["supportedwatertypes", "currentwatertype"]
30891 },
30892 "WaterInfoUpdate":{
30893     "properties":{
30894         "currentwatertype": {
30895             "description": "Set the desired water type.",
30896             "type": "string"
30897         },
30898         "currentadditivetypes": {
30899             "description": "Set the desired additive type(s).",
30900             "items": {
30901                 "type": "string"
30902             },
30903             "minItems": 1,
30904             "type": "array"
30905         }
30906     },
30907     "type": "object",
30908     "required": ["currentwatertype"]
30909 }
30910 }
30911 }
30912
30913
30914

```

30915 6.151.5 Property definition

30916 Table 305 defines the Properties that are part of the "oic.r.waterinfo" Resource Type.

30917 **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.
currentwatertype	string	Yes	Read Write	The currently desired water type.
n	multiple types: see schema	No	Read Write	
supportedwatertypes	array: see schema	Yes	Read Only	The array of the possible water types.
id	multiple types: see schema	No	Read Write	
supportedadditivetypes	array: see schema	No	Read Only	The array of the possible additive types.
if	array: see schema	No	Read Only	The OCF Interface set supported by this Resource.

currentadditivetypes	array: see schema	No	Read Write	The currently desired additive type(s) according to Client's preference.
currentwatertype	string	Yes	Read Write	Set the desired water type.
currentadditivetypes	array: see schema	No	Read Write	Set the desired additive type(s).

30918 **6.151.6 CRUDN behaviour**

30919 Table 306 defines the CRUDN operations that are supported on the "oic.r.waterinfo" Resource
30920 Type.

30921 **Table 306 – The CRUDN operations of the Resource with type "rt" = "oic.r.waterinfo".**

Create	Read	Update	Delete	Notify
	get	post		observe

30922

30923

30924