

OCF Resource Type Specification

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1438	Table 280 – The CRUDN operations of the Resource with type "rt" =	
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1440	Table 281 – The Property definitions of the Resource with type "rt" =	
1441	"oic.r.pulsatileoccurrence".	516
1442	Table 282 – The CRUDN operations of the Resource with type "rt" =	
1443	"oic.r.pulsatileoccurrence".	516
1444	Table 283 – The Property definitions of the Resource with type "rt" = "oic.r.pulseoximeter-	
1445	am, oic.wk.atomicmeasurement".	524
1446	Table 284 – The CRUDN operations of the Resource with type "rt" = "oic.r.pulseoximeter-	
1447	am, oic.wk.atomicmeasurement".	525
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1451	am, oic.wk.atomicmeasurement".....	536
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1453	am, oic.wk.atomicmeasurement".....	537
1454	Table 289 – The Property definitions of the Resource with type "rt" = "oic.r.spo2".....	540
1455	Table 290 – The CRUDN operations of the Resource with type "rt" = "oic.r.spo2".	540
1456		

1457 **1 Scope**

1458 This document specifies the Resources that have been defined by OCF that may be exposed by
1459 an OCF Device.

1460 Application profile device specifications (for example those created for Smart Home or Healthcare)
1461 specify device types appropriate to the profile; such specifications use Resource Type definitions
1462 from this document.

1463 This document is built on top of ISO/IEC 30118-1:2018. ISO/IEC 30118-1:2018 specifies the OCF
1464 Framework that enables the implementation of profiles for IoT usages and ecosystems. The OCF
1465 Core Framework is scalable to support simple devices (constrained device) and more capable
1466 devices (smart device).

1467 **2 Normative references**

1468 The following documents are referred to in the text in such a way that some or all of their content
1469 constitutes requirements of this document. For dated references, only the edition cited applies. For
1470 undated references, the latest edition of the referenced document (including any amendments)
1471 applies.

1472 ISO/IEC 30118-1:2018 Information technology -- Open Connectivity Foundation (OCF)
1473 Specification -- Part 1: Core specification
1474 <https://www.iso.org/standard/53238.html>
1475 Latest version available at: https://openconnectivity.org/specs/OCF_Core_Specification.pdf

1476 OpenAPI specification, fka *Swagger RESTful API Documentation Specification*, Version 2.0
1477 <https://github.com/OAI/OpenAPI-Specification/blob/master/versions/2.0.md>

1478 **3 Terms, definitions, and abbreviated terms**

1479 For the purposes of this document, the terms and definitions given in ISO/IEC 30118-1:2018 and
1480 the following apply.

1481 ISO and IEC maintain terminological databases for use in standardization at the following
1482 addresses:

- 1483 – ISO Online browsing platform: available at <https://www.iso.org/obp>
- 1484 – IEC Electropedia: available at <http://www.electropedia.org/>

1485 **3.1 Terms and definitions**

1486 **3.1.1**

1487 **actuator**

1488 resource with support of the UPDATE operation

1489 **3.1.2**

1490 **Composite Resource Type**

1491 a Resource Type defined as an OCF Collection of other Resource Types

1492 **3.1.3**

1493 **sensor**

1494 resource without support of the UPDATE operation

1495 **3.2 Abbreviated terms**

1496 **3.2.1**

1497 **CRUDN**

1498 Create Retrieve Update Delete Notify

1499 This is an acronym indicating which operations are possible on the Resource.

1500 **4 Document conventions and organization**

1501 **4.1 Conventions**

1502 In this document a number of terms, conditions, mechanisms, sequences, parameters, events,
1503 states, or similar terms are printed with the first letter of each word in uppercase and the rest
1504 lowercase (e.g., Resource Type). Any lowercase uses of these words have the normal technical
1505 English meaning.

1506 **4.2 Notation**

1507 In this document, features are described as required, recommended, allowed or DEPRECATED as
1508 follows:

1509 Required (or shall or mandatory).

1510 These basic features shall be implemented to comply with OCF Resource Type Specification.
1511 The phrases "shall not", and "PROHIBITED" indicate behaviour that is prohibited, i.e. that if
1512 performed means the implementation is not in compliance.

1513 Recommended (or should).

1514 These features add functionality supported by the OCF Resource Type Specification and should
1515 be implemented. Recommended features take advantage of the capabilities of the OCF
1516 Resource Type Specification, usually without imposing major increase of complexity. Notice
1517 that for compliance testing, if a recommended feature is implemented, it shall meet the specified
1518 requirements to be in compliance with these guidelines. Some recommended features could
1519 become requirements in the future. The phrase "should not" indicates behaviour that is
1520 permitted but not recommended.

1521 Allowed (or allowed).

1522 These features are neither required nor recommended by OCF Resource Type Specification,
1523 but if the feature is implemented, it shall meet the specified requirements to be in compliance
1524 with these guidelines.

1525 DEPRECATED

1526 Although these features are still described in this document, they should not be implemented
1527 except for backward compatibility. The occurrence of a deprecated feature during operation of
1528 an implementation compliant with the current document has no effect on the implementation's
1529 operation and does not produce any error conditions. Backward compatibility may require that
1530 a feature is implemented and functions as specified but it shall never be used by
1531 implementations compliant with this document.

1532 Conditionally allowed (CA)

1533 The definition or behaviour depends on a condition. If the specified condition is met, then the
1534 definition or behaviour is allowed, otherwise it is not allowed.

1535 Conditionally required (CR)

1536 The definition or behaviour depends on a condition. If the specified condition is met, then the
1537 definition or behaviour is required. Otherwise the definition or behaviour is allowed as default
1538 unless specifically defined as not allowed.

1539 Strings that are to be taken literally are enclosed in "double quotes".

1540 Words that are emphasized are printed in *italic*.

1541 **4.3 Data types**

1542 This document adopts the types defined in ISO/IEC 30118-1:2018 with the exceptions defined in
1543 this clause

1544 All Properties in this document that are defined as JSON number type shall be transmitted encoded
1545 as floating point values and not integer values. Reception of Properties defined as JSON number
1546 type shall be as defined in ISO/IEC 30118-1:2018. See ISO/IEC 30118-1:2018 clause 12.4 for
1547 specifics.

1548 **5 Baseline Model Constructs**

1549 **5.1 URI**

1550 The URIs mentioned in this document are non-normative, they may be vendor defined.

1551 An Instance of a Resource is indicated by the URI. When more than one instance of the same
1552 Resource Type is used in an OCF Device, different URIs for the different Resource instances shall
1553 be used.

1554 An implementation shall follow the requirements defined in ISO/IEC 30118-1:2018 with respect to
1555 population of the URI. Please refer to the ISO/IEC 30118-1:2018 clauses 6.2 and 6.3 for specific
1556 details.

1557 **5.2 Interfaces**

1558 **5.2.1 Introduction**

1559 ISO/IEC 30118-1:2018 specifies that all Resource Types have associated with them at least one
1560 Interface; this Interface is advertised during Resource discovery. In addition ISO/IEC 30118-1:2018
1561 defines a number of Interfaces that can be applied to an instance of a Resource Type.

1562 The difference between using sensor/actuator and read/write interfaces is due to the fact that a
1563 sensor/actuator interface describes an action that has immediate effect on the device, either by
1564 reading the sensed value and putting the value on the wire, or as an UPDATE action that something
1565 needs to happen (e.g. actuate) on the device. The read/write interface is typically used to set a
1566 settings value on the device that might be used later when an action occurs. A typical example is
1567 setting the coffee strength that will be used when the coffee is brewed.

1568 **5.2.2 Restricting Interface Functionality**

1569 Note that the functionality associated with, or visibility of, an instance of any Resource exposed by
1570 a Device may be restricted depending upon local (per country or legislative region) regulatory
1571 requirements or other restrictions (e.g. with respect to Binary Switch in some jurisdictions the ability
1572 to remotely power on a connected device is restricted; a lock status could be read-only depending
1573 on the context).

1574 The actual implementation of a resource can be limited by:

- 1575 – Not implementing the optional properties defined in the payload of a CRUDN operation.
- 1576 – Removing CRUDN operations

1577 If an UPDATE operation of a resource that can be actuated is not implemented, this change in
1578 behaviour is indicated by changing the interfaces accordingly.

1579 When the resource is defined with the interface "oic.if.a", and the UPDATE operation is removed
1580 then the interface listed is "oic.if.s".

1581 When the resource is defined with the interface "oic.if.rw", and the UPDATE operation is removed
1582 then the interface listed is "oic.if.r".

1583 **5.3 OpenAPI Specification 2.0 definition**

1584 The OpenAPI Specification 2.0 definitions provided in clause 6 in this document are normative.

1585 The OpenAPI Specification 2.0 definitions are used to describe the payloads of the CRUDN
 1586 operations on the specified Resource Type. The CRUDN operations are defined in ISO/IEC 30118-
 1587 1:2018. ISO/IEC 30118-1:2018 also specifies additional Properties in the payloads of the CRUDN
 1588 operations. The OpenAPI Specification 2.0 definitions in this document are not of themselves
 1589 sufficient to create an implementation, additional Properties defined in ISO/IEC 30118-1:2018 need
 1590 to be added to create a compliant implementation. This document makes use of a subset of the
 1591 responses supported by OpenAPI Specification 2.0, specifics on the use of these responses are
 1592 defined in Table 4. Note that the actual values of success and error conditions are defined in
 1593 ISO/IEC 30118-1:2018.

1594 The OpenAPI Specification 2.0 definitions map the OCF CRUDN behaviour to the OpenAPI
 1595 Specification 2.0 as defined in Table 1.

1596 **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

1597 Notify is not part of an OpenAPI Specification 2.0 definition but is defined in ISO/IEC 30118-1:2018.
 1598 All Resource Types defined in this document support notification via the use of observe as defined
 1599 in ISO/IEC 30118-1:2018 clause 11.4.2.

1600 **5.4 Property definition**

1601 **5.4.1 Common Properties**

1602 ISO/IEC 30118-1:2018 specifies a number of Properties that may be defined for OCF Resources.
 1603 The Common Properties “if” and “rt” shall be specified for all Resource Types defined in this
 1604 document; they are exposed within the ISO/IEC 30118-1:2018 defined “/oic/res/” Resource Type
 1605 through which the OCF Server and its available Resources are discovered. The Common
 1606 Properties “id” and “n” may be specified for all Resource Types defined in this document. Table 2
 1607 lists all of the noted Common Properties.

1608 If an OCF Client requires that these Properties be included in a Resource representation that is
 1609 provided in response to a RETRIEVE operation then the client shall select the ISO/IEC 30118-
 1610 1:2018 defined baseline interface (oic.if.baseline) by specifying this in a query parameter.

1611 **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

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

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)

1612

1613 5.4.2 Resource Properties

1614 5.4.2.1 Introduction

1615 The Properties against which the CRUDN operations are specified are defined as part of an
1616 OpenAPI Specification 2.0 definition.

1617 A basic Resource Type is formulated around one single value denoting a physical property.

1618 Such a Resource Type is specified with the Properties as defined Table 3. Mandatory in the table
1619 means that the Property shall be defined as part of the overall Resource Type schema; actual
1620 inclusion of the Property as part of a returned or generated payload is dependent upon the schema
1621 that applies to the operation being invoked.

1622 **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.

1623

1624 For Resources, which by their nature have more than one physical parameter, the value Property
 1625 can be replaced with multiple Properties specifying the different physical parameters, or with further
 1626 structures such as arrays of Properties, objects, or Collections. The type of the value shall be
 1627 indicated in the OpenAPI Specification 2.0 definition of the Resource Type and should be suitable
 1628 for the conveyed value. All Property Names and Property Values defined in this document are case
 1629 sensitive.

1630 **5.4.2.2 "range" Property**

1631 The "range" defines the valid range for the Property in the Resource as a two element array. This
 1632 is either an integer or a number range. The first value in the array is the minimum value, the second
 1633 value in the array is the maximum value.

1634 **5.4.2.3 "step" Property**

1635 The "step" defines the step value across the defined "range" as either an integer or a number. This
 1636 is the increment for valid values across the range. For example, for the integer case if the "range"
 1637 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
 1638 0.0..10.0 and "step" is 2.5 then valid values are 0.0,2.5,5.0,7.5,10.0.

1639 **5.4.2.4 "precision" Property**

1640 When exposed the value in "precision" provides a +/- tolerance against the Properties in the
 1641 Resource. Thus if a Property is UPDATED to a value and that Property then RETRIEVED, the
 1642 RETRIEVED value is valid if in the range of the set value +/- precision

1643 **5.4.3 Basic Resource Schema**

1644 All Resource Types defined herein are represented as previously noted by OpenAPI Specification
 1645 2.0 files.

1646 **5.4.4 CRUDN Operation Response Codes**

1647 A Resource can be created or updated depending on the Resource Type definition and the allowed
 1648 CRUDN operations. The operation may have different response codes with different meanings.
 1649 This is explained in Table 4.

1650 **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.

	<p>Case 2:</p> <p>The server could not CREATE or UPDATE the Resource due to a problem with the provided payload.</p> <p>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).</p>
--	---

1651

1652 **5.5 Example Resource Definitions**

1653 Please see the OCF Resource Types in Clause 6 for examples of Resource Definitions. For an
 1654 example Resource Type that models an actuator refer to the definition of Dimming; for an example
 1655 Resource Type that models a sensor refer to the definition of an Illuminance Sensor.

1656 **5.6 Observable Resource Types**

1657 **5.6.1 Introduction**

1658 ISO/IEC 30118-1:2018 defines a mechanism by which Resources can advertise themselves as
 1659 "Observable" to an OCF Client. All Resource Types defined in this document may be observed.
 1660 Whether or not a Resource Type is made observable via use of the Policy Link Parameter is entirely
 1661 implementation dependent.

1662 **5.6.2 Conditional Notification**

1663 **5.6.2.1 General**

1664 All observable Resources may apply conditions to the generation of notifications that result from
 1665 the observe action, these conditions can be time based or value based or time and value based.
 1666 This is achieved by composing the Conditional Notification (oic.r.value.conditional) Resource Type
 1667 with an instance of an observable Resource; that is the Resource that is exposed by the Server
 1668 has an "rt" of "["oic.r.<resource>" , "oic.r.value.conditional"]".

1669 **5.6.2.2 Conditional Notification Property Summary**

1670 Table 5 summarizes the Properties provided by the Conditional Notification Resource Type. At
 1671 least one Property from the table shall be present in an instance of the Resource Type.

1672 **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

1673

1674 All Properties if exposed shall be set with initial values. All Properties may be exposed with a value
 1675 of "0" (zero); this indicates that the functionality associated with the Property is not active. Any
 1676 Client may update the exposed values subject to any ACL restrictions; such changes are global
 1677 and apply to all notifications that are sent to all observers. A notifier may reject an update to the
 1678 Property values; in such cases a diagnostic payload should be included in the rejection response
 1679 indicating the valid ranges for the Properties.

1680 **5.6.2.3 Property Definition: threshold**

1681 Minimum value change between two notifications. A notification shall be sent (within the constraints
 1682 of "minnotifyperiod") when the change since the last notification is greater than or equal to this
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1683 value. The measurement is done against the value in the last notification that was sent; thus all
1684 notifications (within any “maxnotifyperiod” constraints that may be present) will carry values that
1685 differ by at least “threshold”. A “threshold” value of “0” means that no “threshold” is applied.

1686 **5.6.2.4 Property Definition: minnotifyperiod**

1687 Minimum time (in ms) that shall occur between notifications. If a value change condition is met
1688 (“threshold” equalled or exceeded or any change in value if threshold is not present) before
1689 expiration the notification shall not be sent till the period expires. If the Property is present and set
1690 to “0” then no minimum notify period timer is run; if the Property is present and with a value greater
1691 than “0” then a minimum notify period timer shall be run equal to the value. The Property value
1692 itself is initially populated by the notifier. If the Property is not present, the minimum notify period
1693 is up to the notifier. The timer shall be reset each time a notification is sent.

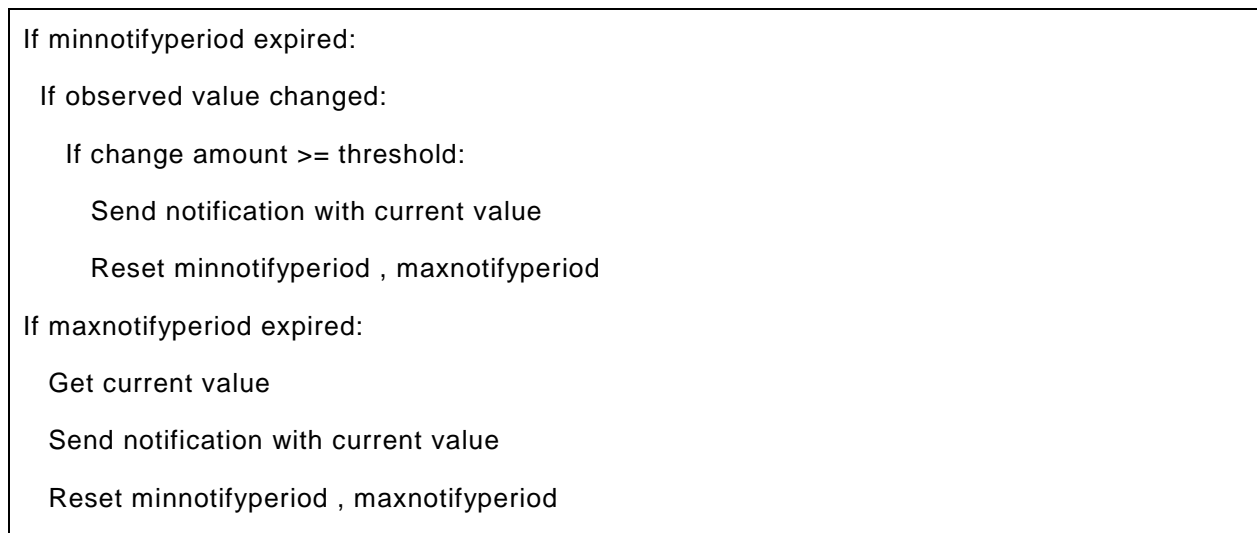
1694 **5.6.2.5 Property Definition: maxnotifyperiod**

1695 Maximum time (in ms) that the notifier shall not exceed between notifications. When the timer
1696 expires a notification shall be sent. If present and set to “0” then no maximum notify period timer
1697 is run; if present and with a value greater than 0 then a maximum notify period timer shall be run
1698 equal to the value. The Property value itself shall be initially populated by the notifier. When both
1699 “minnotifyperiod” and “maxnotifyperiod” are present and both are non-zero the value of
1700 “maxnotifyperiod” shall be larger than the “minnotifyperiod”. If not present, the value shall be set
1701 by the notifier. The timer shall be reset each time a notification is sent.

1702 **5.6.2.6 Governing State Machine**

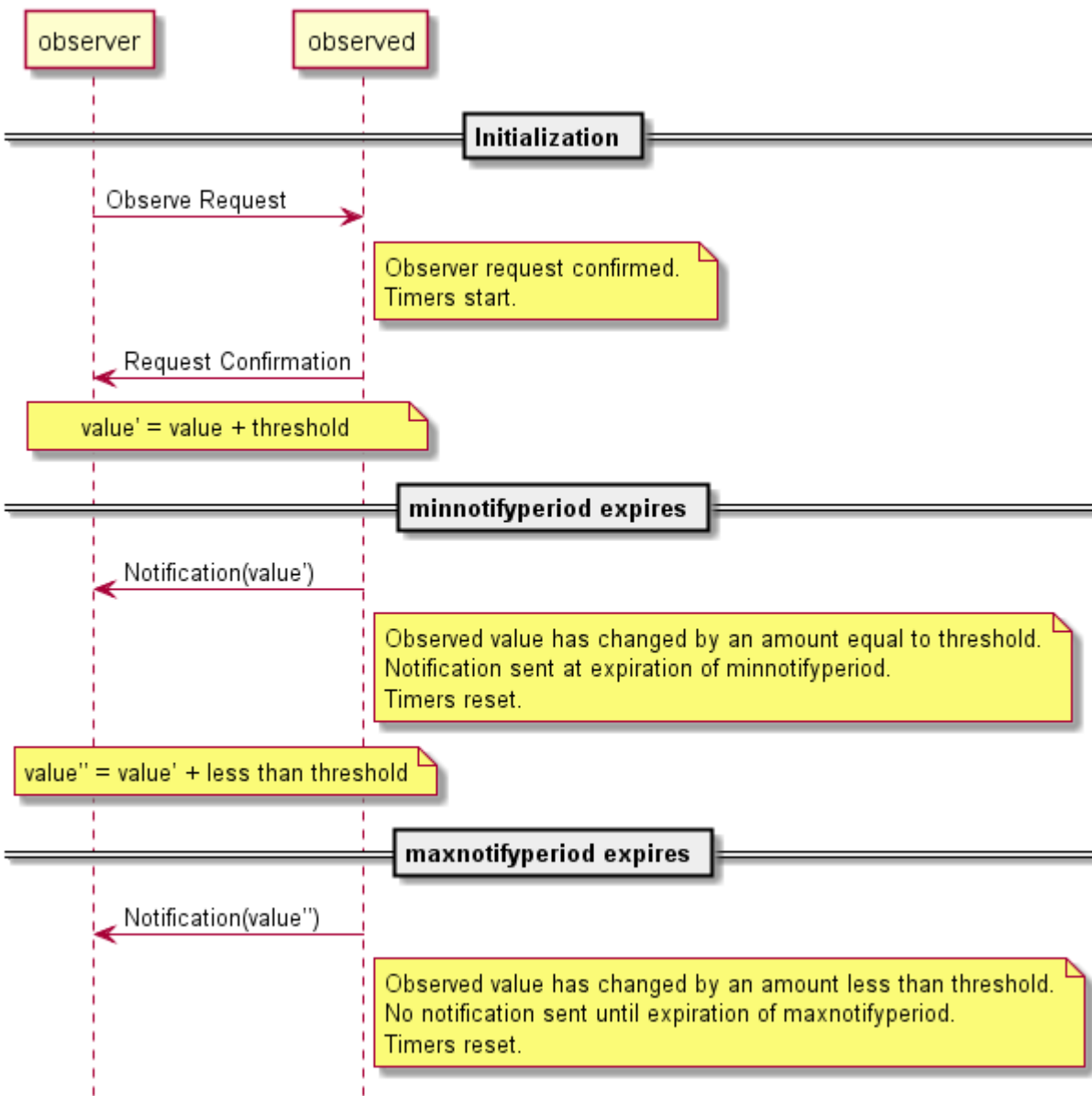
1703 The “minnotifyperiod” and “maxnotifyperiod” timers are restarted each time a notification is sent
1704 (response to the Observe). A notification is sent when value change condition (threshold) and
1705 “minnotifyperiod” are both met if both are present. If the observed Property value subsequently
1706 drops beneath threshold before the expiration of “minnotifyperiod” the notifier may take no action
1707 or a notification may be sent on expiration of “minnotifyperiod” containing the current observed
1708 Property value (at the time of the notification). If there are no timer constraints; then notifications
1709 are sent whenever the observed Property value has changed by an amount greater than or equal
1710 to “threshold”.

1711 Overall logic is defined in Figure 1. Figure 2 provides an illustrative sequence.



1712 **Figure 1 – Overall conditional notification logic**

1713



1714

1715

Figure 2 – Conditional Notification Example Flow

1716

1717 **5.7 Composite Resource Types**

1718 Composite Resource Types are Resources that comprises of one or more single or other composite
 1719 Resource Types, an example of which is shown in Figure 3. The Composite Resource Type can be
 1720 viewed upon as a new single Resource Type. The Composite Resource Type mechanism is a
 1721 powerful concept since it uses existing Resource Types in a new combination to express more
 1722 contexts to a Resource without specifying new single unit Resource Types.

1723 Composite Resource Types are defined by linking the referenced existing Resource values in to a
 1724 Collection.

1725 The linking is done by using an array of Links; refer to ISO/IEC 30118-1:2018 clause 7.8.2 for more
1726 details. Note that the example in Figure 3 contains a partial schema of this definition as it is for
1727 descriptive purpose only. The Property name of the array in the example is “resources”.

1728 The contents of the listed Resources can be achieved in a single operation by using the ISO/IEC
1729 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": [
          {"$ref": "#/parameters/interface-baseline"}
        ],
        "responses": {
          "200": {
            "description": "Success path response for the Resource",
            "x-example": {
              "rt": ["oic.r.exaple"],
              "if": ["oic.if.ll", "oic.if.b", "oic.if.baseline"],
              "id": "unique_example_id",
              "resources": [
                {
                  "href": "/TimeIntervalResURI",
                  "rt": ["oic.r.time.period"],
                  "if": ["oic.if.a", "oic.if.baseline"],
                  "eps": [{"ep": "coaps://[fe80::b1d6]:1122"}]
                },
                {
                  "href": "/GasConsumptionResURI",
                  "rt": ["oic.r.gas.consumption"],
                  "if": ["oic.if.s", "oic.if.baseline"],
                  "eps": [{"ep": "coaps://[fe80::b1d6]:1122"}]
                }
              ]
            },
            "schema": {"$ref": "#/definitions/composite"}
          }
        }
      }
    }
  }
}
```

Figure 3 – Composite Resource Example

1730
1731 **5.8 Document Version**

1732 Devices conformant to this document version shall add the string “ocf.res.1.3.0” to the dmV Property
1733 in “oic.wk.d”. This Property is for legacy Device support only and will no longer be revised in
1734 alignment with document versions.

1735 **6 Resource Type definitions**

1736 **6.1 Introduction**

1737 This clause contains definitions for all Resource Types; the complete set is listed in Table 6 –
1738 Alphabetical list of Resource Types.

1739 All Resource Types shall be created in accordance with ISO/IEC 30118-1:2018 clause 7.4. All
1740 comparisons against a Resource Type shall be case insensitive.

1741 All Resource Types in this document are prefixed with “oic.r” denoting that it is an OCF defined
1742 Resource Type.

1743 **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
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
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
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
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
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
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
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 Sensor	oic.r.sensor.water	6.55
Weight	oic.r.weight	6.65
Window Covering	oic.r.windowcovering	6.126

1745 6.2 Air Flow

1746 6.2.1 Introduction

1747 This Resource describes Properties associated with air flow.
1748 The Property "supporteddirections" is the set of valid values for the direction property for a
1749 particular instance of this Resource Type.
1750 The Property "direction" is the directionality of the air flow if applicable, if Property
1751 "supporteddirections" is also present it must be a value from that set.
1752 The values of Property "direction" are dependent on the capabilities of the unit.
1753 The Property "speed" is an integer representing the current speed level for the unit.
1754 The Property "range" is an array of the min,max values for the speed level. If not present the
1755 "range" defaults to [0,100].
1756 Property "automode" is the status of the automode feature; Off means automode is not enabled,
1757 On means automode is active and the speed is automatically controlled by the Device.

1758 6.2.2 Example URI

1759 /AirFlowResURI

1760 6.2.3 Resource type

1761 The Resource Type is defined as: "oic.r.airflow".

1762 6.2.4 OpenAPI 2.0 definition

```
1763 {  
1764   "swagger": "2.0",  
1765   "info": {  
1766     "title": "Air Flow",  
1767     "version": "20190215",  
1768     "license": {  
1769       "name": "OCF Data Model License",  
1770       "url":  
1771       "https://github.com/openconnectivityfoundation/core/blob/e28a9e0a92e17042ba3e83661e4c0fbce8bdc4ba/LI  
1772       CENSE.md",  
1773       "x-copyright": "copyright 2016-2017, 2019 Open Connectivity Foundation, Inc. All rights  
1774       reserved."  
1775     },  
1776     "termsOfService": "https://openconnectivityfoundation.github.io/core/DISCLAIMER.md"  
1777   },  
1778   "schemes": ["http"],  
1779   "consumes": ["application/json"],  
1780   "produces": ["application/json"],  
1781   "paths": {  
1782     "/AirFlowResURI" : {  
1783       "get": {  
1784         "description": "This Resource describes Properties associated with air flow.\n\nThe Property  
1785         \"supporteddirections\" is the set of valid values for the direction property for a particular  
1786         instance of this Resource Type.\n\nThe Property \"direction\" is the directionality of the air flow if  
1787         applicable, if Property \"supporteddirections\" is also present it must be a value from that set.\n\nThe  
1788         values of Property \"direction\" are dependent on the capabilities of the unit.\n\nThe Property  
1789         \"speed\" is an integer representing the current speed level for the unit.\n\nThe Property \"range\"  
1790         is an array of the min,max values for the speed level. If not present the \"range\" defaults to  
1791         [0,100].\n\nProperty \"automode\" is the status of the automode feature; Off means automode is not  
1792         enabled, On means automode is active and the speed is automatically controlled by the Device.",  
1793         "parameters": [  
1794           {"$ref": "#/parameters/interface"}  
1795         ],  
1796         "responses": {  
1797           "200": {  
1798             "description": "",  
1799             "x-example":  
1800             {  
1801               "rt": ["oic.r.airflow"],  
1802               "if": ["oic.if.a", "oic.if.baseline"],  
1803               "supporteddirections": ["left", "right", "centre"],  
1804               "direction": "left",  
1805               "speed": 5,  

```

```

1806         "range": [1, 7],
1807         "automode": "Off"
1808     },
1809     "schema": { "$ref": "#/definitions/AirFlow" }
1810 }
1811 }
1812 },
1813 "post": {
1814     "description": "Sets the current air flow values.\nOnly \"direction\" and \"speed\"
1815 Properties may be set by an UPDATE operation.\n",
1816     "parameters": [
1817         { "$ref": "#/parameters/interface" },
1818         {
1819             "name": "body",
1820             "in": "body",
1821             "required": true,
1822             "schema": { "$ref": "#/definitions/AirFlow" },
1823             "x-example":
1824                 {
1825                     "direction": "right",
1826                     "speed": 3
1827                 }
1828         }
1829     ],
1830     "responses": {
1831         "200": {
1832             "description": "",
1833             "x-example":
1834                 {
1835                     "direction": "right",
1836                     "speed": 3
1837                 },
1838             "schema": { "$ref": "#/definitions/AirFlow" }
1839         },
1840         "403": {
1841             "description": "This response is generated by the OCF Server when the client sends:\n
1842 An UPDATE with an invalid Property value for direction.\n An UPDATE with an out of range property
1843 value for speed.\nThe server may respond with the current resource representation.\n",
1844             "x-example":
1845                 {
1846                     "supporteddirections": ["left", "right", "centre"],
1847                     "direction": "right",
1848                     "speed": 3
1849                 },
1850             "schema": { "$ref": "#/definitions/AirFlow" }
1851         }
1852     }
1853 }
1854 }
1855 },
1856 "parameters": {
1857     "interface": {
1858         "in": "query",
1859         "name": "if",
1860         "type": "string",
1861         "enum": ["oic.if.a", "oic.if.baseline"]
1862     }
1863 },
1864 "definitions": {
1865     "AirFlow": {
1866         "properties": {
1867             "rt": {
1868                 "description": "The Resource Type",
1869                 "items": {
1870                     "enum": ["oic.r.airflow"],
1871                     "maxLength": 64,
1872                     "type": "string"
1873                 },
1874                 "minItems": 1,
1875                 "uniqueItems": true,
1876                 "readOnly": true,
1877                 "type": "array"

```

```

1878     },
1879     "speed" : {
1880         "description": "The current speed level.",
1881         "type": "integer"
1882     },
1883     "direction" : {
1884         "description": "The directionality of the air flow, a value indicated by
1885 \supporteddirections\".",
1886         "type": "string"
1887     },
1888     "automode" : {
1889         "description": "The status of the automode feature, if on speed is set by the Device.",
1890         "enum": [
1891             "On",
1892             "Off"
1893         ],
1894         "type": "string"
1895     },
1896     "supporteddirections" : {
1897         "description": "The array of possible direction settings for this instance of the Resource
1898 Type.",
1899         "items": {
1900             "minItems": 1,
1901             "type": "string",
1902             "uniqueItems": true
1903         },
1904         "readOnly": true,
1905         "type": "array"
1906     },
1907     "n": {
1908         "$ref":
1909 "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
1910 schema.json#/definitions/n"
1911     },
1912     "id": {
1913         "$ref":
1914 "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
1915 schema.json#/definitions/id"
1916     },
1917     "range": {
1918         "$ref":
1919 "https://openconnectivityfoundation.github.io/IoTDataModels/schemas/oic.baseresource.properties-
1920 schema.json#/definitions/range_integer"
1921     },
1922     "step": {
1923         "$ref":
1924 "https://openconnectivityfoundation.github.io/IoTDataModels/schemas/oic.baseresource.properties-
1925 schema.json#/definitions/step_integer"
1926     },
1927     "if": {
1928         "description": "The OCF Interface set supported by this Resource.",
1929         "items": {
1930             "enum": [
1931                 "oic.if.a",
1932                 "oic.if.baseline"
1933             ],
1934             "type": "string"
1935         },
1936         "minItems": 2,
1937         "uniqueItems": true,
1938         "readOnly": true,
1939         "type": "array"
1940     }
1941 },
1942 "type": "object",
1943 "required": ["speed"]
1944 }
1945 }
1946 }
1947

```

1948 **6.2.5 Property definition**

1949 Table 7 defines the Properties that are part of the "oic.r.airflow" Resource Type.

1950 **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	

1951 **6.2.6 CRUDN behaviour**

1952 Table 8 defines the CRUDN operations that are supported on the "oic.r.airflow" Resource Type.

1953 **Table 8 – The CRUDN operations of the Resource with type "rt" = "oic.r.airflow".**

Create	Read	Update	Delete	Notify

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

1954 **6.3 Air Flow Control**

1955 **6.3.1 Introduction**

1956 This Resource describes the attributes associated with control of air flow,
 1957 for example as modelled by a Thermostat (fan), Room A/C or other device.
 1958 The Resource is a Collection of:
 1959 AirFlow Resource
 1960 BinarySwitch Resource
 1961

1962 **6.3.2 Example URI**

1963 /AirFlowControlResURI

1964 **6.3.3 Resource type**

1965 The Resource Type is defined as: "oic.r.airflowcontrol".

1966 **6.3.4 OpenAPI 2.0 definition**

```

1967 {
1968   "swagger": "2.0",
1969   "info": {
1970     "title": "Air Flow Control",
1971     "version": "20190307",
1972     "license": {
1973       "name": "OCF Data Model License",
1974       "url":
1975         "https://github.com/openconnectivityfoundation/core/blob/e28a9e0a92e17042ba3e83661e4c0fbce8bdc4ba/LI
1976         CENSE.md",
1977       "x-copyright": "copyright 2016-2019 Open Connectivity Foundation, Inc. All rights reserved."
1978     },
1979     "termsOfService": "https://openconnectivityfoundation.github.io/core/DISCLAIMER.md"
1980   },
1981   "schemes": ["http"],
1982   "consumes": ["application/json"],
1983   "produces": ["application/json"],
1984   "paths": {
1985     "/AirFlowControlResURI?if=oic.if.ll" : {
1986       "get": {
1987         "description": "This Resource describes the attributes associated with control of air
1988         flow,\nfor example as modelled by a Thermostat (fan), Room A/C or other device.\nThe Resource is a
1989         Collection of:\n AirFlow Resource\n BinarySwitch Resource\n",
1990         "parameters": [
1991           {"$ref": "#/parameters/interface-all"}
1992         ],
1993         "responses": {
1994           "200": {
1995             "description": "",
1996             "x-example": [
1997               {"href": "/BinarySwitchResURI", "rt":["oic.r.switch.binary"],
1998               "if":["oic.if.a","oic.if.baseline"], "eps": [{"ep": "coaps://[fe80::b1d6]:1122"}]},
1999               {"href": "/AirFlowResURI", "rt":["oic.r.airflow"],
2000               "if":["oic.if.a","oic.if.baseline"], "eps": [{"ep": "coaps://[fe80::b1d6]:1122"}]}
2001             ],
2002             "schema": { "$ref": "#/definitions/AirFlowControl-ll" }
2003           }
2004         }
2005       }
2006     },
2007     "/AirFlowControlResURI?if=oic.if.b": {
2008       "get": {
2009         "description": "This Resource describes the attributes associated with control of air
2010         flow,\nfor example as modelled by a Thermostat (fan), Room A/C or other device.\nThe Resource is a
2011         Collection of:\n AirFlow Resource\n BinarySwitch Resource\n",
2012         "parameters": [

```

```

2013     {"$ref": "#/parameters/interface-all"}
2014 ],
2015 "responses": {
2016   "200": {
2017     "description": "",
2018     "x-example": [
2019       {
2020         "href": "/BinarySwitchResURI",
2021         "rep": {
2022           "value": true
2023         }
2024       },
2025       {
2026         "href": "/AirFlowResURI",
2027         "rep": {
2028           "supporteddirections": ["left","right","centre"],
2029           "direction": "right",
2030           "speed": 3,
2031           "range": [1,7],
2032           "automode": "Off"
2033         }
2034       }
2035     ],
2036     "schema": { "$ref": "#/definitions/AirFlowControlBatch-Retrieve" }
2037   }
2038 },
2039 },
2040 "post": {
2041   "description": "Sets the current air flow control values using the batch OCF Interface\n",
2042   "parameters": [
2043     {"$ref": "#/parameters/interface-b"},
2044     {
2045       "name": "body",
2046       "in": "body",
2047       "required": true,
2048       "schema": { "$ref": "#/definitions/AirFlowControlBatch-Update" },
2049       "x-example": [
2050         {
2051           "href": "/AirFlowResURI",
2052           "rep": {
2053             "direction": "left",
2054             "speed": 4
2055           }
2056         }
2057       ]
2058     }
2059   ],
2060   "responses": {
2061     "200": {
2062       "description": "",
2063       "x-example": [
2064         {
2065           "href": "/BinarySwitchResURI",
2066           "rep": {
2067             "value": true
2068           }
2069         },
2070         {
2071           "href": "/AirFlowResURI",
2072           "rep": {
2073             "supporteddirections": ["left","right","centre"],
2074             "direction": "left",
2075             "speed": 4,
2076             "range": [1,7],
2077             "automode": "Off"
2078           }
2079         }
2080       ],
2081       "schema": { "$ref": "#/definitions/AirFlowControlBatch-Retrieve" }
2082     }
2083   }
2084 }

```



```

2085     },
2086     "/AirFlowControlResURI?if=oic.if.baseline" : {
2087       "get": {
2088         "description": "This Resource describes the attributes associated with control of air
2089 flow,\nfor example as modelled by a Thermostat (fan), Room A/C or other device.\nThe Resource is a
2090 Collection of:\n AirFlow Resource\n BinarySwitch Resource\n",
2091         "parameters": [
2092           {"$ref": "#/parameters/interface-all"}
2093         ],
2094         "responses": {
2095           "200": {
2096             "description" : "",
2097             "x-example": {
2098               "rt": ["oic.r.airflowcontrol"],
2099               "rts": ["oic.r.airflow","oic.r.switch.binary"],
2100               "if": ["oic.if.ll","oic.if.b","oic.if.baseline"],
2101               "links": [
2102                 {"href": "/BinarySwitchResURI", "rt":["oic.r.switch.binary"],
2103 "if":["oic.if.a","oic.if.baseline"], "eps": [{"ep": "coaps://[fe80:b1d6]:1122"}]},
2104                 {"href": "/AirFlowResURI", "rt":["oic.r.airflow"],
2105 "if":["oic.if.a","oic.if.baseline"], "eps": [{"ep": "coaps://[fe80:b1d6]:1122"}]}
2106               ]
2107             },
2108             "schema": { "$ref": "#/definitions/AirFlowControl-baseline" }
2109           }
2110         }
2111       }
2112     },
2113   },
2114   "parameters": {
2115     "interface-b" : {
2116       "in" : "query",
2117       "name" : "if",
2118       "type" : "string",
2119       "enum" : ["oic.if.b"]
2120     },
2121     "interface-all" : {
2122       "in" : "query",
2123       "name" : "if",
2124       "type" : "string",
2125       "enum" : ["oic.if.ll", "oic.if.b", "oic.if.baseline"]
2126     }
2127   },
2128   "definitions": {
2129     "AirFlowControl-ll" : {
2130       "type": "array",
2131       "minItems": 2,
2132       "uniqueItems": true,
2133       "readOnly": true,
2134       "items": {
2135         "$ref": "#/definitions/oic.oic-link"
2136       }
2137     },
2138     "oic.oic-link": {
2139       "type": "object",
2140       "properties": {
2141         "anchor": {
2142           "$ref":
2143 "https://openconnectivityfoundation.github.io/core/schemas/oic.links.properties.core-
2144 schema.json#/definitions/anchor"
2145         },
2146         "di": {
2147           "$ref":
2148 "https://openconnectivityfoundation.github.io/core/schemas/oic.links.properties.core-
2149 schema.json#/definitions/di"
2150         },
2151         "eps": {
2152           "$ref":
2153 "https://openconnectivityfoundation.github.io/core/schemas/oic.links.properties.core-
2154 schema.json#/definitions/eps"
2155         },
2156         "href": {

```

```

2157         "$ref":
2158         "https://openconnectivityfoundation.github.io/core/schemas/oic.links.properties.core-
2159         schema.json#/definitions/href"
2160     },
2161     "ins": {
2162         "$ref":
2163         "https://openconnectivityfoundation.github.io/core/schemas/oic.links.properties.core-
2164         schema.json#/definitions/ins"
2165     },
2166     "p": {
2167         "$ref":
2168         "https://openconnectivityfoundation.github.io/core/schemas/oic.links.properties.core-
2169         schema.json#/definitions/p"
2170     },
2171     "rel": {
2172         "$ref":
2173         "https://openconnectivityfoundation.github.io/core/schemas/oic.links.properties.core-
2174         schema.json#/definitions/rel_array"
2175     },
2176     "title": {
2177         "$ref":
2178         "https://openconnectivityfoundation.github.io/core/schemas/oic.links.properties.core-
2179         schema.json#/definitions/title"
2180     },
2181     "type": {
2182         "$ref":
2183         "https://openconnectivityfoundation.github.io/core/schemas/oic.links.properties.core-
2184         schema.json#/definitions/type"
2185     },
2186     "if": {
2187         "description": "The OCF Interfaces supported by the target Resource",
2188         "items": {
2189             "enum": [
2190                 "oic.if.a",
2191                 "oic.if.baseline"
2192             ],
2193             "type": "string",
2194             "maxLength": 64
2195         },
2196         "minItems": 2,
2197         "uniqueItems": true,
2198         "type": "array",
2199         "readOnly": true
2200     },
2201     "rt": {
2202         "description": "Resource Type of the target Resource",
2203         "items": {
2204             "maxLength": 64,
2205             "type": "string",
2206             "enum": ["oic.r.switch.binary", "oic.r.airflow"]
2207         },
2208         "minItems": 1,
2209         "type": "array",
2210         "uniqueItems": true,
2211         "readOnly": true
2212     }
2213 },
2214 "required": [
2215     "href",
2216     "rt",
2217     "if"
2218 ]
2219 },
2220 "AirFlowControl-baseline" : {
2221     "properties": {
2222         "n": {
2223             "$ref" :
2224             "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
2225             schema.json#/definitions/n"
2226         },
2227         "id": {
2228             "$ref" :

```

```

2229 "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
2230 schema.json#/definitions/id"
2231 },
2232 "rt": {
2233   "description": "Resource Type of this Resource",
2234   "items": {
2235     "maxLength": 64,
2236     "type": "string",
2237     "enum": ["oic.r.airflowcontrol"]
2238   },
2239   "minItems": 1,
2240   "uniqueItems": true,
2241   "readOnly": true,
2242   "type": "array"
2243 },
2244 "rts": {
2245   "items": {
2246     "type": "string",
2247     "enum": ["oic.r.airflow", "oic.r.switch.binary"],
2248     "maxLength": 64
2249   },
2250   "minItems": 1,
2251   "type": "array",
2252   "uniqueItems": true,
2253   "readOnly": true
2254 },
2255 "if": {
2256   "description": "The OCF Interfaces supported by this Resource",
2257   "items": {
2258     "enum": [
2259       "oic.if.ll",
2260       "oic.if.b",
2261       "oic.if.baseline"
2262     ],
2263     "type": "string",
2264     "maxLength": 64
2265   },
2266   "minItems": 1,
2267   "readOnly": true,
2268   "uniqueItems": true,
2269   "type": "array"
2270 },
2271 "links": {
2272   "description": "A set of simple or individual OCF Links.",
2273   "items": {
2274     "$ref": "#/definitions/oic.oic-link"
2275   },
2276   "type": "array",
2277   "minItems": 2,
2278   "uniqueItems": true,
2279   "readOnly": true
2280 }
2281 },
2282 "type" : "object",
2283 "required": ["rt", "rts", "if", "links"]
2284 },
2285 "AirFlowControlBatch-Retrieve" : {
2286   "type": "array",
2287   "minItems": 2,
2288   "uniqueItems": true,
2289   "items": {
2290     "type": "object",
2291     "additionalProperties": true,
2292     "properties": {
2293       "href": {
2294         "$ref":
2295 "https://openconnectivityfoundation.github.io/core/schemas/oic.links.properties.core-
2296 schema.json#/definitions/href"
2297       },
2298       "rep": {
2299         "anyOf": [
2300           {"$ref":

```

```

2301 "https://openconnectivityfoundation.github.io/IoTDataModels/AirFlowResURI.swagger.json#/definitions/
2302 AirFlow"},
2303     {"$ref":
2304 "https://openconnectivityfoundation.github.io/IoTDataModels/BinarySwitchResURI.swagger.json#/definit
2305 ions/BinarySwitch"}
2306     ]
2307   }
2308 },
2309   "required": [
2310     "href",
2311     "rep"
2312   ]
2313 }
2314 },
2315 "AirFlowControlBatch-Update" : {
2316   "type": "array",
2317   "minItems": 1,
2318   "uniqueItems": true,
2319   "items": {
2320     "type": "object",
2321     "additionalProperties": true,
2322     "properties": {
2323       "href": {
2324         "$ref":
2325 "https://openconnectivityfoundation.github.io/core/schemas/oic.links.properties.core-
2326 schema.json#/definitions/href"
2327       },
2328       "rep": {
2329         "anyOf": [
2330           {"$ref":
2331 "https://openconnectivityfoundation.github.io/IoTDataModels/AirFlowResURI.swagger.json#/definitions/
2332 AirFlow"},
2333           {"$ref":
2334 "https://openconnectivityfoundation.github.io/IoTDataModels/BinarySwitchResURI.swagger.json#/definit
2335 ions/BinarySwitch"}
2336         ]
2337       }
2338     },
2339     "required": [
2340       "href",
2341       "rep"
2342     ]
2343   }
2344 }
2345 }
2346 }
2347

```

2348 6.3.5 Property definition

2349 Table 9 defines the Properties that are part of the "oic.r.airflowcontrol" Resource Type.

2350 **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	

2351 **6.3.6 CRUDN behaviour**

2352 Table 10 defines the CRUDN operations that are supported on the "oic.r.airflowcontrol" Resource
2353 Type.

2354 **Table 10 – The CRUDN operations of the Resource with type "rt" = "oic.r.airflowcontrol".**

Create	Read	Update	Delete	Notify
	get			observe

2355 **6.4 Battery**

2356 **6.4.1 Introduction**

2357 This Resource describes the attributes associated with a battery. The Property "charge" is an
2358 integer showing the current battery charge level as a percentage in the range 0 (fully discharged)
2359 to 100 (fully charged). The Property "capacity" represents the total capacity of battery in Amp
2360 Hours (Ah). The "charging" status and "discharging" status are represented by boolean values
2361 set to "true" indicating enabled and "false" indicating disabled. Low battery status is represented
2362 by a boolean value set to "true" indicating low charge level and "false" indicating otherwise,
2363 based upon the battery threshold represented as a percentage.

2364 **6.4.2 Example URI**

2365 /BatteryResURI

2366 **6.4.3 Resource type**

2367 The Resource Type is defined as: "oic.r.energy.battery".

2368 **6.4.4 OpenAPI 2.0 definition**

```

2369 {
2370   "swagger": "2.0",
2371   "info": {
2372     "title": "Battery",
2373     "version": "20190513",
2374     "license": {
2375       "name": "OCF Data Model License",
2376       "url":
2377 "https://github.com/openconnectivityfoundation/core/blob/e28a9e0a92e17042ba3e83661e4c0fbce8bdc4ba/LI
2378 CENSE.md",
2379       "x-copyright": "Copyright 2018-2019 Open Connectivity Foundation, Inc. All rights reserved."
2380     },
2381     "termsOfService": "https://openconnectivityfoundation.github.io/core/DISCLAIMER.md"
2382   },
2383   "schemes": ["http"],
2384   "consumes": ["application/json"],
2385   "produces": ["application/json"],
2386   "paths": {
2387     "/BatteryResURI" : {
2388       "get": {
2389         "description": "This Resource describes the attributes associated with a battery. The

```

2390 Property `"charge"` is an integer showing the current battery charge level as a percentage in the
2391 range 0 (fully discharged) to 100 (fully charged). The Property `"capacity"` represents the total
2392 capacity of battery in Amp Hours (Ah). The `"charging"` status and `"discharging"` status are
2393 represented by boolean values set to `"true"` indicating enabled and `"false"` indicating disabled.
2394 Low battery status is represented by a boolean value set to `"true"` indicating low charge level and
2395 `"false"` indicating otherwise, based upon the battery threshold represented as a percentage.",
2396 "parameters": [
2397 {"\$ref": "#/parameters/interface"}
2398],
2399 "responses": {
2400 "200": {
2401 "description" : "",
2402 "x-example":
2403 {
2404 "rt": ["oic.r.energy.battery"],
2405 "if": ["oic.if.rw", "oic.if.baseline"],
2406 "charge": 50,
2407 "capacity": 3000,
2408 "charging": true,
2409 "discharging": false,
2410 "lowbattery": false,
2411 "batterythreshold": 20,
2412 "defect": false
2413 },
2414 "schema": { "\$ref": "#/definitions/Battery" }
2415 }
2416 }
2417 },
2418 "post": {
2419 "description": "Sets current battery values\n",
2420 "parameters": [
2421 {"\$ref": "#/parameters/interface"},
2422 {
2423 "name": "body",
2424 "in": "body",
2425 "required": true,
2426 "schema": { "\$ref": "#/definitions/BatteryUpdate" },
2427 "x-example":
2428 {
2429 "batterythreshold": 20
2430 }
2431 }
2432],
2433 "responses": {
2434 "200": {
2435 "description" : "",
2436 "x-example":
2437 {
2438 "batterythreshold": 20
2439 },
2440 "schema": { "\$ref": "#/definitions/BatteryUpdate" }
2441 }
2442 }
2443 }
2444 },
2445 "parameters": {
2446 "interface" : {
2447 "in": "query",
2448 "name": "if",
2449 "type": "string",
2450 "enum": ["oic.if.rw", "oic.if.baseline"]
2451 }
2452 },
2453 "definitions": {
2454 "Battery" : {
2455 "properties": {
2456 "rt": {
2457 "description": "The Resource Type.",
2458 "items": {
2459 "enum": ["oic.r.energy.battery"],
2460 "maxLength": 64,
2461

```

2462         "type": "string"
2463     },
2464     "minItems": 1,
2465     "uniqueItems": true,
2466     "readOnly": true,
2467     "type": "array"
2468 },
2469 "discharging": {
2470     "description": "The status of discharging.",
2471     "readOnly": true,
2472     "type": "boolean"
2473 },
2474 "lowbattery": {
2475     "description": "The status of the low battery warning based upon the defined threshold.",
2476     "readOnly": true,
2477     "type": "boolean"
2478 },
2479 "capacity": {
2480     "description": "The total capacity in Amp-hours (Ah).",
2481     "readOnly": true,
2482     "type": "number"
2483 },
2484 "batterythreshold": {
2485     "description": "The threshold percentage for the low battery warning.",
2486     "maximum": 100,
2487     "minimum": 0,
2488     "type": "integer"
2489 },
2490 "charge": {
2491     "description": "The current charge percentage.",
2492     "maximum": 100,
2493     "minimum": 0,
2494     "readOnly": true,
2495     "type": "integer"
2496 },
2497 "charging": {
2498     "description": "The status of charging.",
2499     "readOnly": true,
2500     "type": "boolean"
2501 },
2502 "defect": {
2503     "description": "Battery defect detected. True = defect, False = no defect",
2504     "readOnly": true,
2505     "type": "boolean"
2506 },
2507 "n": {
2508     "$ref":
2509 "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
2510 schema.json#/definitions/n"
2511 },
2512 "id": {
2513     "$ref":
2514 "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
2515 schema.json#/definitions/id"
2516 },
2517 "if": {
2518     "description": "The OCF Interface set supported by this Resource.",
2519     "items": {
2520         "enum": [
2521             "oic.if.rw",
2522             "oic.if.baseline"
2523         ],
2524         "type": "string"
2525     },
2526     "minItems": 2,
2527     "uniqueItems": true,
2528     "readOnly": true,
2529     "type": "array"
2530 }
2531 },
2532 "type" : "object",
2533 "required": ["charge"]

```



```

2534     },
2535     "BatteryUpdate": {
2536       "properties": {
2537         "batterythreshold": {
2538           "description": "The threshold percentage for the low battery warning.",
2539           "maximum": 100,
2540           "minimum": 0,
2541           "type": "integer"
2542         }
2543       },
2544       "type" : "object",
2545       "required": ["batterythreshold"]
2546     }
2547   }
2548 }
2549

```

2550 6.4.5 Property definition

2551 Table 11 defines the Properties that are part of the "oic.r.energy.battery" Resource Type.

2552 **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.

2553 **6.4.6 CRUDN behaviour**

2554 Table 12 defines the CRUDN operations that are supported on the "oic.r.energy.battery" Resource
2555 Type.

2556 **Table 12 – The CRUDN operations of the Resource with type "rt" = "oic.r.energy.battery".**

Create	Read	Update	Delete	Notify
	get	post		observe

2557 **6.5 Binary Switch**

2558 **6.5.1 Introduction**

2559 This Resource describes a binary switch (on/off). The Property "value" is a boolean. A value of
2560 "true" means that the switch is on. A value of "false" means that the switch is off.
2561

2562 **6.5.2 Example URI**

2563 /BinarySwitchResURI

2564 **6.5.3 Resource type**

2565 The Resource Type is defined as: "oic.r.switch.binary".

2566 **6.5.4 OpenAPI 2.0 definition**

```
2567 {  
2568   "swagger": "2.0",  
2569   "info": {  
2570     "title": "Binary Switch",  
2571     "version": "20190222",  
2572     "license": {  
2573       "name": "OCF Data Model License",  
2574       "url":  
2575 "https://github.com/openconnectivityfoundation/core/blob/e28a9e0a92e17042ba3e83661e4c0fbce8bdc4ba/LI  
2576 CENSE.md",  
2577       "x-copyright": "Copyright 2018-2019 Open Connectivity Foundation, Inc. All rights reserved."  
2578     },  
2579     "termsOfService": "https://openconnectivityfoundation.github.io/core/DISCLAIMER.md"  
2580   },  
2581   "schemes": ["http"],  
2582   "consumes": ["application/json"],  
2583   "produces": ["application/json"],  
2584   "paths": {  
2585     "/BinarySwitchResURI" : {  
2586       "get": {  
2587         "description": "This Resource describes a binary switch (on/off).\n\nThe Property \"value\" is  
2588 a boolean.\n\nA value of 'true' means that the switch is on.\n\nA value of 'false' means that the switch  
2589 is off.\n\n",  
2590         "parameters": [  
2591           { "$ref": "#/parameters/interface" }  
2592         ],  
2593         "responses": {  
2594           "200": {  
2595             "description": "",  
2596             "x-example":  
2597               {  
2598                 "rt": ["oic.r.switch.binary"],  
2599                 "if": ["oic.if.a", "oic.if.baseline"],  
2600                 "value": false  
2601               },  
2602             "schema": { "$ref": "#/definitions/BinarySwitch" }  
2603           }  
2604         }  
2605       },  
2606       "post": {  
2607         "description": "",  
2608         "parameters": [  

```

```

2609         {"$ref": "#/parameters/interface"},
2610         {
2611             "name": "body",
2612             "in": "body",
2613             "required": true,
2614             "schema": { "$ref": "#/definitions/BinarySwitch" },
2615             "x-example":
2616                 {
2617                     "value": true
2618                 }
2619         },
2620     ],
2621     "responses": {
2622         "200": {
2623             "description": "",
2624             "x-example":
2625                 {
2626                     "value": true
2627                 },
2628             "schema": { "$ref": "#/definitions/BinarySwitch" }
2629         }
2630     }
2631 },
2632 },
2633 },
2634 "parameters": {
2635     "interface": {
2636         "in": "query",
2637         "name": "if",
2638         "type": "string",
2639         "enum": ["oic.if.a", "oic.if.baseline"]
2640     }
2641 },
2642 "definitions": {
2643     "BinarySwitch": {
2644         "properties": {
2645             "rt": {
2646                 "description": "The Resource Type.",
2647                 "items": {
2648                     "enum": ["oic.r.switch.binary"],
2649                     "maxLength": 64,
2650                     "type": "string"
2651                 },
2652                 "minItems": 1,
2653                 "uniqueItems": true,
2654                 "readOnly": true,
2655                 "type": "array"
2656             },
2657             "value": {
2658                 "description": "The status of the switch.",
2659                 "type": "boolean"
2660             },
2661             "n": {
2662                 "$ref":
2663                 "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
2664                 schema.json#/definitions/n"
2665             },
2666             "id": {
2667                 "$ref":
2668                 "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
2669                 schema.json#/definitions/id"
2670             },
2671             "if": {
2672                 "description": "The OCF Interface set supported by this Resource.",
2673                 "items": {
2674                     "enum": [
2675                         "oic.if.a",
2676                         "oic.if.baseline"
2677                     ],
2678                     "type": "string"
2679                 },
2680                 "minItems": 2,

```

```

2681         "uniqueItems": true,
2682         "readOnly": true,
2683         "type": "array"
2684     },
2685 },
2686     "type": "object",
2687     "required": ["value"]
2688 }
2689 }
2690 }
2691

```

2692 **6.5.5 Property definition**

2693 Table 13 defines the Properties that are part of the "oic.r.switch.binary" Resource Type.

2694 **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	

2695 **6.5.6 CRUDN behaviour**

2696 Table 14 defines the CRUDN operations that are supported on the "oic.r.switch.binary" Resource Type.
 2697

2698 **Table 14 – The CRUDN operations of the Resource with type "rt" = "oic.r.switch.binary".**

Create	Read	Update	Delete	Notify
	get	post		observe

2699 **6.6 Brightness**

2700 **6.6.1 Introduction**

2701 This Resource describes the brightness of a light or lamp.
 2702 The Property "brightness" is an integer showing the current brightness level as a quantized
 2703 representation in the range 0-100.
 2704 A brightness of 0 is the minimum for the resource.
 2705 A brightness of 100 is the maximum for the resource.

2706 **6.6.2 Example URI**

2707 /BrightnessResURI

2708 **6.6.3 Resource type**

2709 The Resource Type is defined as: "oic.r.light.brightness".

2710 **6.6.4 OpenAPI 2.0 definition**

```
2711 {
2712   "swagger": "2.0",
2713   "info": {
2714     "title": "Brightness",
2715     "version": "20190222",
2716     "license": {
2717       "name": "OCF Data Model License",
2718       "url":
2719         "https://github.com/openconnectivityfoundation/core/blob/e28a9e0a92e17042ba3e83661e4c0fbce8bdc4ba/LI
2720         CENSE.md",
2721       "x-copyright": "Copyright 2018-2019 Open Connectivity Foundation, Inc. All rights reserved."
2722     },
2723     "termsOfService": "https://openconnectivityfoundation.github.io/core/DISCLAIMER.md"
2724   },
2725   "schemes": ["http"],
2726   "consumes": ["application/json"],
2727   "produces": ["application/json"],
2728   "paths": {
2729     "/BrightnessResURI" : {
2730       "get": {
2731         "description": "This Resource describes the brightness of a light or lamp.\n\nThe Property
2732         \"brightness\" is an integer showing the current brightness level as a quantized representation in
2733         the range 0-100.\n\nA brightness of 0 is the minimum for the resource.\n\nA brightness of 100 is the
2734         maximum for the resource.",
2735         "parameters": [
2736           {"$ref": "#/parameters/interface"}
2737         ],
2738         "responses": {
2739           "200": {
2740             "description": "",
2741             "x-example":
2742               {
2743                 "rt": ["oic.r.light.brightness"],
2744                 "if": ["oic.if.a", "oic.if.baseline"],
2745                 "brightness": 50
2746               },
2747             "schema": { "$ref": "#/definitions/Brightness" }
2748           }
2749         }
2750       },
2751       "post": {
2752         "description": "Sets the desired brightness level.\n\n",
2753         "parameters": [
2754           {"$ref": "#/parameters/interface"},
2755           {
2756             "name": "body",
2757             "in": "body",
2758             "required": true,
2759             "schema": { "$ref": "#/definitions/Brightness" },
2760             "x-example":
2761               {
2762                 "brightness": 10
2763               }
2764           }
2765         ],
2766         "responses": {
2767           "200": {
2768             "description": "Indicates that the brightness was changed.\n\nThe new brightness level
2769             is provided in the response.\n\n",
2770             "x-example":
2771               {
2772                 "brightness": 10

```

```

2773         },
2774         "schema": { "$ref": "#/definitions/Brightness" }
2775     }
2776 }
2777 }
2778 }
2779 },
2780 "parameters": {
2781     "interface" : {
2782         "in": "query",
2783         "name": "if",
2784         "type": "string",
2785         "enum": ["oic.if.a", "oic.if.baseline"]
2786     }
2787 },
2788 "definitions": {
2789     "Brightness" : {
2790         "properties": {
2791             "rt": {
2792                 "description": "The Resource Type.",
2793                 "items": {
2794                     "enum": ["oic.r.light.brightness"],
2795                     "maxLength": 64,
2796                     "type": "string"
2797                 },
2798                 "minItems": 1,
2799                 "uniqueItems": true,
2800                 "readOnly": true,
2801                 "type": "array"
2802             },
2803             "brightness": {
2804                 "description": "The Quantized representation in the range 0-100 of the current sensed or
2805 set value for Brightness.",
2806                 "maximum": 100,
2807                 "minimum": 0,
2808                 "type": "integer"
2809             },
2810             "n": {
2811                 "$ref":
2812 "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
2813 schema.json#/definitions/n"
2814             },
2815             "id": {
2816                 "$ref":
2817 "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
2818 schema.json#/definitions/id"
2819             },
2820             "if": {
2821                 "description": "The OCF Interface set supported by this Resource.",
2822                 "items": {
2823                     "enum": [
2824                         "oic.if.a",
2825                         "oic.if.baseline"
2826                     ],
2827                     "type": "string"
2828                 },
2829                 "minItems": 2,
2830                 "uniqueItems": true,
2831                 "readOnly": true,
2832                 "type": "array"
2833             }
2834         },
2835         "type": "object",
2836         "required": ["brightness"]
2837     }
2838 }
2839 }
2840

```

2841 6.6.5 Property definition

2842 Table 15 defines the Properties that are part of the "oic.r.light.brightness" Resource Type.

2843
2844

Table 15 – The Property definitions of the Resource with type "rt" = "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	

2845 **6.6.6 CRUDN behaviour**

2846 Table 16 defines the CRUDN operations that are supported on the "oic.r.light.brightness" Resource
2847 Type.

2848 **Table 16 – The CRUDN operations of the Resource with type "rt" = "oic.r.light.brightness".**

Create	Read	Update	Delete	Notify
	get	post		observe

2849 **6.7 Colour Chroma**

2850 **6.7.1 Introduction**

2851 This Resource describes the colour using chroma conventions.
2852 Properties are "hue", "saturation", "csc", and "ct".
2853 The Property "hue" is the hue angle, it is an integer value as defined by the CIECAM02 model
2854 definition (see reference [CIE CIE159:2004]).
2855 The Property "saturation" is an integer value as defined by the CIECAM02 model definition (see
2856 reference [CIE CIE159:2004]).
2857 The Property "maximumsaturation" is the upper bound on the saturation supported by the Device.
2858 If not present the maximum value for "saturation" is 32767.
2859 The Property "csc" is the colour space coordinates in CIE colour space.
2860 The first item in the array is the X coordinate.
2861 The second item in the array is the Y coordinate.
2862 The Property "nct" is the Mired colour temperature.
2863 The Resource provides the colour using chroma conventions.

2864 6.7.2 Example URI

2865 /example/ColourChromaResURI

2866 6.7.3 Resource type

2867 The Resource Type is defined as: "oic.r.colour.chroma".

2868 6.7.4 OpenAPI 2.0 definition

```
2869 {
2870   "swagger": "2.0",
2871   "info": {
2872     "title": "Colour Chroma",
2873     "version": "20190215",
2874     "license": {
2875       "name": "OCF Data Model License",
2876       "url":
2877         "https://github.com/openconnectivityfoundation/core/blob/e28a9e0a92e17042ba3e83661e4c0fbce8bdc4ba/LI
2878         CENSE.md",
2879       "x-copyright": "copyright 2016-2017, 2019 Open Connectivity Foundation, Inc. All rights
2880       reserved."
2881     },
2882     "termsOfService": "https://openconnectivityfoundation.github.io/core/DISCLAIMER.md"
2883   },
2884   "schemes": ["http"],
2885   "consumes": ["application/json"],
2886   "produces": ["application/json"],
2887   "paths": {
2888     "/example/ColourChromaResURI" : {
2889       "get": {
2890         "description": "This Resource describes the colour using chroma conventions.\nProperties are
2891         \"hue\", \"saturation\", \"csc\", and \"ct\".\n\nThe Property \"hue\" is the hue angle, it is an
2892         integer value as defined by the CIECAM02 model definition (see reference [CIE CIE159:2004]).\n\nThe
2893         Property \"saturation\" is an integer value as defined by the CIECAM02 model definition (see
2894         reference [CIE CIE159:2004]).\n\nThe Property \"maximumsaturation\" is the upper bound on the
2895         saturation supported by the Device.\n\nIf not present the maximum value for \"saturation\" is
2896         32767.\n\nThe Property \"csc\" is the colour space coordinates in CIE colour space.\n\n The first item
2897         in the array is the X coordinate.\n\n The second item in the array is the Y coordinate.\n\nThe Property
2898         \"nct\" is the Mired colour temperature.\n\nThe Resource provides the colour using chroma
2899         conventions.",
2900         "parameters": [
2901           { "$ref": "#/parameters/interface" }
2902         ],
2903         "responses": {
2904           "200": {
2905             "description": "",
2906             "x-example":
2907               {
2908                 "rt": ["oic.r.colour.chroma"],
2909                 "if": [ "oic.if.a", "oic.if.baseline"],
2910                 "hue": 256.0,
2911                 "saturation": 212,
2912                 "maximumsaturation": 1000,
2913                 "csc": [0.41, 0.51],
2914                 "ct": 457
2915               },
2916             "schema": { "$ref": "#/definitions/ColourChroma" }
2917           }
2918         }
2919       },
2920       "post": {
2921         "description": "Sets current colour chroma values\n",
2922         "parameters": [
2923           { "$ref": "#/parameters/interface" },
2924           {
2925             "name": "body",
2926             "in": "body",
2927             "required": true,
2928             "schema": { "$ref": "#/definitions/ColourChroma" },
2929             "x-example":
2930               {
```



```

2931         "hue": 300.0,
2932         "saturation": 212,
2933         "csc": [0.41, 0.51],
2934         "ct": 457
2935     }
2936 }
2937 ],
2938 "responses": {
2939     "200": {
2940         "description": "",
2941         "x-example":
2942             {
2943                 "hue": 300.0,
2944                 "saturation": 212,
2945                 "csc": [0.41, 0.51],
2946                 "ct": 467
2947             },
2948         "schema": { "$ref": "#/definitions/ColourChroma" }
2949     }
2950 }
2951 }
2952 },
2953 "parameters": {
2954     "interface": {
2955         "in": "query",
2956         "name": "if",
2957         "type": "string",
2958         "enum": ["oic.if.a", "oic.if.baseline"]
2959     }
2960 },
2961 "definitions": {
2962     "ColourChroma": {
2963         "properties": {
2964             "rt": {
2965                 "description": "The Resource Type.",
2966                 "items": {
2967                     "enum": ["oic.r.colour.chroma"],
2968                     "maxLength": 64,
2969                     "type": "string"
2970                 },
2971                 "minItems": 1,
2972                 "uniqueItems": true,
2973                 "readOnly": true,
2974                 "type": "array"
2975             },
2976             "ct": {
2977                 "description": "The Mired colour temperature.",
2978                 "minimum": 0,
2979                 "type": "integer"
2980             },
2981             "hue": {
2982                 "description": "The hue angle as defined by the CIECAM02 model definition.",
2983                 "maximum": 360.0,
2984                 "minimum": 0.0,
2985                 "type": "number"
2986             },
2987             "saturation": {
2988                 "description": "The saturation as defined by the CIECAM02 model definition.",
2989                 "maximum": 32767,
2990                 "minimum": 0,
2991                 "type": "integer"
2992             },
2993             "maximalsaturation": {
2994                 "description": "The maximum supported value of \"saturation\" for this Device.",
2995                 "maximum": 32767,
2996                 "minimum": 0,
2997                 "readOnly": true,
2998                 "type": "integer"
2999             },
3000             "csc": {
3001                 "description": "The X and Y coordinates of the colour in CIE colour space",

```

```

3003         "items": {
3004             "maximum": 1,
3005             "minimum": 0,
3006             "type": "number"
3007         },
3008         "maxItems": 2,
3009         "minItems": 2,
3010         "type": "array"
3011     },
3012     "n": {
3013         "$ref":
3014         "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
3015         schema.json#/definitions/n"
3016     },
3017     "id": {
3018         "$ref":
3019         "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
3020         schema.json#/definitions/id"
3021     },
3022     "if" : {
3023         "description": "The OCF Interface set supported by this Resource.",
3024         "items": {
3025             "enum": [
3026                 "oic.if.a",
3027                 "oic.if.baseline"
3028             ],
3029             "maxLength": 64,
3030             "type": "string"
3031         },
3032         "minItems": 2,
3033         "uniqueItems": true,
3034         "readOnly": true,
3035         "type": "array"
3036     }
3037 },
3038 "type" : "object",
3039 "required": ["hue", "saturation", "csc"]
3040 }
3041 }
3042 }
3043

```

3044 **6.7.5 Property definition**

3045 Table 17 defines the Properties that are part of the "oic.r.colour.chroma" Resource Type.

3046 **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: schema see	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.

3047 **6.7.6 CRUDN behaviour**

3048 Table 18 defines the CRUDN operations that are supported on the "oic.r.colour.chroma" Resource
3049 Type.

3050 **Table 18 – The CRUDN operations of the Resource with type "rt" = "oic.r.colour.chroma".**

Create	Read	Update	Delete	Notify
	get	post		observe

3051 **6.8 Colour RGB**

3052 **6.8.1 Introduction**

3053 This Resource specifies the actual colour in the RGB space represented as an array of integers.
3054 Each colour value is described with a Red, Green, Blue component.
3055 These colour values are encoded as an array of integer values ([R,G,B]).
3056 The minimum and maximum colour value per component may be described by the Property "range".
3057 When "range" is omitted, then the "range" is [0,255].

3058 **6.8.2 Example URI**

3059 /ColourRGBResURI

3060 **6.8.3 Resource type**

3061 The Resource Type is defined as: "oic.r.colour.rgb".

3062 **6.8.4 OpenAPI 2.0 definition**

```
3063 {
3064   "swagger": "2.0",
3065   "info": {
3066     "title": "Colour RGB",
3067     "version": "20190215",
```

```

3068     "license": {
3069         "name": "OCF Data Model License",
3070         "url":
3071 "https://github.com/openconnectivityfoundation/core/blob/e28a9e0a92e17042ba3e83661e4c0fbce8bdc4ba/LI
3072 CENSE.md",
3073         "x-copyright": "copyright 2016-2017, 2019 Open Connectivity Foundation, Inc. All rights
3074 reserved."
3075     },
3076     "termsOfService": "https://openconnectivityfoundation.github.io/core/DISCLAIMER.md"
3077 },
3078 "schemas": ["http"],
3079 "consumes": ["application/json"],
3080 "produces": ["application/json"],
3081 "paths": {
3082     "/ColourRGBResURI" : {
3083         "get": {
3084             "description": "This Resource specifies the actual colour in the RGB space represented as an
3085 array of integers.\nEach colour value is described with a Red, Green, Blue component.\nThese colour
3086 values are encoded as an array of integer values ([R,G,B]).\nThe minimum and maximum colour value
3087 per component may be described by the Property \"range\".\nWhen \"range\" is omitted, then the
3088 \"range\" is [0,255].",
3089             "parameters": [
3090                 {"$ref": "#/parameters/interface"}
3091             ],
3092             "responses": {
3093                 "200": {
3094                     "description": "",
3095                     "x-example":
3096                     {
3097                         "rt": ["oic.r.colour.rgb"],
3098                         "if": ["oic.if.a", "oic.if.baseline"],
3099                         "rgbValue": [255, 255, 255],
3100                         "range": [0, 255]
3101                     },
3102                     "schema": { "$ref": "#/definitions/ColourRGB" }
3103                 }
3104             }
3105         },
3106         "post": {
3107             "description": "Sets the current colourRGB value\n",
3108             "parameters": [
3109                 {"$ref": "#/parameters/interface"},
3110                 {
3111                     "name": "body",
3112                     "in": "body",
3113                     "required": true,
3114                     "schema": { "$ref": "#/definitions/ColourRGB" },
3115                     "x-example":
3116                     {
3117                         "rgbValue": [255, 0, 0]
3118                     }
3119                 }
3120             ],
3121             "responses": {
3122                 "200": {
3123                     "description": "",
3124                     "x-example":
3125                     {
3126                         "rgbValue": [255, 0, 0]
3127                     },
3128                     "schema": { "$ref": "#/definitions/ColourRGB" }
3129                 }
3130             }
3131         }
3132     }
3133 },
3134 "parameters": {
3135     "interface" : {
3136         "in": "query",
3137         "name": "if",
3138         "type": "string",
3139         "enum": ["oic.if.a", "oic.if.baseline"]

```

```

3140     }
3141   },
3142   "definitions": {
3143     "ColourRGB" : {
3144       "properties": {
3145         "rt": {
3146           "description": "The Resource Type.",
3147           "items": {
3148             "enum": ["oic.r.colour.rgb"],
3149             "maxLength": 64,
3150             "type": "string"
3151           },
3152           "minItems": 1,
3153           "uniqueItems": true,
3154           "readOnly": true,
3155           "type": "array"
3156         },
3157         "rgbValue": {
3158           "description": "The RGB value; the first item is the R, second the G, third the B.",
3159           "items": {
3160             "type": "integer"
3161           },
3162           "maxItems": 3,
3163           "minItems": 3,
3164           "type": "array"
3165         },
3166         "n": {
3167           "$ref":
3168             "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
3169             schema.json#/definitions/n"
3170         },
3171         "id": {
3172           "$ref":
3173             "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
3174             schema.json#/definitions/id"
3175         },
3176         "range": {
3177           "$ref":
3178             "https://openconnectivityfoundation.github.io/IoTDataModels/schemas/oic.baseresource.properties-
3179             schema.json#/definitions/range_integer"
3180         },
3181         "step": {
3182           "$ref":
3183             "https://openconnectivityfoundation.github.io/IoTDataModels/schemas/oic.baseresource.properties-
3184             schema.json#/definitions/step_integer"
3185         },
3186         "if": {
3187           "description": "The OCF Interface set supported by this Resource.",
3188           "items": {
3189             "enum": [
3190               "oic.if.a",
3191               "oic.if.baseline"
3192             ],
3193             "type": "string"
3194           },
3195           "minItems": 2,
3196           "uniqueItems": true,
3197           "readOnly": true,
3198           "type": "array"
3199         }
3200       },
3201       "type": "object",
3202       "required": ["rgbValue"]
3203     }
3204   }
3205 }
3206

```

3207 6.8.5 Property definition

3208 Table 19 defines the Properties that are part of the "oic.r.colour.rgb" Resource Type.

3209

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	

3210 **6.8.6 CRUDN behaviour**

3211 Table 20 defines the CRUDN operations that are supported on the "oic.r.colour.rgb" Resource Type.

3212 **Table 20 – The CRUDN operations of the Resource with type "rt" = "oic.r.colour.rgb".**

Create	Read	Update	Delete	Notify
	get	post		observe

3213 **6.9 Dimming**3214 **6.9.1 Introduction**

3215 This Resource describes a dimming function.
 3216 The Property "dimmingSetting" is an integer showing the current dimming level.
 3217 If Property "step" is present then it represents the increment between dimmer values.
 3218 When the Property "range" is omitted, then the range is [0,100].
 3219 A value of 0 means total dimming; a value of 100 means no dimming.

3220 **6.9.2 Example URI**

3221 /DimmingResURI

3222 **6.9.3 Resource type**

3223 The Resource Type is defined as: "oic.r.light.dimming".

3224 6.9.4 OpenAPI 2.0 definition

```
3225 {
3226   "swagger": "2.0",
3227   "info": {
3228     "title": "Dimming",
3229     "version": "20190215",
3230     "license": {
3231       "name": "OCF Data Model License",
3232       "url":
3233         "https://github.com/openconnectivityfoundation/core/blob/e28a9e0a92e17042ba3e83661e4c0fbce8bdc4ba/LI
3234         CENSE.md",
3235       "x-copyright": "copyright 2016-2017, 2019 Open Connectivity Foundation, Inc. All rights
3236         reserved."
3237     },
3238     "termsOfService": "https://openconnectivityfoundation.github.io/core/DISCLAIMER.md"
3239   },
3240   "schemes": ["http"],
3241   "consumes": ["application/json"],
3242   "produces": ["application/json"],
3243   "paths": {
3244     "/DimmingResURI" : {
3245       "get": {
3246         "description": "This Resource describes a dimming function.\n\nThe Property \"dimmingSetting\"
3247         is an integer showing the current dimming level.\n\nIf Property \"step\" is present then it represents
3248         the increment between dimmer values.\n\nWhen the Property \"range\" is omitted, then the range is
3249         [0,100].\n\nA value of 0 means total dimming; a value of 100 means no dimming.",
3250         "parameters": [
3251           {"$ref": "#/parameters/interface"}
3252         ],
3253         "responses": {
3254           "200": {
3255             "description": "",
3256             "x-example":
3257               {
3258                 "rt": ["oic.r.light.dimming"],
3259                 "if": ["oic.if.a", "oic.if.baseline"],
3260                 "dimmingSetting": 30,
3261                 "step": 5,
3262                 "range": [0, 100]
3263               },
3264             "schema": { "$ref": "#/definitions/Dimming" }
3265           }
3266         }
3267       },
3268       "post": {
3269         "description": "Sets the desired dimming level.\n\n",
3270         "parameters": [
3271           {"$ref": "#/parameters/interface"},
3272           {
3273             "name": "body",
3274             "in": "body",
3275             "required": true,
3276             "schema": { "$ref": "#/definitions/Dimming" },
3277             "x-example":
3278               {
3279                 "dimmingSetting": 40
3280               }
3281           }
3282         ],
3283         "responses": {
3284           "200": {
3285             "description": "Indicates that the dimming was changed.\n\nThe new dimming level is
3286             provided in the response.\n\n",
3287             "x-example":
3288               {
3289                 "dimmingSetting": 40
3290               },
3291             "schema": { "$ref": "#/definitions/Dimming" }
3292           },
3293           "403": {
3294             "description": "This response is generated by the OCF Server when the client sends:\n"
```

```

3295 An update with an out of range property value for dimmingSetting.\n\nThe server responds with the
3296 current resource representation.\n\n",
3297     "x-example":
3298     {
3299         "dimmingSetting": 40
3300     },
3301     "schema": { "$ref": "#/definitions/Dimming" }
3302     }
3303 }
3304 }
3305 }
3306 },
3307 "parameters": {
3308     "interface": {
3309         "in": "query",
3310         "name": "if",
3311         "type": "string",
3312         "enum": ["oic.if.a", "oic.if.baseline"]
3313     }
3314 },
3315 "definitions": {
3316     "Dimming": {
3317         "properties": {
3318             "rt": {
3319                 "description": "The Resource Type.",
3320                 "items": {
3321                     "enum": ["oic.r.light.dimming"],
3322                     "maxLength": 64,
3323                     "type": "string"
3324                 },
3325                 "minItems": 1,
3326                 "uniqueItems": true,
3327                 "readOnly": true,
3328                 "type": "array"
3329             },
3330             "dimmingSetting": {
3331                 "description": "The current dimming value.",
3332                 "type": "integer"
3333             },
3334             "n": {
3335                 "$ref":
3336                 "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
3337                 schema.json#/definitions/n"
3338             },
3339             "id": {
3340                 "$ref":
3341                 "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
3342                 schema.json#/definitions/id"
3343             },
3344             "range": {
3345                 "$ref":
3346                 "https://openconnectivityfoundation.github.io/IoTDataModels/schemas/oic.baseresource.properties-
3347                 schema.json#/definitions/range_integer"
3348             },
3349             "step": {
3350                 "$ref":
3351                 "https://openconnectivityfoundation.github.io/IoTDataModels/schemas/oic.baseresource.properties-
3352                 schema.json#/definitions/step_integer"
3353             },
3354             "if": {
3355                 "description": "The OCF Interface set supported by this Resource.",
3356                 "items": {
3357                     "enum": [
3358                         "oic.if.a",
3359                         "oic.if.baseline"
3360                     ],
3361                     "type": "string"
3362                 },
3363                 "minItems": 2,
3364                 "uniqueItems": true,
3365                 "readOnly": true,
3366                 "type": "array"

```



```

3367     }
3368   },
3369   "type": "object",
3370   "required": ["dimmingSetting"]
3371 }
3372 }
3373 }
3374

```

3375 6.9.5 Property definition

3376 Table 21 defines the Properties that are part of the "oic.r.light.dimming" Resource Type.

3377 **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	

3378 6.9.6 CRUDN behaviour

3379 Table 22 defines the CRUDN operations that are supported on the "oic.r.light.dimming" Resource Type.
3380

3381 **Table 22 – The CRUDN operations of the Resource with type "rt" = "oic.r.light.dimming".**

Create	Read	Update	Delete	Notify
	get	post		observe

3382 6.10 Door

3383 6.10.1 Introduction

3384 This Resource describes the open state of the door.
3385 A door is modelled by means of openState (Open/Closed), openDuration (ISO 8601 Time), and

3386 openAlarm (boolean).
3387 For Property "openState", the value 'Open' indicates the door is open.
3388 The value 'Closed' indicates the door is closed.
3389 The type of Property "openDuration" is an RFC Time encoded string.
3390 The Property "openAlarm" value 'true' indicates that the open alarm is active.
3391 The openAlarm value 'false' indicates that open alarm is not active.
3392 retrieves the state of the Door.

3393 6.10.2 Example URI

3394 /DoorResURI

3395 6.10.3 Resource type

3396 The Resource Type is defined as: "oic.r.door".

3397 6.10.4 OpenAPI 2.0 definition

```
3398 {
3399   "swagger": "2.0",
3400   "info": {
3401     "title": "Door",
3402     "version": "20190215",
3403     "license": {
3404       "name": "OCF Data Model License",
3405       "url":
3406         "https://github.com/openconnectivityfoundation/core/blob/e28a9e0a92e17042ba3e83661e4c0fbce8bdc4ba/LI
3407         CENSE.md",
3408       "x-copyright": "copyright 2016-2017, 2019 Open Connectivity Foundation, Inc. All rights
3409         reserved."
3410     },
3411     "termsOfService": "https://openconnectivityfoundation.github.io/core/DISCLAIMER.md"
3412   },
3413   "schemes": ["http"],
3414   "consumes": ["application/json"],
3415   "produces": ["application/json"],
3416   "paths": {
3417     "/DoorResURI" : {
3418       "get": {
3419         "description": "This Resource describes the open state of the door.\nA door is modelled by
3420         means of openState (Open/Closed), openDuration (ISO 8601 Time), and openAlarm (boolean).\nFor
3421         Property \"openState\", the value 'Open' indicates the door is open.\nThe value 'Closed' indicates
3422         the door is closed.\nThe type of Property \"openDuration\" is an RFC Time encoded string.\nThe
3423         Property \"openAlarm\" value 'true' indicates that the open alarm is active.\nThe openAlarm value
3424         'false' indicates that open alarm is not active.\nretrieves the state of the Door.",
3425         "parameters": [
3426           {"$ref": "#/parameters/interface"}
3427         ],
3428         "responses": {
3429           "200": {
3430             "description": "",
3431             "x-example": {
3432               "rt": ["oic.r.door"],
3433               "if": ["oic.if.a", "oic.if.baseline"],
3434               "openState": "Open",
3435               "openDuration": "P0Y0M0DT2H25M5S",
3436               "openAlarm": true
3437             },
3438             "schema": { "$ref": "#/definitions/Door" }
3439           }
3440         }
3441       },
3442       "post": {
3443         "description": "Sets the current Door properties.\nThe only property that can be set as part
3444         of an update operation is\n the openAlarm.\nThis can be made active (true) or inactive (false)\n",
3445         "parameters": [
3446           {"$ref": "#/parameters/interface"},
3447           {
3448             "name": "body",
3449             "in": "body",
```

```

3450         "required": true,
3451         "schema": { "$ref": "#/definitions/DoorUpdate" },
3452         "x-example": {
3453             "openAlarm": false
3454         }
3455     },
3456 ],
3457 "responses": {
3458     "200": {
3459         "description": "",
3460         "x-example": {
3461             "openAlarm": false
3462         },
3463         "schema": { "$ref": "#/definitions/DoorUpdate" }
3464     }
3465 }
3466 },
3467 },
3468 },
3469 "parameters": {
3470     "interface": {
3471         "in": "query",
3472         "name": "if",
3473         "type": "string",
3474         "enum": ["oic.if.a", "oic.if.baseline"]
3475     }
3476 },
3477 "definitions": {
3478     "Door" : {
3479         "properties": {
3480             "rt": {
3481                 "description": "The Resource Type.",
3482                 "items": {
3483                     "enum": ["oic.r.door"],
3484                     "maxLength": 64,
3485                     "type": "string"
3486                 },
3487                 "minItems": 1,
3488                 "uniqueItems": true,
3489                 "readOnly": true,
3490                 "type": "array"
3491             },
3492             "openDuration": {
3493                 "$ref": "https://openconnectivityfoundation.github.io/core/schemas/oic.types-
3494 schema.json#/definitions/duration"
3495             },
3496             "openState": {
3497                 "description": "The state of the door (open or closed).",
3498                 "enum": [
3499                     "Open",
3500                     "Closed"
3501                 ],
3502                 "readOnly": true,
3503                 "type": "string"
3504             },
3505             "openAlarm": {
3506                 "description": "The state of the door open alarm.",
3507                 "type": "boolean"
3508             },
3509             "n": {
3510                 "$ref":
3511 "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
3512 schema.json#/definitions/n"
3513             },
3514             "id": {
3515                 "$ref":
3516 "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
3517 schema.json#/definitions/id"
3518             },
3519             "if": {
3520                 "description": "The OCF Interface set supported by this Resource.",
3521                 "items": {

```

```

3522         "enum": [
3523             "oic.if.a",
3524             "oic.if.baseline"
3525         ],
3526         "type": "string"
3527     },
3528     "minItems": 2,
3529     "uniqueItems": true,
3530     "readOnly": true,
3531     "type": "array"
3532 }
3533 },
3534 "type": "object",
3535 "required": ["openState"]
3536 },
3537 "DoorUpdate" : {
3538     "properties": {
3539         "openAlarm": {
3540             "description": "The state of the door open alarm.",
3541             "type": "boolean"
3542         }
3543     },
3544     "type": "object",
3545     "required": ["openAlarm"]
3546 }
3547 }
3548 }
3549

```

6.10.5 Property definition

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

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.
-----------	---------	-----	------------	-----------------------------------

3553 **6.10.6 CRUDN behaviour**

3554 Table 24 defines the CRUDN operations that are supported on the "oic.r.door" Resource Type.

3555 **Table 24 – The CRUDN operations of the Resource with type "rt" = "oic.r.door".**

Create	Read	Update	Delete	Notify
	get	post		observe

3556 **6.11 Energy Consumption**

3557 **6.11.1 Introduction**

3558 This Resource describes the energy consumed by the Device since power up (the energy value is
3559 in Watt Hours [Wh])
3560 and the instantaneous power draw of the device (the power value is in Watts [W]) at the time the
3561 resource was queried.
3562 The Property "power" value is in Watts [W].
3563 The Property "energy" value is in Watt Hours [Wh].
3564 The Resource provides the current power draw and cumulative energy usage.

3565 **6.11.2 Example URI**

3566 /EnergyConsumptionResURI

3567 **6.11.3 Resource type**

3568 The Resource Type is defined as: "oic.r.energy.consumption".

3569 **6.11.4 OpenAPI 2.0 definition**

```

3570 {
3571   "swagger": "2.0",
3572   "info": {
3573     "title": "Energy Consumption",
3574     "version": "20190215",
3575     "license": {
3576       "name": "OCF Data Model License",
3577       "url":
3578         "https://github.com/openconnectivityfoundation/core/blob/e28a9e0a92e17042ba3e83661e4c0fbce8bdc4ba/LI
3579         CENSE.md",
3580       "x-copyright": "copyright 2016-2017, 2019 Open Connectivity Foundation, Inc. All rights
3581         reserved."
3582     },
3583     "termsOfService": "https://openconnectivityfoundation.github.io/core/DISCLAIMER.md"
3584   },
3585   "schemes": ["http"],
3586   "consumes": ["application/json"],
3587   "produces": ["application/json"],
3588   "paths": {
3589     "/EnergyConsumptionResURI" : {
3590       "get": {
3591         "description": "This Resource describes the energy consumed by the Device since power up
3592         (the energy value is in Watt Hours [Wh]) \nand the instantaneous power draw of the device (the power
3593         value is in Watts [W]) at the time the resource was queried.\nThe Property \"power\" value is in
3594         Watts [W].\nThe Property \"energy\" value is in Watt Hours [Wh].\nThe Resource provides the current
3595         power draw and cumulative energy usage.",
3596         "parameters": [
3597           {"$ref": "#/parameters/interface"}
3598         ],
3599         "responses": {

```

```

3600         "200": {
3601             "description": "",
3602             "x-example":
3603                 {
3604                     "rt": ["oic.r.energy.consumption"],
3605                     "if": ["oic.if.s", "oic.if.baseline"],
3606                     "power": 2000.1,
3607                     "energy": 3500.4
3608                 },
3609             "schema": { "$ref": "#/definitions/Consumption" }
3610         }
3611     }
3612 }
3613 },
3614 },
3615 "parameters": {
3616     "interface": {
3617         "in": "query",
3618         "name": "if",
3619         "type": "string",
3620         "enum": ["oic.if.s", "oic.if.baseline"]
3621     }
3622 },
3623 "definitions": {
3624     "Consumption": {
3625         "properties": {
3626             "rt": {
3627                 "description": "The Resource Type.",
3628                 "items": {
3629                     "enum": ["oic.r.energy.consumption"],
3630                     "maxLength": 64,
3631                     "type": "string"
3632                 },
3633                 "minItems": 1,
3634                 "uniqueItems": true,
3635                 "readOnly": true,
3636                 "type": "array"
3637             },
3638             "power": {
3639                 "description": "The instantaneous Power.",
3640                 "readOnly": true,
3641                 "type": "number"
3642             },
3643             "energy": {
3644                 "description": "The energy consumed.",
3645                 "readOnly": true,
3646                 "type": "number"
3647             },
3648             "n": {
3649                 "$ref":
3650                 "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
3651                 schema.json#/definitions/n"
3652             },
3653             "id": {
3654                 "$ref":
3655                 "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
3656                 schema.json#/definitions/id"
3657             },
3658             "if": {
3659                 "description": "The OCF Interface set supported by this Resource.",
3660                 "items": {
3661                     "enum": [
3662                         "oic.if.s",
3663                         "oic.if.baseline"
3664                     ],
3665                     "type": "string"
3666                 },
3667                 "minItems": 2,
3668                 "uniqueItems": true,
3669                 "readOnly": true,
3670                 "type": "array"
3671             }

```

```

3672     },
3673     "type": "object",
3674     "required": ["power", "energy"]
3675   }
3676 }
3677 }
3678

```

3679 6.11.5 Property definition

3680 Table 25 defines the Properties that are part of the "oic.r.energy.consumption" Resource Type.

3681 **Table 25 – The Property definitions of the Resource with type "rt" =**
 3682 **"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	

3683 6.11.6 CRUDN behaviour

3684 Table 26 defines the CRUDN operations that are supported on the "oic.r.energy.consumption"
 3685 Resource Type.

3686 **Table 26 – The CRUDN operations of the Resource with type "rt" =**
 3687 **"oic.r.energy.consumption".**

Create	Read	Update	Delete	Notify
	get			observe

3688 6.12 Energy Usage

3689 6.12.1 Introduction

3690 This Resource describes a cumulative time-based energy usage query..
 3691 The Resource is a Collection of:
 3692 TimePeriod Resource

3693 EnergyConsumption

Resource

3694

3695 6.12.2 Example URI

3696 /EnergyUsageResURI

3697 6.12.3 Resource type

3698 The Resource Type is defined as: "oic.r.energy.usage".

3699 6.12.4 OpenAPI 2.0 definition

```
3700 {
3701   "swagger": "2.0",
3702   "info": {
3703     "title": "Energy Usage",
3704     "version": "20190307",
3705     "license": {
3706       "name": "OCF Data Model License",
3707       "url":
3708         "https://github.com/openconnectivityfoundation/core/blob/e28a9e0a92e17042ba3e83661e4c0fbce8bdc4ba/LI
3709         CENSE.md",
3710       "x-copyright": "copyright 2016-2019 Open Connectivity Foundation, Inc. All rights reserved."
3711     },
3712     "termsOfService": "https://openconnectivityfoundation.github.io/core/DISCLAIMER.md"
3713   },
3714   "schemes": ["http"],
3715   "consumes": ["application/json"],
3716   "produces": ["application/json"],
3717   "paths": {
3718     "/EnergyUsageResURI?if=oic.if.ll": {
3719       "get": {
3720         "description": "This Resource describes a cumulative time-based energy usage query.\n\nThe
3721         Resource is a Collection of:\n  TimePeriod Resource\n  EnergyConsumption Resource\n",
3722         "parameters": [
3723           {"$ref": "#/parameters/interface"}
3724         ],
3725         "responses": {
3726           "200": {
3727             "description": "",
3728             "x-example": [
3729               {
3730                 "href": "/TimePeriodResURI", "rt":["oic.r.time.period"],
3731                 "if":["oic.if.a","oic.if.baseline"], "eps":[{"ep": "coaps://[fe80::b1d6]:1122"}]},
3732                 {"href": "/EnergyConsumptionResURI", "rt":["oic.r.energy.consumption"],
3733                 "if":["oic.if.s","oic.if.baseline"], "eps":[{"ep": "coaps://[fe80::b1d6]:1122"}]}
3734               ],
3735               "schema": {"$ref": "#/definitions/Usage-ll" }
3736             }
3737           }
3738         }
3739       },
3740       "/EnergyUsageResURI?if=oic.if.b" : {
3741         "get": {
3742           "description": "This Resource describes a cumulative time-based energy usage query.\n\nThe
3743           Resource is a Collection of:\n  TimePeriod Resource\n  EnergyConsumption Resource\n",
3744           "parameters": [
3745             {"$ref": "#/parameters/interface"}
3746           ],
3747           "responses": {
3748             "200": {
3749               "description": "",
3750               "x-example": [
3751                 {
3752                   "href": "/TimePeriodResURI",
3753                   "rep": {
3754                     "startTime": "2015-01-09T14:30Z",
3755                     "stopTime": "2015-01-09T14:45Z"
3756                   }
3757                 }
3758               ],
3759             }
3760           }
3761         }
3762       }
3763     }
3764   }
3765 }
```



```

3758         {
3759             "href": "/EnergyConsumptionResURI",
3760             "rep": {
3761                 "power": 2000.1,
3762                 "energy": 3500.4
3763             }
3764         }
3765     ],
3766     "schema": { "$ref": "#/definitions/EnergyUsageBatch-Retrieve" }
3767 }
3768 },
3769 },
3770 "post": {
3771     "description": "Sets the timer period of the query using the batch OCF Interface\n",
3772     "parameters": [
3773         {"$ref": "#/parameters/interface-b"},
3774         {
3775             "name": "body",
3776             "in": "body",
3777             "required": true,
3778             "schema": { "$ref": "#/definitions/EnergyUsageBatch-Update" },
3779             "x-example": [
3780                 {
3781                     "href": "/TimePeriodResURI",
3782                     "rep": {
3783                         "startTime": "2015-03-15T10:30Z",
3784                         "stopTime": "2015-03-15T10:45Z"
3785                     }
3786                 }
3787             ]
3788         }
3789     ],
3790     "responses": {
3791         "200": {
3792             "description": "",
3793             "x-example": [
3794                 {
3795                     "href": "/TimePeriodResURI",
3796                     "rep": {
3797                         "startTime": "2015-03-15T10:30Z",
3798                         "stopTime": "2015-03-15T10:45Z"
3799                     }
3800                 },
3801                 {
3802                     "href": "/EnergyConsumptionResURI",
3803                     "rep": {
3804                         "power": 1500.1,
3805                         "energy": 2200.4
3806                     }
3807                 }
3808             ],
3809             "schema": { "$ref": "#/definitions/EnergyUsageBatch-Retrieve" }
3810         }
3811     }
3812 },
3813 },
3814 "/EnergyUsageResURI?if=oic.if.baseline" : {
3815     "get": {
3816         "description": "This Resource describes a cumulative time-based energy usage query..\n\nThe
Resource is a Collection of:\n TimePeriod Resource\n EnergyConsumption Resource\n",
3817         "parameters": [
3818             {"$ref": "#/parameters/interface"}
3819         ],
3820         "responses": {
3821             "200": {
3822                 "description": "",
3823                 "x-example":
3824                 {
3825                     "rt": ["oic.r.energy.usage"],
3826                     "if": ["oic.if.ll", "oic.if.b", "oic.if.baseline"],
3827                     "rts": ["oic.r.time.period", "oic.r.energy.consumption"],
3828                     "links": [
3829

```

```

3830         {"href": "/TimePeriodResURI", "rt":["oic.r.time.period"],
3831 "if":["oic.if.a","oic.if.baseline"], "eps":[{"ep": "coaps://[fe80::b1d6]:1122"}]},
3832         {"href": "/EnergyConsumptionResURI", "rt":["oic.r.energy.consumption"],
3833 "if":["oic.if.s","oic.if.baseline"], "eps":[{"ep": "coaps://[fe80::b1d6]:1122"}]}
3834     ]
3835 },
3836     "schema": { "$ref": "#/definitions/Usage-baseline" }
3837 }
3838 }
3839 }
3840 }
3841 },
3842 "parameters": {
3843     "interface" : {
3844         "in" : "query",
3845         "name" : "if",
3846         "type" : "string",
3847         "enum" : ["oic.if.ll", "oic.if.b", "oic.if.baseline"]
3848     },
3849     "interface-b" : {
3850         "in" : "query",
3851         "name" : "if",
3852         "type" : "string",
3853         "enum" : ["oic.if.b"]
3854     }
3855 },
3856 "definitions": {
3857     "Usage-ll": {
3858         "items": {
3859             "$ref": "#/definitions/oic.oic-link"
3860         },
3861         "type": "array"
3862     },
3863     "oic.oic-link": {
3864         "type": "object",
3865         "properties": {
3866             "anchor": {
3867                 "$ref":
3868 "https://openconnectivityfoundation.github.io/core/schemas/oic.links.properties.core-
3869 schema.json#/definitions/anchor"
3870             },
3871             "di": {
3872                 "$ref":
3873 "https://openconnectivityfoundation.github.io/core/schemas/oic.links.properties.core-
3874 schema.json#/definitions/di"
3875             },
3876             "eps": {
3877                 "$ref":
3878 "https://openconnectivityfoundation.github.io/core/schemas/oic.links.properties.core-
3879 schema.json#/definitions/eps"
3880             },
3881             "href": {
3882                 "$ref":
3883 "https://openconnectivityfoundation.github.io/core/schemas/oic.links.properties.core-
3884 schema.json#/definitions/href"
3885             },
3886             "ins": {
3887                 "$ref":
3888 "https://openconnectivityfoundation.github.io/core/schemas/oic.links.properties.core-
3889 schema.json#/definitions/ins"
3890             },
3891             "p": {
3892                 "$ref":
3893 "https://openconnectivityfoundation.github.io/core/schemas/oic.links.properties.core-
3894 schema.json#/definitions/p"
3895             },
3896             "rel": {
3897                 "$ref":
3898 "https://openconnectivityfoundation.github.io/core/schemas/oic.links.properties.core-
3899 schema.json#/definitions/rel_array"
3900             },
3901             "title": {

```

```

3902         "$ref":
3903         "https://openconnectivityfoundation.github.io/core/schemas/oic.links.properties.core-
3904         schema.json#/definitions/title"
3905     },
3906     "type": {
3907         "$ref":
3908         "https://openconnectivityfoundation.github.io/core/schemas/oic.links.properties.core-
3909         schema.json#/definitions/type"
3910     },
3911     "if": {
3912         "description": "The OCF Interfaces supported by the target Resource",
3913         "items": {
3914             "enum": [
3915                 "oic.if.a",
3916                 "oic.if.s",
3917                 "oic.if.baseline"
3918             ],
3919             "type": "string",
3920             "maxLength": 64
3921         },
3922         "minItems": 2,
3923         "uniqueItems": true,
3924         "type": "array",
3925         "readOnly": true
3926     },
3927     "rt": {
3928         "description": "Resource Type of the target Resource",
3929         "items": {
3930             "maxLength": 64,
3931             "type": "string",
3932             "enum": ["oic.r.time.period", "oic.r.energy.consumption"]
3933         },
3934         "minItems": 1,
3935         "type": "array",
3936         "uniqueItems": true,
3937         "readOnly": true
3938     }
3939 },
3940 "required": [
3941     "href",
3942     "rt",
3943     "if"
3944 ]
3945 },
3946 "Usage-baseline": {
3947     "properties": {
3948         "rt": {
3949             "description": "Resource Type of this Resource",
3950             "items": {
3951                 "maxLength": 64,
3952                 "type": "string",
3953                 "enum": ["oic.r.energy.usage"]
3954             },
3955             "minItems": 1,
3956             "readOnly": true,
3957             "uniqueItems": true,
3958             "type": "array"
3959         },
3960         "rts": {
3961             "items": {
3962                 "enum": [
3963                     "oic.r.time.period",
3964                     "oic.r.energy.consumption"
3965                 ],
3966                 "type": "string",
3967                 "maxLength": 64
3968             },
3969             "minItems": 1,
3970             "type": "array",
3971             "readOnly": true,
3972             "uniqueItems": true
3973         },

```

```

3974     "links": {
3975         "description": "A set of simple or individual OCF Links.",
3976         "type": "array",
3977         "items": {
3978             "$ref": "#/definitions/oic.oic-link"
3979         }
3980     },
3981     "n": {
3982         "$ref":
3983         "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
3984         schema.json#/definitions/n"
3985     },
3986     "id": {
3987         "$ref":
3988         "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
3989         schema.json#/definitions/id"
3990     },
3991     "if": {
3992         "description": "The OCF Interfaces supported by this Resource",
3993         "items": {
3994             "enum": [
3995                 "oic.if.ll",
3996                 "oic.if.b",
3997                 "oic.if.baseline"
3998             ],
3999             "type": "string",
4000             "maxLength": 64
4001         },
4002         "minItems": 1,
4003         "readOnly": true,
4004         "uniqueItems": true,
4005         "type": "array"
4006     }
4007 },
4008 "type": "object",
4009 "required": ["rt", "if", "links"]
4010 },
4011 "EnergyUsageBatch-Retrieve" : {
4012     "type": "array",
4013     "minItems": 2,
4014     "uniqueItems": true,
4015     "items": {
4016         "type": "object",
4017         "additionalProperties": true,
4018         "properties": {
4019             "href": {
4020                 "$ref":
4021                 "https://openconnectivityfoundation.github.io/core/schemas/oic.links.properties.core-
4022                 schema.json#/definitions/href"
4023             },
4024             "rep": {
4025                 "anyOf": [
4026                     {"$ref":
4027                     "https://openconnectivityfoundation.github.io/IoTDataModels/TimePeriodResURI.swagger.json#/definitio
4028                     ns/TimePeriod"},
4029                     {"$ref":
4030                     "https://openconnectivityfoundation.github.io/IoTDataModels/EnergyConsumptionResURI.swagger.json#/de
4031                     finitions/Consumption"}
4032                 ]
4033             }
4034         },
4035         "required": [
4036             "href",
4037             "rep"
4038         ]
4039     }
4040 },
4041 "EnergyUsageBatch-Update" : {
4042     "type": "array",
4043     "minItems": 1,
4044     "uniqueItems": true,
4045     "items": {

```

```

4046     "type": "object",
4047     "additionalProperties": true,
4048     "properties": {
4049       "href": {
4050         "$ref":
4051           "https://openconnectivityfoundation.github.io/core/schemas/oic.links.properties.core-
4052           schema.json#/definitions/href"
4053       },
4054       "rep": {
4055         "anyOf": [
4056           {"$ref":
4057             "https://openconnectivityfoundation.github.io/IoTDataModels/TimePeriodResURI.swagger.json#/definitio
4058             ns/TimePeriod"}
4059         ]
4060       }
4061     },
4062     "required": [
4063       "href",
4064       "rep"
4065     ]
4066   }
4067 }
4068 }
4069 }
4070

```

4071 **6.12.5 Property definition**

4072 Table 27 defines the Properties that are part of the "oic.r.energy.usage" Resource Type.

4073 **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

4074 **6.12.6 CRUDN behaviour**

4075 Table 28 defines the CRUDN operations that are supported on the "oic.r.energy.usage" Resource
4076 Type.

4077 **Table 28 – The CRUDN operations of the Resource with type "rt" = "oic.r.energy.usage".**

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

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

4078 **6.13 Humidity**

4079 **6.13.1 Introduction**

4080 This Resource describes a sensed or desired humidity.
 4081 The Property "humidity" is an integer describing the percentage measured relative humidity.
 4082 The Property "desiredHumidity" is an integer showing the desired target relative humidity.

4083 **6.13.2 Example URI**

4084 /HumidityResURI

4085 **6.13.3 Resource type**

4086 The Resource Type is defined as: "oic.r.humidity".

4087 **6.13.4 OpenAPI 2.0 definition**

```

4088 {
4089   "swagger": "2.0",
4090   "info": {
4091     "title": "Humidity",
4092     "version": "20190215",
4093     "license": {
4094       "name": "OCF Data Model License",
4095       "url":
4096         "https://github.com/openconnectivityfoundation/core/blob/e28a9e0a92e17042ba3e83661e4c0fbce8bdc4ba/LI
4097         CENSE.md",
4098       "x-copyright": "copyright 2016-2017, 2019 Open Connectivity Foundation, Inc. All rights
4099       reserved."
4100     },
4101     "termsOfService": "https://openconnectivityfoundation.github.io/core/DISCLAIMER.md"
4102   },
4103   "schemes": ["http"],
4104   "consumes": ["application/json"],
4105   "produces": ["application/json"],
4106   "paths": {
4107     "/HumidityResURI" : {
4108       "get": {
4109         "description": "This Resource describes a sensed or desired humidity.\n
4110         The Property \"humidity\" is an integer describing the percentage measured relative humidity.\n
4111         The Property \"desiredHumidity\" is an integer showing the desired target relative humidity.",
4112         "parameters": [
4113           { "$ref": "#/parameters/interface" }
4114         ],
4115         "responses": {
4116           "200": {
4117             "description": "RETRIEVES the current (relative) humidity level.",
4118             "x-example":
4119               {
4120                 "rt": ["oic.r.humidity"],
4121                 "if": ["oic.if.a", "oic.if.baseline"],
4122                 "humidity": 40,
4123                 "desiredHumidity": 40
4124               },
4125             "schema": { "$ref": "#/definitions/Humidity" }
4126           }
4127         }
4128       },
4129       "post": {
4130         "description": "Sets the desired relative humidity level.",
4131         "parameters": [
4132           { "$ref": "#/parameters/interface" },
4133           {
4134             "name": "body",
4135             "in": "body",
4136             "required": true,
4137             "schema": { "$ref": "#/definitions/HumidityUpdate" }
4138           }
4139         ]
4140       }
4141     }
4142   }
4143 }

```

```

4138         "x-example":
4139             {
4140                 "desiredHumidity" : 45
4141             }
4142     },
4143     ],
4144     "responses": {
4145         "200": {
4146             "description": "Indicates that the relative humidity level was changed.\nThe new
4147 relative humidity level is provided in the response.",
4148             "x-example":
4149                 {
4150                     "desiredHumidity": 45
4151                 },
4152             "schema": { "$ref": "#/definitions/HumidityUpdate" }
4153         }
4154     }
4155 },
4156 },
4157 },
4158 "parameters": {
4159     "interface": {
4160         "in": "query",
4161         "name": "if",
4162         "type": "string",
4163         "enum": ["oic.if.a", "oic.if.s", "oic.if.baseline"]
4164     },
4165 },
4166 "definitions": {
4167     "Humidity" : {
4168         "properties": {
4169             "rt": {
4170                 "description": "The Resource Type.",
4171                 "items": {
4172                     "enum": ["oic.r.humidity"],
4173                     "maxLength": 64,
4174                     "type": "string"
4175                 },
4176                 "minItems": 1,
4177                 "uniqueItems": true,
4178                 "readOnly": true,
4179                 "type": "array"
4180             },
4181             "desiredHumidity": {
4182                 "description": "The desired value for humidity.",
4183                 "maximum": 100,
4184                 "minimum": 0,
4185                 "type": "integer"
4186             },
4187             "humidity": {
4188                 "description": "The current sensed value for humidity.",
4189                 "maximum": 100,
4190                 "minimum": 0,
4191                 "readOnly": true,
4192                 "type": "integer"
4193             },
4194             "n": {
4195                 "$ref":
4196 "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
4197 schema.json#/definitions/n"
4198             },
4199             "id": {
4200                 "$ref":
4201 "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
4202 schema.json#/definitions/id"
4203             },
4204             "if": {
4205                 "description": "The OCF Interface set supported by this Resource.",
4206                 "items": {
4207                     "enum": [
4208                         "oic.if.a",
4209                         "oic.if.s",

```



```

4210         "oic.if.baseline"
4211     ],
4212     "type": "string"
4213 },
4214     "minItems": 2,
4215     "uniqueItems": true,
4216     "readOnly": true,
4217     "type": "array"
4218 }
4219 },
4220 "type": "object",
4221 "required": ["humidity"]
4222 },
4223 "HumidityUpdate" : {
4224     "properties": {
4225         "desiredHumidity": {
4226             "description": "Desired value for Humidity",
4227             "maximum": 100,
4228             "minimum": 0,
4229             "type": "integer"
4230         }
4231     },
4232     "type": "object",
4233     "required": ["desiredHumidity"]
4234 }
4235 }
4236 }
4237

```

6.13.5 Property definition

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

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
-----------------	---------	-----	------------	----------------------------

4241 **6.13.6 CRUDN behaviour**

4242 Table 30 defines the CRUDN operations that are supported on the "oic.r.humidity" Resource Type.

4243 **Table 30 – The CRUDN operations of the Resource with type "rt" = "oic.r.humidity".**

Create	Read	Update	Delete	Notify
	get	post		observe

4244 **6.14 Ice Maker**

4245 **6.14.1 Introduction**

4246 This Resource describes an the operational state of an Ice Maker.
 4247 The Property "status" is a string containing a value from the set of possible ice maker statuses.
 4248 The possible statuses are defined by the enumeration ["on", "off", "full"]
 4249 A status of "on" means that the Ice Maker is operating.
 4250 A status of "off" means that the Ice Maker is not operating.
 4251 A status of "full" means that the ice collection bin is full (Ice Maker is operating).

4252 **6.14.2 Example URI**

4253 /IceMakerResURI

4254 **6.14.3 Resource type**

4255 The Resource Type is defined as: "oic.r.icemaker".

4256 **6.14.4 OpenAPI 2.0 definition**

```

4257 {
4258   "swagger": "2.0",
4259   "info": {
4260     "title": "Ice Maker",
4261     "version": "20190215",
4262     "license": {
4263       "name": "OCF Data Model License",
4264       "url":
4265         "https://github.com/openconnectivityfoundation/core/blob/e28a9e0a92e17042ba3e83661e4c0fbce8bdc4ba/LI
4266         CENSE.md",
4267       "x-copyright": "copyright 2016-2017, 2019 Open Connectivity Foundation, Inc. All rights
4268         reserved."
4269     },
4270     "termsOfService": "https://openconnectivityfoundation.github.io/core/DISCLAIMER.md"
4271   },
4272   "schemes": ["http"],
4273   "consumes": ["application/json"],
4274   "produces": ["application/json"],
4275   "paths": {
4276     "/IceMakerResURI" : {
4277       "get": {
4278         "description": "This Resource describes an the operational state of an Ice Maker.\n
4279         Property \"status\" is a string containing a value from the set of possible ice maker statuses.\n
4280         The possible statuses are defined by the enumeration [\"on\", \"off\", \"full\"]\n
4281         A status of \"on\" means that the Ice Maker is operating.\n
4282         A status of \"off\" means that the Ice Maker is not operating.\n
4283         A status of \"full\" means that the ice collection bin is full (Ice Maker is
4284         operating).",
4285         "parameters": [
4286           {"$ref": "#/parameters/interface"}
4287         ],
4288         "responses": {
4289           "200": {

```

```

4289         "description" : "RETRIEVES the current Ice Maker status.",
4290         "x-example":
4291             {
4292                 "rt": ["oic.r.icemaker"],
4293                 "if": ["oic.if.a", "oic.if.baseline"],
4294                 "status": "on"
4295             },
4296         "schema": { "$ref": "#/definitions/IceMaker" }
4297     }
4298 },
4299 },
4300 "post": {
4301     "description": "Sets the desired Ice Maker status.\nOnly valid settings for \"status\" in a
4302 UPDATE shall be \"on\" or \"off\".",
4303     "parameters": [
4304         { "$ref": "#/parameters/interface" },
4305         {
4306             "name": "body",
4307             "in": "body",
4308             "required": true,
4309             "schema": { "$ref": "#/definitions/IceMakerUpdate" },
4310             "x-example":
4311                 {
4312                     "status": "off"
4313                 }
4314         },
4315     ],
4316     "responses": {
4317         "200": {
4318             "description": "Indicates that the Ice Maker status was changed.\nThe new status is
4319 provided in the response.\n",
4320             "x-example":
4321                 {
4322                     "status": "off"
4323                 },
4324             "schema": { "$ref": "#/definitions/IceMakerUpdate" }
4325         },
4326         "403": {
4327             "description": "This response is generated by the OCF Server when the client sends:\n
4328 An UPDATE with an invalid property value for \"status\".\nThe OCF Server responds with the current
4329 resource representation.\n",
4330             "x-example":
4331                 {
4332                     "status": "off"
4333                 },
4334             "schema": { "$ref": "#/definitions/IceMakerUpdate" }
4335         }
4336     }
4337 },
4338 },
4339 },
4340 "parameters": {
4341     "interface": {
4342         "in": "query",
4343         "name": "if",
4344         "type": "string",
4345         "enum": ["oic.if.a", "oic.if.baseline"]
4346     }
4347 },
4348 "definitions": {
4349     "IceMaker" : {
4350         "properties": {
4351             "rt": {
4352                 "description": "The Resource Type.",
4353                 "items": {
4354                     "enum": ["oic.r.icemaker"],
4355                     "maxLength": 64,
4356                     "type": "string"
4357                 },
4358                 "minItems": 1,
4359                 "uniqueItems": true,
4360                 "readOnly": true,

```

```

4361         "type": "array"
4362     },
4363     "status": {
4364         "description": "The status of the Ice Maker.",
4365         "enum": [
4366             "on",
4367             "off",
4368             "full"
4369         ],
4370         "type": "string"
4371     },
4372     "n": {
4373         "$ref":
4374         "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
4375         schema.json#/definitions/n"
4376     },
4377     "id": {
4378         "$ref":
4379         "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
4380         schema.json#/definitions/id"
4381     },
4382     "if": {
4383         "description": "The OCF Interface set supported by this Resource.",
4384         "items": {
4385             "enum": [
4386                 "oic.if.a",
4387                 "oic.if.baseline"
4388             ],
4389             "type": "string"
4390         },
4391         "minItems": 2,
4392         "uniqueItems": true,
4393         "readOnly": true,
4394         "type": "array"
4395     }
4396 },
4397 "type": "object",
4398 "required": ["status"]
4399 },
4400 "IceMakerUpdate" : {
4401     "properties": {
4402         "status": {
4403             "description": "Set the status of the Ice Maker.",
4404             "enum": [
4405                 "on",
4406                 "off"
4407             ]
4408         }
4409     },
4410     "type": "object",
4411     "required": ["status"]
4412 }
4413 }
4414 }
4415

```

4416 6.14.5 Property definition

4417 Table 31 defines the Properties that are part of the "oic.r.icemaker" Resource Type.

4418 **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.

4419 **6.14.6 CRUDN behaviour**

4420 Table 32 defines the CRUDN operations that are supported on the "oic.r.icemaker" Resource Type.

4421 **Table 32 – The CRUDN operations of the Resource with type "rt" = "oic.r.icemaker".**

Create	Read	Update	Delete	Notify
	get	post		observe

4422 **6.15 Lock**

4423 **6.15.1 Introduction**

4424 The Resource describing a lock.
 4425 The Property "lockState" is a string. The value 'Locked' indicates that the door is Locked.
 4426 The value 'Unlocked' indicates that the door is Unlocked.

4427 **6.15.2 Example URI**

4428 /LockStatusResURI

4429 **6.15.3 Resource type**

4430 The Resource Type is defined as: "oic.r.lock.status".

4431 **6.15.4 OpenAPI 2.0 definition**

```

4432 {
4433   "swagger": "2.0",
4434   "info": {
4435     "title": "Lock",
4436     "version": "20190215",
4437     "license": {
4438       "name": "OCF Data Model License",
4439       "url":
4440 "https://github.com/openconnectivityfoundation/core/blob/e28a9e0a92e17042ba3e83661e4c0fbce8bdc4ba/LI
4441 CENSE.md",
4442       "x-copyright": "copyright 2016-2017, 2019 Open Connectivity Foundation, Inc. All rights
4443 reserved."
4444     },
4445     "termsOfService": "https://openconnectivityfoundation.github.io/core/DISCLAIMER.md"
4446   },
4447   "schemes": ["http"],

```

```

4448     "consumes": ["application/json"],
4449     "produces": ["application/json"],
4450     "paths": {
4451         "/LockStatusResURI" : {
4452             "get": {
4453                 "description": "The Resource describing a lock.\n\nThe Property \"lockState\" is a string. The
4454 value 'Locked' indicates that the door is Locked.\n\nThe value 'Unlocked' indicates that the door is
4455 Unlocked.",
4456                 "parameters": [
4457                     { "$ref": "#/parameters/interface" }
4458                 ],
4459                 "responses": {
4460                     "200": {
4461                         "description": "RETRIEVES the state of the lock.",
4462                         "x-example":
4463                             {
4464                                 "rt": ["oic.r.lock.status"],
4465                                 "if": ["oic.if.a", "oic.if.baseline"],
4466                                 "lockState": "Locked"
4467                             },
4468                         "schema": { "$ref": "#/definitions/Lock" }
4469                     }
4470                 }
4471             },
4472             "post": {
4473                 "description": "Sets the current lock state.\n\n",
4474                 "parameters": [
4475                     { "$ref": "#/parameters/interface" },
4476                     {
4477                         "name": "body",
4478                         "in": "body",
4479                         "required": true,
4480                         "schema": { "$ref": "#/definitions/Lock" },
4481                         "x-example":
4482                             {
4483                                 "lockState": "Unlocked"
4484                             }
4485                     }
4486                 ],
4487                 "responses": {
4488                     "200": {
4489                         "description": "",
4490                         "x-example":
4491                             {
4492                                 "lockState": "Unlocked"
4493                             },
4494                         "schema": { "$ref": "#/definitions/Lock" }
4495                     },
4496                     "403": {
4497                         "description": "This response is generated by the OCF Server when the client sends:\n
4498 An UPDATE with an invalid property value for \"lockState\".\n\nThe server responds with the current
4499 resource representation.\n\n",
4500                         "x-example":
4501                             {
4502                                 "lockState": "Unlocked"
4503                             },
4504                         "schema": { "$ref": "#/definitions/Lock" }
4505                     }
4506                 }
4507             }
4508         }
4509     },
4510     "parameters": {
4511         "interface" : {
4512             "in" : "query",
4513             "name" : "if",
4514             "type" : "string",
4515             "enum" : ["oic.if.a", "oic.if.baseline"]
4516         }
4517     },
4518     "definitions": {
4519         "Lock" : {

```

```

4520     "properties": {
4521       "rt": {
4522         "description": "Resource Type",
4523         "items": {
4524           "enum": ["oic.r.lock.status"],
4525           "maxLength": 64,
4526           "type": "string"
4527         },
4528         "minItems": 1,
4529         "uniqueItems": true,
4530         "readOnly": true,
4531         "type": "array"
4532       },
4533       "lockState": {
4534         "description": "The state of the lock.",
4535         "enum": [
4536           "Locked",
4537           "Unlocked"
4538         ],
4539         "type": "string"
4540       },
4541       "n": {
4542         "$ref":
4543         "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
4544         schema.json#/definitions/n"
4545       },
4546       "id": {
4547         "$ref":
4548         "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
4549         schema.json#/definitions/id"
4550       },
4551       "if": {
4552         "description": "The OCF Interface set supported by this Resource.",
4553         "items": {
4554           "enum": [
4555             "oic.if.a",
4556             "oic.if.baseline"
4557           ],
4558           "type": "string"
4559         },
4560         "minItems": 2,
4561         "uniqueItems": true,
4562         "readOnly": true,
4563         "type": "array"
4564       }
4565     },
4566     "type": "object",
4567     "required": ["lockState"]
4568   }
4569 }
4570 }
4571

```

4572 **6.15.5 Property definition**

4573 Table 33 defines the Properties that are part of the "oic.r.lock.status" Resource Type.

4574 **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.

4575 **6.15.6 CRUDN behaviour**

4576 Table 34 defines the CRUDN operations that are supported on the "oic.r.lock.status" Resource
4577 Type.

4578 **Table 34 – The CRUDN operations of the Resource with type "rt" = "oic.r.lock.status".**

Create	Read	Update	Delete	Notify
	get	post		observe

4579 **6.16 Lock Code**

4580 **6.16.1 Introduction**

4581 The Resource describing a lock code.
4582 The Property "lockCodeList" is an array of possible codes that may be associated with a lock.
4583 The codes are all presented as strings.

4584 **6.16.2 Example URI**

4585 /LockCodeResURI

4586 **6.16.3 Resource type**

4587 The Resource Type is defined as: "oic.r.lock.code".

4588 **6.16.4 OpenAPI 2.0 definition**

```

4589 {
4590   "swagger": "2.0",
4591   "info": {
4592     "title": "Lock Code",
4593     "version": "20190215",
4594     "license": {
4595       "name": "OCF Data Model License",
4596       "url":
4597         "https://github.com/openconnectivityfoundation/core/blob/e28a9e0a92e17042ba3e83661e4c0fbce8bdc4ba/LI
4598         CENSE.md",
4599       "x-copyright": "copyright 2016-2017, 2019 Open Connectivity Foundation, Inc. All rights
4600       reserved."
4601     },
4602     "termsOfService": "https://openconnectivityfoundation.github.io/core/DISCLAIMER.md"
4603   },
4604   "schemes": ["http"],
4605   "consumes": ["application/json"],
4606   "produces": ["application/json"],
4607   "paths": {
4608     "/LockCodeResURI" : {
4609       "get": {
4610         "description": "The Resource describing a lock code.\nThe Property \"lockCodeList\" is an
4611         array of possible codes that may be associated with a lock.\nThe codes are all presented as

```



```

4612 strings.",
4613     "parameters": [
4614         {"$ref": "#/parameters/interface"}
4615     ],
4616     "responses": {
4617         "200": {
4618             "description": "RETRIEVES the current lock code values.",
4619             "x-example":
4620                 {
4621                     "rt": ["oic.r.lock.code"],
4622                     "if": ["oic.if.a", "oic.if.baseline"],
4623                     "lockCodeList": ["012345", "112233"]
4624                 },
4625             "schema": { "$ref": "#/definitions/LockCode" }
4626         }
4627     }
4628 },
4629 "post": {
4630     "description": "Updates the current lock code values. e.g. all value in the property
4631     \"lockCodeList\"",
4632     "parameters": [
4633         {"$ref": "#/parameters/interface"},
4634         {
4635             "name": "body",
4636             "in": "body",
4637             "required": true,
4638             "schema": { "$ref": "#/definitions/LockCode" },
4639             "x-example":
4640                 {
4641                     "lockCodeList": ["543210", "332211"]
4642                 }
4643         }
4644     ],
4645     "responses": {
4646         "200": {
4647             "description": "",
4648             "x-example":
4649                 {
4650                     "lockCodeList": ["543210", "332211"]
4651                 },
4652             "schema": { "$ref": "#/definitions/LockCode" }
4653         }
4654     }
4655 }
4656 },
4657 "parameters": {
4658     "interface": {
4659         "in": "query",
4660         "name": "if",
4661         "type": "string",
4662         "enum": ["oic.if.a", "oic.if.baseline"]
4663     }
4664 },
4665 "definitions": {
4666     "LockCode": {
4667         "properties": {
4668             "rt": {
4669                 "description": "The Resource Type.",
4670                 "items": {
4671                     "enum": ["oic.r.lock.code"],
4672                     "maxLength": 64,
4673                     "type": "string"
4674                 },
4675                 "minItems": 1,
4676                 "uniqueItems": true,
4677                 "readOnly": true,
4678                 "type": "array"
4679             },
4680             "lockCodeList": {
4681                 "items": {
4682                     "description": "The value for the lock code.",

```

```

4684         "type": "string"
4685     },
4686     "type": "array"
4687 },
4688 "n": {
4689     "$ref":
4690 "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
4691 schema.json#/definitions/n"
4692 },
4693 "id": {
4694     "$ref":
4695 "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
4696 schema.json#/definitions/id"
4697 },
4698 "if": {
4699     "description": "The OCF Interface set supported by this Resource.",
4700     "items": {
4701         "enum": [
4702             "oic.if.a",
4703             "oic.if.baseline"
4704         ],
4705         "type": "string"
4706     },
4707     "minItems": 2,
4708     "uniqueItems": true,
4709     "readOnly": true,
4710     "type": "array"
4711 }
4712 },
4713 "type": "object",
4714 "required": ["lockCodeList"]
4715 }
4716 }
4717 }
4718

```

4719 6.16.5 Property definition

4720 Table 35 defines the Properties that are part of the "oic.r.lock.code" Resource Type.

4721 **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	

4722 6.16.6 CRUDN behaviour

4723 Table 36 defines the CRUDN operations that are supported on the "oic.r.lock.code" Resource Type.

4724

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

Create	Read	Update	Delete	Notify
	get	post		observe

4725 **6.17 Mode**4726 **6.17.1 Introduction**

4727 This Resource describes the modes of operation that a Device can provide.
 4728 The mode can be read or set.
 4729 The Property "supportedModes" is an array of possible modes the device supports.
 4730 The Property "modes" is an array of the currently active mode(s).

4731 **6.17.2 Example URI**

4732 /ModeResURI

4733 **6.17.3 Resource type**

4734 The Resource Type is defined as: "oic.r.mode".

4735 **6.17.4 OpenAPI 2.0 definition**

```

4736 {
4737   "swagger": "2.0",
4738   "info": {
4739     "title": "Mode",
4740     "version": "20190215",
4741     "license": {
4742       "name": "OCF Data Model License",
4743       "url":
4744         "https://github.com/openconnectivityfoundation/core/blob/e28a9e0a92e17042ba3e83661e4c0fbce8bdc4ba/LI
4745         CENSE.md",
4746       "x-copyright": "copyright 2016-2017, 2019 Open Connectivity Foundation, Inc. All rights
4747         reserved."
4748     },
4749     "termsOfService": "https://openconnectivityfoundation.github.io/core/DISCLAIMER.md"
4750   },
4751   "schemes": ["http"],
4752   "consumes": ["application/json"],
4753   "produces": ["application/json"],
4754   "paths": {
4755     "/ModeResURI" : {
4756       "get": {
4757         "description": "This Resource describes the modes of operation that a Device can
4758         provide.\nThe mode can be read or set.\n\nThe Property \"supportedModes\" is an array of possible
4759         modes the device supports.\n\nThe Property \"modes\" is an array of the currently active mode(s).",
4760         "parameters": [
4761           {"$ref": "#/parameters/interface"}
4762         ],
4763         "responses": {
4764           "200": {
4765             "description": "RETRIEVES the current mode.",
4766             "x-example":
4767               {
4768                 "rt": ["oic.r.mode"],
4769                 "if": ["oic.if.a", "oic.if.baseline"],
4770                 "supportedModes": ["active", "armedAway", "armedStay", "armedInstant"],
4771                 "modes": ["active"]
4772               },
4773             "schema": { "$ref": "#/definitions/Mode" }
4774           }
4775         }
4776       },
4777       "post": {
4778         "description": "Sets the desired mode.",

```

```

4779     "parameters": [
4780         { "$ref": "#/parameters/interface" },
4781         {
4782             "name": "body",
4783             "in": "body",
4784             "required": true,
4785             "schema": { "$ref": "#/definitions/ModeUpdate" },
4786             "x-example":
4787                 {
4788                     "modes": ["armedAway"]
4789                 }
4790         }
4791     ],
4792     "responses": {
4793         "200": {
4794             "description": "",
4795             "x-example":
4796                 {
4797                     "modes": ["armedAway"]
4798                 }
4799             ,
4800             "schema": { "$ref": "#/definitions/ModeUpdate" }
4801         },
4802         "403": {
4803             "description": "This response is generated by the OCF Server when the client sends:\n
4804 An UPDATE with an value for \"modes\" that is not found in \"supportedModes\".\n
4805 The server responds with the current resource representation.\n",
4806             "x-example":
4807                 {
4808                     "supportedModes": ["active","armedAway","armedStay","armedInstant"],
4809                     "modes": ["active"]
4810                 },
4811             "schema": { "$ref": "#/definitions/Mode" }
4812         }
4813     }
4814 }
4815 }
4816 },
4817 "parameters": {
4818     "interface": {
4819         "in": "query",
4820         "name": "if",
4821         "type": "string",
4822         "enum": ["oic.if.a", "oic.if.baseline"]
4823     }
4824 },
4825 "definitions": {
4826     "Mode" : {
4827         "properties": {
4828             "rt": {
4829                 "description": "The Resource Type.",
4830                 "items": {
4831                     "enum": ["oic.r.mode"],
4832                     "maxLength": 64,
4833                     "type": "string"
4834                 },
4835                 "minItems": 1,
4836                 "uniqueItems": true,
4837                 "readOnly": true,
4838                 "type": "array"
4839             },
4840             "modes": {
4841                 "description": "The array of the currently active mode(s).",
4842                 "items": {
4843                     "type": "string"
4844                 },
4845                 "type": "array"
4846             },
4847             "supportedModes": {
4848                 "description": "The array of possible modes the device supports.",
4849                 "items": {
4850                     "type": "string"

```

```

4851         },
4852         "readOnly": true,
4853         "type": "array"
4854     },
4855     "n": {
4856         "$ref":
4857         "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
4858         schema.json#/definitions/n"
4859     },
4860     "id": {
4861         "$ref":
4862         "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
4863         schema.json#/definitions/id"
4864     },
4865     "if": {
4866         "description": "The OCF Interface set supported by this Resource.",
4867         "items": {
4868             "enum": [
4869                 "oic.if.a",
4870                 "oic.if.baseline"
4871             ],
4872             "type": "string"
4873         },
4874         "minItems": 2,
4875         "uniqueItems": true,
4876         "readOnly": true,
4877         "type": "array"
4878     }
4879 },
4880 "type": "object",
4881 "required": ["supportedModes", "modes"]
4882 },
4883 "ModeUpdate" : {
4884     "properties": {
4885         "modes": {
4886             "description": "Desired mode",
4887             "items": {
4888                 "type": "string"
4889             },
4890             "type": "array"
4891         }
4892     },
4893     "type": "object",
4894     "required": ["modes"]
4895 }
4896 }
4897 }
4898

```

6.17.5 Property definition

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

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	

4902 **6.17.6 CRUDN behaviour**

4903 Table 38 defines the CRUDN operations that are supported on the "oic.r.mode" Resource Type.

4904 **Table 38 – The CRUDN operations of the Resource with type "rt" = "oic.r.mode".**

Create	Read	Update	Delete	Notify
	get	post		observe

4905 **6.18 Open Level**

4906 **6.18.1 Introduction**

4907 This Resource describes how open or ajar an entity such as a window, door, blind or shutter is.
 4908 The Property "openLevel" can be read (acting as a sensor).
 4909 The "openLevel" can also be set (acting as an actuator).
 4910 The "openLevel" is device dependent across the range provided.
 4911 When the Property "range" is omitted then 0 to 100 is assumed where 0 means closed, 100 means
 4912 fully open.
 4913 If a "range" is provided then the lower bound=closed, upper bound=open.
 4914 If Property "step" is present then it represents the increment between possible values; if not
 4915 provided 1 is assumed.

4916 **6.18.2 Example URI**

4917 /OpenLevelResURI

4918 **6.18.3 Resource type**

4919 The Resource Type is defined as: "oic.r.openlevel".

4920 **6.18.4 OpenAPI 2.0 definition**

```

4921 {
4922   "swagger": "2.0",
4923   "info": {
4924     "title": "Open Level",
4925     "version": "20190215",
4926     "license": {
4927       "name": "OCF Data Model License",
4928       "url":
4929     "https://github.com/openconnectivityfoundation/core/blob/e28a9e0a92e17042ba3e83661e4c0fbce8bdc4ba/LI

```

```

4930 CENSE.md",
4931     "x-copyright": "copyright 2016-2017, 2019 Open Connectivity Foundation, Inc. All rights
4932 reserved."
4933 },
4934     "termsOfService": "https://openconnectivityfoundation.github.io/core/DISCLAIMER.md"
4935 },
4936     "schemes": ["http"],
4937     "consumes": ["application/json"],
4938     "produces": ["application/json"],
4939     "paths": {
4940         "/OpenLevelResURI" : {
4941             "get": {
4942                 "description": "This Resource describes how open or ajar an entity such as a window, door,
4943 blind or shutter is.\nThe Property \"openLevel\" can be read (acting as a sensor).\nThe
4944 \"openLevel\" can also be set (acting as an actuator).\nThe \"openLevel\" is device dependent across
4945 the range provided.\nWhen the Property \"range\" is omitted then 0 to 100 is assumed where 0 means
4946 closed, 100 means fully open.\nIf a \"range\" is provided then the lower bound=closed, upper
4947 bound=open.\nIf Property \"step\" is present then it represents the increment between possible
4948 values; if not provided 1 is assumed.",
4949                 "parameters": [
4950                     { "$ref": "#/parameters/interface" }
4951                 ],
4952                 "responses": {
4953                     "200": {
4954                         "description": "RETRIEVES the current openLevel.",
4955                         "x-example":
4956                             {
4957                                 "rt": ["oic.r.openlevel"],
4958                                 "if": ["oic.if.a", "oic.if.baseline"],
4959                                 "openLevel": 50,
4960                                 "step": 2,
4961                                 "range": [0, 100]
4962                             },
4963                         "schema": { "$ref": "#/definitions/OpenLevel" }
4964                     }
4965                 },
4966             },
4967             "post": {
4968                 "description": "Sets the desired openLevel.",
4969                 "parameters": [
4970                     { "$ref": "#/parameters/interface" },
4971                     {
4972                         "name": "body",
4973                         "in": "body",
4974                         "required": true,
4975                         "schema": { "$ref": "#/definitions/OpenLevel" },
4976                         "x-example":
4977                             {
4978                                 "openLevel": 0
4979                             }
4980                     }
4981                 ],
4982                 "responses": {
4983                     "200": {
4984                         "description": "",
4985                         "x-example":
4986                             {
4987                                 "openLevel": 0
4988                             },
4989                         "schema": { "$ref": "#/definitions/OpenLevel" }
4990                     },
4991                     "403": {
4992                         "description": "This response is generated by the OCF Server when the client sends:\n
4993 An UPDATE with an out of range property value for \"openLevel\".\nThe OCF Server responds with the
4994 current resource representation.\n",
4995                         "x-example":
4996                             {
4997                                 "openLevel": 50,
4998                                 "step": 2,
4999                                 "range": [0, 100]
5000                             },
5001                         "schema": { "$ref": "#/definitions/OpenLevel" }

```

```

5002     }
5003   }
5004 }
5005 }
5006 },
5007 "parameters": {
5008   "interface": {
5009     "in": "query",
5010     "name": "if",
5011     "type": "string",
5012     "enum": ["oic.if.a", "oic.if.baseline"]
5013   }
5014 },
5015 "definitions": {
5016   "OpenLevel": {
5017     "properties": {
5018       "rt": {
5019         "description": "The Resource Type.",
5020         "items": {
5021           "maxLength": 64,
5022           "type": "string",
5023           "enum": ["oic.r.openlevel"]
5024         },
5025         "minItems": 1,
5026         "uniqueItems": true,
5027         "readOnly": true,
5028         "type": "array"
5029       },
5030       "openLevel": {
5031         "description": "How open or ajar the entity is.",
5032         "type": "integer"
5033       },
5034       "n": {
5035         "$ref":
5036         "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
5037         schema.json#/definitions/n"
5038       },
5039       "id": {
5040         "$ref":
5041         "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
5042         schema.json#/definitions/id"
5043       },
5044       "range": {
5045         "$ref":
5046         "https://openconnectivityfoundation.github.io/IoTDataModels/schemas/oic.baseresource.properties-
5047         schema.json#/definitions/range_integer"
5048       },
5049       "step": {
5050         "$ref":
5051         "https://openconnectivityfoundation.github.io/IoTDataModels/schemas/oic.baseresource.properties-
5052         schema.json#/definitions/step_integer"
5053       },
5054       "if": {
5055         "description": "The OCF Interface set supported by this Resource.",
5056         "items": {
5057           "enum": [
5058             "oic.if.a",
5059             "oic.if.baseline"
5060           ],
5061           "type": "string"
5062         },
5063         "minItems": 2,
5064         "uniqueItems": true,
5065         "readOnly": true,
5066         "type": "array"
5067       }
5068     },
5069     "type": "object",
5070     "required": ["openLevel"]
5071   }
5072 }

```


5073 }
5074

5075 6.18.5 Property definition

5076 Table 39 defines the Properties that are part of the "oic.r.openlevel" Resource Type.

5077 **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	

5078 6.18.6 CRUDN behaviour

5079 Table 40 defines the CRUDN operations that are supported on the "oic.r.openlevel" Resource Type.

5080 **Table 40 – The CRUDN operations of the Resource with type "rt" = "oic.r.openlevel".**

Create	Read	Update	Delete	Notify
	get	post		observe

5081 6.19 Operational State

5082 6.19.1 Introduction

5083 This Resource describes the operational and job states on a device.
5084 The states can be read or set, setting indicates a desired state.
5085 A device may reject an attempt to set a state that would result
5086 in adverse operational characteristics.
5087 The Property "machineStates" is an array of the possible operational states.
5088 The Property "currentMachineState" is the current state of operation of the device.
5089 The Property "jobStates" is an array of the possible job states.
5090 The Property "currentJobState" is the currently active jobState.

5091 The Property "runningTime" is the ISO8601 encoded elapsed time in the current operational state.
5092 The Property "remainingTime" is the ISO8601 encoded time till completion of the current
5093 operational state.
5094 The Property "progressPercentage" is the percentage completeness of the current jobState.

5095 6.19.2 Example URI

5096 /OperationalStateResURI

5097 6.19.3 Resource type

5098 The Resource Type is defined as: "oic.r.operational.state".

5099 6.19.4 OpenAPI 2.0 definition

```
5100 {
5101   "swagger": "2.0",
5102   "info": {
5103     "title": "Operational State",
5104     "version": "20190215",
5105     "license": {
5106       "name": "OCF Data Model License",
5107       "url":
5108         "https://github.com/openconnectivityfoundation/core/blob/e28a9e0a92e17042ba3e83661e4c0fbce8bdc4ba/LI
5109 CENSE.md",
5110       "x-copyright": "copyright 2016-2017, 2019 Open Connectivity Foundation, Inc. All rights
5111 reserved."
5112     },
5113     "termsOfService": "https://openconnectivityfoundation.github.io/core/DISCLAIMER.md"
5114   },
5115   "schemes": ["http"],
5116   "consumes": ["application/json"],
5117   "produces": ["application/json"],
5118   "paths": {
5119     "/OperationalStateResURI": {
5120       "get": {
5121         "description": "This Resource describes the operational and job states on a device.\nThe
5122 states can be read or set, setting indicates a desired state.\nA device may reject an attempt to set
5123 a state that would result\n\nin adverse operational characteristics.\n\nThe Property \"machineStates\"
5124 is an array of the possible operational states.\n\nThe Property \"currentMachineState\" is the current
5125 state of operation of the device.\n\nThe Property \"jobStates\" is an array of the possible job
5126 states.\n\nThe Property \"currentJobState\" is the currently active jobState.\n\nThe Property
5127 \"runningTime\" is the ISO8601 encoded elapsed time in the current operational state.\n\nThe Property
5128 \"remainingTime\" is the ISO8601 encoded time till completion of the current operational state.\n\nThe
5129 Property \"progressPercentage\" is the percentage completeness of the current jobState.",
5130         "parameters": [
5131           {"$ref": "#/parameters/interface"}
5132         ],
5133         "responses": {
5134           "200": {
5135             "description": "RETRIEVES the current operational and job states.",
5136             "x-example": {
5137               "rt": ["oic.r.operational.state"],
5138               "if": ["oic.if.a", "oic.if.baseline"],
5139               "machineStates": ["pause", "stopped", "idle", "active"],
5140               "currentMachineState": "active",
5141               "jobStates": ["preWash", "wash", "rinse", "spin", "dry", "airDry", "wrinklePrevent"],
5142               "currentJobState": "rinse",
5143               "runningTime": "PT15M20S",
5144               "remainingTime": "PT10M40S",
5145               "progressPercentage": 75
5146             },
5147             "schema": {"$ref": "#/definitions/Operation"}
5148           }
5149         }
5150       },
5151       "post": {
5152         "description": "Sets the desired operational or job state.",
5153         "parameters": [
5154           {"$ref": "#/parameters/interface"},
5155           {
```

```

5156         "name": "body",
5157         "in": "body",
5158         "required": true,
5159         "schema": { "$ref": "#/definitions/OperationUpdate" },
5160         "x-example": {
5161             "currentMachineState": "pause",
5162             "currentJobState": "wash"
5163         }
5164     },
5165 ],
5166 "responses": {
5167     "200": {
5168         "description": "",
5169         "x-example": {
5170             "currentMachineState": "pause",
5171             "currentJobState": "wash"
5172         },
5173         "schema": { "$ref": "#/definitions/OperationUpdate" }
5174     },
5175     "403": {
5176         "description": "This response is generated by the OCF Server when the client sends:\n
5177 An UPDATE with an value for \"currentMachineState\" that is not found in \"machineStates\".\n An
5178 UPDATE with an value for \"currentJobState\" that is not found in \"jobStates\".\n The OCF Server
5179 responds with the current resource representation.\n",
5180         "x-example": {
5181             "machineStates": ["pause", "stopped", "idle", "active"],
5182             "currentMachineState": "active",
5183             "jobStates": ["preWash", "wash", "rinse", "spin", "dry", "airDry", "wrinklePrevent"],
5184             "currentJobState": "rinse",
5185             "runningTime": "PT15M20S",
5186             "remainingTime": "PT10M40S",
5187             "progressPercentage": 75
5188         },
5189         "schema": { "$ref": "#/definitions/Operation" }
5190     }
5191 }
5192 }
5193 },
5194 },
5195 "parameters": {
5196     "interface": {
5197         "in": "query",
5198         "name": "if",
5199         "type": "string",
5200         "enum": ["oic.if.a", "oic.if.baseline"]
5201     }
5202 },
5203 "definitions": {
5204     "Operation": {
5205         "properties": {
5206             "rt": {
5207                 "description": "The Resource Type.",
5208                 "items": {
5209                     "enum": ["oic.r.operational.state"],
5210                     "maxLength": 64,
5211                     "type": "string"
5212                 },
5213                 "minItems": 1,
5214                 "uniqueItems": true,
5215                 "readOnly": true,
5216                 "type": "array"
5217             },
5218             "currentMachineState": {
5219                 "description": "The current state of operation of the device.",
5220                 "type": "string"
5221             },
5222             "currentJobState": {
5223                 "description": "The currently active jobState.",
5224                 "type": "string"
5225             },
5226             "machineStates": {
5227                 "description": "The array of the possible operational states.",

```

```

5228         "items": {
5229             "type": "string"
5230         },
5231         "readOnly": true,
5232         "type": "array"
5233     },
5234     "runningTime": {
5235         "$ref": "https://openconnectivityfoundation.github.io/core/schemas/oic.types-
5236 schema.json#/definitions/duration"
5237     },
5238     "remainingTime": {
5239         "$ref": "https://openconnectivityfoundation.github.io/core/schemas/oic.types-
5240 schema.json#/definitions/duration"
5241     },
5242     "progressPercentage": {
5243         "description": "The percentage completeness of the current jobState.",
5244         "maximum": 100,
5245         "minimum": 0,
5246         "readOnly": true,
5247         "type": "integer"
5248     },
5249     "jobStates": {
5250         "description": "The Array of the possible job states.",
5251         "items": {
5252             "type": "string"
5253         },
5254         "readOnly": true,
5255         "type": "array"
5256     },
5257     "n": {
5258         "$ref":
5259 "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
5260 schema.json#/definitions/n"
5261     },
5262     "id": {
5263         "$ref":
5264 "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
5265 schema.json#/definitions/id"
5266     },
5267     "if": {
5268         "description": "The OCF Interface set supported by this Resource.",
5269         "items": {
5270             "enum": [
5271                 "oic.if.a",
5272                 "oic.if.baseline"
5273             ],
5274             "type": "string"
5275         },
5276         "minItems": 2,
5277         "uniqueItems": true,
5278         "readOnly": true,
5279         "type": "array"
5280     }
5281 },
5282 "type": "object",
5283 "required": ["machineStates", "currentMachineState"]
5284 },
5285 "OperationUpdate" : {
5286     "properties": {
5287         "currentMachineState": {
5288             "description": "The current state of operation of the device.",
5289             "type": "string"
5290         },
5291         "currentJobState": {
5292             "description": "The currently active jobState.",
5293             "type": "string"
5294         }
5295     },
5296     "type": "object"
5297 }
5298 }

```

5299 }
5300

5301 **6.19.5 Property definition**

5302 Table 41 defines the Properties that are part of the "oic.r.operational.state" Resource Type.

5303 **Table 41 – The Property definitions of the Resource with type "rt" =**
5304 **"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.

5305 **6.19.6 CRUDN behaviour**

5306 Table 42 defines the CRUDN operations that are supported on the "oic.r.operational.state"
5307 Resource Type.

5308 **Table 42 – The CRUDN operations of the Resource with type "rt" = "oic.r.operational.state".**

Create	Read	Update	Delete	Notify
	get	post		observe

5309 **6.20 Ramp Time**

5310 **6.20.1 Introduction**

5311 This Resource that describes the ramp time of a dimming function.
5312 It specifies the actual speed of changing between 2 dimming values.
5313 The Property "ramptime" is specified in milliseconds [ms].
5314 When range is omitted the maximum value is 100 ms.
5315 The ramp time of 0ms indicates the minimal delay possible by the implementation.

5316 **6.20.2 Example URI**

5317 /RampTimeResURI

5318 **6.20.3 Resource type**

5319 The Resource Type is defined as: "oic.r.light.ramptime".

5320 **6.20.4 OpenAPI 2.0 definition**

```
5321 {
5322   "swagger": "2.0",
5323   "info": {
5324     "title": "Ramp Time",
5325     "version": "20190215",
5326     "license": {
5327       "name": "OCF Data Model License",
5328       "url":
5329         "https://github.com/openconnectivityfoundation/core/blob/e28a9e0a92e17042ba3e83661e4c0fbce8bdc4ba/LI
5330 CENSE.md",
5331       "x-copyright": "copyright 2016-2017, 2019 Open Connectivity Foundation, Inc. All rights
5332 reserved."
5333     },
5334     "termsOfService": "https://openconnectivityfoundation.github.io/core/DISCLAIMER.md"
5335   },
5336   "schemes": ["http"],
5337   "consumes": ["application/json"],
5338   "produces": ["application/json"],
5339   "paths": {
5340     "/RampTimeResURI" : {
5341       "get": {
5342         "description": "This Resource that describes the ramp time of a dimming function.\nIt
5343 specifies the actual speed of changing between 2 dimming values.\nThe Property \"ramptime\" is
5344 specified in milliseconds [ms].\nWhen range is omitted the maximum value is 100 ms.\nThe ramp time
5345 of 0ms indicates the minimal delay possible by the implementation.",
5346         "parameters": [
```

```

5347     {"$ref": "#/parameters/interface"}
5348   ],
5349   "responses": {
5350     "200": {
5351       "description": "RETRIEVES the current RampTime.",
5352       "x-example":
5353         {
5354           "rt": ["oic.r.light.ramptime"],
5355           "if": ["oic.if.a", "oic.if.baseline"],
5356           "rampTime": 40,
5357           "range": [0, 100]
5358         },
5359       "schema": { "$ref": "#/definitions/RampTime" }
5360     }
5361   },
5362 },
5363 "post": {
5364   "description": "Sets the current RampTime.\n",
5365   "parameters": [
5366     {"$ref": "#/parameters/interface"},
5367     {
5368       "name": "body",
5369       "in": "body",
5370       "required": true,
5371       "schema": { "$ref": "#/definitions/RampTime" },
5372       "x-example":
5373         {
5374           "rampTime": 50
5375         }
5376     }
5377   ],
5378   "responses": {
5379     "200": {
5380       "description": "This response is generated by the OCF Server when the client sends an
5381 UPDATE with an in range Property value for \"rampTime\". The OCF Server responds with the current
5382 resource representation.",
5383       "x-example":
5384         {
5385           "rampTime": 50,
5386           "range": [0, 100]
5387         },
5388       "schema": { "$ref": "#/definitions/RampTime" }
5389     },
5390     "403": {
5391       "description": "Error response. This response is generated by the OCF Server when the
5392 client sends an UPDATE with an out of range Property value for \"rampTime\".",
5393       "x-example":
5394         {
5395           "rampTime": 40,
5396           "range": [0, 100]
5397         },
5398       "schema": { "$ref": "#/definitions/RampTime" }
5399     }
5400   }
5401 },
5402 },
5403 },
5404 "parameters": {
5405   "interface": {
5406     "in": "query",
5407     "name": "if",
5408     "type": "string",
5409     "enum": ["oic.if.a", "oic.if.baseline"]
5410   }
5411 },
5412 "definitions": {
5413   "RampTime" : {
5414     "properties": {
5415       "rt": {
5416         "description": "The Resource Type.",
5417         "items": {
5418           "enum": ["oic.r.light.ramptime"],

```

```

5419         "maxLength": 64,
5420         "type": "string"
5421     },
5422     "minItems": 1,
5423     "uniqueItems": true,
5424     "readOnly": true,
5425     "type": "array"
5426 },
5427 "rampTime" :
5428 {
5429     "description": "The actual speed of changing between 2 dimming values.",
5430     "type": "integer"
5431 },
5432 "n": {
5433     "$ref":
5434 "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
5435 schema.json#/definitions/n"
5436 },
5437 "id": {
5438     "$ref":
5439 "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
5440 schema.json#/definitions/id"
5441 },
5442 "range": {
5443     "$ref":
5444 "https://openconnectivityfoundation.github.io/IoTDataModels/schemas/oic.baseresource.properties-
5445 schema.json#/definitions/range_integer"
5446 },
5447 "step": {
5448     "$ref":
5449 "https://openconnectivityfoundation.github.io/IoTDataModels/schemas/oic.baseresource.properties-
5450 schema.json#/definitions/step_integer"
5451 },
5452 "precision": {
5453     "$ref":
5454 "https://openconnectivityfoundation.github.io/IoTDataModels/schemas/oic.baseresource.properties-
5455 schema.json#/definitions/precision"
5456 },
5457 "if": {
5458     "description": "The OCF Interface set supported by this Resource.",
5459     "items": {
5460         "enum": [
5461             "oic.if.a",
5462             "oic.if.baseline"
5463         ],
5464         "type": "string"
5465     },
5466     "minItems": 2,
5467     "uniqueItems": true,
5468     "readOnly": true,
5469     "type": "array"
5470 }
5471 },
5472 "type": "object",
5473 "required": ["rampTime"]
5474 }
5475 }
5476 }
5477

```

5478 6.20.5 Property definition

5479 Table 43 defines the Properties that are part of the "oic.r.light.ramptime" Resource Type.

5480 **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	

5481 **6.20.6 CRUDN behaviour**

5482 Table 44 defines the CRUDN operations that are supported on the "oic.r.light.ramptime" Resource
5483 Type.

5484 **Table 44 – The CRUDN operations of the Resource with type "rt" = "oic.r.light.ramptime".**

Create	Read	Update	Delete	Notify
	get	post		observe

5485 **6.21 Refrigeration**

5486 **6.21.1 Introduction**

5487 This Resource describes a refrigeration function.
5488 The Property "filter" is a read-only value providing the percentage life time remaining for the water
5489 filter.

5490 The Property "rapidFreeze" is a boolean that controls the rapid freeze capability if present.
5491 The Property "rapidCool" is a boolean that controls the rapid cool capability if present.
5492 The Property "defrost" is a boolean that controls the defrost cycle if present.
5493 At least one of the listed Properties shall be present in a Resource Instance.

5494 **6.21.2 Example URI**

5495 /RefrigerationResURI

5496 **6.21.3 Resource type**

5497 The Resource Type is defined as: "oic.r.refrigeration".

5498 **6.21.4 OpenAPI 2.0 definition**

```
5499 {
5500   "swagger": "2.0",
5501   "info": {
5502     "title": "Refrigeration",
5503     "version": "20190215",
5504     "license": {
5505       "name": "OCF Data Model License",
5506       "url":
5507         "https://github.com/openconnectivityfoundation/core/blob/e28a9e0a92e17042ba3e83661e4c0fbce8bdc4ba/LI
5508         CENSE.md",
5509       "x-copyright": "copyright 2016-2017, 2019 Open Connectivity Foundation, Inc. All rights
5510       reserved."
5511     },
5512     "termsOfService": "https://openconnectivityfoundation.github.io/core/DISCLAIMER.md"
5513   },
5514   "schemes": ["http"],
5515   "consumes": ["application/json"],
5516   "produces": ["application/json"],
5517   "paths": {
5518     "/RefrigerationResURI" : {
5519       "get": {
5520         "description": "This Resource describes a refrigeration function.\n\nThe Property \"filter\"
5521         is a read-only value providing the percentage life time remaining for the water filter.\n\nThe
5522         Property \"rapidFreeze\" is a boolean that controls the rapid freeze capability if present.\n\nThe
5523         Property \"rapidCool\" is a boolean that controls the rapid cool capability if present.\n\nThe
5524         Property \"defrost\" is a boolean that controls the defrost cycle if present.\n\nAt least one of the
5525         listed Properties shall be present in a Resource Instance.",
5526         "parameters": [
5527           { "$ref": "#/parameters/interface" }
5528         ],
5529         "responses": {
5530           "200": {
5531             "description": "Retrieves the current Refrigeration function status; all Properties
5532             supported by the Device are returned.",
5533             "x-example":
5534               {
5535                 "rt": ["oic.r.refrigeration"],
5536                 "if": ["oic.if.a", "oic.if.baseline"],
5537                 "filter": 75,
5538                 "rapidFreeze": false,
5539                 "rapidCool": false,
5540                 "defrost": true
5541               },
5542             "schema": { "$ref": "#/definitions/Refrigeration" }
5543           }
5544         }
5545       },
5546       "post": {
5547         "description": "Activates the desired Refrigeration functions.\n\nSuported values are
5548         \"rapidFreeze\", \"rapidCool\" and \"defrost\".\n\nAt least on of the supported values shall be
5549         provided.\n\n",
5550         "parameters": [
5551           { "$ref": "#/parameters/interface" },
5552           {
5553             "name": "body",
5554             "in": "body",
5555             "required": true,
5556             "schema": { "$ref": "#/definitions/RefrigerationUpdate" },
5557             "x-example":
5558               {
5559                 "rapidFreeze": true
5560               }
5561           }
5562         ],
5563         "responses": {
5564           "200": {
```

```

5565         "description": "Indicates that the Refrigeration function was changed.\nThe new
5566 status can be provided in the response.\n",
5567         "x-example":
5568             {
5569                 "rapidFreeze": true
5570             },
5571         "schema": { "$ref": "#/definitions/RefrigerationUpdate" }
5572     }
5573 }
5574 }
5575 }
5576 },
5577 "parameters": {
5578     "interface": {
5579         "in": "query",
5580         "name": "if",
5581         "type": "string",
5582         "enum": ["oic.if.a", "oic.if.baseline"]
5583     }
5584 },
5585 "definitions": {
5586     "Refrigeration" : {
5587         "properties": {
5588             "rt": {
5589                 "description": "The Resource Type.",
5590                 "items": {
5591                     "enum": ["oic.r.refrigeration"],
5592                     "maxLength": 64,
5593                     "type": "string"
5594                 },
5595                 "minItems": 1,
5596                 "uniqueItems": true,
5597                 "readOnly": true,
5598                 "type": "array"
5599             },
5600             "rapidFreeze": {
5601                 "description": "Indicates whether the unit has a rapid freeze capability active.",
5602                 "type": "boolean"
5603             },
5604             "defrost": {
5605                 "description": "Indicates whether a defrost cycle is currently active.",
5606                 "type": "boolean"
5607             },
5608             "filter": {
5609                 "description": "Percentage life time remaining for the water filter.",
5610                 "maximum": 100,
5611                 "minimum": 0,
5612                 "readOnly": true,
5613                 "type": "integer"
5614             },
5615             "rapidCool": {
5616                 "description": "Indicates whether the unit has a rapid cool capability active.",
5617                 "type": "boolean"
5618             },
5619             "n": {
5620                 "$ref":
5621 "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
5622 schema.json#/definitions/n"
5623             },
5624             "id": {
5625                 "$ref":
5626 "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
5627 schema.json#/definitions/id"
5628             },
5629             "if": {
5630                 "description": "The OCF Interface set supported by this Resource.",
5631                 "items": {
5632                     "enum": [
5633                         "oic.if.a",
5634                         "oic.if.baseline"
5635                     ],
5636                     "type": "string"

```

```

5637         },
5638         "minItems": 2,
5639         "readOnly": true,
5640         "type": "array"
5641     }
5642 },
5643     "anyOf": [
5644         {
5645             "required": ["filter"]
5646         },
5647         {
5648             "required": ["rapidFreeze"]
5649         },
5650         {
5651             "required": ["rapidCool"]
5652         },
5653         {
5654             "required": ["defrost"]
5655         }
5656     ],
5657     "type": "object"
5658 },
5659     "RefrigerationUpdate": {
5660         "properties": {
5661             "rapidFreeze": {
5662                 "description": "Indicates whether the unit has a rapid freeze capability active.",
5663                 "type": "boolean"
5664             },
5665             "defrost": {
5666                 "description": "Indicates whether a defrost cycle is currently active.",
5667                 "type": "boolean"
5668             },
5669             "rapidCool": {
5670                 "description": "Indicates whether the unit has a rapid cool capability active.",
5671                 "type": "boolean"
5672             }
5673         },
5674         "anyOf": [
5675             {
5676                 "required": ["rapidFreeze"]
5677             },
5678             {
5679                 "required": ["rapidCool"]
5680             },
5681             {
5682                 "required": ["defrost"]
5683             }
5684         ],
5685         "type": "object"
5686     }
5687 }
5688 }
5689

```

5690 6.21.5 Property definition

5691 Table 45 defines the Properties that are part of the "oic.r.refrigeration" Resource Type.

5692 **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.

5693 **6.21.6 CRUDN behaviour**

5694 Table 46 defines the CRUDN operations that are supported on the "oic.r.refrigeration" Resource
5695 Type.

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

Create	Read	Update	Delete	Notify
	get	post		observe

5697 **6.22 Temperature**5698 **6.22.1 Introduction**

5699 This Resource describes a sensed or actuated Temperature value.
5700 The Property "temperature" describes the current value measured.
5701 The Property "units" is a single value that is one of "C", "F" or "K".
5702 It provides the unit of measurement for the "temperature" value.
5703 It is a read-only value that is provided by the server.
5704 If the "units" Property is missing the default is Celsius [C].
5705 When the Property "range" is omitted the default is +/- MAXINT.
5706 A client can specify the units for the requested temperature by use of a query parameter.
5707 If no query parameter is provided the server provides its default measure or set value.
5708 It is recommended to return always the units Property in the result.

5709 **6.22.2 Example URI**

5710 /TemperatureResURI

5711 **6.22.3 Resource type**

5712 The Resource Type is defined as: "oic.r.temperature".

5713 **6.22.4 OpenAPI 2.0 definition**

```

5714 {
5715   "swagger": "2.0",
5716   "info": {
5717     "title": "Temperature",
5718     "version": "20190215",
5719     "license": {
5720       "name": "OCF Data Model License",
5721       "url":
5722         "https://github.com/openconnectivityfoundation/core/blob/e28a9e0a92e17042ba3e83661e4c0fbce8bdc4ba/LI
5723         CENSE.md",
5724       "x-copyright": "copyright 2016-2017, 2019 Open Connectivity Foundation, Inc. All rights
5725         reserved."
5726     },
5727     "termsOfService": "https://openconnectivityfoundation.github.io/core/DISCLAIMER.md"
5728   },
5729   "schemes": ["http"],
5730   "consumes": ["application/json"],
5731   "produces": ["application/json"],
5732   "paths": {
5733     "/TemperatureResURI" : {
5734       "get": {
5735         "description": "This Resource describes a sensed or actuated Temperature value.\nThe
5736         Property \"temperature\" describes the current value measured.\nThe Property \"units\" is a single
5737         value that is one of \"C\", \"F\" or \"K\".\nIt provides the unit of measurement for the
5738         \"temperature\" value.\nIt is a read-only value that is provided by the server.\nIf the \"units\"
5739         Property is missing the default is Celsius [C].\nWhen the Property \"range\" is omitted the default
5740         is +/- MAXINT.\nA client can specify the units for the requested temperature by use of a query
5741         parameter.\nIf no query parameter is provided the server provides its default measure or set
5742         value.\nIt is recommended to return always the units Property in the result.",
5743         "parameters": [
5744           {"$ref": "#/parameters/interface"},
5745           {"$ref": "#/parameters/unit"}
5746         ],
5747         "responses": {
5748           "200": {
5749             "description": "Retrieves the current temperature value.",

```

```

5750         "x-example":
5751         {
5752             "rt": ["oic.r.temperature"],
5753             "if": [ "oic.if.a", "oic.if.baseline"],
5754             "temperature": 20.0,
5755             "units": "C"
5756         }
5757     },
5758     "schema": { "$ref": "#/definitions/Temperature" }
5759 },
5760 "403": {
5761     "description": "This response is generated by the OCF Server when the client sends:\n
5762 A RETRIEVE with queryParameter indicating a unit that the server does not support.\nThe server
5763 responds with the current resource representation including the\n\n\"units\" property illustrating the
5764 supported units and the error.",
5765     "x-example":
5766     {
5767         "temperature": 20.0,
5768         "units": "C"
5769     },
5770     "schema": { "$ref": "#/definitions/Temperature" }
5771 }
5772 },
5773 },
5774 "post": {
5775     "description": "Sets the desired temperature value.\nIf a \"unit\" is included and the
5776 server may not support the unit indicated the request will fail.\nIf the units are omitted value is
5777 taken to be in C.",
5778     "parameters": [
5779         { "$ref": "#/parameters/interface" },
5780         {
5781             "name": "body",
5782             "in": "body",
5783             "required": true,
5784             "schema": { "$ref": "#/definitions/Temperature" },
5785             "x-example":
5786             {
5787                 "temperature": 18.0,
5788                 "units": "F"
5789             }
5790         }
5791     ],
5792     "responses": {
5793         "200": {
5794             "description": "",
5795             "x-example":
5796             {
5797                 "temperature": 18.0,
5798                 "units": "F"
5799             }
5800         },
5801         "schema": { "$ref": "#/definitions/Temperature" }
5802     },
5803     "403": {
5804         "description": "This response is generated by the OCF Server when the client sends:\n
5805 An UPDATE with an out of range property value for temperature.\n An UPDATE with an unsupported unit
5806 for this server.\nThe OCF Server responds with the current resource representation including\nthe
5807 \"range\" property illustrating the supported range and the error.",
5808         "x-example":
5809         {
5810             "temperature": 20.0,
5811             "units": "C"
5812         }
5813     },
5814     "schema": { "$ref": "#/definitions/Temperature" }
5815 }
5816 },
5817 },
5818 },
5819 },
5820 "parameters": {
5821     "interface": {

```

```

5822         "in" : "query",
5823         "name" : "if",
5824         "type" : "string",
5825         "enum" : ["oic.if.a", "oic.if.s", "oic.if.baseline"]
5826     },
5827     "unit" : {
5828         "in": "query",
5829         "description": "Units",
5830         "type": "string",
5831         "enum": ["C", "F", "K"],
5832         "name": "units",
5833         "x-queryexample" : "/TemperatureResURI?units=C"
5834     }
5835 },
5836 "definitions": {
5837     "Temperature" : {
5838         "properties": {
5839             "rt" : {
5840                 "description": "The Resource Type.",
5841                 "items": {
5842                     "maxLength": 64,
5843                     "type": "string",
5844                     "enum": ["oic.r.temperature"]
5845                 },
5846                 "minItems": 1,
5847                 "uniqueItems": true,
5848                 "readOnly": true,
5849                 "type": "array"
5850             },
5851             "temperature" : {
5852                 "description": "The current temperature setting or measurement.",
5853                 "type": "number"
5854             },
5855             "units" : {
5856                 "description": "The unit for the conveyed temperature value, Note that when doing an
5857 UPDATE, the unit on the device does NOT change, it only indicates the unit of the conveyed value
5858 during the UPDATE operation.",
5859                 "enum": [
5860                     "C",
5861                     "F",
5862                     "K"
5863                 ],
5864                 "type": "string"
5865             },
5866             "n" : {
5867                 "$ref":
5868 "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
5869 schema.json#/definitions/n"
5870             },
5871             "id" : {
5872                 "$ref":
5873 "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
5874 schema.json#/definitions/id"
5875             },
5876             "range" : {
5877                 "$ref":
5878 "https://openconnectivityfoundation.github.io/IoTDataModels/schemas/oic.baseresource.properties-
5879 schema.json#/definitions/range_number"
5880             },
5881             "step" : {
5882                 "$ref":
5883 "https://openconnectivityfoundation.github.io/IoTDataModels/schemas/oic.baseresource.properties-
5884 schema.json#/definitions/step_number"
5885             },
5886             "precision" : {
5887                 "$ref":
5888 "https://openconnectivityfoundation.github.io/IoTDataModels/schemas/oic.baseresource.properties-
5889 schema.json#/definitions/precision"
5890             },
5891             "if" : {
5892                 "description": "The OCF Interface set supported by this Resource.",
5893                 "items": {

```



```

5894         "enum": [
5895             "oic.if.baseline",
5896             "oic.if.s",
5897             "oic.if.a"
5898         ],
5899         "maxLength": 64,
5900         "type": "string"
5901     },
5902     "minItems": 2,
5903     "uniqueItems": true,
5904     "readOnly": true,
5905     "type": "array"
5906 }
5907 },
5908 "type" : "object",
5909 "required": ["temperature"]
5910 }
5911 }
5912 }

```

5913 **6.22.5 Property definition**

5914 Table 47 defines the Properties that are part of the "oic.r.temperature" Resource Type.

5915 **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	

5916 **6.22.6 CRUDN behaviour**

5917 Table 48 defines the CRUDN operations that are supported on the "oic.r.temperature" Resource
5918 Type.

5919 **Table 48 – The CRUDN operations of the Resource with type "rt" = "oic.r.temperature".**

Create	Read	Update	Delete	Notify
	get	post		observe

5920 **6.23 Time Period**

5921 **6.23.1 Introduction**

5922 This Resource describes the time period over which any additionally provided information is derived
5923 or bounded.
5924 The Property "startTime" and "stopTime" are RFC3339 encoded strings. The Property "startTime"
5925 must be present.
5926 The interval is the interval of the time period in minutes, if present this value must be no less than
5927 1 minute.
5928 The Property "stoptime" and "interval" are mutually exclusive; both Properties cannot be present
5929 in a Resource instance.
5930 The Resource defines a time period for information retrieval, action or other behaviour.

5931 **6.23.2 Example URI**

5932 /TimePeriodResURI

5933 **6.23.3 Resource type**

5934 The Resource Type is defined as: "oic.r.time.period".

5935 **6.23.4 OpenAPI 2.0 definition**

```
5936 {
5937   "swagger": "2.0",
5938   "info": {
5939     "title": "Time Period",
5940     "version": "20190215",
5941     "license": {
5942       "name": "OCF Data Model License",
5943       "url":
5944         "https://github.com/openconnectivityfoundation/core/blob/e28a9e0a92e17042ba3e83661e4c0fbce8bdc4ba/LI
5945         CENSE.md",
5946       "x-copyright": "copyright 2016-2017, 2019 Open Connectivity Foundation, Inc. All rights
5947         reserved."
5948     },
5949     "termsOfService": "https://openconnectivityfoundation.github.io/core/DISCLAIMER.md"
```

```

5950     },
5951     "schemes": ["http"],
5952     "consumes": ["application/json"],
5953     "produces": ["application/json"],
5954     "paths": {
5955         "/TimePeriodResURI" : {
5956             "get": {
5957                 "description": "This Resource describes the time period over which any additionally provided
5958 information is derived or bounded.\nThe Property \"startTime\" and \"stopTime\" are RFC3339 encoded
5959 strings. The Property \"startTime\" must be present.\nThe interval is the interval of the time
5960 period in minutes, if present this value must be no less than 1 minute.\nThe Property \"stoptime\"
5961 and \"interval\" are mutually exclusive; both Properties cannot be present in a Resource
5962 instance.\nThe Resource defines a time period for information retrieval, action or other
5963 behaviour.",
5964                 "parameters": [
5965                     { "$ref": "#/parameters/interface" }
5966                 ],
5967                 "responses": {
5968                     "200": {
5969                         "description": "",
5970                         "x-example":
5971                             {
5972                                 "rt": ["oic.r.time.period"],
5973                                 "if": ["oic.if.a", "oic.if.baseline"],
5974                                 "startTime": "2015-01-09T14:30:00Z",
5975                                 "stopTime": "2015-01-09T14:45:00Z"
5976                             },
5977                         "schema": { "$ref": "#/definitions/TimePeriod" }
5978                     }
5979                 }
5980             },
5981             "post": {
5982                 "description": "Sets or updates a time period for information retrieval, action or other
5983 behavior.",
5984                 "parameters": [
5985                     { "$ref": "#/parameters/interface" },
5986                     {
5987                         "name": "body",
5988                         "in": "body",
5989                         "required": true,
5990                         "schema": { "$ref": "#/definitions/TimePeriod" },
5991                         "x-example":
5992                             {
5993                                 "startTime": "2015-01-09T14:30:00Z",
5994                                 "stopTime": "2015-01-09T14:45:00Z"
5995                             }
5996                     }
5997                 ],
5998                 "responses": {
5999                     "200": {
6000                         "description": "",
6001                         "x-example":
6002                             {
6003                                 "startTime": "2015-01-09T14:30:00Z",
6004                                 "stopTime": "2015-01-09T14:45:00Z"
6005                             },
6006                         "schema": { "$ref": "#/definitions/TimePeriod" }
6007                     }
6008                 }
6009             }
6010         }
6011     },
6012     "parameters": {
6013         "interface": {
6014             "in": "query",
6015             "name": "if",
6016             "type": "string",
6017             "enum": ["oic.if.a", "oic.if.baseline"]
6018         }
6019     },
6020     "definitions": {
6021         "TimePeriod" : {

```

```

6022     "properties": {
6023       "rt": {
6024         "description": "The Resource Type.",
6025         "items": {
6026           "enum": ["oic.r.time.period"],
6027           "maxLength": 64,
6028           "type": "string"
6029         },
6030         "minItems": 1,
6031         "uniqueItems": true,
6032         "readOnly": true,
6033         "type": "array"
6034       },
6035       "interval": {
6036         "description": "The time interval in minutes after the \"startTime\", if present the
Property \"stopTime\" cannot be present.",
6037         "type": "integer"
6038       },
6039       "stopTime": {
6040         "description": "The stop time for the time period, if present the Property \"interval\"
cannot be present.",
6041         "type": "string",
6042         "format": "date-time"
6043       },
6044       "startTime": {
6045         "description": "The start time for the time period.",
6046         "type": "string",
6047         "format": "date-time"
6048       },
6049       "n": {
6050         "$ref":
6051         "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
6052         schema.json#/definitions/n"
6053       },
6054       "id": {
6055         "$ref":
6056         "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
6057         schema.json#/definitions/id"
6058       },
6059       "if": {
6060         "description": "The OCF Interface set supported by this Resource.",
6061         "items": {
6062           "enum": [
6063             "oic.if.a",
6064             "oic.if.baseline"
6065           ],
6066           "type": "string"
6067         },
6068         "minItems": 2,
6069         "uniqueItems": true,
6070         "readOnly": true,
6071         "type": "array"
6072       }
6073     }
6074   },
6075   "type": "object",
6076   "required": ["startTime"]
6077 }
6078 }
6079 }
6080 }
6081

```

6082 6.23.5 Property definition

6083 Table 49 defines the Properties that are part of the "oic.r.time.period" Resource Type.

6084 **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.

6085 **6.23.6 CRUDN behaviour**

6086 Table 50 defines the CRUDN operations that are supported on the "oic.r.time.period" Resource
6087 Type.

6088 **Table 50 – The CRUDN operations of the Resource with type "rt" = "oic.r.time.period".**

Create	Read	Update	Delete	Notify
	get	post		observe

6089 **6.24 Activity Count**

6090 **6.24.1 Introduction**

6091 This Resource specifies an activity count.
6092 The Resource can be readonly (oic.if.s interface) in which instance it represents a count.
6093 The Resource can be readwrite (oic.if.a interface) in which instance it represents a goal or target
6094 for a count.
6095 The Property "count" is an integer representing either the current count or goal value.

6096 **6.24.2 Example URI**

6097 /ActivityCountResURI

6098 **6.24.3 Resource type**

6099 The Resource Type is defined as: "oic.r.sensor.activity.count".

6100 **6.24.4 OpenAPI 2.0 definition**

```
6101 {
6102   "swagger": "2.0",
6103   "info": {
6104     "title": "Activity Count",
6105     "version": "20190222",
6106     "license": {
6107       "name": "OCF Data Model License",
6108       "url":
6109         "https://github.com/openconnectivityfoundation/core/blob/e28a9e0a92e17042ba3e83661e4c0fbce8bdc4ba/LI
6110         CENSE.md",
6111       "x-copyright": "Copyright 2018-2019 Open Connectivity Foundation, Inc. All rights reserved."
6112     },
6113     "termsOfService": "https://openconnectivityfoundation.github.io/core/DISCLAIMER.md"
6114   },
6115   "schemes": ["http"],
6116   "consumes": ["application/json"],
6117   "produces": ["application/json"],
6118   "paths": {
6119     "/ActivityCountResURI" : {
6120       "get": {
6121         "description": "This Resource specifies an activity count.\n\nThe Resource can be readonly
6122         (oic.if.s interface) in which instance it represents a count.\n\nThe Resource can be readwrite
6123         (oic.if.a interface) in which instance it represents a goal or target for a count.\n\nThe Property
6124         \"count\" is an integer representing either the current count or goal value.",
6125         "parameters": [
6126           {"$ref": "#/parameters/interface"}
6127         ],
6128         "responses": {
6129           "200": {
6130             "description": "",
6131             "x-example":
6132               {
6133                 "rt": ["oic.r.sensor.activity.count"],
6134                 "if": ["oic.if.a", "oic.if.baseline"],
6135                 "count": 2500
6136               },
6137             "schema": { "$ref": "#/definitions/Count" }
6138           }
6139         }
6140       },
6141       "post": {
6142         "description": "Sets the \"count\" target.",
6143         "parameters": [
6144           {"$ref": "#/parameters/interface"},
6145           {
6146             "name": "body",
6147             "in": "body",
6148             "required": true,
6149             "schema": { "$ref": "#/definitions/Count" },
6150             "x-example":
6151               {
6152                 "count": 5000
6153               }
6154           }
6155         ],
6156         "responses": {
6157           "200": {
6158             "description": "",
6159             "x-example":
6160               {
6161                 "count": 5000
6162               },
```

```

6163         "schema": { "$ref": "#/definitions/Count" }
6164     }
6165 }
6166 }
6167 },
6168 },
6169 "parameters": {
6170     "interface" : {
6171         "in": "query",
6172         "name": "if",
6173         "type": "string",
6174         "enum": ["oic.if.a", "oic.if.s", "oic.if.baseline"]
6175     }
6176 },
6177 "definitions": {
6178     "Count" : {
6179         "properties": {
6180             "rt": {
6181                 "description": "The Resource Type.",
6182                 "items": {
6183                     "maxLength": 64,
6184                     "type": "string",
6185                     "enum": ["oic.r.sensor.activity.count"]
6186                 },
6187                 "minItems": 1,
6188                 "uniqueItems" : true,
6189                 "readOnly": true,
6190                 "type": "array"
6191             },
6192             "count": {
6193                 "description": "The current or Target count.",
6194                 "type": "integer"
6195             },
6196             "n": {
6197                 "$ref":
6198 "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
6199 schema.json#/definitions/n"
6200             },
6201             "id": {
6202                 "$ref":
6203 "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
6204 schema.json#/definitions/id"
6205             },
6206             "range": {
6207                 "$ref":
6208 "https://openconnectivityfoundation.github.io/IoTDataModels/schemas/oic.baseresource.properties-
6209 schema.json#/definitions/range_integer"
6210             },
6211             "step": {
6212                 "$ref":
6213 "https://openconnectivityfoundation.github.io/IoTDataModels/schemas/oic.baseresource.properties-
6214 schema.json#/definitions/step_integer"
6215             },
6216             "if": {
6217                 "description": "The OCF Interface set supported by this Resource.",
6218                 "items": {
6219                     "enum": [
6220                         "oic.if.a",
6221                         "oic.if.s",
6222                         "oic.if.baseline"
6223                     ],
6224                     "type": "string"
6225                 },
6226                 "minItems": 2,
6227                 "readOnly": true,
6228                 "uniqueItems": true,
6229                 "type": "array"
6230             }
6231         },
6232         "type": "object",
6233         "required": ["count"]
6234     }

```

6235 }
 6236 }
 6237

6238 **6.24.5 Property definition**

6239 Table 51 defines the Properties that are part of the "oic.r.sensor.activity.count" Resource Type.

6240 **Table 51 – The Property definitions of the Resource with type "rt" =**
 6241 **"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.

6242 **6.24.6 CRUDN behaviour**

6243 Table 52 defines the CRUDN operations that are supported on the "oic.r.sensor.activity.count"
 6244 Resource Type.

6245 **Table 52 – The CRUDN operations of the Resource with type "rt" =**
 6246 **"oic.r.sensor.activity.count".**

Create	Read	Update	Delete	Notify
	get	post		observe

6247 **6.25 Atmospheric Pressure Sensor**

6248 **6.25.1 Introduction**

6249 This Resource provides a measurement of Mean Sea Level Pressure experienced at the measuring
 6250 point expressed in millibars.
 6251 The Property "atmosphericPressure" is a float which describes the atmospheric pressure in hPa

6252 (hectoPascals).
6253 Note that hPa and the also commonly used unit of millibars (mbar) are numerically equivalent.

6254 6.25.2 Example URI

6255 /AtmosphericPressureResURI

6256 6.25.3 Resource type

6257 The Resource Type is defined as: "oic.r.sensor.atmosphericpressure".

6258 6.25.4 OpenAPI 2.0 definition

```
6259 {
6260   "swagger": "2.0",
6261   "info": {
6262     "title": "Atmospheric Pressure Sensor",
6263     "version": "20190225",
6264     "license": {
6265       "name": "OCF Data Model License",
6266       "url":
6267         "https://github.com/openconnectivityfoundation/core/blob/e28a9e0a92e17042ba3e83661e4c0fbce8bdc4ba/LI
6268         CENSE.md",
6269       "x-copyright": "copyright 2016-2017, 2019 Open Connectivity Foundation, Inc. All rights
6270       reserved."
6271     },
6272     "termsOfService": "https://openconnectivityfoundation.github.io/core/DISCLAIMER.md"
6273   },
6274   "schemes": ["http"],
6275   "consumes": ["application/json"],
6276   "produces": ["application/json"],
6277   "paths": {
6278     "/AtmosphericPressureResURI" : {
6279       "get": {
6280         "description": "This Resource provides a measurement of Mean Sea Level Pressure experienced
6281         at the measuring point expressed in millibars.\n\nThe Property \"atmosphericPressure\" is a float
6282         which describes the atmospheric pressure in hPa (hectoPascals).\n\nNote that hPa and the also commonly
6283         used unit of millibars (mbar) are numerically equivalent.",
6284         "parameters": [
6285           {"$ref": "#/parameters/interface"}
6286         ],
6287         "responses": {
6288           "200": {
6289             "description": "",
6290             "x-example":
6291               {
6292                 "rt": ["oic.r.sensor.atmosphericpressure"],
6293                 "if": ["oic.if.s", "oic.if.baseline"],
6294                 "atmosphericPressure": 1000.4
6295               },
6296             "schema": { "$ref": "#/definitions/atmosphericPressure" }
6297           }
6298         }
6299       }
6300     }
6301   },
6302   "parameters": {
6303     "interface" : {
6304       "in": "query",
6305       "name": "if",
6306       "type": "string",
6307       "enum": ["oic.if.s", "oic.if.baseline"]
6308     }
6309   },
6310   "definitions": {
6311     "atmosphericPressure" : {
6312       "properties": {
6313         "rt" : {
6314           "description": "The Resource Type.",
6315           "items": {
6316             "enum": ["oic.r.sensor.atmosphericpressure"],
```

```

6317         "maxLength": 64,
6318         "type": "string"
6319     },
6320     "minItems": 1,
6321     "uniqueItems": true,
6322     "readOnly": true,
6323     "type": "array"
6324 },
6325 "atmosphericPressure": {
6326     "description": "The current atmospheric pressure in hPa.",
6327     "readOnly": true,
6328     "type": "number"
6329 },
6330 "n": {
6331     "$ref":
6332 "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
6333 schema.json#/definitions/n"
6334 },
6335 "id": {
6336     "$ref":
6337 "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
6338 schema.json#/definitions/id"
6339 },
6340 "precision": {
6341     "$ref":
6342 "https://openconnectivityfoundation.github.io/IoTDataModels/schemas/oic.baseresource.properties-
6343 schema.json#/definitions/precision"
6344 },
6345 "range": {
6346     "$ref":
6347 "https://openconnectivityfoundation.github.io/IoTDataModels/schemas/oic.baseresource.properties-
6348 schema.json#/definitions/range_number"
6349 },
6350 "step": {
6351     "$ref":
6352 "https://openconnectivityfoundation.github.io/IoTDataModels/schemas/oic.baseresource.properties-
6353 schema.json#/definitions/step_number"
6354 },
6355 "if": {
6356     "description": "The OCF Interface set supported by this Resource.",
6357     "items": {
6358         "enum": [
6359             "oic.if.s",
6360             "oic.if.baseline"
6361         ],
6362         "type": "string"
6363     },
6364     "minItems": 2,
6365     "uniqueItems": true,
6366     "readOnly": true,
6367     "type": "array"
6368 }
6369 },
6370 "type": "object",
6371 "required": ["atmosphericPressure"]
6372 }
6373 }
6374 }
6375

```

6.25.5 Property definition

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

Table 53 – The Property definitions of the Resource with type "rt" = "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	

6381 **6.25.6 CRUDN behaviour**

6382 Table 54 defines the CRUDN operations that are supported on the
6383 "oic.r.sensor.atmosphericpressure" Resource Type.

6384 **Table 54 – The CRUDN operations of the Resource with type "rt" =**
6385 **"oic.r.sensor.atmosphericpressure".**

Create	Read	Update	Delete	Notify
	get			observe

6386 **6.26 Audio Controls**

6387 **6.26.1 Introduction**

6388 This Resource defines basic audio control functions.
6389 The Property "volume" is an integer containing a percentage [0,100].
6390 A volume of 0 (zero) means no sound produced.
6391 A volume of 100 means maximum sound production.
6392 The Property "mute" is implemented as a boolean.
6393 A mute value of true means that the device is muted (no audio).
6394 A mute value of false means that the device is not muted (audio).

6395 **6.26.2 Example URI**

6396 /AudioResURI

6397 **6.26.3 Resource type**

6398 The Resource Type is defined as: "oic.r.audio".

6399 **6.26.4 OpenAPI 2.0 definition**

```
6400 {
6401   "swagger": "2.0",
6402   "info": {
6403     "title": "Audio Controls",
6404     "version": "20190225",
6405     "license": {
6406       "name": "OCF Data Model License",
6407       "url":
6408         "https://github.com/openconnectivityfoundation/core/blob/e28a9e0a92e17042ba3e83661e4c0fbce8bdc4ba/LI
6409         CENSE.md",
6410       "x-copyright": "copyright 2016-2017, 2019 Open Connectivity Foundation, Inc. All rights
6411         reserved."
6412     },
6413     "termsOfService": "https://openconnectivityfoundation.github.io/core/DISCLAIMER.md"
6414   },
6415   "schemes": ["http"],
6416   "consumes": ["application/json"],
6417   "produces": ["application/json"],
6418   "paths": {
6419     "/AudioResURI" : {
6420       "get": {
6421         "description": "This Resource defines basic audio control functions.\nThe Property
6422         \"volume\" is an integer containing a percentage [0,100].\nA volume of 0 (zero) means no sound
6423         produced.\nA volume of 100 means maximum sound production.\nThe Property \"mute\" is implemented as
6424         a boolean.\nA mute value of true means that the device is muted (no audio).\nA mute value of false
6425         means that the device is not muted (audio).",
6426         "parameters": [
6427           {"$ref": "#/parameters/interface"}
6428         ],
6429         "responses": {
6430           "200": {
6431             "description": "",
6432             "x-example":
6433               {
6434                 "rt": ["oic.r.audio"],
6435                 "if": ["oic.if.a", "oic.if.baseline"],
6436                 "volume": 50,
6437                 "mute": false
6438               },
6439             "schema": { "$ref": "#/definitions/Audio" }
6440           }
6441         }
6442       },
6443       "post": {
6444         "description": "",
6445         "parameters": [
6446           {"$ref": "#/parameters/interface"},
6447           {
6448             "name": "body",
6449             "in": "body",
6450             "required": true,
6451             "schema": { "$ref": "#/definitions/Audio" },
6452             "x-example":
6453               {
6454                 "volume": 75,
6455                 "mute": false
6456               }
6457           }
6458         ],
6459         "responses": {
6460           "200": {
6461             "description": "",
6462             "x-example":
6463               {
6464                 "volume": 75,
6465                 "mute": false
```

```

6466         },
6467         "schema": { "$ref": "#/definitions/Audio" }
6468     }
6469 }
6470 }
6471 }
6472 },
6473 "parameters": {
6474     "interface" : {
6475         "in": "query",
6476         "name": "if",
6477         "type": "string",
6478         "enum": ["oic.if.a", "oic.if.baseline"]
6479     }
6480 },
6481 "definitions": {
6482     "Audio" : {
6483         "properties": {
6484             "rt": {
6485                 "description": "The Resource Type.",
6486                 "items": {
6487                     "enum": ["oic.r.audio"],
6488                     "maxLength": 64,
6489                     "type": "string"
6490                 },
6491                 "minItems": 1,
6492                 "uniqueItems": true,
6493                 "readOnly": true,
6494                 "type": "array"
6495             },
6496             "mute": {
6497                 "description": "The mute setting of an audio rendering device.",
6498                 "type": "boolean"
6499             },
6500             "volume": {
6501                 "description": "The volume setting of an audio rendering device.",
6502                 "maximum": 100,
6503                 "minimum": 0,
6504                 "type": "integer"
6505             },
6506             "n": {
6507                 "$ref":
6508 "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
6509 schema.json#/definitions/n"
6510             },
6511             "id": {
6512                 "$ref":
6513 "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
6514 schema.json#/definitions/id"
6515             },
6516             "range": {
6517                 "$ref":
6518 "https://openconnectivityfoundation.github.io/IoTDataModels/schemas/oic.baseresource.properties-
6519 schema.json#/definitions/range_integer"
6520             },
6521             "step": {
6522                 "$ref":
6523 "https://openconnectivityfoundation.github.io/IoTDataModels/schemas/oic.baseresource.properties-
6524 schema.json#/definitions/step_integer"
6525             },
6526             "if": {
6527                 "description": "The OCF Interface set supported by this Resource.",
6528                 "items": {
6529                     "enum": [
6530                         "oic.if.a",
6531                         "oic.if.baseline"
6532                     ],
6533                     "type": "string"
6534                 },
6535                 "minItems": 2,
6536                 "uniqueItems": true,
6537                 "readOnly": true,

```

```

6538         "type": "array"
6539     },
6540 },
6541     "type" : "object",
6542     "required": ["volume", "mute"]
6543 }
6544 }
6545 }
6546

```

6547 **6.26.5 Property definition**

6548 Table 55 defines the Properties that are part of the "oic.r.audio" Resource Type.

6549 **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	

6550 **6.26.6 CRUDN behaviour**

6551 Table 56 defines the CRUDN operations that are supported on the "oic.r.audio" Resource Type.

6552 **Table 56 – The CRUDN operations of the Resource with type "rt" = "oic.r.audio".**

Create	Read	Update	Delete	Notify
	get	post		observe

6553 6.27 Auto Focus

6554 6.27.1 Introduction

6555 This Resource describes an auto focus on/off feature.
6556 The Property "autoFocus" is a boolean.
6557 An "autoFocus" value of 'true' means that the auto focus feature is on.
6558 An "autoFocus" value of 'false' means that the auto focus feature is off.
6559 Note that when Pan Tilt Zoom (see 'Pan Tilt Zoom' Resource definition) is used the autofocus works
6560 only in the selected area.

6561 6.27.2 Example URI

6562 /AutoFocusResURI

6563 6.27.3 Resource type

6564 The Resource Type is defined as: "oic.r.autofocus".

6565 6.27.4 OpenAPI 2.0 definition

```
6566 {
6567   "swagger": "2.0",
6568   "info": {
6569     "title": "Auto Focus",
6570     "version": "20190222",
6571     "license": {
6572       "name": "OCF Data Model License",
6573       "url":
6574         "https://github.com/openconnectivityfoundation/core/blob/e28a9e0a92e17042ba3e83661e4c0fbce8bdc4ba/LI
6575         CENSE.md",
6576       "x-copyright": "Copyright 2018-2019 Open Connectivity Foundation, Inc. All rights reserved."
6577     },
6578     "termsOfService": "https://openconnectivityfoundation.github.io/core/DISCLAIMER.md"
6579   },
6580   "schemes": ["http"],
6581   "consumes": ["application/json"],
6582   "produces": ["application/json"],
6583   "paths": {
6584     "/AutoFocusResURI" : {
6585       "get": {
6586         "description": "This Resource describes an auto focus on/off feature.\nThe Property
6587         \"autoFocus\" is a boolean.\nAn \"autoFocus\" value of 'true' means that the auto focus feature is
6588         on.\nAn \"autoFocus\" value of 'false' means that the auto focus feature is off.\nNote that when Pan
6589         Tilt Zoom (see 'Pan Tilt Zoom' Resource definition) is used the autofocus works only in the selected
6590         area.",
6591         "parameters": [
6592           { "$ref": "#/parameters/interface" }
6593         ],
6594         "responses": {
6595           "200": {
6596             "description": "",
6597             "x-example":
6598               {
6599                 "rt": ["oic.r.autofocus"],
6600                 "if": ["oic.if.a", "oic.if.baseline"],
6601                 "autoFocus": false
6602               },
6603             "schema": { "$ref": "#/definitions/AutoFocus" }
6604           }
6605         }
6606       },
6607       "post": {
6608         "description": "",
6609         "parameters": [
6610           { "$ref": "#/parameters/interface" },
6611           {
6612             "name": "body",
6613             "in": "body",
6614             "required": true,
6615             "schema": { "$ref": "#/definitions/AutoFocus" },
```

```

6616         "x-example":
6617             {
6618                 "autoFocus": true
6619             }
6620     },
6621 ],
6622 "responses": {
6623     "200": {
6624         "description": "",
6625         "x-example":
6626             {
6627                 "autoFocus": true
6628             },
6629         "schema": { "$ref": "#/definitions/AutoFocus" }
6630     }
6631 }
6632 }
6633 },
6634 },
6635 "parameters": {
6636     "interface" : {
6637         "in": "query",
6638         "name": "if",
6639         "type": "string",
6640         "enum": ["oic.if.a", "oic.if.baseline"]
6641     }
6642 },
6643 "definitions": {
6644     "AutoFocus" : {
6645         "properties": {
6646             "rt": {
6647                 "description": "The Resource Type.",
6648                 "items": {
6649                     "enum": ["oic.r.autofocus"],
6650                     "maxLength": 64,
6651                     "type": "string"
6652                 },
6653                 "minItems": 1,
6654                 "uniqueItems": true,
6655                 "readOnly": true,
6656                 "type": "array"
6657             },
6658             "autoFocus": {
6659                 "description": "The status of the Auto Focus feature.",
6660                 "type": "boolean"
6661             },
6662             "n": {
6663                 "$ref":
6664                 "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
6665                 schema.json#/definitions/n"
6666             },
6667             "id": {
6668                 "$ref":
6669                 "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
6670                 schema.json#/definitions/id"
6671             },
6672             "if": {
6673                 "description": "The OCF Interface set supported by this Resource.",
6674                 "items": {
6675                     "enum": [
6676                         "oic.if.a",
6677                         "oic.if.baseline"
6678                     ],
6679                     "type": "string"
6680                 },
6681                 "minItems": 2,
6682                 "readOnly": true,
6683                 "uniqueItems": true,
6684                 "type": "array"
6685             }
6686         },
6687         "type": "object",

```



```

6688     "required": ["autoFocus"]
6689     }
6690 }
6691 }
6692

```

6693 **6.27.5 Property definition**

6694 Table 57 defines the Properties that are part of the "oic.r.autofocus" Resource Type.

6695 **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	

6696 **6.27.6 CRUDN behaviour**

6697 Table 58 defines the CRUDN operations that are supported on the "oic.r.autofocus" Resource Type.

6698 **Table 58 – The CRUDN operations of the Resource with type "rt" = "oic.r.autofocus".**

Create	Read	Update	Delete	Notify
	get	post		observe

6699 **6.28 Automatic Document Feeder**

6700 **6.28.1 Introduction**

6701 This Resource describes the state of an automatic document feeder, typically used with a scanner.
6702 The Property "adfstates" and "currentAdfState" are read only. The Property "adfStates" is an array
6703 of the possible operational states. The Property "adfProcessing" is the OK state, other states are
6704 errors or require "user attention". The "currentAdfState" is the current value of the ADF state on
6705 the device.

6706 **6.28.2 Example URI**

6707 /AutomaticDocumentFeederResURI

6708 **6.28.3 Resource type**

6709 The Resource Type is defined as: "oic.r.automaticdocumentfeeder".

6710 6.28.4 OpenAPI 2.0 definition

```
6711 {
6712   "swagger": "2.0",
6713   "info": {
6714     "title": "Automatic Document Feeder",
6715     "version": "20190222",
6716     "license": {
6717       "name": "OCF Data Model License",
6718       "url":
6719         "https://github.com/openconnectivityfoundation/core/blob/e28a9e0a92e17042ba3e83661e4c0fbce8bdc4ba/LI
6720 CENSE.md",
6721       "x-copyright": "Copyright 2018-2019 Open Connectivity Foundation, Inc. All rights reserved."
6722     },
6723     "termsOfService": "https://openconnectivityfoundation.github.io/core/DISCLAIMER.md"
6724   },
6725   "schemes": ["http"],
6726   "consumes": ["application/json"],
6727   "produces": ["application/json"],
6728   "paths": {
6729     "/AutomaticDocumentFeederResURI" : {
6730       "get": {
6731         "description": "This Resource describes the state of an automatic document feeder, typically
6732 used with a scanner.\n\nThe Property \"adfstates\" and \"currentAdfState\" are read only.\n\nThe
6733 Property \"adfStates\" is an array of the possible operational states.\n\nThe Property
6734 \"adfProcessing\" is the OK state, other states are errors or require 'user attention'.\n\nThe
6735 currentAdfState is the current value of the ADF state on the device.",
6736         "parameters": [
6737           {"$ref": "#/parameters/interface"}
6738         ],
6739         "responses": {
6740           "200": {
6741             "description": "",
6742             "x-example":
6743               {
6744                 "rt": ["oic.r.automaticdocumentfeeder"],
6745                 "if": ["oic.if.s", "oic.if.baseline"],
6746                 "adfStates": ["adfProcessing", "adfEmpty", "adfJam", "adfLoaded", "adfMispick",
6747 "adfHatchOpen", "adfDuplexPageTooShort", "adfDuplexPageTooLong", "adfMultipickDetected",
6748 "adfInputTrayFailed", "adfInputTrayOverloaded"],
6749                 "currentAdfState": "adfProcessing"
6750               },
6751             "schema": {"$ref": "#/definitions/AutomaticDocumentFeeder"}
6752           }
6753         }
6754       }
6755     }
6756   },
6757   "parameters": {
6758     "interface" : {
6759       "in": "query",
6760       "name": "if",
6761       "type": "string",
6762       "enum": ["oic.if.s", "oic.if.baseline"]
6763     }
6764   },
6765   "definitions": {
6766     "AutomaticDocumentFeeder" : {
6767       "properties": {
6768         "rt": {
6769           "description": "The Resource Type.",
6770           "items": {
6771             "enum": ["oic.r.automaticdocumentfeeder"],
6772             "maxLength": 64,
6773             "type": "string"
6774           },
6775           "minItems": 1,
6776           "uniqueItems": true,
6777           "readOnly": true,
6778           "type": "array"
6779         },
6780         "adfStates": {
```

```

6781         "description": "The array of the possible adf states.",
6782         "items": {
6783             "type": "string"
6784         },
6785         "readOnly": true,
6786         "uniqueItems": true,
6787         "type": "array"
6788     },
6789     "currentAdfState": {
6790         "description": "The current adf state.",
6791         "readOnly": true,
6792         "type": "string"
6793     },
6794     "n": {
6795         "$ref":
6796 "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
6797 schema.json#/definitions/n"
6798     },
6799     "id": {
6800         "$ref":
6801 "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
6802 schema.json#/definitions/id"
6803     },
6804     "if": {
6805         "description": "The OCF Interface set supported by this Resource.",
6806         "items": {
6807             "enum": [
6808                 "oic.if.s",
6809                 "oic.if.baseline"
6810             ],
6811             "type": "string"
6812         },
6813         "minItems": 2,
6814         "uniqueItems": true,
6815         "readOnly": true,
6816         "type": "array"
6817     }
6818 },
6819 "type": "object",
6820 "required": ["adfStates", "currentAdfState"]
6821 }
6822 }
6823 }
6824

```

6.28.5 Property definition

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

Table 59 – The Property definitions of the Resource with type "rt" = "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: schema see	No	Read Only	The OCF Interface set supported by this Resource.

6830 **6.28.6 CRUDN behaviour**

6831 Table 60 defines the CRUDN operations that are supported on the "oic.r.automaticdocumentfeeder"
6832 Resource Type.

6833 **Table 60 – The CRUDN operations of the Resource with type "rt" =**
6834 **"oic.r.automaticdocumentfeeder".**

Create	Read	Update	Delete	Notify
	get			observe

6835 **6.29 Button Switch**

6836 **6.29.1 Introduction**

6837 This Resource describes the operation of a button style switch.
6838 The Property "value" is a boolean.
6839 A value of 'true' means that the button is being pushed/pressed.
6840 A value of 'false' means that the button is not being pushed/pressed.

6841 **6.29.2 Example URI**

6842 /ButtonResURI

6843 **6.29.3 Resource type**

6844 The Resource Type is defined as: "oic.r.button".

6845 **6.29.4 OpenAPI 2.0 definition**

```
6846 {
6847   "swagger": "2.0",
6848   "info": {
6849     "title": "Button Switch",
6850     "version": "20190222",
6851     "license": {
6852       "name": "OCF Data Model License",
6853       "url":
6854 "https://github.com/openconnectivityfoundation/core/blob/e28a9e0a92e17042ba3e83661e4c0fbce8bdc4ba/LI
6855 CENSE.md",
6856       "x-copyright": "Copyright 2018-2019 Open Connectivity Foundation, Inc. All rights reserved."
6857     },
6858     "termsOfService": "https://openconnectivityfoundation.github.io/core/DISCLAIMER.md"
6859   },
6860   "schemes": ["http"],
6861   "consumes": ["application/json"],
6862   "produces": ["application/json"],
6863   "paths": {
6864     "/ButtonResURI" : {
6865       "get": {
6866         "description": "This Resource describes the operation of a button style switch.\n\nThe
```

```

6867 Property \value\ is a boolean.\nA value of 'true' means that the button is being
6868 pushed/pressed.\nA value of 'false' means that the button is not being pushed/pressed.",
6869     "parameters": [
6870         {"$ref": "#/parameters/interface"}
6871     ],
6872     "responses": {
6873         "200": {
6874             "description": "",
6875             "x-example":
6876                 {
6877                     "rt": ["oic.r.button"],
6878                     "if": ["oic.if.s", "oic.if.baseline"],
6879                     "value": true
6880                 }
6881             ,
6882             "schema": { "$ref": "#/definitions/Button" }
6883         }
6884     }
6885 }
6886 },
6887 },
6888 "parameters": {
6889     "interface": {
6890         "in": "query",
6891         "name": "if",
6892         "type": "string",
6893         "enum": ["oic.if.s", "oic.if.baseline"]
6894     }
6895 },
6896 "definitions": {
6897     "Button": {
6898         "properties": {
6899             "rt": {
6900                 "description": "The Resource Type.",
6901                 "items": {
6902                     "enum": ["oic.r.button"],
6903                     "maxLength": 64,
6904                     "type": "string"
6905                 },
6906                 "minItems": 1,
6907                 "uniqueItems": true,
6908                 "readOnly": true,
6909                 "type": "array"
6910             },
6911             "value": {
6912                 "description": "The status of the button",
6913                 "readOnly": true,
6914                 "type": "boolean"
6915             },
6916             "n": {
6917                 "$ref":
6918                 "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
6919                 schema.json#/definitions/n"
6920             },
6921             "id": {
6922                 "$ref":
6923                 "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
6924                 schema.json#/definitions/id"
6925             },
6926             "if": {
6927                 "description": "The OCF Interface set supported by this Resource.",
6928                 "items": {
6929                     "enum": [
6930                         "oic.if.s",
6931                         "oic.if.baseline"
6932                     ],
6933                     "type": "string"
6934                 },
6935                 "minItems": 2,
6936                 "uniqueItems": true,
6937                 "readOnly": true,
6938                 "type": "array"

```

```

6939     }
6940   },
6941   "type": "object",
6942   "required": ["value"]
6943 }
6944 }
6945 }
6946

```

6.29.5 Property definition

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

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	

6.29.6 CRUDN behaviour

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

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

Create	Read	Update	Delete	Notify
	get			observe

6.30 Carbon Dioxide Sensor

6.30.1 Introduction

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

6.30.2 Example URI

/CarbonDioxideResURI

6.30.3 Resource type

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

6.30.4 OpenAPI 2.0 definition

```
6963 {
6964   "swagger": "2.0",
6965   "info": {
6966     "title": "Carbon Dioxide Sensor",
6967     "version": "20190215",
6968     "license": {
6969       "name": "OCF Data Model License",
6970       "url":
6971         "https://github.com/openconnectivityfoundation/core/blob/e28a9e0a92e17042ba3e83661e4c0fbce8bdc4ba/LI
6972 CENSE.md",
6973       "x-copyright": "copyright 2016-2017, 2019 Open Connectivity Foundation, Inc. All rights
6974 reserved."
6975     },
6976     "termsOfService": "https://openconnectivityfoundation.github.io/core/DISCLAIMER.md"
6977   },
6978   "schemes": ["http"],
6979   "consumes": ["application/json"],
6980   "produces": ["application/json"],
6981   "paths": {
6982     "/CarbonDioxideResURI" : {
6983       "get": {
6984         "description": "This Resource describes whether carbon dioxide has been sensed or not.\nThe
6985 Property \"value\" is a boolean.\nA value of 'true' means that carbon dioxide has been detected.\nA
6986 value of 'false' means that carbon dioxide has not been detected.",
6987         "parameters": [
6988           {"$ref": "#/parameters/interface"}
6989         ],
6990         "responses": {
6991           "200": {
6992             "description": "",
6993             "x-example":
6994               {
6995                 "rt": ["oic.r.sensor.carbondioxide"],
6996                 "if": ["oic.if.s", "oic.if.baseline"],
6997                 "value": true
6998               },
6999             "schema": { "$ref": "#/definitions/CO2" }
7000           }
7001         }
7002       }
7003     }
7004   },
7005   "parameters": {
7006     "interface" : {
7007       "in" : "query",
7008       "name" : "if",
7009       "type" : "string",
7010       "enum" : ["oic.if.s", "oic.if.baseline"]
7011     }
7012   },
7013   "definitions": {
7014     "CO2" : {
7015       "properties": {
7016         "rt" : {
7017           "description": "The Resource Type.",
7018           "items": {
7019             "enum": ["oic.r.sensor.carbondioxide"],
7020             "maxLength": 64,
7021             "type": "string"
7022           },
7023           "minItems": 1,
7024           "uniqueItems": true,
7025           "readOnly": true,
7026           "type": "array"
7027         },
7028         "value" : {
7029           "description": "The carbon dioxide indicator, true = sensed, false = not sensed.",
7030           "readOnly": true,
7031           "type": "boolean"
7032         }
7033       },

```

```

7034     "id": {
7035         "$ref":
7036         "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
7037         schema.json#/definitions/id"
7038     },
7039     "precision": {
7040         "$ref":
7041         "https://openconnectivityfoundation.github.io/IoTDataModels/schemas/oic.baseresource.properties-
7042         schema.json#/definitions/precision"
7043     },
7044     "if": {
7045         "description": "The OCF Interface set supported by this Resource.",
7046         "items": {
7047             "enum": [
7048                 "oic.if.s",
7049                 "oic.if.baseline"
7050             ],
7051             "maxLength": 64,
7052             "type": "string"
7053         },
7054         "minItems": 2,
7055         "uniqueItems": true,
7056         "readOnly": true,
7057         "type": "array"
7058     }
7059 },
7060 "type" : "object",
7061 "required": ["value"]
7062 }
7063 }
7064 }
7065

```

6.30.5 Property definition

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

Table 63 – The Property definitions of the Resource with type "rt" = "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.

7070 **6.30.6 CRUDN behaviour**

7071 Table 64 defines the CRUDN operations that are supported on the "oic.r.sensor.carbondioxide"
7072 Resource Type.

7073 **Table 64 – The CRUDN operations of the Resource with type "rt" =**
7074 **"oic.r.sensor.carbondioxide".**

Create	Read	Update	Delete	Notify
	get			observe

7075 **6.31 Carbon Monoxide Sensor**

7076 **6.31.1 Introduction**

7077 This Resource describes whether carbon monoxide has been sensed or not.
7078 The Property "value" is a boolean.
7079 A value of 'true' means that carbon monoxide has been detected.
7080 A value of 'false' means that carbon monoxide has not been detected.

7081 **6.31.2 Example URI**

7082 /CarbonMonoxideResURI

7083 **6.31.3 Resource type**

7084 The Resource Type is defined as: "oic.r.sensor.carbonmonoxide".

7085 **6.31.4 OpenAPI 2.0 definition**

```
7086 {
7087   "swagger": "2.0",
7088   "info": {
7089     "title": "Carbon Monoxide Sensor",
7090     "version": "20190215",
7091     "license": {
7092       "name": "OCF Data Model License",
7093       "url":
7094         "https://github.com/openconnectivityfoundation/core/blob/e28a9e0a92e17042ba3e83661e4c0fbce8bdc4ba/LI
7095         CENSE.md",
7096       "copyright": "copyright 2016-2017, 2019 Open Connectivity Foundation, Inc. All rights
7097         reserved."
7098     },
7099     "termsOfService": "https://openconnectivityfoundation.github.io/core/DISCLAIMER.md"
7100   },
7101   "schemes": ["http"],
7102   "consumes": ["application/json"],
7103   "produces": ["application/json"],
7104   "paths": {
7105     "/CarbonMonoxideResURI" : {
7106       "get": {
7107         "description": "This Resource describes whether carbon monoxide has been sensed or not.\nThe
7108         Property \"value\" is a boolean.\nA value of 'true' means that carbon monoxide has been detected.\nA
7109         value of 'false' means that carbon monoxide has not been detected.",
7110         "parameters": [
7111           {"$ref": "#/parameters/interface"}
7112         ],
7113         "responses": {
7114           "200": {
7115             "description": "",
7116             "x-example":
7117               {
7118                 "rt": ["oic.r.sensor.carbonmonoxide"],
7119                 "if": ["oic.if.s", "oic.if.baseline"],
7120                 "value": true
7121               },
7122           "schema": { "$ref": "#/definitions/CO" }

```

```

7123     }
7124   }
7125 }
7126 },
7127 },
7128 "parameters": {
7129   "interface" : {
7130     "in" : "query",
7131     "name" : "if",
7132     "type" : "string",
7133     "enum" : ["oic.if.s", "oic.if.baseline"]
7134   }
7135 },
7136 "definitions": {
7137   "CO" : {
7138     "properties": {
7139       "rt" : {
7140         "description": "The Resource Type.",
7141         "items": {
7142           "enum": ["oic.r.sensor.carbonmonoxide"],
7143           "maxLength": 64,
7144           "type": "string"
7145         },
7146         "minItems": 1,
7147         "readOnly": true,
7148         "uniqueItems": true,
7149         "type": "array"
7150       },
7151       "value" : {
7152         "description": "The carbon monoxide indicator, true = sensed, false = not sensed.",
7153         "readOnly": true,
7154         "type": "boolean"
7155       },
7156       "n" : {
7157         "$ref":
7158 "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
7159 schema.json#/definitions/n"
7160       },
7161       "id" : {
7162         "$ref":
7163 "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
7164 schema.json#/definitions/id"
7165       },
7166       "if" : {
7167         "description": "The OCF Interface set supported by this Resource.",
7168         "items": {
7169           "enum": [
7170             "oic.if.s",
7171             "oic.if.baseline"
7172           ],
7173           "maxLength": 64,
7174           "type": "string"
7175         },
7176         "minItems": 2,
7177         "uniqueItems": true,
7178         "readOnly": true,
7179         "type": "array"
7180       }
7181     },
7182     "type": "object",
7183     "required": ["value"]
7184   }
7185 }
7186 }

```

7187 6.31.5 Property definition

7188 Table 65 defines the Properties that are part of the "oic.r.sensor.carbonmonoxide" Resource Type.

7189
7190

Table 65 – The Property definitions of the Resource with type "rt" = "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	

7191 **6.31.6 CRUDN behaviour**

7192 Table 66 defines the CRUDN operations that are supported on the "oic.r.sensor.carbonmonoxide"
7193 Resource Type.

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

Create	Read	Update	Delete	Notify
	get			observe

7196 **6.32 Auto White Balance**

7197 **6.32.1 Introduction**

7198 This Resource describes an auto balance on/off feature.
7199 The Property "autoWhiteBalance" is a boolean.
7200 An AutoWhiteBalance value of 'true' means that the auto white balance feature is on.
7201 An AutoWhiteBalance value of 'false' means that the auto white balance feature is off.
7202

7203 **6.32.2 Example URI**

7204 /AutoWhiteBalanceResURI

7205 **6.32.3 Resource type**

7206 The Resource Type is defined as: "oic.r.colour.autowhitebalance".

7207 6.32.4 OpenAPI 2.0 definition

```
7208 {
7209   "swagger": "2.0",
7210   "info": {
7211     "title": "Auto White Balance",
7212     "version": "20190222",
7213     "license": {
7214       "name": "OCF Data Model License",
7215       "url":
7216         "https://github.com/openconnectivityfoundation/core/blob/e28a9e0a92e17042ba3e83661e4c0fbce8bdc4ba/LI
7217         CENSE.md",
7218       "x-copyright": "Copyright 2018-2019 Open Connectivity Foundation, Inc. All rights reserved."
7219     },
7220     "termsOfService": "https://openconnectivityfoundation.github.io/core/DISCLAIMER.md"
7221   },
7222   "schemes": ["http"],
7223   "consumes": ["application/json"],
7224   "produces": ["application/json"],
7225   "paths": {
7226     "/AutoWhiteBalanceResURI" : {
7227       "get": {
7228         "description": "This Resource describes an auto balance on/off feature.\n\nThe Property
7229         \"autoWhiteBalance\" is a boolean.\n\nAn AutoWhiteBalance value of 'true' means that the auto white
7230         balance feature is on.\n\nAn AutoWhiteBalance value of 'false' means that the auto white balance
7231         feature is off.\n\n",
7232         "parameters": [
7233           { "$ref": "#/parameters/interface" }
7234         ],
7235         "responses": {
7236           "200": {
7237             "description": "",
7238             "x-example":
7239               {
7240                 "rt": ["oic.r.colour.autowhitebalance"],
7241                 "if": ["oic.if.a", "oic.if.baseline"],
7242                 "autoWhiteBalance": false
7243               },
7244             "schema": { "$ref": "#/definitions/AutoWhiteBalance" }
7245           }
7246         }
7247       },
7248       "post": {
7249         "description": "",
7250         "parameters": [
7251           { "$ref": "#/parameters/interface" },
7252           {
7253             "name": "body",
7254             "in": "body",
7255             "required": true,
7256             "schema": { "$ref": "#/definitions/AutoWhiteBalance" },
7257             "x-example":
7258               {
7259                 "autoWhiteBalance": true
7260               }
7261           }
7262         ],
7263         "responses": {
7264           "200": {
7265             "description": "",
7266             "x-example":
7267               {
7268                 "autoWhiteBalance": true
7269               },
7270             "schema": { "$ref": "#/definitions/AutoWhiteBalance" }
7271           }
7272         }
7273       }
7274     }
7275   },
7276   "parameters": {
7277     "interface" : {
```

```

7278     "in": "query",
7279     "name": "if",
7280     "type": "string",
7281     "enum": ["oic.if.a", "oic.if.baseline"]
7282   }
7283 },
7284 "definitions": {
7285   "AutoWhiteBalance" : {
7286     "properties": {
7287       "rt": {
7288         "description": "The Resource Type.",
7289         "items": {
7290           "enum": ["oic.r.colour.autowhitebalance"],
7291           "maxLength": 64,
7292           "type": "string"
7293         },
7294         "minItems": 1,
7295         "uniqueItems": true,
7296         "readOnly": true,
7297         "type": "array"
7298       },
7299       "autoWhiteBalance": {
7300         "description": "The status of the Auto White balance feature.",
7301         "type": "boolean"
7302       },
7303       "n": {
7304         "$ref":
7305         "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
7306         schema.json#/definitions/n"
7307       },
7308       "id": {
7309         "$ref":
7310         "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
7311         schema.json#/definitions/id"
7312       },
7313       "if": {
7314         "description": "The OCF Interface set supported by this Resource.",
7315         "items": {
7316           "enum": [
7317             "oic.if.a",
7318             "oic.if.baseline"
7319           ],
7320           "type": "string"
7321         },
7322         "minItems": 2,
7323         "uniqueItems": true,
7324         "readOnly": true,
7325         "type": "array"
7326       }
7327     },
7328     "type": "object",
7329     "required": ["autoWhiteBalance"]
7330   }
7331 }
7332 }
7333

```

7334 6.32.5 Property definition

7335 Table 67 defines the Properties that are part of the "oic.r.colour.autowhitebalance" Resource Type.

7336 **Table 67 – The Property definitions of the Resource with type "rt" =**
7337 **"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.

7338 **6.32.6 CRUDN behaviour**

7339 Table 68 defines the CRUDN operations that are supported on the "oic.r.colour.autowhitebalance"
7340 Resource Type.

7341 **Table 68 – The CRUDN operations of the Resource with type "rt" =**
7342 **"oic.r.colour.autowhitebalance".**

Create	Read	Update	Delete	Notify
	get	post		observe

7343 **6.33 Colour Saturation**

7344 **6.33.1 Introduction**

7345 This Resource describes a Colour saturation value.
7346 The Property "colourSaturation" is an integer.
7347 A "colourSaturation" has a range of [0,100].
7348 A "colourSaturation" value of 0 means producing black and white images.
7349 A "colourSaturation" value of 50 means producing device specific normal colour images.
7350 A "colourSaturation" value of 100 means producing device very full colour images.
7351

7352 **6.33.2 Example URI**

7353 /ColourSaturationResURI

7354 **6.33.3 Resource type**

7355 The Resource Type is defined as: "oic.r.colour.saturation".

7356 **6.33.4 OpenAPI 2.0 definition**

```
7357 {
7358   "swagger": "2.0",
7359   "info": {
7360     "title": "Colour Saturation",
7361     "version": "20190215",
7362     "license": {
7363       "name": "OCF Data Model License",
7364       "url":
7365         "https://github.com/openconnectivityfoundation/core/blob/e28a9e0a92e17042ba3e83661e4c0fbce8bdc4ba/LI
7366         CENSE.md",
7367       "x-copyright": "copyright 2016-2017, 2019 Open Connectivity Foundation, Inc. All rights
```

```

7368 reserved."
7369     },
7370     "termsOfService": "https://openconnectivityfoundation.github.io/core/DISCLAIMER.md"
7371 },
7372 "schemes": ["http"],
7373 "consumes": ["application/json"],
7374 "produces": ["application/json"],
7375 "paths": {
7376     "/ColourSaturationResURI" : {
7377         "get": {
7378             "description": "This Resource describes a Colour saturation value.\n\nThe Property
7379 \colourSaturation\ is an integer.\n\n\colourSaturation\ has a range of [0,100].\n\n
7380 \colourSaturation\ value of 0 means producing black and white images.\n\n\colourSaturation\
7381 value of 50 means producing device specific normal colour images.\n\n\colourSaturation\ value of
7382 100 means producing device very full colour images.\n",
7383             "parameters": [
7384                 { "$ref": "#/parameters/interface" }
7385             ],
7386             "responses": {
7387                 "200": {
7388                     "description": "",
7389                     "x-example":
7390                     {
7391                         "rt": ["oic.r.colour.saturation"],
7392                         "if": ["oic.if.a", "oic.if.baseline"],
7393                         "colourSaturation": 50
7394                     },
7395                     "schema": { "$ref": "#/definitions/Saturation" }
7396                 }
7397             }
7398         },
7399         "post": {
7400             "description": "",
7401             "parameters": [
7402                 { "$ref": "#/parameters/interface" },
7403                 {
7404                     "name": "body",
7405                     "in": "body",
7406                     "required": true,
7407                     "schema": { "$ref": "#/definitions/Saturation" },
7408                     "x-example":
7409                     {
7410                         "colourSaturation": 60
7411                     }
7412                 }
7413             ],
7414             "responses": {
7415                 "200": {
7416                     "description": "",
7417                     "x-example":
7418                     {
7419                         "colourSaturation": 60
7420                     }
7421                 },
7422                 "schema": { "$ref": "#/definitions/Saturation" }
7423             }
7424         }
7425     }
7426 },
7427 },
7428 "parameters": {
7429     "interface" : {
7430         "in": "query",
7431         "name": "if",
7432         "type": "string",
7433         "enum": ["oic.if.a", "oic.if.baseline"]
7434     }
7435 },
7436 "definitions": {
7437     "Saturation" : {
7438         "properties": {
7439             "rt": {

```

```

7440     "description": "The Resource Type.",
7441     "items": {
7442       "enum": ["oic.r.colour.saturation"],
7443       "maxLength": 64,
7444       "type": "string"
7445     },
7446     "minItems": 1,
7447     "uniqueItems": true,
7448     "readOnly": true,
7449     "type": "array"
7450   },
7451   "colourSaturation": {
7452     "description": "The colour saturation value.",
7453     "maximum": 100,
7454     "minimum": 0,
7455     "type": "integer"
7456   },
7457   "n": {
7458     "$ref":
7459     "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
7460     schema.json#/definitions/n"
7461   },
7462   "id": {
7463     "$ref":
7464     "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
7465     schema.json#/definitions/id"
7466   },
7467   "if": {
7468     "description": "The OCF Interface set supported by this Resource.",
7469     "items": {
7470       "enum": [
7471         "oic.if.a",
7472         "oic.if.baseline"
7473       ],
7474       "type": "string"
7475     },
7476     "minItems": 2,
7477     "uniqueItems": true,
7478     "readOnly": true,
7479     "type": "array"
7480   }
7481 },
7482 "type": "object",
7483 "required": ["colourSaturation"]
7484 }
7485 }
7486 }
7487

```

6.33.5 Property definition

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

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

Property name	Value type	Mandatory	Access mode	Description
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	

7492 **6.33.6 CRUDN behaviour**

7493 Table 70 defines the CRUDN operations that are supported on the "oic.r.colour.saturation"
7494 Resource Type.

7495 **Table 70 – The CRUDN operations of the Resource with type "rt" =**
7496 **"oic.r.colour.saturation".**

Create	Read	Update	Delete	Notify
	get	post		observe

7497 **6.34 Contact Sensor**

7498 **6.34.1 Introduction**

7499 This Resource describes whether a contact sensor has been tripped or not.
7500 Typical use case is in Security Systems detecting window or door open.
7501 The Property "value" is a boolean.
7502 A value of 'true' means that contact has been broken (open).
7503 A value of 'false' means that contact is in place (closed).
7504

7505 **6.34.2 Example URI**

7506 /ContactResURI

7507 **6.34.3 Resource type**

7508 The Resource Type is defined as: "oic.r.sensor.contact".

7509 **6.34.4 OpenAPI 2.0 definition**

```
7510 {
7511   "swagger": "2.0",
7512   "info": {
7513     "title": "Contact Sensor",
7514     "version": "20190215",
7515     "license": {
7516       "name": "OCF Data Model License",
7517       "url":
7518 "https://github.com/openconnectivityfoundation/core/blob/e28a9e0a92e17042ba3e83661e4c0fbce8bdc4ba/LI
7519 CENSE.md",
7520     "x-copyright": "copyright 2016-2017, 2019 Open Connectivity Foundation, Inc. All rights
7521 reserved."
7522     },
7523     "termsOfService": "https://openconnectivityfoundation.github.io/core/DISCLAIMER.md"
7524   },
7525   "schemes": ["http"],
7526   "consumes": ["application/json"],
7527   "produces": ["application/json"],
7528   "paths": {
7529     "/ContactResURI" : {
7530       "get": {
```

```

7531     "description": "This Resource describes whether a contact sensor has been tripped or
7532 not.\nTypical use case is in Security Systems detecting window or door open.\nThe Property \"value\"
7533 is a boolean.\nA value of 'true' means that contact has been broken (open).\nA value of 'false'
7534 means that contact is in place (closed).\n",
7535     "parameters": [
7536       {"$ref": "#/parameters/interface"}
7537     ],
7538     "responses": {
7539       "200": {
7540         "description": "",
7541         "x-example":
7542           {
7543             "rt": ["oic.r.sensor.contact"],
7544             "if": ["oic.if.s", "oic.if.baseline"],
7545             "value": true
7546           },
7547         "schema": { "$ref": "#/definitions/Contact" }
7548       }
7549     }
7550   }
7551 },
7552 },
7553 "parameters": {
7554   "interface" : {
7555     "in": "query",
7556     "name": "if",
7557     "type": "string",
7558     "enum": ["oic.if.s", "oic.if.baseline"]
7559   }
7560 },
7561 "definitions": {
7562   "Contact" : {
7563     "properties": {
7564       "rt": {
7565         "description": "The Resource Type.",
7566         "items": {
7567           "enum": ["oic.r.sensor.contact"],
7568           "maxLength": 64,
7569           "type": "string"
7570         },
7571         "minItems": 1,
7572         "uniqueItems": true,
7573         "readOnly": true,
7574         "type": "array"
7575       },
7576       "value": {
7577         "description": "The contact indication, true = broken (open), false = in place (closed).",
7578         "readOnly": true,
7579         "type": "boolean"
7580       },
7581       "n": {
7582         "$ref":
7583         "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
7584         schema.json#/definitions/n"
7585       },
7586       "id": {
7587         "$ref":
7588         "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
7589         schema.json#/definitions/id"
7590       },
7591       "if": {
7592         "description": "The OCF Interface set supported by this Resource.",
7593         "items": {
7594           "enum": [
7595             "oic.if.s",
7596             "oic.if.baseline"
7597           ],
7598           "type": "string"
7599         },
7600         "minItems": 2,
7601         "uniqueItems": true,
7602         "readOnly": true,

```

```

7603         "type": "array"
7604     },
7605 },
7606     "type": "object",
7607     "required": ["value"]
7608 }
7609 }
7610 }
7611 }

```

7612 **6.34.5 Property definition**

7613 Table 71 defines the Properties that are part of the "oic.r.sensor.contact" Resource Type.

7614 **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	

7615 **6.34.6 CRUDN behaviour**

7616 Table 72 defines the CRUDN operations that are supported on the "oic.r.sensor.contact" Resource Type.

7618 **Table 72 – The CRUDN operations of the Resource with type "rt" = "oic.r.sensor.contact".**

Create	Read	Update	Delete	Notify
	get			observe

7619 **6.35 Demand Response Load Control (DRLC).**

7620 **6.35.1 Introduction**

7621 This Resource describes any to be applied or currently being applied DRLC signal.
 7622 The Property "DRType" is the ApplianceLoadReductionType defined in Zigbee/HA Smart Energy
 7623 Profile 2.0.

7624 The Property "Start" is a string containing an RFC3339 encoded start time.
 7625 The Property "duration" value is in minutes.

7626 The Property "Override" indicates whether the consumer has overridden the request (true) or not
7627 (false).
7628 The Resource provides the current DRLC action that is being applied.

7629 6.35.2 Example URI

7630 /DRLCResURI

7631 6.35.3 Resource type

7632 The Resource Type is defined as: "oic.r.energy.drlc".

7633 6.35.4 OpenAPI 2.0 definition

```
7634 {  
7635   "swagger": "2.0",  
7636   "info": {  
7637     "title": "Demand Response Load Control (DRLC).",  
7638     "version": "20190215",  
7639     "license": {  
7640       "name": "OCF Data Model License",  
7641       "url":  
7642       "https://github.com/openconnectivityfoundation/core/blob/e28a9e0a92e17042ba3e83661e4c0fbce8bdc4ba/LI  
7643       CENSE.md",  
7644       "x-copyright": "copyright 2016-2017, 2019 Open Connectivity Foundation, Inc. All rights  
7645       reserved."  
7646     },  
7647     "termsOfService": "https://openconnectivityfoundation.github.io/core/DISCLAIMER.md"  
7648   },  
7649   "schemes": ["http"],  
7650   "consumes": ["application/json"],  
7651   "produces": ["application/json"],  
7652   "paths": {  
7653     "/DRLCResURI" : {  
7654       "get": {  
7655         "description": "This Resource describes any to be applied or currently being applied DRLC  
7656         signal.\n\nThe Property \"DRType\" is the ApplianceLoadReductionType defined in Zigbee/HA Smart Energy  
7657         Profile 2.0.\n\nThe Property \"Start\" is a string containing an RFC3339 encoded start time.\n\nThe  
7658         Property \"duration\" value is in minutes.\n\nThe Property \"Override\" indicates whether the consumer  
7659         has overridden the request (true) or not (false).\n\nThe Resource provides the current DRLC action  
7660         that is being applied.",  
7661         "parameters": [  
7662           { "$ref": "#/parameters/interface" }  
7663         ],  
7664         "responses": {  
7665           "200": {  
7666             "description": "",  
7667             "x-example":  
7668             {  
7669               "rt": ["oic.r.energy.drlc"],  
7670               "if": ["oic.if.a", "oic.if.baseline"],  
7671               "DRType": 1,  
7672               "start": "2015-01-09T16:45:00Z",  
7673               "duration": 10,  
7674               "override": false,  
7675               "drlevel": 2,  
7676               "mandate": true  
7677             },  
7678             "schema": { "$ref": "#/definitions/DRLC" }  
7679           }  
7680         }  
7681       },  
7682       "post": {  
7683         "description": "Provides the DRLC action to be applied to the device or updates an existing  
7684         action.",  
7685         "parameters": [  
7686           { "$ref": "#/parameters/interface" },  
7687           {  
7688             "name": "body",  
7689             "in": "body",  
7690             "required": true,  

```

```

7691         "schema": {"$ref": "#/definitions/DRLC"},
7692         "x-example":
7693             {
7694                 "DRType": 1,
7695                 "start": "2015-01-09T17:00:00Z",
7696                 "duration": 10
7697             }
7698     },
7699 ],
7700 "responses": {
7701     "200": {
7702         "description": "Indicates that the target DRLC resource was changed.\n\nThe new
7703 resource attributes are provided in the response.",
7704         "x-example":
7705             {
7706                 "DRType": 1,
7707                 "start": "2015-01-09T17:00:00Z",
7708                 "duration": 15,
7709                 "override": false
7710             }
7711         ,
7712         "schema": {"$ref": "#/definitions/DRLC"}
7713     },
7714     "201": {
7715         "description": "Indicates successful creation of the DRLC Resource with the
7716 attributes provided.\n\nThe response includes the URI of the created Resource.",
7717         "x-example":
7718             {
7719                 "ResURI": "/MyDevice/MyDRLCURI"
7720             },
7721         "schema": {"$ref": "#/definitions/CreateResponse"}
7722     }
7723 }
7724 }
7725 },
7726 "parameters": {
7727     "interface": {
7728         "in": "query",
7729         "name": "if",
7730         "type": "string",
7731         "enum": ["oic.if.a", "oic.if.baseline"]
7732     }
7733 },
7734 "definitions": {
7735     "DRLC": {
7736         "properties": {
7737             "rt": {
7738                 "description": "The Resource Type.",
7739                 "items": {
7740                     "enum": ["oic.r.energy.drlc"],
7741                     "maxLength": 64,
7742                     "type": "string"
7743                 },
7744                 "minItems": 1,
7745                 "uniqueItems": true,
7746                 "readOnly": true,
7747                 "type": "array"
7748             },
7749             "start": {
7750                 "description": "The start time for the application of DR.",
7751                 "type": "date-time"
7752             },
7753             "duration": {
7754                 "description": "The duration of the to be applied DR type.",
7755                 "type": "integer"
7756             },
7757             "override": {
7758                 "description": "Whether the consumer has overridden the application of DR.",
7759                 "type": "boolean"
7760             }
7761         },
7762         "DRType": {

```

```

7763         "description": "The to be applied demand-response type.",
7764         "type": "integer"
7765     },
7766     "drlevel": {
7767         "type": "integer",
7768         "minimum": 0,
7769         "maximum": 3,
7770         "description": "Indicator of the strength of the DR response that is requested; 0-0%, 1-
7771 30%, 2-50%, 3-70%"
7772     },
7773     "mandate" : {
7774         "type": "boolean",
7775         "description": "Whether overriding the DR request by the consumer is allowed"
7776     },
7777     "n": {
7778         "$ref":
7779 "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
7780 schema.json#/definitions/n"
7781     },
7782     "id": {
7783         "$ref":
7784 "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
7785 schema.json#/definitions/id"
7786     },
7787     "if": {
7788         "description": "The OCF Interface set supported by this Resource.",
7789         "items": {
7790             "enum": [
7791                 "oic.if.a",
7792                 "oic.if.baseline"
7793             ],
7794             "type": "string"
7795         },
7796         "minItems": 2,
7797         "uniqueItems": true,
7798         "readOnly": true,
7799         "type": "array"
7800     }
7801 },
7802 "type": "object",
7803 "required": ["DRType"]
7804 },
7805 "CreateResponse" : {
7806     "properties": {
7807         "ResURI": {
7808             "description": "The url of the created Resource.",
7809             "type": "string",
7810             "format" : "uri"
7811         }
7812     },
7813     "type": "object",
7814     "required": ["ResURI"]
7815 }
7816 }
7817 }
7818

```

7819 6.35.5 Property definition

7820 Table 73 defines the Properties that are part of the "oic.r.energy.drlc" Resource Type.

7821 **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.
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

7822 **6.35.6 CRUDN behaviour**

7823 Table 74 defines the CRUDN operations that are supported on the "oic.r.energy.drlc" Resource
7824 Type.

7825 **Table 74 – The CRUDN operations of the Resource with type "rt" = "oic.r.energy.drlc".**

Create	Read	Update	Delete	Notify
	get	post		observe

7826 6.36 Energy Overload/Circuit Breaker

7827 6.36.1 Introduction

7828 This Resource describes whether an energy overload detector/circuit breaker is currently tripped.
7829 The Property "value" is a boolean.
7830 A value of 'true' means that energy overload has been tripped.
7831 A value of 'false' means that energy overload has not been tripped.
7832

7833 6.36.2 Example URI

7834 /EnergyOverloadResURI

7835 6.36.3 Resource type

7836 The Resource Type is defined as: "oic.r.energy.overload".

7837 6.36.4 OpenAPI 2.0 definition

```
7838 {
7839   "swagger": "2.0",
7840   "info": {
7841     "title": "Energy Overload/Circuit Breaker",
7842     "version": "20190215",
7843     "license": {
7844       "name": "OCF Data Model License",
7845       "url":
7846         "https://github.com/openconnectivityfoundation/core/blob/e28a9e0a92e17042ba3e83661e4c0fbce8bdc4ba/LI
7847         CENSE.md",
7848       "x-copyright": "copyright 2016-2017, 2019 Open Connectivity Foundation, Inc. All rights
7849         reserved."
7850     },
7851     "termsOfService": "https://openconnectivityfoundation.github.io/core/DISCLAIMER.md"
7852   },
7853   "schemes": ["http"],
7854   "consumes": ["application/json"],
7855   "produces": ["application/json"],
7856   "paths": {
7857     "/EnergyOverloadResURI" : {
7858       "get": {
7859         "description": "This Resource describes whether an energy overload detector/circuit breaker
7860         is currently tripped.\n\nThe Property \"value\" is a boolean.\n\nA value of 'true' means that energy
7861         overload has been tripped.\n\nA value of 'false' means that energy overload has not been tripped.\n\n",
7862         "parameters": [
7863           {"$ref": "#/parameters/interface"}
7864         ],
7865         "responses": {
7866           "200": {
7867             "description": "",
7868             "x-example":
7869               {
7870                 "rt": ["oic.r.energy.overload"],
7871                 "if": ["oic.if.s", "oic.if.baseline"],
7872                 "value": true
7873               },
7874             "schema": { "$ref": "#/definitions/EnergyOverload" }
7875           }
7876         }
7877       }
7878     }
7879   },
7880   "parameters": {
7881     "interface": {
7882       "in": "query",
7883       "name": "if",
7884       "type": "string",
7885       "enum": ["oic.if.s", "oic.if.baseline"]
7886     }
7887   },
7888   "definitions": {
```



```

7889     "EnergyOverload" : {
7890       "properties": {
7891         "rt": {
7892           "description": "The Resource Type.",
7893           "items": {
7894             "enum": ["oic.r.energy.overload"],
7895             "maxLength": 64,
7896             "type": "string"
7897           },
7898           "minItems": 1,
7899           "uniqueItems": true,
7900           "readOnly": true,
7901           "type": "array"
7902         },
7903         "value": {
7904           "description": "The energy overload indication,true = tripped, false = not tripped.",
7905           "readOnly": true,
7906           "type": "boolean"
7907         },
7908         "n": {
7909           "$ref":
7910             "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
7911             schema.json#/definitions/n"
7912         },
7913         "id": {
7914           "$ref":
7915             "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
7916             schema.json#/definitions/id"
7917         },
7918         "if": {
7919           "description": "The OCF Interface set supported by this Resource.",
7920           "items": {
7921             "enum": [
7922               "oic.if.s",
7923               "oic.if.baseline"
7924             ],
7925             "type": "string"
7926           },
7927           "minItems": 2,
7928           "uniqueItems": true,
7929           "readOnly": true,
7930           "type": "array"
7931         }
7932       },
7933       "type": "object",
7934       "required": ["value"]
7935     }
7936   }
7937 }
7938

```

7939 **6.36.5 Property definition**

7940 Table 75 defines the Properties that are part of the "oic.r.energy.overload" Resource Type.

7941 **Table 75 – The Property definitions of the Resource with type "rt" =**
7942 **"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.

7943 **6.36.6 CRUDN behaviour**

7944 Table 76 defines the CRUDN operations that are supported on the "oic.r.energy.overload"
7945 Resource Type.

7946 **Table 76 – The CRUDN operations of the Resource with type "rt" = "oic.r.energy.overload".**

Create	Read	Update	Delete	Notify
	get			observe

7947 **6.37 Generic Sensor**

7948 **6.37.1 Introduction**

7949 This Resource describes whether some value or property or entity has been sensed or not.
7950 The Property "value" is a boolean.
7951 A value of 'true' means that the target has been sensed.
7952 A value of 'false' means that the target has not been sensed.

7953 **6.37.2 Example URI**

7954 /GenericSensorResURI

7955 **6.37.3 Resource type**

7956 The Resource Type is defined as: "oic.r.sensor".

7957 **6.37.4 OpenAPI 2.0 definition**

```
7958 {
7959   "swagger": "2.0",
7960   "info": {
7961     "title": "Generic Sensor",
7962     "version": "20190215",
7963     "license": {
7964       "name": "OCF Data Model License",
7965       "url":
7966         "https://github.com/openconnectivityfoundation/core/blob/e28a9e0a92e17042ba3e83661e4c0fbce8bdc4ba/LI
7967         CENSE.md",
7968       "x-copyright": "copyright 2016-2017, 2019 Open Connectivity Foundation, Inc. All rights
7969       reserved."
7970     },
7971     "termsOfService": "https://openconnectivityfoundation.github.io/core/DISCLAIMER.md"
7972   },
7973   "schemes": ["http"],
7974   "consumes": ["application/json"],
7975   "produces": ["application/json"],
```

```

7976     "paths": {
7977         "/GenericSensorResURI" : {
7978             "get": {
7979                 "description": "This Resource describes whether some value or property or entity has been
7980 sensed or not.\n\nThe Property \"value\" is a boolean.\n\nA value of 'true' means that the target has
7981 been sensed.\n\nA value of 'false' means that the target has not been sensed.",
7982                 "parameters": [
7983                     { "$ref": "#/parameters/interface" }
7984                 ],
7985                 "responses": {
7986                     "200": {
7987                         "description" : "",
7988                         "x-example": {
7989                             "rt": ["oic.r.sensor"],
7990                             "if": ["oic.if.s", "oic.if.baseline"],
7991                             "value": true
7992                         },
7993                         "schema": { "$ref": "#/definitions/Sensor" }
7994                     }
7995                 }
7996             }
7997         },
7998     },
7999     "parameters": {
8000         "interface": {
8001             "in": "query",
8002             "name": "if",
8003             "type": "string",
8004             "enum": ["oic.if.s", "oic.if.baseline"]
8005         }
8006     },
8007     "definitions": {
8008         "Sensor" : {
8009             "properties": {
8010                 "rt": {
8011                     "description": "The Resource Type.",
8012                     "items": {
8013                         "enum": ["oic.r.sensor"],
8014                         "maxLength": 64,
8015                         "type": "string"
8016                     },
8017                     "minItems": 1,
8018                     "uniqueItems": true,
8019                     "readOnly": true,
8020                     "type": "array"
8021                 },
8022                 "value": {
8023                     "description": "true = sensed, false = not sensed.",
8024                     "readOnly": true,
8025                     "type": "boolean"
8026                 },
8027                 "n": {
8028                     "$ref":
8029 "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
8030 schema.json#/definitions/n"
8031                 },
8032                 "id": {
8033                     "$ref":
8034 "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
8035 schema.json#/definitions/id"
8036                 },
8037                 "if": {
8038                     "description": "The OCF Interface set supported by this Resource.",
8039                     "items": {
8040                         "enum": [
8041                             "oic.if.s",
8042                             "oic.if.baseline"
8043                         ],
8044                         "type": "string"
8045                     },
8046                     "minItems": 2,
8047                     "uniqueItems": true,

```

```

8048         "readOnly": true,
8049         "type": "array"
8050     },
8051 },
8052     "type": "object",
8053     "required": ["value"]
8054 }
8055 }
8056 }
8057

```

8058 **6.37.5 Property definition**

8059 Table 77 defines the Properties that are part of the "oic.r.sensor" Resource Type.

8060 **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.

8061 **6.37.6 CRUDN behaviour**

8062 Table 78 defines the CRUDN operations that are supported on the "oic.r.sensor" Resource Type.

8063 **Table 78 – The CRUDN operations of the Resource with type "rt" = "oic.r.sensor".**

Create	Read	Update	Delete	Notify
	get			observe

8064 **6.38 Glass Break Sensor**

8065 **6.38.1 Introduction**

8066 This Resource describes a glass break sensor.
8067 The Property "value" is a boolean.
8068 A value of 'true' means that glass break has been sensed.
8069 A value of 'false' means that glass break not been sensed.

8070 **6.38.2 Example URI**

8071 /GlassBreakResURI

8072 **6.38.3 Resource type**

8073 The Resource Type is defined as: "oic.r.sensor.glassbreak".

8074 **6.38.4 OpenAPI 2.0 definition**

```
8075 {
8076   "swagger": "2.0",
8077   "info": {
8078     "title": "Glass Break Sensor",
8079     "version": "20190215",
8080     "license": {
8081       "name": "OCF Data Model License",
8082       "url":
8083 "https://github.com/openconnectivityfoundation/core/blob/e28a9e0a92e17042ba3e83661e4c0fbce8bdc4ba/LI
8084 CENSE.md",
8085     "x-copyright": "copyright 2016-2017, 2019 Open Connectivity Foundation, Inc. All rights
8086 reserved."
8087   },
8088   "termsOfService": "https://openconnectivityfoundation.github.io/core/DISCLAIMER.md"
8089 },
8090   "schemes": ["http"],
8091   "consumes": ["application/json"],
8092   "produces": ["application/json"],
8093   "paths": {
8094     "/GlassBreakResURI" : {
8095       "get": {
8096         "description": "This Resource describes a glass break sensor.\nThe Property \"value\" is a
8097 boolean.\nA value of 'true' means that glass break has been sensed.\nA value of 'false' means that
8098 glass break not been sensed.",
8099         "parameters": [
8100           { "$ref": "#/parameters/interface" }
8101         ],
8102         "responses": {
8103           "200": {
8104             "description": "",
8105             "x-example":
8106             {
8107               "rt": ["oic.r.sensor.glassbreak"],
8108               "if": ["oic.if.s", "oic.if.baseline"],
8109               "value": true
8110             },
8111             "schema": { "$ref": "#/definitions/GlassBreak" }
8112           }
8113         }
8114       }
8115     }
8116   },
8117   "parameters": {
8118     "interface": {
8119       "in": "query",
8120       "name": "if",
8121       "type": "string",
8122       "enum": ["oic.if.s", "oic.if.baseline"]
8123     }
8124   },
8125   "definitions": {
8126     "GlassBreak" : {
8127       "properties": {
8128         "rt": {
8129           "description": "The Resource Type.",
8130           "items": {
8131             "enum": ["oic.r.sensor.glassbreak"],
8132             "maxLength": 64,
8133             "type": "string"
8134           },
8135           "minItems": 1,
8136           "uniqueItems": true,
8137           "readOnly": true,
8138           "type": "array"
8139         },
8140         "value": {
```

```

8141         "description": "The glassbreak indication, true = glass break sensed, false = glass break
8142 not sensed.",
8143         "readOnly": true,
8144         "type": "boolean"
8145     },
8146     "n": {
8147         "$ref":
8148 "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
8149 schema.json#/definitions/n"
8150     },
8151     "id": {
8152         "$ref":
8153 "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
8154 schema.json#/definitions/id"
8155     },
8156     "if": {
8157         "description": "The OCF Interface set supported by this Resource.",
8158         "items": {
8159             "enum": [
8160                 "oic.if.s",
8161                 "oic.if.baseline"
8162             ],
8163             "type": "string"
8164         },
8165         "minItems": 2,
8166         "uniqueItems": true,
8167         "readOnly": true,
8168         "type": "array"
8169     }
8170 },
8171 "type": "object",
8172 "required": ["value"]
8173 }
8174 }
8175 }
8176

```

8177 **6.38.5 Property definition**

8178 Table 79 defines the Properties that are part of the "oic.r.sensor.glassbreak" Resource Type.

8179 **Table 79 – The Property definitions of the Resource with type "rt" =**
8180 **"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.
--	--	--	--	-------------------------

8181 **6.38.6 CRUDN behaviour**

8182 Table 80 defines the CRUDN operations that are supported on the "oic.r.sensor.glassbreak"
8183 Resource Type.

8184 **Table 80 – The CRUDN operations of the Resource with type "rt" =**
8185 **"oic.r.sensor.glassbreak".**

Create	Read	Update	Delete	Notify
	get			observe

8186 **6.39 Heart Rate Zone**

8187 **6.39.1 Introduction**

8188 This Resource describes a measured heart rate by the current Zone using the Zoladz method. The
8189 Zoladz method defines Zones based on maximum heart rate; Zone 1 is the lowest, Zone 5 is the
8190 highest.

8191 The heartRateZone is an enumeration containing one of: "Zone1", "Zone2", "Zone3", "Zone4", and
8192 "Zone5".

8193

8194 **6.39.2 Example URI**

8195 /HeartRateZoneResURI

8196 **6.39.3 Resource type**

8197 The Resource Type is defined as: "oic.r.sensor.heart.zone".

8198 **6.39.4 OpenAPI 2.0 definition**

```
8199 {
8200   "swagger": "2.0",
8201   "info": {
8202     "title": "Heart Rate Zone",
8203     "version": "2019-03-28",
8204     "license": {
8205       "name": "OCF Data Model License",
8206       "url":
8207         "https://github.com/openconnectivityfoundation/core/blob/e28a9e0a92e17042ba3e83661e4c0fbce8bdc4ba/LI
8208         CENSE.md",
8209       "x-copyright": "copyright 2016-2017, 2019 Open Connectivity Foundation, Inc. All rights
8210         reserved."
8211     },
8212     "termsOfService": "https://openconnectivityfoundation.github.io/core/DISCLAIMER.md"
8213   },
8214   "schemes": ["http"],
8215   "consumes": ["application/json"],
8216   "produces": ["application/json"],
8217   "paths": {
8218     "/HeartRateZoneResURI" : {
8219       "get": {
8220         "description": "This Resource describes a measured heart rate by the current Zone using the
8221         Zoladz method. The Zoladz method defines Zones based on maximum heart rate; Zone 1 is the lowest,
8222         Zone 5 is the highest.\n\nThe heartRateZone is an enumeration containing one of: \"Zone1\", \"Zone2\",
8223         \"Zone3\", \"Zone4\", and \"Zone5\".\n\n",
8224         "parameters": [
8225           {"$ref": "#/parameters/interface"}
8226         ],
8227         "responses": {
8228           "200": {
```

```

8229         "description" : "",
8230         "x-example":
8231         {
8232             "rt":          ["oic.r.sensor.heart.zone"],
8233             "heartRateZone": "Zone3"
8234         },
8235         "schema": { "$ref": "#/definitions/heartRateZone" }
8236     }
8237 }
8238 }
8239 },
8240 },
8241 "parameters": {
8242     "interface" : {
8243         "in" : "query",
8244         "name" : "if",
8245         "type" : "string",
8246         "enum" : ["oic.if.s", "oic.if.baseline"]
8247     }
8248 },
8249 "definitions": {
8250     "heartRateZone" : {
8251         "properties": {
8252             "rt": {
8253                 "description": "Resource Type",
8254                 "items": {
8255                     "enum": ["oic.r.sensor.heart.zone"],
8256                     "maxLength": 64,
8257                     "type": "string"
8258                 },
8259                 "minItems": 1,
8260                 "readOnly": true,
8261                 "uniqueItems": true,
8262                 "type": "array"
8263             },
8264             "n": {
8265                 "$ref":
8266                 "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
8267                 schema.json#/definitions/n"
8268             },
8269             "id": {
8270                 "$ref":
8271                 "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
8272                 schema.json#/definitions/id"
8273             },
8274             "heartRateZone": {
8275                 "description": "Current heart rate zone based on the Zoladz system.",
8276                 "enum": [
8277                     "Zone1",
8278                     "Zone2",
8279                     "Zone3",
8280                     "Zone4",
8281                     "Zone5"
8282                 ],
8283                 "readOnly": true,
8284                 "type": "string"
8285             },
8286             "if": {
8287                 "description": "The OCF Interface set supported by this Resource",
8288                 "items": {
8289                     "enum": [
8290                         "oic.if.s",
8291                         "oic.if.baseline"
8292                     ],
8293                     "type": "string",
8294                     "maxLength": 64
8295                 },
8296                 "minItems": 1,
8297                 "readOnly": true,
8298                 "uniqueItems": true,
8299                 "type": "array"
8300             }

```



```

8301     },
8302     "type" : "object",
8303     "required": ["heartRateZone"]
8304   }
8305 }
8306 }
8307

```

8308 6.39.5 Property definition

8309 Table 81 defines the Properties that are part of the "oic.r.sensor.heart.zone" Resource Type.

8310 **Table 81 – The Property definitions of the Resource with type "rt" =**
8311 **"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	

8312 6.39.6 CRUDN behaviour

8313 Table 82 defines the CRUDN operations that are supported on the "oic.r.sensor.heart.zone"
8314 Resource Type.

8315 **Table 82 – The CRUDN operations of the Resource with type "rt" =**
8316 **"oic.r.sensor.heart.zone".**

Create	Read	Update	Delete	Notify
	get			observe

8317

8318 6.40 Illuminance Sensor

8319 6.40.1 Introduction

8320 This Resource describes an illuminance sensor.
8321 The Property "illuminance" is a float and represents the sensed luminous flux per unit area in lux.

8322 **6.40.2 Example URI**

8323 /IlluminanceSensorResURI

8324 **6.40.3 Resource type**

8325 The Resource Type is defined as: "oic.r.sensor.illuminance".

8326 **6.40.4 OpenAPI 2.0 definition**

```
8327 {
8328   "swagger": "2.0",
8329   "info": {
8330     "title": "Illuminance Sensor",
8331     "version": "20190215",
8332     "license": {
8333       "name": "OCF Data Model License",
8334       "url":
8335         "https://github.com/openconnectivityfoundation/core/blob/e28a9e0a92e17042ba3e83661e4c0fbce8bdc4ba/LI
8336         CENSE.md",
8337       "x-copyright": "copyright 2016-2017, 2019 Open Connectivity Foundation, Inc. All rights
8338       reserved."
8339     },
8340     "termsOfService": "https://openconnectivityfoundation.github.io/core/DISCLAIMER.md"
8341   },
8342   "schemes": ["http"],
8343   "consumes": ["application/json"],
8344   "produces": ["application/json"],
8345   "paths": {
8346     "/IlluminanceSensorResURI" : {
8347       "get": {
8348         "description": "This Resource describes an illuminance sensor.\n\nThe Property \"illuminance\"
8349         is a float and represents the sensed luminous flux per unit area in lux.",
8350         "parameters": [
8351           { "$ref": "#/parameters/interface" }
8352         ],
8353         "responses": {
8354           "200": {
8355             "description": "",
8356             "x-example":
8357               {
8358                 "rt": ["oic.r.sensor.illuminance"],
8359                 "if": ["oic.if.s", "oic.if.baseline"],
8360                 "illuminance": 450.0
8361               },
8362             "schema": { "$ref": "#/definitions/Illuminance" }
8363           }
8364         }
8365       }
8366     }
8367   },
8368   "parameters": {
8369     "interface" : {
8370       "in" : "query",
8371       "name" : "if",
8372       "type" : "string",
8373       "enum" : ["oic.if.s", "oic.if.baseline"]
8374     }
8375   },
8376   "definitions": {
8377     "Illuminance" : {
8378       "properties": {
8379         "rt": {
8380           "description": "The Resource Type.",
8381           "items": {
8382             "enum": ["oic.r.sensor.illuminance"],
8383             "maxLength": 64,
8384             "type": "string"
8385           },
8386           "minItems": 1,
8387           "uniqueItems": true,
8388           "readOnly": true,
```

```

8389         "type": "array"
8390     },
8391     "illuminance": {
8392         "description": "The sensed luminous flux per unit area in lux.",
8393         "readOnly": true,
8394         "type": "number"
8395     },
8396     "n": {
8397         "$ref":
8398         "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
8399         schema.json#/definitions/n"
8400     },
8401     "id": {
8402         "$ref":
8403         "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
8404         schema.json#/definitions/id"
8405     },
8406     "if": {
8407         "description": "The OCF Interface set supported by this Resource.",
8408         "items": {
8409             "enum": [
8410                 "oic.if.s",
8411                 "oic.if.baseline"
8412             ],
8413             "type": "string"
8414         },
8415         "minItems": 2,
8416         "uniqueItems": true,
8417         "readOnly": true,
8418         "type": "array"
8419     }
8420 },
8421 "type": "object",
8422 "required": ["illuminance"]
8423 }
8424 }
8425 }
8426

```

8427 **6.40.5 Property definition**

8428 Table 83 defines the Properties that are part of the "oic.r.sensor.illuminance" Resource Type.

8429 **Table 83 – The Property definitions of the Resource with type "rt" =**
8430 **"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	
---	-------------------------------	----	------------	--

8431 **6.40.6 CRUDN behaviour**

8432 Table 84 defines the CRUDN operations that are supported on the "oic.r.sensor.illuminance"
8433 Resource Type.

8434 **Table 84 – The CRUDN operations of the Resource with type "rt" =**
8435 **"oic.r.sensor.illuminance".**

Create	Read	Update	Delete	Notify
	get			observe

8436 **6.41 Magnetic Field Direction Sensor**

8437 **6.41.1 Introduction**

8438 This Resource describes the direction of the Earth's magnetic field at the observer's current point
8439 in space.
8440 Typical use case includes measurement of compass readings on a personal device.
8441 The Property "value" is an array containing Hx, Hy, Hz (in that order) each of which are floats.
8442 Each of Hx, Hy and Hz are expressed in A/m (Amperes per metre).

8443 **6.41.2 Example URI**

8444 /MagneticFieldDirectionResURI

8445 **6.41.3 Resource type**

8446 The Resource Type is defined as: "oic.r.sensor.magneticfielddirection".

8447 **6.41.4 OpenAPI 2.0 definition**

```
8448 {
8449   "swagger": "2.0",
8450   "info": {
8451     "title": "Magnetic Field Direction Sensor",
8452     "version": "20190215",
8453     "license": {
8454       "name": "OCF Data Model License",
8455       "url":
8456         "https://github.com/openconnectivityfoundation/core/blob/e28a9e0a92e17042ba3e83661e4c0fbce8bdc4ba/LI
8457         CENSE.md",
8458       "x-copyright": "copyright 2016-2017, 2019 Open Connectivity Foundation, Inc. All rights
8459       reserved."
8460     },
8461     "termsOfService": "https://openconnectivityfoundation.github.io/core/DISCLAIMER.md"
8462   },
8463   "schemes": ["http"],
8464   "consumes": ["application/json"],
8465   "produces": ["application/json"],
8466   "paths": {
8467     "/MagneticFieldDirectionResURI" : {
8468       "get": {
8469         "description": "This Resource describes the direction of the Earth's magnetic field at the
8470         observer's current point in space.\nTypical use case includes measurement of compass readings on a
8471         personal device.\nThe Property \"value\" is an array containing Hx, Hy, Hz (in that order) each of
8472         which are floats.\nEach of Hx, Hy and Hz are expressed in A/m (Amperes per metre).",
8473         "parameters": [
8474           {"$ref": "#/parameters/interface"}
8475         ],
8476         "responses": {
8477           "200": {
```

```

8478         "description" : "",
8479         "x-example":
8480         {
8481             "rt": ["oic.r.sensor.magneticfielddirection"],
8482             "if": ["oic.if.s", "oic.if.baseline"],
8483             "value": [100.0, 15.0, 90.0]
8484         },
8485         "schema": { "$ref": "#/definitions/magneticFieldDirection" }
8486     }
8487 }
8488 }
8489 }
8490 },
8491 "parameters": {
8492     "interface" : {
8493         "in" : "query",
8494         "name" : "if",
8495         "type" : "string",
8496         "enum" : ["oic.if.s", "oic.if.baseline"]
8497     }
8498 },
8499 "definitions": {
8500     "magneticFieldDirection" : {
8501         "properties": {
8502             "rt": {
8503                 "description": "The Resource Type.",
8504                 "items": {
8505                     "enum": ["oic.r.sensor.magneticfielddirection"],
8506                     "maxLength": 64,
8507                     "type": "string"
8508                 },
8509                 "minItems": 1,
8510                 "uniqueItems": true,
8511                 "readOnly": true,
8512                 "type": "array"
8513             },
8514             "value": {
8515                 "description": "The array containing Hx, Hy, Hz.",
8516                 "items": {
8517                     "type": "number"
8518                 },
8519                 "maxItems": 3,
8520                 "minItems": 3,
8521                 "readOnly": true,
8522                 "type": "array"
8523             },
8524             "n": {
8525                 "$ref":
8526                 "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
8527                 schema.json#/definitions/n"
8528             },
8529             "id": {
8530                 "$ref":
8531                 "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
8532                 schema.json#/definitions/id"
8533             },
8534             "if": {
8535                 "description": "The OCF Interface set supported by this Resource.",
8536                 "items": {
8537                     "enum": [
8538                         "oic.if.s",
8539                         "oic.if.baseline"
8540                     ],
8541                     "type": "string"
8542                 },
8543                 "minItems": 2,
8544                 "uniqueItems": true,
8545                 "readOnly": true,
8546                 "type": "array"
8547             }
8548         },
8549         "type": "object",

```

```

8550     "required": ["value"]
8551     }
8552   }
8553 }
8554

```

8555 **6.41.5 Property definition**

8556 Table 85 defines the Properties that are part of the "oic.r.sensor.magneticfielddirection" Resource
8557 Type.

8558 **Table 85 – The Property definitions of the Resource with type "rt" =**
8559 **"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	

8560 **6.41.6 CRUDN behaviour**

8561 Table 86 defines the CRUDN operations that are supported on the
8562 "oic.r.sensor.magneticfielddirection" Resource Type.

8563 **Table 86 – The CRUDN operations of the Resource with type "rt" =**
8564 **"oic.r.sensor.magneticfielddirection".**

Create	Read	Update	Delete	Notify
	get			observe

8565 **6.42 Media**

8566 **6.42.1 Introduction**

8567 This Resource specifies the media types that an OCF Server supports.
8568 The resource is an array of media elements. Each element contains:
8569 A URL at which the specified media type can be accessed.
8570 A string array containing the definition of the media using SDP.
8571 Each entry in the sdp array is an SDP line.
8572 Each line shall follow the SDP description syntax as defined in the SDP specification.
8573 The SDP specification can be found at <http://tools.ietf.org/html/rfc4566>.

8574 **6.42.2 Example URI**

8575 /MediaResURI

8576 **6.42.3 Resource type**

8577 The Resource Type is defined as: "oic.r.media".

8578 **6.42.4 OpenAPI 2.0 definition**

```
8579 {
8580   "swagger": "2.0",
8581   "info": {
8582     "title": "Media",
8583     "version": "20190215",
8584     "license": {
8585       "name": "OCF Data Model License",
8586       "url":
8587         "https://github.com/openconnectivityfoundation/core/blob/e28a9e0a92e17042ba3e83661e4c0fbce8bdc4ba/LI
8588         CENSE.md",
8589       "x-copyright": "copyright 2016-2017, 2019 Open Connectivity Foundation, Inc. All rights
8590         reserved."
8591     },
8592     "termsOfService": "https://openconnectivityfoundation.github.io/core/DISCLAIMER.md"
8593   },
8594   "schemes": ["http"],
8595   "consumes": ["application/json"],
8596   "produces": ["application/json"],
8597   "paths": {
8598     "/MediaResURI" : {
8599       "get": {
8600         "description": "This Resource specifies the media types that an OCF Server supports.\nThe
8601         resource is an array of media elements. Each element contains:\n  A URL at which the specified
8602         media type can be accessed.\n  A string array containing the definition of the media using SDP.\n
8603         Each entry in the sdp array is an SDP line.\n  Each line shall follow the SDP description syntax
8604         as defined in the SDP specification.\nThe SDP specification can be found at
8605         http://tools.ietf.org/html/rfc4566.",
8606         "parameters": [
8607           {"$ref": "#/parameters/interface"}
8608         ],
8609         "responses": {
8610           "200": {
8611             "description": "RETRIEVES the current media resource.",
8612             "x-example":
8613               {
8614                 "rt": ["oic.r.media"],
8615                 "if": ["oic.if.s", "oic.if.baseline"],
8616                 "media": [
8617                   {
8618                     "url": "some example url",
8619                     "sdp": [
8620                       "m=video 1 RTP/AVP 96",
8621                       "a=rtpmap:96 H264/9000",
8622                       "a=fmtp:96 profile-level-id=42A028;packetization-mode=1"
8623                     ]
8624                   },
8625                   {
8626                     "url": "some other example1 url",
8627                     "sdp": [
8628                       "m=audio 2 RTP/AVP 97",
8629                       "a=rtpmap:97 MP4A-LATM/90000"
8630                     ]
8631                   },
8632                   {
8633                     "url": "some other example2 url",
8634                     "sdp": [
8635                       "m=video 3 RTP/AVP 98",
8636                       "a=rtpmap:98 jpeg/90000",
8637                       "a=fmtp:98 sampling=YCbCr-4:2:0;width=256;height=256"
8638                     ]
8639                   }
8640                 ]
8641             }
8642           }
8643         }
8644     }
8645   }
8646 }
```

```

8641         },
8642         "schema": { "$ref": "#/definitions/Media" }
8643     }
8644 }
8645 }
8646 }
8647 },
8648 "parameters": {
8649     "interface": {
8650         "in": "query",
8651         "name": "if",
8652         "type": "string",
8653         "enum": ["oic.if.s", "oic.if.baseline"]
8654     }
8655 },
8656 "definitions": {
8657     "Media": {
8658         "properties": {
8659             "rt": {
8660                 "description": "The Resource Type.",
8661                 "items": {
8662                     "enum": ["oic.r.media"],
8663                     "maxLength": 64,
8664                     "type": "string"
8665                 },
8666                 "minItems": 1,
8667                 "uniqueItems": true,
8668                 "readOnly": true,
8669                 "type": "array"
8670             },
8671             "media": {
8672                 "items": {
8673                     "properties": {
8674                         "sdp": {
8675                             "description": "The array of strings, one per SDP line.",
8676                             "items": {
8677                                 "description": "SDP media or attribute line",
8678                                 "type": "string"
8679                             },
8680                             "type": "array"
8681                         },
8682                         "url": {
8683                             "description": "The url for the media instance.",
8684                             "type": "string"
8685                         }
8686                     },
8687                     "type": "object"
8688                 },
8689                 "type": "array"
8690             },
8691             "n": {
8692                 "$ref":
8693 "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
8694 schema.json#/definitions/n"
8695             },
8696             "id": {
8697                 "$ref":
8698 "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
8699 schema.json#/definitions/id"
8700             },
8701             "if": {
8702                 "description": "The OCF Interface set supported by this Resource.",
8703                 "items": {
8704                     "enum": [
8705                         "oic.if.s",
8706                         "oic.if.baseline"
8707                     ],
8708                     "type": "string"
8709                 },
8710                 "minItems": 2,
8711                 "uniqueItems": true,
8712                 "readOnly": true,

```



```

8713         "type": "array"
8714     },
8715 },
8716     "type": "object",
8717     "required": ["media"]
8718 }
8719 }
8720 }
8721

```

8722 **6.42.5 Property definition**

8723 Table 87 defines the Properties that are part of the "oic.r.media" Resource Type.

8724 **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	

8725 **6.42.6 CRUDN behaviour**

8726 Table 88 defines the CRUDN operations that are supported on the "oic.r.media" Resource Type.

8727 **Table 88 – The CRUDN operations of the Resource with type "rt" = "oic.r.media".**

Create	Read	Update	Delete	Notify
	get			observe

8728 **6.43 Media Source**

8729 **6.43.1 Introduction**

8730 This Resource defines a single media source that exists on a device.
8731 The source can be an input source or output source, this resource is agnostic of that.
8732 The Property "sourceName" specifies a pre-defined media input or output (e.g."HDMI", "DVI").
8733 The Property "sourceNumber" is a numeric identifier to specify the instance (e.g. "PC", 1).
8734 The Property "sourceType" is an enumeration defining whether the source is audio, video or both.
8735 The Property "status" is a boolean that determines if the specific source instance is selected or not.
8736 A status of true means that the source instance is selected.
8737 A status of false means that the source instance is not selected.
8738

8739 **6.43.2 Example URI**

8740 /mediaSourceResURI

8741 **6.43.3 Resource type**

8742 The Resource Type is defined as: "oic.r.mediasource".

8743 **6.43.4 OpenAPI 2.0 definition**

```
8744 {
8745   "swagger": "2.0",
8746   "info": {
8747     "title": "Media Source",
8748     "version": "20190215",
8749     "license": {
8750       "name": "OCF Data Model License",
8751       "url":
8752         "https://github.com/openconnectivityfoundation/core/blob/e28a9e0a92e17042ba3e83661e4c0fbce8bdc4ba/LI
8753         CENSE.md",
8754       "x-copyright": "copyright 2016-2017, 2019 Open Connectivity Foundation, Inc. All rights
8755         reserved."
8756     },
8757     "termsOfService": "https://openconnectivityfoundation.github.io/core/DISCLAIMER.md"
8758   },
8759   "schemes": ["http"],
8760   "consumes": ["application/json"],
8761   "produces": ["application/json"],
8762   "paths": {
8763     "/mediaSourceResURI" : {
8764       "get": {
8765         "description": "This Resource defines a single media source that exists on a device.\nThe
8766         source can be an input source or output source, this resource is agnostic of that.\nThe Property
8767         \"sourceName\" specifies a pre-defined media input or output (e.g. \"HDMI\", \"DVI\").\nThe Property
8768         \"sourceNumber\" is a numeric identifier to specify the instance (e.g. \"PC\", 1).\nThe Property
8769         \"sourceType\" is an enumeration defining whether the source is audio, video or both.\nThe Property
8770         \"status\" is a boolean that determines if the specific source instance is selected or not.\n  A
8771         status of true means that the source instance is selected.\n  A status of false means that the
8772         source instance is not selected.\n",
8773         "parameters": [
8774           { "$ref": "#/parameters/interface" }
8775         ],
8776         "responses": {
8777           "200": {
8778             "description": "",
8779             "x-example":
8780               {
8781                 "rt": ["oic.r.mediasource"],
8782                 "if": ["oic.if.a", "oic.if.baseline"],
8783                 "sourceName": "HDMI-CEC",
8784                 "sourceNumber": "1",
8785                 "sourceType": "audioPlusVideo",
8786                 "status": true
8787               },
8788             "schema": { "$ref": "#/definitions/mediaSource" }
8789           }
8790         }
8791       },
8792       "post": {
8793         "description": "Changes the status of the source.\nAllows changes of the \"sourceName\" and
8794         the \"status\". The sourceNumber is used to identify the object in the array.",
8795         "parameters": [
8796           { "$ref": "#/parameters/interface" },
8797           {
8798             "name": "body",
8799             "in": "body",
8800             "required": true,
8801             "schema": { "$ref": "#/definitions/mediaSource" },
8802             "x-example":
8803               {
8804                 "sourceName": "my new name",
8805                 "sourceNumber": "1",
```

```

8806         "status": true
8807     }
8808 }
8809 ],
8810 "responses": {
8811     "200": {
8812         "description": "",
8813         "x-example":
8814         {
8815             "sourceName": "my new name",
8816             "sourceNumber": "1",
8817             "status": true
8818         },
8819         "schema": { "$ref": "#/definitions/mediaSource" }
8820     }
8821 }
8822 }
8823 },
8824 },
8825 "parameters": {
8826     "interface": {
8827         "in": "query",
8828         "name": "if",
8829         "type": "string",
8830         "enum": ["oic.if.a", "oic.if.baseline"]
8831     }
8832 },
8833 "definitions": {
8834     "mediaSource": {
8835         "properties": {
8836             "rt": {
8837                 "description": "The Resource Type.",
8838                 "items": {
8839                     "enum": ["oic.r.mediasource"],
8840                     "maxLength": 64,
8841                     "type": "string"
8842                 },
8843                 "minItems": 1,
8844                 "uniqueItems": true,
8845                 "readOnly": true,
8846                 "type": "array"
8847             },
8848             "status": {
8849                 "description": "Specifies if the specific source instance is selected or not.",
8850                 "type": "boolean"
8851             },
8852             "sourceType": {
8853                 "description": "Specifies the type of the source.",
8854                 "enum": [
8855                     "audioOnly",
8856                     "videoOnly",
8857                     "audioPlusVideo"
8858                 ],
8859                 "readOnly": true,
8860                 "type": "string"
8861             },
8862             "sourceName": {
8863                 "description": "Specifies a pre-defined media input or output.",
8864                 "type": "string"
8865             },
8866             "sourceNumber": {
8867                 "description": "Numeric identifier to specify the instance.",
8868                 "type": [
8869                     "integer",
8870                     "string"
8871                 ]
8872             },
8873             "n": {
8874                 "$ref":
8875                 "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
8876                 schema.json#/definitions/n"
8877             },

```

```

8878     "id": {
8879         "$ref":
8880         "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
8881         schema.json#/definitions/id"
8882     },
8883     "if": {
8884         "description": "The OCF Interface set supported by this Resource.",
8885         "items": {
8886             "enum": [
8887                 "oic.if.a",
8888                 "oic.if.baseline"
8889             ],
8890             "type": "string"
8891         },
8892         "minItems": 2,
8893         "uniqueItems": true,
8894         "readOnly": true,
8895         "type": "array"
8896     }
8897 },
8898 "type": "object",
8899 "required": ["sourceName", "status"]
8900 }
8901 }
8902 }
8903

```

8904 6.43.5 Property definition

8905 Table 89 defines the Properties that are part of the "oic.r.mediasource" Resource Type.

8906 **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.

8907 **6.43.6 CRUDN behaviour**

8908 Table 90 defines the CRUDN operations that are supported on the "oic.r.mediasource" Resource
8909 Type.

8910 **Table 90 – The CRUDN operations of the Resource with type "rt" = "oic.r.mediasource".**

Create	Read	Update	Delete	Notify
	get	post		observe

8911 **6.44 Media Source List**

8912 **6.44.1 Introduction**

8913 This Resource provides the list of media sources available on the Device.
8914 The sources are an array of mediaSource(s) as separately defined see Resource Type
8915 "oic.r.mediasource".

8916 The basic Resource Type "oic.r.mediasourcelist" does not provide any indications whether the
8917 source is input or output.
8918 Hence, two specializations of this resource exist.
8919 When a device exposes input sources then an instance of this resource with a Resource Type of
8920 "oic.r.media.input" is exposed.
8921 When a Device exposes output sources then an instance of this resource with a Resource Type of
8922 "oic.r.media.output" is exposed.
8923 A device that exposes both input and output media sources then exposes two instances of this
8924 resource,
8925 one with a Resource Type of "oic.r.media.input" and one with a resource type of
8926 "oic.r.media.output"
8927

8928 **6.44.2 Example URI**

8929 /mediaSourceListResURI

8930 **6.44.3 Resource type**

8931 The Resource Type is defined as: "oic.r.mediasourcelist".

8932 **6.44.4 OpenAPI 2.0 definition**

```
8933 {
8934   "swagger": "2.0",
8935   "info": {
8936     "title": "Media Source List",
8937     "version": "20190215",
8938     "license": {
8939       "name": "OCF Data Model License",
8940       "url":
8941         "https://github.com/openconnectivityfoundation/core/blob/e28a9e0a92e17042ba3e83661e4c0fbce8bdc4ba/LI
8942         CENSE.md",
8943       "x-copyright": "copyright 2016-2017, 2019 Open Connectivity Foundation, Inc. All rights
8944       reserved."
8945     },
8946   },
8947 }
```

```

8946     "termsOfService": "https://openconnectivityfoundation.github.io/core/DISCLAIMER.md"
8947   },
8948   "schemes": ["http"],
8949   "consumes": ["application/json"],
8950   "produces": ["application/json"],
8951   "paths": {
8952     "/mediaSourceListResURI" : {
8953       "get": {
8954         "description": "This Resource provides the list of media sources available on the
8955 Device.\nThe sources are an array of mediaSource(s) as separately defined see Resource Type
8956 \"oic.r.mediasource\".\n\nThe basic Resource Type \"oic.r.mediasourcelist\" does not provide any
8957 indications whether the source is input or output.\nHence, two specializations of this resource
8958 exist.\n\nWhen a device exposes input sources then an instance of this resource with a Resource Type
8959 of \"oic.r.media.input\" is exposed.\n\nWhen a Device exposes output sources then an instance of this
8960 resource with a Resource Type of \"oic.r.media.output\" is exposed.\n\nA device that exposes both
8961 input and output media sources then exposes two instances of this resource,\none with a Resource
8962 Type of \"oic.r.media.input\" and one with a resource type of \"oic.r.media.output\".\n\n",
8963       "parameters": [
8964         { "$ref": "#/parameters/interface" }
8965       ],
8966       "responses": {
8967         "200": {
8968           "description": "",
8969           "x-example":
8970             {
8971               "rt": ["oic.r.mediasourcelist"],
8972               "if": ["oic.if.a", "oic.if.baseline"],
8973               "sources": [
8974                 {
8975                   "sourceName": "HDMI-CEC",
8976                   "sourceNumber": "1",
8977                   "sourceType": "audioPlusVideo",
8978                   "status": true
8979                 },
8980                 {
8981                   "sourceName": "dualRCA",
8982                   "sourceNumber": "1",
8983                   "sourceType": "audioOnly",
8984                   "status": false
8985                 }
8986               ]
8987             },
8988       "schema": { "$ref": "#/definitions/mediaSourceList" }
8989     }
8990   }
8991 },
8992 "post": {
8993   "description": "Changes the status of the source(s).\n\nAllows changes of the sourceName and
8994 the status. The array index at sourceNumber will be changed.",
8995   "parameters": [
8996     { "$ref": "#/parameters/interface" },
8997     {
8998       "name": "body",
8999       "in": "body",
9000       "required": true,
9001       "schema": { "$ref": "#/definitions/mediaSourceList" },
9002       "x-example":
9003         {
9004           "sources": [
9005             {
9006               "sourceName": "my new name",
9007               "sourceNumber": "1",
9008               "status": true
9009             }
9010           ]
9011         }
9012     }
9013   ],
9014   "responses": {
9015     "200": {
9016       "description": "",
9017       "x-example":

```

```

9018         {
9019             "sources": [
9020                 {
9021                     "sourceName": "my new name",
9022                     "sourceNumber": "1",
9023                     "status": true
9024                 }
9025             ]
9026         },
9027         "schema": { "$ref": "#/definitions/mediaSourceList" }
9028     }
9029 }
9030 }
9031 },
9032 },
9033 "parameters": {
9034     "interface": {
9035         "in": "query",
9036         "name": "if",
9037         "type": "string",
9038         "enum": ["oic.if.a", "oic.if.baseline"]
9039     }
9040 },
9041 "definitions": {
9042     "mediaSourceList" : {
9043         "properties": {
9044             "rt": {
9045                 "description": "The Resource Type.",
9046                 "items": {
9047                     "enum": ["oic.r.mediasourcelist"],
9048                     "maxLength": 64,
9049                     "type": "string"
9050                 },
9051                 "minItems": 1,
9052                 "uniqueItems": true,
9053                 "readOnly": true,
9054                 "type": "array"
9055             },
9056             "sources": {
9057                 "items": {
9058                     "properties": {
9059                         "sourceName": {
9060                             "description": "Specifies a pre-defined media input or output.",
9061                             "type": "string"
9062                         },
9063                         "sourceNumber": {
9064                             "description": "Numeric identifier to specify the instance.",
9065                             "readOnly": true,
9066                             "type": [
9067                                 "integer",
9068                                 "string"
9069                             ]
9070                         },
9071                         "sourceType": {
9072                             "description": "Specifies the type of the source.",
9073                             "enum": [
9074                                 "audioOnly",
9075                                 "videoOnly",
9076                                 "audioPlusVideo"
9077                             ],
9078                             "readOnly": true,
9079                             "type": "string"
9080                         },
9081                         "status": {
9082                             "description": "Specifies if the specific source instance is selected or not.",
9083                             "type": "boolean"
9084                         }
9085                     },
9086                     "type": "object"
9087                 },
9088                 "type": "array"
9089             },

```

```

9090     "n": {
9091         "$ref":
9092         "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
9093         schema.json#/definitions/n"
9094     },
9095     "id": {
9096         "$ref":
9097         "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
9098         schema.json#/definitions/id"
9099     },
9100     "if": {
9101         "description": "The OCF Interface set supported by this Resource.",
9102         "items": {
9103             "enum": [
9104                 "oic.if.a",
9105                 "oic.if.baseline"
9106             ],
9107             "type": "string"
9108         },
9109         "minItems": 2,
9110         "uniqueItems": true,
9111         "readOnly": true,
9112         "type": "array"
9113     }
9114 },
9115 "type": "object",
9116 "required": ["sources"]
9117 }
9118 }
9119 }
9120

```

9121 **6.44.5 Property definition**

9122 Table 91 defines the Properties that are part of the "oic.r.mediasourcelist" Resource Type.

9123 **Table 91 – The Property definitions of the Resource with type "rt" =**
9124 **"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	

9125 **6.44.6 CRUDN behaviour**

9126 Table 92 defines the CRUDN operations that are supported on the "oic.r.mediasourcelist" Resource
9127 Type.

9128 **Table 92 – The CRUDN operations of the Resource with type "rt" = "oic.r.mediasourcelist".**

Create	Read	Update	Delete	Notify
	get	post		observe

9129 **6.45 Media Source Input**

9130 **6.45.1 Introduction**

9131 This resource provides the list of input media sources available on the device.
 9132 The sources are an array of mediaSource(s) see Resource Type "oic.r.mediasource"
 9133

9134 **6.45.2 Example URI**

9135 /mediaSourceInputResURI

9136 **6.45.3 Resource type**

9137 The Resource Type is defined as: "oic.r.media.input".

9138 **6.45.4 OpenAPI 2.0 definition**

```

9139 {
9140   "swagger": "2.0",
9141   "info": {
9142     "title": "Media Source Input",
9143     "version": "20190215",
9144     "license": {
9145       "name": "OCF Data Model License",
9146       "url":
9147         "https://github.com/openconnectivityfoundation/core/blob/e28a9e0a92e17042ba3e83661e4c0fbce8bdc4ba/LI
9148         CENSE.md",
9149       "x-copyright": "copyright 2016-2017, 2019 Open Connectivity Foundation, Inc. All rights
9150         reserved."
9151     },
9152     "termsOfService": "https://openconnectivityfoundation.github.io/core/DISCLAIMER.md"
9153   },
9154   "schemes": ["http"],
9155   "consumes": ["application/json"],
9156   "produces": ["application/json"],
9157   "paths": {
9158     "/mediaSourceInputResURI" : {
9159       "get": {
9160         "description": "This resource provides the list of input media sources available on the
9161         device.\n\nThe sources are an array of mediaSource(s) see Resource Type \"oic.r.mediasource\"\n\n",
9162         "parameters": [
9163           {"$ref": "#/parameters/interface"}
9164         ],
9165         "responses": {
9166           "200": {
9167             "description": "",
9168             "x-example":
9169               {
9170                 "rt": ["oic.r.media.input"],
9171                 "if": ["oic.if.a", "oic.if.baseline"],
9172                 "sources": [
9173                   {
9174                     "sourceName": "HDMI-CEC",
9175                     "sourceNumber": "1",
9176                     "sourceType": "audioPlusVideo",
9177                     "status": true
9178                   },
9179                   {
9180                     "sourceName": "dualRCA",
9181                     "sourceNumber": "1",
9182                     "sourceType": "audioOnly",
9183                     "status": false

```

```

9184         }
9185     ]
9186 },
9187     "schema": { "$ref": "#/definitions/mediaSourceList" }
9188 }
9189 }
9190 },
9191     "post": {
9192         "description": "Changes the status of the source(s).\nAllows changes of the sourceName and
9193 the status.The array index at sourceNumber will be changed.",
9194         "parameters": [
9195             { "$ref": "#/parameters/interface" },
9196             {
9197                 "name": "body",
9198                 "in": "body",
9199                 "required": true,
9200                 "schema": { "$ref": "#/definitions/mediaSourceList" },
9201                 "x-example":
9202                     {
9203                         "sources": [
9204                             {
9205                                 "sourceName": "my new name",
9206                                 "sourceNumber": "1",
9207                                 "status": true
9208                             }
9209                         ]
9210                     }
9211             }
9212         ],
9213         "responses": {
9214             "200": {
9215                 "description": "",
9216                 "x-example":
9217                     {
9218                         "sources": [
9219                             {
9220                                 "sourceName": "my new name",
9221                                 "sourceNumber": "1",
9222                                 "status": true
9223                             }
9224                         ]
9225                     }
9226             },
9227             "schema": { "$ref": "#/definitions/mediaSourceList" }
9228         }
9229     }
9230 }
9231 },
9232 },
9233 "parameters": {
9234     "interface": {
9235         "in": "query",
9236         "name": "if",
9237         "type": "string",
9238         "enum": ["oic.if.a", "oic.if.baseline"]
9239     }
9240 },
9241 "definitions": {
9242     "mediaSourceList" : {
9243         "properties": {
9244             "rt": {
9245                 "description": "Resource Type",
9246                 "items": {
9247                     "enum": ["oic.r.media.input"],
9248                     "maxLength": 64,
9249                     "type": "string"
9250                 },
9251                 "minItems": 1,
9252                 "uniqueItems": true,
9253                 "readOnly": true,
9254                 "type": "array"
9255             },

```

```

9256     "sources": {
9257         "items": {
9258             "properties": {
9259                 "sourceName": {
9260                     "description": "Specifies a pre-defined media input or output",
9261                     "type": "string"
9262                 },
9263                 "sourceNumber": {
9264                     "description": "Numeric identifier to specify the instance",
9265                     "readOnly": true,
9266                     "type": [
9267                         "integer",
9268                         "string"
9269                     ]
9270                 },
9271                 "sourceType": {
9272                     "description": "Specifies the type of the source",
9273                     "enum": [
9274                         "audioOnly",
9275                         "videoOnly",
9276                         "audioPlusVideo"
9277                     ],
9278                     "readOnly": true,
9279                     "type": "string"
9280                 },
9281                 "status": {
9282                     "description": "Specifies if the specific source instance is selected or not",
9283                     "type": "boolean"
9284                 }
9285             },
9286             "type": "object"
9287         },
9288         "type": "array"
9289     },
9290     "n": {
9291         "$ref":
9292         "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
9293         schema.json#/definitions/n"
9294     },
9295     "id": {
9296         "$ref":
9297         "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
9298         schema.json#/definitions/id"
9299     },
9300     "if": {
9301         "description": "The interface set supported by this resource",
9302         "items": {
9303             "enum": [
9304                 "oic.if.a",
9305                 "oic.if.baseline"
9306             ],
9307             "type": "string"
9308         },
9309         "minItems": 2,
9310         "uniqueItems": true,
9311         "readOnly": true,
9312         "type": "array"
9313     }
9314 },
9315 "type": "object",
9316 "required": ["sources"]
9317 }
9318 }
9319 }
9320

```

9321 6.45.5 Property definition

9322 Table 93 defines the Properties that are part of the "oic.r.media.input" Resource Type.

9323 **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	

9324 **6.45.6 CRUDN behaviour**

9325 Table 94 defines the CRUDN operations that are supported on the "oic.r.media.input" Resource
9326 Type.

9327 **Table 94 – The CRUDN operations of the Resource with type "rt" = "oic.r.media.input".**

Create	Read	Update	Delete	Notify
	get	post		observe

9328 **6.46 Media Source Output**

9329 **6.46.1 Introduction**

9330 This resource provides the list of output media sources available on the device.
9331 The sources are an array of mediaSource(s) see Resource Type "oic.r.mediasource"

9332 **6.46.2 Example URI**

9333 /mediaSourceOutputResURI

9334 **6.46.3 Resource type**

9335 The Resource Type is defined as: "oic.r.media.output".

9336 **6.46.4 OpenAPI 2.0 definition**

```
9337 {
9338   "swagger": "2.0",
9339   "info": {
9340     "title": "Media Source Output",
9341     "version": "20190215",
9342     "license": {
9343       "name": "OCF Data Model License",
9344       "url":
9345         "https://github.com/openconnectivityfoundation/core/blob/e28a9e0a92e17042ba3e83661e4c0fbce8bdc4ba/LI
9346         CENSE.md",
9347       "x-copyright": "copyright 2016-2017, 2019 Open Connectivity Foundation, Inc. All rights
9348       reserved."

```

```

9349     },
9350     "termsOfService": "https://openconnectivityfoundation.github.io/core/DISCLAIMER.md"
9351 },
9352 "schemes": ["http"],
9353 "consumes": ["application/json"],
9354 "produces": ["application/json"],
9355 "paths": {
9356   "/mediaSourceOutputResURI" : {
9357     "get": {
9358       "description": "This resource provides the list of output media sources available on the
9359 device.\nThe sources are an array of mediaSource(s) see Resource Type \"oic.r.mediasource\"",
9360       "parameters": [
9361         { "$ref": "#/parameters/interface" }
9362       ],
9363       "responses": {
9364         "200": {
9365           "description": "",
9366           "x-example":
9367             {
9368               "rt": ["oic.r.media.output"],
9369               "if": ["oic.if.a", "oic.if.baseline"],
9370               "sources": [
9371                 {
9372                   "sourceName": "HDMI-CEC",
9373                   "sourceNumber": "1",
9374                   "sourceType": "audioPlusVideo",
9375                   "status": true
9376                 },
9377                 {
9378                   "sourceName": "dualRCA",
9379                   "sourceNumber": "1",
9380                   "sourceType": "audioOnly",
9381                   "status": false
9382                 }
9383               ]
9384             },
9385           "schema": { "$ref": "#/definitions/mediaSourceList" }
9386         }
9387       }
9388     },
9389     "post": {
9390       "description": "Changes the status of the source(s).\nAllows changes of the sourceName and
9391 the status. The array index at sourceNumber will be changed.",
9392       "parameters": [
9393         { "$ref": "#/parameters/interface" },
9394         {
9395           "name": "body",
9396           "in": "body",
9397           "required": true,
9398           "schema": { "$ref": "#/definitions/mediaSourceList" },
9399           "x-example":
9400             {
9401               "sources": [
9402                 {
9403                   "sourceName": "my new name",
9404                   "sourceNumber": "1",
9405                   "status": true
9406                 }
9407               ]
9408             }
9409         }
9410       ],
9411       "responses": {
9412         "200": {
9413           "description": "",
9414           "x-example":
9415             {
9416               "sources": [
9417                 {
9418                   "sourceName": "my new name",
9419                   "sourceNumber": "1",
9420                   "status": true

```

```

9421         }
9422     ]
9423 },
9424     "schema": { "$ref": "#/definitions/mediaSourceList" }
9425 }
9426 }
9427 }
9428 }
9429 },
9430 "parameters": {
9431     "interface": {
9432         "in": "query",
9433         "name": "if",
9434         "type": "string",
9435         "enum": ["oic.if.a", "oic.if.baseline"]
9436     }
9437 },
9438 "definitions": {
9439     "mediaSourceList": {
9440         "properties": {
9441             "rt": {
9442                 "description": "Resource Type",
9443                 "items": {
9444                     "enum": ["oic.r.media.output"],
9445                     "maxLength": 64,
9446                     "type": "string"
9447                 },
9448                 "minItems": 1,
9449                 "uniqueItems": true,
9450                 "readOnly": true,
9451                 "type": "array"
9452             },
9453             "sources": {
9454                 "items": {
9455                     "properties": {
9456                         "sourceName": {
9457                             "description": "Specifies a pre-defined media input or output.",
9458                             "type": "string"
9459                         },
9460                         "sourceNumber": {
9461                             "description": "Numeric identifier to specify the instance.",
9462                             "readOnly": true,
9463                             "type": [
9464                                 "integer",
9465                                 "string"
9466                             ]
9467                         },
9468                         "sourceType": {
9469                             "description": "Specifies the type of the source.",
9470                             "enum": [
9471                                 "audioOnly",
9472                                 "videoOnly",
9473                                 "audioPlusVideo"
9474                             ],
9475                             "readOnly": true,
9476                             "type": "string"
9477                         },
9478                         "status": {
9479                             "description": "Specifies if the specific source instance is selected or not.",
9480                             "type": "boolean"
9481                         }
9482                     },
9483                     "type": "object"
9484                 },
9485                 "type": "array"
9486             },
9487             "n": {
9488                 "$ref":
9489                 "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
9490                 schema.json#/definitions/n"
9491             },
9492             "id": {

```

```

9493         "$ref":
9494         "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
9495         schema.json#/definitions/id"
9496     },
9497     "if": {
9498         "description": "The OCF Interface set supported by this Resource.",
9499         "items": {
9500             "enum": [
9501                 "oic.if.a",
9502                 "oic.if.baseline"
9503             ],
9504             "type": "string"
9505         },
9506         "minItems": 2,
9507         "uniqueItems": true,
9508         "readOnly": true,
9509         "type": "array"
9510     }
9511 },
9512 "type": "object",
9513 "required": ["sources"]
9514 }
9515 }
9516 }
9517

```

9518 **6.46.5 Property definition**

9519 Table 95 defines the Properties that are part of the "oic.r.media.output" Resource Type.

9520 **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.

9521 **6.46.6 CRUDN behaviour**

9522 Table 96 defines the CRUDN operations that are supported on the "oic.r.media.output" Resource
9523 Type.

9524 **Table 96 – The CRUDN operations of the Resource with type "rt" = "oic.r.media.output".**

Create	Read	Update	Delete	Notify

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

9525 **6.47 Motion Sensor**

9526 **6.47.1 Introduction**

9527 This Resource describes whether motion has been sensed or not.
 9528 The Property "value" is a boolean.
 9529 A value of 'true' means that motion has been sensed.
 9530 A value of 'false' means that motion not been sensed.
 9531

9532 **6.47.2 Example URI**

9533 /MotionResURI

9534 **6.47.3 Resource type**

9535 The Resource Type is defined as: "oic.r.sensor.motion".

9536 **6.47.4 OpenAPI 2.0 definition**

```

9537 {
9538   "swagger": "2.0",
9539   "info": {
9540     "title": "Motion Sensor",
9541     "version": "20190215",
9542     "license": {
9543       "name": "OCF Data Model License",
9544       "url":
9545         "https://github.com/openconnectivityfoundation/core/blob/e28a9e0a92e17042ba3e83661e4c0fbce8bdc4ba/LI
9546         CENSE.md",
9547       "x-copyright": "copyright 2016-2017, 2019 Open Connectivity Foundation, Inc. All rights
9548       reserved."
9549     },
9550     "termsOfService": "https://openconnectivityfoundation.github.io/core/DISCLAIMER.md"
9551   },
9552   "schemes": ["http"],
9553   "consumes": ["application/json"],
9554   "produces": ["application/json"],
9555   "paths": {
9556     "/MotionResURI" : {
9557       "get": {
9558         "description": "This Resource describes whether motion has been sensed or not.\n
9559         The Property \"value\" is a boolean.\n
9560         A value of 'true' means that motion has been sensed.\n
9561         A value of 'false' means that motion not been sensed.\n",
9562         "parameters": [
9563           { "$ref": "#/parameters/interface" }
9564         ],
9565         "responses": {
9566           "200": {
9567             "description": "",
9568             "x-example":
9569               {
9570                 "rt": ["oic.r.sensor.motion"],
9571                 "if": ["oic.if.s", "oic.if.baseline"],
9572                 "value": true
9573               },
9574             "schema": { "$ref": "#/definitions/Motion" }
9575           }
9576         }
9577       }
9578     },
9579     "parameters": {
9580       "interface" : {
9581         "in" : "query",
9582         "name" : "if",
9583         "type" : "string",

```



```

9584     "enum" : ["oic.if.s", "oic.if.baseline"]
9585   }
9586 },
9587 "definitions": {
9588   "Motion" : {
9589     "properties": {
9590       "rt": {
9591         "description": "The Resource Type.",
9592         "items": {
9593           "enum": ["oic.r.sensor.motion"],
9594           "maxLength": 64,
9595           "type": "string"
9596         },
9597         "minItems": 1,
9598         "uniqueItems": true,
9599         "readOnly": true,
9600         "type": "array"
9601       },
9602       "value": {
9603         "description": "The motion sensor, true = motion sensed, false = motion not sensed.",
9604         "readOnly": true,
9605         "type": "boolean"
9606       },
9607       "n": {
9608         "$ref":
9609 "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
9610 schema.json#/definitions/n"
9611       },
9612       "id": {
9613         "$ref":
9614 "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
9615 schema.json#/definitions/id"
9616       },
9617       "if": {
9618         "description": "The OCF Interface set supported by this Resource.",
9619         "items": {
9620           "enum": [
9621             "oic.if.s",
9622             "oic.if.baseline"
9623           ],
9624           "type": "string"
9625         },
9626         "minItems": 2,
9627         "uniqueItems": true,
9628         "readOnly": true,
9629         "type": "array"
9630       }
9631     },
9632     "type": "object",
9633     "required": ["value"]
9634   }
9635 }
9636 }
9637

```

9638 **6.47.5 Property definition**

9639 Table 97 defines the Properties that are part of the "oic.r.sensor.motion" Resource Type.

9640 **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	

9641 **6.47.6 CRUDN behaviour**

9642 Table 98 defines the CRUDN operations that are supported on the "oic.r.sensor.motion" Resource
9643 Type.

9644 **Table 98 – The CRUDN operations of the Resource with type "rt" = "oic.r.sensor.motion".**

Create	Read	Update	Delete	Notify
	get			observe

9645 **6.48 Night Mode**

9646 **6.48.1 Introduction**

9647 This Resource describes a night mode on/off feature.
9648 A nightMode value of 'true' means that the feature is on.
9649 A nightMode value of 'false' means that the feature is off.

9650 **6.48.2 Example URI**

9651 /NightModeResURI

9652 **6.48.3 Resource type**

9653 The Resource Type is defined as: "oic.r.nightmode".

9654 **6.48.4 OpenAPI 2.0 definition**

```
9655 {
9656   "swagger": "2.0",
9657   "info": {
9658     "title": "Night Mode",
9659     "version": "20190215",
9660     "license": {
9661       "name": "OCF Data Model License",
9662       "url":
9663         "https://github.com/openconnectivityfoundation/core/blob/e28a9e0a92e17042ba3e83661e4c0fbce8bdc4ba/LI
9664         CENSE.md",
9665       "x-copyright": "copyright 2016-2017, 2019 Open Connectivity Foundation, Inc. All rights
9666         reserved."
9667     },
9668     "termsOfService": "https://openconnectivityfoundation.github.io/core/DISCLAIMER.md"
9669   },
9670   "schemes": ["http"],
9671   "consumes": ["application/json"],
9672   "produces": ["application/json"],
```

```

9673     "paths": {
9674         "/NightModeResURI" : {
9675             "get": {
9676                 "description": "This Resource describes a night mode on/off feature.\nA nightMode value of
9677 'true' means that the feature is on.\nA nightMode value of 'false' means that the feature is off.",
9678                 "parameters": [
9679                     {"$ref": "#/parameters/interface"}
9680                 ],
9681                 "responses": {
9682                     "200": {
9683                         "description": "",
9684                         "x-example":
9685                             {
9686                                 "rt": ["oic.r.nightmode"],
9687                                 "if": ["oic.if.a", "oic.if.baseline"],
9688                                 "nightMode": false
9689                             },
9690                     "schema": { "$ref": "#/definitions/NightMode" }
9691                 }
9692             }
9693         },
9694         "post": {
9695             "description": "",
9696             "parameters": [
9697                 {"$ref": "#/parameters/interface"},
9698                 {
9699                     "name": "body",
9700                     "in": "body",
9701                     "required": true,
9702                     "schema": { "$ref": "#/definitions/NightMode" },
9703                     "x-example":
9704                         {
9705                             "nightMode": true
9706                         }
9707                 }
9708             ],
9709             "responses": {
9710                 "200": {
9711                     "description": "",
9712                     "x-example":
9713                         {
9714                             "nightMode": true
9715                         },
9716                     "schema": { "$ref": "#/definitions/NightMode" }
9717                 }
9718             }
9719         }
9720     },
9721     "parameters": {
9722         "interface": {
9723             "in": "query",
9724             "name": "if",
9725             "type": "string",
9726             "enum": ["oic.if.a", "oic.if.baseline"]
9727         }
9728     },
9729     "definitions": {
9730         "NightMode" : {
9731             "properties": {
9732                 "rt": {
9733                     "description": "The Resource Type.",
9734                     "items": {
9735                         "enum": ["oic.r.nightmode"],
9736                         "maxLength": 64,
9737                         "type": "string"
9738                     },
9739                     "minItems": 1,
9740                     "uniqueItems": true,
9741                     "readOnly": true,
9742                     "type": "array"
9743                 }
9744             }

```

```

9745     "nightMode": {
9746         "description": "The status of the Night Mode.",
9747         "type": "boolean"
9748     },
9749     "n": {
9750         "$ref":
9751 "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
9752 schema.json#/definitions/n"
9753     },
9754     "id": {
9755         "$ref":
9756 "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
9757 schema.json#/definitions/id"
9758     },
9759     "if": {
9760         "description": "The OCF Interface set supported by this Resource.",
9761         "items": {
9762             "enum": [
9763                 "oic.if.a",
9764                 "oic.if.baseline"
9765             ],
9766             "type": "string"
9767         },
9768         "minItems": 2,
9769         "uniqueItems": true,
9770         "readOnly": true,
9771         "type": "array"
9772     }
9773 },
9774 "type": "object",
9775 "required": ["nightMode"]
9776 }
9777 }
9778 }
9779

```

9780 **6.48.5 Property definition**

9781 Table 99 defines the Properties that are part of the "oic.r.nightmode" Resource Type.

9782 **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	

9783 **6.48.6 CRUDN behaviour**

9784 Table 100 defines the CRUDN operations that are supported on the "oic.r.nightmode" Resource
9785 Type.

9786 **Table 100 – The CRUDN operations of the Resource with type "rt" = "oic.r.nightmode".**

Create	Read	Update	Delete	Notify
	get	post		observe

9787 **6.49 Presence Sensor**

9788 **6.49.1 Introduction**

9789 This Resource describes whether presence has been sensed or not.
9790 The Property "value" is a boolean.
9791 A value of 'true' means that presence has been sensed.
9792 A value of 'false' means that presence not been sensed.

9793 **6.49.2 Example URI**

9794 /PresenceResURI

9795 **6.49.3 Resource type**

9796 The Resource Type is defined as: "oic.r.sensor.presence".

9797 **6.49.4 OpenAPI 2.0 definition**

```
9798 {
9799   "swagger": "2.0",
9800   "info": {
9801     "title": "Presence Sensor",
9802     "version": "20190215",
9803     "license": {
9804       "name": "OCF Data Model License",
9805       "url":
9806         "https://github.com/openconnectivityfoundation/core/blob/e28a9e0a92e17042ba3e83661e4c0fbce8bdc4ba/LI
9807         CENSE.md",
9808       "x-copyright": "copyright 2016-2017, 2019 Open Connectivity Foundation, Inc. All rights
9809         reserved."
9810     },
9811     "termsOfService": "https://openconnectivityfoundation.github.io/core/DISCLAIMER.md"
9812   },
9813   "schemes": ["http"],
9814   "consumes": ["application/json"],
9815   "produces": ["application/json"],
9816   "paths": {
9817     "/PresenceResURI" : {
9818       "get": {
9819         "description": "This Resource describes whether presence has been sensed or not.\n\nThe
9820         Property \"value\" is a boolean.\n\nA value of 'true' means that presence has been sensed.\n\nA value of
9821         'false' means that presence not been sensed.",
9822         "parameters": [
9823           {"$ref": "#/parameters/interface"}
9824         ],
9825         "responses": {
9826           "200": {
9827             "description": "",
9828             "x-example":
9829               {
9830                 "rt": ["oic.r.sensor.presence"],
9831                 "if": ["oic.if.s", "oic.if.baseline"],
9832                 "value": true
9833               },
9834             "schema": { "$ref": "#/definitions/Presence" }
9835           }
9836         }
9837       }
9838     }
9839   }
9840 }
```

```

9836     }
9837   }
9838 }
9839 },
9840 "parameters": {
9841   "interface": {
9842     "in": "query",
9843     "name": "if",
9844     "type": "string",
9845     "enum": ["oic.if.s", "oic.if.baseline"]
9846   }
9847 },
9848 "definitions": {
9849   "Presence" : {
9850     "properties": {
9851       "rt": {
9852         "description": "The Resource Type.",
9853         "items": {
9854           "enum": ["oic.r.sensor.presence"],
9855           "maxLength": 64,
9856           "type": "string"
9857         },
9858         "minItems": 1,
9859         "uniqueItems": true,
9860         "readOnly": true,
9861         "type": "array"
9862       },
9863       "value": {
9864         "description": "The presences sensor, true = precense sensed, false = precensent
9865 sensed.",
9866         "readOnly": true,
9867         "type": "boolean"
9868       },
9869       "n": {
9870         "$ref":
9871 "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
9872 schema.json#/definitions/n"
9873       },
9874       "id": {
9875         "$ref":
9876 "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
9877 schema.json#/definitions/id"
9878       },
9879       "if": {
9880         "description": "The OCF Interface set supported by this Resource.",
9881         "items": {
9882           "enum": [
9883             "oic.if.s",
9884             "oic.if.baseline"
9885           ],
9886           "type": "string"
9887         },
9888         "minItems": 2,
9889         "uniqueItems": true,
9890         "readOnly": true,
9891         "type": "array"
9892       }
9893     },
9894     "type": "object",
9895     "required": ["value"]
9896   }
9897 }
9898 }
9899

```

9900 **6.49.5 Property definition**

9901 Table 101 defines the Properties that are part of the "oic.r.sensor.presence" Resource Type.

9902
9903

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	

9904 **6.49.6 CRUDN behaviour**

9905 Table 102 defines the CRUDN operations that are supported on the "oic.r.sensor.presence"
9906 Resource Type.

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

Create	Read	Update	Delete	Notify
	get			observe

9909 **6.50 Pan Tilt Zoom Movement**

9910 **6.50.1 Introduction**

9911 This Resource specifies the pan tilt and zoom capabilities of a device.
9912 The Resource Type is dynamic and reflects whether the values apply to
9913 physical movement of the device or digital/virtual enhancements to the image.
9914 For physical movement the Resource Type is "oic.r.movement.ptz".
9915 For digital/virtual image enhancements the Resource Type is "oic.r.image.ptz".
9916 The Properties "pan" and "tilt" are specified in degrees.
9917 The Property "zoomFactor" is a value in the range 1-100 for linear (optical) zoom.
9918 The zoom factor is a value in the range [1x, 2x, 4x, 8x, 16x, 32x] for digital zoom.
9919 If there is no zoom value to set the zoom factor shall be '1x'.
9920 The value 0 degrees means neutral, this is a vendor defined setting.
9921 Note that this resource also can be used to create an offset for physical movement.
9922 When that is the case, the Resource Type value is: "oic.r.movement.offset.ptz"
9923 Note that this resource also can be used to create an offset for image movement.

9924 When that is the case, the Resource Type value is: "oic.r.image.offset.ptz".
9925 When the Property "pan_range" value is omitted, then the range is [-180.0,180.0].
9926 If "pan" is not supported then the range shall be [0.0,0.0]
9927 When the Property "tilt_range" value is omitted, then the range is [-180.0,180.0].
9928 If "tilt" is not supported then the range shall be [0.0,0.0].

9929 6.50.2 Example URI

9930 /PanTiltZoomResURI

9931 6.50.3 Resource type

9932 The Resource Type is defined as: "oic.r.ptz".

9933 6.50.4 OpenAPI 2.0 definition

```
9934 {
9935   "swagger": "2.0",
9936   "info": {
9937     "title": "Pan Tilt Zoom Movement",
9938     "version": "20190215",
9939     "license": {
9940       "name": "OCF Data Model License",
9941       "url":
9942         "https://github.com/openconnectivityfoundation/core/blob/e28a9e0a92e17042ba3e83661e4c0fbce8bdc4ba/LI
9943         CENSE.md",
9944       "x-copyright": "copyright 2016-2017, 2019 Open Connectivity Foundation, Inc. All rights
9945         reserved."
9946     },
9947     "termsOfService": "https://openconnectivityfoundation.github.io/core/DISCLAIMER.md"
9948   },
9949   "schemes": ["http"],
9950   "consumes": ["application/json"],
9951   "produces": ["application/json"],
9952   "paths": {
9953     "/PanTiltZoomResURI" : {
9954       "get": {
9955         "description": "This Resource specifies the pan tilt and zoom capabilities of a device.\nThe
9956         Resource Type is dynamic and reflects whether the values apply to\n physical movement of the device
9957         or digital/virtual enhancements to the image.\nFor physical movement the Resource Type is
9958         \"oic.r.movement.ptz\".\nFor digital/virtual image enhancements the Resource Type is
9959         \"oic.r.image.ptz\".\nThe Properties \"pan\" and \"tilt\" are specified in degrees.\nThe Property
9960         \"zoomFactor\" is a value in the range 1-100 for linear (optical) zoom.\nThe zoom factor is a value
9961         in the range [1x, 2x, 4x, 8x, 16x, 32x] for digital zoom.\nIf there is no zoom value to set the zoom
9962         factor shall be '1x'.\nThe value 0 degrees means neutral, this is a vendor defined setting.\nNote
9963         that this resource also can be used to create an offset for physical movement.\nWhen that is the
9964         case, the Resource Type value is: \"oic.r.movement.offset.ptz\".\nNote that this resource also can be
9965         used to create an offset for image movement.\nWhen that is the case, the Resource Type value is:
9966         \"oic.r.image.offset.ptz\".\nWhen the Property \"pan_range\" value is omitted, then the range is [-
9967         180.0,180.0].\nIf \"pan\" is not supported then the range shall be [0.0,0.0]\nWhen the Property
9968         \"tilt_range\" value is omitted, then the range is [-180.0,180.0].\nIf \"tilt\" is not supported
9969         then the range shall be [0.0,0.0].",
9970         "parameters": [
9971           {"$ref": "#/parameters/interface"}
9972         ],
9973         "responses": {
9974           "200": {
9975             "description": "Retrieves the current pan, tilt and zoom setting.",
9976             "x-example":
9977               {
9978                 "rt": ["oic.r.ptz"],
9979                 "if": ["oic.if.a", "oic.if.baseline"],
9980                 "pan": 0.0,
9981                 "tilt": 0.0,
9982                 "zoomFactor": "2x"
9983               },
9984             "schema": { "$ref": "#/definitions/PanTiltZoom" }
9985           }
9986         }
9987       },
9988       "post": {
```



```

9989     "description": "Sets the current pan, tilt and zoom value.",
9990     "parameters": [
9991       { "$ref": "#/parameters/interface" },
9992       {
9993         "name": "body",
9994         "in": "body",
9995         "required": true,
9996         "schema": { "$ref": "#/definitions/PanTiltZoom" },
9997         "x-example":
9998           {
9999             "pan": 10.0,
10000            "tilt": -10.0,
10001            "zoomFactor": "4x"
10002          }
10003       }
10004     ],
10005     "responses": {
10006       "200": {
10007         "description": "",
10008         "x-example":
10009           {
10010             "pan": 10.0,
10011             "tilt": -10.0,
10012             "zoomFactor": "4x"
10013           },
10014         "schema": { "$ref": "#/definitions/PanTiltZoom" }
10015       }
10016     }
10017   }
10018 },
10019 },
10020 "parameters": {
10021   "interface": {
10022     "in": "query",
10023     "name": "if",
10024     "type": "string",
10025     "enum": ["oic.if.a", "oic.if.baseline"]
10026   }
10027 },
10028 "definitions": {
10029   "PanTiltZoom": {
10030     "properties": {
10031       "rt": {
10032         "description": "The Resource Type.",
10033         "items": {
10034           "enum": ["oic.r.ptz"],
10035           "maxLength": 64,
10036           "type": "string"
10037         },
10038         "minItems": 1,
10039         "uniqueItems": true,
10040         "readOnly": true,
10041         "type": "array"
10042       },
10043       "tilt_range": {
10044         "$ref":
10045           "https://openconnectivityfoundation.github.io/IoTDataModels/schemas/oic.baseresource.properties-
10046           schema.json#/definitions/range_number"
10047       },
10048       "zoomFactor": {
10049         "description": "The zoom factor value.",
10050         "type": "string"
10051       },
10052       "tilt": {
10053         "description": "The vertical tilt in degrees.",
10054         "type": "number"
10055       },
10056       "precision": {
10057         "$ref":
10058           "https://openconnectivityfoundation.github.io/IoTDataModels/schemas/oic.baseresource.properties-
10059           schema.json#/definitions/precision"
10060       }
10061     }

```

```

10061         "pan_range": {
10062             "$ref":
10063 "https://openconnectivityfoundation.github.io/IoTDataModels/schemas/oic.baseresource.properties-
10064 schema.json#/definitions/range_number"
10065         },
10066         "zoomFactorRange": {
10067             "description": "The allowed Zoom Factor values. Linear equates to a 1-100 min/max.",
10068             "enum": [
10069                 "linear",
10070                 "1x",
10071                 "2x",
10072                 "4x",
10073                 "8x",
10074                 "16x",
10075                 "32x"
10076             ],
10077             "readOnly": true,
10078             "type": "string"
10079         },
10080         "pan": {
10081             "description": "The horizontal pan in degrees.",
10082             "type": "number"
10083         },
10084         "n": {
10085             "$ref":
10086 "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
10087 schema.json#/definitions/n"
10088         },
10089         "id": {
10090             "$ref":
10091 "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
10092 schema.json#/definitions/id"
10093         },
10094         "if": {
10095             "description": "The OCF Interface set supported by this Resource.",
10096             "items": {
10097                 "enum": [
10098                     "oic.if.a",
10099                     "oic.if.baseline"
10100                 ],
10101                 "type": "string"
10102             },
10103             "minItems": 2,
10104             "uniqueItems": true,
10105             "readOnly": true,
10106             "type": "array"
10107         }
10108     },
10109     "type": "object",
10110     "required": ["pan", "tilt", "zoomFactor"]
10111 }
10112 }
10113 }
10114

```

10115 **6.50.5 Property definition**

10116 Table 103 defines the Properties that are part of the "oic.r.ptz" Resource Type.

10117 **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	

10118 **6.50.6 CRUDN behaviour**

10119 Table 104 defines the CRUDN operations that are supported on the "oic.r.ptz" Resource Type.

10120 **Table 104 – The CRUDN operations of the Resource with type "rt" = "oic.r.ptz".**

Create	Read	Update	Delete	Notify
	get	post		observe

10121 **6.51 Signal Strength**

10122 **6.51.1 Introduction**

10123 This Resource describes the strength of a signal by means of lqi and rssi.

10124 The Property "lqi" is a floating point number that represents Link Quality Indicator.

10125 The Property "rssi" is a floating point number that represents the received signal strength indicator.

10126 **6.51.2 Example URI**

10127 /SignalStrengthResURI

10128 **6.51.3 Resource type**

10129 The Resource Type is defined as: "oic.r.signalstrength".

10130 **6.51.4 OpenAPI 2.0 definition**

```
10131 {
10132   "swagger": "2.0",
10133   "info": {
10134     "title": "Signal Strength",
10135     "version": "20190215",
10136     "license": {
10137       "name": "OCF Data Model License",
10138       "url":
10139         "https://github.com/openconnectivityfoundation/core/blob/e28a9e0a92e17042ba3e83661e4c0fbce8bdc4ba/LI
10140         CENSE.md",
10141       "x-copyright": "copyright 2016-2017, 2019 Open Connectivity Foundation, Inc. All rights
10142         reserved."
10143     },
10144     "termsOfService": "https://openconnectivityfoundation.github.io/core/DISCLAIMER.md"
10145   },
10146   "schemes": ["http"],
10147   "consumes": ["application/json"],
10148   "produces": ["application/json"],
10149   "paths": {
10150     "/SignalStrengthResURI" : {
10151       "get": {
10152         "description": "This Resource describes the strength of a signal by means of lqi and
10153         rssi.\n\nThe Property \"lqi\" is a floating point number that represents Link Quality Indicator.\n\nThe
10154         Property \"rssi\" is a floating point number that represents the received signal strength
10155         indicator.",
10156         "parameters": [
10157           { "$ref": "#/parameters/interface" }
10158         ],
10159         "responses": {
10160           "200": {
10161             "description": "",
10162             "x-example":
10163               {
10164                 "rt": ["oic.r.signalstrength"],
10165                 "if": ["oic.if.s", "oic.if.baseline"],
10166                 "lqi": 10.0,
10167                 "rssi": 55.0
10168               }
10169             ,
10170             "schema": { "$ref": "#/definitions/SignalStrength" }
10171           }
10172         }
10173       }
10174     }
10175   },
10176   "parameters": {
10177     "interface": {
10178       "in": "query",
10179       "name": "if",
10180       "type": "string",
10181       "enum": ["oic.if.s", "oic.if.baseline"]
10182     }
10183   },
10184   "definitions": {
10185     "SignalStrength" : {
10186       "properties": {
10187         "rt": {
10188           "description": "The Resource Type.",
10189           "items": {
10190             "enum": ["oic.r.signalstrength"],
10191             "maxLength": 64,
10192             "type": "string"
10193           },
10194           "minItems": 1,
10195           "uniqueItems": true,
10196           "readOnly": true,
```

```

10197         "type": "array"
10198     },
10199     "lqi": {
10200         "description": "The current value of Link Quality Indicator.",
10201         "readOnly": true,
10202         "type": "number"
10203     },
10204     "rssi": {
10205         "description": "The current value of Received Signal Strength Indicator.",
10206         "readOnly": true,
10207         "type": "number"
10208     },
10209     "n": {
10210         "$ref":
10211         "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
10212         schema.json#/definitions/n"
10213     },
10214     "id": {
10215         "$ref":
10216         "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
10217         schema.json#/definitions/id"
10218     },
10219     "if": {
10220         "description": "The OCF Interface set supported by this Resource.",
10221         "items": {
10222             "enum": [
10223                 "oic.if.s",
10224                 "oic.if.baseline"
10225             ],
10226             "type": "string"
10227         },
10228         "minItems": 2,
10229         "uniqueItems": true,
10230         "readOnly": true,
10231         "type": "array"
10232     }
10233 },
10234 "type": "object",
10235 "required": ["lqi", "rssi"]
10236 }
10237 }
10238 }
10239

```

10240 6.51.5 Property definition

10241 Table 105 defines the Properties that are part of the "oic.r.signalstrength" Resource Type.

10242 **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: schema see	No	Read Only	The Resource Type.
rssi	number	Yes	Read Only	The current value of Received Signal Strength Indicator.

10243 **6.51.6 CRUDN behaviour**

10244 Table 106 defines the CRUDN operations that are supported on the "oic.r.signalstrength" Resource
10245 Type.

10246 **Table 106 – The CRUDN operations of the Resource with type "rt" = "oic.r.signalstrength".**

Create	Read	Update	Delete	Notify
	get			observe

10247 **6.52 Speech Synthesis-TTS**

10248 **6.52.1 Introduction**

10249 This Resource may be created on the OCF Server that is capable of rendering speech by an OCF
10250 Client and allows the client to provide an SSML document with text to render
10251 or may be created on the OIC Server by some resident application.
10252 The audio rendered is at this stage local to the Server (i.e. not streamed).
10253 The utterance is an SSML document.
10254 The supportedLanguages is an array of the RFC5646 defined language tags that are supported.
10255 The supportedVoices is an SSML document fragment indicating the voices that are supported.
10256 Utterance in the example shall be a properly escaped (JSON rules) SSML document. An example:
10257 "<?xml version="1.0" encoding="ISO-8859-1"?>

```

10258
10259
10260 <speak version="1.1" xmlns="http://www.w3.org/2001/10/synthesis"
10261
10262     xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
10263
10264     xsi:schemaLocation="http://www.w3.org/2001/10/synthesis
10265
10266     http://www.w3.org/TR/speech-synthesis11/synthesis.xsd"
10267
10268
10269     xml:lang="en-US">
10270
10271
10272
10273
10274
10275
10276
10277

```

10278 The title of the movie is:
10279
10280
10281 "Monty Pythons The Meaning of Life"
10282
10283
10284 which is directed by Terry Jones.
10285
10286
10287 </speak"
10288

10289 **6.52.2 Example URI**

10290 /SpeechTTSResURI

10291 **6.52.3 Resource type**

10292 The Resource Type is defined as: "oic.r.speech.tts".

10293 **6.52.4 OpenAPI 2.0 definition**

```

10294 {
10295   "swagger": "2.0",
10296   "info": {
10297     "title": "Speech Synthesis-TTS",
10298     "version": "20190215",
10299     "license": {
10300       "name": "OCF Data Model License",
10301       "url":
10302         "https://github.com/openconnectivityfoundation/core/blob/e28a9e0a92e17042ba3e83661e4c0fbce8bdc4ba/LI
10303         CENSE.md",
10304       "x-copyright": "copyright 2016-2017, 2019 Open Connectivity Foundation, Inc. All rights
10305         reserved."
10306     },
10307     "termsOfService": "https://openconnectivityfoundation.github.io/core/DISCLAIMER.md"
10308   },
10309   "schemes": ["http"],
10310   "consumes": ["application/json"],
10311   "produces": ["application/json"],
10312   "paths": {
10313     "/SpeechTTSResURI" : {
10314       "get": {
10315         "description": "This Resource may be created on the OCF Server that is capable of rendering
10316         speech by an OCF Client and allows the client to provide an SSML document with text to render\n or
10317         may be created on the OIC Server by some resident application.\nThe audio rendered is at this stage
10318         local to the Server (i.e. not streamed).\nThe utterance is an SSML document.\nThe supportedLanguages
10319         is an array of the RFC5646 defined language tags that are supported.\nThe supportedVoices is an SSML
10320         document fragment indicating the voices that are supported.\nUtterance in the example shall be a
10321         properly escaped (JSON rules) SSML document. An example:\n \n<?xml version=\"1.0\" encoding=\"ISO-
10322         8859-1\"?>\n\r\n  <speak version=\"1.1\" xmlns=\"http://www.w3.org/2001/10/synthesis\"\n\r\n
10323         \txmlns:xsi=\"http://www.w3.org/2001/XMLSchema-instance\"\n\r\n
10324         \txsi:schemaLocation=\"http://www.w3.org/2001/10/synthesis\n\r\n
10325         \thttp://www.w3.org/TR/speech-synthesis11/synthesis.xsd\"\n\r\n  \txml:lang=\"en-US\>\n\r\n
10326         \n\r\n  \tThe title of the movie is:\n\r\n  \t\"Monty Pythons The Meaning of Life\"\n\r\n  \twhich
10327         is directed by Terry Jones.\n\r\n  </speak\"\n",
10328         "parameters": [
10329           {"$ref": "#/parameters/interface"}
10330         ],
10331         "responses": {
10332           "200": {
10333             "description": "",
10334             "x-example":
10335               {
10336                 "rt": ["oic.r.speech.tts"],
10337                 "if": ["oic.if.a", "oic.if.baseline"],
10338                 "utterance": "Strange women lying in ponds distributing swords is no basis for a
10339                 system of government.",
10340                 "supportedLanguages": ["en-US", "en-GB", "fr-CA"],

```

```

10341         "supportedVoices": "<voice gender=\"female\" variant=\"2\"></voice>\n\r<voice
10342 name=\"Mike\"></voice>"
10343     },
10344     "schema": { "$ref": "#/definitions/Speech" }
10345 }
10346 },
10347 },
10348     "post": {
10349         "description": "Changes the utterance being rendered.\nExample shows a change in language
10350 selected.\n",
10351         "parameters": [
10352             { "$ref": "#/parameters/interface" },
10353             {
10354                 "name": "body",
10355                 "in": "body",
10356                 "required": true,
10357                 "schema": { "$ref": "#/definitions/Speech" },
10358                 "x-example":
10359                     {
10360                         "utterance": "Alright, but apart from the sanitation, the medicine, education, wine,
10361 public order, irrigation, roads, the fresh-water system, and public health, what have the Romans
10362 ever done for us?"
10363                     }
10364             },
10365         ],
10366         "responses": {
10367             "200": {
10368                 "description": "",
10369                 "x-example":
10370                     {
10371                         "utterance": "Alright, but apart from the sanitation, the medicine, education,
10372 wine, public order, irrigation, roads, the fresh-water system, and public health, what have the
10373 Romans ever done for us?"
10374                     },
10375                 "schema": { "$ref": "#/definitions/Speech" }
10376             }
10377         }
10378     }
10379 },
10380 },
10381     "parameters": {
10382         "interface": {
10383             "in": "query",
10384             "name": "if",
10385             "type": "string",
10386             "enum": ["oic.if.a", "oic.if.baseline"]
10387         }
10388     },
10389     "definitions": {
10390         "Speech": {
10391             "properties": {
10392                 "rt": {
10393                     "description": "The Resource Type.",
10394                     "items": {
10395                         "enum": ["oic.r.speech.tts"],
10396                         "maxLength": 64,
10397                         "type": "string"
10398                     },
10399                     "minItems": 1,
10400                     "uniqueItems": true,
10401                     "readOnly": true,
10402                     "type": "array"
10403                 },
10404                 "supportedLanguages": {
10405                     "description": "The array of supported language tags.",
10406                     "items": {
10407                         "type": "string"
10408                     },
10409                     "readOnly": true,
10410                     "type": "array"
10411                 },
10412                 "supportedVoices": {

```



```

10413         "description": "The SSML document fragment indicating supported voices.",
10414         "readOnly": true,
10415         "maxLength": 1024,
10416         "type": "string"
10417     },
10418     "utterance": {
10419         "description": "The SSML document including the speech body.",
10420         "maxLength": 1024,
10421         "type": "string"
10422     },
10423     "n": {
10424         "$ref":
10425         "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
10426         schema.json#/definitions/n"
10427     },
10428     "id": {
10429         "$ref":
10430         "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
10431         schema.json#/definitions/id"
10432     },
10433     "if": {
10434         "description": "The OCF Interface set supported by this Resource.",
10435         "items": {
10436             "enum": [
10437                 "oic.if.a",
10438                 "oic.if.baseline"
10439             ],
10440             "type": "string"
10441         },
10442         "minItems": 2,
10443         "uniqueItems": true,
10444         "readOnly": true,
10445         "type": "array"
10446     }
10447 },
10448 "type": "object",
10449 "required": ["utterance"]
10450 }
10451 }
10452 }
10453

```

10454 6.52.5 Property definition

10455 Table 107 defines the Properties that are part of the "oic.r.speech.tts" Resource Type.

10456 **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.

10457 **6.52.6 CRUDN behaviour**

10458 Table 108 defines the CRUDN operations that are supported on the "oic.r.speech.tts" Resource
 10459 Type.

10460 **Table 108 – The CRUDN operations of the Resource with type "rt" = "oic.r.speech.tts".**

Create	Read	Update	Delete	Notify
	get	post		observe

10461 **6.53 Touch Sensor**

10462 **6.53.1 Introduction**

10463 This Resource describes whether a touch has been sensed or not.
 10464 The Property "value" is a boolean.
 10465 A value of 'true' means that touch has been sensed.
 10466 A value of 'false' means that touch not been sensed.
 10467

10468 **6.53.2 Example URI**

10469 /TouchResURI

10470 **6.53.3 Resource type**

10471 The Resource Type is defined as: "oic.r.sensor.touch".

10472 **6.53.4 OpenAPI 2.0 definition**

```

10473 {
10474   "swagger": "2.0",
10475   "info": {
10476     "title": "Touch Sensor",
10477     "version": "20190215",
10478     "license": {
10479       "name": "OCF Data Model License",
10480       "url":
10481         "https://github.com/openconnectivityfoundation/core/blob/e28a9e0a92e17042ba3e83661e4c0fbce8bdc4ba/LI
10482         CENSE.md",
10483       "x-copyright": "copyright 2016-2017, 2019 Open Connectivity Foundation, Inc. All rights
10484         reserved."
10485     },
10486     "termsOfService": "https://openconnectivityfoundation.github.io/core/DISCLAIMER.md"
10487   },

```

```

10488     "schemes": ["http"],
10489     "consumes": ["application/json"],
10490     "produces": ["application/json"],
10491     "paths": {
10492         "/TouchResURI" : {
10493             "get": {
10494                 "description": "This Resource describes whether a touch has been sensed or not.\nThe
10495 Property \"value\" is a boolean.\nA value of 'true' means that touch has been sensed.\nA value of
10496 'false' means that touch not been sensed.\n",
10497                 "parameters": [
10498                     {"$ref": "#/parameters/interface"}
10499                 ],
10500                 "responses": {
10501                     "200": {
10502                         "description": "",
10503                         "x-example":
10504                             {
10505                                 "rt": ["oic.r.sensor.touch"],
10506                                 "if": ["oic.if.s", "oic.if.baseline"],
10507                                 "value": true
10508                             },
10509                         "schema": { "$ref": "#/definitions/Touch" }
10510                     }
10511                 }
10512             }
10513         },
10514     },
10515     "parameters": {
10516         "interface" : {
10517             "in" : "query",
10518             "name" : "if",
10519             "type" : "string",
10520             "enum" : ["oic.if.s", "oic.if.baseline"]
10521         }
10522     },
10523     "definitions": {
10524         "Touch" : {
10525             "properties": {
10526                 "rt": {
10527                     "description": "The Resource Type.",
10528                     "items": {
10529                         "enum": ["oic.r.sensor.touch"],
10530                         "maxLength": 64,
10531                         "type": "string"
10532                     },
10533                     "minItems": 1,
10534                     "uniqueItems": true,
10535                     "readOnly": true,
10536                     "type": "array"
10537                 },
10538                 "value": {
10539                     "description": "The touch sensor, true = sensed, false = not sensed.",
10540                     "readOnly": true,
10541                     "type": "boolean"
10542                 },
10543                 "n": {
10544                     "$ref":
10545 "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
10546 schema.json#/definitions/n"
10547                 },
10548                 "id": {
10549                     "$ref":
10550 "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
10551 schema.json#/definitions/id"
10552                 },
10553                 "if": {
10554                     "description": "The OCF Interface set supported by this Resource.",
10555                     "items": {
10556                         "enum": [
10557                             "oic.if.s",
10558                             "oic.if.baseline"
10559                         ],

```

```

10560         "type": "string"
10561     },
10562     "minItems": 2,
10563     "uniqueItems": true,
10564     "readOnly": true,
10565     "type": "array"
10566 }
10567 },
10568 "type": "object",
10569 "required": ["value"]
10570 }
10571 }
10572 }
10573

```

10574 **6.53.5 Property definition**

10575 Table 109 defines the Properties that are part of the "oic.r.sensor.touch" Resource Type.

10576 **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	

10577 **6.53.6 CRUDN behaviour**

10578 Table 110 defines the CRUDN operations that are supported on the "oic.r.sensor.touch" Resource
 10579 Type.

10580 **Table 110 – The CRUDN operations of the Resource with type "rt" = "oic.r.sensor.touch".**

Create	Read	Update	Delete	Notify
	get			observe

10581 **6.54 UV Radiation**

10582 **6.54.1 Introduction**

10583 This Resource specifies UV radiation measurement.
 10584 The Property "measurement" is the current measured UV Index

10585 **6.54.2 Example URI**

10586 /UVRadiationResURI

10587 **6.54.3 Resource type**

10588 The Resource Type is defined as: "oic.r.sensor.radiation.uv".

10589 **6.54.4 OpenAPI 2.0 definition**

```
10590 {
10591   "swagger": "2.0",
10592   "info": {
10593     "title": "UV Radiation",
10594     "version": "20190215",
10595     "license": {
10596       "name": "OCF Data Model License",
10597       "url":
10598         "https://github.com/openconnectivityfoundation/core/blob/e28a9e0a92e17042ba3e83661e4c0fbce8bdc4ba/LI
10599         CENSE.md",
10600       "x-copyright": "copyright 2016-2017, 2019 Open Connectivity Foundation, Inc. All rights
10601         reserved."
10602     },
10603     "termsOfService": "https://openconnectivityfoundation.github.io/core/DISCLAIMER.md"
10604   },
10605   "schemes": ["http"],
10606   "consumes": ["application/json"],
10607   "produces": ["application/json"],
10608   "paths": {
10609     "/UVRadiationResURI" : {
10610       "get": {
10611         "description": "This Resource specifies UV radiation measurement.\n\nThe Property
10612         \\"measurement\\" is the current measured UV Index",
10613         "parameters": [
10614           { "$ref": "#/parameters/interface" }
10615         ],
10616         "responses": {
10617           "200": {
10618             "description": "",
10619             "x-example":
10620               {
10621                 "rt": ["oic.r.sensor.radiation.uv"],
10622                 "if": ["oic.if.s", "oic.if.baseline"],
10623                 "measurement": 3.5
10624               }
10625             ,
10626             "schema": { "$ref": "#/definitions/UVRadiation" }
10627           }
10628         }
10629       }
10630     }
10631   },
10632   "parameters": {
10633     "interface": {
10634       "in": "query",
10635       "name": "if",
10636       "type": "string",
10637       "enum": ["oic.if.s", "oic.if.baseline"]
10638     }
10639   },
10640   "definitions": {
10641     "UVRadiation" : {
10642       "properties": {
10643         "rt": {
10644           "description": "The Resource Type.",
10645           "items": {
10646             "enum": ["oic.r.sensor.radiation.uv"],
10647             "maxLength": 64,
10648             "type": "string"
10649           },
10650           "minItems": 1,
10651           "uniqueItems": true,
```

```

10652         "readOnly": true,
10653         "type": "array"
10654     },
10655     "measurement": {
10656         "description": "The measured UV Index.",
10657         "readOnly": true,
10658         "type": "number"
10659     },
10660     "n": {
10661         "$ref":
10662         "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
10663         schema.json#/definitions/n"
10664     },
10665     "id": {
10666         "$ref":
10667         "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
10668         schema.json#/definitions/id"
10669     },
10670     "if" :
10671     {
10672         "description": "The OCF Interface set supported by this Resource.",
10673         "items": {
10674             "enum": [
10675                 "oic.if.s",
10676                 "oic.if.baseline"
10677             ],
10678             "type": "string"
10679         },
10680         "minItems": 2,
10681         "uniqueItems": true,
10682         "readOnly": true,
10683         "type": "array"
10684     }
10685 },
10686 "type": "object",
10687 "required": ["measurement"]
10688 }
10689 }
10690 }
10691

```

6.54.5 Property definition

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

Table 111 – The Property definitions of the Resource with type "rt" = "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	
---	-------------------------------	----	------------	--

10696 **6.54.6 CRUDN behaviour**

10697 Table 112 defines the CRUDN operations that are supported on the "oic.r.sensor.radiation.uv"
10698 Resource Type.

10699 **Table 112 – The CRUDN operations of the Resource with type "rt" =**
10700 **"oic.r.sensor.radiation.uv".**

Create	Read	Update	Delete	Notify
	get			observe

10701 **6.55 Water Sensor**

10702 **6.55.1 Introduction**

10703 This Resource describes whether water has been sensed or not.
10704 The Property "value" is a boolean.
10705 A value of 'true' means that water has been sensed.
10706 A value of 'false' means that water not been sensed.
10707

10708 **6.55.2 Example URI**

10709 /WaterResURI

10710 **6.55.3 Resource type**

10711 The Resource Type is defined as: "oic.r.sensor.water".

10712 **6.55.4 OpenAPI 2.0 definition**

```

10713 {
10714   "swagger": "2.0",
10715   "info": {
10716     "title": "Water Sensor",
10717     "version": "20190215",
10718     "license": {
10719       "name": "OCF Data Model License",
10720       "url":
10721         "https://github.com/openconnectivityfoundation/core/blob/e28a9e0a92e17042ba3e83661e4c0fbce8bdc4ba/LI
10722         CENSE.md",
10723       "x-copyright": "copyright 2016-2017, 2019 Open Connectivity Foundation, Inc. All rights
10724       reserved."
10725     },
10726     "termsOfService": "https://openconnectivityfoundation.github.io/core/DISCLAIMER.md"
10727   },
10728   "schemes": ["http"],
10729   "consumes": ["application/json"],
10730   "produces": ["application/json"],
10731   "paths": {
10732     "/WaterResURI" : {
10733       "get": {
10734         "description": "This Resource describes whether water has been sensed or not.\nThe Property
10735         \"value\" is a boolean.\nA value of 'true' means that water has been sensed.\nA value of 'false'
10736         means that water not been sensed.\n",
10737         "parameters": [
10738           {"$ref": "#/parameters/interface"}
10739         ],
10740         "responses": {
10741           "200": {
10742             "description": ""

```

```

10743         "x-example":
10744             {
10745                 "rt": ["oic.r.sensor.water"],
10746                 "if": ["oic.if.s", "oic.if.baseline"],
10747                 "value": true
10748             },
10749         "schema": { "$ref": "#/definitions/Water" }
10750     }
10751 }
10752 }
10753 }
10754 },
10755 "parameters": {
10756     "interface": {
10757         "in": "query",
10758         "name": "if",
10759         "type": "string",
10760         "enum": ["oic.if.s", "oic.if.baseline"]
10761     }
10762 },
10763 "definitions": {
10764     "Water" : {
10765         "properties": {
10766             "rt": {
10767                 "description": "The Resource Type.",
10768                 "items": {
10769                     "enum": ["oic.r.sensor.water"],
10770                     "maxLength": 64,
10771                     "type": "string"
10772                 },
10773                 "minItems": 1,
10774                 "uniqueItems": true,
10775                 "readOnly": true,
10776                 "type": "array"
10777             },
10778             "value": {
10779                 "description": "The water sensor, true = sensed, false = not sensed.",
10780                 "readOnly": true,
10781                 "type": "boolean"
10782             },
10783             "n": {
10784                 "$ref":
10785                 "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
10786                 schema.json#/definitions/n"
10787             },
10788             "id": {
10789                 "$ref":
10790                 "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
10791                 schema.json#/definitions/id"
10792             },
10793             "if": {
10794                 "description": "The OCF Interface set supported by this Resource.",
10795                 "items": {
10796                     "enum": [
10797                         "oic.if.s",
10798                         "oic.if.baseline"
10799                     ],
10800                     "type": "string"
10801                 },
10802                 "minItems": 2,
10803                 "uniqueItems": true,
10804                 "readOnly": true,
10805                 "type": "array"
10806             }
10807         },
10808         "type": "object",
10809         "required": ["value"]
10810     }
10811 }
10812 }
10813

```


10814 **6.55.5 Property definition**

10815 Table 113 defines the Properties that are part of the "oic.r.sensor.water" Resource Type.

10816 **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.

10817 **6.55.6 CRUDN behaviour**

10818 Table 114 defines the CRUDN operations that are supported on the "oic.r.sensor.water" Resource Type.
10819

10820 **Table 114 – The CRUDN operations of the Resource with type "rt" = "oic.r.sensor.water".**

Create	Read	Update	Delete	Notify
	get			observe

10821 **6.56 Acceleration Sensor**

10822 **6.56.1 Introduction**

10823 This Resource provides a measure of proper acceleration (g force) as opposed to co-ordinate
10824 acceleration (which is dependent on the co-ordinate system and the observer).
10825 The Property "value" is a float which describes the acceleration experienced by the object in "g".

10826 **6.56.2 Example URI**

10827 /AccelerationResURI

10828 **6.56.3 Resource type**

10829 The Resource Type is defined as: "oic.r.sensor.acceleration".

10830 **6.56.4 OpenAPI 2.0 definition**

10831 {
10832 "swagger": "2.0",
10833 "info": {

```

10834     "title": "Acceleration Sensor",
10835     "version": "20190215",
10836     "license": {
10837         "name": "OCF Data Model License",
10838         "url":
10839         "https://github.com/openconnectivityfoundation/core/blob/e28a9e0a92e17042ba3e83661e4c0fbce8bdc4ba/LI
10840         CENSE.md",
10841         "x-copyright": "Copyright 2018-2019 Open Connectivity Foundation, Inc. All rights reserved."
10842     },
10843     "termsOfService": "https://openconnectivityfoundation.github.io/core/DISCLAIMER.md"
10844 },
10845     "schemes": ["http"],
10846     "consumes": ["application/json"],
10847     "produces": ["application/json"],
10848     "paths": {
10849         "/AccelerationResURI" : {
10850             "get": {
10851                 "description": "This Resource provides a measure of proper acceleration (g force) as opposed
10852                 to co-ordinate acceleration (which is dependent on the co-ordinate system and the observer).\nThe
10853                 Property \"value\" is a float which describes the acceleration experienced by the object in \"g\".",
10854                 "parameters": [
10855                     { "$ref": "#/parameters/interface" }
10856                 ],
10857                 "responses": {
10858                     "200": {
10859                         "description": "",
10860                         "x-example":
10861                         {
10862                             "rt": ["oic.r.sensor.acceleration"],
10863                             "if": ["oic.if.s", "oic.if.baseline"],
10864                             "acceleration": 0.5
10865                         },
10866                         "schema": { "$ref": "#/definitions/acceleration" }
10867                     }
10868                 }
10869             }
10870         }
10871     },
10872     "parameters": {
10873         "interface" : {
10874             "in": "query",
10875             "name": "if",
10876             "type": "string",
10877             "enum": ["oic.if.s", "oic.if.baseline"]
10878         }
10879     },
10880     "definitions": {
10881         "acceleration" : {
10882             "properties": {
10883                 "rt": {
10884                     "description": "Resource Type",
10885                     "items": {
10886                         "maxLength": 64,
10887                         "type": "string",
10888                         "enum": ["oic.r.sensor.acceleration"]
10889                     },
10890                     "minItems": 1,
10891                     "uniqueItems": true,
10892                     "readOnly": true,
10893                     "type": "array"
10894                 },
10895                 "acceleration": {
10896                     "description": "The sensed acceleration experienced in 'g'.",
10897                     "readOnly": true,
10898                     "type": "number"
10899                 }
10900             }
10901         },
10902         "n": {
10903             "$ref":
10904             "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
10905             schema.json#/definitions/n"
10906         }
10907     },
10908     "id": {

```

```

10906         "$ref":
10907         "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
10908         schema.json#/definitions/id"
10909     },
10910     "range": {
10911         "$ref":
10912         "https://openconnectivityfoundation.github.io/IoTDataModels/schemas/oic.baseresource.properties-
10913         schema.json#/definitions/range_number"
10914     },
10915     "step": {
10916         "$ref":
10917         "https://openconnectivityfoundation.github.io/IoTDataModels/schemas/oic.baseresource.properties-
10918         schema.json#/definitions/step_number"
10919     },
10920     "precision": {
10921         "$ref":
10922         "https://openconnectivityfoundation.github.io/IoTDataModels/schemas/oic.baseresource.properties-
10923         schema.json#/definitions/precision"
10924     },
10925     "if": {
10926         "description": "The OCF Interface set supported by this Resource.",
10927         "items": {
10928             "enum": [
10929                 "oic.if.s",
10930                 "oic.if.baseline"
10931             ],
10932             "type": "string"
10933         },
10934         "minItems": 2,
10935         "readOnly": true,
10936         "uniqueItems": true,
10937         "type": "array"
10938     }
10939 },
10940 "type": "object",
10941 "required": ["acceleration"]
10942 }
10943 }
10944 }
10945

```

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'.

10950 **6.56.6 CRUDN behaviour**

10951 Table 116 defines the CRUDN operations that are supported on the "oic.r.sensor.acceleration"
10952 Resource Type.

10953 **Table 116 – The CRUDN operations of the Resource with type "rt" =**
10954 **"oic.r.sensor.acceleration".**

Create	Read	Update	Delete	Notify
	get			observe

10955 **6.57 Movement**

10956 **6.57.1 Introduction**

10957 This Resource specifies linear movement.
10958 The Property "movementSettings" is an array of strings containing possible movement values (e.g.
10959 spin, stop, left, right).
10960 The Property "movement" is the currently selected movement value.
10961 The Property "movementModifier" is a modifier to the movement value (e.g. "spin", "90")
10962

10963 **6.57.2 Example URI**

10964 /MovementResURI

10965 **6.57.3 Resource type**

10966 The Resource Type is defined as: "oic.r.movement.linear".

10967 **6.57.4 OpenAPI 2.0 definition**

```
10968 {
10969   "swagger": "2.0",
10970   "info": {
10971     "title": "Movement",
10972     "version": "20190215",
10973     "license": {
10974       "name": "OCF Data Model License",
10975       "url":
10976         "https://github.com/openconnectivityfoundation/core/blob/e28a9e0a92e17042ba3e83661e4c0fbce8bdc4ba/LI
10977         CENSE.md",
10978       "x-copyright": "copyright 2016-2017, 2019 Open Connectivity Foundation, Inc. All rights
10979         reserved."
10980     },
10981     "termsOfService": "https://openconnectivityfoundation.github.io/core/DISCLAIMER.md"
```

```

10982     },
10983     "schemes": ["http"],
10984     "consumes": ["application/json"],
10985     "produces": ["application/json"],
10986     "paths": {
10987         "/MovementResURI" : {
10988             "get": {
10989                 "description": "This Resource specifies linear movement.\nThe Property \"movementSettings\"
10990 is an array of strings containing possible movement values (e.g. spin, stop, left, right).\nThe
10991 Property \"movement\" is the currently selected movement value.\nThe Property \"movementModifier\"
10992 is a modifier to the movement value (e.g. \"spin\", \"90\")\n",
10993                 "parameters": [
10994                     { "$ref": "#/parameters/interface" }
10995                 ],
10996                 "responses": {
10997                     "200": {
10998                         "description": "",
10999                         "x-example":
11000                         {
11001                             "rt": ["oic.r.movement.linear"],
11002                             "if": ["oic.if.s", "oic.if.baseline"],
11003                             "movementSettings": ["stop", "left", "right", "rotate", "forward", "backward"],
11004                             "movement": "rotate",
11005                             "movementModifier": "90"
11006                         },
11007                         "schema": { "$ref": "#/definitions/movement" }
11008                     }
11009                 }
11010             },
11011             "post": {
11012                 "description": "Sets the current device movement.",
11013                 "parameters": [
11014                     { "$ref": "#/parameters/interface" },
11015                     {
11016                         "name": "body",
11017                         "in": "body",
11018                         "required": true,
11019                         "schema": { "$ref": "#/definitions/movement" },
11020                         "x-example":
11021                         {
11022                             "movementSettings": ["stop", "left", "right", "rotate", "forward", "backward"],
11023                             "movement": "stop"
11024                         }
11025                     }
11026                 ],
11027                 "responses": {
11028                     "200": {
11029                         "description": "",
11030                         "x-example":
11031                         {
11032                             "movementSettings": ["stop", "left", "right", "rotate", "forward", "backward"],
11033                             "movement": "stop"
11034                         },
11035                         "schema": { "$ref": "#/definitions/movement" }
11036                     }
11037                 }
11038             }
11039         },
11040     },
11041     "parameters": {
11042         "interface": {
11043             "in": "query",
11044             "name": "if",
11045             "type": "string",
11046             "enum": ["oic.if.s", "oic.if.baseline"]
11047         }
11048     },
11049     "definitions": {
11050         "movement": {
11051             "properties": {
11052                 "rt": {
11053                     "description": "The Resource Type.",

```

```

11054         "items": {
11055             "enum": ["oic.r.movement.linear"],
11056             "maxLength": 64,
11057             "type": "string"
11058         },
11059         "minItems": 1,
11060         "uniqueItems": true,
11061         "readOnly": true,
11062         "type": "array"
11063     },
11064     "movementSettings": {
11065         "description": "The array of possible movement values.",
11066         "items": {
11067             "type": "string"
11068         },
11069         "readOnly": true,
11070         "type": "array"
11071     },
11072     "movementModifier": {
11073         "description": "The modifier to the movement value (e.g. spin-90, left-20), units are
11074 device dependent.",
11075         "type": "string"
11076     },
11077     "movement": {
11078         "description": "The current movement value.",
11079         "type": "string"
11080     },
11081     "n": {
11082         "$ref":
11083 "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
11084 schema.json#/definitions/n"
11085     },
11086     "id": {
11087         "$ref":
11088 "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
11089 schema.json#/definitions/id"
11090     },
11091     "if": {
11092         "description": "The OCF Interface set supported by this Resource.",
11093         "items": {
11094             "enum": [
11095                 "oic.if.s",
11096                 "oic.if.baseline"
11097             ],
11098             "type": "string"
11099         },
11100         "minItems": 2,
11101         "uniqueItems": true,
11102         "readOnly": true,
11103         "type": "array"
11104     }
11105 },
11106 "type": "object",
11107 "required": ["movementSettings", "movement"]
11108 }
11109 }
11110 }
11111

```

11112 6.57.5 Property definition

11113 Table 117 defines the Properties that are part of the "oic.r.movement.linear" Resource Type.

11114 **Table 117 – The Property definitions of the Resource with type "rt" =**
11115 **"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	

11116 **6.57.6 CRUDN behaviour**

11117 Table 118 defines the CRUDN operations that are supported on the "oic.r.movement.linear"
11118 Resource Type.

11119 **Table 118 – The CRUDN operations of the Resource with type "rt" =**
11120 **"oic.r.movement.linear".**

Create	Read	Update	Delete	Notify
	get	post		observe

11121 **6.58 Sleep Sensor**

11122 **6.58.1 Introduction**

11123 This Resource describes whether human sleep has been sensed or not.
11124 The Property "value" is a boolean.
11125 A value of 'true' means that sleep has been sensed.
11126 A value of 'false' means that sleep not been sensed.
11127

11128 **6.58.2 Example URI**

11129 /SleepSensorResURI

11130 **6.58.3 Resource type**

11131 The Resource Type is defined as: "oic.r.sensor.sleep".

11132 **6.58.4 OpenAPI 2.0 definition**

```
11133 {
11134   "swagger": "2.0",
11135   "info": {
11136     "title": "Sleep Sensor",
11137     "version": "20190215",
11138     "license": {
11139       "name": "OCF Data Model License",
11140       "url":
11141         "https://github.com/openconnectivityfoundation/core/blob/e28a9e0a92e17042ba3e83661e4c0fbce8bdc4ba/LI
11142         CENSE.md",
11143       "x-copyright": "copyright 2016-2017, 2019 Open Connectivity Foundation, Inc. All rights
11144         reserved."
11145     },
11146     "termsOfService": "https://openconnectivityfoundation.github.io/core/DISCLAIMER.md"
11147   },
11148   "schemes": ["http"],
11149   "consumes": ["application/json"],
11150   "produces": ["application/json"],
11151   "paths": {
11152     "/SleepSensorResURI" : {
11153       "get": {
11154         "description": "This Resource describes whether human sleep has been sensed or not.\nThe
11155         Property \"value\" is a boolean.\nA value of 'true' means that sleep has been sensed.\nA value of
11156         'false' means that sleep not been sensed.\n",
11157         "parameters": [
11158           { "$ref": "#/parameters/interface" }
11159         ],
11160         "responses": {
11161           "200": {
11162             "description": "",
11163             "x-example":
11164               {
11165                 "rt": ["oic.r.sensor.sleep"],
11166                 "if": ["oic.if.s", "oic.if.baseline"],
11167                 "value": true
11168               },
11169             "schema": { "$ref": "#/definitions/sleep" }
11170           }
11171         }
11172       }
11173     }
11174   },
11175   "parameters": {
11176     "interface": {
11177       "in": "query",
11178       "name": "if",
11179       "type": "string",
11180       "enum": ["oic.if.s", "oic.if.baseline"]
11181     }
11182   },
11183   "definitions": {
11184     "sleep" : {
11185       "properties": {
11186         "rt": {
11187           "description": "The Resource Type.",
11188           "items": {
11189             "enum": ["oic.r.sensor.sleep"],
11190             "maxLength": 64,
11191             "type": "string"
11192           },
11193           "minItems": 1,
11194           "uniqueItems": true,
11195           "readOnly": true,
11196           "type": "array"
11197         },
11198         "value": {
```



```

11199         "description": "The sleep sensor, true = sleep sensed, false = sleep not sensed.",
11200         "readOnly": true,
11201         "type": "boolean"
11202     },
11203     "n": {
11204         "$ref":
11205         "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
11206         schema.json#/definitions/n"
11207     },
11208     "id": {
11209         "$ref":
11210         "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
11211         schema.json#/definitions/id"
11212     },
11213     "if": {
11214         "description": "The OCF Interface set supported by this Resource.",
11215         "items": {
11216             "enum": [
11217                 "oic.if.s",
11218                 "oic.if.baseline"
11219             ],
11220             "type": "string"
11221         },
11222         "minItems": 2,
11223         "uniqueItems": true,
11224         "readOnly": true,
11225         "type": "array"
11226     }
11227 },
11228 "type": "object",
11229 "required": ["value"]
11230 }
11231 }
11232 }
11233

```

11234 **6.58.5 Property definition**

11235 Table 119 defines the Properties that are part of the "oic.r.sensor.sleep" Resource Type.

11236 **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	

11237 **6.58.6 CRUDN behaviour**

11238 Table 120 defines the CRUDN operations that are supported on the "oic.r.sensor.sleep" Resource
11239 Type.

11240 **Table 120 – The CRUDN operations of the Resource with type "rt" = "oic.r.sensor.sleep".**

Create	Read	Update	Delete	Notify
	get			observe

11241 **6.59 Smoke Sensor**

11242 **6.59.1 Introduction**

11243 This Resource describes whether smoke has been sensed or not.
11244 The Property "value" is a boolean.
11245 A value of 'true' means that smoke has been sensed.
11246 A value of 'false' means that smoke not been sensed.

11247 **6.59.2 Example URI**

11248 /SmokeSensorResURI

11249 **6.59.3 Resource type**

11250 The Resource Type is defined as: "oic.r.sensor.smoke".

11251 **6.59.4 OpenAPI 2.0 definition**

```

11252 {
11253   "swagger": "2.0",
11254   "info": {
11255     "title": "Smoke Sensor",
11256     "version": "20190215",
11257     "license": {
11258       "name": "OCF Data Model License",
11259       "url":
11260 "https://github.com/openconnectivityfoundation/core/blob/e28a9e0a92e17042ba3e83661e4c0fbce8bdc4ba/LI
11261 CENSE.md",
11262     "x-copyright": "copyright 2016-2017, 2019 Open Connectivity Foundation, Inc. All rights
11263 reserved."
11264   },
11265   "termsOfService": "https://openconnectivityfoundation.github.io/core/DISCLAIMER.md"
11266 },
11267   "schemes": ["http"],
11268   "consumes": ["application/json"],
11269   "produces": ["application/json"],
11270   "paths": {
11271     "/SmokeSensorResURI" : {
11272       "get": {
11273         "description": "This Resource describes whether smoke has been sensed or not.\nThe Property
11274 \\"value\\" is a boolean.\nA value of 'true' means that smoke has been sensed.\nA value of 'false'
11275 means that smoke not been sensed.",
11276         "parameters": [
11277           { "$ref": "#/parameters/interface" }
11278         ],
11279         "responses": {
11280           "200": {
11281             "description": "",
11282             "x-example":
11283               {
11284                 "rt": ["oic.r.sensor.smoke"],
11285                 "if": ["oic.if.s", "oic.if.baseline"],
11286                 "value": true
11287               }
11288           },
11289           "schema": { "$ref": "#/definitions/smoke" }

```

```

11290     }
11291   }
11292 }
11293 },
11294 },
11295 "parameters": {
11296   "interface": {
11297     "in": "query",
11298     "name": "if",
11299     "type": "string",
11300     "enum": ["oic.if.s", "oic.if.baseline"]
11301   }
11302 },
11303 "definitions": {
11304   "smoke": {
11305     "properties": {
11306       "rt": {
11307         "description": "The Resource Type.",
11308         "items": {
11309           "enum": ["oic.r.sensor.smoke"],
11310           "maxLength": 64,
11311           "type": "string"
11312         },
11313         "minItems": 1,
11314         "uniqueItems": true,
11315         "readOnly": true,
11316         "type": "array"
11317       },
11318       "value": {
11319         "description": "The smoke indicator, true = sensed, false = not sensed.",
11320         "readOnly": true,
11321         "type": "boolean"
11322       },
11323       "n": {
11324         "$ref":
11325         "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
11326         schema.json#/definitions/n"
11327       },
11328       "id": {
11329         "$ref":
11330         "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
11331         schema.json#/definitions/id"
11332       },
11333       "if": {
11334         "description": "The OCF Interface set supported by this Resource.",
11335         "items": {
11336           "enum": [
11337             "oic.if.s",
11338             "oic.if.baseline"
11339           ],
11340           "type": "string"
11341         },
11342         "minItems": 2,
11343         "uniqueItems": true,
11344         "readOnly": true,
11345         "type": "array"
11346       }
11347     },
11348     "type": "object",
11349     "required": ["value"]
11350   }
11351 }
11352 }
11353

```

11354 6.59.5 Property definition

11355 Table 121 defines the Properties that are part of the "oic.r.sensor.smoke" Resource Type.

11356 **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.

11357 **6.59.6 CRUDN behaviour**

11358 Table 122 defines the CRUDN operations that are supported on the "oic.r.sensor.smoke" Resource
11359 Type.

11360 **Table 122 – The CRUDN operations of the Resource with type "rt" = "oic.r.sensor.smoke".**

Create	Read	Update	Delete	Notify
	get			observe

11361 **6.60 Three Axis Sensor**

11362 **6.60.1 Introduction**

11363 This Resource provides a representation of the measurement from a three-axis sensor.
11364 The Property "orientation" is an array of numbers representing x-plane, y-plane and z-plane values.
11365 The unit of measurement for each pane is 'g'.

11366 **6.60.2 Example URI**

11367 /ThreeAxisResURI

11368 **6.60.3 Resource type**

11369 The Resource Type is defined as: "oic.r.sensor.threeaxis".

11370 **6.60.4 OpenAPI 2.0 definition**

```
11371 {
11372   "swagger": "2.0",
11373   "info": {
11374     "title": "Three Axis Sensor",
11375     "version": "20190215",
11376     "license": {
11377       "name": "OCF Data Model License",
```

```

11378     "url":
11379     "https://github.com/openconnectivityfoundation/core/blob/e28a9e0a92e17042ba3e83661e4c0fbce8bdc4ba/LI
11380     CENSE.md",
11381     "x-copyright": "copyright 2016-2017, 2019 Open Connectivity Foundation, Inc. All rights
11382     reserved."
11383   },
11384   "termsOfService": "https://openconnectivityfoundation.github.io/core/DISCLAIMER.md"
11385 },
11386 "schemes": ["http"],
11387 "consumes": ["application/json"],
11388 "produces": ["application/json"],
11389 "paths": {
11390   "/ThreeAxisResURI" : {
11391     "get": {
11392       "description": "This Resource provides a representation of the measurement from a three-axis
11393       sensor.\n\nThe Property \"orientation\" is an array of numbers representing x-plane, y-plane and z-
11394       plane values.\n\nThe unit of measurement for each pane is 'g'.",
11395       "parameters": [
11396         { "$ref": "#/parameters/interface" }
11397       ],
11398       "responses": {
11399         "200": {
11400           "description": "",
11401           "x-example":
11402             {
11403               "rt": ["oic.r.sensor.threeaxis"],
11404               "if": ["oic.if.s", "oic.if.baseline"],
11405               "orientation": [0.7, 1.1, -0.2]
11406             },
11407           "schema": { "$ref": "#/definitions/threeAxis" }
11408         }
11409       }
11410     }
11411   }
11412 },
11413 "parameters": {
11414   "interface": {
11415     "in": "query",
11416     "name": "if",
11417     "type": "string",
11418     "enum": ["oic.if.s", "oic.if.baseline"]
11419   }
11420 },
11421 "definitions": {
11422   "threeAxis" : {
11423     "properties": {
11424       "rt": {
11425         "description": "The Resource Type.",
11426         "items": {
11427           "enum": ["oic.r.sensor.threeaxis"],
11428           "maxLength": 64,
11429           "type": "string"
11430         },
11431         "minItems": 1,
11432         "uniqueItems": true,
11433         "readOnly": true,
11434         "type": "array"
11435       },
11436       "orientation": {
11437         "description": "The array containing x-plane, y-plane and z-plane orientation in 'g'.",
11438         "items": {
11439           "type": "number"
11440         },
11441         "maxItems": 3,
11442         "minItems": 3,
11443         "readOnly": true,
11444         "type": "array"
11445       },
11446       "n": {
11447         "$ref":
11448         "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
11449         schema.json#/definitions/n"

```

```

11450     },
11451     "id": {
11452       "$ref":
11453       "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
11454       schema.json#/definitions/id"
11455     },
11456     "if": {
11457       "description": "The OCF Interface set supported by this Resource.",
11458       "items": {
11459         "enum": [
11460           "oic.if.s",
11461           "oic.if.baseline"
11462         ],
11463         "type": "string"
11464       },
11465       "minItems": 2,
11466       "uniqueItems": true,
11467       "readOnly": true,
11468       "type": "array"
11469     }
11470   },
11471   "type": "object",
11472   "required": ["orientation"]
11473 }
11474 }
11475 }
11476

```

11477 **6.60.5 Property definition**

11478 Table 123 defines the Properties that are part of the "oic.r.sensor.threeaxis" Resource Type.

11479 **Table 123 – The Property definitions of the Resource with type "rt" =**
11480 **"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'.

11481 **6.60.6 CRUDN behaviour**

11482 Table 124 defines the CRUDN operations that are supported on the "oic.r.sensor.threeaxis"
11483 Resource Type.

11484
11485

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

Create	Read	Update	Delete	Notify
	get			observe

11486 **6.61 Altimeter**

11487 **6.61.1 Introduction**

11488 This Resource describes the properties associated with altimeter.
11489 The Property "alt" is the distance (metres) above or below 'local' sea-level.

11490 **6.61.2 Example URI**

11491 /AltimeterResURI

11492 **6.61.3 Resource type**

11493 The Resource Type is defined as: "oic.r.altimeter".

11494 **6.61.4 OpenAPI 2.0 definition**

```
11495 {  
11496   "swagger": "2.0",  
11497   "info": {  
11498     "title": "Altimeter",  
11499     "version": "20190225",  
11500     "license": {  
11501       "name": "OCF Data Model License",  
11502       "url":  
11503         "https://github.com/openconnectivityfoundation/core/blob/e28a9e0a92e17042ba3e83661e4c0fbce8bdc4ba/LI  
11504         CENSE.md",  
11505       "x-copyright": "copyright 2016-2017, 2019 Open Connectivity Foundation, Inc. All rights  
11506       reserved."  
11507     },  
11508     "termsOfService": "https://openconnectivityfoundation.github.io/core/DISCLAIMER.md"  
11509   },  
11510   "schemes": ["http"],  
11511   "consumes": ["application/json"],  
11512   "produces": ["application/json"],  
11513   "paths": {  
11514     "/AltimeterResURI" : {  
11515       "get": {  
11516         "description": "This Resource describes the properties associated with altimeter.\n\nThe  
11517         Property \"alt\" is the distance (metres) above or below 'local' sea-level.",  
11518         "parameters": [  
11519           {"$ref": "#/parameters/interface"}  
11520         ],  
11521         "responses": {  
11522           "200": {  
11523             "description": "RETRIEVES the current the distance (metres) above or below 'local'  
11524             sea-level.",  
11525             "x-example":  
11526               {  
11527                 "rt": ["oic.r.altimeter"],  
11528                 "if": ["oic.if.s", "oic.if.baseline"],  
11529                 "alt": 1500.0  
11530               },  
11531             "schema": { "$ref": "#/definitions/Altimeter" }  
11532           }  
11533         }  
11534       }  
11535     }  
11536   },  
11537   "parameters": {  
11538     "interface" : {  
11539       "in": "query",
```

```

11540     "name": "if",
11541     "type": "string",
11542     "enum": ["oic.if.s", "oic.if.baseline"]
11543   }
11544 },
11545 "definitions": {
11546   "Altimeter" : {
11547     "properties": {
11548       "rt": {
11549         "description": "The Resource Type.",
11550         "items": {
11551           "enum": ["oic.r.altimeter"],
11552           "maxLength": 64,
11553           "type": "string"
11554         },
11555         "minItems": 1,
11556         "uniqueItems": true,
11557         "readOnly": true,
11558         "type": "array"
11559       },
11560       "alt" :
11561         {
11562           "description": "The current distance (metres) above or below 'local' sea-level.",
11563           "readOnly": true,
11564           "type": "number"
11565         },
11566       "n": {
11567         "$ref":
11568         "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
11569         schema.json#/definitions/n"
11570       },
11571       "id": {
11572         "$ref":
11573         "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
11574         schema.json#/definitions/id"
11575       },
11576       "precision": {
11577         "$ref":
11578         "https://openconnectivityfoundation.github.io/IoTDataModels/schemas/oic.baseresource.properties-
11579         schema.json#/definitions/precision"
11580       },
11581       "range": {
11582         "$ref":
11583         "https://openconnectivityfoundation.github.io/IoTDataModels/schemas/oic.baseresource.properties-
11584         schema.json#/definitions/range_number"
11585       },
11586       "step": {
11587         "$ref":
11588         "https://openconnectivityfoundation.github.io/IoTDataModels/schemas/oic.baseresource.properties-
11589         schema.json#/definitions/step_number"
11590       },
11591       "if": {
11592         "description": "The OCF Interface set supported by this Resource.",
11593         "items": {
11594           "enum": [
11595             "oic.if.s",
11596             "oic.if.baseline"
11597           ],
11598           "type": "string"
11599         },
11600         "minItems": 2,
11601         "uniqueItems": true,
11602         "readOnly": true,
11603         "type": "array"
11604       }
11605     },
11606     "type": "object",
11607     "required": ["alt"]
11608   }
11609 }
11610 }
11611

```


11612 **6.61.5 Property definition**

11613 Table 125 defines the Properties that are part of the "oic.r.altimeter" Resource Type.

11614 **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.

11615 **6.61.6 CRUDN behaviour**

11616 Table 126 defines the CRUDN operations that are supported on the "oic.r.altimeter" Resource Type.

11617 **Table 126 – The CRUDN operations of the Resource with type "rt" = "oic.r.altimeter".**

Create	Read	Update	Delete	Notify
	get			observe

11618 **6.62 Clock**

11619 **6.62.1 Introduction**

11620 This Resource describes the properties associated with clock and time.
 11621 Clock is a time information.
 11622 The Property "datetime" is using RFC3339 datetime format (e.g: "2007-04-05T14:30Z")

11623 (Time+Date+Timezone)
11624 The Property "countdown" is the desired total seconds for countdown.

11625 6.62.2 Example URI

11626 /ClockResURI

11627 6.62.3 Resource type

11628 The Resource Type is defined as: "oic.r.clock".

11629 6.62.4 OpenAPI 2.0 definition

```
11630 {  
11631   "swagger": "2.0",  
11632   "info": {  
11633     "title": "Clock",  
11634     "version": "20190215",  
11635     "license": {  
11636       "name": "OCF Data Model License",  
11637       "url":  
11638         "https://github.com/openconnectivityfoundation/core/blob/e28a9e0a92e17042ba3e83661e4c0fbce8bdc4ba/LI  
11639         CENSE.md",  
11640         "x-copyright": "copyright 2016-2017, 2019 Open Connectivity Foundation, Inc. All rights  
11641         reserved."  
11642     },  
11643     "termsOfService": "https://openconnectivityfoundation.github.io/core/DISCLAIMER.md"  
11644   },  
11645   "schemes": ["http"],  
11646   "consumes": ["application/json"],  
11647   "produces": ["application/json"],  
11648   "paths": {  
11649     "/ClockResURI" : {  
11650       "get": {  
11651         "description": "This Resource describes the properties associated with clock and  
11652         time.\nClock is a time information.\nThe Property \"datetime\" is using RFC3339 datetime format  
11653         (e.g: \"2007-04-05T14:30:00Z\") (Time+Date+Timezone)\nThe Property \"countdown\" is the desired  
11654         total seconds for countdown.",  
11655         "parameters": [  
11656           {"$ref": "#/parameters/interface"}  
11657         ],  
11658         "responses": {  
11659           "200": {  
11660             "description": "",  
11661             "x-example":  
11662               {  
11663                 "rt": ["oic.r.clock"],  
11664                 "if": ["oic.if.a", "oic.if.baseline"],  
11665                 "datetime": "2015-11-05T14:30:00Z",  
11666                 "countdown": 0.0  
11667               },  
11668             "schema": { "$ref": "#/definitions/Clock" }  
11669           }  
11670         }  
11671       },  
11672       "post": {  
11673         "description": "Sets the desired datetime.\n",  
11674         "parameters": [  
11675           {"$ref": "#/parameters/interface"},  
11676           {  
11677             "name": "body",  
11678             "in": "body",  
11679             "required": true,  
11680             "schema": { "$ref": "#/definitions/Clock" },  
11681             "x-example":  
11682               {  
11683                 "datetime": "2015-11-05T14:30:00Z",  
11684                 "countdown": 0.0  
11685               }  
11686           }  
11687         ],
```

```

11688     "responses": {
11689         "200": {
11690             "description": "Indicates that the datetime value was successfully changed.\nThe new
11691 datetime value is provided in the response.\n",
11692             "x-example":
11693                 {
11694                     "datetime": "2015-11-05T14:30:00Z",
11695                     "countdown": 0.0
11696                 }
11697             ,
11698             "schema": { "$ref": "#/definitions/Clock" }
11699         },
11700         "403": {
11701             "description": "Indicates that OIC client sent an invalid property value to the
11702 server.\nThe server responds with the required input representation.\n",
11703             "x-example":
11704                 {
11705                     "datetime": "2015-11-05T14:30:00Z",
11706                     "countdown": 0.0
11707                 }
11708             ,
11709             "schema": { "$ref": "#/definitions/Clock" }
11710         }
11711     }
11712 },
11713 },
11714 },
11715 "parameters": {
11716     "interface" : {
11717         "in": "query",
11718         "name": "if",
11719         "type": "string",
11720         "enum": ["oic.if.a", "oic.if.baseline"]
11721     }
11722 },
11723 "definitions": {
11724     "Clock": {
11725         "properties": {
11726             "rt": {
11727                 "description": "The Resource Type.",
11728                 "items": {
11729                     "enum": ["oic.r.clock"],
11730                     "maxLength": 64,
11731                     "type": "string"
11732                 },
11733                 "minItems": 1,
11734                 "readOnly": true,
11735                 "type": "array"
11736             },
11737             "countdown": {
11738                 "description": "The desired total seconds for countdown.",
11739                 "minimum": 0,
11740                 "type": "number"
11741             },
11742             "datetime": {
11743                 "description": "Rhe date time using RFC3339 datetime format (e.g: 2007-04-05T14:30:00Z,
11744 2007-04-05T14:30:00+09:00).",
11745                 "type": "string",
11746                 "format" : "date-time"
11747             },
11748             "n": {
11749                 "$ref":
11750 "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
11751 schema.json#/definitions/n"
11752             },
11753             "id": {
11754                 "$ref":
11755 "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
11756 schema.json#/definitions/id"
11757             },
11758             "if": {
11759                 "description": "The OCF Interface set supported by this Resource.",

```

```

11760     "items": {
11761         "enum": [
11762             "oic.if.a",
11763             "oic.if.baseline"
11764         ],
11765         "type": "string"
11766     },
11767     "minItems": 2,
11768     "uniqueItems": true,
11769     "readOnly": true,
11770     "type": "array"
11771 },
11772 },
11773 "type": "object",
11774 "required": ["datetime"]
11775 }
11776 }
11777 }
11778

```

11779 **6.62.5 Property definition**

11780 Table 127 defines the Properties that are part of the "oic.r.clock" Resource Type.

11781 **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.

11782 **6.62.6 CRUDN behaviour**

11783 Table 128 defines the CRUDN operations that are supported on the "oic.r.clock" Resource Type.

11784

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

Create	Read	Update	Delete	Notify
	get	post		observe

11785 **6.63 Geolocation**11786 **6.63.1 Introduction**

11787 This Resource describes the properties associated with the current geolocation coordinate.
 11788 Geolocation is a geolocation coordinate data.
 11789 The Property "latitude" is a device's current Latitude coordinate (degrees).
 11790 The Property "longitude" is a device's current Longitude coordinate (degrees).
 11791 The Property "alt" is a device's current distance (metres) above or below 'local' sea-level.
 11792 The Property "accuracy" is the accuracy level of the latitude and longitude coordinates (metres).
 11793 The Property "altitudeAccuracy" is the accuracy level of the altitude coordinates (metres).
 11794 The Property "heading" is a direction of travel of device (degree).
 11795 The Property "speed" is a device's current velocity (metres per second).

11796 **6.63.2 Example URI**

11797 /GeolocationResURI

11798 **6.63.3 Resource type**

11799 The Resource Type is defined as: "oic.r.sensor.geolocation".

11800 **6.63.4 OpenAPI 2.0 definition**

```

11801 {
11802   "swagger": "2.0",
11803   "info": {
11804     "title": "Geolocation",
11805     "version": "20190215",
11806     "license": {
11807       "name": "OCF Data Model License",
11808       "url":
11809         "https://github.com/openconnectivityfoundation/core/blob/e28a9e0a92e17042ba3e83661e4c0fbce8bdc4ba/LI
11810         CENSE.md",
11811       "x-copyright": "copyright 2016-2017, 2019 Open Connectivity Foundation, Inc. All rights
11812       reserved."
11813     },
11814     "termsOfService": "https://openconnectivityfoundation.github.io/core/DISCLAIMER.md"
11815   },
11816   "schemes": ["http"],
11817   "consumes": ["application/json"],
11818   "produces": ["application/json"],
11819   "paths": {
11820     "/GeolocationResURI" : {
11821       "get": {
11822         "description": "This Resource describes the properties associated with the current
11823         geolocation coordinate.\nGeolocation is a geolocation coordinate data.\nThe Property \"latitude\" is
11824         a device's current Latitude coordinate (degrees).\nThe Property \"longitude\" is a device's current
11825         Longitude coordinate (degrees).\nThe Property \"alt\" is a device's current distance (metres) above
11826         or below 'local' sea-level.\nThe Property \"accuracy\" is the accuracy level of the latitude and
11827         longitude coordinates (metres).\nThe Property \"altitudeAccuracy\" is the accuracy level of the
11828         altitude coordinates (metres).\nThe Property \"heading\" is a direction of travel of device
11829         (degree).\nThe Property \"speed\" is a device's current velocity (metres per second).",
11830         "parameters": [
11831           {"$ref": "#/parameters/interface"}
11832         ],
11833         "responses": {
11834           "200": {
11835             "description": "RETRIEVES the current geolocation coordinates.",
11836             "x-example":
11837             {

```

```

11838         "rt": ["oic.r.sensor.geolocation"],
11839         "if": ["oic.if.s", "oic.if.baseline"],
11840         "latitude": 55.070859,
11841         "longitude": -3.60512,
11842         "alt": 12.07,
11843         "accuracy": 65.0,
11844         "altitudeAccuracy": 0.0,
11845         "heading": 90.0,
11846         "speed": 0.0
11847     },
11848     "schema": { "$ref": "#/definitions/Geolocation" }
11849 }
11850 }
11851 }
11852 }
11853 },
11854 "parameters": {
11855     "interface": {
11856         "in": "query",
11857         "name": "if",
11858         "type": "string",
11859         "enum": ["oic.if.s", "oic.if.baseline"]
11860     }
11861 },
11862 "definitions": {
11863     "Geolocation" : {
11864         "properties": {
11865             "rt": {
11866                 "description": "The Resource Type.",
11867                 "items": {
11868                     "enum": ["oic.r.sensor.geolocation"],
11869                     "maxLength": 64,
11870                     "type": "string"
11871                 },
11872                 "minItems": 1,
11873                 "uniqueItems": true,
11874                 "readOnly": true,
11875                 "type": "array"
11876             },
11877             "longitude": {
11878                 "description": "The Device's Current Longitude coordinate (degrees).",
11879                 "readOnly": true,
11880                 "type": "number"
11881             },
11882             "heading": {
11883                 "description": "The direction of travel of the Device (degree).",
11884                 "maximum": 360,
11885                 "minimum": 0,
11886                 "readOnly": true,
11887                 "type": "number"
11888             },
11889             "latitude": {
11890                 "description": "The Device's Current Latitude coordinate (degrees).",
11891                 "readOnly": true,
11892                 "type": "number"
11893             },
11894             "altitudeAccuracy": {
11895                 "description": "The accuracy level of the altitude coordinates (metres).",
11896                 "minimum": 0,
11897                 "readOnly": true,
11898                 "type": "number"
11899             },
11900             "alt": {
11901                 "description": "The current distance (metres) above or below 'local' sea-level.",
11902                 "readOnly": true,
11903                 "type": "number"
11904             },
11905             "accuracy": {
11906                 "description": "The accuracy level of the latitude and longitude coordinates (metres).",
11907                 "minimum": 0,
11908                 "readOnly": true,
11909                 "type": "number"

```

```

11910     },
11911     "speed": {
11912       "description": "The Device's current velocity (metres per second).",
11913       "minimum": 0,
11914       "readOnly": true,
11915       "type": "number"
11916     },
11917     "n": {
11918       "$ref":
11919       "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
11920       schema.json#/definitions/n"
11921     },
11922     "id": {
11923       "$ref":
11924       "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
11925       schema.json#/definitions/id"
11926     },
11927     "if": {
11928       "description": "The OCF Interface set supported by this Resource.",
11929       "items": {
11930         "enum": [
11931           "oic.if.s",
11932           "oic.if.baseline"
11933         ],
11934         "type": "string"
11935       },
11936       "minItems": 2,
11937       "uniqueItems": true,
11938       "readOnly": true,
11939       "type": "array"
11940     }
11941   },
11942   "type": "object",
11943   "required": ["latitude", "longitude", "alt"]
11944 }
11945 }
11946 }
11947

```

11948 6.63.5 Property definition

11949 Table 129 defines the Properties that are part of the "oic.r.sensor.geolocation" Resource Type.

11950 **Table 129 – The Property definitions of the Resource with type "rt" =**
11951 **"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).

11952 **6.63.6 CRUDN behaviour**

11953 Table 130 defines the CRUDN operations that are supported on the "oic.r.sensor.geolocation"
11954 Resource Type.

11955 **Table 130 – The CRUDN operations of the Resource with type "rt" =**
11956 **"oic.r.sensor.geolocation".**

Create	Read	Update	Delete	Notify
	get			observe

11957 **6.64 Height**

11958 **6.64.1 Introduction**

11959 This Resource describes the Properties associated with height of an object's physical size.
11960 The unit is a single value that is one of m, cm, ft or in.
11961 If the unit Property is missing the default is meters [m].

11962 The unit Property is a read-only value that is provided by the server.
11963 When range is omitted the default is 0 to +MAXFLOAT.

11964 **6.64.2 Example URI**

11965 /HeightResURI

11966 **6.64.3 Resource type**

11967 The Resource Type is defined as: "oic.r.height".

11968 **6.64.4 OpenAPI 2.0 definition**

```
11969 {  
11970   "swagger": "2.0",  
11971   "info": {  
11972     "title": "Height",  
11973     "version": "2019-03-22",  
11974     "license": {  
11975       "name": "OCF Data Model License",  
11976       "url":  
11977         "https://github.com/openconnectivityfoundation/core/blob/e28a9e0a92e17042ba3e83661e4c0fbce8bdc4ba/LI  
11978         CENSE.md",  
11979       "x-copyright": "Copyright 2016-2019 Open Connectivity Foundation, Inc. All rights reserved."  
11980     },  
11981     "termsOfService": "https://openconnectivityfoundation.github.io/core/DISCLAIMER.md"  
11982   },  
11983   "schemes": [  
11984     "http"  
11985   ],  
11986   "consumes": [  
11987     "application/json"  
11988   ],  
11989   "produces": [  
11990     "application/json"  
11991   ],  
11992   "paths": {  
11993     "/HeightResURI": {  
11994       "get": {  
11995         "description": "This Resource describes the Properties associated with height of an object's  
11996         physical size.\n11997         The unit is a single value that is one of m, cm, ft or in.\n11998         If the unit Property is  
11999         missing the default is meters [m].\n12000         The unit Property is a read-only value that is provided by the  
12001         server.\n12002         When range is omitted the default is 0 to +MAXFLOAT.",  
12003         "parameters": [  
12004           {  
12005             "$ref": "#/parameters/interface"  
12006           }  
12007         ],  
12008         "responses": {  
12009           "200": {  
12010             "description": "",  
12011             "x-example": {  
12012               "rt": [  
12013                 "oic.r.height"  
12014               ],  
12015               "height": 1.8,  
12016               "units": "m"  
12017             },  
12018             "schema": {  
12019               "$ref": "#/definitions/Height"  
12020             }  
12021           }  
12022         }  
12023       }  
12024     },  
12025     "post": {  
12026       "description": "Sets the height.",  
12027       "parameters": [  
12028         {  
12029           "$ref": "#/parameters/interface"  
12030         }  
12031       ],  
12032       {
```

```

12027         "name": "body",
12028         "in": "body",
12029         "required": true,
12030         "schema": {
12031             "$ref": "#/definitions/Height"
12032         },
12033         "x-example": {
12034             "height": 1.75,
12035             "units": "m"
12036         }
12037     }
12038 ],
12039 "responses": {
12040     "200": {
12041         "description": "Indicates that the height was successfully changed.\nThe new height is
12042 provided in the response.",
12043         "x-example": {
12044             "height": 1.75,
12045             "units": "m"
12046         },
12047         "schema": {
12048             "$ref": "#/definitions/Height"
12049         }
12050     },
12051     "403": {
12052         "description": "Indicates that OCF Client sent an invalid Property value to the
12053 Server.\nThe Server responds with the current Resource representation.",
12054         "x-example": {
12055             "height": 1.8,
12056             "units": "m"
12057         },
12058         "schema": {
12059             "$ref": "#/definitions/Height"
12060         }
12061     }
12062 }
12063 }
12064 },
12065 },
12066 "parameters": {
12067     "interface": {
12068         "in": "query",
12069         "name": "if",
12070         "type": "string",
12071         "enum": [
12072             "oic.if.a",
12073             "oic.if.s",
12074             "oic.if.baseline"
12075         ]
12076     }
12077 },
12078 "definitions": {
12079     "Height": {
12080         "properties": {
12081             "rt": {
12082                 "description": "Resource Type",
12083                 "items": {
12084                     "enum": [
12085                         "oic.r.height"
12086                     ],
12087                     "type": "string",
12088                     "maxLength": 64
12089                 },
12090                 "minItems": 1,
12091                 "uniqueItems": true,
12092                 "readOnly": true,
12093                 "type": "array"
12094             },
12095             "height": {
12096                 "description": "Height of an object",
12097                 "minimum": 0,
12098                 "type": "number"

```

```

12099     },
12100     "units": {
12101         "description": "Height unit",
12102         "enum": [
12103             "m",
12104             "cm",
12105             "ft",
12106             "in"
12107         ],
12108         "readOnly": true,
12109         "type": "string",
12110         "default": "m"
12111     },
12112     "range": {
12113         "$ref":
12114         "https://openconnectivityfoundation.github.io/IoTDataModels/schemas/oic.baseresource.properties-
12115         schema.json#/definitions/range_number"
12116     },
12117     "step": {
12118         "$ref":
12119         "https://openconnectivityfoundation.github.io/IoTDataModels/schemas/oic.baseresource.properties-
12120         schema.json#/definitions/step_number"
12121     },
12122     "precision": {
12123         "$ref":
12124         "https://openconnectivityfoundation.github.io/IoTDataModels/schemas/oic.baseresource.properties-
12125         schema.json#/definitions/precision"
12126     },
12127     "n": {
12128         "$ref":
12129         "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
12130         schema.json#/definitions/n"
12131     },
12132     "id": {
12133         "$ref":
12134         "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
12135         schema.json#/definitions/id"
12136     },
12137     "if": {
12138         "description": "The OCF Interface set supported by this Resource",
12139         "items": {
12140             "enum": [
12141                 "oic.if.a",
12142                 "oic.if.s",
12143                 "oic.if.baseline"
12144             ],
12145             "type": "string",
12146             "maxLength": 64
12147         },
12148         "minItems": 1,
12149         "readOnly": true,
12150         "uniqueItems": true,
12151         "type": "array"
12152     }
12153 },
12154 "type": "object",
12155 "required": [
12156     "height"
12157 ]
12158 }
12159 }
12160 }
12161

```

12162 6.64.5 Property definition

12163 Table 131 defines the Properties that are part of the "oic.r.height" Resource Type.

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

Property name	Value type	Mandatory	Access mode	Description
if	array: see schema	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	

12165 **6.64.6 CRUDN behaviour**

12166 Table 132 defines the CRUDN operations that are supported on the "oic.r.height" Resource Type.

12167 **Table 132 – The CRUDN operations of the Resource with type "rt" = "oic.r.height".**

Create	Read	Update	Delete	Notify
	get	post		observe

12168 **6.65 Weight**12169 **6.65.1 Introduction**

12170 This Resource describes the Properties associated with weight of an object.

12171 The unit is a single value that is one of kg, g, lb or oz.

12172 If the unit Property is missing the default is kilograms [kg].

12173 The unit Property is a read-only value that is provided by the server.

12174 When range is omitted the default is 0 to +MAXFLOAT.

12175 **6.65.2 Example URI**

12176 /WeightResURI

12177 **6.65.3 Resource type**

12178 The Resource Type is defined as: "oic.r.weight".

12179 **6.65.4 OpenAPI 2.0 definition**

```
12180 {
12181   "swagger": "2.0",
12182   "info": {
12183     "title": "Weight",
12184     "version": "2019-03-22",
12185     "license": {
12186       "name": "OCF Data Model License",
12187       "url":
12188         "https://github.com/openconnectivityfoundation/core/blob/e28a9e0a92e17042ba3e83661e4c0fbce8bdc4ba/LI
12189         CENSE.md",
12190       "x-copyright": "Copyright 2016-2019 Open Connectivity Foundation, Inc. All rights reserved."
12191     },
12192     "termsOfService": "https://openconnectivityfoundation.github.io/core/DISCLAIMER.md"
12193   },
12194   "schemes": [
12195     "http"
12196   ],
12197   "consumes": [
12198     "application/json"
12199   ],
12200   "produces": [
12201     "application/json"
12202   ],
12203   "paths": {
12204     "/WeightResURI": {
12205       "get": {
12206         "description": "This Resource describes the Properties associated with weight of an
12207         object.\n\nThe unit is a single value that is one of kg, g, lb or oz.\n\nIf the unit Property is missing
12208         the default is kilograms [kg].\n\nThe unit Property is a read-only value that is provided by the
12209         server.\n\nWhen range is omitted the default is 0 to +MAXFLOAT.",
12210         "parameters": [
12211           {
12212             "$ref": "#/parameters/interface"
12213           }
12214         ],
12215         "responses": {
12216           "200": {
12217             "description": "",
12218             "x-example": {
12219               "rt": [
12220                 "oic.r.weight"
12221               ],
12222               "weight": 80.0,
12223               "units": "kg"
12224             },
12225             "schema": {
12226               "$ref": "#/definitions/Weight"
12227             }
12228           }
12229         }
12230       },
12231       "post": {
12232         "description": "Sets the Weight.",
12233         "parameters": [
12234           {
12235             "$ref": "#/parameters/interface"
12236           },
12237           {
12238             "name": "body",
12239             "in": "body",
12240             "required": true,
12241             "schema": {
```

```

12242         "$ref": "#/definitions/Weight"
12243     },
12244     "x-example": {
12245         "weight": 75.0,
12246         "units": "kg"
12247     }
12248 }
12249 ],
12250 "responses": {
12251     "200": {
12252         "description": "Indicates that the weight was successfully changed.\nThe new weight is
12253 provided in the response.",
12254         "x-example": {
12255             "weight": 75.0,
12256             "units": "kg"
12257         },
12258         "schema": {
12259             "$ref": "#/definitions/Weight"
12260         }
12261     },
12262     "403": {
12263         "description": "Indicates that OCF client sent an invalid Property value to the
12264 Server.\nThe Server responds with the current resource representation.",
12265         "x-example": {
12266             "weight": 80.0,
12267             "units": "kg"
12268         },
12269         "schema": {
12270             "$ref": "#/definitions/Weight"
12271         }
12272     }
12273 }
12274 }
12275 },
12276 },
12277 "parameters": {
12278     "interface": {
12279         "in": "query",
12280         "name": "if",
12281         "type": "string",
12282         "enum": [
12283             "oic.if.s",
12284             "oic.if.a",
12285             "oic.if.baseline"
12286         ]
12287     }
12288 },
12289 "definitions": {
12290     "Weight": {
12291         "properties": {
12292             "rt": {
12293                 "description": "Resource Type",
12294                 "items": {
12295                     "enum": [
12296                         "oic.r.weight"
12297                     ],
12298                     "type": "string",
12299                     "maxLength": 64
12300                 },
12301                 "minItems": 1,
12302                 "uniqueItems": true,
12303                 "readOnly": true,
12304                 "type": "array"
12305             },
12306             "weight": {
12307                 "description": "Weight of an object",
12308                 "minimum": 0.0,
12309                 "type": "number"
12310             },
12311             "units": {
12312                 "description": "Weight unit",
12313                 "enum": [

```

```

12314         "kg",
12315         "g",
12316         "lb",
12317         "oz"
12318     ],
12319     "readOnly": true,
12320     "type": "string",
12321     "default": "kg"
12322 },
12323     "range": {
12324         "$ref":
12325 "https://openconnectivityfoundation.github.io/IoTDataModels/schemas/oic.baseresource.properties-
12326 schema.json#/definitions/range_number"
12327     },
12328     "step": {
12329         "$ref":
12330 "https://openconnectivityfoundation.github.io/IoTDataModels/schemas/oic.baseresource.properties-
12331 schema.json#/definitions/step_number"
12332     },
12333     "precision": {
12334         "$ref":
12335 "https://openconnectivityfoundation.github.io/IoTDataModels/schemas/oic.baseresource.properties-
12336 schema.json#/definitions/precision"
12337     },
12338     "n": {
12339         "$ref":
12340 "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
12341 schema.json#/definitions/n"
12342     },
12343     "id": {
12344         "$ref":
12345 "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
12346 schema.json#/definitions/id"
12347     },
12348     "if": {
12349         "description": "The OCF Interface set supported by this Resource",
12350         "items": {
12351             "enum": [
12352                 "oic.if.s",
12353                 "oic.if.a",
12354                 "oic.if.baseline"
12355             ],
12356             "type": "string",
12357             "maxLength": 64
12358         },
12359         "minItems": 1,
12360         "readOnly": true,
12361         "uniqueItems": true,
12362         "type": "array"
12363     }
12364 },
12365     "type": "object",
12366     "required": [
12367         "weight",
12368         "units"
12369     ]
12370 }
12371 }
12372 }
12373

```

12374 6.65.5 Property definition

12375 Table 133 defines the Properties that are part of the "oic.r.weight" Resource Type.

12376 **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	

12377 **6.65.6 CRUDN behaviour**

12378 Table 134 defines the CRUDN operations that are supported on the "oic.r.weight" Resource Type.

12379 **Table 134 – The CRUDN operations of the Resource with type "rt" = "oic.r.weight".**

Create	Read	Update	Delete	Notify
	get	post		observe

12380 **6.66 Air Quality**

12381 **6.66.1 Introduction**

12382 This Resource describes a qualitative or measured contaminant that can be used to infer Air Quality.
12383 The Property "valueType" indicates a qualitative or measured reading within the contaminantvalue
12384 Property.

12385 The Property "contaminantvalue" can contain the actual sensed value with units per contaminant
12386 type.

12387 Qualitative is a representative value within the range provided where the minimum value is
12388 minimum contamination and maximum value is maximum contamination for the specific
12389 contaminant.

12390 contaminantvalue contains the actual measured or qualitative level.
12391 The Property Range contains the allowed range for the value that is being reported.

12392 If valueType is 'Measured' then the units for the contaminant types are as follows:
12393 Methanal (also known as Formaldehyde): CH₂O (ug/m³),

12394 Carbon Dioxide: CO2 (ppm),
 12395 Carbon Monoxide: CO (ppm),
 12396 Particulate Matter (less than 2.5 microns in diameter): PM2.5 (ug/m³),
 12397 Particulate Matter (less than 10 microns in diameter): PM10 (ug/m³),
 12398 Volatile Organic Compounds: VOC (ug/m³).

12399 **6.66.2 Example URI**

12400 /AirQualityResURI

12401 **6.66.3 Resource type**

12402 The Resource Type is defined as: "oic.r.airquality".

12403 **6.66.4 OpenAPI 2.0 definition**

```

12404 {
12405   "swagger": "2.0",
12406   "info": {
12407     "title": "Air Quality",
12408     "version": "20190225",
12409     "license": {
12410       "name": "OCF Data Model License",
12411       "url":
12412         "https://github.com/openconnectivityfoundation/core/blob/e28a9e0a92e17042ba3e83661e4c0fbce8bdc4ba/LI
12413         CENSE.md",
12414       "x-copyright": "copyright 2016-2017, 2019 Open Connectivity Foundation, Inc. All rights
12415         reserved."
12416     },
12417     "termsOfService": "https://openconnectivityfoundation.github.io/core/DISCLAIMER.md"
12418   },
12419   "schemes": ["http"],
12420   "consumes": ["application/json"],
12421   "produces": ["application/json"],
12422   "paths": {
12423     "/AirQualityResURI" : {
12424       "get": {
12425         "description": "This Resource describes a qualitative or measured contaminant that can be
12426         used to infer Air Quality.\n\nThe Property \"valueType\" indicates a qualitative or measured reading
12427         within the contaminantvalue Property.\n\nThe Property \"contaminantvalue\" can contain the actual
12428         sensed value with units per contaminant type.\n\nQualitative is a representative value within the
12429         range provided where the minium value is minimum contamination and maximum value is maximum
12430         contamination for the specific contaminant.\n\ncontaminantvalue contains the actual measured or
12431         qualitative level.\n\nThe Property Range contains the allowed range for the value that is being
12432         reported.\n\nIf valueType is 'Measured' then the units for the contaminant types are as follows:\n
12433         Methanal (also known as Formaldehyde): CH2O (ug/m^3),\n Carbon Dioxide: CO2 (ppm),\n Carbon
12434         Monoxide: CO (ppm),\n Particulate Matter (less than 2.5 microns in diameter): PM2.5 (ug/m^3),\n
12435         Particulate Matter (less than 10 microns in diameter): PM10 (ug/m^3),\n Volatile Organic Compounds:
12436         VOC (ug/m^3).",
12437         "parameters": [
12438           { "$ref": "#/parameters/interface" }
12439         ],
12440         "responses": {
12441           "200": {
12442             "description": "",
12443             "x-example":
12444               {
12445                 "rt": ["oic.r.airquality"],
12446                 "if": ["oic.if.s", "oic.if.baseline"],
12447                 "contaminanttype": "CO",
12448                 "valuetype": "Measured",
12449                 "contaminantvalue": 10,
12450                 "range": [0,500]
12451               },
12452             "schema": { "$ref": "#/definitions/AirQuality" }
12453           }
12454         }
12455       }
12456     }
12457   },
12458   "parameters": {

```

```

12459     "interface" : {
12460         "in" : "query",
12461         "name" : "if",
12462         "type" : "string",
12463         "enum" : ["oic.if.s", "oic.if.baseline"]
12464     }
12465 },
12466 "definitions": {
12467     "AirQuality" : {
12468         "properties": {
12469             "rt" : {
12470                 "description": "The Resource Type.",
12471                 "items": {
12472                     "enum": ["oic.r.airquality"],
12473                     "maxLength": 64,
12474                     "type": "string"
12475                 },
12476                 "minItems": 1,
12477                 "uniqueItems": true,
12478                 "readOnly": true,
12479                 "type": "array"
12480             },
12481             "contaminanttype": {
12482                 "description": "The contaminant being measured.",
12483                 "enum": [
12484                     "CH2O",
12485                     "CO2",
12486                     "CO",
12487                     "PM2.5",
12488                     "PM10",
12489                     "VOC",
12490                     "Smoke",
12491                     "Odor",
12492                     "AirPollution"
12493                 ],
12494                 "readOnly": true,
12495                 "type": "string"
12496             },
12497             "valuetype": {
12498                 "description": "The property that indicates whether the provided value is qualitative or
12499 measured.",
12500                 "enum": [
12501                     "Qualitative",
12502                     "Measured"
12503                 ],
12504                 "readOnly": true,
12505                 "type": "string"
12506             },
12507             "contaminantvalue": {
12508                 "description": "The measured or qualitative value for the contaminant.",
12509                 "readOnly": true,
12510                 "type": "integer"
12511             },
12512             "n": {
12513                 "$ref":
12514 "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
12515 schema.json#/definitions/n"
12516             },
12517             "id": {
12518                 "$ref":
12519 "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
12520 schema.json#/definitions/id"
12521             },
12522             "range": {
12523                 "$ref":
12524 "https://openconnectivityfoundation.github.io/IoTDataModels/schemas/oic.baseresource.properties-
12525 schema.json#/definitions/range_integer"
12526             },
12527             "if" : {
12528                 "description": "The OCF Interface set supported by this Resource.",
12529                 "items": {
12530                     "enum": [

```

```

12531         "oic.if.s",
12532         "oic.if.baseline"
12533     ],
12534     "type": "string"
12535 },
12536 "minItems": 2,
12537 "uniqueItems": true,
12538 "readOnly": true,
12539 "type": "array"
12540 }
12541 },
12542 "type": "object",
12543 "required": ["contaminantvalue", "contaminanttype", "valuetype"]
12544 }
12545 }
12546 }
12547

```

12548 **6.66.5 Property definition**

12549 Table 135 defines the Properties that are part of the "oic.r.airquality" Resource Type.

12550 **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	

12551 **6.66.6 CRUDN behaviour**

12552 Table 136 defines the CRUDN operations that are supported on the "oic.r.airquality" Resource
 12553 Type.

12554 **Table 136 – The CRUDN operations of the Resource with type "rt" = "oic.r.airquality".**

Create	Read	Update	Delete	Notify
	get			observe

12555 **6.67 Air Quality Collection**

12556 **6.67.1 Introduction**

12557 This resource describes a sensor that provides the qualitative or measured Air Quality.
 12558 The resource is a collection of instances of oic.r.airquality detailing the individual exposed
 12559 contaminant measures
 12560 There is one collection entry per contaminant type supported by the device. A device must expose
 12561 at least one measured or qualitative value.
 12562 Retrieves the current air quality.
 12563

12564 **6.67.2 Example URI**

12565 /AirQualityResURI

12566 **6.67.3 Resource type**

12567 The Resource Type is defined as: "oic.r.airqualitycollection, oic.wk.col".

12568 **6.67.4 OpenAPI 2.0 definition**

```

12569 {
12570   "swagger": "2.0",
12571   "info": {
12572     "title": "Air Quality Collection",
12573     "version": "20190307",
12574     "license": {
12575       "name": "OCF Data Model License",
12576       "url":
12577         "https://github.com/openconnectivityfoundation/core/blob/e28a9e0a92e17042ba3e83661e4c0fbce8bdc4ba/LI
12578         CENSE.md",
12579       "x-copyright": "copyright 2016-2019 Open Connectivity Foundation, Inc. All rights reserved."
12580     },
12581     "termsOfService": "https://openconnectivityfoundation.github.io/core/DISCLAIMER.md"
12582   },
12583   "schemes": ["http"],
12584   "consumes": ["application/json"],
12585   "produces": ["application/json"],
12586   "paths": {
12587     "/AirQualityCollectionResURI?if=oic.if.ll" : {
12588       "get": {
12589         "description": "This resource describes a sensor that provides the qualitative or measured
12590         Air Quality.\nThe resource is a collection of instances of oic.r.airquality detailing the individual
12591         exposed contaminant measures\nThere is one collection entry per contaminant type supported by the
12592         device. A device must expose at least one measured or qualitative value.\nRetrieves the current air
12593         quality.\n",
12594         "parameters": [
12595           {"$ref": "#/parameters/interface-all"}
12596         ],
12597         "responses": {
12598           "200": {
12599             "description": "",
12600             "x-example":
12601             [
12602               {"href": "/myCOMeasureResURI", "rt": ["oic.r.airquality"], "if":
  
```

```

12603 ["oic.if.s","oic.if.baseline"], "eps": [{"ep": "coaps://[fe80::b1d6]:1122"}]},
12604     {"href": "/myCO2ResURI", "rt": ["oic.r.airquality"], "if":
12605 ["oic.if.s","oic.if.baseline"], "eps": [{"ep": "coaps://[fe80::b1d6]:1122"}]}
12606     ],
12607     "schema": { "$ref": "#/definitions/AirQuality-11" }
12608   }
12609 }
12610 }
12611 },
12612 "/AirQualityCollectionResURI?if=oic.if.b": {
12613   "get": {
12614     "description": "This resource describes a sensor that provides the qualitative or measured
12615 Air Quality.\nThe resource is a collection of instances of oic.r.airquality detailing the individual
12616 exposed contaminant measures\nThere is one collection entry per contaminant type supported by the
12617 device. A device must expose at least one measured or qualitative value.\nRetrieves the current air
12618 quality.\n",
12619     "parameters": [
12620       {"$ref": "#/parameters/interface-all"}
12621     ],
12622     "responses": {
12623       "200": {
12624         "description" : "",
12625         "x-example": [
12626           {
12627             "href": "/AirQualityCOResURI",
12628             "rep": {
12629               "contaminanttype": "CO",
12630               "valuetype": "Measured",
12631               "contaminantvalue": 10,
12632               "range": [0,500]
12633             }
12634           },
12635           {
12636             "href": "/AirQualitySmokeResURI",
12637             "rep": {
12638               "contaminanttype": "Smoke",
12639               "valuetype": "Measured",
12640               "contaminantvalue": 100,
12641               "range": [0,5000]
12642             }
12643           }
12644         ],
12645         "schema": { "$ref": "#/definitions/AirQualityCollectionBatch-Retrieve" }
12646       }
12647     }
12648   }
12649 },
12650 "/AirQualityCollectionResURI?if=oic.if.baseline" : {
12651   "get": {
12652     "description": "This resource describes a sensor that provides the qualitative or measured
12653 Air Quality.\nThe resource is a collection of instances of oic.r.airquality detailing the individual
12654 exposed contaminant measures\nThere is one collection entry per contaminant type supported by the
12655 device. A device must expose at least one measured or qualitative value.\nRetrieves the current air
12656 quality.\n",
12657     "parameters": [
12658       {"$ref": "#/parameters/interface-all"}
12659     ],
12660     "responses": {
12661       "200": {
12662         "description" : "",
12663         "x-example":
12664           {
12665             "rt": ["oic.r.airqualitycollection","oic.wk.col"],
12666             "if": ["oic.if.baseline","oic.if.ll"],
12667             "links": [
12668               {"href": "/myCOMeasureResURI", "rt": ["oic.r.airquality"], "if":
12669 ["oic.if.s","oic.if.baseline"], "eps": [{"ep": "coaps://[fe80::b1d6]:1122"}]},
12670               {"href": "/myCO2ResURI", "rt": ["oic.r.airquality"], "if":
12671 ["oic.if.s","oic.if.baseline"], "eps": [{"ep": "coaps://[fe80::b1d6]:1122"}]}
12672             ]
12673           },
12674     "schema": { "$ref": "#/definitions/AirQuality" }

```

```

12675     }
12676   }
12677 }
12678 }
12679 },
12680 "parameters": {
12681   "interface-all" : {
12682     "in" : "query",
12683     "name" : "if",
12684     "type" : "string",
12685     "enum" : ["oic.if.ll", "oic.if.b","oic.if.baseline"]
12686   }
12687 },
12688 "definitions": {
12689   "AirQuality-ll": {
12690     "items": {
12691       "$ref": "#/definitions/oic.oic-link"
12692     },
12693     "type": "array"
12694   },
12695   "oic.oic-link": {
12696     "type": "object",
12697     "properties": {
12698       "anchor": {
12699         "$ref":
12700 "https://openconnectivityfoundation.github.io/core/schemas/oic.links.properties.core-
12701 schema.json#/definitions/anchor"
12702       },
12703       "di": {
12704         "$ref":
12705 "https://openconnectivityfoundation.github.io/core/schemas/oic.links.properties.core-
12706 schema.json#/definitions/di"
12707       },
12708       "eps": {
12709         "$ref":
12710 "https://openconnectivityfoundation.github.io/core/schemas/oic.links.properties.core-
12711 schema.json#/definitions/eps"
12712       },
12713       "href": {
12714         "$ref":
12715 "https://openconnectivityfoundation.github.io/core/schemas/oic.links.properties.core-
12716 schema.json#/definitions/href"
12717       },
12718       "ins": {
12719         "$ref":
12720 "https://openconnectivityfoundation.github.io/core/schemas/oic.links.properties.core-
12721 schema.json#/definitions/ins"
12722       },
12723       "p": {
12724         "$ref":
12725 "https://openconnectivityfoundation.github.io/core/schemas/oic.links.properties.core-
12726 schema.json#/definitions/p"
12727       },
12728       "rel": {
12729         "$ref":
12730 "https://openconnectivityfoundation.github.io/core/schemas/oic.links.properties.core-
12731 schema.json#/definitions/rel_array"
12732       },
12733       "title": {
12734         "$ref":
12735 "https://openconnectivityfoundation.github.io/core/schemas/oic.links.properties.core-
12736 schema.json#/definitions/title"
12737       },
12738       "type": {
12739         "$ref":
12740 "https://openconnectivityfoundation.github.io/core/schemas/oic.links.properties.core-
12741 schema.json#/definitions/type"
12742       },
12743       "if": {
12744         "description": "The OCF Interfaces supported by the target Resource",
12745         "items": {
12746         "enum": [

```

```

12747         "oic.if.s",
12748         "oic.if.baseline"
12749     ],
12750     "type": "string",
12751     "maxLength": 64
12752 },
12753 "minItems": 2,
12754 "uniqueItems": true,
12755 "type": "array",
12756 "readOnly": true
12757 },
12758 "rt": {
12759     "description": "Resource Type of the target Resource",
12760     "items": {
12761         "maxLength": 64,
12762         "type": "string",
12763         "enum": ["oic.r.airquality"]
12764     },
12765     "minItems": 1,
12766     "type": "array",
12767     "uniqueItems": true,
12768     "readOnly": true
12769     },
12770 },
12771 "required": [
12772     "href",
12773     "rt",
12774     "if"
12775 ]
12776 },
12777 "AirQuality": {
12778     "type": "object",
12779     "properties": {
12780         "rt": {
12781             "items": {
12782                 "enum": [
12783                     "oic.r.airqualitycollection",
12784                     "oic.wk.col"
12785                 ],
12786                 "type": "string",
12787                 "maxLength": 64
12788             },
12789             "minItems": 2,
12790             "type": "array",
12791             "uniqueItems": true
12792         },
12793         "links": {
12794             "description": "A set of simple or individual OCF Links.",
12795             "type": "array",
12796             "items": {
12797                 "$ref": "#/definitions/oic.oic-link"
12798             }
12799         },
12800         "n": {
12801             "$ref":
12802 "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
12803 schema.json#/definitions/n"
12804         },
12805         "id": {
12806             "$ref":
12807 "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
12808 schema.json#/definitions/id"
12809         },
12810         "rts": {
12811             "items": {
12812                 "anyOf": [
12813                 {
12814                     "enum": [
12815                         "oic.r.airquality",
12816                         "oic.r.value.conditional"
12817                     ],
12818                     "type": "string",

```

```

12819         "maxLength": 64
12820     },
12821     {
12822         "enum": [
12823             "oic.r.airquality"
12824         ],
12825         "type": "string",
12826         "maxLength": 64
12827     }
12828 ]
12829 },
12830 "minItems": 1,
12831 "type": "array",
12832 "uniqueItems": true
12833 },
12834 "if": {
12835     "description": "The OCF Interfaces supported by this Resource",
12836     "items": {
12837         "enum": [
12838             "oic.if.ll",
12839             "oic.if.b",
12840             "oic.if.baseline"
12841         ],
12842         "type": "string",
12843         "maxLength": 64
12844     },
12845     "minItems": 1,
12846     "readOnly": true,
12847     "uniqueItems": true,
12848     "type": "array"
12849 }
12850 }
12851 },
12852 "AirQualityCollectionBatch-Retrieve" : {
12853     "type": "array",
12854     "minItems": 1,
12855     "uniqueItems": true,
12856     "items": {
12857         "type": "object",
12858         "additionalProperties": true,
12859         "properties": {
12860             "href": {
12861                 "$ref":
12862 "https://openconnectivityfoundation.github.io/core/schemas/oic.links.properties.core-
12863 schema.json#/definitions/href"
12864             },
12865             "rep": {
12866                 "$ref":
12867 "https://openconnectivityfoundation.github.io/IoTDataModels/AirQualityResURI.swagger.json#/definitio
12868 ns/AirQuality"
12869             }
12870         },
12871         "required": [
12872             "href",
12873             "rep"
12874         ]
12875     }
12876 }
12877 }
12878 }
12879

```

12880 6.67.5 Property definition

12881 Table 137 defines the Properties that are part of the "oic.r.airqualitycollection, oic.wk.col" Resource
12882 Type.

Table 137 – The Property definitions of the Resource with type "rt" = "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	

12885 **6.67.6 CRUDN behaviour**

12886 Table 138 defines the CRUDN operations that are supported on the "oic.r.airqualitycollection,
12887 oic.wk.col" Resource Type.

12888 **Table 138 – The CRUDN operations of the Resource with type "rt" =**
12889 **"oic.r.airqualitycollection, oic.wk.col".**

Create	Read	Update	Delete	Notify
	get			observe

12890 **6.68 Consumable**

12891 **6.68.1 Introduction**

12892 This Resource specifies a thing that can be consumed such as filter material, printer toner etc
12893 The Propert "typeofconsumable" is an enumeration defining the thing being consumed as defined
12894 by the Smart Home Device Specification
12895 The Property "remaining" is an integer capturing the percentatge remaining life
12896 The Property "orderpercentage" is an integer capturing the percentage life at which replacement
12897 or replenishment is recommended by the manufacturer
12898 The Property "uri" is a string containing a URL at which further information may be obtained with
12899 respect to the consumable.

12900 **6.68.2 Example URI**

12901 /ConsumableResURI

12902 **6.68.3 Resource type**

12903 The Resource Type is defined as: "oic.r.consumable".

12904 **6.68.4 OpenAPI 2.0 definition**

```
12905 {
12906   "swagger": "2.0",
12907   "info": {
12908     "title": "Consumable",
12909     "version": "20190215",
12910     "license": {
```

```

12911         "name": "OCF Data Model License",
12912         "url":
12913         "https://github.com/openconnectivityfoundation/core/blob/e28a9e0a92e17042ba3e83661e4c0fbce8bdc4ba/LI
12914         CENSE.md",
12915         "x-copyright": "copyright 2016-2017, 2019 Open Connectivity Foundation, Inc. All rights
12916         reserved.",
12917     },
12918     "termsOfService": "https://openconnectivityfoundation.github.io/core/DISCLAIMER.md"
12919 },
12920 "schemes": ["http"],
12921 "consumes": ["application/json"],
12922 "produces": ["application/json"],
12923 "paths": {
12924     "/ConsumableResURI" : {
12925         "get": {
12926             "description": "This Resource specifies a thing that can be consumed such as filter
12927 material, printer toner etc\nThe Propert \"typeofconsumable\" is an enumeration defining the thing
12928 being consumed as defined by the Smart Home Device Specification\nThe Property \"remaining\" is an
12929 integer capturing the percentatge remaining life\nThe Property \"orderpercentage\" is an integer
12930 capturing the percentage life at which replacement or replenishment is recommended by the
12931 manufacturer\nThe Property \"url\" is a string containing a URL at which further information may be
12932 obtained with respect to the consumable.",
12933             "parameters": [
12934                 { "$ref": "#/parameters/interface" }
12935             ],
12936             "responses": {
12937                 "200": {
12938                     "description": "",
12939                     "x-example":
12940                     {
12941                         "rt": ["oic.r.consumable"],
12942                         "if": ["oic.if.s", "oic.if.baseline"],
12943                         "typeofconsumable": "tonerBlack",
12944                         "remaining": 20,
12945                         "orderpercentage": 10,
12946                         "url": "http://myreorderURL"
12947                     },
12948                     "schema": { "$ref": "#/definitions/consumable" }
12949                 }
12950             }
12951         }
12952     }
12953 },
12954 "parameters": {
12955     "interface": {
12956         "in": "query",
12957         "name": "if",
12958         "type": "string",
12959         "enum": ["oic.if.s", "oic.if.baseline"]
12960     }
12961 },
12962 "definitions": {
12963     "consumable" : {
12964         "properties": {
12965             "rt": {
12966                 "description": "The Resource Type.",
12967                 "items": {
12968                     "enum": ["oic.r.consumable"],
12969                     "maxLength": 64,
12970                     "type": "string"
12971                 },
12972                 "minItems": 1,
12973                 "uniqueItems": true,
12974                 "readOnly": true,
12975                 "type": "array"
12976             },
12977             "remaining": {
12978                 "description": "The percentage remaining lifespan.",
12979                 "maximum": 100,
12980                 "minimum": 0,
12981                 "readOnly": true,
12982                 "type": "integer"

```

```

12983     },
12984     "typeofconsumable": {
12985       "description": "The thing that is being consumed.",
12986       "readOnly": true,
12987       "type": "string"
12988     },
12989     "url": {
12990       "description": "The URL at which additional ordering information may be found.",
12991       "format": "uri",
12992       "readOnly": true,
12993       "type": "string"
12994     },
12995     "orderpercentage": {
12996       "description": "The percentage at which re-ordering is recommended by the manufacturer.",
12997       "maximum": 100,
12998       "minimum": 0,
12999       "readOnly": true,
13000       "type": "integer"
13001     },
13002     "n": {
13003       "$ref":
13004       "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
13005       schema.json#/definitions/n"
13006     },
13007     "id": {
13008       "$ref":
13009       "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
13010       schema.json#/definitions/id"
13011     },
13012     "if": {
13013       "description": "The OCF Interface set supported by this Resource.",
13014       "items": {
13015         "enum": [
13016           "oic.if.s",
13017           "oic.if.baseline"
13018         ],
13019         "type": "string"
13020       },
13021       "minItems": 2,
13022       "uniqueItems": true,
13023       "readOnly": true,
13024       "type": "array"
13025     }
13026   },
13027   "type": "object",
13028   "required": ["typeofconsumable", "remaining"]
13029 }
13030 }
13031 }
13032

```

13033 6.68.5 Property definition

13034 Table 139 defines the Properties that are part of the "oic.r.consumable" Resource Type.

13035 **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	

13036 **6.68.6 CRUDN behaviour**

13037 Table 140 defines the CRUDN operations that are supported on the "oic.r.consumable" Resource
13038 Type.

13039 **Table 140 – The CRUDN operations of the Resource with type "rt" = "oic.r.consumable".**

Create	Read	Update	Delete	Notify
	get			observe

13040 **6.69 Consumables**

13041 **6.69.1 Introduction**

13042 This Resource specifies things that can be consumed such as filter material, printer toner etc
13043 The resource is a Collection of instances of oic.r.consumable detailing the individual consumed
13044 items
13045 supportedconsumables is the set of consumable types that this instance of the Resource supports
13046

13047 **6.69.2 Example URI**

13048 /ConsumablesResURI

13049 **6.69.3 Resource type**

13050 The Resource Type is defined as: "oic.r.consumablecollection, oic.wk.col".

13051 **6.69.4 OpenAPI 2.0 definition**

13052 {
13053 "swagger": "2.0",

```

13054     "info": {
13055         "title": "Consumables",
13056         "version": "20190307",
13057         "license": {
13058             "name": "OCF Data Model License",
13059             "url":
13060 "https://github.com/openconnectivityfoundation/core/blob/e28a9e0a92e17042ba3e83661e4c0fbce8bdc4ba/LI
13061 CENSE.md",
13062         "x-copyright": "copyright 2016-2019 Open Connectivity Foundation, Inc. All rights reserved."
13063     },
13064     "termsOfService": "https://openconnectivityfoundation.github.io/core/DISCLAIMER.md"
13065 },
13066 "schemas": ["http"],
13067 "consumes": ["application/json"],
13068 "produces": ["application/json"],
13069 "paths": {
13070     "/ConsumablesResURI?if=oic.if.ll" : {
13071         "get": {
13072             "description": "This Resource specifies things that can be consumed such as filter material,
13073 printer toner etc\nThe resource is a Collection of instances of oic.r.consumable detailing the
13074 individual consumed items\nsupportedconsumables is the set of consumable types that this instance of
13075 the Resource supports\n",
13076             "parameters": [
13077                 {"$ref": "#/parameters/interface-all"}
13078             ],
13079             "responses": {
13080                 "200": {
13081                     "description" : "",
13082                     "x-example":
13083                 [
13084                     { "href": "/myTonerBlackResURI", "rt": ["oic.r.consumable"], "if":
13085 ["oic.if.s","oic.if.baseline"], "eps": [{"ep": "coaps://[fe80::b1d6]:1122"}]},
13086                     { "href": "/myTonerCyanResURI", "rt": ["oic.r.consumable"], "if":
13087 ["oic.if.s","oic.if.baseline"], "eps": [{"ep": "coaps://[fe80::b1d6]:1122"}]},
13088                     { "href": "/myTonerMagentaResURI", "rt": ["oic.r.consumable"], "if":
13089 ["oic.if.s","oic.if.baseline"], "eps": [{"ep": "coaps://[fe80::b1d6]:1122"}]},
13090                     { "href": "/myTonerYellowResURI", "rt": ["oic.r.consumable"], "if":
13091 ["oic.if.s","oic.if.baseline"], "eps": [{"ep": "coaps://[fe80::b1d6]:1122"}]}
13092                 ],
13093                 "schema": { "$ref": "#/definitions/consumables-ll" }
13094             }
13095         }
13096     }
13097 },
13098 "/ConsumablesResURI?if=oic.if.b": {
13099     "get": {
13100         "description": "This Resource specifies things that can be consumed such as filter material,
13101 printer toner etc\nThe resource is a Collection of instances of oic.r.consumable detailing the
13102 individual consumed items\nsupportedconsumables is the set of consumable types that this instance of
13103 the Resource supports\n",
13104         "parameters": [
13105             {"$ref": "#/parameters/interface-all"}
13106         ],
13107         "responses": {
13108             "200": {
13109                 "description" : "",
13110                 "x-example": [
13111                     {
13112                         "href": "/tonerCyanResURI",
13113                         "rep": {
13114                             "typeofconsumable": "tonerCyan",
13115                             "remaining": 70,
13116                             "orderpercentage": 10,
13117                             "url": "http://myreorderURL"
13118                         }
13119                     },
13120                     {
13121                         "href": "/tonerBlackResURI",
13122                         "rep": {
13123                             "typeofconsumable": "tonerBlack",
13124                             "remaining": 20,
13125                             "orderpercentage": 10,

```

```

13126         "url": "http://myreorderURL"
13127     }
13128     }
13129 ],
13130     "schema": { "$ref": "#/definitions/ConsumableCollectionBatch-Retrieve" }
13131 }
13132 }
13133 }
13134 },
13135 "/ConsumablesResURI?if=oic.if.baseline" : {
13136     "get": {
13137         "description": "This Resource specifies things that can be consumed such as filter material,
13138 printer toner etc\nThe resource is a Collection of instances of oic.r.consumable detailing the
13139 individual consumed items\nsupportedconsumables is the set of consumable types that this instance of
13140 the Resource supports\n",
13141         "parameters": [
13142             { "$ref": "#/parameters/interface-all" }
13143         ],
13144         "responses": {
13145             "200": {
13146                 "description" : "",
13147                 "x-example": {
13148                     "rt": [ "oic.r.consumablecollection", "oic.wk.col" ],
13149                     "if": [ "oic.if.ll", "oic.if.b", "oic.if.baseline" ],
13150                     "rts": [ "oic.r.consumable", "oic.r.value.conditional" ],
13151                     "supportedconsumables": [ "tonerBlack", "tonerCyan", "tonerMagenta", "tonerYellow" ],
13152                     "links": [
13153                         { "href": "/myTonerBlackResURI", "rt": [ "oic.r.consumable" ], "if":
13154 ["oic.if.s", "oic.if.baseline"], "eps": [ { "ep": "coaps://[fe80::b1d6]:1122" } ] },
13155                         { "href": "/myTonerCyanResURI", "rt": [ "oic.r.consumable" ], "if":
13156 ["oic.if.s", "oic.if.baseline"], "eps": [ { "ep": "coaps://[fe80::b1d6]:1122" } ] },
13157                         { "href": "/myTonerMagentaResURI", "rt": [ "oic.r.consumable" ], "if":
13158 ["oic.if.s", "oic.if.baseline"], "eps": [ { "ep": "coaps://[fe80::b1d6]:1122" } ] },
13159                         { "href": "/myTonerYellowResURI", "rt": [ "oic.r.consumable" ], "if":
13160 ["oic.if.s", "oic.if.baseline"], "eps": [ { "ep": "coaps://[fe80::b1d6]:1122" } ] }
13161                     ]
13162                 },
13163                 "schema": { "$ref": "#/definitions/consumables" }
13164             }
13165         }
13166     }
13167 },
13168 },
13169 "parameters": {
13170     "interface-all" : {
13171         "in" : "query",
13172         "name" : "if",
13173         "type" : "string",
13174         "enum" : [ "oic.if.ll", "oic.if.b", "oic.if.baseline" ]
13175     }
13176 },
13177 "definitions": {
13178     "consumables-ll" : {
13179         "items": {
13180             "$ref": "#/definitions/oic.oic-link"
13181         },
13182         "type": "array"
13183     },
13184     "consumables": {
13185         "properties": {
13186             "rt": {
13187                 "items": {
13188                     "enum": [
13189                         "oic.r.consumablecollection",
13190                         "oic.wk.col"
13191                     ],
13192                     "type": "string",
13193                     "maxLength": 64
13194                 },
13195                 "minItems": 2,
13196                 "type": "array",
13197                 "readOnly": true,

```

```

13198         "uniqueItems": true
13199     },
13200     "supportedconsumables": {
13201         "description": "Array of possible consumables the device measures.",
13202         "items": {
13203             "type": "string"
13204         },
13205         "readOnly": true,
13206         "type": "array"
13207     },
13208     "links": {
13209         "description": "A set of simple or individual OCF Links.",
13210         "items": {
13211             "$ref": "#/definitions/oic.oic-link"
13212         },
13213         "type": "array"
13214     },
13215     "n": {
13216         "$ref" :
13217         "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
13218         schema.json#/definitions/n"
13219     },
13220     "id": {
13221         "$ref" :
13222         "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
13223         schema.json#/definitions/id"
13224     },
13225     "rts": {
13226         "items": {
13227             "anyOf": [
13228                 {
13229                     "enum": [
13230                         "oic.r.consumable",
13231                         "oic.r.value.conditional"
13232                     ],
13233                     "type": "string",
13234                     "maxLength": 64
13235                 },
13236                 {
13237                     "enum": [
13238                         "oic.r.consumable"
13239                     ],
13240                     "type": "string",
13241                     "maxLength": 64
13242                 }
13243             ]
13244         },
13245         "minItems": 1,
13246         "type": "array",
13247         "readOnly": true,
13248         "uniqueItems": true
13249     },
13250     "if": {
13251         "description": "The OCF Interfaces supported by this Resource",
13252         "items": {
13253             "enum": [
13254                 "oic.if.ll",
13255                 "oic.if.b",
13256                 "oic.if.baseline"
13257             ],
13258             "type": "string",
13259             "maxLength": 64
13260         },
13261         "minItems": 1,
13262         "readOnly": true,
13263         "uniqueItems": true,
13264         "type": "array"
13265     }
13266 },
13267 "type" : "object"
13268 },
13269 "ConsumableCollectionBatch-Retrieve" : {

```



```

13270     "type": "array",
13271     "minItems": 1,
13272     "uniqueItems": true,
13273     "items": {
13274         "type": "object",
13275         "additionalProperties": true,
13276         "properties": {
13277             "href": {
13278                 "$ref":
13279 "https://openconnectivityfoundation.github.io/core/schemas/oic.links.properties.core-
13280 schema.json#/definitions/href"
13281             },
13282             "rep": {
13283                 "$ref":
13284 "https://openconnectivityfoundation.github.io/IoTDataModels/ConsumableResURI.swagger.json#/definitio
13285 ns/consumable"
13286             },
13287             "required": [
13288                 "href",
13289                 "rep"
13290             ]
13291         }
13292     },
13293     "oic.oic-link": {
13294         "type": "object",
13295         "properties": {
13296             "anchor": {
13297                 "$ref":
13298 "https://openconnectivityfoundation.github.io/core/schemas/oic.links.properties.core-
13299 schema.json#/definitions/anchor"
13300             },
13301             "di": {
13302                 "$ref":
13303 "https://openconnectivityfoundation.github.io/core/schemas/oic.links.properties.core-
13304 schema.json#/definitions/di"
13305             },
13306             "eps": {
13307                 "$ref":
13308 "https://openconnectivityfoundation.github.io/core/schemas/oic.links.properties.core-
13309 schema.json#/definitions/eps"
13310             },
13311             "href": {
13312                 "$ref":
13313 "https://openconnectivityfoundation.github.io/core/schemas/oic.links.properties.core-
13314 schema.json#/definitions/href"
13315             },
13316             "ins": {
13317                 "$ref":
13318 "https://openconnectivityfoundation.github.io/core/schemas/oic.links.properties.core-
13319 schema.json#/definitions/ins"
13320             },
13321             "p": {
13322                 "$ref":
13323 "https://openconnectivityfoundation.github.io/core/schemas/oic.links.properties.core-
13324 schema.json#/definitions/p"
13325             },
13326             "rel": {
13327                 "$ref":
13328 "https://openconnectivityfoundation.github.io/core/schemas/oic.links.properties.core-
13329 schema.json#/definitions/rel_array"
13330             },
13331             "title": {
13332                 "$ref":
13333 "https://openconnectivityfoundation.github.io/core/schemas/oic.links.properties.core-
13334 schema.json#/definitions/title"
13335             },
13336             "type": {
13337                 "$ref":
13338 "https://openconnectivityfoundation.github.io/core/schemas/oic.links.properties.core-
13339 schema.json#/definitions/type"
13340             },
13341         }

```

```

13342     "if": {
13343         "description": "The OCF Interfaces supported by the target Resource",
13344         "items": {
13345             "enum": [
13346                 "oic.if.s",
13347                 "oic.if.baseline"
13348             ],
13349             "type": "string",
13350             "maxLength": 64
13351         },
13352         "minItems": 2,
13353         "uniqueItems": true,
13354         "type": "array",
13355         "readOnly": true
13356     },
13357     "rt": {
13358         "description": "Resource Type of the target Resource",
13359         "items": {
13360             "maxLength": 64,
13361             "type": "string",
13362             "enum": ["oic.r.consumable"]
13363         },
13364         "minItems": 1,
13365         "type": "array",
13366         "uniqueItems": true,
13367         "readOnly": true
13368     }
13369 },
13370 "required": [
13371     "href",
13372     "rt",
13373     "if"
13374 ]
13375 }
13376 }
13377 }
13378

```

13379 6.69.5 Property definition

13380 Table 141 defines the Properties that are part of the "oic.r.consumablecollection, oic.wk.col"
 13381 Resource Type.

13382 **Table 141 – The Property definitions of the Resource with type "rt" =**
 13383 **"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.
-------	-------------------	--	------------	--

13384 **6.69.6 CRUDN behaviour**

13385 Table 142 defines the CRUDN operations that are supported on the "oic.r.consumablecollection,
13386 oic.wk.col" Resource Type.

13387 **Table 142 – The CRUDN operations of the Resource with type "rt" =**
13388 **"oic.r.consumablecollection, oic.wk.col".**

Create	Read	Update	Delete	Notify
	get			observe

13389 **6.70 Delay Defrost**

13390 **6.70.1 Introduction**

13391 This Resource describes the delay defrost function as defined by the US Energy Star Specifications.
13392 See Energy Star Refrigerator Requirements Version 5 Section 4).
13393 ([https://www.energystar.gov/sites/default/files/specs//private/ENERGY%20STAR%20Final%20Version%205.0%20Residential%20Refrigerators%20and%20Freezers%20Program%20Requirements](https://www.energystar.gov/sites/default/files/specs//private/ENERGY%20STAR%20Final%20Version%205.0%20Residential%20Refrigerators%20and%20Freezers%20Program%20Requirements.pdf)
13394 .pdf)

13395 The Property "status" is a boolean indicating whether the function is on, if off then defrost is
13396 scheduled as part of normal device operation.

13397 The Property "startTime" is an ISO8601 encoded start time for the interval in which defrost shall
13398 not occur.

13399 The Property "stopTime" is an ISO8601 encoded stop time for the interval in which defrost shall
13400 not occur.

13401 The Property "interval" with additional range restrictions is the time in minutes of the period that
13402 starts at starttime (if not present the default is 240).

13403 The Properties "stopTime" and "interval" are mutually exclusive; they cannot both be present in a
13404 Resource instance.
13405

13406 **6.70.2 Example URI**

13407 /DelayDefrostResURI

13408 **6.70.3 Resource type**

13409 The Resource Type is defined as: "oic.r.delaydefrost".

13410 **6.70.4 OpenAPI 2.0 definition**

```
13411 {
13412   "swagger": "2.0",
13413   "info": {
13414     "title": "Delay Defrost",
13415     "version": "20190215",
13416     "license": {
13417       "name": "OCF Data Model License",
13418       "url":
13419         "https://github.com/openconnectivityfoundation/core/blob/e28a9e0a92e17042ba3e83661e4c0fbce8bdc4ba/LI
13420         CENSE.md",
13421       "x-copyright": "copyright 2016-2017, 2019 Open Connectivity Foundation, Inc. All rights
13422         reserved."
13423     },
13424     "termsOfService": "https://openconnectivityfoundation.github.io/core/DISCLAIMER.md"
13425   },
13426   "schemes": ["http"],
```

```

13427     "consumes": ["application/json"],
13428     "produces": ["application/json"],
13429     "paths": {
13430         "/DelayDefrostResURI" : {
13431             "get": {
13432                 "description": "This Resource describes the delay defrost function as defined by the US
13433 Energy Star Specifications.\nSee Energy Star Refrigerator Requirements Version 5 Section
13434 4).\n(https://www.energystar.gov/sites/default/files/specs//private/ENERGY%20STAR%20Final%20Version%
13435 205.0%20Residential%20Refrigerators%20and%20Freezers%20Program%20Requirements.pdf)\n\nThe Property
13436 \"status\" is a boolean indicating whether the function is on, if off then defrost is scheduled as
13437 part of normal device operation.\n\nThe Property \"startTime\" is an ISO8601 encoded start time for
13438 the interval in which defrost shall not occur.\n\nThe Property \"stopTime\" is an ISO8601 encoded stop
13439 time for the interval in which defrost shall not occur.\n\nThe Property \"interval\" with additional
13440 range restrictions is the time in minutes of the period that starts at starttime (if not present the
13441 default is 240).\n\nThe Properties \"stopTime\" and \"interval\" are mutually exclusive; they cannot
13442 both be present in a Resource instance.",
13443                 "parameters": [
13444                     { "$ref": "#/parameters/interface" }
13445                 ],
13446                 "responses": {
13447                     "200": {
13448                         "description": "",
13449                         "x-example":
13450                             {
13451                                 "rt": ["oic.r.delaydefrost"],
13452                                 "if": ["oic.if.a", "oic.if.baseline"],
13453                                 "startTime": "T06:00:00Z",
13454                                 "status": false
13455                             },
13456                         "schema": { "$ref": "#/definitions/DelayDefrost" }
13457                     }
13458                 }
13459             },
13460             "post": {
13461                 "description": "Activates the desired Delay Defrost functions\n",
13462                 "parameters": [
13463                     { "$ref": "#/parameters/interface" },
13464                     {
13465                         "name": "body",
13466                         "in": "body",
13467                         "required": true,
13468                         "schema": { "$ref": "#/definitions/DelayDefrost" },
13469                         "x-example":
13470                             {
13471                                 "status": true,
13472                                 "startTime": "T06:00:00Z",
13473                                 "interval": 180
13474                             }
13475                     }
13476                 ],
13477                 "responses": {
13478                     "200": {
13479                         "description": "Indicates that the DelayDefrost function was changed.\n\nThe new
13480 representation may be provided in the response.\n",
13481                         "x-example":
13482                             {
13483                                 "status": true,
13484                                 "startTime": "T06:00:00Z",
13485                                 "interval": 180
13486                             }
13487                     },
13488                     "403": {
13489                         "description": "Indicates the update to the time properties was rejected.\n\nReasons
13490 for rejection:\n invalid time entry\n\nThe current unchanged representation may be provided in the
13491 response.\n",
13492                         "x-example":
13493                             {
13494                                 "status": true,
13495                                 "startTime": "T06:00:00Z",
13496                                 "interval": 180
13497                             }
13498                     }
13499                 }
13500             }
13501         }
13502     }

```

```

13499         },
13500         "schema": { "$ref": "#/definitions/DelayDefrost" }
13501     }
13502 }
13503 }
13504 }
13505 },
13506 "parameters": {
13507     "interface": {
13508         "in": "query",
13509         "name": "if",
13510         "type": "string",
13511         "enum": ["oic.if.a", "oic.if.baseline"]
13512     }
13513 },
13514 "definitions": {
13515     "DelayDefrost" : {
13516         "properties": {
13517             "rt": {
13518                 "description": "The Resource Type.",
13519                 "items": {
13520                     "enum": ["oic.r.delaydefrost"],
13521                     "maxLength": 64,
13522                     "type": "string"
13523                 },
13524                 "minItems": 1,
13525                 "uniqueItems": true,
13526                 "readOnly": true,
13527                 "type": "array"
13528             },
13529             "status": {
13530                 "description": "Indicates whether any supported delay defrost function is active.",
13531                 "type": "boolean"
13532             },
13533             "interval": {
13534                 "description": "Defrost interval as defined by Energy Star.",
13535                 "minimum": 1,
13536                 "maximum": 1440,
13537                 "default": 240,
13538                 "type": "integer"
13539             },
13540             "stopTime": {
13541                 "description": "Stop time for the time period, if present interval cannot be present.
13542 This is the time of day at which the delay interval stops.",
13543                 "type": "string",
13544                 "pattern": "^[T]([0-2][0-9]:[0-5][0-9]:[0-5][0-9])([zZ]|([\\+\\-])([01]\\d|2[0-3]):?([0-
13545 5]\\d))$"
13546             },
13547             "startTime": {
13548                 "description": "Start time for the time period. This is the time of day at which the delay
13549 interval starts.",
13550                 "type": "string",
13551                 "pattern": "^[T]([0-2][0-9]:[0-5][0-9]:[0-5][0-9])([zZ]|([\\+\\-])([01]\\d|2[0-3]):?([0-
13552 5]\\d))$"
13553             },
13554             "n": {
13555                 "$ref":
13556 "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
13557 schema.json#/definitions/n"
13558             },
13559             "id": {
13560                 "$ref":
13561 "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
13562 schema.json#/definitions/id"
13563             },
13564             "if": {
13565                 "description": "The OCF Interface set supported by this Resource.",
13566                 "items": {
13567                     "enum": [
13568                         "oic.if.a",
13569                         "oic.if.baseline"
13570                     ],

```

```

13571         "type": "string"
13572     },
13573     "minItems": 2,
13574     "uniqueItems": true,
13575     "readOnly": true,
13576     "type": "array"
13577 }
13578 },
13579 "type": "object"
13580 }
13581 }
13582 }
13583

```

13584 **6.70.5 Property definition**

13585 Table 143 defines the Properties that are part of the "oic.r.delaydefrost" Resource Type.

13586 **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	

13587 **6.70.6 CRUDN behaviour**

13588 Table 144 defines the CRUDN operations that are supported on the "oic.r.delaydefrost" Resource
13589 Type.

13590 **Table 144 – The CRUDN operations of the Resource with type "rt" = "oic.r.delaydefrost".**

Create	Read	Update	Delete	Notify
	get	post		observe

13591 **6.71 Eco Mode**

13592 **6.71.1 Introduction**

13593 This Resource specifies the supported and currently active Eco Mode of a Device
13594 The Resource is a derivative of the Mode Resource (oic.r.mode) with a restriction that the
13595 population of supportedmodes and modes Properties is restricted to the set of values:
13596 "disabled","enabled","notsupported".

13597 The adminforced Property indicates that the value has been set by another party (e.g. via some
13598 offboard Smart Energy interaction)
13599

13600 **6.71.2 Example URI**

13601 /EcomodeResURI

13602 **6.71.3 Resource type**

13603 The Resource Type is defined as: "oic.r.ecomode".

13604 **6.71.4 OpenAPI 2.0 definition**

```
13605 {
13606   "swagger": "2.0",
13607   "info": {
13608     "title": "Eco Mode",
13609     "version": "20190215",
13610     "license": {
13611       "name": "OCF Data Model License",
13612       "url":
13613         "https://github.com/openconnectivityfoundation/core/blob/e28a9e0a92e17042ba3e83661e4c0fbce8bdc4ba/LI
13614         CENSE.md",
13615       "x-copyright": "copyright 2016-2017, 2019 Open Connectivity Foundation, Inc. All rights
13616         reserved."
13617     },
13618     "termsOfService": "https://openconnectivityfoundation.github.io/core/DISCLAIMER.md"
13619   },
13620   "schemes": ["http"],
13621   "consumes": ["application/json"],
13622   "produces": ["application/json"],
13623   "paths": {
13624     "/EcomodeResURI" : {
13625       "get": {
13626         "description": "This Resource specifies the supported and currently active Eco Mode of a
13627         Device\nThe Resource is a derivative of the Mode Resource (oic.r.mode) with a restriction that the
13628         population of supportedmodes and modes Properties is restricted to the set of
13629         values:\n\n\"disabled\", \"enabled\", \"notsupported\".\n\nThe adminforced Property indicates that the
```



```

13630 value has been set by another party (e.g. via some offboard Smart Energy interaction)\n",
13631   "parameters": [
13632     {"$ref": "#/parameters/interface"}
13633   ],
13634   "responses": {
13635     "200": {
13636       "description": "",
13637       "x-example":
13638         {
13639           "rt": ["oic.r.ecomode"],
13640           "if": ["oic.if.a", "oic.if.baseline"],
13641           "supportedModes": ["disabled", "enabled"],
13642           "modes": ["disabled"],
13643           "adminforced": false
13644         },
13645       "schema": { "$ref": "#/definitions/ecomode" }
13646     }
13647   },
13648 },
13649 "post": {
13650   "description": "",
13651   "parameters": [
13652     {"$ref": "#/parameters/interface"},
13653     {
13654       "name": "body",
13655       "in": "body",
13656       "required": true,
13657       "schema": { "$ref": "#/definitions/ecomode-update" },
13658       "x-example":
13659         {
13660           "modes": ["enabled"]
13661         }
13662     }
13663   ],
13664   "responses": {
13665     "200": {
13666       "description": "",
13667       "x-example":
13668         {
13669           "modes": ["enabled"]
13670         },
13671       "schema": { "$ref": "#/definitions/ecomode-update" }
13672     }
13673   }
13674 },
13675 },
13676 },
13677 "parameters": {
13678   "interface": {
13679     "in": "query",
13680     "name": "if",
13681     "type": "string",
13682     "enum": ["oic.if.a", "oic.if.baseline"]
13683   }
13684 },
13685 "definitions": {
13686   "ecomode": {
13687     "properties": {
13688       "rt": {
13689         "description": "The Resource Type.",
13690         "items": {
13691           "enum": ["oic.r.ecomode"],
13692           "maxLength": 64,
13693           "type": "string"
13694         },
13695         "minItems": 1,
13696         "uniqueItems": true,
13697         "readOnly": true,
13698         "type": "array"
13699       },
13700       "modes": {
13701         "description": "The array of the currently active mode(s).",

```

```

13702         "items": {
13703             "enum": ["disabled", "enabled", "notsupported"],
13704             "type": "string"
13705         },
13706         "uniqueItems": true,
13707         "type": "array"
13708     },
13709     "supportedModes": {
13710         "description": "The array of possible modes the device supports.",
13711         "items": {
13712             "enum": ["disabled", "enabled", "notsupported"],
13713             "type": "string"
13714         },
13715         "readOnly": true,
13716         "type": "array"
13717     },
13718     "adminforced": {
13719         "description": "The indicator that the current mode of operation has been forced by admin
13720 action.",
13721         "readOnly": true,
13722         "type": "boolean"
13723     },
13724     "n": {
13725         "$ref":
13726 "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
13727 schema.json#/definitions/n"
13728     },
13729     "id": {
13730         "$ref":
13731 "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
13732 schema.json#/definitions/id"
13733     },
13734     "if": {
13735         "description": "The OCF Interface set supported by this Resource.",
13736         "items": {
13737             "enum": [
13738                 "oic.if.a",
13739                 "oic.if.baseline"
13740             ],
13741             "type": "string"
13742         },
13743         "minItems": 2,
13744         "uniqueItems": true,
13745         "readOnly": true,
13746         "type": "array"
13747     }
13748 },
13749 "type" : "object",
13750 "required": ["supportedModes", "modes"]
13751 },
13752 "ecomode-update" : {
13753     "properties": {
13754         "modes": {
13755             "description": "The desired mode.",
13756             "items": {
13757                 "enum": ["disabled", "enabled", "notsupported"],
13758                 "type": "string"
13759             },
13760             "type": "array"
13761         }
13762     },
13763     "type": "object",
13764     "required": ["modes"]
13765 }
13766 }
13767 }
13768

```

13769 6.71.5 Property definition

13770 Table 145 defines the Properties that are part of the "oic.r.ecomode" Resource Type.

13771

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 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 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.

13772

6.71.6 CRUDN behaviour

13773 Table 146 defines the CRUDN operations that are supported on the "oic.r.ecomode" Resource
13774 Type.

13775

Table 146 – The CRUDN operations of the Resource with type "rt" = "oic.r.ecomode".

Create	Read	Update	Delete	Notify
	get	post		observe

13776

6.72 Heating Zone

13777

6.72.1 Introduction

13778 This Resource provides information about the status of a (single) heating zone of a Cook-Top.
13779 It describes the case of a Cook-Top whose zones can be activated dynamically (i.e. the device

13780 implements pot recognition).
13781 The Property "maxheatinglevel" defines the max level for the heating zone
13782 The Property "heatinglevel" is the current heating level of the zone
13783 For each element, the value range is from 0 (indication that the zone is not heating) to
13784 "maxheatinglevel".

13785 6.72.2 Example URI

13786 /HeatingZoneResURI

13787 6.72.3 Resource type

13788 The Resource Type is defined as: "oic.r.heatingzone".

13789 6.72.4 OpenAPI 2.0 definition

```
13790 {  
13791   "swagger": "2.0",  
13792   "info": {  
13793     "title": "Heating Zone",  
13794     "version": "20190215",  
13795     "license": {  
13796       "name": "OCF Data Model License",  
13797       "url":  
13798 "https://github.com/openconnectivityfoundation/core/blob/e28a9e0a92e17042ba3e83661e4c0fbce8bdc4ba/LI  
13799 CENSE.md",  
13800       "x-copyright": "copyright 2016-2017, 2019 Open Connectivity Foundation, Inc. All rights  
13801 reserved."  
13802     },  
13803     "termsOfService": "https://openconnectivityfoundation.github.io/core/DISCLAIMER.md"  
13804   },  
13805   "schemes": ["http"],  
13806   "consumes": ["application/json"],  
13807   "produces": ["application/json"],  
13808   "paths": {  
13809     "/HeatingZoneResURI" : {  
13810       "get": {  
13811         "description": "This Resource provides information about the status of a (single) heating  
13812 zone of a Cook-Top.\nIt describes the case of a Cook-Top whose zones can be activated dynamically  
13813 (i.e. the device implements pot recognition).\nThe Property \"maxheatinglevel\" defines the max  
13814 level for the heating zone\nThe Property \"heatinglevel\" is the current heating level of the zone\n  
13815 For each element, the value range is from 0 (indication that the zone is not heating) to  
13816 \"maxheatinglevel\".",  
13817         "parameters": [  
13818           {"$ref": "#/parameters/interface"}  
13819         ],  
13820         "responses": {  
13821           "200": {  
13822             "description": "RETRIEVES the current heating zone information.",  
13823             "x-example":  
13824               {  
13825                 "rt": ["oic.r.heatingzone"],  
13826                 "if": ["oic.if.s", "oic.if.baseline"],  
13827                 "maxheatinglevel": 6,  
13828                 "heatinglevel": 0  
13829               },  
13830             "schema": { "$ref": "#/definitions/HeatingZone" }  
13831           }  
13832         }  
13833       }  
13834     }  
13835   },  
13836   "parameters": {  
13837     "interface": {  
13838       "in": "query",  
13839       "name": "if",  
13840       "type": "string",  
13841       "enum": ["oic.if.s", "oic.if.baseline"]  
13842     }  
13843   },  
13844   "definitions": {
```

```

13845     "HeatingZone" : {
13846       "properties": {
13847         "rt": {
13848           "description": "The Resource Type.",
13849           "items": {
13850             "enum": ["oic.r.heatingzone"],
13851             "maxLength": 64,
13852             "type": "string"
13853           },
13854           "minItems": 1,
13855           "uniqueItems": true,
13856           "readOnly": true,
13857           "type": "array"
13858         },
13859         "heatinglevel": {
13860           "description": "The current heating level for the zone.",
13861           "readOnly": true,
13862           "type": "integer"
13863         },
13864         "maxheatinglevel": {
13865           "description": "The maximum heating level for the zone.",
13866           "readOnly": true,
13867           "type": "integer"
13868         },
13869         "n": {
13870           "$ref":
13871             "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
13872             schema.json#/definitions/n"
13873         },
13874         "id": {
13875           "$ref":
13876             "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
13877             schema.json#/definitions/id"
13878         },
13879         "if": {
13880           "description": "The OCF Interface set supported by this Resource.",
13881           "items": {
13882             "enum": [
13883               "oic.if.s",
13884               "oic.if.baseline"
13885             ],
13886             "type": "string"
13887           },
13888           "minItems": 2,
13889           "uniqueItems": true,
13890           "readOnly": true,
13891           "type": "array"
13892         }
13893       },
13894       "type": "object",
13895       "required": ["maxheatinglevel", "heatinglevel"]
13896     }
13897   }
13898 }
13899

```

13900 6.72.5 Property definition

13901 Table 147 defines the Properties that are part of the "oic.r.heatingzone" Resource Type.

13902 **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: schema see	No	Read Only	The Resource Type.
if	array: schema see	No	Read Only	The OCF Interface set supported by this Resource.
n	multiple types: see schema	No	Read Write	

13903 **6.72.6 CRUDN behaviour**

13904 Table 148 defines the CRUDN operations that are supported on the "oic.r.heatingzone" Resource
13905 Type.

13906 **Table 148 – The CRUDN operations of the Resource with type "rt" = "oic.r.heatingzone".**

Create	Read	Update	Delete	Notify
	get			observe

13907 **6.73 Heating Zone Collection**

13908 **6.73.1 Introduction**

13909 This Resource provides information about the status of the heating zones of a Cook-Top.
13910 It describes the case of a Cook-Top whose zones can be activated dynamically (i.e. the device
13911 implements pot recognition).
13912 The resource is a Collection of instances of oic.r.heatingzone detailing the individual cooktop zones
13913 Retrieves the current heating zone information.
13914

13915 **6.73.2 Example URI**

13916 /HeatingZoneResURI

13917 **6.73.3 Resource type**

13918 The Resource Type is defined as: "oic.r.heatingzonecollection, oic.wk.col".

13919 **6.73.4 OpenAPI 2.0 definition**

```
13920 {
13921   "swagger": "2.0",
13922   "info": {
13923     "title": "Heating Zone Collection",
13924     "version": "20190307",
13925     "license": {
13926       "name": "OCF Data Model License",
13927       "url":
13928       "https://github.com/openconnectivityfoundation/core/blob/e28a9e0a92e17042ba3e83661e4c0fbce8bdc4ba/LI
13929       CENSE.md",
```

```

13930     "x-copyright": "copyright 2016-2019 Open Connectivity Foundation, Inc. All rights reserved."
13931   },
13932   "termsOfService": "https://openconnectivityfoundation.github.io/core/DISCLAIMER.md"
13933 },
13934 "schemes": ["http"],
13935 "consumes": ["application/json"],
13936 "produces": ["application/json"],
13937 "paths": {
13938   "/HeatingZoneResURI?if=oic.if.ll" : {
13939     "get": {
13940       "description": "This Resource provides information about the status of the heating zones of
13941 a Cook-Top.\nIt describes the case of a Cook-Top whose zones can be activated dynamically (i.e. the
13942 device implements pot recognition).\nThe resource is a Collection of instances of oic.r.heatingzone
13943 detailing the individual cooktop zones\n",
13944       "parameters": [
13945         {"$ref": "#/parameters/interface-all"}
13946       ],
13947       "responses": {
13948         "200": {
13949           "description" : "",
13950           "x-example":
13951             [
13952               {"href": "/myZone1ResURI", "rt": ["oic.r.heatingzone"], "if":
13953 ["oic.if.s","oic.if.baseline"], "eps": [{"ep": "coaps://[fe80::b1d6]:1122"}]},
13954               {"href": "/myZone2ResURI", "rt": ["oic.r.heatingzone"], "if":
13955 ["oic.if.s","oic.if.baseline"], "eps": [{"ep": "coaps://[fe80::b1d6]:1122"}]},
13956               {"href": "/myZone3ResURI", "rt": ["oic.r.heatingzone"], "if":
13957 ["oic.if.s","oic.if.baseline"], "eps": [{"ep": "coaps://[fe80::b1d6]:1122"}]},
13958               {"href": "/myZone4ResURI", "rt": ["oic.r.heatingzone"], "if":
13959 ["oic.if.s","oic.if.baseline"], "eps": [{"ep": "coaps://[fe80::b1d6]:1122"}]}
13960             ],
13961           "schema": { "$ref": "#/definitions/HeatingZone-ll" }
13962         }
13963       }
13964     }
13965   },
13966   "/HeatingZoneResURI?if=oic.if.b" : {
13967     "get": {
13968       "description": "This Resource provides information about the status of the heating zones of
13969 a Cook-Top.\nIt describes the case of a Cook-Top whose zones can be activated dynamically (i.e. the
13970 device implements pot recognition).\nThe resource is a Collection of instances of oic.r.heatingzone
13971 detailing the individual cooktop zones\n",
13972       "parameters": [
13973         {"$ref": "#/parameters/interface-all"}
13974       ],
13975       "responses": {
13976         "200": {
13977           "description" : "",
13978           "x-example": [
13979             {
13980               "href": "/heatingZoneLeftResURI",
13981               "rep": {
13982                 "maxheatinglevel": 6,
13983                 "heatinglevel": 0
13984               }
13985             },
13986             {
13987               "href": "/heatingZoneRightResURI",
13988               "rep": {
13989                 "maxheatinglevel": 6,
13990                 "heatinglevel": 3
13991               }
13992             }
13993           ],
13994           "schema": { "$ref": "#/definitions/HeatingZoneCollectionBatch-Retrieve" }
13995         }
13996       }
13997     }
13998   },
13999   "/HeatingZoneResURI?if=oic.if.baseline" : {
14000     "get": {
14001       "description": "This Resource provides information about the status of the heating zones of

```

```

14002 a Cook-Top.\nIt describes the case of a Cook-Top whose zones can be activated dynamically (i.e. the
14003 device implements pot recognition).\nThe resource is a Collection of instances of oic.r.heatingzone
14004 detailing the individual cooktop zones\nRetrieves the current heating zone information.\n",
14005     "parameters": [
14006         {"$ref": "#/parameters/interface-all"}
14007     ],
14008     "responses": {
14009         "200": {
14010             "description": "",
14011             "x-example":
14012                 {
14013                     "rt": ["oic.r.heatingzonecollection", "oic.wk.col"],
14014                     "if": ["oic.if.ll", "oic.if.b", "oic.if.baseline"],
14015                     "rts": ["oic.r.heatingzone"],
14016                     "links": [
14017                         {"href": "/myZone1ResURI", "rt": ["oic.r.heatingzone"], "if":
14018 ["oic.if.s", "oic.if.baseline"], "eps": [{"ep": "coaps://[fe80::b1d6]:1122"}]},
14019                         {"href": "/myZone2ResURI", "rt": ["oic.r.heatingzone"], "if":
14020 ["oic.if.s", "oic.if.baseline"], "eps": [{"ep": "coaps://[fe80::b1d6]:1122"}]},
14021                         {"href": "/myZone3ResURI", "rt": ["oic.r.heatingzone"], "if":
14022 ["oic.if.s", "oic.if.baseline"], "eps": [{"ep": "coaps://[fe80::b1d6]:1122"}]},
14023                         {"href": "/myZone4ResURI", "rt": ["oic.r.heatingzone"], "if":
14024 ["oic.if.s", "oic.if.baseline"], "eps": [{"ep": "coaps://[fe80::b1d6]:1122"}]}
14025                     ]
14026                 },
14027             "schema": {"$ref": "#/definitions/HeatingZone" }
14028         }
14029     }
14030 }
14031 }
14032 },
14033 "parameters": {
14034     "interface-all" : {
14035         "in" : "query",
14036         "name" : "if",
14037         "type" : "string",
14038         "enum" : ["oic.if.ll", "oic.if.b", "oic.if.baseline"]
14039     }
14040 },
14041 "definitions": {
14042     "HeatingZone-ll" : {
14043         "items": {
14044             "$ref": "#/definitions/oic.oic-link"
14045         },
14046         "type": "array",
14047         "minItems": 1,
14048         "uniqueItems": true,
14049         "readOnly": true
14050     },
14051     "oic.oic-link": {
14052         "type": "object",
14053         "properties": {
14054             "anchor": {
14055                 "$ref":
14056 "https://openconnectivityfoundation.github.io/core/schemas/oic.links.properties.core-
14057 schema.json#/definitions/anchor"
14058             },
14059             "di": {
14060                 "$ref":
14061 "https://openconnectivityfoundation.github.io/core/schemas/oic.links.properties.core-
14062 schema.json#/definitions/di"
14063             },
14064             "eps": {
14065                 "$ref":
14066 "https://openconnectivityfoundation.github.io/core/schemas/oic.links.properties.core-
14067 schema.json#/definitions/eps"
14068             },
14069             "href": {
14070                 "$ref":
14071 "https://openconnectivityfoundation.github.io/core/schemas/oic.links.properties.core-
14072 schema.json#/definitions/href"
14073             },

```



```

14074         "ins": {
14075             "$ref":
14076 "https://openconnectivityfoundation.github.io/core/schemas/oic.links.properties.core-
14077 schema.json#/definitions/ins"
14078         },
14079         "p": {
14080             "$ref":
14081 "https://openconnectivityfoundation.github.io/core/schemas/oic.links.properties.core-
14082 schema.json#/definitions/p"
14083         },
14084         "rel": {
14085             "$ref":
14086 "https://openconnectivityfoundation.github.io/core/schemas/oic.links.properties.core-
14087 schema.json#/definitions/rel_array"
14088         },
14089         "title": {
14090             "$ref":
14091 "https://openconnectivityfoundation.github.io/core/schemas/oic.links.properties.core-
14092 schema.json#/definitions/title"
14093         },
14094         "type": {
14095             "$ref":
14096 "https://openconnectivityfoundation.github.io/core/schemas/oic.links.properties.core-
14097 schema.json#/definitions/type"
14098         },
14099         "if": {
14100             "description": "The OCF Interfaces supported by the target Resource",
14101             "items": {
14102                 "enum": [
14103                     "oic.if.s",
14104                     "oic.if.baseline"
14105                 ],
14106                 "type": "string",
14107                 "maxLength": 64
14108             },
14109             "minItems": 2,
14110             "uniqueItems": true,
14111             "type": "array",
14112             "readOnly": true
14113         },
14114         "rt": {
14115             "description": "Resource Type of the target Resource",
14116             "items": {
14117                 "maxLength": 64,
14118                 "type": "string",
14119                 "enum": ["oic.r.heatingzone"]
14120             },
14121             "minItems": 1,
14122             "type": "array",
14123             "uniqueItems": true,
14124             "readOnly": true
14125         }
14126     },
14127     "required": [
14128         "href",
14129         "rt",
14130         "if"
14131     ]
14132 },
14133 "HeatingZone" : {
14134     "properties": {
14135         "rt": {
14136             "items": {
14137                 "enum": [
14138                     "oic.r.heatingzonecollection",
14139                     "oic.wk.col"
14140                 ],
14141                 "type": "string",
14142                 "maxLength": 64
14143             },
14144             "minItems": 2,
14145             "type": "array",

```

```

14146         "uniqueItems": true
14147     },
14148     "links": {
14149         "items": {
14150             "$ref": "#/definitions/oic.oic-link"
14151         },
14152         "type": "array",
14153         "minItems": 1,
14154         "uniqueItems": true,
14155         "readOnly": true
14156     },
14157     "n": {
14158         "$ref" :
14159         "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
14160         schema.json#/definitions/n"
14161     },
14162     "id": {
14163         "$ref" :
14164         "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
14165         schema.json#/definitions/id"
14166     },
14167     "rts": {
14168         "items": {
14169             "anyOf": [
14170                 {
14171                     "enum": [
14172                         "oic.r.heatingzone",
14173                         "oic.r.value.conditional"
14174                     ],
14175                     "type": "string",
14176                     "maxLength": 64
14177                 },
14178                 {
14179                     "enum": [
14180                         "oic.r.heatingzone"
14181                     ],
14182                     "type": "string",
14183                     "maxLength": 64
14184                 }
14185             ]
14186         },
14187         "minItems": 1,
14188         "type": "array",
14189         "readOnly": true,
14190         "uniqueItems": true
14191     },
14192     "if": {
14193         "description": "The OCF Interfaces supported by this Resource",
14194         "items": {
14195             "enum": [
14196                 "oic.if.ll",
14197                 "oic.if.b",
14198                 "oic.if.baseline"
14199             ],
14200             "type": "string",
14201             "maxLength": 64
14202         },
14203         "minItems": 1,
14204         "readOnly": true,
14205         "uniqueItems": true,
14206         "type": "array"
14207     }
14208 },
14209 "type" : "object"
14210 },
14211 "HeatingZoneCollectionBatch-Retrieve" : {
14212     "type": "array",
14213     "minItems": 1,
14214     "uniqueItems": true,
14215     "items": {
14216         "type": "object",
14217         "additionalProperties": true,

```

```

14218     "properties": {
14219         "href": {
14220             "$ref":
14221 "https://openconnectivityfoundation.github.io/core/schemas/oic.links.properties.core-
14222 schema.json#/definitions/href"
14223         },
14224         "rep": {
14225             "$ref":
14226 "https://openconnectivityfoundation.github.io/IoTDataModels/HeatingZoneResURI.swagger.json#/definiti
14227 ons/HeatingZone"
14228         },
14229     },
14230     "required": [
14231         "href",
14232         "rep"
14233     ]
14234 }
14235 }
14236 }
14237 }
14238

```

14239 6.73.5 Property definition

14240 Table 149 defines the Properties that are part of the "oic.r.heatingzonecollection, oic.wk.col"
14241 Resource Type.

**Table 149 – The Property definitions of the Resource with type "rt" =
"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

14244 **6.73.6 CRUDN behaviour**

14245 Table 150 defines the CRUDN operations that are supported on the "oic.r.heatingzonecollection,
14246 oic.wk.col" Resource Type.

14247 **Table 150 – The CRUDN operations of the Resource with type "rt" =**
14248 **"oic.r.heatingzonecollection, oic.wk.col".**

Create	Read	Update	Delete	Notify
	get			observe

14249 **6.74 Selectable Levels**

14250 **6.74.1 Introduction**

14251 This Resource provides a set of device defined levels that can be selected for an operation.
14252 For example where a humidifier has a discrete set that model different humidity levels that can be
14253 set.

14254 The Property "availablelevels" is an array of the levels that can be selected, these can be a number
14255 or an integer (as subset of integer).
14256 The Property "targetlevel" is the level that has currently been selected and is written to in order to
14257 select a new level.
14258 When retrieved the targetlevel provides the actual value that has been selected.

14259 **6.74.2 Example URI**

14260 /SelectableLevelsResURI

14261 **6.74.3 Resource type**

14262 The Resource Type is defined as: "oic.r.selectablelevels".

14263 **6.74.4 OpenAPI 2.0 definition**

```
14264 {
14265   "swagger": "2.0",
14266   "info": {
14267     "title": "Selectable Levels",
14268     "version": "20190215",
14269     "license": {
14270       "name": "OCF Data Model License",
14271       "url":
14272 "https://github.com/openconnectivityfoundation/core/blob/e28a9e0a92e17042ba3e83661e4c0fbce8bdc4ba/LI
14273 CENSE.md",
14274     "x-copyright": "copyright 2016-2017, 2019 Open Connectivity Foundation, Inc. All rights
14275 reserved."
14276   },
14277   "termsOfService": "https://openconnectivityfoundation.github.io/core/DISCLAIMER.md"
14278 },
14279   "schemes": ["http"],
14280   "consumes": ["application/json"],
14281   "produces": ["application/json"],
14282   "paths": {
14283     "/SelectableLevelsResURI" : {
14284       "get": {
14285         "description": "This Resource provides a set of device defined levels that can be selected
14286 for an operation.\nFor example where a humidifier has a discrete set that model different humidity
14287 levels that can be set.\nThe Property \"availablelevels\" is an array of the levels that can be
14288 selected, these can be a number or an integer (as subset of integer).\nThe Property \"targetlevel\"
14289 is the level that has currently been selected and is written to in order to select a new
14290 level.\nWhen retrieved the targetlevel provides the actual value that has been selected.",
14291         "parameters": [
14292           {"$ref": "#/parameters/interface"}
14293         ],
14294         "responses": {
14295           "200": {
14296             "description": "Example is using integers for selection levels.",
14297             "x-example":
14298             {
14299               "rt": ["oic.r.selectablelevels"],
14300               "if": ["oic.if.a", "oic.if.baseline"],
14301               "availablelevels": [0, 2, 4, 6, 8],
14302               "targetlevel": 2
14303             },
14304             "schema": { "$ref": "#/definitions/SelectableLevels" }
14305           }
14306         }
14307       },
14308       "post": {
14309         "description": "Sets the current level from the set \"availablelevels\".",
14310         "parameters": [
```

```

14311         {"$ref": "#/parameters/interface"},
14312         {
14313             "name": "body",
14314             "in": "body",
14315             "required": true,
14316             "schema": { "$ref": "#/definitions/UpdateSchema" },
14317             "x-example":
14318                 {
14319                     "targetlevel": 4
14320                 }
14321         },
14322     ],
14323     "responses": {
14324         "200": {
14325             "description": "",
14326             "x-example":
14327                 {
14328                     "targetlevel": 4
14329                 },
14330             "schema": { "$ref": "#/definitions/UpdateSchema" }
14331         },
14332         "403": {
14333             "description": "Generated by a OCF Server when an attempt is made to update to a
14334 targetlevel that is not in the set of availablelevels",
14335             "x-example":
14336                 {
14337                     "availablelevels": [0, 2, 4, 6, 8],
14338                     "targetlevel": 2
14339                 },
14340             "schema": { "$ref": "#/definitions/SelectableLevels" }
14341         }
14342     }
14343 },
14344 },
14345 },
14346 "parameters": {
14347     "interface": {
14348         "in": "query",
14349         "name": "if",
14350         "type": "string",
14351         "enum": ["oic.if.a", "oic.if.baseline"]
14352     }
14353 },
14354 "definitions": {
14355     "SelectableLevels": {
14356         "properties": {
14357             "rt": {
14358                 "description": "The Resource Type.",
14359                 "items": {
14360                     "enum": ["oic.r.selectablelevels"],
14361                     "maxLength": 64,
14362                     "type": "string"
14363                 },
14364                 "minItems": 1,
14365                 "uniqueItems": true,
14366                 "readOnly": true,
14367                 "type": "array"
14368             },
14369             "targetlevel": {
14370                 "description": "The target level from the available selectable set.",
14371                 "type": "number"
14372             },
14373             "availablelevels": {
14374                 "description": "The set of levels to select from.",
14375                 "items": {
14376                     "type": "number"
14377                 },
14378                 "readOnly": true,
14379                 "type": "array"
14380             },
14381             "if": {
14382                 "description": "The OCF Interface set supported by this Resource.",

```

```

14383     "items": {
14384         "enum": [
14385             "oic.if.a",
14386             "oic.if.baseline"
14387         ],
14388         "type": "string"
14389     },
14390     "minItems": 2,
14391     "uniqueItems": true,
14392     "readOnly": true,
14393     "type": "array"
14394 }
14395 },
14396 "type": "object",
14397 "required": ["availablelevels", "targetlevel"]
14398 },
14399 "UpdateSchema" : {
14400     "properties": {
14401         "targetlevel": {
14402             "description": "The target level from the available selectable set",
14403             "type": "number"
14404         }
14405     },
14406     "type": "object",
14407     "required": ["targetlevel"]
14408 }
14409 }
14410 }
14411

```

14412 **6.74.5 Property definition**

14413 Table 151 defines the Properties that are part of the "oic.r.selectablelevels" Resource Type.

14414 **Table 151 – The Property definitions of the Resource with type "rt" =**
14415 **"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: see schema	No	Read Only	The OCF Interface set supported by this Resource.
rt	array: see schema	No	Read Only	The Resource Type.
targetlevel	number	Yes	Read Write	The target level from the available selectable set.
availablelevels	array: see schema	Yes	Read Only	The set of levels to select from.

14416 **6.74.6 CRUDN behaviour**

14417 Table 152 defines the CRUDN operations that are supported on the "oic.r.selectablelevels"
14418 Resource Type.

14419 **Table 152 – The CRUDN operations of the Resource with type "rt" =**
14420 **"oic.r.selectablelevels".**

Create	Read	Update	Delete	Notify
	get	post		observe

14421 **6.75 Value Conditional**

14422 **6.75.1 Introduction**

14423 This Resource specifies conditions that can be applied to an observed value in any Resource.
14424 These conditions are applied by the OCF Server exposing the Resource to any generated
14425 notifications because of subscriptions to the Resource.
14426 A unicast RETRIEVE to the Resource will receive the most recent value; which may not be the
14427 most recent notified value.
14428 An OCF Server exposes this Resource in association with the Resource conveying the observed
14429 value.

14430 This is done by means of a new Resource instance with an RT of ["oic.r.<thing being observed>",
14431 "oic.r.value.conditional"], e.g ["oic.r.temperature", "oic.r.value.conditional"].
14432 The Property "threshold" is the amount by which the thing being observed must change before a
14433 notification is sent.
14434 The Property "minnotifyperiod" is the minimum time in ms (milliseconds) that must elapse before a
14435 notification is sent.
14436 If the maxnotifyperiod (time in ms (milliseconds)) elapses then a notification must be sent.
14437 The Property "maxnotifyperiod" is a timer that resets each time a notification is sent.
14438 A value of '0' for any of "threshold", "minnotifyperiod" or "maxnotifyperiod" means that the capability
14439 is supported but not active.

14440 **6.75.2 Example URI**

14441 /ValueConditionalResURI

14442 **6.75.3 Resource type**

14443 The Resource Type is defined as: "oic.r.value.conditional".

14444 **6.75.4 OpenAPI 2.0 definition**

```
14445 {  
14446   "swagger": "2.0",  
14447   "info": {  
14448     "title": "Value Conditional",  
14449     "version": "20190215",  
14450     "license": {  
14451       "name": "OCF Data Model License",  
14452       "url":  
14453         "https://github.com/openconnectivityfoundation/core/blob/e28a9e0a92e17042ba3e83661e4c0fbce8bdc4ba/LI  
14454         CENSE.md",  
14455       "x-copyright": "copyright 2016-2017, 2019 Open Connectivity Foundation, Inc. All rights  
14456       reserved."  
14457     },  
14458     "termsOfService": "https://openconnectivityfoundation.github.io/core/DISCLAIMER.md"  
14459   },  
14460   "schemes": ["http"],  
14461   "consumes": ["application/json"],  
14462   "produces": ["application/json"],  
14463   "paths": {  
14464     "/ValueConditionalResURI" : {
```



```

14465     "get": {
14466         "description": "This Resource specifies conditions that can be applied to an observed value
14467 in any Resource.\nThese conditions are applied by the OCF Server exposing the Resource to any
14468 generated notifications because of subscriptions to the Resource.\nA unicast RETRIEVE to the
14469 Resource will receive the most recent value; which may not be the most recent notified value.\nAn
14470 OCF Server exposes this Resource in association with the Resource conveying the observed
14471 value.\nThis is done by means of a new Resource instance with an RT of [\"oic.r.<thing being
14472 observed>\", \"oic.r.value.conditional\"], e.g [\"oic.r.temperature\",
14473 \"oic.r.value.conditional\"].\nThe Property \"threshold\" is the amount by which the thing being
14474 observed must change before a notification is sent.\nThe Property \"minnotifyperiod\" is the minimum
14475 time in ms (milliseconds) that must elapse before a notification is sent.\nIf the maxnotifyperiod
14476 (time in ms (milliseconds)) elapses then a notification must be sent.\nThe Property
14477 \"maxnotifyperiod\" is a timer that resets each time a notification is sent.\nA value of '0' for any
14478 of \"threshold\", \"minnotifyperiod\" or \"maxnotifyperiod\" means that the capability is supported
14479 but not active.",
14480         "parameters": [
14481             { "$ref": "#/parameters/interface" }
14482         ],
14483         "responses": {
14484             "200": {
14485                 "description": "",
14486                 "x-example":
14487                     {
14488                         "rt": ["oic.r.value.conditional"],
14489                         "if": ["oic.if.rw", "oic.if.baseline"],
14490                         "threshold": 2,
14491                         "minnotifyperiod": 2000,
14492                         "maxnotifyperiod": 5000
14493                     },
14494                 "schema": { "$ref": "#/definitions/valueconditional" }
14495             }
14496         },
14497     },
14498     "post": {
14499         "description": "",
14500         "parameters": [
14501             { "$ref": "#/parameters/interface" },
14502             {
14503                 "name": "body",
14504                 "in": "body",
14505                 "required": true,
14506                 "schema": { "$ref": "#/definitions/valueconditional" },
14507                 "x-example":
14508                     {
14509                         "threshold": 2,
14510                         "minnotifyperiod": 1500
14511                     }
14512             }
14513         ],
14514         "responses": {
14515             "200": {
14516                 "description": "",
14517                 "x-example":
14518                     {
14519                         "threshold": 2,
14520                         "minnotifyperiod": 1500
14521                     },
14522                 "schema": { "$ref": "#/definitions/valueconditional" }
14523             }
14524         }
14525     }
14526 },
14527 },
14528 "parameters": {
14529     "interface": {
14530         "in": "query",
14531         "name": "if",
14532         "type": "string",
14533         "enum": ["oic.if.rw", "oic.if.baseline"]
14534     }
14535 },
14536 "definitions": {

```

```

14537     "valueconditional" : {
14538         "properties": {
14539             "rt": {
14540                 "description": "The Resource Type.",
14541                 "items": {
14542                     "maxLength": 64,
14543                     "type": "string",
14544                     "enum": ["oic.r.value.conditional"]
14545                 },
14546                 "minItems": 1,
14547                 "uniqueItems": true,
14548                 "readOnly": true,
14549                 "type": "array"
14550             },
14551             "maxnotifyperiod": {
14552                 "description": "The maximum elapsed time in ms before a notification must be sent.",
14553                 "minimum": 0,
14554                 "type": "integer"
14555             },
14556             "minnotifyperiod": {
14557                 "description": "The minimum elapsed time in ms before a notification is sent.",
14558                 "minimum": 0,
14559                 "type": "integer"
14560             },
14561             "threshold": {
14562                 "description": "The amount by which the measured value must change before a notification
14563 is sent.",
14564                 "minimum": 0,
14565                 "type": "number"
14566             },
14567             "n": {
14568                 "$ref":
14569 "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
14570 schema.json#/definitions/n"
14571             },
14572             "id": {
14573                 "$ref":
14574 "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
14575 schema.json#/definitions/id"
14576             },
14577             "if": {
14578                 "description": "The OCF Interface set supported by this Resource.",
14579                 "items": {
14580                     "enum": [
14581                         "oic.if.rw",
14582                         "oic.if.baseline"
14583                     ],
14584                     "type": "string"
14585                 },
14586                 "minItems": 2,
14587                 "uniqueItems": true,
14588                 "readOnly": true,
14589                 "type": "array"
14590             }
14591         },
14592         "anyOf": [
14593             {
14594                 "required": ["threshold"]
14595             },
14596             {
14597                 "required": ["minnotifyperiod"]
14598             },
14599             {
14600                 "required": ["maxnotifyperiod"]
14601             }
14602         ],
14603         "type": "object"
14604     }
14605 }
14606 }
14607

```

14608 **6.75.5 Property definition**

14609 Table 153 defines the Properties that are part of the "oic.r.value.conditional" Resource Type.

14610
14611

Table 153 – The Property definitions of the Resource with type "rt" = "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	

14612 **6.75.6 CRUDN behaviour**

14613 Table 154 defines the CRUDN operations that are supported on the "oic.r.value.conditional"
14614 Resource Type.

14615
14616

Table 154 – The CRUDN operations of the Resource with type "rt" = "oic.r.value.conditional".

Create	Read	Update	Delete	Notify

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

14617 6.76 Colour Space Coordinates

14618 6.76.1 Introduction

14619 This Resource describes the colour using colour space co-ordinates.
 14620 The Property "csc" is the colour space coordinates in CIE colour space.
 14621 The first item in the array is the X coordinate.
 14622 The second item in the array is the Y coordinate.
 14623 If the Property "precision" is provided it applies to both the X and Y coordinates.
 14624 The Resource provides the colour using colour space coordinates.
 14625

14626 6.76.2 Example URI

14627 /example/ColourSpaceCoordinatesResURI

14628 6.76.3 Resource type

14629 The Resource Type is defined as: "oic.r.colour.csc".

14630 6.76.4 OpenAPI 2.0 definition

```

14631 {
14632   "swagger": "2.0",
14633   "info": {
14634     "title": "Colour Space Coordinates",
14635     "version": "20190215",
14636     "license": {
14637       "name": "OCF Data Model License",
14638       "url":
14639         "https://github.com/openconnectivityfoundation/core/blob/e28a9e0a92e17042ba3e83661e4c0fbce8bdc4ba/LI
14640         CENSE.md",
14641       "x-copyright": "copyright 2016-2017, 2019 Open Connectivity Foundation, Inc. All rights
14642         reserved."
14643     },
14644     "termsOfService": "https://openconnectivityfoundation.github.io/core/DISCLAIMER.md"
14645   },
14646   "schemes": ["http"],
14647   "consumes": ["application/json"],
14648   "produces": ["application/json"],
14649   "paths": {
14650     "/example/ColourSpaceCoordinatesResURI" : {
14651       "get": {
14652         "description": "This Resource describes the colour using colour space co-ordinates.\nThe
14653         Property \"csc\" is the colour space coordinates in CIE colour space.\n The first item in the array
14654         is the X coordinate.\n The second item in the array is the Y coordinate.\n If the Property
14655         \"precision\" is provided it applies to both the X and Y coordinates.\nThe Resource provides the
14656         colour using colour space coordinates.\n",
14657         "parameters": [
14658           { "$ref": "#/parameters/interface" }
14659         ],
14660         "responses": {
14661           "200": {
14662             "description": "",
14663             "x-example":
14664               {
14665                 "rt": ["oic.r.colour.csc"],
14666                 "if": ["oic.if.a", "oic.if.baseline"],
14667                 "csc": [0.41, 0.51]
14668               },
14669             "schema": { "$ref": "#/definitions/ColourCSC" }
14670           }
14671         }
14672       },
14673       "post": {
14674         "description": "Sets current colour space coordinates\n",
14675         "parameters": [

```

```

14676         {"$ref": "#/parameters/interface"},
14677         {
14678             "name": "body",
14679             "in": "body",
14680             "required": true,
14681             "schema": { "$ref": "#/definitions/ColourCSC" },
14682             "x-example":
14683                 {
14684                     "csc": [0.40, 0.70]
14685                 }
14686         },
14687     ],
14688     "responses": {
14689         "200": {
14690             "description": "",
14691             "x-example":
14692                 {
14693                     "csc": [0.40, 0.70]
14694                 },
14695             "schema": {"$ref": "#/definitions/ColourCSC" }
14696         }
14697     }
14698 },
14699 },
14700 },
14701 "parameters": {
14702     "interface": {
14703         "in": "query",
14704         "name": "if",
14705         "type": "string",
14706         "enum": ["oic.if.a", "oic.if.baseline"]
14707     }
14708 },
14709 "definitions": {
14710     "ColourCSC": {
14711         "properties": {
14712             "rt": {
14713                 "description": "The Resource Type.",
14714                 "items": {
14715                     "enum": ["oic.r.colour.csc"],
14716                     "maxLength": 64,
14717                     "type": "string"
14718                 },
14719                 "minItems": 1,
14720                 "uniqueItems": true,
14721                 "readOnly": true,
14722                 "type": "array"
14723             },
14724             "csc": {
14725                 "description": "The X and Y coordinates of the colour in CIE colour space.",
14726                 "items": {
14727                     "maximum": 1,
14728                     "minimum": 0,
14729                     "type": "number"
14730                 },
14731                 "maxItems": 2,
14732                 "minItems": 2,
14733                 "type": "array"
14734             },
14735             "n": {
14736                 "$ref":
14737 "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
14738 schema.json#/definitions/n"
14739             },
14740             "id": {
14741                 "$ref":
14742 "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
14743 schema.json#/definitions/id"
14744             },
14745             "precision": {
14746                 "$ref":
14747 "https://openconnectivityfoundation.github.io/IoTDataModels/schemas/oic.baseresource.properties-

```

```

14748 schema.json#/definitions/precision"
14749     },
14750     "if": {
14751         "description": "The OCF Interface set supported by this Resource.",
14752         "items": {
14753             "enum": [
14754                 "oic.if.a",
14755                 "oic.if.baseline"
14756             ],
14757             "type": "string"
14758         },
14759         "minItems": 2,
14760         "uniqueItems": true,
14761         "readOnly": true,
14762         "type": "array"
14763     }
14764 },
14765 "type": "object",
14766 "required": ["csc"]
14767 }
14768 }
14769 }
14770

```

14771 **6.76.5 Property definition**

14772 Table 155 defines the Properties that are part of the "oic.r.colour.csc" Resource Type.

14773 **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	

14774 **6.76.6 CRUDN behaviour**

14775 Table 156 defines the CRUDN operations that are supported on the "oic.r.colour.csc" Resource
14776 Type.

14777 **Table 156 – The CRUDN operations of the Resource with type "rt" = "oic.r.colour.csc".**

Create	Read	Update	Delete	Notify
	get	post		observe

14778 **6.77 Colour Temperature**

14779 **6.77.1 Introduction**

14780 This Resource describes the colour using colour temperature conventions.
 14781 The Property "ct" is the Mired colour temperature.
 14782 The equivalent value in Kelvin is obtained by Colour Temp(K) = 1,000,000/Colour Temp(Mired)
 14783 The Resource provides the colour using colour temperature conventions.

14784 **6.77.2 Example URI**

14785 /example/ColourTemperatureResURI

14786 **6.77.3 Resource type**

14787 The Resource Type is defined as: "oic.r.colour.colourtemperature".

14788 **6.77.4 OpenAPI 2.0 definition**

```

14789 {
14790   "swagger": "2.0",
14791   "info": {
14792     "title": "Colour Temperature",
14793     "version": "20190215",
14794     "license": {
14795       "name": "OCF Data Model License",
14796       "url":
14797         "https://github.com/openconnectivityfoundation/core/blob/e28a9e0a92e17042ba3e83661e4c0fbce8bdc4ba/LI
14798         CENSE.md",
14799       "x-copyright": "copyright 2016-2017, 2019 Open Connectivity Foundation, Inc. All rights
14800       reserved."
14801     },
14802     "termsOfService": "https://openconnectivityfoundation.github.io/core/DISCLAIMER.md"
14803   },
14804   "schemes": ["http"],
14805   "consumes": ["application/json"],
14806   "produces": ["application/json"],
14807   "paths": {
14808     "/example/ColourTemperatureResURI" : {
14809       "get": {
14810         "description": "This Resource describes the colour using colour temperature
14811         conventions.\nThe Property \"ct\" is the Mired colour temperature.\n\nThe equivalent value in Kelvin
14812         is obtained by Colour Temp(K) = 1,000,000/Colour Temp(Mired)\n\nThe Resource provides the colour using
14813         colour temperature conventions.",
14814         "parameters": [
14815           {"$ref": "#/parameters/interface"}
14816         ],
14817         "responses": {
14818           "200": {
14819             "description": "",
14820             "x-example":
14821               {
14822                 "rt": ["oic.r.colour.colourtemperature"],
14823                 "if": ["oic.if.a", "oic.if.baseline"],
14824                 "ct": 457
14825               },
14826             "schema": { "$ref": "#/definitions/ColourTemp" }
14827           }
14828         }
14829       },
14830       "post": {
14831         "description": "Sets current colour temperature value\n",

```

```

14832     "parameters": [
14833         { "$ref": "#/parameters/interface" },
14834         {
14835             "name": "body",
14836             "in": "body",
14837             "required": true,
14838             "schema": { "$ref": "#/definitions/ColourTemp" },
14839             "x-example":
14840                 {
14841                     "ct": 457
14842                 }
14843         }
14844     ],
14845     "responses": {
14846         "200": {
14847             "description": "",
14848             "x-example":
14849                 {
14850                     "ct": 467
14851                 },
14852             "schema": { "$ref": "#/definitions/ColourTemp" }
14853         }
14854     }
14855 }
14856 },
14857 },
14858 "parameters": {
14859     "interface": {
14860         "in": "query",
14861         "name": "if",
14862         "type": "string",
14863         "enum": ["oic.if.a", "oic.if.baseline"]
14864     }
14865 },
14866 "definitions": {
14867     "ColourTemp": {
14868         "properties": {
14869             "rt":
14870                 {
14871                     "description": "The Resource Type.",
14872                     "items": {
14873                         "maxLength": 64,
14874                         "type": "string",
14875                         "enum": ["oic.r.colour.colourtemperature"]
14876                     },
14877                     "minItems": 1,
14878                     "uniqueItems": true,
14879                     "readOnly": true,
14880                     "type": "array"
14881                 },
14882             "ct": {
14883                 "description": "The Mired colour temperature.",
14884                 "minimum": 0,
14885                 "type": "integer"
14886             },
14887             "n": {
14888                 "$ref":
14889                 "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
14890                 schema.json#/definitions/n"
14891             },
14892             "id": {
14893                 "$ref":
14894                 "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
14895                 schema.json#/definitions/id"
14896             },
14897             "range": {
14898                 "$ref":
14899                 "https://openconnectivityfoundation.github.io/IoTDataModels/schemas/oic.baseresource.properties-
14900                 schema.json#/definitions/range_integer"
14901             },
14902             "step": {
14903                 "$ref":

```



```

14904 "https://openconnectivityfoundation.github.io/IoTDataModels/schemas/oic.baseresource.properties-
14905 schema.json#/definitions/step_integer"
14906   },
14907   "if": {
14908     "description": "The OCF Interface set supported by this Resource.",
14909     "items": {
14910       "enum": [
14911         "oic.if.a",
14912         "oic.if.baseline"
14913       ],
14914       "type": "string"
14915     },
14916     "minItems": 2,
14917     "uniqueItems": true,
14918     "readOnly": true,
14919     "type": "array"
14920   }
14921 },
14922 "type": "object",
14923 "required": ["ct"]
14924 }
14925 }
14926 }
14927

```

14928 **6.77.5 Property definition**

14929 Table 157 defines the Properties that are part of the "oic.r.colour.colourtemperature" Resource
 14930 Type.

14931 **Table 157 – The Property definitions of the Resource with type "rt" =**
 14932 **"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	

14933 **6.77.6 CRUDN behaviour**

14934 Table 158 defines the CRUDN operations that are supported on the
14935 "oic.r.colour.colourtemperature" Resource Type.

14936 **Table 158 – The CRUDN operations of the Resource with type "rt" =**
14937 **"oic.r.colour.colourtemperature".**

Create	Read	Update	Delete	Notify
	get	post		observe

14938 **6.78 Colour Hue and Saturation**

14939 **6.78.1 Introduction**

14940 This Resource describes the colour using hue-saturation conventions.
14941 The Property "hue" is the hue angle, it is a number value as defined by the CIECAM02 model
14942 definition (see reference [CIE CIE159:2004]).
14943 A Device that does not support fractional hue angles can provide integer values.
14944 If Property "precision" is provided it applies to the hue angle.
14945 The Property "saturation" is an integer value as defined by the CIECAM02 model definition (see
14946 reference [CIE CIE159:2004]).
14947 The Property "saturation" can be converted to a percentage by saturation/maximalsaturation X
14948 100; where maximalsaturation is 32767 if the Property itself is not present.
14949 The Property "maximalsaturation" is the upper bound on the saturation supported by the Device.
14950 If not present the maximum value for saturation is 32767.
14951 The Resource provides the colour using hue and saturation conventions.
14952

14953 **6.78.2 Example URI**

14954 /example/ColourHueSaturationResURI

14955 **6.78.3 Resource type**

14956 The Resource Type is defined as: "oic.r.colour.hs".

14957 **6.78.4 OpenAPI 2.0 definition**

```
14958 {  
14959   "swagger": "2.0",  
14960   "info": {  
14961     "title": "Colour Hue and Saturation",  
14962     "version": "20190215",  
14963     "license": {  
14964       "name": "OCF Data Model License",  
14965       "url":  
14966         "https://github.com/openconnectivityfoundation/core/blob/e28a9e0a92e17042ba3e83661e4c0fbce8bdc4ba/LI  
14967         CENSE.md",  
14968       "x-copyright": "copyright 2016-2017, 2019 Open Connectivity Foundation, Inc. All rights  
14969       reserved."  
14970     }  
14971     "termsOfService": "https://openconnectivityfoundation.github.io/core/DISCLAIMER.md"  
14972   },  
14973   "schemes": ["http"],  
14974   "consumes": ["application/json"],  
14975   "produces": ["application/json"],  
14976   "paths": {  
14977     "/example/ColourHueSaturationResURI" : {  
14978       "get": {  
14979         "description": "This Resource describes the colour using hue-saturation conventions.\nThe  
14980 Property \"hue\" is the hue angle, it is a number value as defined by the CIECAM02 model definition  
14981 (see reference [CIE CIE159:2004]).\nA Device that does not support fractional hue angles can provide  
14982 integer values.\nIf Property \"precision\" is provided it applies to the hue angle.\nThe Property
```

```

14983  \"saturation\" is an integer value as defined by the CIECAM02 model definition (see reference [CIE
14984  CIE159:2004]).\n The Property \"saturation\" can be converted to a percentage by
14985  saturation/maximumsaturation X 100; where maximumsaturation is 32767 if the Property itself is not
14986  present.\nThe Property \"maximumsaturation\" is the upper bound on the saturation supported by the
14987  Device.\nIf not present the maximum value for saturation is 32767.\nThe Resource provides the colour
14988  using hue and saturation conventions.\n",
14989      "parameters": [
14990          {"$ref": "#/parameters/interface"}
14991      ],
14992      "responses": {
14993          "200": {
14994              "description": "",
14995              "x-example":
14996                  {
14997                      "rt": ["oic.r.colour.hs"],
14998                      "if": ["oic.if.a", "oic.if.baseline"],
14999                      "hue": 300.0,
15000                      "saturation": 212,
15001                      "maximumsaturation": 1000
15002                  },
15003              "schema": { "$ref": "#/definitions/ColourHS" }
15004          }
15005      },
15006  },
15007  "post": {
15008      "description": "Sets current colour hue and saturation values.\nAt least one of hue or
15009  saturation shall be provided in the payload.\n",
15010      "parameters": [
15011          {"$ref": "#/parameters/interface"},
15012          {
15013              "name": "body",
15014              "in": "body",
15015              "required": true,
15016              "schema": { "$ref": "#/definitions/ColourHS" },
15017              "x-example":
15018                  {
15019                      "hue": 300.0,
15020                      "saturation": 212
15021                  }
15022          }
15023      ],
15024      "responses": {
15025          "200": {
15026              "description": "",
15027              "x-example":
15028                  {
15029                      "hue": 300.0,
15030                      "saturation": 212
15031                  },
15032              "schema": { "$ref": "#/definitions/ColourHS" }
15033          }
15034      }
15035  },
15036  },
15037  },
15038  "parameters": {
15039      "interface": {
15040          "in": "query",
15041          "name": "if",
15042          "type": "string",
15043          "enum": ["oic.if.a", "oic.if.baseline"]
15044      }
15045  },
15046  "definitions": {
15047      "ColourHS": {
15048          "properties": {
15049              "rt": {
15050                  "description": "The Resource Type.",
15051                  "items": {
15052                      "enum": ["oic.r.colour.hs"],
15053                      "maxLength": 64,
15054                      "type": "string"

```

```

15055     },
15056     "minItems": 1,
15057     "uniqueItems": true,
15058     "readOnly": true,
15059     "type": "array"
15060   },
15061   "hue": {
15062     "description": "The hue angle as defined by the CIECAM02 model definition.",
15063     "maximum": 360.0,
15064     "minimum": 0.0,
15065     "type": "number"
15066   },
15067   "saturation": {
15068     "description": "The saturation as defined by the CIECAM02 model definition.",
15069     "maximum": 32767,
15070     "minimum": 0,
15071     "type": "integer"
15072   },
15073   "maximumsaturation": {
15074     "description": "The maximum supported value of \"saturation\" for this Device.",
15075     "maximum": 32767,
15076     "minimum": 0,
15077     "readOnly": true,
15078     "type": "integer"
15079   },
15080   "n": {
15081     "$ref":
15082     "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
15083     schema.json#/definitions/n"
15084   },
15085   "id": {
15086     "$ref":
15087     "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
15088     schema.json#/definitions/id"
15089   },
15090   "precision": {
15091     "$ref":
15092     "https://openconnectivityfoundation.github.io/IoTDataModels/schemas/oic.baseresource.properties-
15093     schema.json#/definitions/precision"
15094   },
15095   "if": {
15096     "description": "The OCF Interface set supported by this Resource.",
15097     "items": {
15098       "enum": [
15099         "oic.if.a",
15100         "oic.if.baseline"
15101       ],
15102       "type": "string"
15103     },
15104     "minItems": 2,
15105     "uniqueItems": true,
15106     "readOnly": true,
15107     "type": "array"
15108   }
15109 },
15110 "type": "object",
15111 "required": ["hue", "saturation"]
15112 }
15113 }
15114 }
15115

```

15116 6.78.5 Property definition

15117 Table 159 defines the Properties that are part of the "oic.r.colour.hs" Resource Type.

15118 **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.

15119 **6.78.6 CRUDN behaviour**

15120 Table 160 defines the CRUDN operations that are supported on the "oic.r.colour.hs" Resource
15121 Type.

15122 **Table 160 – The CRUDN operations of the Resource with type "rt" = "oic.r.colour.hs".**

Create	Read	Update	Delete	Notify
	get	post		observe

15123 **6.79 Battery Material**

15124 **6.79.1 Introduction**

15125 This Resource describes the battery material represented as an enumerated set of strings.

15126 **6.79.2 Example URI**

15127 /BatteryMaterialResURI

15128 **6.79.3 Resource type**

15129 The Resource Type is defined as: "oic.r.batterymaterial".

15130 6.79.4 OpenAPI 2.0 definition

```
15131 {
15132   "swagger": "2.0",
15133   "info": {
15134     "title": "Battery Material",
15135     "version": "20190222",
15136     "license": {
15137       "name": "OCF Data Model License",
15138       "url":
15139         "https://github.com/openconnectivityfoundation/core/blob/e28a9e0a92e17042ba3e83661e4c0fbce8bdc4ba/LI
15140 CENSE.md",
15141       "x-copyright": "Copyright 2018-2019 Open Connectivity Foundation, Inc. All rights reserved."
15142     },
15143     "termsOfService": "https://openconnectivityfoundation.github.io/core/DISCLAIMER.md"
15144   },
15145   "schemes": ["http"],
15146   "consumes": ["application/json"],
15147   "produces": ["application/json"],
15148   "paths": {
15149     "/BatteryMaterialResURI" : {
15150       "get": {
15151         "description": "This Resource describes the battery material represented as an enumerated
15152 set of strings.",
15153         "parameters": [
15154           { "$ref": "#/parameters/interface" }
15155         ],
15156         "responses": {
15157           "200": {
15158             "description": "",
15159             "x-example":
15160               {
15161                 "rt": ["oic.r.batterymaterial"],
15162                 "if": ["oic.if.s", "oic.if.baseline"],
15163                 "material": "Alkaline"
15164               },
15165             "schema": { "$ref": "#/definitions/BatteryMaterial" }
15166           }
15167         }
15168       }
15169     },
15170     "parameters": {
15171       "interface" : {
15172         "in": "query",
15173         "name": "if",
15174         "type": "string",
15175         "enum": ["oic.if.s", "oic.if.baseline"]
15176       }
15177     },
15178     "definitions": {
15179       "BatteryMaterial" : {
15180         "properties": {
15181           "rt": {
15182             "description": "The Resource Type.",
15183             "items": {
15184               "enum": ["oic.r.batterymaterial"],
15185               "maxLength": 64,
15186               "type": "string"
15187             },
15188             "minItems": 1,
15189             "uniqueItems": true,
15190             "readOnly": true,
15191             "type": "array"
15192           },
15193           "material": {
15194             "description": "The battery construction material (type).",
15195             "enum": [
15196               "Alkaline",
15197               "Aluminium Air",
15198               "Aluminium Ion",
15199               "Atomic Betavoltaics",
15200
```

15201 "Atomic Optoelectric Nuclear",
 15202 "Atomic Nuclear",
 15203 "Bunsen Cell",
 15204 "Chromic Acid Cell",
 15205 "Poggendorff Cell",
 15206 "Clark Cell",
 15207 "Daniell Cell",
 15208 "Dry Cell",
 15209 "Earth",
 15210 "Flow",
 15211 "Flow Vanadium Redox",
 15212 "Flow Zinc Bromine",
 15213 "Flow Zinc Cerium",
 15214 "Frog",
 15215 "Fuel",
 15216 "Galvanic Cell",
 15217 "Glass",
 15218 "Grove Cell",
 15219 "Lead Acid",
 15220 "Lead Acid Deep Cycle",
 15221 "Lead Acid VRLA",
 15222 "Lead Acid AGM",
 15223 "Lead Acid Gel",
 15224 "Leclanche Cell",
 15225 "Lemon Potato",
 15226 "Lithium",
 15227 "Lithium Air",
 15228 "Lithium Ion",
 15229 "Lithium Ion Cobalt Oxide (ICR)",
 15230 "Lithium Ion Manganese Oxide (IMR)",
 15231 "Lithium Ion Polymer",
 15232 "Lithium Iron Phosphate",
 15233 "Lithium Sulfur",
 15234 "Lithium Titanate",
 15235 "Lithium Ion Thin Film",
 15236 "Magnesium",
 15237 "Magnesium Ion",
 15238 "Mercury",
 15239 "Molten Salt",
 15240 "Nickel Cadmium",
 15241 "Nickel Cadmium Vented Cell",
 15242 "Nickel Hydrogen",
 15243 "Nickel Iron",
 15244 "Nickel Metal Hydride",
 15245 "Nickel Metal Hydride Low Self-Discharge",
 15246 "Nickel Oxyhydroxide",
 15247 "Nickel Oxyride",
 15248 "Nickel Zinc",
 15249 "Organic Radical",
 15250 "Paper",
 15251 "Polymer Based",
 15252 "Polysulfide Bromide",
 15253 "Potassium Ion",
 15254 "Pulvermachers Chain",
 15255 "Silicon Air",
 15256 "Silver Calcium",
 15257 "Silver Oxide",
 15258 "Silver Zinc",
 15259 "Sodium Ion",
 15260 "Sodium Sulfur",
 15261 "Solid State",
 15262 "Sugar",
 15263 "Super Iron",
 15264 "UltraBattery",
 15265 "Voltaic Pile",
 15266 "Voltaic Pile Penny",
 15267 "Voltaic Pile Trough",
 15268 "Water Activated",
 15269 "Weston Cell",
 15270 "Zinc Air",
 15271 "Zinc Carbon",
 15272 "Zinc Chloride",

```

15273         "Zinc Ion",
15274         "Unknown"
15275     ],
15276     "readOnly": true,
15277     "type": "string"
15278 },
15279 "n": {
15280     "$ref":
15281 "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
15282 schema.json#/definitions/n"
15283 },
15284 "id": {
15285     "$ref":
15286 "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
15287 schema.json#/definitions/id"
15288 },
15289 "if": {
15290     "description": "The OCF Interface set supported by this Resource.",
15291     "items": {
15292         "enum": [
15293             "oic.if.s",
15294             "oic.if.baseline"
15295         ],
15296         "type": "string"
15297     },
15298     "minItems": 2,
15299     "uniqueItems": true,
15300     "readOnly": true,
15301     "type": "array"
15302 }
15303 },
15304 "type": "object",
15305 "required": ["material"]
15306 }
15307 }
15308 }
15309

```

15310 6.79.5 Property definition

15311 Table 161 defines the Properties that are part of the "oic.r.batterymaterial" Resource Type.

15312 **Table 161 – The Property definitions of the Resource with type "rt" =**
15313 **"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).
----------	--------	-----	-----------	---

15314 **6.79.6 CRUDN behaviour**

15315 Table 162 defines the CRUDN operations that are supported on the "oic.r.batterymaterial"
15316 Resource Type.

15317 **Table 162 – The CRUDN operations of the Resource with type "rt" = "oic.r.batterymaterial".**

Create	Read	Update	Delete	Notify
	get			observe

15318 **6.80 Brewing**

15319 **6.80.1 Introduction**

15320 This Resource describes the attributes associated with brewing. This resource is used for
15321 configuration only. The Operation of the Device is handled independently of this Resource. The
15322 amount requested is in ml. The strength of a brewed drink is an integer, the range of which may be
15323 enforced by the presence of a strengthrange Property.

15324 **6.80.2 Example URI**

15325 /BrewingResURI

15326 **6.80.3 Resource type**

15327 The Resource Type is defined as: "oic.r.brewing".

15328 **6.80.4 OpenAPI 2.0 definition**

```

15329 {
15330   "swagger": "2.0",
15331   "info": {
15332     "title": "Brewing",
15333     "version": "20190222",
15334     "license": {
15335       "name": "OCF Data Model License",
15336       "url":
15337         "https://github.com/openconnectivityfoundation/core/blob/e28a9e0a92e17042ba3e83661e4c0fbce8bdc4ba/LI
15338         CENSE.md",
15339       "x-copyright": "Copyright 2018-2019 Open Connectivity Foundation, Inc. All rights reserved."
15340     },
15341     "termsOfService": "https://openconnectivityfoundation.github.io/core/DISCLAIMER.md"
15342   },
15343   "schemes": ["http"],
15344   "consumes": ["application/json"],
15345   "produces": ["application/json"],
15346   "paths": {
15347     "/BrewingResURI" : {
15348       "get": {
15349         "description": "This Resource describes the attributes associated with brewing. This
15350         resource is used for configuration only. The Operation of the Device is handled independently of
15351         this Resource. The amount requested is in ml. The strength of a brewed drink is an integer, the
15352         range of which may be enforced by the presence of a strengthrange Property.",
15353         "parameters": [
15354           {"$ref": "#/parameters/interface"}
15355         ],
15356         "responses": {
15357           "200": {
15358             "description": "",
15359             "x-example":
15360             {

```

```

15361         "rt": ["oic.r.brewing"],
15362         "if": ["oic.if.rw", "oic.if.baseline"],
15363         "amountrequested": 120,
15364         "strength": 8,
15365         "strengthrange": [1, 10]
15366     },
15367     "schema": { "$ref": "#/definitions/Brewing" }
15368 }
15369 },
15370 },
15371 "post": {
15372     "description": "Sets the brewing values\n",
15373     "parameters": [
15374         { "$ref": "#/parameters/interface" },
15375         {
15376             "name": "body",
15377             "in": "body",
15378             "required": true,
15379             "schema": { "$ref": "#/definitions/Brewing" },
15380             "x-example":
15381                 {
15382                     "amountrequested": 120,
15383                     "strength": 8
15384                 }
15385         }
15386     ],
15387     "responses": {
15388         "200": {
15389             "description": "",
15390             "x-example":
15391                 {
15392                     "amountrequested": 120,
15393                     "strength": 8
15394                 }
15395             }
15396         }
15397     }
15398 },
15399 },
15400 "parameters": {
15401     "interface": {
15402         "in": "query",
15403         "name": "if",
15404         "type": "string",
15405         "enum": ["oic.if.rw", "oic.if.baseline"]
15406     }
15407 },
15408 "definitions": {
15409     "Brewing": {
15410         "properties": {
15411             "rt": {
15412                 "description": "The Resource Type.",
15413                 "items": {
15414                     "enum": ["oic.r.brewing"],
15415                     "maxLength": 64,
15416                     "type": "string"
15417                 },
15418                 "minItems": 1,
15419                 "uniqueItems": true,
15420                 "readOnly": true,
15421                 "type": "array"
15422             },
15423             "strength": {
15424                 "description": "The strength of a brewed drink.",
15425                 "type": "integer"
15426             },
15427             "amountrequested": {
15428                 "description": "The amount requested in ml.",
15429                 "type": "integer"
15430             },
15431             "strengthrange": {
15432                 "items": {

```

```

15433         "type": "integer"
15434     },
15435     "maxItems": 2,
15436     "minItems": 2,
15437     "readOnly": true,
15438     "type": "array"
15439 },
15440 "n": {
15441     "$ref":
15442 "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
15443 schema.json#/definitions/n"
15444 },
15445 "id": {
15446     "$ref":
15447 "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
15448 schema.json#/definitions/id"
15449 },
15450 "if": {
15451     "description": "The OCF Interface set supported by this Resource.",
15452     "items": {
15453         "enum": [
15454             "oic.if.rw",
15455             "oic.if.baseline"
15456         ],
15457         "type": "string"
15458     },
15459     "minItems": 2,
15460     "uniqueItems": true,
15461     "readOnly": true,
15462     "type": "array"
15463 }
15464 },
15465 "type": "object",
15466 "required": ["amountrequested"]
15467 }
15468 }
15469 }
15470

```

15471 6.80.5 Property definition

15472 Table 163 defines the Properties that are part of the "oic.r.brewing" Resource Type.

15473 **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	

15474 **6.80.6 CRUDN behaviour**

15475 Table 164 defines the CRUDN operations that are supported on the "oic.r.brewing" Resource Type.

15476 **Table 164 – The CRUDN operations of the Resource with type "rt" = "oic.r.brewing".**

Create	Read	Update	Delete	Notify
	get	post		observe

15477 **6.81 Energy**

15478 **6.81.1 Introduction**

15479 This Resource describes the attributes associated with electrical energy. This Resource can be
 15480 used for either rated (read-only), desired (read-write) or measured (read-only) energy. The Property
 15481 "voltage" is in Volts (V), The Property "current" in Amps (A), and The Property "frequency" is in
 15482 Hertz (Hz).

15483 **6.81.2 Example URI**

15484 /EnergyResURI

15485 **6.81.3 Resource type**

15486 The Resource Type is defined as: "oic.r.energy.electrical".

15487 **6.81.4 OpenAPI 2.0 definition**

```

15488 {
15489   "swagger": "2.0",
15490   "info": {
15491     "title": "Energy",
15492     "version": "20190215",
15493     "license": {
15494       "name": "OCF Data Model License",
15495       "url":
15496         "https://github.com/openconnectivityfoundation/core/blob/e28a9e0a92e17042ba3e83661e4c0fbce8bdc4ba/LI
15497         CENSE.md",
15498       "x-copyright": "copyright 2016-2017, 2019 Open Connectivity Foundation, Inc. All rights
15499       reserved."
15500     },
15501     "termsOfService": "https://openconnectivityfoundation.github.io/core/DISCLAIMER.md"
15502   },
15503   "schemes": ["http"],
15504   "consumes": ["application/json"],
15505   "produces": ["application/json"],
15506   "paths": {
15507     "/EnergyResURI" : {
15508       "get": {
15509         "description": "This Resource describes the attributes associated with electrical energy.
15510         This Resource can be used for either rated (read-only), desired (read-write) or measured (read-only)
15511         energy. The Property \"voltage\" is in Volts (V), The Property \"current\" in Amps (A), and The
15512         Property \"frequency\" is in Hertz (Hz).",
15513         "parameters": [
15514           {"$ref": "#/parameters/interface"}
15515         ],
15516         "responses": {
15517           "200": {

```

```

15518         "description" : "Retrieves the current energy.",
15519         "x-example":
15520             {
15521                 "rt": ["oic.r.energy.electrical"],
15522                 "if": ["oic.if.rw", "oic.if.baseline"],
15523                 "voltage": 120.0,
15524                 "current": 5.0,
15525                 "frequency": 60.0
15526             },
15527         "schema": { "$ref": "#/definitions/Energy" }
15528     }
15529 }
15530 },
15531 "post": {
15532     "description": "Sets the desired energy values\n",
15533     "parameters": [
15534         { "$ref": "#/parameters/interface" },
15535         {
15536             "name": "body",
15537             "in": "body",
15538             "required": true,
15539             "schema": { "$ref": "#/definitions/EnergyUpdate" },
15540             "x-example":
15541                 {
15542                     "desiredvoltage": 130.0,
15543                     "desiredcurrent": 6.0
15544                 }
15545         }
15546     ],
15547     "responses": {
15548         "200": {
15549             "description" : "",
15550             "x-example":
15551                 {
15552                     "desiredvoltage": 130.0,
15553                     "desiredcurrent": 6.0
15554                 }
15555         }
15556     }
15557 }
15558 },
15559 },
15560 "parameters": {
15561     "interface" : {
15562         "in" : "query",
15563         "name" : "if",
15564         "type" : "string",
15565         "enum" : ["oic.if.rw", "oic.if.baseline"]
15566     }
15567 },
15568 "definitions": {
15569     "Energy" : {
15570         "properties": {
15571             "rt": {
15572                 "description": "The Resource Type.",
15573                 "items": {
15574                     "enum": ["oic.r.energy.electrical"],
15575                     "maxLength": 64,
15576                     "type": "string"
15577                 },
15578                 "minItems": 1,
15579                 "uniqueItems": true,
15580                 "readOnly": true,
15581                 "type": "array"
15582             },
15583             "desiredcurrent": {
15584                 "description": "The desired electric current in Amps (A).",
15585                 "type": "number"
15586             },
15587             "current": {
15588                 "description": "The electric current in Amps (A).",
15589                 "readOnly": true,

```

```

15590         "type": "number"
15591     },
15592     "frequency": {
15593         "description": "The electric frequency in Hertz (Hz).",
15594         "readOnly": true,
15595         "type": "number"
15596     },
15597     "voltage": {
15598         "description": "The electric voltage in Volts (V).",
15599         "readOnly": true,
15600         "type": "number"
15601     },
15602     "desiredfrequency": {
15603         "description": "The desired electric frequency in Hertz (Hz).",
15604         "type": "number"
15605     },
15606     "desiredvoltage": {
15607         "description": "The desired electric voltage in Volts (V).",
15608         "type": "number"
15609     },
15610     "n": {
15611         "$ref":
15612         "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
15613         schema.json#/definitions/n"
15614     },
15615     "id": {
15616         "$ref":
15617         "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
15618         schema.json#/definitions/id"
15619     },
15620     "if": {
15621         "description": "The OCF Interface set supported by this Resource.",
15622         "items": {
15623             "enum": [
15624                 "oic.if.rw",
15625                 "oic.if.baseline"
15626             ],
15627             "type": "string"
15628         },
15629         "minItems": 2,
15630         "uniqueItems": true,
15631         "readOnly": true,
15632         "type": "array"
15633     }
15634 },
15635 "type" : "object",
15636 "required": ["voltage", "current", "frequency"]
15637 }
15638 ,
15639 "EnergyUpdate" : {
15640     "properties": {
15641         "desiredcurrent": {
15642             "description": "The desired electric current in Amps (A).",
15643             "type": "number"
15644         },
15645         "desiredfrequency": {
15646             "description": "The desired electric frequency in Hertz (Hz).",
15647             "type": "number"
15648         },
15649         "desiredvoltage": {
15650             "description": "The desired electric voltage in Volts (V).",
15651             "type": "number"
15652         }
15653     },
15654     "anyOf": [
15655         {
15656             "required": ["desiredvoltage"]
15657         },
15658         {
15659             "required": ["desiredcurrent"]
15660         }
15661     ]

```

```

15662         "required": ["desiredfrequency"]
15663     }
15664 ],
15665     "type": "object"
15666 }
15667 }
15668 }
15669

```

15670 6.81.5 Property definition

15671 Table 165 defines the Properties that are part of the "oic.r.energy.electrical" Resource Type.

15672 **Table 165 – The Property definitions of the Resource with type "rt" =**
15673 **"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).

15674 **6.81.6 CRUDN behaviour**

15675 Table 166 defines the CRUDN operations that are supported on the "oic.r.energy.electrical"
15676 Resource Type.

15677 **Table 166 – The CRUDN operations of the Resource with type "rt" =**
15678 **"oic.r.energy.electrical".**

Create	Read	Update	Delete	Notify
	get	post		observe

15679 **6.82 Energy Generation**

15680 **6.82.1 Introduction**

15681 This Resource describes the attributes associated with energy generation
15682 The Property "energygenerated" is a number that provides the energy generated in Watt-hour(Wh).

15683 **6.82.2 Example URI**

15684 /EnergyGenerationResURI

15685 **6.82.3 Resource type**

15686 The Resource Type is defined as: "oic.r.energy.generation".

15687 **6.82.4 OpenAPI 2.0 definition**

```

15688 {
15689   "swagger": "2.0",
15690   "info": {
15691     "title": "Energy Generation",
15692     "version": "20190215",
15693     "license": {
15694       "name": "OCF Data Model License",
15695       "url":
15696         "https://github.com/openconnectivityfoundation/core/blob/e28a9e0a92e17042ba3e83661e4c0fbce8bdc4ba/LI
15697         CENSE.md",
15698       "x-copyright": "copyright 2016-2017, 2019 Open Connectivity Foundation, Inc. All rights
15699         reserved."
15700     },
15701     "termsOfService": "https://openconnectivityfoundation.github.io/core/DISCLAIMER.md"
15702   },
15703   "schemes": ["http"],

```



```

15704     "consumes": ["application/json"],
15705     "produces": ["application/json"],
15706     "paths": {
15707         "/EnergyGenerationResURI" : {
15708             "get": {
15709                 "description": "This Resource describes the attributes associated with energy
15710 generation\nThe Property \"energygenerated\" is a number that provides the energy generated in Watt-
15711 hour(Wh).",
15712                 "parameters": [
15713                     { "$ref": "#/parameters/interface" }
15714                 ],
15715                 "responses": {
15716                     "200": {
15717                         "description": "",
15718                         "x-example":
15719                             {
15720                                 "rt": ["oic.r.energy.generation"],
15721                                 "if": ["oic.if.s", "oic.if.baseline"],
15722                                 "energygenerated": 3000.00
15723                             },
15724                         "schema": { "$ref": "#/definitions/EnergyGeneration" }
15725                     }
15726                 }
15727             }
15728         }
15729     },
15730     "parameters": {
15731         "interface" : {
15732             "in" : "query",
15733             "name" : "if",
15734             "type" : "string",
15735             "enum" : ["oic.if.s", "oic.if.baseline"]
15736         }
15737     },
15738     "definitions": {
15739         "EnergyGeneration" : {
15740             "properties": {
15741                 "rt": {
15742                     "description": "The Resource Type.",
15743                     "items": {
15744                         "enum": ["oic.r.energy.generation"],
15745                         "maxLength": 64,
15746                         "type": "string"
15747                     },
15748                     "minItems": 1,
15749                     "uniqueItems": true,
15750                     "readOnly": true,
15751                     "type": "array"
15752                 },
15753                 "energygenerated": {
15754                     "description": "The energy generated in Watt-hour(Wh).",
15755                     "readOnly": true,
15756                     "type": "number"
15757                 },
15758                 "n": {
15759                     "$ref":
15760 "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
15761 schema.json#/definitions/n"
15762                 },
15763                 "id": {
15764                     "$ref":
15765 "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
15766 schema.json#/definitions/id"
15767                 },
15768                 "if": {
15769                     "description": "The OCF Interface set supported by this Resource.",
15770                     "items": {
15771                         "enum": [
15772                             "oic.if.s",
15773                             "oic.if.baseline"
15774                         ],
15775                         "type": "string"

```

```

15776     },
15777     "minItems": 2,
15778     "uniqueItems": true,
15779     "readOnly": true,
15780     "type": "array"
15781   }
15782 },
15783 "type": "object",
15784 "required": ["energygenerated"]
15785 }
15786 }
15787 }
15788

```

15789 **6.82.5 Property definition**

15790 Table 167 defines the Properties that are part of the "oic.r.energy.generation" Resource Type.

15791 **Table 167 – The Property definitions of the Resource with type "rt" =**
 15792 **"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	

15793 **6.82.6 CRUDN behaviour**

15794 Table 168 defines the CRUDN operations that are supported on the "oic.r.energy.generation"
 15795 Resource Type.

15796 **Table 168 – The CRUDN operations of the Resource with type "rt" =**
 15797 **"oic.r.energy.generation".**

Create	Read	Update	Delete	Notify
	get			observe

15798 **6.83 Foaming**

15799 **6.83.1 Introduction**

15800 This Resource describes the attributes associated with foaming. The Property "foamstrength" of
 15801 the liquid is represented as an integer.

15802 The foam strength is an integer, the range of which may be enforced by the presence of the
15803 Property "range".

15804 **6.83.2 Example URI**

15805 /FoamingResURI

15806 **6.83.3 Resource type**

15807 The Resource Type is defined as: "oic.r.foaming".

15808 **6.83.4 OpenAPI 2.0 definition**

```
15809 {
15810   "swagger": "2.0",
15811   "info": {
15812     "title": "Foaming",
15813     "version": "20190215",
15814     "license": {
15815       "name": "OCF Data Model License",
15816       "url":
15817         "https://github.com/openconnectivityfoundation/core/blob/e28a9e0a92e17042ba3e83661e4c0fbce8bdc4ba/LI
15818         CENSE.md",
15819       "x-copyright": "copyright 2016-2017, 2019 Open Connectivity Foundation, Inc. All rights
15820       reserved."
15821     },
15822     "termsOfService": "https://openconnectivityfoundation.github.io/core/DISCLAIMER.md"
15823   },
15824   "schemes": ["http"],
15825   "consumes": ["application/json"],
15826   "produces": ["application/json"],
15827   "paths": {
15828     "/FoamingResURI" : {
15829       "get": {
15830         "description": "This Resource describes the attributes associated with foaming. The Property
15831         \"foamstrength\" of the liquid is represented as an integer.\n\nThe foam strength is an integer, the
15832         range of which may be enforced by the presence of the Property \"range\".",
15833         "parameters": [
15834           { "$ref": "#/parameters/interface" }
15835         ],
15836         "responses": {
15837           "200": {
15838             "description": "RETRIEVES the state of foaming.",
15839             "x-example":
15840               {
15841                 "rt": ["oic.r.foaming"],
15842                 "if": ["oic.if.rw", "oic.if.baseline"],
15843                 "foamstrength": 50,
15844                 "range": [0, 100]
15845               },
15846             "schema": { "$ref": "#/definitions/Foaming" }
15847           }
15848         }
15849       },
15850       "post": {
15851         "description": "Sets foaming value\n",
15852         "parameters": [
15853           { "$ref": "#/parameters/interface" },
15854           {
15855             "name": "body",
15856             "in": "body",
15857             "required": true,
15858             "schema": { "$ref": "#/definitions/Foaming" },
15859             "x-example":
15860               {
15861                 "foamstrength": 50
15862               }
15863           }
15864         ],
15865         "responses": {
15866           "200": {
```

```

15867         "description" : "",
15868         "x-example":
15869             {
15870                 "foamstrength": 50
15871             },
15872         "schema": { "$ref": "#/definitions/Foaming" }
15873     }
15874 }
15875 }
15876 },
15877 },
15878 "parameters": {
15879     "interface": {
15880         "in": "query",
15881         "name": "if",
15882         "type": "string",
15883         "enum": ["oic.if.rw", "oic.if.baseline"]
15884     }
15885 },
15886 "definitions": {
15887     "Foaming" : {
15888         "properties": {
15889             "rt": {
15890                 "description": "Resource Type",
15891                 "items": {
15892                     "enum": ["oic.r.foaming"],
15893                     "maxLength": 64,
15894                     "type": "string"
15895                 },
15896                 "minItems": 1,
15897                 "uniqueItems": true,
15898                 "readOnly": true,
15899                 "type": "array"
15900             },
15901             "foamstrength": {
15902                 "description": "The desired foaminess of the liquid.",
15903                 "type": "integer"
15904             },
15905             "n": {
15906                 "$ref":
15907 "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
15908 schema.json#/definitions/n"
15909             },
15910             "id": {
15911                 "$ref":
15912 "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
15913 schema.json#/definitions/id"
15914             },
15915             "range": {
15916                 "$ref":
15917 "https://openconnectivityfoundation.github.io/IoTDataModels/schemas/oic.baseresource.properties-
15918 schema.json#/definitions/range_integer"
15919             },
15920             "step": {
15921                 "$ref":
15922 "https://openconnectivityfoundation.github.io/IoTDataModels/schemas/oic.baseresource.properties-
15923 schema.json#/definitions/step_integer"
15924             },
15925             "if": {
15926                 "description": "The interface set supported by this resource",
15927                 "items": {
15928                     "enum": [
15929                         "oic.if.rw",
15930                         "oic.if.baseline"
15931                     ],
15932                     "type": "string"
15933                 },
15934                 "minItems": 2,
15935                 "uniqueItems": true,
15936                 "readOnly": true,
15937                 "type": "array"
15938             }

```

```

15939     },
15940     "type": "object",
15941     "required": ["foamstrength"]
15942   }
15943 }
15944 }
15945

```

15946 6.83.5 Property definition

15947 Table 169 defines the Properties that are part of the "oic.r.foaming" Resource Type.

15948 **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	

15949 6.83.6 CRUDN behaviour

15950 Table 170 defines the CRUDN operations that are supported on the "oic.r.foaming" Resource Type.

15951 **Table 170 – The CRUDN operations of the Resource with type "rt" = "oic.r.foaming".**

Create	Read	Update	Delete	Notify
	get	post		observe

15952 6.84 Grinder

15953 6.84.1 Introduction

15954 This Resource describes the attributes associated with a grinder. The Property "coarseness" of the
 15955 grounds is an integer. The higher the value, the less coarse. The Property "remaining" is a
 15956 percentage that represents the unground material left.

15957 **6.84.2 Example URI**

15958 /GrinderResURI

15959 **6.84.3 Resource type**

15960 The Resource Type is defined as: "oic.r.grinder".

15961 **6.84.4 OpenAPI 2.0 definition**

```
15962 {
15963   "swagger": "2.0",
15964   "info": {
15965     "title": "Grinder",
15966     "version": "20190215",
15967     "license": {
15968       "name": "OCF Data Model License",
15969       "url":
15970 "https://github.com/openconnectivityfoundation/core/blob/e28a9e0a92e17042ba3e83661e4c0fbce8bdc4ba/LI
15971 CENSE.md",
15972       "x-copyright": "copyright 2016-2017, 2019 Open Connectivity Foundation, Inc. All rights
15973 reserved."
15974     },
15975     "termsOfService": "https://openconnectivityfoundation.github.io/core/DISCLAIMER.md"
15976   },
15977   "schemes": ["http"],
15978   "consumes": ["application/json"],
15979   "produces": ["application/json"],
15980   "paths": {
15981     "/GrinderResURI" : {
15982       "get": {
15983         "description": "This Resource describes the attributes associated with a grinder. The
15984 Property \"coarseness\" of the grounds is an integer. The higher the value, the less coarse. The
15985 Property \"remaining\" is a percentage that represents the unground material left.",
15986         "parameters": [
15987           {"$ref": "#/parameters/interface"}
15988         ],
15989         "responses": {
15990           "200": {
15991             "description": "RETRIEVES the state of a grinder.",
15992             "x-example":
15993             {
15994               "rt": ["oic.r.grinder"],
15995               "if": ["oic.if.rw", "oic.if.baseline"],
15996               "coarseness": 10,
15997               "remaining": 50
15998             },
15999             "schema": { "$ref": "#/definitions/Grinder" }
16000           }
16001         }
16002       },
16003       "post": {
16004         "description": "Sets grinding values.",
16005         "parameters": [
16006           {"$ref": "#/parameters/interface"},
16007           {
16008             "name": "body",
16009             "in": "body",
16010             "required": true,
16011             "schema": { "$ref": "#/definitions/GrinderUpdate" },
16012             "x-example":
16013             {
16014               "coarseness": 10
16015             }
16016           }
16017         ],
16018         "responses": {
16019           "200": {
16020             "description": "",
16021             "x-example":
16022             {
16023               "coarseness": 10
```

```

16024         },
16025         "schema": { "$ref": "#/definitions/GrinderUpdate" }
16026     }
16027 }
16028 }
16029 }
16030 },
16031 "parameters": {
16032     "interface": {
16033         "in": "query",
16034         "name": "if",
16035         "type": "string",
16036         "enum": ["oic.if.rw", "oic.if.baseline"]
16037     }
16038 },
16039 "definitions": {
16040     "Grinder": {
16041         "properties": {
16042             "rt": {
16043                 "description": "Resource Type",
16044                 "items": {
16045                     "enum": ["oic.r.grinder"],
16046                     "maxLength": 64,
16047                     "type": "string"
16048                 },
16049                 "minItems": 1,
16050                 "uniqueItems": true,
16051                 "readOnly": true,
16052                 "type": "array"
16053             },
16054             "coarseness": {
16055                 "description": "The desired coarseness when grinding.",
16056                 "type": "integer"
16057             },
16058             "remaining": {
16059                 "description": "The percentage of unground material left.",
16060                 "maximum": 100,
16061                 "minimum": 0,
16062                 "readOnly": true,
16063                 "type": "integer"
16064             },
16065             "n": {
16066                 "$ref":
16067 "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
16068 schema.json#/definitions/n"
16069             },
16070             "id": {
16071                 "$ref":
16072 "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
16073 schema.json#/definitions/id"
16074             },
16075             "range": {
16076                 "$ref":
16077 "https://openconnectivityfoundation.github.io/IoTDataModels/schemas/oic.baseresource.properties-
16078 schema.json#/definitions/range_integer"
16079             },
16080             "step": {
16081                 "$ref":
16082 "https://openconnectivityfoundation.github.io/IoTDataModels/schemas/oic.baseresource.properties-
16083 schema.json#/definitions/step_integer"
16084             },
16085             "if": {
16086                 "description": "The OCF Interface set supported by this Resource.",
16087                 "items": {
16088                     "enum": [
16089                         "oic.if.rw",
16090                         "oic.if.baseline"
16091                     ],
16092                     "type": "string"
16093                 },
16094                 "minItems": 2,
16095                 "uniqueItems": true,

```

```

16096         "readOnly": true,
16097         "type": "array"
16098     },
16099 },
16100 "type": "object",
16101 "required": ["coarseness"]
16102 },
16103 "GrinderUpdate" : {
16104     "properties": {
16105         "coarseness": {
16106             "description": "The desired coarseness when grinding.",
16107             "type": "integer"
16108         }
16109     },
16110     "type": "object",
16111     "required": ["coarseness"]
16112 }
16113 }
16114 }
16115

```

6.84.5 Property definition

Table 171 defines the Properties that are part of the "oic.r.grinder" Resource Type.

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.
------------	---------	-----	------------	---------------------------------------

16119 **6.84.6 CRUDN behaviour**

16120 Table 172 defines the CRUDN operations that are supported on the "oic.r.grinder" Resource Type.

16121 **Table 172 – The CRUDN operations of the Resource with type "rt" = "oic.r.grinder".**

Create	Read	Update	Delete	Notify
	get	post		observe

16122 **6.85 Liquid Level**

16123 **6.85.1 Introduction**

16124 This Resource describes the attributes associated with liquid level. The Property "currentlevel" and
 16125 "desiredlevel" are defined in terms of a percentage. The behaviour of when the currentlevel and
 16126 desiredlevel are not equal is determined by the device manufacturer.

16127 **6.85.2 Example URI**

16128 /LiquidLevelResURI

16129 **6.85.3 Resource type**

16130 The Resource Type is defined as: "oic.r.liquid.level".

16131 **6.85.4 OpenAPI 2.0 definition**

```

16132 {
16133   "swagger": "2.0",
16134   "info": {
16135     "title": "Liquid Level",
16136     "version": "20190215",
16137     "license": {
16138       "name": "OCF Data Model License",
16139       "url":
16140         "https://github.com/openconnectivityfoundation/core/blob/e28a9e0a92e17042ba3e83661e4c0fbce8bdc4ba/LI
16141         CENSE.md",
16142       "x-copyright": "copyright 2016-2017, 2019 Open Connectivity Foundation, Inc. All rights
16143         reserved."
16144     },
16145     "termsOfService": "https://openconnectivityfoundation.github.io/core/DISCLAIMER.md"
16146   },
16147   "schemes": ["http"],
16148   "consumes": ["application/json"],
16149   "produces": ["application/json"],
16150   "paths": {
16151     "/LiquidLevelResURI" : {
16152       "get": {
16153         "description": "This Resource describes the attributes associated with liquid level. The
16154         Property \"currentlevel\" and \"desiredlevel\" are defined in terms of a percentage. The behaviour
16155         of when the currentlevel and desiredlevel are not equal is determined by the device manufacturer.",
16156         "parameters": [
16157           {"$ref": "#/parameters/interface"}
16158         ],
16159         "responses": {
16160           "200": {
16161             "description": "RETRIEVES the state of liquid level.",
16162             "x-example":
16163               {
16164                 "rt": ["oic.r.liquid.level"],
16165                 "if": ["oic.if.rw", "oic.if.r", "oic.if.baseline"],

```

```

16166         "currentlevel": 60,
16167         "desiredlevel": 80
16168     },
16169     "schema": { "$ref": "#/definitions/LiquidLevel" }
16170 }
16171 },
16172 },
16173 "post": {
16174     "description": "Sets liquid level value.",
16175     "parameters": [
16176         { "$ref": "#/parameters/interface-rw",
16177         {
16178             "name": "body",
16179             "in": "body",
16180             "required": true,
16181             "schema": { "$ref": "#/definitions/LiquidLevelUpdate" },
16182             "x-example":
16183                 {
16184                     "desiredlevel": 80
16185                 }
16186         }
16187     ],
16188     "responses": {
16189         "200": {
16190             "description": "",
16191             "x-example":
16192                 {
16193                     "desiredlevel": 80
16194                 },
16195             "schema": { "$ref": "#/definitions/LiquidLevelUpdate" }
16196         }
16197     }
16198 }
16199 },
16200 },
16201 "parameters": {
16202     "interface" : {
16203         "in" : "query",
16204         "name" : "if",
16205         "type" : "string",
16206         "enum" : ["oic.if.rw", "oic.if.r", "oic.if.baseline"]
16207     },
16208     "interface-rw" : {
16209         "in" : "query",
16210         "name" : "if",
16211         "type" : "string",
16212         "enum" : ["oic.if.rw", "oic.if.baseline"]
16213     }
16214 },
16215 "definitions": {
16216     "LiquidLevel" : {
16217         "properties": {
16218             "rt": {
16219                 "description": "The Resource Type.",
16220                 "items": {
16221                     "enum": ["oic.r.liquid.level"],
16222                     "maxLength": 64,
16223                     "type": "string"
16224                 },
16225                 "minItems": 1,
16226                 "uniqueItems": true,
16227                 "readOnly": true,
16228                 "type": "array"
16229             },
16230             "currentlevel": {
16231                 "description": "The current level of the liquid in percentage.",
16232                 "maximum": 100,
16233                 "minimum": 0,
16234                 "readOnly": true,
16235                 "type": "integer"
16236             },
16237             "desiredlevel": {

```

```

16238         "description": "The desired level of the liquid in percentage.",
16239         "maximum": 100,
16240         "minimum": 0,
16241         "type": "integer"
16242     },
16243     "n": {
16244         "$ref":
16245         "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
16246         schema.json#/definitions/n"
16247     },
16248     "id": {
16249         "$ref":
16250         "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
16251         schema.json#/definitions/id"
16252     },
16253     "step": {
16254         "$ref":
16255         "https://openconnectivityfoundation.github.io/IoTDataModels/schemas/oic.baseresource.properties-
16256         schema.json#/definitions/step_integer"
16257     },
16258     "if": {
16259         "description": "The OCF Interface set supported by this Resource.",
16260         "items": {
16261             "enum": [
16262                 "oic.if.rw",
16263                 "oic.if.r",
16264                 "oic.if.baseline"
16265             ],
16266             "type": "string"
16267         },
16268         "minItems": 2,
16269         "uniqueItems": true,
16270         "readOnly": true,
16271         "type": "array"
16272     }
16273 },
16274 "type": "object",
16275 "required": ["currentlevel"]
16276 },
16277 "LiquidLevelUpdate" : {
16278     "properties": {
16279         "desiredlevel": {
16280             "description": "The desired level of the liquid in percentage.",
16281             "maximum": 100,
16282             "minimum": 0,
16283             "type": "integer"
16284         }
16285     },
16286     "type": "object",
16287     "required": ["desiredlevel"]
16288 }
16289 }
16290 }
16291

```

16292 **6.85.5 Property definition**

16293 Table 173 defines the Properties that are part of the "oic.r.liquid.level" Resource Type.

16294 **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: schema see	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.

16295 **6.85.6 CRUDN behaviour**

16296 Table 174 defines the CRUDN operations that are supported on the "oic.r.liquid.level" Resource
16297 Type.

16298 **Table 174 – The CRUDN operations of the Resource with type "rt" = "oic.r.liquid.level".**

Create	Read	Update	Delete	Notify
	get	post		observe

16299 **6.86 Vehicle Connector**

16300 **6.86.1 Introduction**

16301 This Resource describes the attributes associated with an electric vehicle charging connector. The
16302 Property "connected" is a boolean indicating the status of the connector (False = disconnected,
16303 True = connected). The Property "ratedchargingcapacity" and "rateddischargingcapacity" are in
16304 Amps (A).

16305 **6.86.2 Example URI**

16306 /VehicleConnectorResURI

16307 **6.86.3 Resource type**

16308 The Resource Type is defined as: "oic.r.vehicle.connector".

16309 **6.86.4 OpenAPI 2.0 definition**

16310 {
16311 "swagger": "2.0",
16312 "info": {
16313 "title": "Vehicle Connector",

```

16314     "version": "20190215",
16315     "license": {
16316         "name": "OCF Data Model License",
16317         "url":
16318 "https://github.com/openconnectivityfoundation/core/blob/e28a9e0a92e17042ba3e83661e4c0fbce8bdc4ba/LI
16319 CENSE.md",
16320         "copyright": "copyright 2016-2017, 2019 Open Connectivity Foundation, Inc. All rights
16321 reserved."
16322     },
16323     "termsOfService": "https://openconnectivityfoundation.github.io/core/DISCLAIMER.md"
16324 },
16325     "schemes": ["http"],
16326     "consumes": ["application/json"],
16327     "produces": ["application/json"],
16328     "paths": {
16329         "/VehicleConnectorResURI" : {
16330             "get": {
16331                 "description": "This Resource describes the attributes associated with an electric vehicle
16332 charging connector. The Property \"connected\" is a boolean indicating the status of the connector
16333 (False = disconnected, True = connected). The Property \"ratedchargingcapacity\" and
16334 \"rateddischargingcapacity\" are in Amps (A).",
16335                 "parameters": [
16336                     { "$ref": "#/parameters/interface" }
16337                 ],
16338                 "responses": {
16339                     "200": {
16340                         "description": "",
16341                         "x-example":
16342                 {
16343                     "rt": ["oic.r.vehicle.connector"],
16344                     "if": ["oic.if.s", "oic.if.baseline"],
16345                     "connected": true,
16346                     "ratedchargingcapacity": 20.0,
16347                     "rateddischargingcapacity": 5.0
16348                 },
16349                 "schema": { "$ref": "#/definitions/VehicleConnector" }
16350             }
16351         }
16352     }
16353 },
16354 },
16355     "parameters": {
16356         "interface": {
16357             "in": "query",
16358             "name": "if",
16359             "type": "string",
16360             "enum": ["oic.if.s", "oic.if.baseline"]
16361         }
16362     },
16363     "definitions": {
16364         "VehicleConnector" : {
16365             "properties": {
16366                 "rt": {
16367                     "description": "The Resource Type.",
16368                     "items": {
16369                         "enum": ["oic.r.vehicle.connector"],
16370                         "maxLength": 64,
16371                         "type": "string"
16372                     },
16373                     "minItems": 1,
16374                     "uniqueItems": true,
16375                     "readOnly": true,
16376                     "type": "array"
16377                 },
16378                 "connected": {
16379                     "description": "The connection state.",
16380                     "readOnly": true,
16381                     "type": "boolean"
16382                 },
16383                 "ratedchargingcapacity": {
16384                     "description": "The rated charging capacity in Amps (A).",
16385                     "readOnly": true,

```

```

16386         "type": "number"
16387     },
16388     "rateddischargingcapacity": {
16389         "description": "The rated discharging capacity in Amps (A).",
16390         "readOnly": true,
16391         "type": "number"
16392     },
16393     "n": {
16394         "$ref":
16395         "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
16396         schema.json#/definitions/n"
16397     },
16398     "id": {
16399         "$ref":
16400         "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
16401         schema.json#/definitions/id"
16402     },
16403     "if": {
16404         "description": "The OCF Interface set supported by this Resource.",
16405         "items": {
16406             "enum": [
16407                 "oic.if.s",
16408                 "oic.if.baseline"
16409             ],
16410             "type": "string"
16411         },
16412         "minItems": 2,
16413         "uniqueItems": true,
16414         "readOnly": true,
16415         "type": "array"
16416     }
16417 },
16418 "type": "object",
16419 "required": ["connected"]
16420 }
16421 }
16422 }
16423

```

16424 **6.86.5 Property definition**

16425 Table 175 defines the Properties that are part of the "oic.r.vehicle.connector" Resource Type.

16426 **Table 175 – The Property definitions of the Resource with type "rt" =**
16427 **"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.

16428 **6.86.6 CRUDN behaviour**

16429 Table 176 defines the CRUDN operations that are supported on the "oic.r.vehicle.connector"
16430 Resource Type.

16431 **Table 176 – The CRUDN operations of the Resource with type "rt" =**
16432 **"oic.r.vehicle.connector".**

Create	Read	Update	Delete	Notify
	get			observe

16433 **6.87 Time Stamp**

16434 **6.87.1 Introduction**

16435 This Resource describes Properties associated with a timestamp.
16436 The "timestamp" Property is a string that captures a timestamp using the RFC3339 datetime format
16437 (e.g: 2007-04-05T14:30Z) (Time+Date+Timezone).

16438 **6.87.2 Example URI**

16439 /TimeStampResURI

16440 **6.87.3 Resource type**

16441 The Resource Type is defined as: "oic.r.time.stamp".

16442 **6.87.4 OpenAPI 2.0 definition**

```

16443 {
16444   "swagger": "2.0",
16445   "info": {
16446     "title": "Time Stamp",
16447     "version": "20190215",
16448     "license": {
16449       "name": "OCF Data Model License",
16450       "url":
16451 "https://github.com/openconnectivityfoundation/core/blob/e28a9e0a92e17042ba3e83661e4c0fbce8bdc4ba/LI
16452 CENSE.md",
16453       "x-copyright": "copyright 2016-2017, 2019 Open Connectivity Foundation, Inc. All rights
16454 reserved."
16455     },
16456     "termsOfService": "https://openconnectivityfoundation.github.io/core/DISCLAIMER.md"
16457   },
16458   "schemes": ["http"],
16459   "consumes": ["application/json"],
16460   "produces": ["application/json"],
16461   "paths": {

```

```

16462     "/TimeStampResURI" : {
16463       "get": {
16464         "description": "This Resource describes Properties associated with a timestamp.\nThe
16465 \"timestamp\" Property is a string that captures a timestamp using the RFC3339 datetime format (e.g:
16466 2007-04-05T14:30Z) (Time+Date+Timezone).",
16467         "parameters": [
16468           { "$ref": "#/parameters/interface" }
16469         ],
16470         "responses": {
16471           "200": {
16472             "description": "",
16473             "x-example":
16474               {
16475                 "rt": ["oic.r.time.stamp"],
16476                 "if": ["oic.if.s", "oic.if.r", "oic.if.baseline"],
16477                 "timestamp": "2015-11-05T14:30:00Z"
16478               },
16479             "schema": { "$ref": "#/definitions/TimeStamp" }
16480           }
16481         }
16482       }
16483     },
16484     "parameters": {
16485       "interface": {
16486         "in": "query",
16487         "name": "if",
16488         "type": "string",
16489         "enum": ["oic.if.s", "oic.if.r", "oic.if.baseline"]
16490       }
16491     },
16492     "definitions": {
16493       "TimeStamp" : {
16494         "properties": {
16495           "rt": {
16496             "description": "The Resource Type.",
16497             "items": {
16498               "enum": ["oic.r.time.stamp"],
16499               "maxLength": 64,
16500               "type": "string"
16501             },
16502             "minItems": 1,
16503             "uniqueItems": true,
16504             "readOnly": true,
16505             "type": "array"
16506           },
16507           "timestamp": {
16508             "description": "An RFC3339 formatted time indicating when the data was observed (e.g.:
16509 2016-02-15T09:19Z, 1996-12-19T16:39:57-08:00).",
16510             "format": "date-time",
16511             "readOnly": true,
16512             "type": "string"
16513           },
16514           "n": {
16515             "$ref":
16516               "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
16517               schema.json#/definitions/n"
16518           },
16519           "id": {
16520             "$ref":
16521               "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
16522               schema.json#/definitions/id"
16523           },
16524           "if": {
16525             "description": "The OCF Interface set supported by this Resource.",
16526             "items": {
16527               "enum": [
16528                 "oic.if.s",
16529                 "oic.if.r",
16530                 "oic.if.baseline"
16531               ],
16532             "type": "string"
16533           }
16534         }
16535       }
16536     }
16537   }

```



```

16534     },
16535     "minItems": 2,
16536     "uniqueItems": true,
16537     "readOnly": true,
16538     "type": "array"
16539   }
16540 },
16541 "type": "object",
16542 "required": ["timestamp"]
16543 }
16544 }
16545 }
16546

```

16547 **6.87.5 Property definition**

16548 Table 177 defines the Properties that are part of the "oic.r.time.stamp" Resource Type.

16549 **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	

16550 **6.87.6 CRUDN behaviour**

16551 Table 178 defines the CRUDN operations that are supported on the "oic.r.time.stamp" Resource Type.
 16552

16553 **Table 178 – The CRUDN operations of the Resource with type "rt" = "oic.r.time.stamp".**

Create	Read	Update	Delete	Notify
	get			observe

16554 **6.88 3D Printer**

16555 **6.88.1 Introduction**

16556 This Resource describes the attributes associated with 3D Printer. The type of 3D printing
16557 technology is specified by an enumerated string value. The maximum sizes in mm are included for
16558 the x, y, and z dimensions. A designation of whether the device is capable of WAN connectivity is
16559 represented in a boolean. The memory capacity is captured in MB.

16560 **6.88.2 Example URI**

16561 /3DPrinterResURI

16562 **6.88.3 Resource type**

16563 The Resource Type is defined as: "oic.r.printer.3d".

16564 **6.88.4 OpenAPI 2.0 definition**

```
16565 {  
16566   "swagger": "2.0",  
16567   "info": {  
16568     "title": "3D Printer",  
16569     "version": "20190222",  
16570     "license": {  
16571       "name": "OCF Data Model License",  
16572       "url":  
16573       "https://github.com/openconnectivityfoundation/core/blob/e28a9e0a92e17042ba3e83661e4c0fbce8bdc4ba/LI  
16574       CENSE.md",  
16575       "x-copyright": "Copyright 2018-2019 Open Connectivity Foundation, Inc. All rights reserved."  
16576     },  
16577     "termsOfService": "https://openconnectivityfoundation.github.io/core/DISCLAIMER.md"  
16578   },  
16579   "schemes": ["http"],  
16580   "consumes": ["application/json"],  
16581   "produces": ["application/json"],  
16582   "paths": {  
16583     "/3DPrinterResURI" : {  
16584       "get": {  
16585         "description": "This Resource describes the attributes associated with 3D Printer. The type  
16586         of 3D printing technology is specified by an enumerated string value. The maximum sizes in mm are  
16587         included for the x, y, and z dimensions. A designation of whether the device is capable of WAN  
16588         connectivity is represented in a boolean. The memory capacity is captured in MB.",  
16589         "parameters": [  
16590           {"$ref": "#/parameters/interface"}  
16591         ],  
16592         "responses": {  
16593           "200": {  
16594             "description": "",  
16595             "x-example":  
16596               {  
16597                 "rt" : ["oic.r.printer.3d"],  
16598                 "if" : ["oic.if.r", "oic.if.baseline"],  
16599                 "3dprinttype" : "Digital Light Processing",  
16600                 "printsizex" : 300.00,  
16601                 "printsizex" : 200.50,  
16602                 "printsizex" : 250.75,  
16603                 "wanconnected" : false,  
16604                 "memorysize" : 120.5  
16605               },  
16606               "schema": { "$ref": "#/definitions/3DPrinter" }  
16607             }  
16608           }  
16609         }  
16610       }  
16611     },  
16612     "parameters": {  
16613       "interface" : {  
16614         "in": "query",  
16615         "name": "if",  
16616         "type": "string",
```

```

16617     "enum": ["oic.if.r", "oic.if.baseline"]
16618   }
16619 },
16620 "definitions": {
16621   "3DPrinter": {
16622     "properties": {
16623       "rt": {
16624         "description": "The Resource Type",
16625         "items": {
16626           "maxLength": 64,
16627           "type": "string",
16628           "enum": ["oic.r.printer.3d"]
16629         },
16630         "minItems": 1,
16631         "uniqueItems": true,
16632         "readOnly": true,
16633         "type": "array"
16634       },
16635       "printsizex": {
16636         "description": "This Property represents the maximum size of printing object in the
16637 direction of Y-axis. The unit is mm.",
16638         "readOnly": true,
16639         "type": "number"
16640       },
16641       "memorysize": {
16642         "description": "This Property represents the total memory size of the printer. The unit is
16643 MB(Mega Bytes)",
16644         "readOnly": true,
16645         "type": "number"
16646       },
16647       "3dprinttype": {
16648         "description": "The type of 3D printing technology.",
16649         "enum": [
16650           "Fused Filament Fabrication",
16651           "Fused Deposition Modeling",
16652           "Digital Light Processing",
16653           "Powder Bed & inkjet head 3D Printing",
16654           "Photopolymer Jetting Technology",
16655           "Laminated Object Manufacturing",
16656           "Stereolithography Apparatus",
16657           "Selective Laser Sintering",
16658           "Unknown"
16659         ],
16660         "readOnly": true,
16661         "type": "string"
16662       },
16663       "wanconnected": {
16664         "description": "This Property indicates the connectivity capability of the 3D printer. If
16665 the value is false, the printer does not have network facility to Wide Area Network such as internet
16666 and GSM. If the value is true, the printer has network connectivity",
16667         "readOnly": true,
16668         "type": "boolean"
16669       },
16670       "printsizex": {
16671         "description": "This Property represents the maximum size of printing object in the
16672 direction of X-axis. The unit is mm.",
16673         "readOnly": true,
16674         "type": "number"
16675       },
16676       "printsizex": {
16677         "description": "This Property represents the maximum size of printing object in the
16678 direction of Z-axis. The unit is mm.",
16679         "readOnly": true,
16680         "type": "number"
16681       },
16682       "n": {
16683         "$ref":
16684 "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
16685 schema.json#/definitions/n"
16686       },
16687       "id": {
16688         "$ref":

```

```

16689 "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
16690 schema.json#/definitions/id"
16691 },
16692 "if": {
16693   "description": "The OCF Interface set supported by this Resource.",
16694   "items": {
16695     "enum": [
16696       "oic.if.r",
16697       "oic.if.baseline"
16698     ],
16699     "type": "string"
16700   },
16701   "minItems": 2,
16702   "readOnly": true,
16703   "uniqueItems": true,
16704   "type": "array"
16705 }
16706 },
16707 "type": "object",
16708 "required": ["3dprinttype", "printsizex", "printsizex", "printsizex", "wanconnected",
16709 "memorysize"]
16710 }
16711 }
16712 }
16713

```

16714 **6.88.5 Property definition**

16715 Table 179 defines the Properties that are part of the "oic.r.printer.3d" Resource Type.

16716 **Table 179 – The Property definitions of the Resource with type "rt" = "oic.r.printer.3d".**

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

16717 **6.88.6 CRUDN behaviour**

16718 Table 180 defines the CRUDN operations that are supported on the "oic.r.printer.3d" Resource
 16719 Type.

16720 **Table 180 – The CRUDN operations of the Resource with type "rt" = "oic.r.printer.3d".**

Create	Read	Update	Delete	Notify
	get			observe

16721 **6.89 Blood Pressure**

16722 **6.89.1 Introduction**

16723 This Resource describes the Properties associated with a person's blood pressure.
16724 The unit is a single value that is one of mmHg or kPa.
16725 If the unit Property is missing the default is a millimeter of mercury [mmHg].
16726 The bloodpressure and unit Properties are read-only values that are provided by the Server.
16727 When range is omitted the default is 0 to +MAXFLOAT.

16728 **6.89.2 Example URI**

16729 /BloodPressureResURI

16730 **6.89.3 Resource type**

16731 The Resource Type is defined as: "oic.r.blood.pressure".

16732 **6.89.4 OpenAPI 2.0 definition**

```
16733 {  
16734   "swagger": "2.0",  
16735   "info": {  
16736     "title": "Blood Pressure",  
16737     "version": "2019-03-22",  
16738     "license": {  
16739       "name": "OCF Data Model License",  
16740       "url":  
16741         "https://github.com/openconnectivityfoundation/core/blob/e28a9e0a92e17042ba3e83661e4c0fbce8bdc4ba/LI  
16742         CENSE.md",  
16743         "x-copyright": "Copyright 2016-2019 Open Connectivity Foundation, Inc. All rights reserved."  
16744       },  
16745       "termsOfService": "https://openconnectivityfoundation.github.io/core/DISCLAIMER.md"  
16746     },  
16747     "schemes": [  
16748       "http"  
16749     ],  
16750     "consumes": [  
16751       "application/json"  
16752     ],  
16753     "produces": [  
16754       "application/json"  
16755     ],  
16756     "paths": {  
16757       "/BloodPressureResURI": {  
16758         "get": {  
16759           "description": "This Resource describes the Properties associated with a person's blood  
16760           pressure.\n\nThe unit is a single value that is one of mmHg or kPa.\n\nIf the unit Property is missing  
16761           the default is a millimeter of mercury [mmHg].\n\nThe bloodpressure and unit Properties are read-only  
16762           values that are provided by the Server.\n\nWhen range is omitted the default is 0 to +MAXFLOAT.",  
16763           "parameters": [  
16764             {  
16765               "$ref": "#/parameters/interface"  
16766             }  
16767           ],  
16768           "responses": {  
16769             "200": {  
16770               "description": "",  
16771               "x-example": {  
16772                 "rt": [  
16773                   "oic.r.blood.pressure"  
16774                 ],  
16775                 "systolic": 110.0,  
16776                 "diastolic": 85.0,  
16777                 "map": 93.0,  
16778                 "range": [20.0, 300.0],  
16779                 "step": 1.0,  
16780                 "units": "mmHg"  
16781               },  
16782               "schema": {  
16783                 "$ref": "#/definitions/BloodPressure"
```

```

16784     }
16785     }
16786   }
16787 }
16788 },
16789 },
16790 "parameters": {
16791   "interface": {
16792     "in": "query",
16793     "name": "if",
16794     "type": "string",
16795     "enum": [
16796       "oic.if.s",
16797       "oic.if.baseline"
16798     ]
16799   }
16800 },
16801 "definitions": {
16802   "BloodPressure": {
16803     "properties": {
16804       "rt": {
16805         "description": "Resource Type",
16806         "items": {
16807           "enum": [
16808             "oic.r.blood.pressure"
16809           ],
16810         "type": "string",
16811         "maxLength": 64
16812       },
16813       "minItems": 1,
16814       "uniqueItems": true,
16815       "readOnly": true,
16816       "type": "array"
16817     },
16818     "map": {
16819       "description": "Mean arterial pressure (MAP)",
16820       "minimum": 0.0,
16821       "readOnly": true,
16822       "type": "number"
16823     },
16824     "units": {
16825       "description": "Blood pressure unit",
16826       "enum": [
16827         "mmHg",
16828         "kPa"
16829       ],
16830       "readOnly": true,
16831       "type": "string",
16832       "default": "mmHg"
16833     },
16834     "systolic": {
16835       "description": "Systolic blood pressure",
16836       "minimum": 0.0,
16837       "readOnly": true,
16838       "type": "number"
16839     },
16840     "diastolic": {
16841       "description": "Diastolic blood pressure",
16842       "minimum": 0.0,
16843       "readOnly": true,
16844       "type": "number"
16845     },
16846     "if": {
16847       "description": "The OCF Interface set supported by this Resource",
16848       "items": {
16849         "enum": [
16850           "oic.if.s",
16851           "oic.if.baseline"
16852         ],
16853         "type": "string",
16854         "maxLength": 64
16855       },

```

```

16856         "minItems": 1,
16857         "readOnly": true,
16858         "uniqueItems": true,
16859         "type": "array"
16860     },
16861     "range": {
16862         "$ref":
16863 "https://openconnectivityfoundation.github.io/IoTDataModels/schemas/oic.baseresource.properties-
16864 schema.json#/definitions/range_number"
16865     },
16866     "step": {
16867         "$ref":
16868 "https://openconnectivityfoundation.github.io/IoTDataModels/schemas/oic.baseresource.properties-
16869 schema.json#/definitions/step_number"
16870     },
16871     "precision": {
16872         "$ref":
16873 "https://openconnectivityfoundation.github.io/IoTDataModels/schemas/oic.baseresource.properties-
16874 schema.json#/definitions/precision"
16875     },
16876     "n": {
16877         "$ref":
16878 "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
16879 schema.json#/definitions/n"
16880     }
16881 },
16882 "type": "object",
16883 "required": [
16884     "systolic",
16885     "diastolic"
16886 ]
16887 }
16888 }
16889 }
16890

```

16891 **6.89.5 Property definition**

16892 Table 181 defines the Properties that are part of the "oic.r.blood.pressure" Resource Type.

16893 **Table 181 – The Property definitions of the Resource with type "rt" =**
16894 **"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)

16895 **6.89.6 CRUDN behaviour**

16896 Table 182 defines the CRUDN operations that are supported on the "oic.r.blood.pressure"
16897 Resource Type.

16898 **Table 182 – The CRUDN operations of the Resource with type "rt" = "oic.r.blood.pressure".**

Create	Read	Update	Delete	Notify
	get			observe

16899 **6.90 Blood Pressure Monitor Atomic Measurement**

16900 **6.90.1 Introduction**

16901 This Resource describes the Properties associated with a blood pressure monitor.
16902 The Resource is an Atomic Measurement of blood pressure (oic.r.blood.pressure), pulse rate
16903 (oic.r.pulserate), observed time (oic.r.time.stamp), and user id (oic.r.userid).

16904 **6.90.2 Example URI**

16905 /BloodPressureMonitorAMResURI

16906 **6.90.3 Resource type**

16907 The Resource Type is defined as: "oic.r.bloodpressuremonitor-am, oic.wk.atomicmeasurement".

16908 **6.90.4 OpenAPI 2.0 definition**

```

16909 {
16910   "swagger": "2.0",
16911   "info": {
16912     "title": "Blood Pressure Monitor Atomic Measurement",
16913     "version": "2019-03-22",
16914     "license": {
16915       "name": "OCF Data Model License",
16916       "url":
16917         "https://github.com/openconnectivityfoundation/core/blob/e28a9e0a92e17042ba3e83661e4c0fbce8bdc4ba/LI
16918         CENSE.md",
16919       "x-copyright": "Copyright 2016-2019 Open Connectivity Foundation, Inc. All rights reserved."
16920     },
16921     "termsOfService": "https://openconnectivityfoundation.github.io/core/DISCLAIMER.md"
16922   },
16923   "schemes": [
16924     "http"
16925   ],

```

```

16926     "consumes": [
16927         "application/json"
16928     ],
16929     "produces": [
16930         "application/json"
16931     ],
16932     "paths": {
16933         "/BloodPressureMonitorAMResURI?if=oic.if.b": {
16934             "get": {
16935                 "description": "This Resource describes the Properties associated with a blood pressure
16936 monitor.\nThe Resource is an Atomic Measurement of blood pressure (oic.r.blood.pressure), pulse
16937 rate (oic.r.pulserate), observed time (oic.r.time.stamp), and user id (oic.r.userid).",
16938                 "parameters": [
16939                     {
16940                         "$ref": "#/parameters/interface-all"
16941                     }
16942                 ],
16943                 "responses": {
16944                     "200": {
16945                         "description": "",
16946                         "x-example": [
16947                             {
16948                                 "href": "/myBloodPressureResURI",
16949                                 "rep": {
16950                                     "systolic": 120.0,
16951                                     "diastolic": 80.0,
16952                                     "map": 93.0,
16953                                     "range": [20.0, 300.0],
16954                                     "step": 1,
16955                                     "units": "mmHg"
16956                                 }
16957                             },
16958                             {
16959                                 "href": "/myPulseRateResURI",
16960                                 "rep": {
16961                                     "pulserate": 70,
16962                                     "range": [20, 220],
16963                                     "step": 1
16964                                 }
16965                             },
16966                             {
16967                                 "href": "/myUserId",
16968                                 "rep": {
16969                                     "userid": "USER1"
16970                                 }
16971                             },
16972                             {
16973                                 "href": "/myTimeStamp",
16974                                 "rep": {
16975                                     "timestamp": "2018-11-08T21:00+08:00"
16976                                 }
16977                             }
16978                         ],
16979                         "schema": {
16980                             "$ref": "#/definitions/batch-retrieve"
16981                         }
16982                     }
16983                 }
16984             },
16985             "/BloodPressureMonitorAMResURI?if=oic.if.ll": {
16986                 "get": {
16987                     "description": "This Resource describes the Properties associated with a blood pressure
16988 monitor.\nThe Resource is an Atomic Measurement of blood pressure (oic.r.blood.pressure), pulse
16989 rate (oic.r.pulserate), observed time (oic.r.time.stamp), and user id (oic.r.userid).",
16990                     "parameters": [
16991                         {
16992                             "$ref": "#/parameters/interface-all"
16993                         }
16994                     ],
16995                     "responses": {
16996                         "200": {

```

```

16998         "description": "",
16999         "x-example": [
17000             {
17001                 "href": "/myBloodPressureResURI",
17002                 "rt": [
17003                     "oic.r.blood.pressure"
17004                 ],
17005                 "if": [
17006                     "oic.if.s",
17007                     "oic.if.baseline"
17008                 ]
17009             },
17010             {
17011                 "href": "/myPulseRateResURI",
17012                 "rt": [
17013                     "oic.r.pulserate"
17014                 ],
17015                 "if": [
17016                     "oic.if.s",
17017                     "oic.if.baseline"
17018                 ]
17019             },
17020             {
17021                 "href": "/myUserId",
17022                 "rt": [
17023                     "oic.r.userid"
17024                 ],
17025                 "if": [
17026                     "oic.if.r",
17027                     "oic.if.baseline"
17028                 ]
17029             },
17030             {
17031                 "href": "/myTimeStamp",
17032                 "rt": [
17033                     "oic.r.time.stamp"
17034                 ],
17035                 "if": [
17036                     "oic.if.r",
17037                     "oic.if.baseline"
17038                 ]
17039             }
17040         ],
17041         "schema": {
17042             "$ref": "#/definitions/links"
17043         }
17044     }
17045 }
17046 },
17047 "/BloodPressureMonitorAMResURI?if=oic.if.baseline": {
17048     "get": {
17049         "description": "This Resource describes the Properties associated with a blood pressure
17050 monitor.\nThe Resource is an Atomic Measurement of blood pressure (oic.r.blood.pressure), pulse
17051 rate (oic.r.pulserate), observed time (oic.r.time.stamp), and user id (oic.r.userid).",
17052         "parameters": [
17053             {
17054                 "$ref": "#/parameters/interface-all"
17055             }
17056         ],
17057         "responses": {
17058             "200": {
17059                 "description": "",
17060                 "x-example": {
17061                     "rt": [
17062                         "oic.r.bloodpressuremonitor-am",
17063                         "oic.wk.atomicmeasurement"
17064                     ],
17065                     "if": [
17066                         "oic.if.b",
17067                         "oic.if.ll",
17068                         "oic.if.baseline"
17069

```

```

17070     ],
17071     "rts-m": [
17072         "oic.r.blood.pressure"
17073     ],
17074     "rts": [
17075         "oic.r.blood.pressure",
17076         "oic.r.pulserate",
17077         "oic.r.userid",
17078         "oic.r.time.stamp"
17079     ],
17080     "links": [
17081         {
17082             "href": "/myBloodPressureResURI",
17083             "rt": [
17084                 "oic.r.blood.pressure"
17085             ],
17086             "if": [
17087                 "oic.if.s",
17088                 "oic.if.baseline"
17089             ]
17090         },
17091         {
17092             "href": "/myPulseRateResURI",
17093             "rt": [
17094                 "oic.r.pulserate"
17095             ],
17096             "if": [
17097                 "oic.if.s",
17098                 "oic.if.baseline"
17099             ]
17100         },
17101         {
17102             "href": "/myUserId",
17103             "rt": [
17104                 "oic.r.userid"
17105             ],
17106             "if": [
17107                 "oic.if.r",
17108                 "oic.if.baseline"
17109             ]
17110         },
17111         {
17112             "href": "/myTimeStamp",
17113             "rt": [
17114                 "oic.r.time.stamp"
17115             ],
17116             "if": [
17117                 "oic.if.r",
17118                 "oic.if.baseline"
17119             ]
17120         }
17121     ],
17122     "schema": {
17123         "$ref": "#/definitions/baseline"
17124     }
17125 }
17126 }
17127 }
17128 }
17129 }
17130 },
17131 "parameters": {
17132     "interface-all": {
17133         "in": "query",
17134         "name": "if",
17135         "type": "string",
17136         "enum": [
17137             "oic.if.b",
17138             "oic.if.ll",
17139             "oic.if.baseline"
17140         ]
17141     }

```

```

17142     },
17143     "definitions": {
17144         "batch-retrieve": {
17145             "minItems": 1,
17146             "items": {
17147                 "properties": {
17148                     "href": {
17149                         "$ref":
17150 "https://openconnectivityfoundation.github.io/core/schemas/oic.links.properties.core-
17151 schema.json#/definitions/href"
17152                     },
17153                     "rep": {
17154                         "type": "object",
17155                         "anyOf": [
17156                             {
17157                                 "$ref":
17158 "https://openconnectivityfoundation.github.io/IoTDataModels/BloodPressureResURI.swagger.json#/defini
17159 tions/BloodPressure"
17160                             },
17161                             {
17162                                 "$ref":
17163 "https://openconnectivityfoundation.github.io/IoTDataModels/PulseRateResURI.swagger.json#/definition
17164 s/PulseRate"
17165                             },
17166                             {
17167                                 "$ref":
17168 "https://openconnectivityfoundation.github.io/IoTDataModels/UserIDResURI.swagger.json#/definitions/U
17169 serID"
17170                             },
17171                             {
17172                                 "$ref":
17173 "https://openconnectivityfoundation.github.io/IoTDataModels/TimeStampResURI.swagger.json#/definition
17174 s/TimeStamp"
17175                             }
17176                         ]
17177                     }
17178                 },
17179                 "required": [
17180                     "href",
17181                     "rep"
17182                 ],
17183                 "type": "object"
17184             },
17185             "type": "array"
17186         },
17187         "links": {
17188             "type": "array",
17189             "items": {
17190                 "$ref": "#/definitions/oic.oic-link"
17191             }
17192         },
17193         "baseline": {
17194             "properties": {
17195                 "rt": {
17196                     "items": {
17197                         "enum": [
17198                             "oic.r.bloodpressuremonitor-am",
17199                             "oic.wk.atomicmeasurement"
17200                         ],
17201                         "type": "string",
17202                         "maxLength": 64
17203                     },
17204                     "minItems": 2,
17205                     "uniqueItems": true,
17206                     "readOnly": true,
17207                     "type": "array"
17208                 },
17209                 "rts": {
17210                     "description": "This contains all possible Resource Types for this Atomic Measurement.",
17211                     "items": {
17212                         "enum": [
17213                             "oic.r.blood.pressure",

```

```

17214         "oic.r.pulserate",
17215         "oic.r.userid",
17216         "oic.r.time.stamp"
17217     ],
17218     "type": "string",
17219     "maxLength": 64
17220 },
17221     "minItems": 1,
17222     "uniqueItems": true,
17223     "readOnly": true,
17224     "type": "array"
17225 },
17226 "rts-m": {
17227     "description": "This contains all mandatory Resource Types for this Atomic Measurement.",
17228     "items": {
17229         "enum": [
17230             "oic.r.blood.pressure"
17231         ],
17232         "type": "string",
17233         "maxLength": 64
17234     },
17235     "maxItems": 1,
17236     "minItems": 1,
17237     "uniqueItems": true,
17238     "readOnly": true,
17239     "type": "array"
17240 },
17241 "if": {
17242     "description": "The OCF Interface set supported by this Resource",
17243     "items": {
17244         "enum": [
17245             "oic.if.b",
17246             "oic.if.ll",
17247             "oic.if.baseline"
17248         ],
17249         "type": "string"
17250     },
17251     "minItems": 3,
17252     "uniqueItems": true,
17253     "readOnly": true,
17254     "type": "array"
17255 },
17256 "n": {
17257     "$ref":
17258     "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
17259     schema.json#/definitions/n"
17260 },
17261 "id": {
17262     "$ref":
17263     "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
17264     schema.json#/definitions/id"
17265 },
17266 "links": {
17267     "$ref": "#/definitions/links"
17268 }
17269 },
17270 "type": "object",
17271 "required": [
17272     "rt", "if", "rts", "rts-m", "links"
17273 ]
17274 },
17275 "oic.oic-link": {
17276     "properties": {
17277         "if": {
17278             "type": "array",
17279             "readOnly": true,
17280             "uniqueItems": true,
17281             "minItems": 1,
17282             "items": {
17283                 "type": "string",
17284                 "maxLength": 64,
17285                 "enum": [

```

```

17286         "oic.if.s",
17287         "oic.if.r",
17288         "oic.if.baseline"
17289     ]
17290 }
17291 },
17292 "rt": {
17293     "type": "array",
17294     "readOnly": true,
17295     "uniqueItems": true,
17296     "minItems": 1,
17297     "items": {
17298         "type": "string",
17299         "maxLength": 64,
17300         "enum": [
17301             "oic.r.blood.pressure",
17302             "oic.r.pulserate",
17303             "oic.r.userid",
17304             "oic.r.time.stamp"
17305         ]
17306     }
17307 },
17308 "anchor": {
17309     "$ref":
17310 "https://openconnectivityfoundation.github.io/core/schemas/oic.links.properties.core-
17311 schema.json#/definitions/anchor"
17312 },
17313 "di": {
17314     "$ref":
17315 "https://openconnectivityfoundation.github.io/core/schemas/oic.links.properties.core-
17316 schema.json#/definitions/di"
17317 },
17318 "eps": {
17319     "$ref":
17320 "https://openconnectivityfoundation.github.io/core/schemas/oic.links.properties.core-
17321 schema.json#/definitions/eps"
17322 },
17323 "href": {
17324     "$ref":
17325 "https://openconnectivityfoundation.github.io/core/schemas/oic.links.properties.core-
17326 schema.json#/definitions/href"
17327 },
17328 "ins": {
17329     "$ref":
17330 "https://openconnectivityfoundation.github.io/core/schemas/oic.links.properties.core-
17331 schema.json#/definitions/ins"
17332 },
17333 "p": {
17334     "$ref":
17335 "https://openconnectivityfoundation.github.io/core/schemas/oic.links.properties.core-
17336 schema.json#/definitions/p"
17337 },
17338 "rel": {
17339     "$ref":
17340 "https://openconnectivityfoundation.github.io/core/schemas/oic.links.properties.core-
17341 schema.json#/definitions/rel_array"
17342 },
17343 "title": {
17344     "$ref":
17345 "https://openconnectivityfoundation.github.io/core/schemas/oic.links.properties.core-
17346 schema.json#/definitions/title"
17347 },
17348 "type": {
17349     "$ref":
17350 "https://openconnectivityfoundation.github.io/core/schemas/oic.links.properties.core-
17351 schema.json#/definitions/type"
17352 }
17353 },
17354 "required": [
17355     "href",
17356     "rt",
17357     "if"

```

```

17358     ],
17359     "type": "object"
17360   }
17361 }
17362 }
17363

```

17364 **6.90.5 Property definition**

17365 Table 183 defines the Properties that are part of the "oic.r.bloodpressuremonitor-am,
17366 oic.wk.atomicmeasurement" Resource Type.

**Table 183 – The Property definitions of the Resource with type "rt" =
"oic.r.bloodpressuremonitor-am, oic.wk.atomicmeasurement".**

17367
17368

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	

17369 **6.90.6 CRUDN behaviour**

17370 Table 184 defines the CRUDN operations that are supported on the "oic.r.bloodpressuremonitor-
17371 am, oic.wk.atomicmeasurement" Resource Type.

17372 **Table 184 – The CRUDN operations of the Resource with type "rt" =**
17373 **"oic.r.bloodpressuremonitor-am, oic.wk.atomicmeasurement".**

Create	Read	Update	Delete	Notify
	get			observe

17374 **6.91 Body Mass Index(BMI)**

17375 **6.91.1 Introduction**

17376 This Resource describes the Properties associated with a person's Body Mass Index (BMI).
17377 The unit, which is the default unit, is kg/m².
17378 The bmi and unit Properties are read-only values that are provided by the server.
17379 When range is omitted the default is 0 to +MAXFLOAT.

17380 **6.91.2 Example URI**

17381 /BMIResURI

17382 **6.91.3 Resource type**

17383 The Resource Type is defined as: "oic.r.bmi".

17384 **6.91.4 OpenAPI 2.0 definition**

```
17385 {
17386   "swagger": "2.0",
17387   "info": {
17388     "title": "Body Mass Index(BMI)",
17389     "version": "2019-03-22",
17390     "license": {
17391       "name": "OCF Data Model License",
17392       "url":
17393 "https://github.com/openconnectivityfoundation/core/blob/e28a9e0a92e17042ba3e83661e4c0fbce8bdc4ba/LI
17394 CENSE.md",
17395       "x-copyright": "Copyright 2016-2019 Open Connectivity Foundation, Inc. All rights reserved."
17396     },
17397     "termsOfService": "https://openconnectivityfoundation.github.io/core/DISCLAIMER.md"
17398   },
17399   "schemes": [
17400     "http"
17401   ],
17402   "consumes": [
17403     "application/json"
17404   ],
17405   "produces": [
17406     "application/json"
17407   ],
17408   "paths": {
17409     "/BMIResURI": {
17410       "get": {
17411         "description": "This Resource describes the Properties associated with a person's Body Mass
17412 Index (BMI).\n\nThe unit, which is the default unit, is kg/m^2.\n\nThe bmi and unit Properties are read-
17413 only values that are provided by the server.\n\nWhen range is omitted the default is 0 to +MAXFLOAT.",
17414         "parameters": [
17415           {
17416             "$ref": "#/parameters/interface"
17417           }
17418         ],
17419         "responses": {
17420           "200": {
17421             "description": "",
17422             "x-example": {
17423               "rt": [
17424                 "oic.r.bmi"
17425               ],
17426               "bmi": 20.0
17427             },
17428             "schema": {
17429               "$ref": "#/definitions/BMI"
17430             }
17431           }
17432         }
17433       }
17434     }
17435   },
17436   "parameters": {
17437     "interface": {
17438       "in": "query",
17439       "name": "if",
17440       "type": "string",
17441       "enum": [
17442         "oic.if.s",
17443         "oic.if.baseline"
17444       ]
17445     }
17446   },
17447   "definitions": {
17448     "BMI": {
17449       "properties": {
17450         "rt": {
```

```

17451         "description": "Resource Type",
17452         "items": {
17453             "enum": [
17454                 "oic.r.bmi"
17455             ],
17456             "type": "string",
17457             "maxLength": 64
17458         },
17459         "minItems": 1,
17460         "uniqueItems": true,
17461         "readOnly": true,
17462         "type": "array"
17463     },
17464     "bmi": {
17465         "description": "Body Mass Index (BMI) in kg/m^2",
17466         "minimum": 0.0,
17467         "readOnly": true,
17468         "type": "number"
17469     },
17470     "range": {
17471         "$ref":
17472         "https://openconnectivityfoundation.github.io/IoTDataModels/schemas/oic.baseresource.properties-
17473         schema.json#/definitions/range_number"
17474     },
17475     "step": {
17476         "$ref":
17477         "https://openconnectivityfoundation.github.io/IoTDataModels/schemas/oic.baseresource.properties-
17478         schema.json#/definitions/step_number"
17479     },
17480     "precision": {
17481         "$ref":
17482         "https://openconnectivityfoundation.github.io/IoTDataModels/schemas/oic.baseresource.properties-
17483         schema.json#/definitions/precision"
17484     },
17485     "n": {
17486         "$ref":
17487         "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
17488         schema.json#/definitions/n"
17489     },
17490     "id": {
17491         "$ref":
17492         "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
17493         schema.json#/definitions/id"
17494     },
17495     "if": {
17496         "description": "The OCF Interface set supported by this Resource",
17497         "items": {
17498             "enum": [
17499                 "oic.if.s",
17500                 "oic.if.baseline"
17501             ],
17502             "type": "string",
17503             "maxLength": 64
17504         },
17505         "minItems": 1,
17506         "readOnly": true,
17507         "uniqueItems": true,
17508         "type": "array"
17509     }
17510 },
17511 "type": "object",
17512 "required": [
17513     "bmi"
17514 ]
17515 }
17516 }
17517 }
17518

```

17519 6.91.5 Property definition

17520 Table 185 defines the Properties that are part of the "oic.r.bmi" Resource Type.

17521

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

17522 **6.91.6 CRUDN behaviour**

17523 Table 186 defines the CRUDN operations that are supported on the "oic.r.bmi" Resource Type.

17524 **Table 186 – The CRUDN operations of the Resource with type "rt" = "oic.r.bmi".**

Create	Read	Update	Delete	Notify
	get			observe

17525 **6.92 Body Fat**17526 **6.92.1 Introduction**

17527 This Resource describes the Properties associated with a person's body fat.
 17528 The unit is a single value that is one of kg, lb or percent.
 17529 If the unit Property is missing the default is kilograms [kg].
 17530 The bodyfat and unit Properties are read-only values that are provided by the Server.
 17531 When range is omitted the default is 0 to +MAXFLOAT.

17532 **6.92.2 Example URI**

17533 /BodyFatResURI

17534 **6.92.3 Resource type**

17535 The Resource Type is defined as: "oic.r.body.fat".

17536 **6.92.4 OpenAPI 2.0 definition**

```
17537 {
17538   "swagger": "2.0",
17539   "info": {
17540     "title": "Body Fat",
17541     "version": "2019-03-22",
17542     "license": {
17543       "name": "OCF Data Model License",
17544       "url":
17545 "https://github.com/openconnectivityfoundation/core/blob/e28a9e0a92e17042ba3e83661e4c0fbce8bdc4ba/LI
17546 CENSE.md",
17547       "x-copyright": "Copyright 2016-2019 Open Connectivity Foundation, Inc. All rights reserved."
17548     },
17549     "termsOfService": "https://openconnectivityfoundation.github.io/core/DISCLAIMER.md"
17550   },
17551   "schemes": [
17552     "http"
17553   ],
17554   "consumes": [
17555     "application/json"
17556   ],
17557   "produces": [
17558     "application/json"
17559   ],
17560   "paths": {
17561     "/BodyFatResURI": {
17562       "get": {
17563         "description": "This Resource describes the Properties associated with a person's body
17564 fat.\n\nThe unit is a single value that is one of kg, lb or percent.\n\nIf the unit Property is missing
17565 the default is kilograms [kg].\n\nThe bodyfat and unit Properties are read-only values that are
17566 provided by the Server.\n\nWhen range is omitted the default is 0 to +MAXFLOAT.",
17567         "parameters": [
17568           {
17569             "$ref": "#/parameters/interface"
17570           }
17571         ],
17572         "responses": {
17573           "200": {
17574             "description": "",
17575             "x-example": {
17576               "rt": [
17577                 "oic.r.body.fat"
17578               ],
17579               "bodyfat": 20.0,
17580               "units": "kg"
17581             },
17582             "schema": {
17583               "$ref": "#/definitions/BodyFat"
17584             }
17585           }
17586         }
17587       }
17588     }
17589   },
17590   "parameters": {
17591     "interface": {
17592       "in": "query",
17593       "name": "if",
17594       "type": "string",
17595       "enum": [
17596         "oic.if.s",
17597         "oic.if.baseline"
17598       ]
17599     }
17600   },
17601   "definitions": {
17602     "BodyFat": {
```

```

17603     "properties": {
17604       "rt": {
17605         "description": "Resource Type",
17606         "items": {
17607           "enum": [
17608             "oic.r.body.fat"
17609           ],
17610           "type": "string",
17611           "maxLength": 64
17612         },
17613         "minItems": 1,
17614         "uniqueItems": true,
17615         "readOnly": true,
17616         "type": "array"
17617       },
17618       "bodyfat": {
17619         "description": "Body fat.",
17620         "minimum": 0.0,
17621         "readOnly": true,
17622         "type": "number"
17623       },
17624       "units": {
17625         "description": "Body fat units",
17626         "enum": [
17627           "kg",
17628           "lb",
17629           "percent"
17630         ],
17631         "readOnly": true,
17632         "type": "string",
17633         "default": "kg"
17634       },
17635       "range": {
17636         "$ref":
17637           "https://openconnectivityfoundation.github.io/IoTDataModels/schemas/oic.baseresource.properties-
17638           schema.json#/definitions/range_number"
17639       },
17640       "step": {
17641         "$ref":
17642           "https://openconnectivityfoundation.github.io/IoTDataModels/schemas/oic.baseresource.properties-
17643           schema.json#/definitions/step_number"
17644       },
17645       "precision": {
17646         "$ref":
17647           "https://openconnectivityfoundation.github.io/IoTDataModels/schemas/oic.baseresource.properties-
17648           schema.json#/definitions/precision"
17649       },
17650       "n": {
17651         "$ref":
17652           "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
17653           schema.json#/definitions/n"
17654       },
17655       "id": {
17656         "$ref":
17657           "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
17658           schema.json#/definitions/id"
17659       },
17660       "if": {
17661         "description": "The OCF Interface set supported by this Resource",
17662         "items": {
17663           "enum": [
17664             "oic.if.s",
17665             "oic.if.baseline"
17666           ],
17667           "type": "string",
17668           "maxLength": 64
17669         },
17670         "minItems": 1,
17671         "readOnly": true,
17672         "type": "array"
17673       }
17674     },

```

```

17675     "type": "object",
17676     "required": [
17677         "bodyfat"
17678     ]
17679 }
17680 }
17681 }
17682

```

17683 **6.92.5 Property definition**

17684 Table 187 defines the Properties that are part of the "oic.r.body.fat" Resource Type.

17685 **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

17686 **6.92.6 CRUDN behaviour**

17687 Table 188 defines the CRUDN operations that are supported on the "oic.r.body.fat" Resource Type.

17688 **Table 188 – The CRUDN operations of the Resource with type "rt" = "oic.r.body.fat".**

Create	Read	Update	Delete	Notify
	get			observe

17689 **6.93 Body Fat Free Mass**

17690 **6.93.1 Introduction**

17691 This Resource describes the Properties associated with a person's body fat free mass.
17692 The unit is a single value that is one of kg, lb or percent.
17693 If the unit Property is missing the default is kilograms [kg].
17694 The ffm and unit Properties are read-only values that are provided by the Server.
17695 When range is omitted the default is 0 to +MAXFLOAT.

17696 **6.93.2 Example URI**

17697 /BodyFatFreeMassResURI

17698 **6.93.3 Resource type**

17699 The Resource Type is defined as: "oic.r.body.ffm".

17700 **6.93.4 OpenAPI 2.0 definition**

```
17701 {  
17702   "swagger": "2.0",  
17703   "info": {  
17704     "title": "Body Fat Free Mass",  
17705     "version": "2019-03-22",  
17706     "license": {  
17707       "name": "OCF Data Model License",  
17708       "url":  
17709 "https://github.com/openconnectivityfoundation/core/blob/e28a9e0a92e17042ba3e83661e4c0fbce8bdc4ba/LI  
17710 CENSE.md",  
17711       "x-copyright": "Copyright 2016-2019 Open Connectivity Foundation, Inc. All rights reserved."  
17712     },  
17713     "termsOfService": "https://openconnectivityfoundation.github.io/core/DISCLAIMER.md"  
17714   },  
17715   "schemes": [  
17716     "http"  
17717   ],  
17718   "consumes": [  
17719     "application/json"  
17720   ],  
17721   "produces": [  
17722     "application/json"  
17723   ],  
17724   "paths": {  
17725     "/BodyFatFreeMassResURI": {  
17726       "get": {  
17727         "description": "This Resource describes the Properties associated with a person's body fat  
17728 free mass.\n\nThe unit is a single value that is one of kg, lb or percent.\n\nIf the unit Property is  
17729 missing the default is kilograms [kg].\n\nThe ffm and unit Properties are read-only values that are  
17730 provided by the Server.\n\nWhen range is omitted the default is 0 to +MAXFLOAT.",  
17731         "parameters": [  
17732           {  
17733             "$ref": "#/parameters/interface"  
17734           }  
17735         ],  
17736         "responses": {  
17737           "200": {  
17738             "description": "",  
17739             "x-example": {  
17740               "rt": [  
17741                 "oic.r.body.ffm"  
17742               ],  
17743               "ffm": 40.0,  
17744               "units": "kg"  
17745             },  
17746             "schema": {  
17747               "$ref": "#/definitions/BodyFatFreeMass"  
17748             }  
17749           }  
17750         }  
17751       }  
17752     }  
17753   }  
17754 }
```



```

17752     }
17753   },
17754   "parameters": {
17755     "interface": {
17756       "in": "query",
17757       "name": "if",
17758       "type": "string",
17759       "enum": [
17760         "oic.if.s",
17761         "oic.if.baseline"
17762       ]
17763     }
17764   },
17765   "definitions": {
17766     "BodyFatFreeMass": {
17767       "properties": {
17768         "rt": {
17769           "description": "Resource Type",
17770           "items": {
17771             "enum": [
17772               "oic.r.body.ffm"
17773             ],
17774             "type": "string",
17775             "maxLength": 64
17776           },
17777           "minItems": 1,
17778           "uniqueItems": true,
17779           "readOnly": true,
17780           "type": "array"
17781         },
17782         "ffm": {
17783           "description": "Body fat free mass.",
17784           "minimum": 0.0,
17785           "readOnly": true,
17786           "type": "number"
17787         },
17788         "units": {
17789           "description": "Body fat free mass units",
17790           "enum": [
17791             "kg",
17792             "lb",
17793             "percent"
17794           ],
17795           "readOnly": true,
17796           "type": "string",
17797           "default": "kg"
17798         },
17799         "range": {
17800           "$ref":
17801             "https://openconnectivityfoundation.github.io/IoTDataModels/schemas/oic.baseresource.properties-
17802             schema.json#/definitions/range_number"
17803         },
17804         "step": {
17805           "$ref":
17806             "https://openconnectivityfoundation.github.io/IoTDataModels/schemas/oic.baseresource.properties-
17807             schema.json#/definitions/step_number"
17808         },
17809         "precision": {
17810           "$ref":
17811             "https://openconnectivityfoundation.github.io/IoTDataModels/schemas/oic.baseresource.properties-
17812             schema.json#/definitions/precision"
17813         },
17814         "n": {
17815           "$ref":
17816             "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
17817             schema.json#/definitions/n"
17818         },
17819         "id": {
17820           "$ref":
17821             "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
17822             schema.json#/definitions/id"
17823         }

```

```

17824     "if": {
17825         "description": "The OCF Interface set supported by this Resource",
17826         "items": {
17827             "enum": [
17828                 "oic.if.s",
17829                 "oic.if.baseline"
17830             ],
17831             "type": "string",
17832             "maxLength": 64
17833         },
17834         "minItems": 1,
17835         "readOnly": true,
17836         "uniqueItems": true,
17837         "type": "array"
17838     },
17839     },
17840     "type": "object",
17841     "required": [
17842         "ffm"
17843     ]
17844 }
17845 }
17846 }
17847

```

17848 **6.93.5 Property definition**

17849 Table 189 defines the Properties that are part of the "oic.r.body.ffm" Resource Type.

17850 **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	
-----------	-------------------------------	----	------------	--

17851 **6.93.6 CRUDN behaviour**

17852 Table 190 defines the CRUDN operations that are supported on the "oic.r.body.ffm" Resource Type.

17853 **Table 190 – The CRUDN operations of the Resource with type "rt" = "oic.r.body.ffm".**

Create	Read	Update	Delete	Notify
	get			observe

17854 **6.94 Body Location Temperature**

17855 **6.94.1 Introduction**

17856 This Resource describes the Properties associated with body location for temperature
17857 measurement of a person.

17858 The bloc Property is a read-only value that is provided by the Server.

17859 **6.94.2 Example URI**

17860 /BodyLocationTemperatureResURI

17861 **6.94.3 Resource type**

17862 The Resource Type is defined as: "oic.r.body.location.temperature".

17863 **6.94.4 OpenAPI 2.0 definition**

```

17864 {
17865   "swagger": "2.0",
17866   "info": {
17867     "title": "Body Location Temperature",
17868     "version": "2019-03-22",
17869     "license": {
17870       "name": "OCF Data Model License",
17871       "url":
17872         "https://github.com/openconnectivityfoundation/core/blob/e28a9e0a92e17042ba3e83661e4c0fbce8bdc4ba/LI
17873         CENSE.md",
17874       "x-copyright": "Copyright 2016-2019 Open Connectivity Foundation, Inc. All rights reserved."
17875     },
17876     "termsOfService": "https://openconnectivityfoundation.github.io/core/DISCLAIMER.md"
17877   },
17878   "schemes": [
17879     "http"
17880   ],
17881   "consumes": [
17882     "application/json"
17883   ],
17884   "produces": [
17885     "application/json"
17886   ],
17887   "paths": {
17888     "/BodyLocationTemperatureResURI": {
17889       "get": {
17890         "description": "This Resource describes the Properties associated with body location for
17891         temperature measurement of a person.\n\nThe bloc Property is a read-only value that is provided by the
17892         Server.",
17893         "parameters": [
17894           {
17895             "$ref": "#/parameters/interface"
17896           }
17897         ],
17898         "responses": {
17899           "200": {

```

```

17900         "description": "",
17901         "x-example": {
17902             "rt": [
17903                 "oic.r.body.location.temperature"
17904             ],
17905             "bloc": "ear"
17906         },
17907         "schema": {
17908             "$ref": "#/definitions/BodyLocationTemperature"
17909         }
17910     }
17911 }
17912 }
17913 },
17914 },
17915 "parameters": {
17916     "interface": {
17917         "in": "query",
17918         "name": "if",
17919         "type": "string",
17920         "enum": [
17921             "oic.if.s",
17922             "oic.if.baseline"
17923         ]
17924     }
17925 },
17926 "definitions": {
17927     "BodyLocationTemperature": {
17928         "properties": {
17929             "rt": {
17930                 "description": "Resource Type",
17931                 "items": {
17932                     "enum": [
17933                         "oic.r.body.location.temperature"
17934                     ],
17935                     "type": "string",
17936                     "maxLength": 64
17937                 },
17938                 "minItems": 1,
17939                 "uniqueItems": true,
17940                 "readOnly": true,
17941                 "type": "array"
17942             },
17943             "bloc": {
17944                 "description": "A list specific to temperature site",
17945                 "enum": [
17946                     "axillary",
17947                     "body",
17948                     "ear",
17949                     "finger",
17950                     "gitract",
17951                     "mouth",
17952                     "rectum",
17953                     "toe",
17954                     "tympanum"
17955                 ],
17956                 "readOnly": true,
17957                 "type": "string"
17958             },
17959             "n": {
17960                 "$ref":
17961 "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
17962 schema.json#/definitions/n"
17963             },
17964             "id": {
17965                 "$ref":
17966 "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
17967 schema.json#/definitions/id"
17968             },
17969             "if": {
17970                 "description": "The OCF Interface set supported by this Resource",
17971                 "items": {

```

```

17972         "enum": [
17973             "oic.if.s",
17974             "oic.if.baseline"
17975         ],
17976         "type": "string",
17977         "maxLength": 64
17978     },
17979     "minItems": 1,
17980     "readOnly": true,
17981     "uniqueItems": true,
17982     "type": "array"
17983 }
17984 },
17985 "type": "object",
17986 "required": [
17987     "bloc"
17988 ]
17989 }
17990 }
17991 }
17992

```

17993 **6.94.5 Property definition**

17994 Table 191 defines the Properties that are part of the "oic.r.body.location.temperature" Resource
17995 Type.

17996 **Table 191 – The Property definitions of the Resource with type "rt" =**
17997 **"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	

17998 **6.94.6 CRUDN behaviour**

17999 Table 192 defines the CRUDN operations that are supported on the
18000 "oic.r.body.location.temperature" Resource Type.

18001 **Table 192 – The CRUDN operations of the Resource with type "rt" =**
18002 **"oic.r.body.location.temperature".**

Create	Read	Update	Delete	Notify

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

18003 6.95 Body Scale Atomic Measurement

18004 6.95.1 Introduction

18005 This Resource describes the Properties associated with body scale.
 18006 The Resource is an Atomic Measurement of weight (oic.r.weight), body mass index (BMI)
 18007 (oic.r.bmi), height (oic.r.height), body fat (oic.r.body.fat), body water (oic.r.body.water), body soft
 18008 lean mass (oic.r.body.slm), body fat free mass (oic.r.body.ffmpeg), observed time (oic.r.time.stamp),
 18009 and user id (oic.r.userid).

18010 6.95.2 Example URI

18011 /BodyScaleAMResURI

18012 6.95.3 Resource type

18013 The Resource Type is defined as: "oic.r.bodyscale-am, oic.wk.atomicmeasurement".

18014 6.95.4 OpenAPI 2.0 definition

```

18015 {
18016   "swagger": "2.0",
18017   "info": {
18018     "title": "Body Scale Atomic Measurement",
18019     "version": "2019-03-22",
18020     "license": {
18021       "name": "OCF Data Model License",
18022       "url":
18023         "https://github.com/openconnectivityfoundation/core/blob/e28a9e0a92e17042ba3e83661e4c0fbce8bdc4ba/LI
18024         CENSE.md",
18025       "x-copyright": "Copyright 2016-2019 Open Connectivity Foundation, Inc. All rights reserved."
18026     },
18027     "termsOfService": "https://openconnectivityfoundation.github.io/core/DISCLAIMER.md"
18028   },
18029   "schemes": [
18030     "http"
18031   ],
18032   "consumes": [
18033     "application/json"
18034   ],
18035   "produces": [
18036     "application/json"
18037   ],
18038   "paths": {
18039     "/BodyScaleAMResURI?if=oic.if.b": {
18040       "get": {
18041         "description": "This Resource describes the Properties associated with body scale.\nThe
18042         Resource is an Atomic Measurement of weight (oic.r.weight), body mass index (BMI) (oic.r.bmi),
18043         height (oic.r.height), body fat (oic.r.body.fat), body water (oic.r.body.water), body soft lean mass
18044         (oic.r.body.slm), body fat free mass (oic.r.body.ffmpeg), observed time (oic.r.time.stamp), and user id
18045         (oic.r.userid).",
18046         "parameters": [
18047           {
18048             "$ref": "#/parameters/interface-all"
18049           }
18050         ],
18051         "responses": {
18052           "200": {
18053             "description": "",
18054             "x-example": [
18055               {
18056                 "href": "/myWeight",
18057                 "rep": {
18058                   "weight": 80.0,
18059                   "units": "kg"
18060                 }
18061             ]
18062           }
18063         }
18064       }
18065     }
18066   }

```

```

18062     {
18063         "href": "/myBMI",
18064         "rep": {
18065             "bmi": 20.0
18066         }
18067     },
18068     {
18069         "href": "/myHeight",
18070         "rep": {
18071             "height": 1.8,
18072             "units": "m"
18073         }
18074     },
18075     {
18076         "href": "/myBodyFat",
18077         "rep": {
18078             "bodyfat": 20.0,
18079             "units": "kg"
18080         }
18081     },
18082     {
18083         "href": "/myBodyWater",
18084         "rep": {
18085             "bwater": 20.0,
18086             "units": "kg"
18087         }
18088     },
18089     {
18090         "href": "/myBodySoftLeanMass",
18091         "rep": {
18092             "slm": 20.0,
18093             "units": "kg"
18094         }
18095     },
18096     {
18097         "href": "/myBodyFatFreeMass",
18098         "rep": {
18099             "ffm": 40.0,
18100             "units": "kg"
18101         }
18102     },
18103     {
18104         "href": "/myUserId",
18105         "rep": {
18106             "userid": "USER1"
18107         }
18108     },
18109     {
18110         "href": "/myTimeStamp",
18111         "rep": {
18112             "timestamp": "2018-11-09T12:15+08:00"
18113         }
18114     }
18115 ],
18116 "schema": {
18117     "$ref": "#/definitions/batch-retrieve"
18118 }
18119 }
18120 }
18121 },
18122 "/BodyScaleAMResURI?if=oic.if.ll": {
18123     "get": {
18124         "description": "This Resource describes the Properties associated with body scale.\nThe
18125 Resource is an Atomic Measurement of weight (oic.r.weight), body mass index (BMI) (oic.r.bmi),
18126 height (oic.r.height), body fat (oic.r.body.fat), body water (oic.r.body.water), body soft lean mass
18127 (oic.r.body.slm), body fat free mass (oic.r.body.ffm), observed time (oic.r.time.stamp), and user id
18128 (oic.r.userid).",
18129         "parameters": [
18130             {
18131                 "$ref": "#/parameters/interface-all"
18132             }
18133         ]

```

```

18134 ],
18135 "responses": {
18136   "200": {
18137     "description": "",
18138     "x-example": [
18139       {
18140         "href": "/myWeight",
18141         "rt": [
18142           "oic.r.weight"
18143         ],
18144         "if": [
18145           "oic.if.s",
18146           "oic.if.baseline"
18147         ]
18148       },
18149       {
18150         "href": "/myBMI",
18151         "rt": [
18152           "oic.r.bmi"
18153         ],
18154         "if": [
18155           "oic.if.s",
18156           "oic.if.baseline"
18157         ]
18158       },
18159       {
18160         "href": "/myHeight",
18161         "rt": [
18162           "oic.r.height"
18163         ],
18164         "if": [
18165           "oic.if.s",
18166           "oic.if.baseline"
18167         ]
18168       },
18169       {
18170         "href": "/myBodyFat",
18171         "rt": [
18172           "oic.r.body.fat"
18173         ],
18174         "if": [
18175           "oic.if.s",
18176           "oic.if.baseline"
18177         ]
18178       },
18179       {
18180         "href": "/myBodyWater",
18181         "rt": [
18182           "oic.r.body.water"
18183         ],
18184         "if": [
18185           "oic.if.s",
18186           "oic.if.baseline"
18187         ]
18188       },
18189       {
18190         "href": "/myBodySoftLeanMass",
18191         "rt": [
18192           "oic.r.body.slm"
18193         ],
18194         "if": [
18195           "oic.if.s",
18196           "oic.if.baseline"
18197         ]
18198       },
18199       {
18200         "href": "/myBodyFatFreeMass",
18201         "rt": [
18202           "oic.r.body.ffm"
18203         ],
18204         "if": [
18205           "oic.if.s",

```



```

18206         "oic.if.baseline"
18207     ]
18208 },
18209 {
18210     "href": "/myUserId",
18211     "rt": [
18212         "oic.r.userid"
18213     ],
18214     "if": [
18215         "oic.if.r",
18216         "oic.if.baseline"
18217     ]
18218 },
18219 {
18220     "href": "/myTimeStamp",
18221     "rt": [
18222         "oic.r.time.stamp"
18223     ],
18224     "if": [
18225         "oic.if.r",
18226         "oic.if.baseline"
18227     ]
18228 }
18229 ],
18230 "schema": {
18231     "$ref": "#/definitions/links"
18232 }
18233 }
18234 }
18235 },
18236 "/BodyScaleAMResURI?if=oic.if.baseline": {
18237     "get": {
18238         "description": "This Resource describes the Properties associated with body scale.\nThe
18239 Resource is an Atomic Measurement of weight (oic.r.weight), body mass index (BMI) (oic.r.bmi),
18240 height (oic.r.height), body fat (oic.r.body.fat), body water (oic.r.body.water), body soft lean mass
18241 (oic.r.body.slm), body fat free mass (oic.r.body.ffm), observed time (oic.r.time.stamp), and user id
18242 (oic.r.userid).",
18243     "parameters": [
18244         {
18245             "$ref": "#/parameters/interface-all"
18246         }
18247     ],
18248     "responses": {
18249         "200": {
18250             "description": "",
18251             "x-example": {
18252                 "rt": [
18253                     "oic.r.bodyscale-am",
18254                     "oic.wk.atomicmeasurement"
18255                 ],
18256                 "if": [
18257                     "oic.if.b",
18258                     "oic.if.ll",
18259                     "oic.if.baseline"
18260                 ],
18261                 "rts": [
18262                     "oic.r.weight",
18263                     "oic.r.bmi",
18264                     "oic.r.height",
18265                     "oic.r.body.fat",
18266                     "oic.r.body.water",
18267                     "oic.r.body.slm",
18268                     "oic.r.body.ffm",
18269                     "oic.r.userid",
18270                     "oic.r.time.stamp"
18271                 ],
18272                 "rts-m": [
18273                     "oic.r.weight"
18274                 ],
18275                 "links": [
18276                 {
18277

```

```

18278         "href": "/myWeight",
18279         "rt": [
18280             "oic.r.weight"
18281         ],
18282         "if": [
18283             "oic.if.s",
18284             "oic.if.baseline"
18285         ]
18286     },
18287     {
18288         "href": "/myBMI",
18289         "rt": [
18290             "oic.r.bmi"
18291         ],
18292         "if": [
18293             "oic.if.s",
18294             "oic.if.baseline"
18295         ]
18296     },
18297     {
18298         "href": "/myHeight",
18299         "rt": [
18300             "oic.r.height"
18301         ],
18302         "if": [
18303             "oic.if.s",
18304             "oic.if.baseline"
18305         ]
18306     },
18307     {
18308         "href": "/myBodyFat",
18309         "rt": [
18310             "oic.r.body.fat"
18311         ],
18312         "if": [
18313             "oic.if.s",
18314             "oic.if.baseline"
18315         ]
18316     },
18317     {
18318         "href": "/myBodyWater",
18319         "rt": [
18320             "oic.r.body.water"
18321         ],
18322         "if": [
18323             "oic.if.s",
18324             "oic.if.baseline"
18325         ]
18326     },
18327     {
18328         "href": "/myBodySoftLeanMass",
18329         "rt": [
18330             "oic.r.body.slm"
18331         ],
18332         "if": [
18333             "oic.if.s",
18334             "oic.if.baseline"
18335         ]
18336     },
18337     {
18338         "href": "/myBodyFatFreeMass",
18339         "rt": [
18340             "oic.r.body.ffm"
18341         ],
18342         "if": [
18343             "oic.if.s",
18344             "oic.if.baseline"
18345         ]
18346     },
18347     {
18348         "href": "/myUserId",
18349         "rt": [

```

```

18350         "oic.r.userid"
18351     ],
18352     "if": [
18353         "oic.if.r",
18354         "oic.if.baseline"
18355     ]
18356 },
18357 {
18358     "href": "/myTimeStamp",
18359     "rt": [
18360         "oic.r.time.stamp"
18361     ],
18362     "if": [
18363         "oic.if.r",
18364         "oic.if.baseline"
18365     ]
18366 }
18367 ]
18368 },
18369 "schema": {
18370     "$ref": "#/definitions/baseline"
18371 }
18372 }
18373 }
18374 }
18375 }
18376 },
18377 "parameters": {
18378     "interface-all": {
18379         "in": "query",
18380         "name": "if",
18381         "type": "string",
18382         "enum": [
18383             "oic.if.b",
18384             "oic.if.ll",
18385             "oic.if.baseline"
18386         ]
18387     }
18388 },
18389 "definitions": {
18390     "links": {
18391         "type": "array",
18392         "items": {
18393             "$ref": "#/definitions/oic.oic-link"
18394         }
18395     },
18396     "baseline": {
18397         "properties": {
18398             "rt": {
18399                 "items": {
18400                     "enum": [
18401                         "oic.r.bodyscale-am",
18402                         "oic.wk.atomicmeasurement"
18403                     ],
18404                     "type": "string",
18405                     "maxLength": 64
18406                 },
18407                 "minItems": 2,
18408                 "uniqueItems": true,
18409                 "readOnly": true,
18410                 "type": "array"
18411             },
18412             "rts": {
18413                 "description": "This contains all possible Resource Types for this Atomic Measurement.",
18414                 "items": {
18415                     "enum": [
18416                         "oic.r.weight",
18417                         "oic.r.bmi",
18418                         "oic.r.height",
18419                         "oic.r.body.fat",
18420                         "oic.r.body.water",
18421                         "oic.r.body.slm",

```

```

18422         "oic.r.body ffm",
18423         "oic.r.time.stamp",
18424         "oic.r.userid"
18425     ],
18426     "type": "string",
18427     "maxLength": 64
18428 },
18429     "minItems": 1,
18430     "uniqueItems": true,
18431     "readOnly": true,
18432     "type": "array"
18433 },
18434 "rts-m": {
18435     "description": "This contains all mandatory Resource Types for this Atomic Measurement.",
18436     "items": {
18437         "enum": [
18438             "oic.r.weight"
18439         ],
18440         "type": "string",
18441         "maxLength": 64
18442     },
18443     "maxItems": 1,
18444     "minItems": 1,
18445     "uniqueItems": true,
18446     "readOnly": true,
18447     "type": "array"
18448 },
18449 "if": {
18450     "description": "The OCF Interface set supported by this Resource",
18451     "items": {
18452         "enum": [
18453             "oic.if.b",
18454             "oic.if.ll",
18455             "oic.if.baseline"
18456         ],
18457         "type": "string",
18458         "maxLength": 64
18459     },
18460     "minItems": 3,
18461     "uniqueItems": true,
18462     "readOnly": true,
18463     "type": "array"
18464 },
18465 "n": {
18466     "$ref":
18467     "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
18468     schema.json#/definitions/n"
18469 },
18470 "id": {
18471     "$ref":
18472     "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
18473     schema.json#/definitions/id"
18474 },
18475 "links": {
18476     "$ref": "#/definitions/links"
18477 }
18478 },
18479 "type": "object",
18480 "required": [
18481     "rt", "if", "links", "rts", "rts-m"
18482 ]
18483 },
18484 "batch-retrieve": {
18485     "minItems": 1,
18486     "items": {
18487         "properties": {
18488             "href": {
18489                 "$ref":
18490                 "https://openconnectivityfoundation.github.io/core/schemas/oic.links.properties.core-
18491                 schema.json#/definitions/href"
18492             },
18493             "rep": {

```

```

18494         "type": "object",
18495         "anyOf": [
18496             {
18497                 "$ref":
18498 "https://openconnectivityfoundation.github.io/IoTDataModels/WeightResURI.swagger.json#/definitions/W
18499 eight"
18500             },
18501             {
18502                 "$ref":
18503 "https://openconnectivityfoundation.github.io/IoTDataModels/BMIResURI.swagger.json#/definitions/BMI"
18504             },
18505             {
18506                 "$ref":
18507 "https://openconnectivityfoundation.github.io/IoTDataModels/HeightResURI.swagger.json#/definitions/H
18508 eight"
18509             },
18510             {
18511                 "$ref":
18512 "https://openconnectivityfoundation.github.io/IoTDataModels/BodyFatResURI.swagger.json#/definitions/
18513 BodyFat"
18514             },
18515             {
18516                 "$ref":
18517 "https://openconnectivityfoundation.github.io/IoTDataModels/BodyWaterResURI.swagger.json#/definition
18518 s/BodyWater"
18519             },
18520             {
18521                 "$ref":
18522 "https://openconnectivityfoundation.github.io/IoTDataModels/BodySoftLeanMassResURI.swagger.json#/def
18523 initions/BodySoftLeanMass"
18524             },
18525             {
18526                 "$ref":
18527 "https://openconnectivityfoundation.github.io/IoTDataModels/BodyFatFreeMassResURI.swagger.json#/defi
18528 nitions/BodyFatFreeMass"
18529             },
18530             {
18531                 "$ref":
18532 "https://openconnectivityfoundation.github.io/IoTDataModels/UserIDResURI.swagger.json#/definitions/U
18533 serID"
18534             },
18535             {
18536                 "$ref":
18537 "https://openconnectivityfoundation.github.io/IoTDataModels/TimeStampResURI.swagger.json#/definition
18538 s/TimeStamp"
18539             }
18540         ]
18541     },
18542     "required": [
18543         "href",
18544         "rep"
18545     ],
18546     "type": "object"
18547 },
18548 "type": "array"
18549 },
18550 "oic.oic-link": {
18551     "properties": {
18552         "rt": {
18553             "description": "Resource Type of the target Resource",
18554             "items": {
18555                 "enum": [
18556                     "oic.r.weight",
18557                     "oic.r.bmi",
18558                     "oic.r.height",
18559                     "oic.r.body.fat",
18560                     "oic.r.body.water",
18561                     "oic.r.body.slm",
18562                     "oic.r.body.ffm",
18563                     "oic.r.time.stamp",
18564                     "oic.r.userid"
18565                 ]

```

```

18566     ],
18567     "type": "string",
18568     "maxLength": 64
18569   },
18570   "minItems": 1,
18571   "uniqueItems": true,
18572   "readOnly": true,
18573   "type": "array"
18574 },
18575 "if": {
18576   "description": "The OCF Interface set supported by the target Resource",
18577   "items": {
18578     "enum": [
18579       "oic.if.s",
18580       "oic.if.r",
18581       "oic.if.baseline"
18582     ],
18583     "type": "string",
18584     "maxLength": 64
18585   },
18586   "minItems": 1,
18587   "uniqueItems": true,
18588   "readOnly": true,
18589   "type": "array"
18590 },
18591 "anchor": {
18592   "$ref":
18593 "https://openconnectivityfoundation.github.io/core/schemas/oic.links.properties.core-
18594 schema.json#/definitions/anchor"
18595 },
18596 "di": {
18597   "$ref":
18598 "https://openconnectivityfoundation.github.io/core/schemas/oic.links.properties.core-
18599 schema.json#/definitions/di"
18600 },
18601 "eps": {
18602   "$ref":
18603 "https://openconnectivityfoundation.github.io/core/schemas/oic.links.properties.core-
18604 schema.json#/definitions/eps"
18605 },
18606 "href": {
18607   "$ref":
18608 "https://openconnectivityfoundation.github.io/core/schemas/oic.links.properties.core-
18609 schema.json#/definitions/href"
18610 },
18611 "ins": {
18612   "$ref":
18613 "https://openconnectivityfoundation.github.io/core/schemas/oic.links.properties.core-
18614 schema.json#/definitions/ins"
18615 },
18616 "p": {
18617   "$ref":
18618 "https://openconnectivityfoundation.github.io/core/schemas/oic.links.properties.core-
18619 schema.json#/definitions/p"
18620 },
18621 "rel": {
18622   "$ref":
18623 "https://openconnectivityfoundation.github.io/core/schemas/oic.links.properties.core-
18624 schema.json#/definitions/rel_array"
18625 },
18626 "title": {
18627   "$ref":
18628 "https://openconnectivityfoundation.github.io/core/schemas/oic.links.properties.core-
18629 schema.json#/definitions/title"
18630 },
18631 "type": {
18632   "$ref":
18633 "https://openconnectivityfoundation.github.io/core/schemas/oic.links.properties.core-
18634 schema.json#/definitions/type"
18635 }
18636 },
18637 "required": [

```

```

18638     "href",
18639     "rt",
18640     "if"
18641 ],
18642 "type": "object"
18643 }
18644 }
18645 }
18646

```

18647 **6.95.5 Property definition**

18648 Table 193 defines the Properties that are part of the "oic.r.bodyscale-am,
18649 oic.wk.atomicmeasurement" Resource Type.

18650 **Table 193 – The Property definitions of the Resource with type "rt" = "oic.r.bodyscale-am,
18651 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.

18652 **6.95.6 CRUDN behaviour**

18653 Table 194 defines the CRUDN operations that are supported on the "oic.r.bodyscale-am,
18654 oic.wk.atomicmeasurement" Resource Type.

**Table 194 – The CRUDN operations of the Resource with type "rt" = "oic.r.bodyscale-am,
oic.wk.atomicmeasurement".**

18655
18656

Create	Read	Update	Delete	Notify
	get			observe

18657 **6.96 Body Soft Lean Mass**

18658 **6.96.1 Introduction**

18659 This Resource describes the Properties associated with a person's body soft lean mass.
18660 The unit is a single value that is one of kg, lb or percent.
18661 If the unit Property is missing the default is kilograms [kg].

18662 The slm and unit Properties are read-only values that are provided by the Server.
18663 When range is omitted the default is 0 to +MAXFLOAT.

18664 6.96.2 Example URI

18665 /BodySoftLeanMassResURI

18666 6.96.3 Resource type

18667 The Resource Type is defined as: "oic.r.body.slm".

18668 6.96.4 OpenAPI 2.0 definition

```
18669 {
18670   "swagger": "2.0",
18671   "info": {
18672     "title": "Body Soft Lean Mass",
18673     "version": "2019-03-22",
18674     "license": {
18675       "name": "OCF Data Model License",
18676       "url":
18677         "https://github.com/openconnectivityfoundation/core/blob/e28a9e0a92e17042ba3e83661e4c0fbce8bdc4ba/LI
18678         CENSE.md",
18679       "x-copyright": "Copyright 2016-2019 Open Connectivity Foundation, Inc. All rights reserved."
18680     },
18681     "termsOfService": "https://openconnectivityfoundation.github.io/core/DISCLAIMER.md"
18682   },
18683   "schemes": [
18684     "http"
18685   ],
18686   "consumes": [
18687     "application/json"
18688   ],
18689   "produces": [
18690     "application/json"
18691   ],
18692   "paths": {
18693     "/BodySoftLeanMassResURI": {
18694       "get": {
18695         "description": "This Resource describes the Properties associated with a person's body soft
18696         lean mass.\n\nThe unit is a single value that is one of kg, lb or percent.\n\nIf the unit Property is
18697         missing the default is kilograms [kg].\n\nThe slm and unit Properties are read-only values that are
18698         provided by the Server.\n\nWhen range is omitted the default is 0 to +MAXFLOAT.",
18699         "parameters": [
18700           {
18701             "$ref": "#/parameters/interface"
18702           }
18703         ],
18704         "responses": {
18705           "200": {
18706             "description": "",
18707             "x-example": {
18708               "rt": [
18709                 "oic.r.body.slm"
18710               ],
18711               "slm": 20.0,
18712               "units": "kg"
18713             },
18714             "schema": {
18715               "$ref": "#/definitions/BodySoftLeanMass"
18716             }
18717           }
18718         }
18719       }
18720     }
18721   },
18722   "parameters": {
18723     "interface": {
18724       "in": "query",
18725       "name": "if",
18726       "type": "string",
```

```

18727     "enum": [
18728         "oic.if.s",
18729         "oic.if.baseline"
18730     ]
18731     },
18732 },
18733 "definitions": {
18734     "BodySoftLeanMass": {
18735         "properties": {
18736             "rt": {
18737                 "description": "Resource Type",
18738                 "items": {
18739                     "enum": [
18740                         "oic.r.body.slm"
18741                     ],
18742                     "type": "string",
18743                     "maxLength": 64
18744                 },
18745                 "minItems": 1,
18746                 "uniqueItems": true,
18747                 "readOnly": true,
18748                 "type": "array"
18749             },
18750             "slm": {
18751                 "description": "Body soft lean mass.",
18752                 "minimum": 0.0,
18753                 "readOnly": true,
18754                 "type": "number"
18755             },
18756             "units": {
18757                 "description": "Body soft lean mass units",
18758                 "enum": [
18759                     "kg",
18760                     "lb",
18761                     "percent"
18762                 ],
18763                 "readOnly": true,
18764                 "type": "string",
18765                 "default": "kg"
18766             },
18767             "range": {
18768                 "$ref":
18769 "https://openconnectivityfoundation.github.io/IoTDataModels/schemas/oic.baseresource.properties-
18770 schema.json#/definitions/range_number"
18771             },
18772             "step": {
18773                 "$ref":
18774 "https://openconnectivityfoundation.github.io/IoTDataModels/schemas/oic.baseresource.properties-
18775 schema.json#/definitions/step_number"
18776             },
18777             "precision": {
18778                 "$ref":
18779 "https://openconnectivityfoundation.github.io/IoTDataModels/schemas/oic.baseresource.properties-
18780 schema.json#/definitions/precision"
18781             },
18782             "n": {
18783                 "$ref":
18784 "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
18785 schema.json#/definitions/n"
18786             },
18787             "id": {
18788                 "$ref":
18789 "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
18790 schema.json#/definitions/id"
18791             },
18792             "if": {
18793                 "description": "The OCF Interface set supported by this Resource",
18794                 "items": {
18795                     "enum": [
18796                         "oic.if.s",
18797                         "oic.if.baseline"
18798                     ],

```

```

18799         "type": "string",
18800         "maxLength": 64
18801     },
18802     "minItems": 1,
18803     "readOnly": true,
18804     "uniqueItems": true,
18805     "type": "array"
18806 }
18807 },
18808 "type": "object",
18809 "required": [
18810     "slm"
18811 ]
18812 }
18813 }
18814 }
18815

```

18816 **6.96.5 Property definition**

18817 Table 195 defines the Properties that are part of the "oic.r.body.slm" Resource Type.

18818 **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	

18819 **6.96.6 CRUDN behaviour**

18820 Table 196 defines the CRUDN operations that are supported on the "oic.r.body.slm" Resource Type.

18821 **Table 196 – The CRUDN operations of the Resource with type "rt" = "oic.r.body.slm".**

Create	Read	Update	Delete	Notify
	get			observe

18822 **6.97 Body Thermometer Atomic Measurement**

18823 **6.97.1 Introduction**

18824 This Resource describes the Properties associated with body thermometer.
 18825 The Resource is an Atomic Measurement of temperature (oic.r.temperature), body location for
 18826 temperature (oic.r.body.location.temperature), observed time (oic.r.time.stamp), and user id
 18827 (oic.r.userid).

18828 **6.97.2 Example URI**

18829 /BodyThermometerAMResURI

18830 **6.97.3 Resource type**

18831 The Resource Type is defined as: "oic.r.bodythermometer-am, oic.wk.atomicmeasurement".

18832 **6.97.4 OpenAPI 2.0 definition**

```

18833 {
18834   "swagger": "2.0",
18835   "info": {
18836     "title": "Body Thermometer Atomic Measurement",
18837     "version": "2019-03-22",
18838     "license": {
18839       "name": "OCF Data Model License",
18840       "url":
18841         "https://github.com/openconnectivityfoundation/core/blob/e28a9e0a92e17042ba3e83661e4c0fbce8bdc4ba/LI
18842         CENSE.md",
18843       "x-copyright": "Copyright 2016-2019 Open Connectivity Foundation, Inc. All rights reserved."
18844     },
18845     "termsOfService": "https://openconnectivityfoundation.github.io/core/DISCLAIMER.md"
18846   },
18847   "schemes": [
18848     "http"
18849   ],
18850   "consumes": [
18851     "application/json"
18852   ],
18853   "produces": [
18854     "application/json"
18855   ],
18856   "paths": {
18857     "/BodyThermometerAMResURI?if=oic.if.b": {
18858       "get": {
18859         "description": "This Resource describes the Properties associated with body
18860         thermometer.\n\nThe Resource is an Atomic Measurement of temperature (oic.r.temperature), body
18861         location for temperature (oic.r.body.location.temperature), observed time (oic.r.time.stamp), and
18862         user id (oic.r.userid).",
18863         "parameters": [
18864           {
18865             "$ref": "#/parameters/interface-all"
18866           }
18867         ],
18868         "responses": {
18869           "200": {
18870             "description": "",
18871             "x-example": [
18872               {
18873                 "href": "/myTemperature",
18874                 "rep": {
18875                   "temperature": 38.0,

```

```

18876         "units": "C"
18877     }
18878 },
18879 {
18880     "href": "/myBodyLocationForTemperature",
18881     "rep": {
18882         "bloc": "mouth"
18883     }
18884 },
18885 {
18886     "href": "/myUserId",
18887     "rep": {
18888         "userid": "USER1"
18889     }
18890 },
18891 {
18892     "href": "/myTimeStamp",
18893     "rep": {
18894         "timestamp": "2018-11-09T12:15+08:00"
18895     }
18896 }
18897 ],
18898 "schema": {
18899     "$ref": "#/definitions/batch-retrieve"
18900 }
18901 }
18902 }
18903 }
18904 },
18905 "/BodyThermometerAMResURI?if=oic.if.ll": {
18906     "get": {
18907         "description": "This Resource describes the Properties associated with body
18908 thermometer.\nThe Resource is an Atomic Measurement of temperature (oic.r.temperature), body
18909 location for temperature (oic.r.body.location.temperature), observed time (oic.r.time.stamp), and
18910 user id (oic.r.userid).",
18911         "parameters": [
18912             {
18913                 "$ref": "#/parameters/interface-all"
18914             }
18915         ],
18916         "responses": {
18917             "200": {
18918                 "description": "",
18919                 "x-example": [
18920                     {
18921                         "href": "/myTemperature",
18922                         "rt": [
18923                             "oic.r.temperature"
18924                         ],
18925                         "if": [
18926                             "oic.if.s",
18927                             "oic.if.baseline"
18928                         ]
18929                     },
18930                     {
18931                         "href": "/myBodyLocationForTemperature",
18932                         "rt": [
18933                             "oic.r.body.location.temperature"
18934                         ],
18935                         "if": [
18936                             "oic.if.s",
18937                             "oic.if.baseline"
18938                         ]
18939                     },
18940                     {
18941                         "href": "/myUserId",
18942                         "rt": [
18943                             "oic.r.userid"
18944                         ],
18945                         "if": [
18946                             "oic.if.r",
18947                             "oic.if.baseline"

```

```

18948     ]
18949     },
18950     {
18951         "href": "/myTimeStamp",
18952         "rt": [
18953             "oic.r.time.stamp"
18954         ],
18955         "if": [
18956             "oic.if.r",
18957             "oic.if.baseline"
18958         ]
18959     }
18960 ],
18961 "schema": {
18962     "$ref": "#/definitions/links"
18963 }
18964 }
18965 }
18966 }
18967 },
18968 "/BodyThermometerAMResURI?if=oic.if.baseline": {
18969     "get": {
18970         "description": "This Resource describes the Properties associated with body
18971 thermometer.\nThe Resource is an Atomic Measurement of temperature (oic.r.temperature), body
18972 location for temperature (oic.r.body.location.temperature), observed time (oic.r.time.stamp), and
18973 user id (oic.r.userid).",
18974         "parameters": [
18975             {
18976                 "$ref": "#/parameters/interface-all"
18977             }
18978         ],
18979         "responses": {
18980             "200": {
18981                 "description": "",
18982                 "x-example": {
18983                     "rt": [
18984                         "oic.r.bodythermometer-am",
18985                         "oic.wk.atomicmeasurement"
18986                     ],
18987                     "if": [
18988                         "oic.if.b",
18989                         "oic.if.ll",
18990                         "oic.if.baseline"
18991                     ],
18992                     "rts": [
18993                         "oic.r.temperature",
18994                         "oic.r.body.location.temperature",
18995                         "oic.r.userid",
18996                         "oic.r.time.stamp"
18997                     ],
18998                     "rts-m": [
18999                         "oic.r.temperature"
19000                     ],
19001                     "links": [
19002                         {
19003                             "href": "/myTemperature",
19004                             "rt": [
19005                                 "oic.r.temperature"
19006                             ],
19007                             "if": [
19008                                 "oic.if.s",
19009                                 "oic.if.baseline"
19010                             ]
19011                         },
19012                         {
19013                             "href": "/myBodyLocationForTemperature",
19014                             "rt": [
19015                                 "oic.r.body.location.temperature"
19016                             ],
19017                             "if": [
19018                                 "oic.if.s",
19019                                 "oic.if.baseline"

```

```

19020         ]
19021         },
19022         {
19023             "href": "/myUserId",
19024             "rt": [
19025                 "oic.r.userid"
19026             ],
19027             "if": [
19028                 "oic.if.r",
19029                 "oic.if.baseline"
19030             ]
19031         },
19032         {
19033             "href": "/myTimeStamp",
19034             "rt": [
19035                 "oic.r.time.stamp"
19036             ],
19037             "if": [
19038                 "oic.if.r",
19039                 "oic.if.baseline"
19040             ]
19041         }
19042     ],
19043 },
19044 "schema": {
19045     "$ref": "#/definitions/baseline"
19046 }
19047 }
19048 }
19049 }
19050 },
19051 },
19052 "parameters": {
19053     "interface-all": {
19054         "in": "query",
19055         "name": "if",
19056         "type": "string",
19057         "enum": [
19058             "oic.if.b",
19059             "oic.if.ll",
19060             "oic.if.baseline"
19061         ]
19062     }
19063 },
19064 "definitions": {
19065     "batch-retrieve": {
19066         "minItems": 1,
19067         "items": {
19068             "additionalProperties": true,
19069             "properties": {
19070                 "href": {
19071                     "$ref":
19072 "https://openconnectivityfoundation.github.io/core/schemas/oic.links.properties.core-
19073 schema.json#/definitions/href"
19074                 },
19075                 "rep": {
19076                     "type": "object",
19077                     "anyOf": [
19078                         {
19079                             "$ref":
19080 "https://openconnectivityfoundation.github.io/IoTDataModels/TemperatureResURI.swagger.json#/definiti
19081 ons/Temperature"
19082                         },
19083                         {
19084                             "$ref":
19085 "https://openconnectivityfoundation.github.io/IoTDataModels/BodyLocationTemperatureResURI.swagger.js
19086 on#/definitions/BodyLocationTemperature"
19087                         },
19088                         {
19089                             "$ref":
19090 "https://openconnectivityfoundation.github.io/IoTDataModels/UserIDResURI.swagger.json#/definitions/U
19091 serID"

```

```

19092         },
19093         {
19094             "$ref":
19095             "https://openconnectivityfoundation.github.io/IoTDataModels/TimeStampResURI.swagger.json#/definitions/
19096             s/TimeStamp"
19097         }
19098     ]
19099     }
19100 },
19101 "required": [
19102     "href",
19103     "rep"
19104 ],
19105 "type": "object"
19106 },
19107 "type": "array"
19108 },
19109 "links": {
19110     "type": "array",
19111     "items": {
19112         "$ref": "#/definitions/oic.oic-link"
19113     }
19114 },
19115 "baseline": {
19116     "properties": {
19117         "rt": {
19118             "items": {
19119                 "enum": [
19120                     "oic.r.bodythermometer-am",
19121                     "oic.wk.atomicmeasurement"
19122                 ],
19123                 "type": "string",
19124                 "maxLength": 64
19125             },
19126             "minItems": 2,
19127             "uniqueItems": true,
19128             "readOnly": true,
19129             "type": "array"
19130         },
19131         "rts": {
19132             "description": "This contains all possible Resource Types for this Atomic Measurement.",
19133             "items": {
19134                 "enum": [
19135                     "oic.r.temperature",
19136                     "oic.r.body.location.temperature",
19137                     "oic.r.time.stamp",
19138                     "oic.r.userid"
19139                 ],
19140                 "type": "string",
19141                 "maxLength": 64
19142             },
19143             "minItems": 1,
19144             "uniqueItems": true,
19145             "readOnly": true,
19146             "type": "array"
19147         },
19148         "rts-m": {
19149             "description": "This contains all mandatory Resource Types for this Atomic Measurement.",
19150             "items": {
19151                 "enum": [
19152                     "oic.r.temperature"
19153                 ],
19154                 "type": "string",
19155                 "maxLength": 64
19156             },
19157             "maxItems": 1,
19158             "minItems": 1,
19159             "uniqueItems": true,
19160             "readOnly": true,
19161             "type": "array"
19162         },
19163         "if": {

```



```

19164         "description": "The OC Interface set supported by this Resource",
19165         "items": {
19166             "enum": [
19167                 "oic.if.b",
19168                 "oic.if.ll",
19169                 "oic.if.baseline"
19170             ],
19171             "type": "string",
19172             "maxLength": 64
19173         },
19174         "minItems": 3,
19175         "uniqueItems": true,
19176         "readOnly": true,
19177         "type": "array"
19178     },
19179     "n": {
19180         "$ref":
19181         "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
19182         schema.json#/definitions/n"
19183     },
19184     "id": {
19185         "$ref":
19186         "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
19187         schema.json#/definitions/id"
19188     },
19189     "links": {
19190         "$ref": "#/definitions/links"
19191     }
19192 },
19193 "type": "object",
19194 "required": [
19195     "rt", "if", "links", "rts", "rts-m"
19196 ]
19197 },
19198 "oic.oic-link": {
19199     "properties": {
19200         "if": {
19201             "description": "The OCF Interface set supported by target Resource",
19202             "items": {
19203                 "enum": [
19204                     "oic.if.baseline",
19205                     "oic.if.s",
19206                     "oic.if.r"
19207                 ],
19208                 "type": "string",
19209                 "maxLength": 64
19210             },
19211             "minItems": 1,
19212             "uniqueItems": true,
19213             "readOnly": true,
19214             "type": "array"
19215         },
19216         "rt": {
19217             "description": "Resource Type of the target Resource",
19218             "items": {
19219                 "enum": [
19220                     "oic.r.temperature",
19221                     "oic.r.body.location.temperature",
19222                     "oic.r.time.stamp",
19223                     "oic.r.userid"
19224                 ],
19225                 "type": "string",
19226                 "maxLength": 64
19227             },
19228             "minItems": 1,
19229             "uniqueItems": true,
19230             "readOnly": true,
19231             "type": "array"
19232         },
19233         "anchor": {
19234             "$ref":
19235             "https://openconnectivityfoundation.github.io/core/schemas/oic.links.properties.core-

```

```

19236 schema.json#/definitions/anchor"
19237     },
19238     "di": {
19239         "$ref":
19240         "https://openconnectivityfoundation.github.io/core/schemas/oic.links.properties.core-
19241         schema.json#/definitions/di"
19242     },
19243     "eps": {
19244         "$ref":
19245         "https://openconnectivityfoundation.github.io/core/schemas/oic.links.properties.core-
19246         schema.json#/definitions/eps"
19247     },
19248     "href": {
19249         "$ref":
19250         "https://openconnectivityfoundation.github.io/core/schemas/oic.links.properties.core-
19251         schema.json#/definitions/href"
19252     },
19253     "ins": {
19254         "$ref":
19255         "https://openconnectivityfoundation.github.io/core/schemas/oic.links.properties.core-
19256         schema.json#/definitions/ins"
19257     },
19258     "p": {
19259         "$ref":
19260         "https://openconnectivityfoundation.github.io/core/schemas/oic.links.properties.core-
19261         schema.json#/definitions/p"
19262     },
19263     "rel": {
19264         "$ref":
19265         "https://openconnectivityfoundation.github.io/core/schemas/oic.links.properties.core-
19266         schema.json#/definitions/rel_array"
19267     },
19268     "title": {
19269         "$ref":
19270         "https://openconnectivityfoundation.github.io/core/schemas/oic.links.properties.core-
19271         schema.json#/definitions/title"
19272     },
19273     "type": {
19274         "$ref":
19275         "https://openconnectivityfoundation.github.io/core/schemas/oic.links.properties.core-
19276         schema.json#/definitions/type"
19277     }
19278 },
19279 "required": [
19280     "href",
19281     "rt",
19282     "if"
19283 ],
19284 "type": "object"
19285 }
19286 }
19287 }
19288

```

19289 **6.97.5 Property definition**

19290 Table 197 defines the Properties that are part of the "oic.r.bodythermometer-am,
19291 oic.wk.atomicmeasurement" Resource Type.

19292 **Table 197 – The Property definitions of the Resource with type "rt" =**
19293 **"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

19294 **6.97.6 CRUDN behaviour**

19295 Table 198 defines the CRUDN operations that are supported on the "oic.r.bodythermometer-am,
19296 oic.wk.atomicmeasurement" Resource Type.

19297 **Table 198 – The CRUDN operations of the Resource with type "rt" =**
19298 **"oic.r.bodythermometer-am, oic.wk.atomicmeasurement".**

Create	Read	Update	Delete	Notify
	get			observe

19299 **6.98 Body Water**

19300 **6.98.1 Introduction**

19301 This Resource describes the Properties associated with a person's body water.
19302 The unit is a single value that is one of kg or lb.
19303 If the unit Property is missing the default is kilograms [kg].
19304 The bwater and unit Properties are read-only values that are provided by the Server.
19305 When range is omitted the default is 0 to +MAXFLOAT.

19306 **6.98.2 Example URI**

19307 /BodyWaterResURI

19308 **6.98.3 Resource type**

19309 The Resource Type is defined as: "oic.r.body.water".

19310 **6.98.4 OpenAPI 2.0 definition**

```

19311 {
19312   "swagger": "2.0",
19313   "info": {
19314     "title": "Body Water",
19315     "version": "2019-03-22",
19316     "license": {
19317       "name": "OCF Data Model License",
19318       "url":
19319 "https://github.com/openconnectivityfoundation/core/blob/e28a9e0a92e17042ba3e83661e4c0fbce8bdc4ba/LI
19320 CENSE.md",
19321       "x-copyright": "Copyright 2016-2019 Open Connectivity Foundation, Inc. All rights reserved."
19322     },
19323     "termsOfService": "https://openconnectivityfoundation.github.io/core/DISCLAIMER.md"
19324   },

```

```

19325     "schemes": [
19326         "http"
19327     ],
19328     "consumes": [
19329         "application/json"
19330     ],
19331     "produces": [
19332         "application/json"
19333     ],
19334     "paths": {
19335         "/BodyWaterResURI": {
19336             "get": {
19337                 "description": "This Resource describes the Properties associated with a person's body
19338 water.\nThe unit is a single value that is one of kg or lb.\nIf the unit Property is missing the
19339 default is kilograms [kg].\nThe bwater and unit Properties are read-only values that are provided by
19340 the Server.\nWhen range is omitted the default is 0 to +MAXFLOAT.",
19341                 "parameters": [
19342                     {
19343                         "$ref": "#/parameters/interface"
19344                     }
19345                 ],
19346                 "responses": {
19347                     "200": {
19348                         "description": "",
19349                         "x-example": {
19350                             "rt": [
19351                                 "oic.r.body.water"
19352                             ],
19353                             "bwater": 20.0,
19354                             "units": "kg"
19355                         },
19356                         "schema": {
19357                             "$ref": "#/definitions/BodyWater"
19358                         }
19359                     }
19360                 }
19361             }
19362         }
19363     },
19364     "parameters": {
19365         "interface": {
19366             "in": "query",
19367             "name": "if",
19368             "type": "string",
19369             "enum": [
19370                 "oic.if.s",
19371                 "oic.if.baseline"
19372             ]
19373         }
19374     },
19375     "definitions": {
19376         "BodyWater": {
19377             "properties": {
19378                 "rt": {
19379                     "description": "Resource Type",
19380                     "items": {
19381                         "enum": [
19382                             "oic.r.body.water"
19383                         ],
19384                         "type": "string",
19385                         "maxLength": 64
19386                     },
19387                     "minItems": 1,
19388                     "uniqueItems": true,
19389                     "readOnly": true,
19390                     "type": "array"
19391                 },
19392                 "bwater": {
19393                     "description": "Body water.",
19394                     "minimum": 0.0,
19395                     "readOnly": true,
19396                     "type": "number"

```

```

19397     },
19398     "units": {
19399         "description": "Body water unit",
19400         "enum": [
19401             "kg",
19402             "lb"
19403         ],
19404         "readOnly": true,
19405         "type": "string",
19406         "default": "kg"
19407     },
19408     "range": {
19409         "$ref":
19410         "https://openconnectivityfoundation.github.io/IoTDataModels/schemas/oic.baseresource.properties-
19411         schema.json#/definitions/range_number"
19412     },
19413     "step": {
19414         "$ref":
19415         "https://openconnectivityfoundation.github.io/IoTDataModels/schemas/oic.baseresource.properties-
19416         schema.json#/definitions/step_number"
19417     },
19418     "precision": {
19419         "$ref":
19420         "https://openconnectivityfoundation.github.io/IoTDataModels/schemas/oic.baseresource.properties-
19421         schema.json#/definitions/precision"
19422     },
19423     "n": {
19424         "$ref":
19425         "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
19426         schema.json#/definitions/n"
19427     },
19428     "id": {
19429         "$ref":
19430         "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
19431         schema.json#/definitions/id"
19432     },
19433     "if": {
19434         "description": "The OCF Interface set supported by this Resource",
19435         "items": {
19436             "enum": [
19437                 "oic.if.s",
19438                 "oic.if.baseline"
19439             ],
19440             "type": "string",
19441             "maxLength": 64
19442         },
19443         "minItems": 1,
19444         "readOnly": true,
19445         "uniqueItems": true,
19446         "type": "array"
19447     }
19448 },
19449 "type": "object",
19450 "required": [
19451     "bwater"
19452 ]
19453 }
19454 }
19455 }
19456

```

19457 **6.98.5 Property definition**

19458 Table 199 defines the Properties that are part of the "oic.r.body.water" Resource Type.

19459 **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	

19460 **6.98.6 CRUDN behaviour**

19461 Table 200 defines the CRUDN operations that are supported on the "oic.r.body.water" Resource
19462 Type.

19463 **Table 200 – The CRUDN operations of the Resource with type "rt" = "oic.r.body.water".**

Create	Read	Update	Delete	Notify
	get			observe

19464 **6.99 Glucose**

19465 **6.99.1 Introduction**

19466 This Resource describes the Properties associated with a person's glucose level.
19467 The unit is a single value that is one of mg/dL, mmol/L.
19468 If the unit Property is missing the default is milligrams per decilitre [mg/dL].
19469 The glucose and unit Properties are read-only values that are provided by the Server.
19470 When range is omitted the default is 0 to +MAXFLOAT.

19471 **6.99.2 Example URI**

19472 /GlucoseResURI

19473 **6.99.3 Resource type**

19474 The Resource Type is defined as: "oic.r.glucose".

19475 **6.99.4 OpenAPI 2.0 definition**

```
19476 {
19477   "swagger": "2.0",
19478   "info": {
19479     "title": "Glucose",
19480     "version": "2019-03-22",
19481     "license": {
19482       "name": "OCF Data Model License",
19483       "url":
19484         "https://github.com/openconnectivityfoundation/core/blob/e28a9e0a92e17042ba3e83661e4c0fbce8bdc4ba/LI
19485         CENSE.md",
19486       "x-copyright": "Copyright 2016-2019 Open Connectivity Foundation, Inc. All rights reserved."
19487     },
19488     "termsOfService": "https://openconnectivityfoundation.github.io/core/DISCLAIMER.md"
19489   },
19490   "schemes": [
19491     "http"
19492   ],
19493   "consumes": [
19494     "application/json"
19495   ],
19496   "produces": [
19497     "application/json"
19498   ],
19499   "paths": {
19500     "/GlucoseResURI": {
19501       "get": {
19502         "description": "This Resource describes the Properties associated with a person's glucose
19503         level.\n\nThe unit is a single value that is one of mg/dL, mmol/L.\n\nIf the unit Property is missing
19504         the default is milligrams per decilitre [mg/dL].\n\nThe glucose and unit Properties are read-only
19505         values that are provided by the Server.\n\nWhen range is omitted the default is 0 to +MAXFLOAT.",
19506         "parameters": [
19507           {
19508             "$ref": "#/parameters/interface"
19509           }
19510         ],
19511         "responses": {
19512           "200": {
19513             "description": "",
19514             "x-example": {
19515               "rt": [
19516                 "oic.r.glucose"
19517               ],
19518               "glucose": 90.0,
19519               "units": "mg/dL",
19520               "range": [
19521                 20.0,
19522                 600.0
19523               ],
19524               "step": 1
19525             },
19526             "schema": {
19527               "$ref": "#/definitions/Glucose"
19528             }
19529           }
19530         }
19531       }
19532     }
19533   },
19534   "parameters": {
19535     "interface": {
19536       "in": "query",
19537       "name": "if",
19538       "type": "string",
19539       "enum": [
19540         "oic.if.s",
19541         "oic.if.baseline"
19542       ]
19543     }
19544   },
19545   "definitions": {
```



```

19546     "Glucose": {
19547         "properties": {
19548             "rt": {
19549                 "description": "Resource Type",
19550                 "items": {
19551                     "enum": [
19552                         "oic.r.glucose"
19553                     ],
19554                     "type": "string",
19555                     "maxLength": 64
19556                 },
19557                 "minItems": 1,
19558                 "uniqueItems": true,
19559                 "readOnly": true,
19560                 "type": "array"
19561             },
19562             "glucose": {
19563                 "description": "A measurement of glucose concentration in the blood",
19564                 "minimum": 0.0,
19565                 "readOnly": true,
19566                 "type": "number"
19567             },
19568             "units": {
19569                 "description": "Glucose unit",
19570                 "enum": [
19571                     "mg/dL",
19572                     "mmol/L"
19573                 ],
19574                 "readOnly": true,
19575                 "type": "string",
19576                 "default": "mg/dL"
19577             },
19578             "range": {
19579                 "$ref":
19580                 "https://openconnectivityfoundation.github.io/IoTDataModels/schemas/oic.baseresource.properties-
19581                 schema.json#/definitions/range_number"
19582             },
19583             "step": {
19584                 "$ref":
19585                 "https://openconnectivityfoundation.github.io/IoTDataModels/schemas/oic.baseresource.properties-
19586                 schema.json#/definitions/step_number"
19587             },
19588             "precision": {
19589                 "$ref":
19590                 "https://openconnectivityfoundation.github.io/IoTDataModels/schemas/oic.baseresource.properties-
19591                 schema.json#/definitions/precision"
19592             },
19593             "n": {
19594                 "$ref":
19595                 "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
19596                 schema.json#/definitions/n"
19597             },
19598             "id": {
19599                 "$ref":
19600                 "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
19601                 schema.json#/definitions/id"
19602             },
19603             "if": {
19604                 "description": "The OCF Interface set supported by this Resource",
19605                 "items": {
19606                     "enum": [
19607                         "oic.if.s",
19608                         "oic.if.baseline"
19609                     ],
19610                     "type": "string",
19611                     "maxLength": 64
19612                 },
19613                 "minItems": 1,
19614                 "readOnly": true,
19615                 "uniqueItems": true,
19616                 "type": "array"
19617             }
19618         }
19619     }

```

```

19618     },
19619     "type": "object",
19620     "required": [
19621         "glucose"
19622     ]
19623 }
19624 }
19625 }
19626

```

19627 **6.99.5 Property definition**

19628 Table 201 defines the Properties that are part of the "oic.r.glucose" Resource Type.

19629 **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	

19630 **6.99.6 CRUDN behaviour**

19631 Table 202 defines the CRUDN operations that are supported on the "oic.r.glucose" Resource Type.

19632 **Table 202 – The CRUDN operations of the Resource with type "rt" = "oic.r.glucose".**

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

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

19633 **6.100 Context Carbohydrates for Glucose Meter**

19634 **6.100.1 Introduction**

19635 This Resource describes the Properties associated with a context carbohydrates.
 19636 The carb Property has a default unit of grams[g].
 19637 The carb and meal Properties are read-only values that are provided by the Server.
 19638 When range is omitted the default is 0 to +MAXFLOAT.

19639 **6.100.2 Example URI**

19640 /GlucoseCarbResURI

19641 **6.100.3 Resource type**

19642 The Resource Type is defined as: "oic.r.glucose.carb".

19643 **6.100.4 OpenAPI 2.0 definition**

```

19644 {
19645   "swagger": "2.0",
19646   "info": {
19647     "title": "Context Carbohydrates for Glucose Meter",
19648     "version": "2019-03-22",
19649     "license": {
19650       "name": "OCF Data Model License",
19651       "url":
19652         "https://github.com/openconnectivityfoundation/core/blob/e28a9e0a92e17042ba3e83661e4c0fbce8bdc4ba/LI
19653         CENSE.md",
19654       "x-copyright": "Copyright 2016-2019 Open Connectivity Foundation, Inc. All rights reserved."
19655     },
19656     "termsOfService": "https://openconnectivityfoundation.github.io/core/DISCLAIMER.md"
19657   },
19658   "schemes": [
19659     "http"
19660   ],
19661   "consumes": [
19662     "application/json"
19663   ],
19664   "produces": [
19665     "application/json"
19666   ],
19667   "paths": {
19668     "/GlucoseCarbResURI": {
19669       "get": {
19670         "description": "This Resource describes the Properties associated with a context
19671         carbohydrates.\n\nThe carb Property has a default unit of grams[g].\n\nThe carb and meal Properties are
19672         read-only values that are provided by the Server.\n\nWhen range is omitted the default is 0 to
19673         +MAXFLOAT.",
19674         "parameters": [
19675           {
19676             "$ref": "#/parameters/interface"
19677           }
19678         ],
19679         "responses": {
19680           "200": {
19681             "description": "",
19682             "x-example": {
19683               "rt": [
19684                 "oic.r.glucose.carb"
19685               ],
19686               "carb": 100.0,
19687               "meal": "breakfast"
19688             },
19689             "schema": {
19690               "$ref": "#/definitions/GlucoseCarb"
19691             }
19692           }
19693         }
19694       }
19695     }
19696   }

```

```

19693     }
19694   }
19695 }
19696 },
19697 "parameters": {
19698   "interface": {
19699     "in": "query",
19700     "name": "if",
19701     "type": "string",
19702     "enum": [
19703       "oic.if.s",
19704       "oic.if.baseline"
19705     ]
19706   }
19707 },
19708 "definitions": {
19709   "GlucoseCarb": {
19710     "properties": {
19711       "rt": {
19712         "description": "Resource Type",
19713         "items": {
19714           "enum": [
19715             "oic.r.glucose.carb"
19716           ],
19717           "type": "string",
19718           "maxLength": 64
19719         },
19720         "minItems": 1,
19721         "uniqueItems": true,
19722         "readOnly": true,
19723         "type": "array"
19724       },
19725       "carb": {
19726         "description": "The amount of carbohydrates undertaken in grams",
19727         "readOnly": true,
19728         "type": "number",
19729         "minimum": 0.0
19730       },
19731       "meal": {
19732         "description": "Recorded time of carbohydrates intake",
19733         "enum": [
19734           "breakfast",
19735           "lunch",
19736           "dinner",
19737           "snack",
19738           "drink",
19739           "supper",
19740           "brunch",
19741           "undetermined",
19742           "other",
19743           "no_entry",
19744           "no_ingestion"
19745         ],
19746         "readOnly": true,
19747         "type": "string"
19748       },
19749       "range": {
19750         "description": "The range applies to the carb property only",
19751         "$ref":
19752         "https://openconnectivityfoundation.github.io/IoTDataModels/schemas/oic.baseresource.properties-
19753         schema.json#/definitions/range_number"
19754       },
19755       "step": {
19756         "description": "The step applies to the carb property only",
19757         "$ref":
19758         "https://openconnectivityfoundation.github.io/IoTDataModels/schemas/oic.baseresource.properties-
19759         schema.json#/definitions/step_number"
19760       },
19761       "precision": {
19762         "description": "The precision applies to the carb property only",
19763         "$ref":
19764         "https://openconnectivityfoundation.github.io/IoTDataModels/schemas/oic.baseresource.properties-

```

```

19765 schema.json#/definitions/precision"
19766     },
19767     "n": {
19768       "$ref":
19769       "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
19770       schema.json#/definitions/n"
19771     },
19772     "id": {
19773       "$ref":
19774       "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
19775       schema.json#/definitions/id"
19776     },
19777     "if": {
19778       "description": "The OCF Interface set supported by this Resource",
19779       "items": {
19780         "enum": [
19781           "oic.if.s",
19782           "oic.if.baseline"
19783         ],
19784         "type": "string",
19785         "maxLength": 64
19786       },
19787       "minItems": 1,
19788       "readOnly": true,
19789       "uniqueItems": true,
19790       "type": "array"
19791     }
19792   },
19793   "type": "object",
19794   "required": [
19795     "carb",
19796     "meal"
19797   ]
19798 }
19799 }
19800 }
19801

```

19802 6.100.5 Property definition

19803 Table 203 defines the Properties that are part of the "oic.r.glucose.carb" Resource Type.

19804 **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

19805 **6.100.6 CRUDN behaviour**

19806 Table 204 defines the CRUDN operations that are supported on the "oic.r.glucose.carb" Resource
19807 Type.

19808 **Table 204 – The CRUDN operations of the Resource with type "rt" = "oic.r.glucose.carb".**

Create	Read	Update	Delete	Notify
	get			observe

19809 **6.101 Exercise for Glucose Meter**

19810 **6.101.1 Introduction**

19811 This Resource describes the Properties associated with glucose exercise.
19812 The exercise Property has a default unit of percentage.
19813 The exercise Property is a read-only value that is provided by the Server.

19814 **6.101.2 Example URI**

19815 /ExerciseResURI

19816 **6.101.3 Resource type**

19817 The Resource Type is defined as: "oic.r.glucose.exercise".

19818 **6.101.4 OpenAPI 2.0 definition**

```
19819 {
19820   "swagger": "2.0",
19821   "info": {
19822     "title": "Exercise for Glucose Meter",
19823     "version": "2019-03-22",
19824     "license": {
19825       "name": "OCF Data Model License",
19826       "url":
19827         "https://github.com/openconnectivityfoundation/core/blob/e28a9e0a92e17042ba3e83661e4c0fbce8bdc4ba/LI
19828         CENSE.md",
19829       "x-copyright": "Copyright 2016-2019 Open Connectivity Foundation, Inc. All rights reserved."
```

```

19830     },
19831     "termsOfService": "https://openconnectivityfoundation.github.io/core/DISCLAIMER.md"
19832 },
19833 "schemes": [
19834   "http"
19835 ],
19836 "consumes": [
19837   "application/json"
19838 ],
19839 "produces": [
19840   "application/json"
19841 ],
19842 "paths": {
19843   "/ExerciseResURI": {
19844     "get": {
19845       "description": "This Resource describes the Properties associated with glucose
19846 exercise.\n\nThe exercise Property has a default unit of percentage.\n\nThe exercise Property is a read-
19847 only value that is provided by the Server.",
19848       "parameters": [
19849         {
19850           "$ref": "#/parameters/interface"
19851         }
19852       ],
19853       "responses": {
19854         "200": {
19855           "description": "",
19856           "x-example": {
19857             "rt": [
19858               "oic.r.glucose.exercise"
19859             ],
19860             "exercise": 30.0
19861           },
19862           "schema": {
19863             "$ref": "#/definitions/Exercise"
19864           }
19865         }
19866       }
19867     }
19868   }
19869 },
19870 "parameters": {
19871   "interface": {
19872     "in": "query",
19873     "name": "if",
19874     "type": "string",
19875     "enum": [
19876       "oic.if.s",
19877       "oic.if.baseline"
19878     ]
19879   }
19880 },
19881 "definitions": {
19882   "Exercise": {
19883     "properties": {
19884       "rt": {
19885         "description": "Resource Type",
19886         "items": {
19887           "enum": [
19888             "oic.r.glucose.exercise"
19889           ],
19890           "type": "string",
19891           "maxLength": 64
19892         },
19893         "minItems": 1,
19894         "uniqueItems": true,
19895         "readOnly": true,
19896         "type": "array"
19897       },
19898       "exercise": {
19899         "description": "The level of exercise undertaken in percentage",
19900         "maximum": 100.0,
19901         "minimum": 0.0,

```

```

19902         "readOnly": true,
19903         "type": "number"
19904     },
19905     "range": {
19906         "$ref":
19907         "https://openconnectivityfoundation.github.io/IoTDataModels/schemas/oic.baseresource.properties-
19908         schema.json#/definitions/range_number"
19909     },
19910     "step": {
19911         "$ref":
19912         "https://openconnectivityfoundation.github.io/IoTDataModels/schemas/oic.baseresource.properties-
19913         schema.json#/definitions/step_number"
19914     },
19915     "precision": {
19916         "$ref":
19917         "https://openconnectivityfoundation.github.io/IoTDataModels/schemas/oic.baseresource.properties-
19918         schema.json#/definitions/precision"
19919     },
19920     "n": {
19921         "$ref":
19922         "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
19923         schema.json#/definitions/n"
19924     },
19925     "id": {
19926         "$ref":
19927         "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
19928         schema.json#/definitions/id"
19929     },
19930     "if": {
19931         "description": "The OCF Interface set supported by this Resource",
19932         "items": {
19933             "enum": [
19934                 "oic.if.s",
19935                 "oic.if.baseline"
19936             ],
19937             "type": "string",
19938             "maxLength": 64
19939         },
19940         "minItems": 1,
19941         "readOnly": true,
19942         "uniqueItems": true,
19943         "type": "array"
19944     }
19945 },
19946 "type": "object",
19947 "required": [
19948     "exercise"
19949 ]
19950 }
19951 }
19952 }
19953

```

19954 **6.101.5 Property definition**

19955 Table 205 defines the Properties that are part of the "oic.r.glucose.exercise" Resource Type.

19956 **Table 205 – The Property definitions of the Resource with type "rt" =**
19957 **"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	

19958 **6.101.6 CRUDN behaviour**

19959 Table 206 defines the CRUDN operations that are supported on the "oic.r.glucose.exercise"
19960 Resource Type.

19961 **Table 206 – The CRUDN operations of the Resource with type "rt" =**
19962 **"oic.r.glucose.exercise".**

Create	Read	Update	Delete	Notify
	get			observe

19963 **6.102 Hemoglobin Bound to Glucose A1c Form (HbA1c) for Glucose Meter**

19964 **6.102.1 Introduction**

19965 This Resource describes the Properties associated with a person's hba1c level.
19966 The unit is a single value that is percentage.
19967 The hba1c Property is a read-only value that is provided by the Server.

19968 **6.102.2 Example URI**

19969 /GlucoseHbA1cResURI

19970 **6.102.3 Resource type**

19971 The Resource Type is defined as: "oic.r.glucose.hba1c".

19972 **6.102.4 OpenAPI 2.0 definition**

19973 {
19974 "swagger": "2.0",
19975 "info": {
19976 "title": "Hemoglobin Bound to Glucose A1c Form (HbA1c) for Glucose Meter",
19977 "version": "2019-03-22",
19978 "license": {
19979 "name": "OCF Data Model License",

```

19980         "url":
19981 "https://github.com/openconnectivityfoundation/core/blob/e28a9e0a92e17042ba3e83661e4c0fbce8bdc4ba/LI
19982 CENSE.md",
19983         "x-copyright": "Copyright 2016-2019 Open Connectivity Foundation, Inc. All rights reserved."
19984     },
19985     "termsOfService": "https://openconnectivityfoundation.github.io/core/DISCLAIMER.md"
19986 },
19987     "schemes": [
19988         "http"
19989     ],
19990     "consumes": [
19991         "application/json"
19992     ],
19993     "produces": [
19994         "application/json"
19995     ],
19996     "paths": {
19997         "/GlucoseHbA1cResURI": {
19998             "get": {
19999                 "description": "This Resource describes the Properties associated with a person's hbalc
20000 level.\nThe unit is a single value that is percentage.\nThe hbalc Property is a read-only value that
20001 is provided by the Server.",
20002                 "parameters": [
20003                     {
20004                         "$ref": "#/parameters/interface"
20005                     }
20006                 ],
20007                 "responses": {
20008                     "200": {
20009                         "description": "",
20010                         "x-example": {
20011                             "rt": [
20012                                 "oic.r.glucose.hbalc"
20013                             ],
20014                             "hbalc": 5.0
20015                         },
20016                         "schema": {
20017                             "$ref": "#/definitions/HbA1c"
20018                         }
20019                     }
20020                 }
20021             }
20022         }
20023     },
20024     "parameters": {
20025         "interface": {
20026             "in": "query",
20027             "name": "if",
20028             "type": "string",
20029             "enum": [
20030                 "oic.if.s",
20031                 "oic.if.baseline"
20032             ]
20033         }
20034     },
20035     "definitions": {
20036         "HbA1c": {
20037             "properties": {
20038                 "rt": {
20039                     "description": "Resource Type",
20040                     "items": {
20041                         "enum": [
20042                             "oic.r.glucose.hbalc"
20043                         ],
20044                         "type": "string",
20045                         "maxLength": 64
20046                     },
20047                     "minItems": 1,
20048                     "uniqueItems": true,
20049                     "readOnly": true,
20050                     "type": "array"
20051                 },

```

```

20052     "hbalc": {
20053         "description": "Current HbA1c measurement in percentage",
20054         "maximum": 100.0,
20055         "minimum": 0.0,
20056         "readOnly": true,
20057         "type": "number"
20058     },
20059     "range": {
20060         "$ref":
20061         "https://openconnectivityfoundation.github.io/IoTDataModels/schemas/oic.baseresource.properties-
20062         schema.json#/definitions/range_number"
20063     },
20064     "step": {
20065         "$ref":
20066         "https://openconnectivityfoundation.github.io/IoTDataModels/schemas/oic.baseresource.properties-
20067         schema.json#/definitions/step_number"
20068     },
20069     "precision": {
20070         "$ref":
20071         "https://openconnectivityfoundation.github.io/IoTDataModels/schemas/oic.baseresource.properties-
20072         schema.json#/definitions/precision"
20073     },
20074     "n": {
20075         "$ref":
20076         "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
20077         schema.json#/definitions/n"
20078     },
20079     "id": {
20080         "$ref":
20081         "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
20082         schema.json#/definitions/id"
20083     },
20084     "if": {
20085         "description": "The OCF Interface set supported by this Resource",
20086         "items": {
20087             "enum": [
20088                 "oic.if.s",
20089                 "oic.if.baseline"
20090             ],
20091             "type": "string",
20092             "maxLength": 64
20093         },
20094         "minItems": 1,
20095         "readOnly": true,
20096         "uniqueItems": true,
20097         "type": "array"
20098     }
20099 },
20100 "type": "object",
20101 "required": [
20102     "hbalc"
20103 ]
20104 }
20105 }
20106 }
20107

```

20108 6.102.5 Property definition

20109 Table 207 defines the Properties that are part of the "oic.r.glucose.hba1c" Resource Type.

20110 **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

20111 **6.102.6 CRUDN behaviour**

20112 Table 208 defines the CRUDN operations that are supported on the "oic.r.glucose.hba1c" Resource
20113 Type.

20114 **Table 208 – The CRUDN operations of the Resource with type "rt" = "oic.r.glucose.hba1c".**

Create	Read	Update	Delete	Notify
	get			observe

20115 **6.103 Context Health for Glucose Meter**

20116 **6.103.1 Introduction**

20117 This Resource describes the Properties associated with context health.
20118 The health Property is a read-only value that is provided by the Server where
20119 minor and major are related to the general health or the level of illness of the person;
20120 menses refers to the female menstrual cycle;
20121 stress refers to physiological or psychological stress.

20122 **6.103.2 Example URI**

20123 /GlucoseHealthResURI

20124 **6.103.3 Resource type**

20125 The Resource Type is defined as: "oic.r.glucose.health".

20126 **6.103.4 OpenAPI 2.0 definition**

20127 {
20128 "swagger": "2.0",

```

20129     "info": {
20130         "title": "Context Health for Glucose Meter",
20131         "version": "2019-03-22",
20132         "license": {
20133             "name": "OCF Data Model License",
20134             "url":
20135 "https://github.com/openconnectivityfoundation/core/blob/e28a9e0a92e17042ba3e83661e4c0fbce8bdc4ba/LI
20136 CENSE.md",
20137             "x-copyright": "Copyright 2016-2019 Open Connectivity Foundation, Inc. All rights reserved."
20138         },
20139         "termsOfService": "https://openconnectivityfoundation.github.io/core/DISCLAIMER.md"
20140     },
20141     "schemes": [
20142         "http"
20143     ],
20144     "consumes": [
20145         "application/json"
20146     ],
20147     "produces": [
20148         "application/json"
20149     ],
20150     "paths": {
20151         "/GlucoseHealthResURI": {
20152             "get": {
20153                 "description": "This Resource describes the Properties associated with context health.\nThe
20154 health Property is a read-only value that is provided by the Server where\nminor and major are
20155 related to the general health or the level of illness of the person;\nmenses refers to the female
20156 menstrual cycle;\nstress refers to physiological or psychological stress.",
20157                 "parameters": [
20158                     {
20159                         "$ref": "#/parameters/interface"
20160                     }
20161                 ],
20162                 "responses": {
20163                     "200": {
20164                         "description": "",
20165                         "x-example": {
20166                             "rt": [
20167                                 "oic.r.glucose.health"
20168                             ],
20169                             "health": "major"
20170                         },
20171                         "schema": {
20172                             "$ref": "#/definitions/GlucoseHealth"
20173                         }
20174                     }
20175                 }
20176             }
20177         }
20178     },
20179     "parameters": {
20180         "interface": {
20181             "in": "query",
20182             "name": "if",
20183             "type": "string",
20184             "enum": [
20185                 "oic.if.s",
20186                 "oic.if.baseline"
20187             ]
20188         }
20189     },
20190     "definitions": {
20191         "GlucoseHealth": {
20192             "properties": {
20193                 "rt": {
20194                     "description": "Resource Type",
20195                     "items": {
20196                         "enum": [
20197                             "oic.r.glucose.health"
20198                         ],
20199                     "type": "string",
20200                     "maxLength": 64

```

```

20201     },
20202     "minItems": 1,
20203     "readOnly": true,
20204     "type": "array"
20205   },
20206   "health": {
20207     "description": "The various levels of health a person feels when taking a glucose.",
20208     "enum": [
20209       "minor",
20210       "major",
20211       "menses",
20212       "stress",
20213       "none"
20214     ],
20215     "readOnly": true,
20216     "type": "string"
20217   },
20218   "n": {
20219     "$ref":
20220     "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
20221     schema.json#/definitions/n"
20222   },
20223   "id": {
20224     "$ref":
20225     "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
20226     schema.json#/definitions/id"
20227   },
20228   "if": {
20229     "description": "The OCF Interface set supported by this Resource",
20230     "items": {
20231       "enum": [
20232         "oic.if.s",
20233         "oic.if.baseline"
20234       ],
20235       "type": "string",
20236       "maxLength": 64
20237     },
20238     "minItems": 1,
20239     "readOnly": true,
20240     "uniqueItems": true,
20241     "type": "array"
20242   }
20243 },
20244 "type": "object",
20245 "required": [
20246   "health"
20247 ]
20248 }
20249 }
20250 }
20251

```

20252 6.103.5 Property definition

20253 Table 209 defines the Properties that are part of the "oic.r.glucose.health" Resource Type.

20254 **Table 209 – The Property definitions of the Resource with type "rt" =**
20255 **"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	

20256 **6.103.6 CRUDN behaviour**

20257 Table 210 defines the CRUDN operations that are supported on the "oic.r.glucose.health" Resource
20258 Type.

20259 **Table 210 – The CRUDN operations of the Resource with type "rt" = "oic.r.glucose.health".**

Create	Read	Update	Delete	Notify
	get			observe

20260 **6.104 Context Meal for Glucose Meter**

20261 **6.104.1 Introduction**

20262 This Resource describes the Properties associated with context meal.
20263 Preprandial means pre-meal.
20264 Postprandial means post-meal.
20265 Fasting means the effect of long-term absence of food intake (overnight).
20266 The meal Property is a read-only value that is provided by the Server.

20267 **6.104.2 Example URI**

20268 /GlucoseMealResURI

20269 **6.104.3 Resource type**

20270 The Resource Type is defined as: "oic.r.glucose.meal".

20271 **6.104.4 OpenAPI 2.0 definition**

```
20272 {
20273   "swagger": "2.0",
20274   "info": {
20275     "title": "Context Meal for Glucose Meter",
20276     "version": "2019-03-22",
20277     "license": {
20278       "name": "OCF Data Model License",
20279       "url":
20280 "https://github.com/openconnectivityfoundation/core/blob/e28a9e0a92e17042ba3e83661e4c0fbce8bdc4ba/LI
20281 CENSE.md",
20282       "x-copyright": "Copyright 2016-2019 Open Connectivity Foundation, Inc. All rights reserved."
20283     },
20284     "termsOfService": "https://openconnectivityfoundation.github.io/core/DISCLAIMER.md"
20285   },
20286   "schemes": [
20287     "http"
20288   ],
```

```

20289     "consumes": [
20290         "application/json"
20291     ],
20292     "produces": [
20293         "application/json"
20294     ],
20295     "paths": {
20296         "/GlucoseMealResURI": {
20297             "get": {
20298                 "description": "This Resource describes the Properties associated with context
20299 meal.\nPreprandial means pre-meal.\nPostprandial means post-meal.\nFasting means the effect of long-
20300 term absence of food intake (overnight).\nThe meal Property is a read-only value that is provided by
20301 the Server.",
20302                 "parameters": [
20303                     {
20304                         "$ref": "#/parameters/interface"
20305                     }
20306                 ],
20307                 "responses": {
20308                     "200": {
20309                         "description": "",
20310                         "x-example": {
20311                             "rt": [
20312                                 "oic.r.glucose.meal"
20313                             ],
20314                             "meal": "preprandial"
20315                         },
20316                         "schema": {
20317                             "$ref": "#/definitions/GlucoseMeal"
20318                         }
20319                     }
20320                 }
20321             }
20322         }
20323     },
20324     "parameters": {
20325         "interface": {
20326             "in": "query",
20327             "name": "if",
20328             "type": "string",
20329             "enum": [
20330                 "oic.if.s",
20331                 "oic.if.baseline"
20332             ]
20333         }
20334     },
20335     "definitions": {
20336         "GlucoseMeal": {
20337             "properties": {
20338                 "rt": {
20339                     "description": "Resource Type",
20340                     "items": {
20341                         "enum": [
20342                             "oic.r.glucose.meal"
20343                         ],
20344                         "type": "string",
20345                         "maxLength": 64
20346                     },
20347                     "minItems": 1,
20348                     "uniqueItems": true,
20349                     "readOnly": true,
20350                     "type": "array"
20351                 },
20352                 "meal": {
20353                     "description": "Time of day when the measurement is taken.",
20354                     "enum": [
20355                         "preprandial",
20356                         "postprandial",
20357                         "fasting",
20358                         "bedtime",
20359                         "casual"
20360                     ]

```



```

20361         "readOnly": true,
20362         "type": "string"
20363     },
20364     "n": {
20365         "$ref":
20366         "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
20367         schema.json#/definitions/n"
20368     },
20369     "id": {
20370         "$ref":
20371         "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
20372         schema.json#/definitions/id"
20373     },
20374     "if": {
20375         "description": "The OCF Interface set supported by this Resource",
20376         "items": {
20377             "enum": [
20378                 "oic.if.s",
20379                 "oic.if.baseline"
20380             ],
20381             "type": "string",
20382             "maxLength": 64
20383         },
20384         "minItems": 1,
20385         "readOnly": true,
20386         "uniqueItems": true,
20387         "type": "array"
20388     }
20389 },
20390 "type": "object",
20391 "required": [
20392     "meal"
20393 ]
20394 }
20395 }
20396 }
20397

```

20398 6.104.5 Property definition

20399 Table 211 defines the Properties that are part of the "oic.r.glucose.meal" Resource Type.

20400 **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: schema	see	No	Read Only	Resource Type
----	------------------	-----	----	-----------	---------------

20401 **6.104.6 CRUDN behaviour**

20402 Table 212 defines the CRUDN operations that are supported on the "oic.r.glucose.meal" Resource
20403 Type.

20404 **Table 212 – The CRUDN operations of the Resource with type "rt" = "oic.r.glucose.meal".**

Create	Read	Update	Delete	Notify
	get			observe

20405 **6.105 Context Medication for Glucose Meter**

20406 **6.105.1 Introduction**

20407 This Resource describes the Properties associated with context medication.
20408 The unit is a single value that is one of mg and mL.
20409 The medication Property has a default unit of milligrams[mg].
20410 The medication, unit and regimen Properties are read-only values that are provided by the Server.
20411 When range is omitted the default is 0 to +MAXFLOAT.

20412 **6.105.2 Example URI**

20413 /GlucoseMedicationResURI

20414 **6.105.3 Resource type**

20415 The Resource Type is defined as: "oic.r.glucose.medication".

20416 **6.105.4 OpenAPI 2.0 definition**

```

20417 {
20418   "swagger": "2.0",
20419   "info": {
20420     "title": "Context Medication for Glucose Meter",
20421     "version": "2019-03-22",
20422     "license": {
20423       "name": "OCF Data Model License",
20424       "url":
20425 "https://github.com/openconnectivityfoundation/core/blob/e28a9e0a92e17042ba3e83661e4c0fbce8bdc4ba/LI
20426 CENSE.md",
20427       "x-copyright": "Copyright 2016-2019 Open Connectivity Foundation, Inc. All rights reserved."
20428     },
20429     "termsOfService": "https://openconnectivityfoundation.github.io/core/DISCLAIMER.md"
20430   },
20431   "schemes": [
20432     "http"
20433   ],
20434   "consumes": [
20435     "application/json"
20436   ],
20437   "produces": [
20438     "application/json"
20439   ],
20440   "paths": {
20441     "/GlucoseMedicationResURI": {
20442       "get": {
20443         "description": "This Resource describes the Properties associated with context
20444 medication.\nThe unit is a single value that is one of mg and mL.\nThe medication Property has a
20445 default unit of milligrams[mg].\nThe medication, unit and regimen Properties are read-only values
20446 that are provided by the Server.\nWhen range is omitted the default is 0 to +MAXFLOAT.",
20447         "parameters": [
20448           {

```

```

20449         "$ref": "#/parameters/interface"
20450     }
20451 ],
20452 "responses": {
20453     "200": {
20454         "description": "",
20455         "x-example": {
20456             "rt": [
20457                 "oic.r.glucose.medication"
20458             ],
20459             "medication": 100.0,
20460             "units": "mg",
20461             "regimen": "rapidacting"
20462         },
20463         "schema": {
20464             "$ref": "#/definitions/GlucoseMedication"
20465         }
20466     }
20467 }
20468 }
20469 },
20470 },
20471 "parameters": {
20472     "interface": {
20473         "in": "query",
20474         "name": "if",
20475         "type": "string",
20476         "enum": [
20477             "oic.if.s",
20478             "oic.if.baseline"
20479         ]
20480     }
20481 },
20482 "definitions": {
20483     "GlucoseMedication": {
20484         "properties": {
20485             "rt": {
20486                 "description": "Resource Type",
20487                 "items": {
20488                     "enum": [
20489                         "oic.r.glucose.medication"
20490                     ],
20491                     "type": "string",
20492                     "maxLength": 64
20493                 },
20494                 "minItems": 1,
20495                 "uniqueItems": true,
20496                 "readOnly": true,
20497                 "type": "array"
20498             },
20499             "regimen": {
20500                 "description": "Medication regimen",
20501                 "enum": [
20502                     "rapidacting",
20503                     "shortacting",
20504                     "intermediateacting",
20505                     "longacting",
20506                     "premix"
20507                 ],
20508                 "readOnly": true,
20509                 "type": "string"
20510             },
20511             "medication": {
20512                 "description": "The amount of medication taken",
20513                 "readOnly": true,
20514                 "type": "number",
20515                 "minimum": 0.0
20516             },
20517             "units": {
20518                 "description": "Unit for the amount of medication taken",
20519                 "enum": [
20520                     "mg",

```

```

20521         "mL"
20522     ],
20523     "readOnly": true,
20524     "type": "string",
20525     "default": "mg"
20526 },
20527     "range": {
20528         "$ref":
20529         "https://openconnectivityfoundation.github.io/IoTDataModels/schemas/oic.baseresource.properties-
20530         schema.json#/definitions/range_number"
20531     },
20532     "step": {
20533         "$ref":
20534         "https://openconnectivityfoundation.github.io/IoTDataModels/schemas/oic.baseresource.properties-
20535         schema.json#/definitions/step_number"
20536     },
20537     "precision": {
20538         "$ref":
20539         "https://openconnectivityfoundation.github.io/IoTDataModels/schemas/oic.baseresource.properties-
20540         schema.json#/definitions/precision"
20541     },
20542     "n": {
20543         "$ref":
20544         "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
20545         schema.json#/definitions/n"
20546     },
20547     "id": {
20548         "$ref":
20549         "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
20550         schema.json#/definitions/id"
20551     },
20552     "if": {
20553         "description": "The OCF Interface set supported by this Resource",
20554         "items": {
20555             "enum": [
20556                 "oic.if.s",
20557                 "oic.if.baseline"
20558             ],
20559             "type": "string",
20560             "maxLength": 64
20561         },
20562         "minItems": 1,
20563         "readOnly": true,
20564         "uniqueItems": true,
20565         "type": "array"
20566     }
20567 },
20568     "type": "object",
20569     "required": [
20570         "medication"
20571     ]
20572 }
20573 }
20574 }
20575

```

20576 6.105.5 Property definition

20577 Table 213 defines the Properties that are part of the "oic.r.glucose.medication" Resource Type.

20578 **Table 213 – The Property definitions of the Resource with type "rt" =**
20579 **"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	

20580 **6.105.6 CRUDN behaviour**

20581 Table 214 defines the CRUDN operations that are supported on the "oic.r.glucose.medication"
20582 Resource Type.

20583 **Table 214 – The CRUDN operations of the Resource with type "rt" =**
20584 **"oic.r.glucose.medication".**

Create	Read	Update	Delete	Notify
	get			observe

20585 **6.106 Glucose Meter Atomic Measurement**

20586 **6.106.1 Introduction**

20587 This Resource describes the Properties associated with glucose meter.
20588 The Resource is an Atomic Measurement of glucose (oic.r.glucose), context carbohydrates
20589 (oic.r.glucose.carb), context exercise (oic.r.glucose.exercise), Hemoglobin Bound to glucose a1c
20590 Form (HbA1c) (oic.r.glucose.hba1c), context health (oic.r.glucose.health), context meal
20591 (oic.r.glucose.meal), context medication (oic.r.glucose.medication), context sample location
20592 (oic.r.glucose.samplelocation), context tester (oic.r.glucose.tester), observed time
20593 (oic.r.time.stamp), and user id (oic.r.userid).

20594 **6.106.2 Example URI**

20595 /GlucoseMeterAMResURI

20596 **6.106.3 Resource type**

20597 The Resource Type is defined as: "oic.r.glucosemeter-am, oic.wk.atomicmeasurement".

20598 **6.106.4 OpenAPI 2.0 definition**

```
20599 {
20600   "swagger": "2.0",
20601   "info": {
20602     "title": "Glucose Meter Atomic Measurement",
20603     "version": "2019-03-22",
20604     "license": {
20605       "name": "OCF Data Model License",
20606       "url":
20607         "https://github.com/openconnectivityfoundation/core/blob/e28a9e0a92e17042ba3e83661e4c0fbce8bdc4ba/LI
20608         CENSE.md",
20609       "x-copyright": "Copyright 2016-2019 Open Connectivity Foundation, Inc. All rights reserved."
20610     },
20611     "termsOfService": "https://openconnectivityfoundation.github.io/core/DISCLAIMER.md"
20612   },
20613   "schemes": [
20614     "http"
20615   ],
20616   "consumes": [
20617     "application/json"
20618   ],
20619   "produces": [
20620     "application/json"
20621   ],
20622   "paths": {
20623     "/GlucoseMeterAMResURI?if=oic.if.b": {
20624       "get": {
20625         "description": "This Resource describes the Properties associated with glucose meter.\nThe
20626         Resource is an Atomic Measurement of glucose (oic.r.glucose), context carbohydrates
20627         (oic.r.glucose.carb), context exercise (oic.r.glucose.exercise), hemoglobin bound to glucose alc
20628         Form (HbA1c) (oic.r.glucose.hbalc), context health (oic.r.glucose.health), context meal
20629         (oic.r.glucose.meal), context medication (oic.r.glucose.medication), context sample location
20630         (oic.r.glucose.samplelocation), context tester (oic.r.glucose.tester), observed time
20631         (oic.r.time.stamp), and user id (oic.r.userid).",
20632         "parameters": [
20633           {
20634             "$ref": "#/parameters/interface-all"
20635           }
20636         ],
20637         "responses": {
20638           "200": {
20639             "description": "",
20640             "x-example": [
20641               {
20642                 "href": "/myGlucose",
20643                 "rep": {
20644                   "glucose": 100.0,
20645                   "units": "mg/dL",
20646                   "range": [
20647                     20.0,
20648                     600.0
20649                   ],
20650                   "step": 1
20651                 }
20652             },
20653             {
20654               "href": "/myGlucoseCarb",
20655               "rep": {
20656                 "carb": 100.0,
20657                 "meal": "breakfast"
20658             }
20659           ]
20660         }
20661       }
20662     }
20663   }
20664 }
```

```

20661         "href": "/myGlucoseExercise",
20662         "rep": {
20663             "exercise": 30.0
20664         }
20665     },
20666     {
20667         "href": "/myGlucoseHbA1c",
20668         "rep": {
20669             "hba1c": 5.0
20670         }
20671     },
20672     {
20673         "href": "/myGlucoseHealth",
20674         "rep": {
20675             "health": "major"
20676         }
20677     },
20678     {
20679         "href": "/myGlucoseMeal",
20680         "rep": {
20681             "meal": "preprandial"
20682         }
20683     },
20684     {
20685         "href": "/myGlucoseMeditation",
20686         "rep": {
20687             "medication": 100.0,
20688             "units": "mg",
20689             "regimen": "rapidacting"
20690         }
20691     },
20692     {
20693         "href": "/myGlucoseSampleLocation",
20694         "rep": {
20695             "samplelocation": "finger"
20696         }
20697     },
20698     {
20699         "href": "/myGlucoseTester",
20700         "rep": {
20701             "tester": "self"
20702         }
20703     },
20704     {
20705         "href": "/myUserId",
20706         "rep": {
20707             "userid": "USER1"
20708         }
20709     },
20710     {
20711         "href": "/myTimeStamp",
20712         "rep": {
20713             "timestamp": "2018-11-09T12:15+08:00"
20714         }
20715     }
20716 ],
20717 "schema": {
20718     "$ref": "#/definitions/batch-retrieve"
20719 }
20720 }
20721 }
20722 },
20723 "/GlucoseMeterAMResURI?if=oic.if.ll": {
20724     "get": {
20725         "description": "This Resource describes the Properties associated with glucose meter.\nThe
20726 Resource is an Atomic Measurement of glucose (oic.r.glucose), context carbohydrates
20727 (oic.r.glucose.carb), context exercise (oic.r.glucose.exercise), hemoglobin bound to glucose alc
20728 Form (HbA1c) (oic.r.glucose.hba1c), context health (oic.r.glucose.health), context meal
20729 (oic.r.glucose.meal), context medication (oic.r.glucose.medication), context sample location
20730 (oic.r.glucose.samplelocation), context tester (oic.r.glucose.tester), observed time
20731 (oic.r.time.stamp), and user id (oic.r.userid).",
20732

```

```

20733     "parameters": [
20734         {
20735             "$ref": "#/parameters/interface-all"
20736         }
20737     ],
20738     "responses": {
20739         "200": {
20740             "description": "",
20741             "x-example": [
20742                 {
20743                     "href": "/myGlucose",
20744                     "rt": [
20745                         "oic.r.glucose"
20746                     ],
20747                     "if": [
20748                         "oic.if.s",
20749                         "oic.if.baseline"
20750                     ]
20751                 },
20752                 {
20753                     "href": "/myGlucoseCarb",
20754                     "rt": [
20755                         "oic.r.glucose.carb"
20756                     ],
20757                     "if": [
20758                         "oic.if.s",
20759                         "oic.if.baseline"
20760                     ]
20761                 },
20762                 {
20763                     "href": "/myGlucoseExercise",
20764                     "rt": [
20765                         "oic.r.glucose.exercise"
20766                     ],
20767                     "if": [
20768                         "oic.if.s",
20769                         "oic.if.baseline"
20770                     ]
20771                 },
20772                 {
20773                     "href": "/myGlucoseHbA1c",
20774                     "rt": [
20775                         "oic.r.glucose.hbA1c"
20776                     ],
20777                     "if": [
20778                         "oic.if.s",
20779                         "oic.if.baseline"
20780                     ]
20781                 },
20782                 {
20783                     "href": "/myGlucoseHealth",
20784                     "rt": [
20785                         "oic.r.glucose.health"
20786                     ],
20787                     "if": [
20788                         "oic.if.s",
20789                         "oic.if.baseline"
20790                     ]
20791                 },
20792                 {
20793                     "href": "/myGlucoseMeal",
20794                     "rt": [
20795                         "oic.r.glucose.meal"
20796                     ],
20797                     "if": [
20798                         "oic.if.s",
20799                         "oic.if.baseline"
20800                     ]
20801                 },
20802                 {
20803                     "href": "/myGlucoseMedication",
20804                     "rt": [

```



```

20805         "oic.r.glucose.medication"
20806     ],
20807     "if": [
20808         "oic.if.s",
20809         "oic.if.baseline"
20810     ]
20811 },
20812 {
20813     "href": "/myGlucoseSampleLocation",
20814     "rt": [
20815         "oic.r.glucose.samplelocation"
20816     ],
20817     "if": [
20818         "oic.if.r",
20819         "oic.if.baseline"
20820     ]
20821 },
20822 {
20823     "href": "/myGlucoseTester",
20824     "rt": [
20825         "oic.r.glucose.testster"
20826     ],
20827     "if": [
20828         "oic.if.r",
20829         "oic.if.baseline"
20830     ]
20831 },
20832 {
20833     "href": "/myUserId",
20834     "rt": [
20835         "oic.r.userid"
20836     ],
20837     "if": [
20838         "oic.if.r",
20839         "oic.if.baseline"
20840     ]
20841 },
20842 {
20843     "href": "/myTimeStamp",
20844     "rt": [
20845         "oic.r.time.stamp"
20846     ],
20847     "if": [
20848         "oic.if.r",
20849         "oic.if.baseline"
20850     ]
20851 }
20852 ],
20853 "schema": {
20854     "$ref": "#/definitions/links"
20855 }
20856 }
20857 }
20858 }
20859 },
20860 "/GlucoseMeterAMResURI?if=oic.if.baseline": {
20861     "get": {
20862         "description": "This Resource describes the Properties associated with glucose meter.\n\nThe
20863 Resource is an Atomic Measurement of glucose (oic.r.glucose), context carbohydrates
20864 (oic.r.glucose.carb), context exercise (oic.r.glucose.exercise), Hemoglobin Bound to glucose alc
20865 Form (HbA1c) (oic.r.glucose.hbalc), context health (oic.r.glucose.health), context meal
20866 (oic.r.glucose.meal), context medication (oic.r.glucose.medication), context sample location
20867 (oic.r.glucose.samplelocation), context tester (oic.r.glucose.testster), observed time
20868 (oic.r.time.stamp), and user id (oic.r.userid).",
20869         "parameters": [
20870             {
20871                 "$ref": "#/parameters/interface-all"
20872             }
20873         ],
20874         "responses": {
20875             "200": {
20876                 "description": "",

```

```

20877 "x-example": {
20878   "rt": [
20879     "oic.r.glucosemeter-am",
20880     "oic.wk.atomicmeasurement"
20881   ],
20882   "if": [
20883     "oic.if.b",
20884     "oic.if.ll",
20885     "oic.if.baseline"
20886   ],
20887   "rts": [
20888     "oic.r.glucose",
20889     "oic.r.glucose.carb",
20890     "oic.r.glucose.exercise",
20891     "oic.r.glucose.hbA1c",
20892     "oic.r.glucose.health",
20893     "oic.r.glucose.meal",
20894     "oic.r.glucose.medication",
20895     "oic.r.glucose.samplelocation",
20896     "oic.r.glucose.tester",
20897     "oic.r.userid",
20898     "oic.r.time.stamp"
20899   ],
20900   "rts-m": [
20901     "oic.r.glucose"
20902   ],
20903   "links": [
20904     {
20905       "href": "/myGlucose",
20906       "rt": [
20907         "oic.r.glucose"
20908       ],
20909       "if": [
20910         "oic.if.s",
20911         "oic.if.baseline"
20912       ]
20913     },
20914     {
20915       "href": "/myGlucoseCarb",
20916       "rt": [
20917         "oic.r.glucose.carb"
20918       ],
20919       "if": [
20920         "oic.if.s",
20921         "oic.if.baseline"
20922       ]
20923     },
20924     {
20925       "href": "/myGlucoseExercise",
20926       "rt": [
20927         "oic.r.glucose.exercise"
20928       ],
20929       "if": [
20930         "oic.if.s",
20931         "oic.if.baseline"
20932       ]
20933     },
20934     {
20935       "href": "/myGlucoseHbA1c",
20936       "rt": [
20937         "oic.r.glucose.hbA1c"
20938       ],
20939       "if": [
20940         "oic.if.s",
20941         "oic.if.baseline"
20942       ]
20943     },
20944     {
20945       "href": "/myGlucoseHealth",
20946       "rt": [
20947         "oic.r.glucose.health"
20948       ],

```

```

20949         "if": [
20950             "oic.if.s",
20951             "oic.if.baseline"
20952         ]
20953     },
20954     {
20955         "href": "/myGlucoseMeal",
20956         "rt": [
20957             "oic.r.glucose.meal"
20958         ],
20959         "if": [
20960             "oic.if.s",
20961             "oic.if.baseline"
20962         ]
20963     },
20964     {
20965         "href": "/myGlucoseMedication",
20966         "rt": [
20967             "oic.r.glucose.medication"
20968         ],
20969         "if": [
20970             "oic.if.s",
20971             "oic.if.baseline"
20972         ]
20973     },
20974     {
20975         "href": "/myGlucoseSampleLocation",
20976         "rt": [
20977             "oic.r.glucose.samplelocation"
20978         ],
20979         "if": [
20980             "oic.if.r",
20981             "oic.if.baseline"
20982         ]
20983     },
20984     {
20985         "href": "/myGlucoseTester",
20986         "rt": [
20987             "oic.r.glucose.testers"
20988         ],
20989         "if": [
20990             "oic.if.r",
20991             "oic.if.baseline"
20992         ]
20993     },
20994     {
20995         "href": "/myUserId",
20996         "rt": [
20997             "oic.r.userid"
20998         ],
20999         "if": [
21000             "oic.if.r",
21001             "oic.if.baseline"
21002         ]
21003     },
21004     {
21005         "href": "/myTimeStamp",
21006         "rt": [
21007             "oic.r.time.stamp"
21008         ],
21009         "if": [
21010             "oic.if.r",
21011             "oic.if.baseline"
21012         ]
21013     }
21014 ]
21015 },
21016 "schema": {
21017     "$ref": "#/definitions/baseline"
21018 }
21019 }
21020 }

```

```

21021     }
21022   }
21023 },
21024 "parameters": {
21025   "interface-all": {
21026     "in": "query",
21027     "name": "if",
21028     "type": "string",
21029     "enum": [
21030       "oic.if.b",
21031       "oic.if.ll",
21032       "oic.if.baseline"
21033     ]
21034   }
21035 },
21036 "definitions": {
21037   "links": {
21038     "type": "array",
21039     "items": {
21040       "$ref": "#/definitions/oic.oic-link"
21041     }
21042   },
21043   "batch-retrieve": {
21044     "minItems": 1,
21045     "items": {
21046       "properties": {
21047         "href": {
21048           "$ref":
21049 "https://openconnectivityfoundation.github.io/core/schemas/oic.links.properties.core-
21050 schema.json#/definitions/href"
21051         },
21052         "rep": {
21053           "type": "object",
21054           "anyOf": [
21055             {
21056               "$ref":
21057 "https://openconnectivityfoundation.github.io/IoTDataModels/GlucoseResURI.swagger.json#/definitions/
21058 Glucose"
21059             },
21060             {
21061               "$ref":
21062 "https://openconnectivityfoundation.github.io/IoTDataModels/GlucoseCarbResURI.swagger.json#/definiti
21063 ons/GlucoseCarb"
21064             },
21065             {
21066               "$ref":
21067 "https://openconnectivityfoundation.github.io/IoTDataModels/ExerciseResURI.swagger.json#/definitions
21068 /Exercise"
21069             },
21070             {
21071               "$ref":
21072 "https://openconnectivityfoundation.github.io/IoTDataModels/GlucoseHbA1cResURI.swagger.json#/definit
21073 ions/HbA1c"
21074             },
21075             {
21076               "$ref":
21077 "https://openconnectivityfoundation.github.io/IoTDataModels/GlucoseHealthResURI.swagger.json#/defini
21078 tions/GlucoseHealth"
21079             },
21080             {
21081               "$ref":
21082 "https://openconnectivityfoundation.github.io/IoTDataModels/GlucoseMealResURI.swagger.json#/definiti
21083 ons/GlucoseMeal"
21084             },
21085             {
21086               "$ref":
21087 "https://openconnectivityfoundation.github.io/IoTDataModels/GlucoseMedicationResURI.swagger.json#/de
21088 finitions/GlucoseMedication"
21089             },
21090             {
21091               "$ref":
21092 "https://openconnectivityfoundation.github.io/IoTDataModels/GlucoseSampleLocationResURI.swagger.json

```

```

21093 #/definitions/GlucoseSampleLocation"
21094     },
21095     {
21096         "$ref":
21097         "https://openconnectivityfoundation.github.io/IoTDataModels/GlucoseTesterResURI.swagger.json#/definitions/GlucoseTester"
21098     },
21099     {
21100         "$ref":
21101         "https://openconnectivityfoundation.github.io/IoTDataModels/UserIDResURI.swagger.json#/definitions/UserID"
21102     },
21103     {
21104         "$ref":
21105         "https://openconnectivityfoundation.github.io/IoTDataModels/TimeStampResURI.swagger.json#/definitions/TimeStamp"
21106     }
21107 ]
21108 },
21109 "required": [
21110     "href",
21111     "rep"
21112 ],
21113 "type": "object"
21114 },
21115 "type": "array"
21116 },
21117 "baseline": {
21118     "properties": {
21119         "rt": {
21120             "items": {
21121                 "enum": [
21122                     "oic.r.glucosemeter-am",
21123                     "oic.wk.atomicmeasurement"
21124                 ],
21125                 "type": "string",
21126                 "maxLength": 64
21127             },
21128             "minItems": 2,
21129             "uniqueItems": true,
21130             "readOnly": true,
21131             "type": "array"
21132         },
21133         "rts": {
21134             "description": "This contains all possible Resource Types for this Atomic Measurement.",
21135             "items": {
21136                 "enum": [
21137                     "oic.r.glucose",
21138                     "oic.r.glucose.carb",
21139                     "oic.r.glucose.exercise",
21140                     "oic.r.glucose.hbabc",
21141                     "oic.r.glucose.health",
21142                     "oic.r.glucose.meal",
21143                     "oic.r.glucose.medication",
21144                     "oic.r.glucose.samplelocation",
21145                     "oic.r.glucose.testster",
21146                     "oic.r.time.stamp",
21147                     "oic.r.userid"
21148                 ],
21149                 "type": "string",
21150                 "maxLength": 64
21151             },
21152             "minItems": 1,
21153             "uniqueItems": true,
21154             "readOnly": true,
21155             "type": "array"
21156         },
21157         "rts-m": {
21158             "description": "This contains all mandatory Resource Types for this Atomic Measurement.",
21159             "items": {
21160                 "enum": [

```

```

21165         "oic.r.glucose"
21166     ],
21167     "type": "string",
21168     "maxLength": 64
21169 },
21170     "maxItems": 1,
21171     "minItems": 1,
21172     "uniqueItems": true,
21173     "readOnly": true,
21174     "type": "array"
21175 },
21176 "if": {
21177     "description": "The OCF Interface set supported by this Resource",
21178     "items": {
21179         "enum": [
21180             "oic.if.b",
21181             "oic.if.ll",
21182             "oic.if.baseline"
21183         ],
21184         "type": "string",
21185         "maxLength": 64
21186     },
21187     "minItems": 3,
21188     "uniqueItems": true,
21189     "readOnly": true,
21190     "type": "array"
21191 },
21192 "n": {
21193     "$ref":
21194     "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
21195     schema.json#/definitions/n"
21196 },
21197 "id": {
21198     "$ref":
21199     "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
21200     schema.json#/definitions/id"
21201 },
21202 "links": {
21203     "$ref": "#/definitions/links"
21204 }
21205 },
21206 "type": "object",
21207 "required": [
21208     "rt", "if", "links", "rts", "rts-m"
21209 ]
21210 },
21211 "oic.oic-link": {
21212     "properties": {
21213         "if": {
21214             "description": "The OCF Interface set supported by the target Resource",
21215             "items": {
21216                 "enum": [
21217                     "oic.if.s",
21218                     "oic.if.r",
21219                     "oic.if.baseline"
21220                 ],
21221                 "type": "string",
21222                 "maxLength": 64
21223             },
21224             "minItems": 1,
21225             "uniqueItems": true,
21226             "readOnly": true,
21227             "type": "array"
21228         },
21229         "rt": {
21230             "description": "Resource Type of the target Resource",
21231             "items": {
21232                 "enum": [
21233                     "oic.r.glucose",
21234                     "oic.r.glucose.carb",
21235                     "oic.r.glucose.exercise",
21236                     "oic.r.glucose.hba1c",

```

```

21237         "oic.r.glucose.health",
21238         "oic.r.glucose.meal",
21239         "oic.r.glucose.medication",
21240         "oic.r.glucose.samplelocation",
21241         "oic.r.glucose.tester",
21242         "oic.r.time.stamp",
21243         "oic.r.userid"
21244     ],
21245     "type": "string",
21246     "maxLength": 64
21247 },
21248 "minItems": 1,
21249 "uniqueItems": true,
21250 "readOnly": true,
21251 "type": "array"
21252 },
21253 "anchor": {
21254     "$ref":
21255 "https://openconnectivityfoundation.github.io/core/schemas/oic.links.properties.core-
21256 schema.json#/definitions/anchor"
21257 },
21258 "di": {
21259     "$ref":
21260 "https://openconnectivityfoundation.github.io/core/schemas/oic.links.properties.core-
21261 schema.json#/definitions/di"
21262 },
21263 "eps": {
21264     "$ref":
21265 "https://openconnectivityfoundation.github.io/core/schemas/oic.links.properties.core-
21266 schema.json#/definitions/eps"
21267 },
21268 "href": {
21269     "$ref":
21270 "https://openconnectivityfoundation.github.io/core/schemas/oic.links.properties.core-
21271 schema.json#/definitions/href"
21272 },
21273 "ins": {
21274     "$ref":
21275 "https://openconnectivityfoundation.github.io/core/schemas/oic.links.properties.core-
21276 schema.json#/definitions/ins"
21277 },
21278 "p": {
21279     "$ref":
21280 "https://openconnectivityfoundation.github.io/core/schemas/oic.links.properties.core-
21281 schema.json#/definitions/p"
21282 },
21283 "rel": {
21284     "$ref":
21285 "https://openconnectivityfoundation.github.io/core/schemas/oic.links.properties.core-
21286 schema.json#/definitions/rel_array"
21287 },
21288 "title": {
21289     "$ref":
21290 "https://openconnectivityfoundation.github.io/core/schemas/oic.links.properties.core-
21291 schema.json#/definitions/title"
21292 },
21293 "type": {
21294     "$ref":
21295 "https://openconnectivityfoundation.github.io/core/schemas/oic.links.properties.core-
21296 schema.json#/definitions/type"
21297 }
21298 },
21299 "required": [
21300     "href",
21301     "rt",
21302     "if"
21303 ],
21304 "type": "object"
21305 }
21306 }
21307 }
21308

```

21309 **6.106.5 Property definition**

21310 Table 215 defines the Properties that are part of the "oic.r.glucosemeter-am,
21311 oic.wk.atomicmeasurement" Resource Type.

21312 **Table 215 – The Property definitions of the Resource with type "rt" = "oic.r.glucosemeter-
21313 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	

21314 **6.106.6 CRUDN behaviour**

21315 Table 216 defines the CRUDN operations that are supported on the "oic.r.glucosemeter-am,
21316 oic.wk.atomicmeasurement" Resource Type.

21317 **Table 216 – The CRUDN operations of the Resource with type "rt" = "oic.r.glucosemeter-
21318 am, oic.wk.atomicmeasurement".**

Create	Read	Update	Delete	Notify
	get			observe

21319 **6.107 Context Sample Location for Glucose Meter**

21320 **6.107.1 Introduction**

21321 This Resource describes the Properties associated with context sample Location.
21322 AST means Alternative Site Test specifying that the location of test performed was from an
21323 alternative site on the body.
21324 The samplelocation Property is a read-only value that is provided by the Server.

21325 **6.107.2 Example URI**

21326 /GlucoseSampleLocationResURI

21327 6.107.3 Resource type

21328 The Resource Type is defined as: "oic.r.glucose.samplelocation".

21329 6.107.4 OpenAPI 2.0 definition

```
21330 {
21331   "swagger": "2.0",
21332   "info": {
21333     "title": "Context Sample Location for Glucose Meter",
21334     "version": "2019-03-22",
21335     "license": {
21336       "name": "OCF Data Model License",
21337       "url":
21338 "https://github.com/openconnectivityfoundation/core/blob/e28a9e0a92e17042ba3e83661e4c0fbce8bdc4ba/LI
21339 CENSE.md",
21340       "x-copyright": "Copyright 2016-2019 Open Connectivity Foundation, Inc. All rights reserved."
21341     },
21342     "termsOfService": "https://openconnectivityfoundation.github.io/core/DISCLAIMER.md"
21343   },
21344   "schemes": [
21345     "http"
21346   ],
21347   "consumes": [
21348     "application/json"
21349   ],
21350   "produces": [
21351     "application/json"
21352   ],
21353   "paths": {
21354     "/GlucoseSampleLocationResURI": {
21355       "get": {
21356         "description": "This Resource describes the Properties associated with context sample
21357 Location.\nAST means Alternative Site Test specifying that the location of test performed was from
21358 an alternative site on the body.\nThe samplelocation Property is a read-only value that is provided
21359 by the Server.",
21360         "parameters": [
21361           {
21362             "$ref": "#/parameters/interface"
21363           }
21364         ],
21365         "responses": {
21366           "200": {
21367             "description": "",
21368             "x-example": {
21369               "rt": [
21370                 "oic.r.glucose.samplelocation"
21371               ],
21372               "samplelocation": "finger"
21373             },
21374             "schema": {
21375               "$ref": "#/definitions/GlucoseSampleLocation"
21376             }
21377           }
21378         }
21379       }
21380     }
21381   },
21382   "parameters": {
21383     "interface": {
21384       "in": "query",
21385       "name": "if",
21386       "type": "string",
21387       "enum": [
21388         "oic.if.r",
21389         "oic.if.baseline"
21390       ]
21391     }
21392   },
21393   "definitions": {
21394     "GlucoseSampleLocation": {
21395       "properties": {
```

```

21396     "rt": {
21397         "description": "Resource Type",
21398         "items": {
21399             "enum": [
21400                 "oic.r.glucose.samplelocation"
21401             ],
21402             "type": "string",
21403             "maxLength": 64
21404         },
21405         "minItems": 1,
21406         "uniqueItems": true,
21407         "readOnly": true,
21408         "type": "array"
21409     },
21410     "samplelocation": {
21411         "description": "The possible blood locations where the blood sample may be taken.",
21412         "enum": [
21413             "finger",
21414             "ast",
21415             "earlobe",
21416             "ctrlsolution"
21417         ],
21418         "readOnly": true,
21419         "type": "string"
21420     },
21421     "n": {
21422         "$ref":
21423         "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
21424         schema.json#/definitions/n"
21425     },
21426     "id": {
21427         "$ref":
21428         "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
21429         schema.json#/definitions/id"
21430     },
21431     "if": {
21432         "description": "The OCF Interface set supported by this Resource",
21433         "items": {
21434             "enum": [
21435                 "oic.if.r",
21436                 "oic.if.baseline"
21437             ],
21438             "type": "string",
21439             "maxLength": 64
21440         },
21441         "minItems": 1,
21442         "readOnly": true,
21443         "uniqueItems": true,
21444         "type": "array"
21445     }
21446 },
21447 "type": "object",
21448 "required": [
21449     "samplelocation"
21450 ]
21451 }
21452 }
21453 }
21454

```

21455 **6.107.5 Property definition**

21456 Table 217 defines the Properties that are part of the "oic.r.glucose.samplelocation" Resource Type.

21457 **Table 217 – The Property definitions of the Resource with type "rt" =**
21458 **"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.

21459 **6.107.6 CRUDN behaviour**

21460 Table 218 defines the CRUDN operations that are supported on the "oic.r.glucose.samplelocation"
 21461 Resource Type.

21462 **Table 218 – The CRUDN operations of the Resource with type "rt" =**
 21463 **"oic.r.glucose.samplelocation".**

Create	Read	Update	Delete	Notify
	get			observe

21464 **6.108 Context Tester for Glucose Meter**

21465 **6.108.1 Introduction**

21466 This Resource describes the Properties associated with context tester.
 21467 The tester Property is a read-only value that is provided by the Server where especially
 21468 hcp stands for HealthCare Professional.

21469 **6.108.2 Example URI**

21470 /GlucoseTesterResURI

21471 **6.108.3 Resource type**

21472 The Resource Type is defined as: "oic.r.glucose.testers".

21473 **6.108.4 OpenAPI 2.0 definition**

```

21474 {
21475   "swagger": "2.0",
21476   "info": {
21477     "title": "Context Tester for Glucose Meter",
21478     "version": "2019-03-22",
21479     "license": {
21480       "name": "OCF Data Model License",
21481       "url":
21482         "https://github.com/openconnectivityfoundation/core/blob/e28a9e0a92e17042ba3e83661e4c0fbce8bdc4ba/LI
21483         CENSE.md",

```

```

21484         "x-copyright": "Copyright 2016-2019 Open Connectivity Foundation, Inc. All rights reserved."
21485     },
21486     "termsOfService": "https://openconnectivityfoundation.github.io/core/DISCLAIMER.md"
21487 },
21488 "schemes": [
21489     "http"
21490 ],
21491 "consumes": [
21492     "application/json"
21493 ],
21494 "produces": [
21495     "application/json"
21496 ],
21497 "paths": {
21498     "/GlucoseTesterResURI": {
21499         "get": {
21500             "description": "This Resource describes the Properties associated with context tester.\nThe
21501 tester Property is a read-only value that is provided by the Server where especially\nnhcp stands for
21502 HealthCare Professional.",
21503             "parameters": [
21504                 {
21505                     "$ref": "#/parameters/interface"
21506                 }
21507             ],
21508             "responses": {
21509                 "200": {
21510                     "description": "",
21511                     "x-example": {
21512                         "rt": [
21513                             "oic.r.glucose.testler"
21514                         ],
21515                         "tester": "self"
21516                     },
21517                     "schema": {
21518                         "$ref": "#/definitions/GlucoseTester"
21519                     }
21520                 }
21521             }
21522         }
21523     }
21524 },
21525 "parameters": {
21526     "interface": {
21527         "in": "query",
21528         "name": "if",
21529         "type": "string",
21530         "enum": [
21531             "oic.if.r",
21532             "oic.if.baseline"
21533         ]
21534     }
21535 },
21536 "definitions": {
21537     "GlucoseTester": {
21538         "properties": {
21539             "rt": {
21540                 "description": "Resource Type",
21541                 "items": {
21542                     "enum": [
21543                         "oic.r.glucose.testler"
21544                     ],
21545                     "type": "string",
21546                     "maxLength": 64
21547                 },
21548                 "minItems": 1,
21549                 "uniqueItems": true,
21550                 "readOnly": true,
21551                 "type": "array"
21552             },
21553             "tester": {
21554                 "description": "The possible cases of testers who may perform the blood sugar
21555 measurement.",

```

```

21556         "enum": [
21557             "self",
21558             "hcp",
21559             "lab"
21560         ],
21561         "readOnly": true,
21562         "type": "string"
21563     },
21564     "n": {
21565         "$ref":
21566         "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
21567         schema.json#/definitions/n"
21568     },
21569     "id": {
21570         "$ref":
21571         "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
21572         schema.json#/definitions/id"
21573     },
21574     "if": {
21575         "description": "The OCF Interface set supported by this Resource",
21576         "items": {
21577             "enum": [
21578                 "oic.if.r",
21579                 "oic.if.baseline"
21580             ],
21581             "type": "string",
21582             "maxLength": 64
21583         },
21584         "minItems": 1,
21585         "readOnly": true,
21586         "uniqueItems": true,
21587         "type": "array"
21588     }
21589 },
21590 "type": "object",
21591 "required": [
21592     "tester"
21593 ]
21594 }
21595 }
21596 }
21597

```

21598 6.108.5 Property definition

21599 Table 219 defines the Properties that are part of the "oic.r.glucose.tester" Resource Type.

21600 **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	

21601 **6.108.6 CRUDN behaviour**

21602 Table 220 defines the CRUDN operations that are supported on the "oic.r.glucose.tester" Resource
21603 Type.

21604 **Table 220 – The CRUDN operations of the Resource with type "rt" = "oic.r.glucose.tester".**

Create	Read	Update	Delete	Notify
	get			observe

21605 **6.109 Optical RFID Station**

21606 **6.109.1 Introduction**

21607 The Property "process" represents the stage of the product in the product line which has an optical
21608 RFID tag on its body.
21609 The Property "event" is represented by a Boolean value set to "true" and "false" alarming the issue
21610 when additional action is requested for the tagged product.
21611 The Property "actionrequest" represent necessary actions like the isolation of the product, to send
21612 the product back to other specific line to modify or fix the issue.

21613 **6.109.2 Example URI**

21614 /ORFIDStationResURI

21615 **6.109.3 Resource type**

21616 The Resource Type is defined as: "oic.r.orfid.station".

21617 **6.109.4 OpenAPI 2.0 definition**

```
21618 {
21619   "swagger": "2.0",
21620   "info": {
21621     "title": "Optical RFID Station",
21622     "version": "20190215",
21623     "license": {
21624       "name": "OCF Data Model License",
21625       "url":
21626         "https://github.com/openconnectivityfoundation/core/blob/e28a9e0a92e17042ba3e83661e4c0fbce8bdc4ba/LI
21627         CENSE.md",
21628       "x-copyright": "copyright 2016-2017, 2019 Open Connectivity Foundation, Inc. All rights
21629       reserved."
21630     },
21631     "termsOfService": "https://openconnectivityfoundation.github.io/core/DISCLAIMER.md"
21632   },
21633   "schemes": ["http"],
21634   "consumes": ["application/json"],
21635   "produces": ["application/json"],
21636   "paths": {
21637     "/ORFIDStationResURI" : {
21638       "get": {
21639         "description": "The Property \"process\" represents the stage of the product in the product
21640         line which has an optical RFID tag on its body.\nThe Property \"event\" is represented by a Boolean
21641         value set to \"true\" and \"false\" alarming the issue when additional action is requested for the
21642         tagged product.\nThe Property \"actionrequest\" represent necessary actions like the isolation of
21643         the product, to send the product back to other specific line to modify or fix the issue.",
21644         "parameters": [
```

```

21645         {"$ref": "#/parameters/interface"}
21646     ],
21647     "responses": {
21648         "200": {
21649             "description": "RETRIEVES the station information from optical augmented RFID reader
21650 in smart factory environment.",
21651             "x-example":
21652                 {
21653                     "rt": ["oic.r.orfid.station"],
21654                     "if": ["oic.if.rw", "oic.if.baseline"],
21655                     "process": 17,
21656                     "event": true,
21657                     "actionrequest": 2
21658                 },
21659             "schema": { "$ref": "#/definitions/ORFID" }
21660         }
21661     }
21662 },
21663 "post": {
21664     "description": "Sets necessary action in accordance with Tag Information.",
21665     "parameters": [
21666         {"$ref": "#/parameters/interface"},
21667         {
21668             "name": "body",
21669             "in": "body",
21670             "required": true,
21671             "schema": { "$ref": "#/definitions/ORFID" },
21672             "x-example":
21673                 {
21674                     "event": false,
21675                     "actionrequest": 0
21676                 }
21677         }
21678     ],
21679     "responses": {
21680         "200": {
21681             "description": "",
21682             "x-example":
21683                 {
21684                     "event": false,
21685                     "actionrequest": 0
21686                 },
21687             "schema": { "$ref": "#/definitions/ORFID" }
21688         }
21689     }
21690 }
21691 },
21692 },
21693 "parameters": {
21694     "interface": {
21695         "in": "query",
21696         "name": "if",
21697         "type": "string",
21698         "enum": ["oic.if.rw", "oic.if.baseline"]
21699     }
21700 },
21701 "definitions": {
21702     "ORFID" : {
21703         "properties": {
21704             "rt": {
21705                 "description": "The Resource Type.",
21706                 "items": {
21707                     "enum": ["oic.r.orfid.station"],
21708                     "maxLength": 64,
21709                     "type": "string"
21710                 },
21711                 "minItems": 1,
21712                 "uniqueItems": true,
21713                 "readOnly": true,
21714                 "type": "array"
21715             },
21716             "process": {

```



```

21717         "description": "The process step that is being performed at this station.",
21718         "readOnly": true,
21719         "type": "integer"
21720     },
21721     "actionrequest": {
21722         "description": "The action request identifier.",
21723         "type": "integer"
21724     },
21725     "event": {
21726         "description": "The Event indicator, when True, the action request should be applied to
the product identified by the tagid.",
21727         "type": "boolean"
21728     },
21729     "n": {
21730         "$ref":
21731         "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
21732         schema.json#/definitions/n"
21733     },
21734     "id": {
21735         "$ref":
21736         "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
21737         schema.json#/definitions/id"
21738     },
21739     "if": {
21740         "description": "The OCF Interface set supported by this Resource.",
21741         "items": {
21742             "enum": [
21743                 "oic.if.rw",
21744                 "oic.if.baseline"
21745             ],
21746             "type": "string"
21747         },
21748         "minItems": 2,
21749         "uniqueItems": true,
21750         "readOnly": true,
21751         "type": "array"
21752     }
21753 },
21754 },
21755 "type": "object",
21756 "required": ["event", "actionrequest"]
21757 }
21758 }
21759 }
21760

```

6.109.5 Property definition

Table 221 defines the Properties that are part of the "oic.r.orfid.station" Resource Type.

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.

21764 **6.109.6 CRUDN behaviour**

21765 Table 222 defines the CRUDN operations that are supported on the "oic.r.orfid.station" Resource
21766 Type.

21767 **Table 222 – The CRUDN operations of the Resource with type "rt" = "oic.r.orfid.station".**

Create	Read	Update	Delete	Notify
	get	post		observe

21768 **6.110 Optical RFID Tag**

21769 **6.110.1 Introduction**

21770 The Property "tagid" is an integer showing the currently read optical augmented RFID tag's identity
21771 information.

21772 **6.110.2 Example URI**

21773 /ORFIDTagResURI

21774 **6.110.3 Resource type**

21775 The Resource Type is defined as: "oic.r.orfid.tag".

21776 **6.110.4 OpenAPI 2.0 definition**

```

21777 {
21778   "swagger": "2.0",
21779   "info": {
21780     "title": "Optical RFID Tag",
21781     "version": "20190215",
21782     "license": {
21783       "name": "OCF Data Model License",
21784       "url":
21785         "https://github.com/openconnectivityfoundation/core/blob/e28a9e0a92e17042ba3e83661e4c0fbce8bdc4ba/LI
21786         CENSE.md",
21787       "x-copyright": "copyright 2016-2017, 2019 Open Connectivity Foundation, Inc. All rights
21788       reserved."
21789     },
21790     "termsOfService": "https://openconnectivityfoundation.github.io/core/DISCLAIMER.md"
21791   },

```

```

21792     "schemes": ["http"],
21793     "consumes": ["application/json"],
21794     "produces": ["application/json"],
21795     "paths": {
21796         "/ORFIDTagResURI" : {
21797             "get": {
21798                 "description": "The Property \"tagid\" is an integer showing the currently read optical
21799 augmented RFID tag's identity information.",
21800                 "parameters": [
21801                     {"$ref": "#/parameters/interface"}
21802                 ],
21803                 "responses": {
21804                     "200": {
21805                         "description": "RETRIEVES the tag information from optical augmented RFID reader in
21806 smart factory environment.",
21807                         "x-example":
21808                             {
21809                                 "rt": ["oic.r.orfid.tag"],
21810                                 "if": ["oic.if.r", "oic.if.baseline"],
21811                                 "tagid": 10965742,
21812                                 "reading": true
21813                             },
21814                         "schema": { "$ref": "#/definitions/ORFID" }
21815                     }
21816                 }
21817             }
21818         },
21819     },
21820     "parameters": {
21821         "interface": {
21822             "in": "query",
21823             "name": "if",
21824             "type": "string",
21825             "enum": ["oic.if.r", "oic.if.baseline"]
21826         }
21827     },
21828     "definitions": {
21829         "ORFID" : {
21830             "properties": {
21831                 "rt": {
21832                     "description": "The Resource Type.",
21833                     "items": {
21834                         "enum": ["oic.r.orfid.tag"],
21835                         "maxLength": 64,
21836                         "type": "string"
21837                     },
21838                     "minItems": 1,
21839                     "uniqueItems": true,
21840                     "readOnly": true,
21841                     "type": "array"
21842                 },
21843                 "tagid": {
21844                     "description": "The tag read by the RFID reader.",
21845                     "readOnly": true,
21846                     "type": "integer"
21847                 },
21848                 "reading": {
21849                     "description": "The reading indication. true: the tagid is read e.g. being valid. false:
21850 the tagid is invalid.",
21851                     "readOnly": true,
21852                     "type": "boolean"
21853                 },
21854                 "n": {
21855                     "$ref":
21856 "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
21857 schema.json#/definitions/n"
21858                 },
21859                 "id": {
21860                     "$ref":
21861 "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
21862 schema.json#/definitions/id"
21863                 }

```

```

21864     "if": {
21865         "description": "The OCF Interface set supported by this Resource.",
21866         "items": {
21867             "enum": [
21868                 "oic.if.r",
21869                 "oic.if.baseline"
21870             ],
21871             "type": "string"
21872         },
21873         "minItems": 2,
21874         "uniqueItems": true,
21875         "readOnly": true,
21876         "type": "array"
21877     }
21878 },
21879 "type": "object",
21880 "required": ["tagid", "reading"]
21881 }
21882 }
21883 }
21884

```

21885 6.110.5 Property definition

21886 Table 223 defines the Properties that are part of the "oic.r.orfid.tag" Resource Type.

21887 **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.

21888 6.110.6 CRUDN behaviour

21889 Table 224 defines the CRUDN operations that are supported on the "oic.r.orfid.tag" Resource Type.

21890 **Table 224 – The CRUDN operations of the Resource with type "rt" = "oic.r.orfid.tag".**

Create	Read	Update	Delete	Notify
	get			observe

21891 **6.111 Power Source**

21892 **6.111.1 Introduction**

21893 This Resource list the available power sources for the Device. The Property "powersources" is a
 21894 list that is read only and is informative only.

21895 If there is more than 1 power source active, use multiple Resources to indicate the active power
 21896 sources. If the power source is unknown use the value "unknown".

21897 **6.111.2 Example URI**

21898 /PowerSourceResURI

21899 **6.111.3 Resource type**

21900 The Resource Type is defined as: "oic.r.powersource".

21901 **6.111.4 OpenAPI 2.0 definition**

```

21902 {
21903   "swagger": "2.0",
21904   "info": {
21905     "title": "PowerSource",
21906     "version": "20190513",
21907     "license": {
21908       "name": "OCF Data Model License",
21909       "url":
21910         "https://github.com/openconnectivityfoundation/core/blob/e28a9e0a92e17042ba3e83661e4c0fbce8bdc4ba/LI
21911         CENSE.md",
21912       "x-copyright": "copyright 2016-2017, 2019 Open Connectivity Foundation, Inc. All rights
21913       reserved."
21914     },
21915     "termsOfService": "https://openconnectivityfoundation.github.io/core/DISCLAIMER.md"
21916   },
21917   "schemes": ["http"],
21918   "consumes": ["application/json"],
21919   "produces": ["application/json"],
21920   "paths": {
21921     "/PowerSourceResURI" : {
21922       "get": {
21923         "description": "This Resource list the available power sources for the Device. The Property
21924         \"powersources\" is a list that is read only and is informative only.\nIf there is more than 1 power
21925         source active, use multiple Resources to indicate the active power sources. If the power source is
21926         unknown use the value \"unknown\".",
21927         "parameters": [
21928           {"$ref": "#/parameters/interface"}
21929         ],
21930         "responses": {
21931           "200": {
21932             "description": "Retrieves the list of available power sources.",
21933             "x-example":
21934               {
21935                 "rt": ["oic.r.powersource"],
21936                 "if": ["oic.if.r", "oic.if.baseline"],
21937                 "powersources": [
21938                   "DC power",
21939                   "Internal Battery",
21940                   "External Battery",
21941                   "Power over Ethernet",
21942                   "USB",
21943                   "AC (Mains) Power",
21944                   "Solar"

```

```

21945         ],
21946         "sourcedefault": false
21947     },
21948     "schema": { "$ref": "#/definitions/powerSourceSchema" }
21949 }
21950 }
21951 }
21952 }
21953 },
21954 "parameters": {
21955     "interface": {
21956         "in": "query",
21957         "name": "if",
21958         "type": "string",
21959         "enum": ["oic.if.r", "oic.if.baseline"]
21960     }
21961 },
21962 "definitions": {
21963     "powerSourceSchema" : {
21964         "properties": {
21965             "rt": {
21966                 "description": "The Resource Type.",
21967                 "items": {
21968                     "enum": ["oic.r.powersource"],
21969                     "maxLength": 64,
21970                     "type": "string"
21971                 },
21972                 "minItems": 1,
21973                 "uniqueItems": true,
21974                 "readOnly": true,
21975                 "type": "array"
21976             },
21977             "powersources": {
21978                 "items": {
21979                     "enum": [
21980                         "unknown",
21981                         "DC power",
21982                         "Internal Battery",
21983                         "External Battery",
21984                         "Power over Ethernet",
21985                         "USB",
21986                         "AC (Mains) Power",
21987                         "Solar"
21988                     ],
21989                     "minItems": 1,
21990                     "type": "string",
21991                     "uniqueItems": true
21992                 },
21993                 "type": "array"
21994             },
21995             "sourcedefault": {
21996                 "description": "Fault detected in currently active power source. True = fault detected",
21997                 "readOnly": true,
21998                 "type": "boolean"
21999             },
22000             "n": {
22001                 "$ref":
22002                 "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
22003                 schema.json#/definitions/n"
22004             },
22005             "id": {
22006                 "$ref":
22007                 "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
22008                 schema.json#/definitions/id"
22009             },
22010             "if": {
22011                 "description": "The OCF Interface set supported by this Resource.",
22012                 "items": {
22013                     "enum": [
22014                         "oic.if.r",
22015                         "oic.if.baseline"
22016                     ],

```

```

22017         "type": "string"
22018     },
22019     "minItems": 2,
22020     "uniqueItems": true,
22021     "readOnly": true,
22022     "type": "array"
22023 }
22024 },
22025 "type": "object",
22026 "required": ["powersources"]
22027 }
22028 }
22029 }
22030

```

22031 **6.111.5 Property definition**

22032 Table 225 defines the Properties that are part of the "oic.r.powersource" Resource Type.

22033 **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	

22034 **6.111.6 CRUDN behaviour**

22035 Table 226 defines the CRUDN operations that are supported on the "oic.r.powersource" Resource
22036 Type.

22037 **Table 226 – The CRUDN operations of the Resource with type "rt" = "oic.r.powersource".**

Create	Read	Update	Delete	Notify
	get			observe

22038 **6.112 Print Queue**

22039 **6.112.1 Introduction**

22040 This Resource describes the items in a Printer Queue. The Properties "uri" and "status" are read
22041 only items that cannot be changed through this resource.

22042 **6.112.2 Example URI**

22043 /PrintQueueResURI

22044 **6.112.3 Resource type**

22045 The Resource Type is defined as: "oic.r.printer.queue".

22046 6.112.4 OpenAPI 2.0 definition

```
22047 {
22048   "swagger": "2.0",
22049   "info": {
22050     "title": "Print Queue",
22051     "version": "20190215",
22052     "license": {
22053       "name": "OCF Data Model License",
22054       "url":
22055         "https://github.com/openconnectivityfoundation/core/blob/e28a9e0a92e17042ba3e83661e4c0fbce8bdc4ba/LI
22056         CENSE.md",
22057       "x-copyright": "copyright 2016-2017, 2019 Open Connectivity Foundation, Inc. All rights
22058       reserved."
22059     },
22060     "termsOfService": "https://openconnectivityfoundation.github.io/core/DISCLAIMER.md"
22061   },
22062   "schemes": ["http"],
22063   "consumes": ["application/json"],
22064   "produces": ["application/json"],
22065   "paths": {
22066     "/PrintQueueResURI" : {
22067       "get": {
22068         "description": "This Resource describes the items in a Printer Queue. The Properties \"uri\"
22069         and \"status\" are read only items that cannot be changed through this resource.",
22070         "parameters": [
22071           { "$ref": "#/parameters/interface" }
22072         ],
22073         "responses": {
22074           "200": {
22075             "description": "Retrieves the current Print Queue.",
22076             "x-example": {
22077               "rt": ["oic.r.printer.queue"],
22078               "if": ["oic.if.r", "oic.if.baseline"],
22079               "queue": [
22080                 {
22081                   "uri": "file://10.10.10.10/3dprinter/queueitem/1",
22082                   "status": "Printing"
22083                 },
22084                 {
22085                   "uri": "file://10.10.10.10/3dprinter/queueitem/2",
22086                   "status": "Pending"
22087                 }
22088               ]
22089             },
22090             "schema": { "$ref": "#/definitions/PrintQueue" }
22091           }
22092         }
22093       }
22094     },
22095     "parameters": {
22096       "interface": {
22097         "in": "query",
22098         "name": "if",
22099         "type": "string",
22100         "enum": ["oic.if.r", "oic.if.baseline"]
22101       }
22102     },
22103     "definitions": {
22104       "PrintQueue" : {
22105         "properties": {
22106           "rt": {
22107             "description": "The Resource Type.",
22108             "items": {
22109               "enum": ["oic.r.printer.queue"],
22110               "maxLength": 64,
22111               "type": "string"
22112             },
22113             "minItems": 1,
22114             "uniqueItems": true,
22115             "readOnly": true,
22116
```



```

22117     "type": "array"
22118   },
22119   "queue": {
22120     "description": "The array of queue items for the printer.",
22121     "items": {
22122       "properties": {
22123         "status": {
22124           "description": "The status of the queue item.",
22125           "enum": [
22126             "Printing",
22127             "Pending",
22128             "Paused",
22129             "Error",
22130             "Unknown"
22131           ],
22132           "readOnly": true,
22133           "type": "string"
22134         },
22135         "uri": {
22136           "description": "The uri of the queue item (i.e. the actual file).",
22137           "format": "uri",
22138           "maxLength": 256,
22139           "readOnly": true,
22140           "type": "string"
22141         }
22142       },
22143       "required": [
22144         "uri",
22145         "status"
22146       ],
22147       "type": "object"
22148     },
22149     "readOnly": true,
22150     "type": "array"
22151   },
22152   "n": {
22153     "$ref":
22154     "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
22155     schema.json#/definitions/n"
22156   },
22157   "id": {
22158     "$ref":
22159     "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
22160     schema.json#/definitions/id"
22161   },
22162   "if": {
22163     "description": "The OCF Interface set supported by this Resource.",
22164     "items": {
22165       "enum": [
22166         "oic.if.r",
22167         "oic.if.baseline"
22168       ],
22169       "type": "string"
22170     },
22171     "minItems": 2,
22172     "uniqueItems": true,
22173     "readOnly": true,
22174     "type": "array"
22175   }
22176 },
22177 "type": "object",
22178 "required": ["queue"]
22179 }
22180 }
22181 }
22182

```

22183 6.112.5 Property definition

22184 Table 227 defines the Properties that are part of the "oic.r.printer.queue" Resource Type.

22185 **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.

22186 **6.112.6 CRUDN behaviour**

22187 Table 228 defines the CRUDN operations that are supported on the "oic.r.printer.queue" Resource
22188 Type.

22189 **Table 228 – The CRUDN operations of the Resource with type "rt" = "oic.r.printer.queue".**

Create	Read	Update	Delete	Notify
	get			observe

22190 **6.113 Pulse Rate**

22191 **6.113.1 Introduction**

22192 This Resource describes the Properties associated with a person's pulse rate.
22193 The unit, which is the default unit, is bpm.
22194 The pulserate and unit Properties are read-only values that are provided by the Server.
22195 When range is omitted the default is 0 to +MAXFLOAT.

22196 **6.113.2 Example URI**

22197 /PulseRateResURI

22198 **6.113.3 Resource type**

22199 The Resource Type is defined as: "oic.r.pulserate".

22200 **6.113.4 OpenAPI 2.0 definition**

```
22201 {
22202   "swagger": "2.0",
22203   "info": {
22204     "title": "Pulse Rate",
22205     "version": "2019-03-22",
22206     "license": {
22207       "name": "OCF Data Model License",
```

```

22208     "url":
22209     "https://github.com/openconnectivityfoundation/core/blob/e28a9e0a92e17042ba3e83661e4c0fbce8bdc4ba/LI
22210     CENSE.md",
22211     "x-copyright": "Copyright 2016-2019 Open Connectivity Foundation, Inc. All rights reserved."
22212     },
22213     "termsOfService": "https://openconnectivityfoundation.github.io/core/DISCLAIMER.md"
22214     },
22215     "schemes": [
22216     "http"
22217     ],
22218     "consumes": [
22219     "application/json"
22220     ],
22221     "produces": [
22222     "application/json"
22223     ],
22224     "paths": {
22225     "/PulseRateResURI": {
22226     "get": {
22227     "description": "This Resource describes the Properties associated with a person's pulse
22228     rate.\n\nThe unit, which is the default unit, is bpm.\n\nThe pulserate and unit Properties are read-only
22229     values that are provided by the Server.\n\nWhen range is omitted the default is 0 to +MAXFLOAT.",
22230     "parameters": [
22231     {
22232     "$ref": "#/parameters/interface"
22233     }
22234     ],
22235     "responses": {
22236     "200": {
22237     "description": "",
22238     "x-example": {
22239     "rt": [
22240     "oic.r.pulserate"
22241     ],
22242     "pulserate": 80,
22243     "range": [20, 220],
22244     "step": 1
22245     },
22246     "schema": {
22247     "$ref": "#/definitions/PulseRate"
22248     }
22249     }
22250     }
22251     }
22252     }
22253     },
22254     "parameters": {
22255     "interface": {
22256     "in": "query",
22257     "name": "if",
22258     "type": "string",
22259     "enum": [
22260     "oic.if.s",
22261     "oic.if.baseline"
22262     ]
22263     }
22264     },
22265     "definitions": {
22266     "PulseRate": {
22267     "properties": {
22268     "rt": {
22269     "description": "Resource Type",
22270     "items": {
22271     "enum": [
22272     "oic.r.pulserate"
22273     ],
22274     "type": "string",
22275     "maxLength": 64
22276     },
22277     "minItems": 1,
22278     "uniqueItems": true,
22279     "readOnly": true,

```

```

22280         "type": "array"
22281     },
22282     "pulserate": {
22283         "description": "Pulse rate in bpm.",
22284         "minimum": 0,
22285         "readOnly": true,
22286         "type": "integer"
22287     },
22288     "if": {
22289         "description": "The OCF Interface set supported by this Resource",
22290         "items": {
22291             "enum": [
22292                 "oic.if.s",
22293                 "oic.if.baseline"
22294             ],
22295             "type": "string",
22296             "maxLength": 64
22297         },
22298         "minItems": 1,
22299         "readOnly": true,
22300         "uniqueItems": true,
22301         "type": "array"
22302     },
22303     "range": {
22304         "$ref":
22305         "https://openconnectivityfoundation.github.io/IoTDataModels/schemas/oic.baseresource.properties-
22306         schema.json#/definitions/range_integer"
22307     },
22308     "step": {
22309         "$ref":
22310         "https://openconnectivityfoundation.github.io/IoTDataModels/schemas/oic.baseresource.properties-
22311         schema.json#/definitions/step_integer"
22312     },
22313     "n": {
22314         "$ref":
22315         "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
22316         schema.json#/definitions/n"
22317     }
22318 },
22319 "type": "object",
22320 "required": [
22321     "pulserate"
22322 ]
22323 }
22324 }
22325 }
22326

```

22327 **6.113.5 Property definition**

22328 Table 229 defines the Properties that are part of the "oic.r.pulserate" Resource Type.

22329 **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	

22330 **6.113.6 CRUDN behaviour**

22331 Table 230 defines the CRUDN operations that are supported on the "oic.r.pulserate" Resource
22332 Type.

22333 **Table 230 – The CRUDN operations of the Resource with type "rt" = "oic.r.pulserate".**

Create	Read	Update	Delete	Notify
	get			observe

22334 **6.114 Sensor Properties**

22335 **6.114.1 Introduction**

22336 This Resource describes the properties which guide the reporting of a state change of a Sensor.
22337 The Property "silentsenttime" represents the period after which a state change report was sent where
22338 the Sensor state change is not reported.
22339 The Property "sensitivity" represents the level at which the sensor detects a state change.
22340 These values are completely dependent on the type of Sensor and the manufacturer capability, so
22341 no range restrictions are used.
22342 The Properties "range", "step" and "precision" are only applied to the "sensitivity" Property.

22343 **6.114.2 Example URI**

22344 /SensorPropsResURI

22345 **6.114.3 Resource type**

22346 The Resource Type is defined as: "oic.r.sensor.props".

22347 **6.114.4 OpenAPI 2.0 definition**

```
22348 {
22349   "swagger": "2.0",
22350   "info": {
22351     "title": "Sensor Properties",
22352     "version": "20190215",
22353     "license": {
22354       "name": "OCF Data Model License",
22355       "url":
22356         "https://github.com/openconnectivityfoundation/core/blob/e28a9e0a92e17042ba3e83661e4c0fbce8bdc4ba/LI
22357         CENSE.md",
22358       "x-copyright": "copyright 2016-2017, 2019 Open Connectivity Foundation, Inc. All rights
22359       reserved."
22360     },
22361     "termsOfService": "https://openconnectivityfoundation.github.io/core/DISCLAIMER.md"
22362   },
22363   "schemes": ["http"],
22364   "consumes": ["application/json"],
22365   "produces": ["application/json"],
```

```

22366     "paths": {
22367         "/SensorPropsResURI" : {
22368             "get": {
22369                 "description": "This Ressource describes the properties which guide the reporting of a state
22370 change of a Sensor.\nThe Property \"silenttime\" represents the period after which a state change
22371 report was sent where the Sensor state change is not reported.\nThe Property \"sensitivity\"
22372 represents the level at which the sensor detects a state change.\nThese values are completely
22373 dependend on the type of Sensor and the manufacturer capability, so no range restrictions are
22374 used.\nThe Properties \"range\", \"step\" and \"precision\" are only applied to the \"sensitivity\"
22375 Property.",
22376                 "parameters": [
22377                     { "$ref": "#/parameters/interface" }
22378                 ],
22379                 "responses": {
22380                     "200": {
22381                         "description": "Gets current Sensor Property values.",
22382                         "x-example":
22383                             {
22384                                 "rt": ["oic.r.sensor.props"],
22385                                 "if": ["oic.if.rw", "oic.if.baseline"],
22386                                 "silenttime": 10,
22387                                 "sensitivity": 20.5
22388                             },
22389                         "schema": { "$ref": "#/definitions/SensorProps" }
22390                     }
22391                 }
22392             },
22393             "post": {
22394                 "description": "Sets Sensor Property values\n",
22395                 "parameters": [
22396                     { "$ref": "#/parameters/interface" },
22397                     {
22398                         "name": "body",
22399                         "in": "body",
22400                         "required": true,
22401                         "schema": { "$ref": "#/definitions/SensorProps" },
22402                         "x-example":
22403                             {
22404                                 "silenttime": 20,
22405                                 "sensitivity": 10.75
22406                             }
22407                     }
22408                 ],
22409                 "responses": {
22410                     "200": {
22411                         "description": "",
22412                         "x-example":
22413                             {
22414                                 "silenttime": 20,
22415                                 "sensitivity": 10.75
22416                             },
22417                         "schema": { "$ref": "#/definitions/SensorProps" }
22418                     }
22419                 }
22420             }
22421         }
22422     },
22423     "parameters": {
22424         "interface": {
22425             "in": "query",
22426             "name": "if",
22427             "type": "string",
22428             "enum": ["oic.if.rw", "oic.if.baseline"]
22429         }
22430     },
22431     "definitions": {
22432         "SensorProps" : {
22433             "properties": {
22434                 "rt": {
22435                     "description": "The Resource Type.",
22436                     "items": {
22437                         "enum": ["oic.r.sensor.props"],

```

```

22438         "maxLength": 64,
22439         "type": "string"
22440     },
22441     "minItems": 1,
22442     "uniqueItems": true,
22443     "readOnly": true,
22444     "type": "array"
22445 },
22446 "silentlytime": {
22447     "description": "The time in seconds from the previous report that the Sensor restrains
22448 from sending a state change. This is used to avoid repeated state change reports.",
22449     "type": "integer"
22450 },
22451 "sensitivity": {
22452     "description": "The level of the detection accuracy of the Sensor. This is used to control
22453 the level at which the Sensor detects a state change. The \"range\" Property should be specified per
22454 manufacturer device capabilities.",
22455     "type": "number"
22456 },
22457 "n": {
22458     "$ref":
22459 "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
22460 schema.json#/definitions/n"
22461 },
22462 "id": {
22463     "$ref":
22464 "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
22465 schema.json#/definitions/id"
22466 },
22467 "range": {
22468     "$ref":
22469 "https://openconnectivityfoundation.github.io/IoTDataModels/schemas/oic.baseresource.properties-
22470 schema.json#/definitions/range_number"
22471 },
22472 "step": {
22473     "$ref":
22474 "https://openconnectivityfoundation.github.io/IoTDataModels/schemas/oic.baseresource.properties-
22475 schema.json#/definitions/step_number"
22476 },
22477 "precision": {
22478     "$ref":
22479 "https://openconnectivityfoundation.github.io/IoTDataModels/schemas/oic.baseresource.properties-
22480 schema.json#/definitions/precision"
22481 },
22482 "if": {
22483     "description": "The OCF Interface set supported by this Resource.",
22484     "items": {
22485         "enum": [
22486             "oic.if.rw",
22487             "oic.if.baseline"
22488         ],
22489         "type": "string"
22490     },
22491     "minItems": 2,
22492     "uniqueItems": true,
22493     "readOnly": true,
22494     "type": "array"
22495 }
22496 },
22497 "type": "object",
22498 "required": ["silentlytime", "sensitivity"]
22499 }
22500 }
22501 }
22502

```

22503 6.114.5 Property definition

22504 Table 231 defines the Properties that are part of the "oic.r.sensor.props" Resource Type.

22505 **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	
-----------	-------------------------------	----	------------	--

22506 **6.114.6 CRUDN behaviour**

22507 Table 232 defines the CRUDN operations that are supported on the "oic.r.sensor.props" Resource
22508 Type.

22509 **Table 232 – The CRUDN operations of the Resource with type "rt" = "oic.r.sensor.props".**

Create	Read	Update	Delete	Notify
	get	post		observe

22510 **6.115 User ID**

22511 **6.115.1 Introduction**

22512 This Resource describes the Properties associated with user id of an OCF Client.
22513 The userid Property is a single value of type string.
22514 The userid Property is a read-only value that is provided by the Server.

22515 **6.115.2 Example URI**

22516 /UserIDResURI

22517 **6.115.3 Resource type**

22518 The Resource Type is defined as: "oic.r.userid".

22519 **6.115.4 OpenAPI 2.0 definition**

```

22520 {
22521   "swagger": "2.0",
22522   "info": {
22523     "title": "User ID",
22524     "version": "2019-03-22",
22525     "license": {
22526       "name": "OCF Data Model License",
22527       "url":
22528 "https://github.com/openconnectivityfoundation/core/blob/e28a9e0a92e17042ba3e83661e4c0fbce8bdc4ba/LI
22529 CENSE.md",
22530       "x-copyright": "Copyright 2016-2019 Open Connectivity Foundation, Inc. All rights reserved."
22531     },
22532     "termsOfService": "https://openconnectivityfoundation.github.io/core/DISCLAIMER.md"
22533   },
22534   "schemes": [
22535     "http"
22536   ],
22537   "consumes": [
22538     "application/json"
22539   ],
22540   "produces": [
22541     "application/json"
22542   ],
22543   "paths": {
22544     "/UserIDResURI": {
22545       "get": {
22546         "description": "This Resource describes the Properties associated with user id of an OCF
22547 Client.\nThe userid Property is a single value of type string.\nThe userid Property is a read-only
22548 value that is provided by the Server.",
22549         "parameters": [
22550           {
22551             "$ref": "#/parameters/interface"
22552           }
22553         ],

```

```

22554     "responses": {
22555       "200": {
22556         "description": "",
22557         "x-example": {
22558           "rt": [
22559             "oic.r.userid"
22560           ],
22561           "userid": "USER1"
22562         },
22563         "schema": {
22564           "$ref": "#/definitions/UserID"
22565         }
22566       }
22567     }
22568   },
22569 },
22570 },
22571 "parameters": {
22572   "interface": {
22573     "in": "query",
22574     "name": "if",
22575     "type": "string",
22576     "enum": [
22577       "oic.if.r",
22578       "oic.if.baseline"
22579     ]
22580   }
22581 },
22582 "definitions": {
22583   "UserID": {
22584     "properties": {
22585       "rt": {
22586         "description": "Resource Type",
22587         "items": {
22588           "enum": [
22589             "oic.r.userid"
22590           ],
22591           "type": "string",
22592           "maxLength": 64
22593         },
22594         "minItems": 1,
22595         "uniqueItems": true,
22596         "readOnly": true,
22597         "type": "array"
22598       },
22599       "userid": {
22600         "description": "Id of a patient/user of healthcare devices",
22601         "readOnly": true,
22602         "type": "string"
22603       },
22604       "n": {
22605         "$ref":
22606 "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
22607 schema.json#/definitions/n"
22608       },
22609       "if": {
22610         "description": "The OCF Interface set supported by this Resource",
22611         "items": {
22612           "enum": [
22613             "oic.if.r",
22614             "oic.if.baseline"
22615           ],
22616           "type": "string",
22617           "maxLength": 64
22618         },
22619         "minItems": 1,
22620         "readOnly": true,
22621         "uniqueItems": true,
22622         "type": "array"
22623       }
22624     },
22625     "type": "object",

```

```

22626     "required": [
22627         "userid"
22628     ]
22629 }
22630 }
22631 }
22632

```

22633 **6.115.5 Property definition**

22634 Table 233 defines the Properties that are part of the "oic.r.userid" Resource Type.

22635 **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

22636 **6.115.6 CRUDN behaviour**

22637 Table 234 defines the CRUDN operations that are supported on the "oic.r.userid" Resource Type.

22638 **Table 234 – The CRUDN operations of the Resource with type "rt" = "oic.r.userid".**

Create	Read	Update	Delete	Notify
	get			observe

22639 **6.116 Calorific Value**

22640 **6.116.1 Introduction**

22641 This Resource describes Properties associated with the energy associated with the consumption
22642 of different fuels (including natural gas)
22643 The calorific value is a number
22644 the calorific value is a measure of the available heat energy, used as part of the calculation to
22645 convert a volume of a fuel (e.g. m3) to an energy value (e.g. KWh).
22646

22647 **6.116.2 Example URI**

22648 /CalorificValueResURI

22649 **6.116.3 Resource type**

22650 The Resource Type is defined as: "oic.r.calorificvalue".

22651 6.116.4 OpenAPI 2.0 definition

```
22652 {
22653   "swagger": "2.0",
22654   "info": {
22655     "title": "Calorific Value",
22656     "version": "2019-03-18",
22657     "license": {
22658       "name": "OCF Data Model License",
22659       "url": "https://openconnectivityfoundation.github.io/core/LICENSE.md",
22660       "x-copyright": "Copyright 2019 Open Connectivity Foundation, Inc. All rights reserved."
22661     },
22662     "termsOfService": "https://openconnectivityfoundation.github.io/core/DISCLAIMER.md"
22663   },
22664   "schemes": ["http"],
22665   "consumes": ["application/json"],
22666   "produces": ["application/json"],
22667   "paths": {
22668     "/CalorificValueResURI" : {
22669       "get": {
22670         "description": "This Resource describes Properties associated with the energy associated
22671 with the consumption of different fuels (including natural gas)\nThe calorific value is a
22672 number\nthe calorific value is a measure of the available heat energy, used as part of the
22673 calculation to convert a volume of a fuel (e.g. m3) to an energy value (e.g. KWh).\n",
22674         "parameters": [
22675           {"$ref": "#/parameters/interface"}
22676         ],
22677         "responses": {
22678           "200": {
22679             "description" : "Success path response for the Resource",
22680             "x-example": {
22681               "rt": ["oic.r.calorificvalue"],
22682               "calorific": 39.2
22683             },
22684             "schema": { "$ref": "#/definitions/Calorific" }
22685           }
22686         }
22687       }
22688     },
22689   },
22690   "parameters": {
22691     "interface" : {
22692       "in" : "query",
22693       "name" : "if",
22694       "type" : "string",
22695       "enum" : ["oic.if.r", "oic.if.baseline"]
22696     }
22697   },
22698   "definitions": {
22699     "Calorific" : {
22700       "properties": {
22701         "rt" : {
22702           "description": "Resource Type",
22703           "items": {
22704             "maxLength": 64,
22705             "type": "string",
22706             "enum": ["oic.r.calorificvalue"]
22707           },
22708           "minItems": 1,
22709           "readOnly": true,
22710           "uniqueItems": true,
22711           "type": "array"
22712         },
22713         "if" : {
22714           "description": "The OCF Interfaces supported by this Resource",
22715           "items": {
22716             "enum": ["oic.if.baseline", "oic.if.r"],
22717             "type": "string",
22718             "maxLength": 64
22719           },
22720           "minItems": 2,
22721           "readOnly": true,
```

```

22722         "uniqueItems": true,
22723         "type": "array"
22724     },
22725     "n": {
22726         "$ref" :
22727         "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
22728         schema.json#/definitions/n"
22729     },
22730     "id": {
22731         "$ref" :
22732         "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
22733         schema.json#/definitions/id"
22734     },
22735     "precision" : {
22736         "description": "Accuracy granularity of the exposed value",
22737         "readOnly": true,
22738         "type": "number"
22739     },
22740     "calorific" : {
22741         "description": "Calorific value of fuel",
22742         "readOnly": true,
22743         "type": "number",
22744         "minimum": 0,
22745         "exclusiveMinimum": true
22746     }
22747 },
22748 "type" : "object",
22749 "required": ["calorific"]
22750 }
22751 }
22752 }
22753

```

22754 **6.116.5 Property definition**

22755 Table 235 defines the Properties that are part of the "oic.r.calorificvalue" Resource Type.

22756 **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	

22757 **6.116.6 CRUDN behaviour**

22758 Table 236 defines the CRUDN operations that are supported on the "oic.r.calorificvalue" Resource
 22759 Type.

22760 **Table 236 – The CRUDN operations of the Resource with type "rt" = "oic.r.calorificvalue".**

Create	Read	Update	Delete	Notify
	get			observe

22761 **6.117 Conversion Factor**

22762 **6.117.1 Introduction**

22763 This Resource describes Properties associated with the energy associated with the consumption
 22764 of different fuels (including natural gas)
 22765 The conversion factor is a number used as part of the calculation to convert gas volume to gas
 22766 energy. The value used for this calculation is generally defined by local regulations and the
 22767 conversion factor resource is therefore configurable.
 22768 Provides the conversion factor used/required as part of the calculation to convert from fuel volume
 22769 (m3) to fuel energy (kWh).
 22770

22771 **6.117.2 Example URI**

22772 /ConversionFactorResURI

22773 **6.117.3 Resource type**

22774 The Resource Type is defined as: "oic.r.conversionfactor".

22775 **6.117.4 OpenAPI 2.0 definition**

```

22776 {
22777   "swagger": "2.0",
22778   "info": {
22779     "title": "Conversion Factor",
22780     "version": "2019-03-18",
22781     "license": {
22782       "name": "OCF Data Model License",
22783       "url": "https://openconnectivityfoundation.github.io/core/LICENSE.md",
22784       "x-copyright": "Copyright 2019 Open Connectivity Foundation, Inc. All rights reserved."
22785     },
22786     "termsOfService": "https://openconnectivityfoundation.github.io/core/DISCLAIMER.md"
22787   },
22788   "schemes": ["http"],
22789   "consumes": ["application/json"],
22790   "produces": ["application/json"],
22791   "paths": {
22792     "/ConversionFactorResURI" : {
22793       "get": {
22794         "description": "This Resource describes Properties associated with the energy associated
22795 with the consumption of different fuels (including natural gas)\nThe conversion factor is a number
22796 used as part of the calculation to convert gas volume to gas energy. The value used for this
22797 calculation is generally defined by local regulations and the conversion factor resource is
22798 therefore configurable.\nProvides the conversion factor used/required as part of the calculation to
22799 convert from fuel volume (m3) to fuel energy (kWh).\n",
22800         "parameters": [
22801           {"$ref": "#/parameters/interface"}
22802         ],
22803         "responses": {
22804           "200": {
22805             "description": "Success path response for the Resource",
22806             "x-example": {
22807               "rt": ["oic.r.conversionfactor"],
22808               "conversion": 1.02264

```

```

22809         },
22810         "schema": { "$ref": "#/definitions/Conversion" }
22811     }
22812 }
22813 }
22814 }
22815 },
22816 "parameters": {
22817     "interface" : {
22818         "in" : "query",
22819         "name" : "if",
22820         "type" : "string",
22821         "enum" : ["oic.if.r", "oic.if.baseline"]
22822     }
22823 },
22824 "definitions": {
22825     "Conversion" : {
22826         "properties": {
22827             "rt" : {
22828                 "description": "Resource Type",
22829                 "items": {
22830                     "maxLength": 64,
22831                     "type": "string",
22832                     "enum": ["oic.r.conversionfactor"]
22833                 },
22834                 "minItems": 1,
22835                 "readOnly": true,
22836                 "uniqueItems": true,
22837                 "type": "array"
22838             },
22839             "if" : {
22840                 "description": "The OCF Interfaces supported by this Resource",
22841                 "items": {
22842                     "enum": [
22843                         "oic.if.r",
22844                         "oic.if.baseline"
22845                     ],
22846                     "type": "string",
22847                     "maxLength": 64
22848                 },
22849                 "minItems": 2,
22850                 "readOnly": true,
22851                 "uniqueItems": true,
22852                 "type": "array"
22853             },
22854             "n": {
22855                 "$ref" :
22856                 "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
22857                 schema.json#/definitions/n"
22858             },
22859             "id": {
22860                 "$ref" :
22861                 "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
22862                 schema.json#/definitions/id"
22863             },
22864             "conversion" : {
22865                 "description": "Conversion factor to convert a volume of a fuel to energy consumption",
22866                 "readOnly": true,
22867                 "type": "number",
22868                 "minimum": 0,
22869                 "exclusiveMinimum": true
22870             },
22871             "precision" : {
22872                 "description": "Accuracy granularity of the exposed value",
22873                 "readOnly": true,
22874                 "type": "number"
22875             }
22876         },
22877         "type" : "object",
22878         "required": ["conversion"]
22879     }
22880 }

```

22881 }
22882

22883 6.117.5 Property definition

22884 Table 237 defines the Properties that are part of the "oic.r.conversionfactor" Resource Type.

22885 **Table 237 – The Property definitions of the Resource with type "rt" =**
22886 **"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

22887 6.117.6 CRUDN behaviour

22888 Table 238 defines the CRUDN operations that are supported on the "oic.r.conversionfactor"
22889 Resource Type.

22890 **Table 238 – The CRUDN operations of the Resource with type "rt" =**
22891 **"oic.r.conversionfactor".**

Create	Read	Update	Delete	Notify
	get			observe

22892 6.118 Gas Consumption

22893 6.118.1 Introduction

22894 This Resource describes Properties associated with the energy associated with the consumption
22895 of natural gas
22896 The gas value is in kilowatt hours [kWh].
22897 The volume value is in metres cubed [m3].
22898 Provides the cumulative gas energy, the cumulative gas volume and the calorific value and
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22899 conversion factor used/required to convert from gas volume (m3[TB1]) to gas energy (KWh).
22900

22901 **6.118.2 Example URI**

22902 /GasConsumptionResURI

22903 **6.118.3 Resource type**

22904 The Resource Type is defined as: "oic.r.gas.consumption".

22905 **6.118.4 OpenAPI 2.0 definition**

```
22906 {  
22907   "swagger": "2.0",  
22908   "info": {  
22909     "title": "Gas Consumption",  
22910     "version": "2019-03-18",  
22911     "license": {  
22912       "name": "OCF Data Model License",  
22913       "url": "https://openconnectivityfoundation.github.io/core/LICENSE.md",  
22914       "x-copyright": "Copyright 2019 Open Connectivity Foundation, Inc. All rights reserved."  
22915     },  
22916     "termsOfService": "https://openconnectivityfoundation.github.io/core/DISCLAIMER.md"  
22917   },  
22918   "schemes": ["http"],  
22919   "consumes": ["application/json"],  
22920   "produces": ["application/json"],  
22921   "paths": {  
22922     "/GasConsumptionResURI" : {  
22923       "get": {  
22924         "description": "This Resource describes Properties associated with the energy associated  
22925 with the consumption of natural gas\nThe gas value is in kilowatt hours [kWh].\nThe volume value is  
22926 in metres cubed [m3].\nProvides the cumulative gas energy, the cumulative gas volume and the  
22927 calorific value and conversion factor used/required to convert from gas volume (m3[TB1]) to gas  
22928 energy (KWh).\n",  
22929         "parameters": [  
22930           {"$ref": "#/parameters/interface"}  
22931         ],  
22932         "responses": {  
22933           "200": {  
22934             "description" : "Success path response for the Resource",  
22935             "x-example": {  
22936               "rt": ["oic.r.gas.consumption"],  
22937               "gas": 11135.41,  
22938               "volume": 1000.0  
22939             },  
22940             "schema": {"$ref": "#/definitions/Consumption" }  
22941           }  
22942         }  
22943       }  
22944     }  
22945   },  
22946   "parameters": {  
22947     "interface" : {  
22948       "in" : "query",  
22949       "name" : "if",  
22950       "type" : "string",  
22951       "enum" : ["oic.if.s", "oic.if.baseline"]  
22952     }  
22953   },  
22954   "definitions": {  
22955     "Consumption" : {  
22956       "properties": {  
22957         "rt": {  
22958           "description": "Resource Type",  
22959           "items": {  
22960             "maxLength": 64,  
22961             "type": "string",  
22962             "enum": ["oic.r.gas.consumption"]  
22963           }  
22964         }  
22965       }  
22966     }  
22967   }  
22968 }
```

```

22964         "minItems": 1,
22965         "uniqueItems": true,
22966         "readOnly": true,
22967         "type": "array"
22968     },
22969     "if": {
22970         "description": "The OCF Interfaces supported by this Resource",
22971         "items": {
22972             "enum": ["oic.if.r", "oic.if.baseline"],
22973             "type": "string"
22974         },
22975         "minItems": 1,
22976         "readOnly": true,
22977         "uniqueItems": true,
22978         "type": "array"
22979     },
22980     "n": {
22981         "$ref" :
22982         "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
22983         schema.json#/definitions/n"
22984     },
22985     "id": {
22986         "$ref" :
22987         "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
22988         schema.json#/definitions/id"
22989     },
22990     "gas" : {
22991         "description": "gas energy consumed in kWh",
22992         "readOnly": true,
22993         "type": "number",
22994         "minimum": 0
22995     },
22996     "precision" : {
22997         "description": "Accuracy granularity of the exposed value",
22998         "readOnly": true,
22999         "type": "number"
23000     },
23001     "volume" : {
23002         "description": "gas volume consumed in m3 (metres cubed)",
23003         "readOnly": true,
23004         "type": "number",
23005         "minimum": 0
23006     }
23007 },
23008 "type" : "object",
23009 "required": ["gas"]
23010 }
23011 }
23012 }
23013

```

23014 6.118.5 Property definition

23015 Table 239 defines the Properties that are part of the "oic.r.gas.consumption" Resource Type.

23016 **Table 239 – The Property definitions of the Resource with type "rt" =**
23017 **"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

23018 **6.118.6 CRUDN behaviour**

23019 Table 240 defines the CRUDN operations that are supported on the "oic.r.gas.consumption"
23020 Resource Type.

23021 **Table 240 – The CRUDN operations of the Resource with type "rt" =**
23022 **"oic.r.gas.consumption".**

Create	Read	Update	Delete	Notify
	get			observe

23023 **6.119 Gas Usage**

23024 **6.119.1 Introduction**

23025 This Resource describes a cumulative time-based gas usage query.
23026 The Resource is a Collection of:
23027 TimePeriod Resource
23028 Gas Consumption Resource
23029

23030 **6.119.2 Example URI**

23031 /GasUsageResURI

23032 **6.119.3 Resource type**

23033 The Resource Type is defined as: "oic.r.gas.usage".

23034 **6.119.4 OpenAPI 2.0 definition**

23035 {
23036 "swagger": "2.0",
23037 "info": {
23038 "title": "Gas Usage",
23039 "version": "2019-03-18",
23040 "license": {
23041 "name": "OCF Data Model License",

```

23042         "url": "https://openconnectivityfoundation.github.io/core/LICENSE.md",
23043         "x-copyright": "Copyright 2019 Open Connectivity Foundation, Inc. All rights reserved."
23044     },
23045     "termsOfService": "https://openconnectivityfoundation.github.io/core/DISCLAIMER.md"
23046 },
23047 "schemes": ["http"],
23048 "consumes": ["application/json"],
23049 "produces": ["application/json"],
23050 "paths": {
23051     "/GasUsageResURI?if=oic.if.ll" : {
23052         "get": {
23053             "description": "This Resource describes a cumulative time-based gas usage query.\nThe
23054 Resource is a Collection of:\n TimePeriod Resource\n Gas Consumption Resource\nThe Collection has
23055 a single instance of a Link per Resource Type.\n",
23056             "parameters": [
23057                 {"$ref": "#/parameters/interface-all"}
23058             ],
23059             "responses": {
23060                 "200": {
23061                     "description" : "Success path response for the Resource",
23062                     "x-example":
23063                         [
23064                             {
23065                                 "href": "/TimeIntervalResURI",
23066                                 "rt": ["oic.r.time.period"],
23067                                 "if": ["oic.if.a","oic.if.baseline"],
23068                                 "eps": [{"ep": "coaps://[fe80::b1d6]:1122"}]
23069                             },
23070                             {
23071                                 "href": "/GasConsumptionResURI",
23072                                 "rt": ["oic.r.gas.consumption"],
23073                                 "if": ["oic.if.s","oic.if.baseline"],
23074                                 "eps": [{"ep": "coaps://[fe80::b1d6]:1122"}]
23075                             }
23076                         ],
23077                     "schema": { "$ref": "#/definitions/links" }
23078                 }
23079             }
23080         },
23081     },
23082     "/GasUsageResURI?if=oic.if.baseline" : {
23083         "get": {
23084             "description": "This Resource describes a cumulative time-based gas usage query.\nThe
23085 Resource is a Collection of:\n TimePeriod Resource\n Gas Consumption Resource\n",
23086             "parameters": [
23087                 {"$ref": "#/parameters/interface-all"}
23088             ],
23089             "responses": {
23090                 "200": {
23091                     "description" : "Success path response for the Resource",
23092                     "x-example":
23093                         {
23094                             "rt": ["oic.r.gas.usage"],
23095                             "if": ["oic.if.ll","oic.if.b","oic.if.baseline"],
23096                             "resources": [
23097                                 {
23098                                     "href": "/TimeIntervalResURI",
23099                                     "rt": ["oic.r.time.period"],
23100                                     "if": ["oic.if.a","oic.if.baseline"],
23101                                     "eps": [{"ep": "coaps://[fe80::b1d6]:1122"}]
23102                                 },
23103                                 {
23104                                     "href": "/GasConsumptionResURI",
23105                                     "rt": ["oic.r.gas.consumption"],
23106                                     "if": ["oic.if.s","oic.if.baseline"],
23107                                     "eps": [{"ep": "coaps://[fe80::b1d6]:1122"}]
23108                                 }
23109                             ]
23110                         },
23111                     "schema": { "$ref": "#/definitions/Usage" }
23112                 }
23113             }
23114         }
23115     }
23116 }

```

```

23114     }
23115   },
23116   "/GasUsageResURI?if=oic.if.b" : {
23117     "get": {
23118       "description": "This Resource describes a cumulative time-based gas usage query.\nThe
23119 Resource is a Collection of:\n  TimePeriod Resource\n  Gas Consumption Resource\n",
23120       "parameters": [
23121         { "$ref": "#/parameters/interface-all" }
23122       ],
23123       "responses": {
23124         "200": {
23125           "description" : "Success path response for the Resource",
23126           "x-example":
23127             [
23128               {
23129                 "href": "/TimeIntervalResURI",
23130                 "rep": {
23131                   "startTime": "2018-01-09T14:30Z",
23132                   "stopTime": "2018-01-09T14:45Z"
23133                 }
23134               },
23135               {
23136                 "href": "/GasConsumptionResURI",
23137                 "rep": {
23138                   "gas": 11135.41,
23139                   "volume": 1000.0
23140                 }
23141               }
23142             ],
23143           "schema": { "$ref": "#/definitions/batch" }
23144         }
23145       }
23146     },
23147     "post": {
23148       "description": "Sets the current time period. A Client may also post directly to the exposed
23149 URL for the Time Period Resource.\n",
23150       "x-method": ["optional"],
23151       "parameters": [
23152         { "$ref": "#/parameters/interface-b" },
23153         {
23154           "name": "body",
23155           "in": "body",
23156           "required": true,
23157           "schema": { "$ref": "#/definitions/batchupdate" },
23158           "x-example":
23159             [
23160               {
23161                 "href": "/TimePeriodResURI",
23162                 "rep": {
23163                   "startTime": "2018-01-15T16:30Z",
23164                   "stopTime": "2018-01-16T16:30Z"
23165                 }
23166               }
23167             ]
23168         }
23169       ],
23170       "responses": {
23171         "200": {
23172           "description" : "Success path response code\n"
23173         }
23174       }
23175     }
23176   },
23177 },
23178 "parameters": {
23179   "interface-all" : {
23180     "in" : "query",
23181     "name" : "if",
23182     "type" : "string",
23183     "enum" : ["oic.if.ll", "oic.if.b", "oic.if.baseline"]
23184   },
23185   "interface-b" : {

```

```

23186         "in" : "query",
23187         "name" : "if",
23188         "type" : "string",
23189         "enum" : ["oic.if.b"]
23190     }
23191 },
23192 "definitions": {
23193     "links": {
23194         "type": "array",
23195         "items": {
23196             "$ref": "#/definitions/oic.oic-link"
23197         },
23198         "minItems": 2,
23199         "maxItems": 4
23200     },
23201     "oic.oic-link": {
23202         "properties": {
23203             "if": {
23204                 "description": "The interface set supported by the Linked Resource",
23205                 "items": {
23206                     "enum": [
23207                         "oic.if.baseline",
23208                         "oic.if.a",
23209                         "oic.if.s"
23210                     ],
23211                     "type": "string"
23212                 },
23213                 "minItems": 1,
23214                 "uniqueItems": true,
23215                 "readOnly": true,
23216                 "type": "array"
23217             },
23218             "rt": {
23219                 "description": "Resource Type of the linked Resource",
23220                 "items": {
23221                     "enum": [
23222                         "oic.r.time.period",
23223                         "oic.r.gas.consumption",
23224                         "oic.r.conversionfactor",
23225                         "oic.r.calorificvalue"
23226                     ],
23227                     "type": "string",
23228                     "maxLength": 64
23229                 },
23230                 "minItems": 1,
23231                 "uniqueItems": true,
23232                 "readOnly": true,
23233                 "type": "array"
23234             },
23235             "anchor": {
23236                 "$ref":
23237 "https://openconnectivityfoundation.github.io/core/schemas/oic.links.properties.core-
23238 schema.json#/definitions/anchor"
23239             },
23240             "di": {
23241                 "$ref":
23242 "https://openconnectivityfoundation.github.io/core/schemas/oic.links.properties.core-
23243 schema.json#/definitions/di"
23244             },
23245             "eps": {
23246                 "$ref":
23247 "https://openconnectivityfoundation.github.io/core/schemas/oic.links.properties.core-
23248 schema.json#/definitions/eps"
23249             },
23250             "href": {
23251                 "$ref":
23252 "https://openconnectivityfoundation.github.io/core/schemas/oic.links.properties.core-
23253 schema.json#/definitions/href"
23254             },
23255             "ins": {
23256                 "$ref":
23257 "https://openconnectivityfoundation.github.io/core/schemas/oic.links.properties.core-

```

```

23258 schema.json#/definitions/ins"
23259     },
23260     "p": {
23261         "$ref":
23262         "https://openconnectivityfoundation.github.io/core/schemas/oic.links.properties.core-
23263         schema.json#/definitions/p"
23264     },
23265     "rel": {
23266         "$ref":
23267         "https://openconnectivityfoundation.github.io/core/schemas/oic.links.properties.core-
23268         schema.json#/definitions/rel_array"
23269     },
23270     "title": {
23271         "$ref":
23272         "https://openconnectivityfoundation.github.io/core/schemas/oic.links.properties.core-
23273         schema.json#/definitions/title"
23274     },
23275     "type": {
23276         "$ref":
23277         "https://openconnectivityfoundation.github.io/core/schemas/oic.links.properties.core-
23278         schema.json#/definitions/type"
23279     }
23280 },
23281 "required": [
23282     "href",
23283     "rt",
23284     "if"
23285 ],
23286 "type": "object"
23287 },
23288 "batch": {
23289     "title": "Collection Batch Retrieve Format",
23290     "minItems": 2,
23291     "maxItems": 4,
23292     "type": "array",
23293     "items": {
23294         "additionalProperties": true,
23295         "type": "object",
23296         "properties": {
23297             "href": {
23298                 "$ref":
23299                 "https://openconnectivityfoundation.github.io/core/schemas/oic.links.properties.core-
23300                 schema.json#/definitions/href"
23301             },
23302             "rep": {
23303                 "anyOf": [
23304                     {
23305                         "$ref":
23306                         "https://openconnectivityfoundation.github.io/IoTDataModels/TimePeriodResURI.swagger.json#/definitio
23307                         ns/TimePeriod"
23308                     },
23309                     {
23310                         "$ref":
23311                         "https://openconnectivityfoundation.github.io/IoTDataModels/GasConsumptionResURI.swagger.json#/defin
23312                         itions/Consumption"
23313                     },
23314                     {
23315                         "$ref":
23316                         "https://openconnectivityfoundation.github.io/IoTDataModels/CalorificValueResURI.swagger.json#/defin
23317                         itions/Calorific"
23318                     },
23319                     {
23320                         "$ref":
23321                         "https://openconnectivityfoundation.github.io/IoTDataModels/ConversionFactorResURI.swagger.json#/def
23322                         initions/Conversion"
23323                     }
23324                 ]
23325             }
23326         },
23327         "required": ["href", "rep"]
23328     }
23329 },

```

```

23330     "batchupdate" : {
23331         "title": "Collection Batch Update Format",
23332         "minItems": 1,
23333         "type": "array",
23334         "items": {
23335             "additionalProperties": true,
23336             "type": "object",
23337             "properties": {
23338                 "href": {
23339                     "$ref":
23340 "https://openconnectivityfoundation.github.io/core/schemas/oic.links.properties.core-
23341 schema.json#/definitions/href"
23342             },
23343             "rep": {
23344                 "$ref":
23345 "https://openconnectivityfoundation.github.io/IoTDataModels/TimePeriodResURI.swagger.json#/definitio
23346 ns/TimePeriod"
23347             }
23348         }
23349     },
23350     "Usage" : {
23351         "properties": {
23352             "rt" : {
23353                 "description": "Resource Type",
23354                 "items": {
23355                     "type": "string",
23356                     "enum": ["oic.r.gas.usage"],
23357                     "maxLength": 64
23358                 },
23359                 "minItems": 1,
23360                 "readOnly": true,
23361                 "uniqueItems": true,
23362                 "type": "array"
23363             },
23364             "rts" : {
23365                 "description": "Allowed Resource Type",
23366                 "items": {
23367                     "type": "string",
23368                     "enum":
23369 ["oic.r.gas.consumption", "oic.r.time.period", "oic.r.calorificvalue", "oic.r.conversionfactor"],
23370                     "maxLength": 64
23371                 },
23372                 "minItems": 2,
23373                 "readOnly": true,
23374                 "uniqueItems": true,
23375                 "type": "array"
23376             },
23377             "rts-m" : {
23378                 "description": "Mandatory Resource Type",
23379                 "items": {
23380                     "type": "string",
23381                     "enum": ["oic.r.gas.consumption", "oic.r.time.period"],
23382                     "maxLength": 64
23383                 },
23384                 "minItems": 2,
23385                 "readOnly": true,
23386                 "uniqueItems": true,
23387                 "type": "array"
23388             },
23389             "n" : {
23390                 "$ref" :
23391 "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
23392 schema.json#/definitions/n"
23393             },
23394             "id" : {
23395                 "$ref" :
23396 "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
23397 schema.json#/definitions/id"
23398             },
23399             "resources" : {
23400                 "$ref": "#/definitions/links"

```



```

23402     },
23403     "if" : {
23404       "description": "The interface set supported by this resource",
23405       "items": {
23406         "enum": [
23407           "oic.if.ll",
23408           "oic.if.b",
23409           "oic.if.baseline"
23410         ],
23411         "type": "string",
23412         "maxLength": 64
23413       },
23414       "minItems": 1,
23415       "readOnly": true,
23416       "uniqueItems": true,
23417       "type": "array"
23418     }
23419   },
23420   "type": "object",
23421   "required": ["resources"]
23422 }
23423 }
23424 }
23425

```

6.119.5 Property definition

Table 241 defines the Properties that are part of the "oic.r.gas.usage" Resource Type.

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	

23429 **6.119.6 CRUDN behaviour**

23430 Table 242 defines the CRUDN operations that are supported on the "oic.r.gas.usage" Resource
23431 Type.

23432 **Table 242 – The CRUDN operations of the Resource with type "rt" = "oic.r.gas.usage".**

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

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

23433 **6.120 Impact Sensor**

23434 **6.120.1 Introduction**

23435 This Resource provides a status and properties of an impact sensor. Included is the current status
23436 (boolean), horizontal and vertical direction (in degrees) and impact level (g force).

23437 **6.120.2 Example URI**

23438 /ImpactSensorResURI

23439 **6.120.3 Resource type**

23440 The Resource Type is defined as: "oic.r.impactsensor".

23441 **6.120.4 OpenAPI 2.0 definition**

```

23442 {
23443   "swagger": "2.0",
23444   "info": {
23445     "title": "Impact Sensor",
23446     "version": "12122018",
23447     "license": {
23448       "name": "OCF Data Model License",
23449       "url":
23450 "https://github.com/openconnectivityfoundation/core/blob/e28a9e0a92e17042ba3e83661e4c0fbce8bdc4ba/LI
23451 CENSE.md",
23452       "x-copyright": "copyright 2018-2019 Open Connectivity Foundation, Inc. All rights reserved."
23453     },
23454     "termsOfService": "https://openconnectivityfoundation.github.io/core/DISCLAIMER.md"
23455   },
23456   "schemes": ["http"],
23457   "consumes": ["application/json"],
23458   "produces": ["application/json"],
23459   "paths": {
23460     "/ImpactSensorResURI" : {
23461       "get": {
23462         "description": "This Resource provides a status and properties of an impact sensor. Included
23463 is the current status (boolean), horizontal and vertical direction (in degrees) and impact level (g
23464 force).",
23465         "parameters": [
23466           { "$ref": "#/parameters/interface" }
23467         ],
23468         "responses": {
23469           "200": {
23470             "description": "The success path response for the Resource.",
23471             "x-example":
23472               {
23473                 "rt": ["oic.r.impactsensor"],
23474                 "if": ["oic.if.s", "oic.if.baseline"],
23475                 "impactstatus": true,
23476                 "impactlevel": 2.25,
23477                 "impactdirectionhorizontal": 120.0,
23478                 "impactdirectionvertical": 240.0
23479               },
23480             "schema": { "$ref": "#/definitions/ImpactSensor" }
23481           }
23482         }
23483       }
23484     }
23485   },
23486   "parameters": {
23487     "interface": {
23488       "in": "query",
23489       "name": "if",
23490       "type": "string",
23491       "enum": ["oic.if.s", "oic.if.baseline"]
23492     }
  
```

```

23493 },
23494 "definitions": {
23495   "ImpactSensor": {
23496     "properties": {
23497       "rt": {
23498         "description": "The Resource Type.",
23499         "items": {
23500           "maxLength": 64,
23501           "type": "string",
23502           "enum": ["oic.r.impactsensor"]
23503         },
23504         "minItems": 1,
23505         "uniqueItems": true,
23506         "readOnly": true,
23507         "type": "array"
23508       },
23509       "impactstatus": {
23510         "type": "boolean",
23511         "readOnly": true,
23512         "description": "The \"impactstatus\" Property indicates the impact as: \"true\" A physical
23513 impact is detected, \"false\" Normal status, an impact is not detected."
23514       },
23515       "impactlevel": {
23516         "type": "number",
23517         "readOnly": true,
23518         "description": "The \"impactlevel\" Property provides the level of impact. The unit is in
23519 \"G\" (G-force)."
23520       },
23521       "impactdirectionhorizontal": {
23522         "type": "number",
23523         "readOnly": true,
23524         "description": "The \"impactdirectionhorizontal\" Property shows a horizontal direction
23525 where the impact comes from. The value is 0 to 360 degrees. 0 is the front of the sensor and
23526 clockwise increment.",
23527         "minimum": 0,
23528         "maximum": 360
23529       },
23530       "impactdirectionvertical": {
23531         "type": "number",
23532         "readOnly": true,
23533         "description": "The \"impactdirectionvertical\" Property shows a vertical direction where
23534 the impact comes from. The value is 0 to 360 degrees. 0 is the front of the sensor and upward
23535 increment.",
23536         "minimum": 0,
23537         "maximum": 360
23538       },
23539       "n": {
23540         "$ref":
23541 "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
23542 schema.json#/definitions/n"
23543       },
23544       "id": {
23545         "$ref":
23546 "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
23547 schema.json#/definitions/id"
23548       },
23549       "if": {
23550         "description": "The OCF Interface set supported by this Resource.",
23551         "items": {
23552           "enum": [
23553             "oic.if.s",
23554             "oic.if.baseline"
23555           ],
23556           "type": "string"
23557         },
23558         "minItems": 2,
23559         "uniqueItems": true,
23560         "readOnly": true,
23561         "type": "array"
23562       }
23563     },
23564     "type": "object",

```

```

23565     "required": [ "impactstatus" ]
23566     }
23567 }
23568 }
23569

```

23570 6.120.5 Property definition

23571 Table 243 defines the Properties that are part of the "oic.r.impactsensor" Resource Type.

23572 **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.
--	--	--	--	--

23573 **6.120.6 CRUDN behaviour**

23574 Table 244 defines the CRUDN operations that are supported on the "oic.r.impactsensor" Resource
23575 Type.

23576 **Table 244 – The CRUDN operations of the Resource with type "rt" = "oic.r.impactsensor".**

Create	Read	Update	Delete	Notify
	get			observe

23577 **6.121 Keypad Character**

23578 **6.121.1 Introduction**

23579 This Resource describes a char (0-9,*,#) which is selected on a number keypad.

23580 **6.121.2 Example URI**

23581 /KeyPadCharResURI

23582 **6.121.3 Resource type**

23583 The Resource Type is defined as: "oic.r.keypadchar".

23584 **6.121.4 OpenAPI 2.0 definition**

```

23585 {
23586   "swagger": "2.0",
23587   "info": {
23588     "title": "KeyPadChar",
23589     "version": "12122018",
23590     "license": {
23591       "name": "OCF Data Model License",
23592       "url":
23593         "https://github.com/openconnectivityfoundation/core/blob/e28a9e0a92e17042ba3e83661e4c0fbce8bdc4ba/LI
23594         CENSE.md",
23595       "x-copyright": "copyright 2018-2019 Open Connectivity Foundation, Inc. All rights reserved."
23596     },
23597     "termsOfService": "https://openconnectivityfoundation.github.io/core/DISCLAIMER.md"
23598   },
23599   "schemes": ["http"],
23600   "consumes": ["application/json"],
23601   "produces": ["application/json"],
23602   "paths": {
23603     "/KeyPadCharResURI" : {
23604       "get": {
23605         "description": "This Resource describes a char (0-9,*,#) which is selected on a number
23606 keypad.",
23607         "parameters": [
23608           {"$ref": "#/parameters/interface"}
23609         ],
23610         "responses": {
23611           "200": {
23612             "description": "Success path response for the Resource",
23613             "x-example":
23614               {
23615                 "rt": ["oic.r.keypadchar"],
23616                 "if": ["oic.if.rw", "oic.if.baseline"],
23617                 "keyvalue": "7"
23618               },

```

```

23619         "schema": { "$ref": "#/definitions/KeyPadChar" }
23620     }
23621 }
23622 },
23623 "post": {
23624     "description": "This Resource describes a char (0-9, *, #) which is selected on a number
23625 keypad.\n",
23626     "parameters": [
23627         { "$ref": "#/parameters/interface" },
23628         {
23629             "name": "body",
23630             "in": "body",
23631             "required": true,
23632             "schema": { "$ref": "#/definitions/KeyPadChar" },
23633             "x-example":
23634                 {
23635                     "keyvalue": "4"
23636                 }
23637         }
23638     ],
23639     "responses": {
23640         "200": {
23641             "description": "",
23642             "x-example":
23643                 {
23644                     "keyvalue": "4"
23645                 },
23646             "schema": { "$ref": "#/definitions/KeyPadChar" }
23647         }
23648     }
23649 }
23650 },
23651 },
23652 "parameters": {
23653     "interface": {
23654         "in": "query",
23655         "name": "if",
23656         "type": "string",
23657         "enum": ["oic.if.rw", "oic.if.baseline"]
23658     }
23659 },
23660 "definitions": {
23661     "KeyPadChar": {
23662         "properties": {
23663             "rt": {
23664                 "description": "The Resource Type.",
23665                 "items": {
23666                     "maxLength": 64,
23667                     "type": "string",
23668                     "enum": ["oic.r.keypadchar"]
23669                 },
23670                 "minItems": 1,
23671                 "uniqueItems": true,
23672                 "readOnly": true,
23673                 "type": "array"
23674             },
23675             "keyvalue": {
23676                 "type": "string",
23677                 "enum": [
23678                     "0",
23679                     "1",
23680                     "2",
23681                     "3",
23682                     "4",
23683                     "5",
23684                     "6",
23685                     "7",
23686                     "8",
23687                     "9",
23688                     "*",
23689                     "#"
23690                 ]

```

```

23691         "description": "The value of the key pad char."
23692     },
23693     "n": {
23694         "$ref":
23695         "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
23696         schema.json#/definitions/n"
23697     },
23698     "id": {
23699         "$ref":
23700         "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
23701         schema.json#/definitions/id"
23702     },
23703     "if": {
23704         "description": "The OCF Interface set supported by this Resource.",
23705         "items": {
23706             "enum": [
23707                 "oic.if.baseline",
23708                 "oic.if.rw"
23709             ],
23710             "type": "string"
23711         },
23712         "minItems": 2,
23713         "uniqueItems": true,
23714         "readOnly": true,
23715         "type": "array"
23716     }
23717 },
23718 "type": "object",
23719 "required": ["keyvalue"]
23720 }
23721 }
23722 }

```

23723 **6.121.5 Property definition**

23724 Table 245 defines the Properties that are part of the "oic.r.keypadchar" Resource Type.

23725 **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.

23726 **6.121.6 CRUDN behaviour**

23727 Table 246 defines the CRUDN operations that are supported on the "oic.r.keypadchar" Resource
23728 Type.

23729 **Table 246 – The CRUDN operations of the Resource with type "rt" = "oic.r.keypadchar".**

Create	Read	Update	Delete	Notify
	get	post		observe

23730 **6.122 Opaque Data**

23731 **6.122.1 Introduction**

23732 This Resource defines opaque data that can be transferred between endpoints where the data itself
 23733 is not interpretable by the OCF endpoints.
 23734 The stringdata is a string of ASCII characters.

23735 **6.122.2 Example URI**

23736 /OpaqueDataResURI

23737 **6.122.3 Resource type**

23738 The Resource Type is defined as: "oic.r.opaquedata".

23739 **6.122.4 OpenAPI 2.0 definition**

```

23740 {
23741   "swagger": "2.0",
23742   "info": {
23743     "title": "Opaque Data",
23744     "version": "12122018",
23745     "license": {
23746       "name": "OCF Data Model License",
23747       "url":
23748         "https://github.com/openconnectivityfoundation/core/blob/e28a9e0a92e17042ba3e83661e4c0fbce8bdc4ba/LI
23749         CENSE.md",
23750       "x-copyright": "copyright 2018-2019 Open Connectivity Foundation, Inc. All rights reserved."
23751     },
23752     "termsOfService": "https://openconnectivityfoundation.github.io/core/DISCLAIMER.md"
23753   },
23754   "schemes": ["http"],
23755   "consumes": ["application/json"],
23756   "produces": ["application/json"],
23757   "paths": {
23758     "/OpaqueDataResURI" : {
23759       "get": {
23760         "description": "This Resource defines opaque data that can be transferred between endpoints
23761         where the data itself is not interpretable by the OCF endpoints.\n\nThe stringdata is a string of
23762         ASCII characters.",
23763         "parameters": [
23764           { "$ref": "#/parameters/interface" }
23765         ],
23766         "responses": {
23767           "200": {
23768             "description": "",
23769             "x-example":
23770               {
23771                 "rt": ["oic.r.opaquedata"],
23772                 "if": ["oic.if.rw", "oic.if.baseline"],
23773                 "payload": "asdf0123",
23774                 "payloadtype": "switch-get",
23775                 "encoding": "base64",
23776                 "size": 8,
23777                 "hash": "AlAl",
23778                 "system": "foreign system"
23779               },
23780             "schema": { "$ref": "#/definitions/OpaqueData" }
23781           }
23782         }
23783       },
23784       "post": {
  
```

```

23785     "description": "",
23786     "parameters": [
23787       { "$ref": "#/parameters/interface" },
23788       {
23789         "name": "body",
23790         "in": "body",
23791         "required": true,
23792         "schema": { "$ref": "#/definitions/OpaqueData" },
23793         "x-example":
23794           {
23795             "payload": "asdf0123",
23796             "payloadtype": "switch-get",
23797             "encoding": "base64",
23798             "size": 8,
23799             "hash": "AlAl",
23800             "system": "foreign system"
23801           }
23802       }
23803     ],
23804     "responses": {
23805       "200": {
23806         "description": "",
23807         "x-example":
23808           {
23809             "payload": "asdf0123",
23810             "payloadtype": "switch-get",
23811             "encoding": "base64",
23812             "size": 8,
23813             "hash": "AlAl",
23814             "system": "foreign system"
23815           },
23816         "schema": { "$ref": "#/definitions/OpaqueData" }
23817       }
23818     }
23819   }
23820 },
23821 },
23822 "parameters": {
23823   "interface": {
23824     "in": "query",
23825     "name": "if",
23826     "type": "string",
23827     "enum": ["oic.if.rw", "oic.if.baseline"]
23828   }
23829 },
23830 "definitions": {
23831   "OpaqueData": {
23832     "properties": {
23833       "rt": {
23834         "description": "The Resource Type.",
23835         "items": {
23836           "maxLength": 64,
23837           "type": "string",
23838           "enum": ["oic.r.opaquedata"]
23839         },
23840         "minItems": 1,
23841         "uniqueItems": true,
23842         "readOnly": true,
23843         "type": "array"
23844       },
23845       "payload": {
23846         "type": "string",
23847         "description": "This Property contains the opaque data."
23848       },
23849       "encoding": {
23850         "type": "string",
23851         "description": "This Property describes the encoding of the payload, e.g. binary as
23852 base64, json, xml, utf-8."
23853       },
23854       "payloadtype": {
23855         "type": "string",
23856         "description": "This Property describes the identification of the payload, e.g. what the

```

```

23857 payload is representing ."
23858     },
23859     "size": {
23860         "type": "integer",
23861         "description": "The size in bytes of the decoded binary object."
23862     },
23863     "hash": {
23864         "type": "string",
23865         "description": "The hash code of the blob. If present, it is used to check the decoded
23866 content of the object data point for integrity. The algorithm used for generating the hash value is
23867 SHA-2 [15]. The data point contains the hash as a hex encoded value."
23868     },
23869     "system": {
23870         "type": "string",
23871         "description": "The eco system that is using the payload."
23872     },
23873     "if": {
23874         "description": "The OCF Interface set supported by this Resource.",
23875         "items": {
23876             "enum": [
23877                 "oic.if.baseline",
23878                 "oic.if.rw"
23879             ],
23880             "type": "string"
23881         },
23882         "minItems": 2,
23883         "uniqueItems": true,
23884         "readOnly": true,
23885         "type": "array"
23886     }
23887 },
23888 "type": "object",
23889 "required": [ "payload", "encoding", "system" ]
23890 }
23891 }
23892 }

```

23893 6.122.5 Property definition

23894 Table 247 defines the Properties that are part of the "oic.r.opaquedata" Resource Type.

23895 **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: schema see	No	Read Only	The Resource Type.

23896 **6.122.6 CRUDN behaviour**

23897 Table 248 defines the CRUDN operations that are supported on the "oic.r.opaquedata" Resource
23898 Type.

23899 **Table 248 – The CRUDN operations of the Resource with type "rt" = "oic.r.opaquedata".**

Create	Read	Update	Delete	Notify
	get	post		observe

23900 **6.123 User Info for Application Layer**

23901 **6.123.1 Introduction**

23902 This Resource defines credentials for user to application layer login. This does not relate to OCF
23903 Device to Device or Device to Cloud authentication. The username, password and token are strings.

23904 **6.123.2 Example URI**

23905 /UserInfoResURI

23906 6.123.3 Resource type

23907 The Resource Type is defined as: "oic.r.userinfo".

23908 6.123.4 OpenAPI 2.0 definition

```
23909 {
23910   "swagger": "2.0",
23911   "info": {
23912     "title": "User Info for Application Layer",
23913     "version": "12122018",
23914     "license": {
23915       "name": "OCF Data Model License",
23916       "url":
23917         "https://github.com/openconnectivityfoundation/core/blob/e28a9e0a92e17042ba3e83661e4c0fbce8bdc4ba/LI
23918         CENSE.md",
23919       "x-copyright": "copyright 2018-2019 Open Connectivity Foundation, Inc. All rights reserved."
23920     },
23921     "termsOfService": "https://openconnectivityfoundation.github.io/core/DISCLAIMER.md"
23922   },
23923   "schemes": ["http"],
23924   "consumes": ["application/json"],
23925   "produces": ["application/json"],
23926   "paths": {
23927     "/UserInfoResURI" : {
23928       "get": {
23929         "description": "This Resource defines credentials for user to application layer login. This
23930         does not relate to OCF Device to Device or Device to Cloud authentication. The username, password
23931         and token are strings.",
23932         "parameters": [
23933           { "$ref": "#/parameters/interface" }
23934         ],
23935         "responses": {
23936           "200": {
23937             "description": "Success path response for the Resource, note that the info supplied
23938             is NOT returned on RETRIEVE",
23939             "x-example":
23940               {
23941                 "rt": ["oic.r.userinfo"],
23942                 "if": ["oic.if.rw", "oic.if.baseline"]
23943               },
23944             "schema": { "$ref": "#/definitions/UserInfo-retrieve" }
23945           }
23946         }
23947       },
23948       "post": {
23949         "description": "This Resource defines credentials for user to application layer login. This
23950         does not relate to OCF Device to Device or Device to Cloud authentication. The username, password
23951         and token are strings.",
23952         "parameters": [
23953           { "$ref": "#/parameters/interface" },
23954           {
23955             "name": "body",
23956             "in": "body",
23957             "required": true,
23958             "schema": { "$ref": "#/definitions/UserInfo-update" },
23959             "x-example":
23960               {
23961                 "username": "username",
23962                 "password": "password",
23963                 "token": "AlAl"
23964               }
23965           }
23966         ],
23967         "responses": {
23968           "200": {
23969             "description": "The success path response for the Resource.",
23970             "x-example":
23971               {
23972                 "username": "username",
23973                 "password": "password",
23974                 "token": "AlAl"

```

```

23975         },
23976         "schema": { "$ref": "#/definitions/UserInfo-update" }
23977     }
23978 }
23979 }
23980 }
23981 },
23982 "parameters": {
23983     "interface" : {
23984         "in": "query",
23985         "name": "if",
23986         "type": "string",
23987         "enum": ["oic.if.rw", "oic.if.baseline"]
23988     }
23989 },
23990 "definitions": {
23991     "UserInfo-retrieve": {
23992         "properties": {
23993             "rt": {
23994                 "description": "The Resource Type.",
23995                 "items": {
23996                     "maxLength": 64,
23997                     "type": "string",
23998                     "enum": ["oic.r.userinfo"]
23999                 },
24000                 "minItems": 1,
24001                 "uniqueItems": true,
24002                 "readOnly": true,
24003                 "type": "array"
24004             },
24005             "n": {
24006                 "$ref":
24007 "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
24008 schema.json#/definitions/n"
24009             },
24010             "id": {
24011                 "$ref":
24012 "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
24013 schema.json#/definitions/id"
24014             },
24015             "if": {
24016                 "description": "The OCF Interface set supported by this Resource.",
24017                 "items": {
24018                     "enum": [
24019                         "oic.if.rw",
24020                         "oic.if.baseline"
24021                     ],
24022                     "type": "string"
24023                 },
24024                 "minItems": 2,
24025                 "uniqueItems": true,
24026                 "readOnly": true,
24027                 "type": "array"
24028             }
24029         },
24030         "type": "object",
24031         "required": [ ]
24032     },
24033     "UserInfo-update": {
24034         "properties": {
24035             "username": {
24036                 "type": "string",
24037                 "description": "Login name."
24038             },
24039             "password": {
24040                 "type": "string",
24041                 "description": "Login password."
24042             },
24043             "token": {
24044                 "type": "string",
24045                 "description": "Authentication token."
24046             }

```

```

24047     },
24048     "type": "object",
24049     "required": [ ]
24050   }
24051 }
24052 }
24053

```

24054 **6.123.5 Property definition**

24055 Table 249 defines the Properties that are part of the "oic.r.userinfo" Resource Type.

24056 **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.

24057 **6.123.6 CRUDN behaviour**

24058 Table 250 defines the CRUDN operations that are supported on the "oic.r.userinfo" Resource Type.

24059 **Table 250 – The CRUDN operations of the Resource with type "rt" = "oic.r.userinfo".**

Create	Read	Update	Delete	Notify
	get	post		observe

24060

24061 **6.124 IAS Zone Info**

24062 **6.124.1 Introduction**

24063 This Resource describes information associated with an Intruder Alert System (IAS) Zone.

24064 Zone Type provides the information about the type of device/alarm.

24065 Zone Status provides an array which has 10 items representing various status information(e.g.,
 24066 battery status, mode, alarm (Up to two), supervision of IAS network, etc.

24067 A Device implementing this Resource can be enrolled to IAS Control and Indicator Equipment
24068 (CIE). IAS CIE can allocate an ID for the Device and update this Resource on the Device.
24069 This Resource may provide multiple sensitivity levels (>2).
24070 NumberofZoneSensitivityLevelSupported provides the number of the levels. A specific level can
24071 be selected as currentzonesensitivityLevel.

24072 **6.124.2 Example URI**

24073 /IASZoneInfoResURI

24074 **6.124.3 Resource type**

24075 The Resource Type is defined as: "oic.r.iaszoneinfo".

24076 **6.124.4 OpenAPI 2.0 definition**

```
24077 {  
24078   "swagger": "2.0",  
24079   "info": {  
24080     "title": "IAS Zone Info",  
24081     "version": "20190513",  
24082     "license": {  
24083       "name": "OCF Data Model License",  
24084       "url":  
24085         "https://github.com/openconnectivityfoundation/core/blob/e28a9e0a92e17042ba3e83661e4c0fbce8bdc4ba/LI  
24086         CENSE.md",  
24087       "x-copyright": "Copyright 2019 Open Connectivity Foundation, Inc. All rights reserved."  
24088     },  
24089     "termsOfService": "https://openconnectivityfoundation.github.io/core/DISCLAIMER.md"  
24090   },  
24091   "schemes": ["http"],  
24092   "consumes": ["application/json"],  
24093   "produces": ["application/json"],  
24094   "paths": {  
24095     "/IASZoneInfoResURI" : {  
24096       "get": {  
24097         "description": "This Resource describes information associated with an Intruder Alert System  
24098         (IAS) Zone.\nZone Type provides the information about the type of device/alarm.\nZone Status  
24099         provides an array which has 10 items representing various status information(e.g., battery status,  
24100         mode, alarm (Up to two), supervision of IAS network, etc.\nA Device implementing this Resource can  
24101         be enrolled to IAS Control and Indicator Equipment (CIE). IAS CIE can allocate an ID for the Device  
24102         and update this Resource on the Device.\nThis Resource may provide multiple sensitivity levels (>2).  
24103         NumberofZoneSensitivityLevelSupported provides the number of the levels. A specific level can be  
24104         selected as currentzonesensitivityLevel.",  
24105         "parameters": [  
24106           { "$ref": "#/parameters/interface-all" }  
24107         ],  
24108         "responses": {  
24109           "200": {  
24110             "description" : "",  
24111             "x-example":  
24112               {  
24113                 "rt": ["oic.r.iaszoneinfo"],  
24114                 "zonetype": "motionsensor",  
24115                 "zonestatus": {  
24116                   "alarms": ["presence"],  
24117                   "tamper": false,  
24118                   "zonestatusreports": "statuschangeonly",  
24119                   "fault": false,  
24120                   "test": false  
24121                 },  
24122                 "iascieaddress": "ACDE9F56A3FE6B98",  
24123                 "zonestate": true,  
24124                 "zoneid": 64,  
24125                 "numzonesensitivitylevel": 3,  
24126                 "currentzonesensitivitylevel": 2  
24127               },  
24128               "schema": { "$ref": "#/definitions/IASZoneInfo" }  
24129             }  
24130           }  
24131         },  
24131       }  
24131     }  
24131   }
```



```

24132     "post": {
24133         "description": "Sets the current sensitivity level of the IASZone.\n",
24134         "parameters": [
24135             { "$ref": "#/parameters/interface-rw" },
24136             {
24137                 "name": "body",
24138                 "in": "body",
24139                 "required": true,
24140                 "schema": { "$ref": "#/definitions/IASZoneInfo-Update" },
24141                 "x-example":
24142                 {
24143                     "currentzonesensitivitylevel": 3
24144                 }
24145             }
24146         ],
24147         "responses": {
24148             "200": {
24149                 "description": "Success path response code\n"
24150             }
24151         }
24152     }
24153 },
24154 "parameters": {
24155     "interface-all" : {
24156         "in" : "query",
24157         "name" : "if",
24158         "type" : "string",
24159         "enum" : ["oic.if.rw", "oic.if.baseline"]
24160     },
24161     "interface-rw" : {
24162         "in" : "query",
24163         "name" : "if",
24164         "type" : "string",
24165         "enum" : ["oic.if.rw"]
24166     }
24167 },
24168 "definitions": {
24169     "IASZoneInfo" : {
24170         "properties": {
24171             "rt" : {
24172                 "description": "Resource Type",
24173                 "items": {
24174                     "type": "string",
24175                     "enum": ["oic.r.iaszoneinfo"]
24176                 },
24177                 "minItems": 1,
24178                 "readOnly": true,
24179                 "type": "array"
24180             },
24181             "zonestate" : {
24182                 "description": "The IAS zone state. True = enrolled, False = not enrolled.",
24183                 "readOnly": true,
24184                 "type": "boolean"
24185             },
24186             "zonestatus" : {
24187                 "description": "Set of alarm indicators.",
24188                 "properties": {
24189                     "alarms": {
24190                         "type": "array",
24191                         "description": "Array of alarms. The alarms exposed are dependent on the zonetype.",
24192                         "readOnly": true,
24193                         "minItems": 1,
24194                         "maxItems": 2,
24195                         "items": {
24196                             "type": "string",
24197                             "enum":
24198                             [ "system", "intrusion", "presence", "1stportalopenclose", "2ndportalopenclose", "fire", "wateroverflow", "C
24199 O", "cooking", "fall", "emergencybutton", "movement", "vibration", "panic", "emergency", "glassbreak" ]
24200                         }
24201                     }
24202                 },
24203                 "zonestatusreports": {

```

```

24204         "description": "Controls the generation of status indications",
24205         "type": "string",
24206         "enum": ["none", "statuschangeonly", "alarmclearonly", "statuschangeandalarmclear"]
24207     },
24208     "tamper": {
24209         "description": "Tamper status. True = tampered, False = not tampered.",
24210         "readOnly": true,
24211         "type": "boolean"
24212     },
24213     "test": {
24214         "description": "Test mode indicator. True = sensor is in test mode, False = sensor is
24215 in operational mode",
24216         "readOnly": true,
24217         "type": "boolean"
24218     },
24219     "fault": {
24220         "description": "Fault indicator. True = fault detected, False = no fault detected",
24221         "readOnly": true,
24222         "type": "boolean"
24223     }
24224 },
24225 "readOnly": true,
24226 "type": "object"
24227 },
24228 "numzonesensitivitylevel" : {
24229     "description": "Number of supported zone sensitivity levels",
24230     "minimum": 2,
24231     "readOnly": true,
24232     "type": "integer"
24233 },
24234 "zoneid" : {
24235     "description": "ID allocated by the IAS CIE",
24236     "readOnly": true,
24237     "type": "integer"
24238 },
24239 "iascieaddress" : {
24240     "description": "EUI-64 Address of the enrolled IAS Control and Indicating Equipment
24241 (CIE)",
24242     "readOnly": true,
24243     "type": "string"
24244 },
24245 "zonetype" : {
24246     "description": "IAS zone type. See OCF enumeration map for set of valid values.",
24247     "readOnly": true,
24248     "type": "string"
24249 },
24250 "currentzonesensitivitylevel" : {
24251     "description": "Current zone sensitivity level",
24252     "minimum": 0,
24253     "type": "integer"
24254 },
24255 "n": {
24256     "$ref":
24257 "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
24258 schema.json#/definitions/n"
24259 },
24260 "id": {
24261     "$ref":
24262 "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
24263 schema.json#/definitions/id"
24264 },
24265 "if" : {
24266     "description": "The OCF Interface set supported by this Resource",
24267     "items": {
24268         "enum": [
24269             "oic.if.rw",
24270             "oic.if.baseline"
24271         ],
24272         "type": "string"
24273     },
24274     "minItems": 2,
24275     "maxItems": 2,

```

```

24276         "readOnly": true,
24277         "type": "array"
24278     },
24279 },
24280     "required": ["zonetype", "zonestate", "zonestatus", "zoneid", "iascieaddress"]
24281 },
24282     "IASZoneInfo-Update" : {
24283         "properties": {
24284             "currentzonesensitivitylevel" : {
24285                 "description": "Current zone sensitivity level, Client can only set 1 or higher.",
24286                 "minimum": 1,
24287                 "type": "integer"
24288             }
24289         },
24290         "required": ["currentzonesensitivitylevel"]
24291     }
24292 }
24293 }
24294

```

24295 6.124.5 Property definition

24296 Table 251 defines the Properties that are part of the "oic.r.iaszoneinfo" Resource Type.

24297 **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.
-----------------------------	---------	-----	------------	--

24298 **6.124.6 CRUDN behaviour**

24299 Table 252 defines the CRUDN operations that are supported on the "oic.r.iaszoneinfo" Resource
 24300 Type.

24301 **Table 252 – The CRUDN operations of the Resource with type "rt" = "oic.r.iaszoneinfo".**

Create	Read	Update	Delete	Notify
	get	post		observe

24302 **6.125 IAS Zone Collection**

24303 **6.125.1 Introduction**

24304 This Resource is Collection that fully describes an Intruder Alert System (IAS) Zone. It is made
 24305 up of an instance of IAS Zone Info, Battery, and Power Source.

24306 **6.125.2 Example URI**

24307 /IASZoneResURI

24308 **6.125.3 Resource type**

24309 The Resource Type is defined as: "oic.r.iaszone".

24310 **6.125.4 OpenAPI 2.0 definition**

```

24311 {
24312   "swagger": "2.0",
24313   "info": {
24314     "title": "IAS Zone Collection",
24315     "version": "20190513",
24316     "license": {
24317       "name": "OCF Data Model License",
24318       "url":
24319         "https://github.com/openconnectivityfoundation/core/blob/e28a9e0a92e17042ba3e83661e4c0fbce8bdc4ba/LI
24320         CENSE.md",
24321       "x-copyright": "Copyright 2019 Open Connectivity Foundation, Inc. All rights reserved."
24322     },
24323     "termsOfService": "https://openconnectivityfoundation.github.io/core/DISCLAIMER.md"
24324   },
24325   "schemes": ["http"],
24326   "consumes": ["application/json"],
24327   "produces": ["application/json"],
24328   "paths": {
24329     "/IASZoneResURI?if=oic.if.baseline" : {
24330       "get": {
24331         "description": "This Resource is Collection that fully describes an Intruder Alert System
24332 (IAS) Zone. It is made up of an instance of IAS Zone Info, Battery, and Power Source.",
24333         "parameters": [
24334           { "$ref": "#/parameters/interface-baseline" }
24335         ],
24336         "responses": {
24337           "200": {
24338             "description" : "",
24339             "schema": { "$ref": "#/definitions/baseline"},
24340             "x-example":
24341               {
24342                 "rt": ["oic.r.iaszone"],
24343                 "if": ["oic.if.ll", "oic.if.b", "oic.if.baseline"],
24344                 "links": [
24345                   {
24346                     "href": "/myIASZoneInfoResURI",
24347                     "rt": ["oic.r.iaszoneinfo"],

```

```

24348         "if": ["oic.if.rw", "oic.if.baseline"]
24349     },
24350     {
24351         "href": "/myBatteryResURI",
24352         "rt": ["oic.r.energy.battery"],
24353         "if": ["oic.if.rw", "oic.if.baseline"]
24354     },
24355     {
24356         "href": "/myPowersourceResURI",
24357         "rt": ["oic.r.powersource"],
24358         "if": ["oic.if.r", "oic.if.baseline"]
24359     }
24360 ]
24361 }
24362 }
24363 }
24364 },
24365 },
24366 "/IASZoneResURI?if=oic.if.ll" : {
24367     "get": {
24368         "description": "This Resource is Collection that fully describes an Intruder Alert System
24369 (IAS) Zone. It is made up of an instance of IAS Zone Info, Battery, and Power Source.",
24370         "parameters": [
24371             {"$ref": "#/parameters/interface-ll"}
24372         ],
24373         "responses": {
24374             "200": {
24375                 "description": "",
24376                 "schema": {"$ref": "#/definitions/links"},
24377                 "x-example":
24378                 [
24379                     {
24380                         "href": "/myIASZoneInfoResURI",
24381                         "rt": ["oic.r.iaszoneinfo"],
24382                         "if": ["oic.if.rw", "oic.if.baseline"]
24383                     },
24384                     {
24385                         "href": "/myBatteryResURI",
24386                         "rt": ["oic.r.energy.battery"],
24387                         "if": ["oic.if.rw", "oic.if.baseline"]
24388                     },
24389                     {
24390                         "href": "/myPowersourceResURI",
24391                         "rt": ["oic.r.powersource"],
24392                         "if": ["oic.if.r", "oic.if.baseline"]
24393                     }
24394                 ]
24395             }
24396         }
24397     },
24398     "/IASZoneResURI?if=oic.if.b" : {
24399         "get": {
24400             "description": "This Resource is Collection that fully describes an Intruder Alert System
24401 (IAS) Zone. It is made up of an instance of IAS Zone Info, Battery, and Power Source.",
24402             "parameters": [
24403                 {"$ref": "#/parameters/interface-b"}
24404             ],
24405             "responses": {
24406                 "200": {
24407                     "description": "",
24408                     "schema": {"$ref": "#/definitions/IASZoneCollectionBatch-Retrieve" },
24409                     "x-example":
24410                     [
24411                         {
24412                             "href": "/myIASZoneInfoResURI",
24413                             "rep": {
24414                                 "zonetype": "motionsensor",
24415                                 "zonestatus": {
24416                                     "alarms": ["presence"],
24417                                     "tamper": false,
24418                                     "zonestatusreports": "statuschangeonly",

```

```

24420         "fault": false,
24421         "test": false
24422     },
24423     "iascieaddress": "ACDE9F56A3FE6B98",
24424     "zonestate": true,
24425     "zoneid": 64,
24426     "numzonesensitivitylevel": 3,
24427     "currentzonesensitivitylevel": 2
24428     }
24429 },
24430 {
24431     "href": "/myBatteryResURI",
24432     "rep": {
24433         "charge": 70,
24434         "defect": false
24435     }
24436 },
24437 {
24438     "href": "/myPowersourceResURI",
24439     "rep": {
24440         "powerSources": ["AC (Mains) Power"],
24441         "sourcefault": false
24442     }
24443     }
24444 ]
24445 }
24446 },
24447 },
24448 "post": {
24449     "description": "Sets the current sensitivity level of the IASZone.\n",
24450     "parameters": [
24451         {"$ref": "#/parameters/interface-b"},
24452         {
24453             "name": "body",
24454             "in": "body",
24455             "required": true,
24456             "schema": {"$ref": "#/definitions/IASZoneCollectionBatch-Update" },
24457             "x-example":
24458             [
24459                 {
24460                     "href": "/myIASZoneInfoResURI",
24461                     "rep": {
24462                         "currentzonesensitivitylevel": 3
24463                     }
24464                 }
24465             ]
24466         }
24467     ],
24468     "responses": {
24469         "200": {
24470             "description": "Success path response code\n"
24471         }
24472     }
24473 }
24474 },
24475 },
24476 "parameters": {
24477     "interface-all" : {
24478         "in" : "query",
24479         "name" : "if",
24480         "type" : "string",
24481         "enum" : ["oic.if.ll", "oic.if.b", "oic.if.baseline"]
24482     },
24483     "interface-ll" : {
24484         "in" : "query",
24485         "name" : "if",
24486         "type" : "string",
24487         "enum" : ["oic.if.ll"]
24488     },
24489     "interface-b" : {
24490         "in" : "query",
24491         "name" : "if",

```

```

24492         "type" : "string",
24493         "enum" : ["oic.if.b"]
24494     },
24495     "interface-baseline" : {
24496         "in" : "query",
24497         "name" : "if",
24498         "type" : "string",
24499         "enum" : ["oic.if.baseline"]
24500     }
24501 },
24502 "definitions": {
24503     "baseline": {
24504         "properties": {
24505             "rt" : {
24506                 "description": "Resource Type",
24507                 "items": {
24508                     "type": "string",
24509                     "enum": ["oic.r.iaszone"]
24510                 },
24511                 "minItems": 1,
24512                 "readOnly": true,
24513                 "type": "array"
24514             },
24515             "rts" : {
24516                 "description": "Allowed Resources",
24517                 "type": "array",
24518                 "minItems": 3,
24519                 "maxItems": 3,
24520                 "items": {
24521                     "type": "string",
24522                     "enum": ["oic.r.iaszoneinfo", "oic.r.energy.battery", "oic.r.powersource"]
24523                 }
24524             },
24525             "rts-m" : {
24526                 "description": "Mandatory Resources",
24527                 "type": "array",
24528                 "minItems": 3,
24529                 "maxItems": 3,
24530                 "items": {
24531                     "type": "string",
24532                     "enum": ["oic.r.iaszoneinfo", "oic.r.energy.battery", "oic.r.powersource"]
24533                 }
24534             },
24535             "n": {
24536                 "$ref":
24537                 "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
24538                 schema.json#/definitions/n"
24539             },
24540             "id": {
24541                 "$ref":
24542                 "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
24543                 schema.json#/definitions/id"
24544             },
24545             "links" : {
24546                 "$ref": "#/definitions/links"
24547             },
24548             "if" : {
24549                 "description": "The OCF Interface set supported by this Resource",
24550                 "items": {
24551                     "enum": [
24552                         "oic.if.ll",
24553                         "oic.if.b",
24554                         "oic.if.baseline"
24555                     ],
24556                     "type": "string"
24557                 },
24558                 "minItems": 1,
24559                 "readOnly": true,
24560                 "type": "array"
24561             }
24562         },
24563         "type" : "object",

```

```

24564     "required": ["links"]
24565   },
24566   "links": {
24567     "type": "array",
24568     "items": {
24569       "$ref": "#/definitions/oic.oic-link"
24570     }
24571   },
24572   "oic.oic-link": {
24573     "properties": {
24574       "if": {
24575         "description": "The OCF Interface set supported by this resource",
24576         "items": {
24577           "enum": [
24578             "oic.if.baseline",
24579             "oic.if.rw",
24580             "oic.if.r"
24581           ],
24582           "type": "string"
24583         },
24584         "minItems": 1,
24585         "uniqueItems": true,
24586         "readOnly": true,
24587         "type": "array"
24588       },
24589       "rt": {
24590         "description": "Resource Type of the Resource",
24591         "items": {
24592           "enum": [
24593             "oic.r.iaszoneinfo",
24594             "oic.r.energy.battery",
24595             "oic.r.powersource"
24596           ],
24597           "type": "string"
24598         },
24599         "minItems": 1,
24600         "maxItems": 1,
24601         "uniqueItems": true,
24602         "readOnly": true,
24603         "type": "array"
24604       },
24605       "anchor": {
24606         "$ref":
24607         "https://openconnectivityfoundation.github.io/core/schemas/oic.links.properties.core-
24608         schema.json#/definitions/anchor"
24609       },
24610       "di": {
24611         "$ref":
24612         "https://openconnectivityfoundation.github.io/core/schemas/oic.links.properties.core-
24613         schema.json#/definitions/di"
24614       },
24615       "eps": {
24616         "$ref":
24617         "https://openconnectivityfoundation.github.io/core/schemas/oic.links.properties.core-
24618         schema.json#/definitions/eps"
24619       },
24620       "href": {
24621         "$ref":
24622         "https://openconnectivityfoundation.github.io/core/schemas/oic.links.properties.core-
24623         schema.json#/definitions/href"
24624       },
24625       "ins": {
24626         "$ref":
24627         "https://openconnectivityfoundation.github.io/core/schemas/oic.links.properties.core-
24628         schema.json#/definitions/ins"
24629       },
24630       "p": {
24631         "$ref":
24632         "https://openconnectivityfoundation.github.io/core/schemas/oic.links.properties.core-
24633         schema.json#/definitions/p"
24634       },
24635       "rel": {

```



```

24636         "$ref":
24637         "https://openconnectivityfoundation.github.io/core/schemas/oic.links.properties.core-
24638         schema.json#/definitions/rel_array"
24639         },
24640         "title": {
24641         "$ref":
24642         "https://openconnectivityfoundation.github.io/core/schemas/oic.links.properties.core-
24643         schema.json#/definitions/title"
24644         },
24645         "type": {
24646         "$ref":
24647         "https://openconnectivityfoundation.github.io/core/schemas/oic.links.properties.core-
24648         schema.json#/definitions/type"
24649         }
24650     },
24651     "required": [
24652     "href",
24653     "rt",
24654     "if"
24655     ],
24656     "type": "object"
24657 },
24658 "IASZoneCollectionBatch-Retrieve": {
24659     "title": "Collection Batch Retrieve Format",
24660     "minItems": 3,
24661     "maxItems": 3,
24662     "type": "array",
24663     "uniqueItems": true,
24664     "items": {
24665     "additionalProperties": true,
24666     "type": "object",
24667     "properties": {
24668     "href": {
24669     "$ref":
24670     "https://openconnectivityfoundation.github.io/core/schemas/oic.links.properties.core-
24671     schema.json#/definitions/href"
24672     },
24673     "rep": {
24674     "anyOf": [
24675     {
24676     "$ref":
24677     "https://openconnectivityfoundation.github.io/IoTDataModels/IASZoneInfoResURI.swagger.json#/definiti
24678     ons/IASZoneInfo"
24679     },
24680     {
24681     "$ref":
24682     "https://openconnectivityfoundation.github.io/IoTDataModels/BatteryResURI.swagger.json#/definitions/
24683     Battery"
24684     },
24685     {
24686     "$ref":
24687     "https://openconnectivityfoundation.github.io/IoTDataModels/PowerSourcesResourceURI.swagger.json#/de
24688     finitions/powerSourceSchema"
24689     }
24690     ]
24691     }
24692     },
24693     "required": ["href","rep"]
24694     }
24695 },
24696 "IASZoneCollectionBatch-Update" : {
24697     "title": "Collection Batch Update Format",
24698     "minItems": 1,
24699     "type": "array",
24700     "items": {
24701     "additionalProperties": true,
24702     "type": "object",
24703     "properties": {
24704     "href": {
24705     "$ref":
24706     "https://openconnectivityfoundation.github.io/core/schemas/oic.links.properties.core-
24707     schema.json#/definitions/href"

```

```

24708     },
24709     "rep": {
24710       "type": "object",
24711       "anyOf": [
24712         {
24713           "$ref":
24714             "https://openconnectivityfoundation.github.io/IoTDataModels/IASZoneInfoResURI.swagger.json#/definitions/IASZoneInfo-Update"
24715         },
24716         {
24717           "$ref":
24718             "https://openconnectivityfoundation.github.io/IoTDataModels/BatteryResURI.swagger.json#/definitions/BatteryUpdate"
24719         }
24720       ]
24721     }
24722   }
24723 }
24724 }
24725 }
24726 }
24727 }
24728 }
24729 }

```

24730 **6.125.5 Property definition**

24731 Table 253 defines the Properties that are part of the "oic.r.iaszone" Resource Type.

24732 **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	

24733 **6.125.6 CRUDN behaviour**

24734 Table 254 defines the CRUDN operations that are supported on the "oic.r.iaszone" Resource Type.

24735 **Table 254 – The CRUDN operations of the Resource with type "rt" = "oic.r.iaszone".**

Create	Read	Update	Delete	Notify
	get			observe

24736 **6.126 Window Covering**

24737 **6.126.1 Introduction**

24738 This Resource describes the information of a window covering, i.e., type, configuration status,
24739 and mode.

24740 Velocity associated with lifting the window covering can be changed by updating
24741 Lift_Velocity(cm/sec).

24742 Ramp up/down times to reaching the velocity setting can be changed by updating
24743 Lift_Acceleration Time/Lift_Deceleration Time (0.1sec).

24744 **6.126.2 Example URI**

24745 /WindowCoveringResURI

24746 **6.126.3 Resource type**

24747 The Resource Type is defined as: "oic.r.windowcovering".

24748 **6.126.4 OpenAPI 2.0 definition**

```

24749 {
24750   "swagger": "2.0",
24751   "info": {
24752     "title": "Window Covering",
24753     "version": "20190513",
24754     "license": {
24755       "name": "OCF Data Model License",
24756       "url":
24757 "https://github.com/openconnectivityfoundation/core/blob/e28a9e0a92e17042ba3e83661e4c0fbce8bdc4ba/LI
24758 CENSE.md",
24759       "x-copyright": "Copyright 2018-2019 Open Connectivity Foundation, Inc. All rights reserved."
24760     },
24761     "termsOfService": "https://openconnectivityfoundation.github.io/core/DISCLAIMER.md"
24762   },
24763   "schemes": ["http"],
24764   "consumes": ["application/json"],
24765   "produces": ["application/json"],
24766   "paths": {
24767     "/WindowCoveringResURI": {

```

```

24768     "get": {
24769         "description": "This Resource describes the information of a window covering, i.e., type,
24770 configuration status, and mode.\nVelocity associated with lifting the window covering can be changed
24771 by updating Lift_Velocity(cm/sec).\nRamp up/down times to reaching the velocity setting can be
24772 changed by updating Lift_Acceleration Time/Lift_Deceleration Time (0.1sec).",
24773         "parameters": [
24774             {"$ref": "#/parameters/interface-all"}
24775         ],
24776         "responses": {
24777             "200": {
24778                 "description": "",
24779                 "x-example":
24780                 {
24781                     "rt": ["oic.r.windowcovering"],
24782                     "windowcoveringtype": "shutter",
24783                     "configstatus": {
24784                         "operational": true,
24785                         "online": true,
24786                         "rotationdirection": "normal",
24787                         "controllift": "closedloop",
24788                         "controltilt": "closedloop",
24789                         "closedloopliftcontrol": "encoder",
24790                         "closedlooptiltcontrol": "encoder"
24791                     },
24792                     "mode": {
24793                         "motordirection": false,
24794                         "calibration": false,
24795                         "maintenance": false,
24796                         "ledfeedback": true
24797                     },
24798                     "liftvelocity": 5,
24799                     "liftaccelerationtime": 200,
24800                     "liftdecelerationtime": 200
24801                 },
24802                 "schema": { "$ref": "#/definitions/WindowCovering" }
24803             }
24804         }
24805     },
24806     "post": {
24807         "description": "Update window covering settings.\n",
24808         "parameters": [
24809             {"$ref": "#/parameters/interface-all"},
24810             {
24811                 "name": "body",
24812                 "in": "body",
24813                 "required": true,
24814                 "schema": { "$ref": "#/definitions/WindowCovering-Update" },
24815                 "x-example":
24816                 {
24817                     "mode": {
24818                         "motordirection": true,
24819                         "calibration": false,
24820                         "maintenance": false,
24821                         "ledfeedback": true
24822                     },
24823                     "liftvelocity": 10,
24824                     "liftaccelerationtime": 500,
24825                     "liftdecelerationtime": 500
24826                 }
24827             }
24828         ],
24829         "responses": {
24830             "200": {
24831                 "description": "Success path response code\n"
24832             }
24833         }
24834     }
24835 },
24836 "parameters": {
24837     "interface-all": {
24838         "in": "query",

```

```

24840     "name" : "if",
24841     "type" : "string",
24842     "enum" : ["oic.if.rw", "oic.if.baseline"]
24843 }
24844 },
24845 "definitions": {
24846     "WindowCovering" : {
24847         "properties": {
24848             "rt" : {
24849                 "description": "Resource Type",
24850                 "items": {
24851                     "maxLength": 64,
24852                     "type": "string",
24853                     "enum": ["oic.r.windowcovering"]
24854                 },
24855                 "minItems": 1,
24856                 "readOnly": true,
24857                 "type": "array"
24858             },
24859             "windowcoveringtype" : {
24860                 "description": "Window covering type. See OCF enumeration map for set of valid values.",
24861                 "readOnly": true,
24862                 "type": "string"
24863             },
24864             "liftvelocity" : {
24865                 "description": "Velocity in cm/sec associated with lifting the covering",
24866                 "type": "integer"
24867             },
24868             "configstatus" : {
24869                 "description": "Set of config status indicators.",
24870                 "properties": {
24871                     "controllift": {
24872                         "description": "Closed loop control allows for intermediate settings, open loop
24873 supports only up or down",
24874                         "readOnly": true,
24875                         "type": "string",
24876                         "enum": ["closedloop","openloop"]
24877                     },
24878                     "controltilt": {
24879                         "description": "Closed loop control allows for intermediate settings, open loop
24880 supports only tilted or not tilted",
24881                         "readOnly": true,
24882                         "type": "string",
24883                         "enum": ["closedloop","openloop"]
24884                     },
24885                     "closedloopliftcontrol": {
24886                         "description": "Encoder or timer controlled",
24887                         "readOnly": true,
24888                         "type": "string",
24889                         "enum": ["encoder","timer"]
24890                     },
24891                     "closedlooptiltcontrol": {
24892                         "description": "Encoder or timer controlled",
24893                         "readOnly": true,
24894                         "type": "string",
24895                         "enum": ["encoder","timer"]
24896                     },
24897                     "online": {
24898                         "description": "True = online, False = not online",
24899                         "readOnly": true,
24900                         "type": "boolean"
24901                     },
24902                     "operational": {
24903                         "description": "True = operational, False = not operational",
24904                         "readOnly": true,
24905                         "type": "boolean"
24906                     },
24907                     "rotationdirection": {
24908                         "description": "Identifies if the direction of rotation has been reversed to match
24909 physical installation.",
24910                         "readOnly": true,
24911                         "type": "string",

```

```

24912         "enum": ["normal","reversed"]
24913     }
24914 },
24915     "readOnly": true,
24916     "type": "object"
24917 },
24918     "liftaccelerationtime" : {
24919         "description": "Ramp up time to reach lift velocity (ms)",
24920         "type": "integer"
24921     },
24922     "liftdecelerationtime" : {
24923         "description": "Ramp down time from the velocity setting (ms)",
24924         "type": "integer"
24925     },
24926     "mode" : {
24927         "description": "Set of operational modes.",
24928         "properties": {
24929             "calibration": {
24930                 "description": "True = calibration mode, False = normal mode",
24931                 "type": "boolean"
24932             },
24933             "ledfeedback": {
24934                 "description": "True = feedback enabled, False = LEDs are off",
24935                 "type": "boolean"
24936             },
24937             "maintenance": {
24938                 "description": "True = maintenance mode, False = normal mode",
24939                 "type": "boolean"
24940             },
24941             "motordirection": {
24942                 "description": "True = direction reversed, False = direction normal",
24943                 "type": "boolean"
24944             }
24945         },
24946         "type": "object"
24947     },
24948     "n": {
24949         "$ref":
24950         "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
24951         schema.json#/definitions/n"
24952     },
24953     "id": {
24954         "$ref":
24955         "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
24956         schema.json#/definitions/id"
24957     },
24958     "if" : {
24959         "description": "The interface set supported by this resource",
24960         "items": {
24961             "enum": [
24962                 "oic.if.rw",
24963                 "oic.if.baseline"
24964             ],
24965             "type": "string"
24966         },
24967         "minItems": 2,
24968         "maxItems": 2,
24969         "readOnly": true,
24970         "type": "array"
24971     }
24972 },
24973     "required": ["windowcoveringtype", "configstatus", "mode"]
24974 },
24975     "WindowCovering-Update" : {
24976         "properties": {
24977             "liftaccelerationtime" : {
24978                 "description": "Ramp up time to reach lift velocity (ms)",
24979                 "type": "integer"
24980             },
24981             "liftdecelerationtime" : {
24982                 "description": "Ramp down time from the velocity setting (ms)",
24983                 "type": "integer"

```

```

24984 },
24985 "liftvelocity" : {
24986   "description": "Velocity in cm/sec associated with lifting the covering",
24987   "type": "integer"
24988 },
24989 "mode" : {
24990   "description": "Set of operational modes.",
24991   "properties": {
24992     "calibration": {
24993       "description": "True = calibration mode, False = normal mode",
24994       "type": "boolean"
24995     },
24996     "ledfeedback": {
24997       "description": "True = feedback enabled, False = LEDs are off",
24998       "type": "boolean"
24999     },
25000     "maintenance": {
25001       "description": "True = maintenance mode, False = normal mode",
25002       "type": "boolean"
25003     },
25004     "motordirection": {
25005       "description": "True = direction reversed, False = direction normal",
25006       "type": "boolean"
25007     }
25008   },
25009   "type": "object"
25010 },
25011 },
25012 "required": ["mode"]
25013 }
25014 }
25015 }
25016 }

```

25017 **6.126.5 Property definition**

25018 Table 255 defines the Properties that are part of the "oic.r.windowcovering" Resource Type.

25019 **Table 255 – The Property definitions of the Resource with type "rt" =**
25020 **"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.

25021 **6.126.6 CRUDN behaviour**

25022 Table 256 defines the CRUDN operations that are supported on the "oic.r.windowcovering"
25023 Resource Type.

25024 **Table 256 – The CRUDN operations of the Resource with type "rt" =**
25025 **"oic.r.windowcovering".**

Create	Read	Update	Delete	Notify
	get	post		observe

25026

25027 **6.127 Activity**

25028 **6.127.1 Introduction**

25029 This Resource describes the Properties associated with a person's physical activity.

25030 All Properties are read-only values that are provided by the server.

25031 When range (from "oic.r.baseresource") is omitted the default is 0 to +MAXFLOAT.

25032 **6.127.2 Example URI**

25033 /ActivityResURI

25034 **6.127.3 Resource type**

25035 The Resource Type is defined as: "oic.r.activity".

25036 **6.127.4 OpenAPI 2.0 definition**

```
25037 {
25038   "swagger": "2.0",
25039   "info": {
25040     "title": "Activity",
25041     "version": "2019-03-04",
25042     "license": {
25043       "name": "OCF Data Model License",
25044       "url":
25045         "https://github.com/openconnectivityfoundation/core/blob/e28a9e0a92e17042ba3e83661e4c0fbce8bdc4ba/LI
25046         CENSE.md",
```



```

25047         "x-copyright": "Copyright 2018-2019 Open Connectivity Foundation, Inc. All rights reserved."
25048     },
25049     "termsOfService": "https://openconnectivityfoundation.github.io/core/DISCLAIMER.md"
25050 },
25051 "schemes": [
25052     "http"
25053 ],
25054 "consumes": [
25055     "application/json"
25056 ],
25057 "produces": [
25058     "application/json"
25059 ],
25060 "paths": {
25061     "/ActivityResURI": {
25062         "get": {
25063             "description": "This Resource describes the Properties associated with a person's physical
25064 activity.\n All Properties are read-only values that are provided by the server.\n When range (from
25065 \"oic.r.baseresource\") is omitted the default is 0 to +MAXFLOAT.",
25066             "parameters": [
25067                 {
25068                     "$ref": "#/parameters/interface"
25069                 }
25070             ],
25071             "responses": {
25072                 "200": {
25073                     "description": "",
25074                     "x-example": {
25075                         "rt": [
25076                             "oic.r.activity"
25077                         ],
25078                         "activity": "sleep",
25079                         "steps_day": 1000,
25080                         "steps_reset": 500,
25081                         "ccal_day": 3000.0,
25082                         "ccal_reset": 1500.0
25083                     },
25084                     "schema": {
25085                         "$ref": "#/definitions/Activity"
25086                     }
25087                 }
25088             }
25089         }
25090     }
25091 },
25092 "parameters": {
25093     "interface": {
25094         "in": "query",
25095         "name": "if",
25096         "type": "string",
25097         "enum": [
25098             "oic.if.s",
25099             "oic.if.baseline"
25100         ]
25101     }
25102 },
25103 "definitions": {
25104     "Activity": {
25105         "properties": {
25106             "activity": {
25107                 "description": "This Property describes the recognized current activity type of user",
25108                 "type": "string",
25109                 "enum": [
25110                     "sleep",
25111                     "sit",
25112                     "stand",
25113                     "walk",
25114                     "run",
25115                     "unknown"
25116                 ],
25117                 "readOnly": true
25118             }

```

```

25119         "steps_day": {
25120             "description": "This Property describes the user's step count that measures the number of
steps the
25121 user has taken since the beginning of the day.",
25122             "type": "integer",
25123             "minimum": 0,
25124             "readOnly": true
25125         },
25126         "steps_reset": {
25127             "description": "This Property describes the user's step count that measures the number of
steps the
25128 user has taken since the last reset.",
25129             "type": "integer",
25130             "minimum": 0,
25131             "readOnly": true
25132         },
25133         "ccal_day": {
25134             "description": "This Property describes the burned off calories of user since the
beginning
25135 of the day.",
25136             "type": "number",
25137             "minimum": 0.0,
25138             "readOnly": true
25139         },
25140         "ccal_reset": {
25141             "description": "This Property describes the burned off calories of user since the last
reset.",
25142             "type": "number",
25143             "minimum": 0.0,
25144             "readOnly": true
25145         },
25146     },
25147     "rt": {
25148         "description": "The Resource Type.",
25149         "items": {
25150             "enum": [
25151                 "oic.r.activity"
25152             ],
25153             "type": "string"
25154         },
25155         "minItems": 1,
25156         "uniqueItems": true,
25157         "readOnly": true,
25158         "type": "array"
25159     },
25160     "n": {
25161         "$ref":
25162         "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
25163         schema.json#/definitions/n"
25164     },
25165     "if": {
25166         "description": "The OCF Interface set supported by this Resource.",
25167         "items": {
25168             "enum": [
25169                 "oic.if.s", "oic.if.baseline"
25170             ],
25171             "type": "string"
25172         },
25173         "minItems": 1,
25174         "uniqueItems": true,
25175         "readOnly": true,
25176         "type": "array"
25177     },
25178     "steps_day_range": {
25179         "$ref":
25180         "https://openconnectivityfoundation.github.io/IoTDataModels/schemas/oic.baseresource.properties-
25181         schema.json#/definitions/range_integer"
25182     },
25183     "steps_day_step": {
25184         "$ref":
25185         "https://openconnectivityfoundation.github.io/IoTDataModels/schemas/oic.baseresource.properties-
25186         schema.json#/definitions/step_integer"
25187     },
25188     "steps_reset_range": {
25189         "$ref":
25190         "https://openconnectivityfoundation.github.io/IoTDataModels/schemas/oic.baseresource.properties-

```

```

25191 schema.json#/definitions/range_integer"
25192     },
25193     "steps_reset_step": {
25194         "$ref":
25195         "https://openconnectivityfoundation.github.io/IoTDataModels/schemas/oic.baseresource.properties-
25196         schema.json#/definitions/step_integer"
25197     },
25198     "ccal_day_range": {
25199         "$ref":
25200         "https://openconnectivityfoundation.github.io/IoTDataModels/schemas/oic.baseresource.properties-
25201         schema.json#/definitions/range_number"
25202     },
25203     "ccal_day_step": {
25204         "$ref":
25205         "https://openconnectivityfoundation.github.io/IoTDataModels/schemas/oic.baseresource.properties-
25206         schema.json#/definitions/step_number"
25207     },
25208     "ccal_day_precision": {
25209         "$ref":
25210         "https://openconnectivityfoundation.github.io/IoTDataModels/schemas/oic.baseresource.properties-
25211         schema.json#/definitions/precision"
25212     },
25213     "ccal_reset_range": {
25214         "$ref":
25215         "https://openconnectivityfoundation.github.io/IoTDataModels/schemas/oic.baseresource.properties-
25216         schema.json#/definitions/range_number"
25217     },
25218     "ccal_reset_step": {
25219         "$ref":
25220         "https://openconnectivityfoundation.github.io/IoTDataModels/schemas/oic.baseresource.properties-
25221         schema.json#/definitions/step_number"
25222     },
25223     "ccal_reset_precision": {
25224         "$ref":
25225         "https://openconnectivityfoundation.github.io/IoTDataModels/schemas/oic.baseresource.properties-
25226         schema.json#/definitions/precision"
25227     }
25228 },
25229 "type": "object",
25230 "required": [
25231     "activity"
25232 ]
25233 }
25234 }
25235 }

```

25236 6.127.5 Property definition

25237 Table 257 defines the Properties that are part of the "oic.r.activity" Resource Type.

25238 **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

25239 **6.127.6 CRUDN behaviour**

25240 Table 258 defines the CRUDN operations that are supported on the "oic.r.activity" Resource Type.

25241 **Table 258 – The CRUDN operations of the Resource with type "rt" = "oic.r.activity".**

Create	Read	Update	Delete	Notify
	get			observe

25242 **6.128 Activity Tracker Atomic Measurement Representation**

25243 **6.128.1 Introduction**

25244 This Resource describes the Properties associated with Activity Tracker.
 25245 The Resource is an Atomic Measurement of activity ("oic.r.activity"), heart rate ("oic.r.heartrate"),
 25246 observed time ("oic.r.time.stamp"), and user ID ("oic.r.userid").

25247 **6.128.2 Example URI**

25248 /ActivityTrackerAMResURI

25249 **6.128.3 Resource type**

25250 The Resource Type is defined as: "oic.r.activitytracker-am, oic.wk.atomicmeasurement".

25251 **6.128.4 OpenAPI 2.0 definition**

```

25252 {
25253   "swagger": "2.0",
25254   "info": {
25255     "title": "Activity Tracker Atomic Measurement Representation",
25256     "version": "2019-03-04",
25257     "license": {
25258       "name": "OCF Data Model License",
25259       "url":
25260         "https://github.com/openconnectivityfoundation/core/blob/e28a9e0a92e17042ba3e83661e4c0fbce8bdc4ba/LI
25261         CENSE.md",
25262       "x-copyright": "Copyright 2018-2019 Open Connectivity Foundation, Inc. All rights reserved."
25263     },
25264     "termsOfService": "https://openconnectivityfoundation.github.io/core/DISCLAIMER.md"
25265   },
25266   "schemes": [
25267     "http"
25268   ],
25269   "consumes": [
25270     "application/json"
25271   ],
25272   "produces": [
25273     "application/json"
25274   ],
25275   "paths": {
25276     "/ActivityTrackerAMResURI?if=oic.if.b": {
25277       "get": {
25278         "description": "This Resource describes the Properties associated with Activity Tracker.\n
25279         The Resource is an Atomic Measurement of activity (\\"oic.r.activity\\"), heart rate
25280         (\\"oic.r.heartrate\\"), observed time (\\"oic.r.time.stamp\\"), and user ID (\\"oic.r.userid\\").",
25281         "parameters": [
25282           {
25283             "$ref": "#/parameters/interface-all"
25284           }
25285         ],
25286         "responses": {
25287           "200": {
25288             "description": "",
25289             "x-example": [
25290               {
25291                 "href": "/myActivity",
25292                 "rep": {
25293                   "activity": "sleep",
25294                   "steps_day": 1000,
25295                   "steps_reset": 500,
25296                   "ccal_day": 3000.0,
25297                   "ccal_reset": 1500.0
25298                 }
25299             ]
25300           }
25301         }
25302       }
25303     }
25304   }

```

```

25300         {
25301             "href": "/myHeartRate",
25302             "rep": {
25303                 "heartrate": 80
25304             }
25305         },
25306         {
25307             "href": "/myUserId",
25308             "rep": {
25309                 "userid": "USER1"
25310             }
25311         },
25312         {
25313             "href": "/myTimeStamp",
25314             "rep": {
25315                 "timestamp": "2018-11-09T12:15:00+08:00"
25316             }
25317         }
25318     ],
25319     "schema": {
25320         "$ref": "#/definitions/batch-retrieve"
25321     }
25322 }
25323 }
25324 }
25325 },
25326 "/ActivityTrackerAMResURI?if=oic.if.ll": {
25327     "get": {
25328         "description": "This Resource describes the Properties associated with Activity Tracker.\n
25329 The Resource is an Atomic Measurement of activity (\\"oic.r.activity\\"), heart rate
25330 (\\"oic.r.heartrate\\"), observed time (\\"oic.r.time.stamp\\"), and user ID (\\"oic.r.userid\\").",
25331         "parameters": [
25332             {
25333                 "$ref": "#/parameters/interface-all"
25334             }
25335         ],
25336         "responses": {
25337             "200": {
25338                 "description": "",
25339                 "x-example": [
25340                     {
25341                         "href": "/myActivity",
25342                         "rt": [
25343                             "oic.r.activity"
25344                         ],
25345                         "if": [
25346                             "oic.if.s",
25347                             "oic.if.baseline"
25348                         ]
25349                     },
25350                     {
25351                         "href": "/myHeartRate",
25352                         "rt": [
25353                             "oic.r.heartrate"
25354                         ],
25355                         "if": [
25356                             "oic.if.s",
25357                             "oic.if.baseline"
25358                         ]
25359                     }
25360                 ],
25361                 {
25362                     "href": "/myUserId",
25363                     "rt": [
25364                         "oic.r.userid"
25365                     ],
25366                     "if": [
25367                         "oic.if.r",
25368                         "oic.if.baseline"
25369                     ]
25370                 },
25371                 {
25372                     "href": "/myTimeStamp",

```

```

25372         "rt": [
25373             "oic.r.time.stamp"
25374         ],
25375         "if": [
25376             "oic.if.r",
25377             "oic.if.baseline"
25378         ]
25379     }
25380 ],
25381 "schema": {
25382     "$ref": "#/definitions/links"
25383 }
25384 }
25385 }
25386 },
25387 },
25388 "/ActivityTrackerAMResURI?if=oic.if.baseline": {
25389     "get": {
25390         "description": "This Resource describes the Properties associated with Activity Tracker.\n
25391 The Resource is an Atomic Measurement of activity (\\"oic.r.activity\\"), heart rate
25392 (\\"oic.r.heartrate\\"), observed time (\\"oic.r.time.stamp\\"), and user ID (\\"oic.r.userid\\").",
25393         "parameters": [
25394             {
25395                 "$ref": "#/parameters/interface-all"
25396             }
25397         ],
25398         "responses": {
25399             "200": {
25400                 "description": "",
25401                 "x-example":
25402                 {
25403                     "rt": [
25404                         "oic.r.activitytracker-am",
25405                         "oic.wk.atomicmeasurement"
25406                     ],
25407                     "if": [
25408                         "oic.if.b",
25409                         "oic.if.ll",
25410                         "oic.if.baseline"
25411                     ],
25412                     "rts-m": [
25413                         "oic.r.activity"
25414                     ],
25415                     "rts": [
25416                         "oic.r.activity", "oic.r.heartrate", "oic.r.userid", "oic.r.time.stamp"
25417                     ],
25418                     "links": [
25419                         {
25420                             "href": "/myActivity",
25421                             "rt": [
25422                                 "oic.r.activity"
25423                             ],
25424                             "if": [
25425                                 "oic.if.s",
25426                                 "oic.if.baseline"
25427                             ]
25428                         },
25429                         {
25430                             "href": "/myHeartRate",
25431                             "rt": [
25432                                 "oic.r.heartrate"
25433                             ],
25434                             "if": [
25435                                 "oic.if.s",
25436                                 "oic.if.baseline"
25437                             ]
25438                         },
25439                         {
25440                             "href": "/myUserId",
25441                             "rt": [
25442                                 "oic.r.userid"
25443                             ],

```

```

25444         "if": [
25445             "oic.if.r",
25446             "oic.if.baseline"
25447         ]
25448     },
25449     {
25450         "href": "/myTimeStamp",
25451         "rt": [
25452             "oic.r.time.stamp"
25453         ],
25454         "if": [
25455             "oic.if.r",
25456             "oic.if.baseline"
25457         ]
25458     }
25459 ]
25460 },
25461 "schema": {
25462     "$ref": "#/definitions/baseline"
25463 }
25464 }
25465 }
25466 }
25467 }
25468 },
25469 "parameters": {
25470     "interface-all": {
25471         "in": "query",
25472         "name": "if",
25473         "type": "string",
25474         "enum": [
25475             "oic.if.b",
25476             "oic.if.ll",
25477             "oic.if.baseline"
25478         ]
25479     }
25480 },
25481 "definitions": {
25482     "batch-retrieve": {
25483         "title": "Collection Batch Retrieve Format",
25484         "minItems": 1,
25485         "items": {
25486             "additionalProperties": true,
25487             "properties": {
25488                 "href": {
25489                     "$ref":
25490 "https://openconnectivityfoundation.github.io/core/schemas/oic.links.properties.core-
25491 schema.json#/definitions/href"
25492                 },
25493                 "rep": {
25494                     "type": "object",
25495                     "anyOf": [
25496                         {
25497                             "$ref":
25498 "https://openconnectivityfoundation.github.io/IoTDataModels/Activity.swagger.json#/definitions/Activ
25499 ity"
25500                         },
25501                         {
25502                             "$ref":
25503 "https://openconnectivityfoundation.github.io/IoTDataModels/HeartRate.swagger.json#/definitions/Hear
25504 tRate"
25505                         },
25506                         {
25507                             "$ref":
25508 "https://openconnectivityfoundation.github.io/IoTDataModels/UserIDResURI.swagger.json#/definitions/U
25509 serID"
25510                         },
25511                         {
25512                             "$ref":
25513 "https://openconnectivityfoundation.github.io/IoTDataModels/TimeStampResURI.swagger.json#/definition
25514 s/TimeStamp"
25515                         }

```



```

25516         ]
25517     }
25518 },
25519     "required": [
25520         "href",
25521         "rep"
25522     ],
25523     "type": "object"
25524 },
25525     "type": "array"
25526 },
25527     "links": {
25528         "type": "array",
25529         "items": {
25530             "$ref": "#/definitions/oic.oic-link"
25531         }
25532     },
25533     "baseline": {
25534         "properties": {
25535             "rt": {
25536                 "items": {
25537                     "enum": [
25538                         "oic.r.activitytracker-am",
25539                         "oic.wk.atomicmeasurement"
25540                     ]
25541                 },
25542                 "minItems": 2,
25543                 "type": "array",
25544                 "uniqueItems": true,
25545                 "readOnly": true
25546             },
25547             "links": {
25548                 "$ref": "#/definitions/links"
25549             },
25550             "n": {
25551                 "$ref":
25552 "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
25553 schema.json#/definitions/n"
25554             },
25555             "rts": {
25556                 "description": "This Property contains all possible Resource Types for this Atomic
25557 Measurement.",
25558                 "items": {
25559                     "enum": [
25560                         "oic.r.activity",
25561                         "oic.r.heartrate",
25562                         "oic.r.time.stamp",
25563                         "oic.r.userid"
25564                     ]
25565                 },
25566                 "minItems": 1,
25567                 "type": "array",
25568                 "uniqueItems": true
25569             },
25570             "id": {
25571                 "$ref":
25572 "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
25573 schema.json#/definitions/id"
25574             },
25575             "rts-m": {
25576                 "description": "This Property contains all mandatory Resource Types for this Atomic
25577 Measurement.",
25578                 "items": {
25579                     "enum": [
25580                         "oic.r.activity"
25581                     ]
25582                 },
25583                 "maxItems": 1,
25584                 "minItems": 1,
25585                 "type": "array",
25586                 "readOnly": true,
25587                 "uniqueItems": true

```

```

25588     },
25589     "if": {
25590         "description": "The OCF Interface set supported by this Resource.",
25591         "items": {
25592             "enum": [
25593                 "oic.if.baseline",
25594                 "oic.if.ll",
25595                 "oic.if.b"
25596             ],
25597             "type": "string"
25598         },
25599         "minItems": 1,
25600         "uniqueItems": true,
25601         "readOnly": true,
25602         "type": "array"
25603     }
25604 },
25605 "type": "object",
25606 "required": [
25607     "rts-m"
25608 ]
25609 },
25610 "oic.oic-link": {
25611     "properties": {
25612         "anchor": {
25613             "$ref":
25614 "https://openconnectivityfoundation.github.io/core/schemas/oic.links.properties.core-
25615 schema.json#/definitions/anchor"
25616         },
25617         "di": {
25618             "$ref":
25619 "https://openconnectivityfoundation.github.io/core/schemas/oic.links.properties.core-
25620 schema.json#/definitions/di"
25621         },
25622         "eps": {
25623             "$ref":
25624 "https://openconnectivityfoundation.github.io/core/schemas/oic.links.properties.core-
25625 schema.json#/definitions/eps"
25626         },
25627         "href": {
25628             "$ref":
25629 "https://openconnectivityfoundation.github.io/core/schemas/oic.links.properties.core-
25630 schema.json#/definitions/href"
25631         },
25632         "if": {
25633             "description": "The OCF Interface set supported by this Resource.",
25634             "items": {
25635                 "enum": [
25636                     "oic.if.baseline",
25637                     "oic.if.s",
25638                     "oic.if.r"
25639                 ],
25640                 "type": "string"
25641             },
25642             "minItems": 1,
25643             "uniqueItems": true,
25644             "type": "array"
25645         },
25646         "ins": {
25647             "$ref":
25648 "https://openconnectivityfoundation.github.io/core/schemas/oic.links.properties.core-
25649 schema.json#/definitions/ins"
25650         },
25651         "p": {
25652             "$ref":
25653 "https://openconnectivityfoundation.github.io/core/schemas/oic.links.properties.core-
25654 schema.json#/definitions/p"
25655         },
25656         "rel": {
25657             "$ref":
25658 "https://openconnectivityfoundation.github.io/core/schemas/oic.links.properties.core-
25659 schema.json#/definitions/rel_array"

```

```

25660     },
25661     "rt": {
25662         "description": "The Resource Type.",
25663         "items": {
25664             "enum": [
25665                 "oic.r.activity",
25666                 "oic.r.heartrate",
25667                 "oic.r.time.stamp",
25668                 "oic.r.userid"
25669             ],
25670             "type": "string"
25671         },
25672         "minItems": 1,
25673         "uniqueItems": true,
25674         "readOnly": true,
25675         "type": "array"
25676     },
25677     "title": {
25678         "$ref":
25679         "https://openconnectivityfoundation.github.io/core/schemas/oic.links.properties.core-
25680         schema.json#/definitions/title"
25681     },
25682     "type": {
25683         "$ref":
25684         "https://openconnectivityfoundation.github.io/core/schemas/oic.links.properties.core-
25685         schema.json#/definitions/type"
25686     }
25687 },
25688 "required": [
25689     "href",
25690     "rt",
25691     "if"
25692 ],
25693 "type": "object"
25694 }
25695 }
25696 }

```

25697 6.128.5 Property definition

25698 Table 259 defines the Properties that are part of the "oic.r.activitytracker-am,
25699 oic.wk.atomicmeasurement" Resource Type.

25700 **Table 259 – The Property definitions of the Resource with type "rt" = "oic.r.activitytracker-
25701 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	

25702 **6.128.6 CRUDN behaviour**

25703 Table 260 defines the CRUDN operations of the Resource with type "rt" = "oic.r.activitytracker-am,
25704 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

25707 **6.129 Alarm**

25708 **6.129.1 Introduction**

25709 This Resource describes the Properties associated with alarm status.

25710 **6.129.2 Example URI**

25711 /AlarmResURI

25712 **6.129.3 Resource type**

25713 The Resource Type is defined as: "oic.r.alarm".

25714 6.129.4 OpenAPI 2.0 definition

```
25715 {
25716   "swagger": "2.0",
25717   "info": {
25718     "title": "Alarm",
25719     "version": "2019-03-04",
25720     "license": {
25721       "name": "OCF Data Model License",
25722       "url":
25723         "https://github.com/openconnectivityfoundation/core/blob/e28a9e0a92e17042ba3e83661e4c0fbce8bdc4ba/LI
25724         CENSE.md",
25725       "x-copyright": "Copyright 2018-2019 Open Connectivity Foundation, Inc. All rights reserved."
25726     },
25727     "termsOfService": "https://openconnectivityfoundation.github.io/core/DISCLAIMER.md"
25728   },
25729   "schemes": [
25730     "http"
25731   ],
25732   "consumes": [
25733     "application/json"
25734   ],
25735   "produces": [
25736     "application/json"
25737   ],
25738   "paths": {
25739     "/AlarmResURI": {
25740       "get": {
25741         "description": "This Resource describes the Properties associated with alarm status.",
25742         "parameters": [
25743           {
25744             "$ref": "#/parameters/interface"
25745           }
25746         ],
25747         "responses": {
25748           "200": {
25749             "description": "",
25750             "x-example": {
25751               "rt": [ "oic.r.alarm" ],
25752               "if": [ "oic.if.rw", "oic.if.baseline" ],
25753               "status": false,
25754               "duration": 0.0,
25755               "time": "2018-06-20T14:30Z",
25756               "alarmtype": "General"
25757             },
25758             "schema": {
25759               "$ref": "#/definitions/Alarm"
25760             }
25761           }
25762         }
25763       },
25764       "post": {
25765         "description": "This Resource describes the Properties associated with alarm status.",
25766         "parameters": [
25767           {
25768             "$ref": "#/parameters/interface"
25769           },
25770           {
25771             "name": "body",
25772             "in": "body",
25773             "required": true,
25774             "schema": { "$ref": "#/definitions/Alarm" },
25775             "x-example": {
25776               "status": true,
25777               "duration": 30.0,
25778               "time": "2019-01-31T14:30Z"
25779             }
25780           }
25781         ],
25782         "responses": {
25783           "200": {
```

```

25785         "description": "",
25786         "x-example": {
25787             "rt": [
25788                 "oic.r.alarm"
25789             ],
25790             "status": true,
25791             "duration": 30.0,
25792             "time": "2019-01-31T14:30Z",
25793             "alarmtype": "General"
25794         },
25795         "schema": {
25796             "$ref": "#/definitions/Alarm"
25797         }
25798     }
25799 }
25800 }
25801 }
25802 },
25803 "parameters": {
25804     "interface": {
25805         "in": "query",
25806         "name": "if",
25807         "type": "string",
25808         "enum": [
25809             "oic.if.rw",
25810             "oic.if.baseline"
25811         ]
25812     }
25813 },
25814 "definitions": {
25815     "Alarm": {
25816         "properties": {
25817             "rt": {
25818                 "description": "The Resource Type.",
25819                 "items": {
25820                     "enum": [
25821                         "oic.r.alarm"
25822                     ],
25823                     "type": "string"
25824                 },
25825                 "minItems": 1,
25826                 "uniqueItems": true,
25827                 "readOnly": true,
25828                 "type": "array"
25829             },
25830             "status": {
25831                 "description": "This Property describes the status of the alarm: true - on, false - off.",
25832                 "type": "boolean",
25833                 "readOnly": false
25834             },
25835             "duration": {
25836                 "description": "This Property describes the alarm duration (seconds).",
25837                 "type": "number",
25838                 "minimum": 0.0,
25839                 "readOnly": false
25840             },
25841             "time": {
25842                 "description": "This Property describes the alarm time using ISO 8601 datetime format
25843 (e.g: 2007-04-05T14:30Z, 2007-04-05T14:30+09:00).",
25844                 "type": "string",
25845                 "readOnly": false
25846             },
25847             "alarmtype": {
25848                 "description": "The Alarm Type.",
25849                 "type": "string",
25850                 "enum": [
25851                     "General",
25852                     "Fire",
25853                     "Flood",
25854                     "Weather",
25855                     "Security"
25856                 ]

```

```

25857         "readOnly": true
25858     },
25859     "n": {
25860         "$ref":
25861         "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
25862         schema.json#/definitions/n"
25863     },
25864     "id": {
25865         "$ref":
25866         "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
25867         schema.json#/definitions/id"
25868     },
25869     "if": {
25870         "description": "The OCF Interface set supported by this Resource.",
25871         "items": {
25872             "enum": [
25873                 "oic.if.baseline",
25874                 "oic.if.rw"
25875             ],
25876             "type": "string"
25877         },
25878         "minItems": 1,
25879         "uniqueItems": true,
25880         "readOnly": true,
25881         "type": "array"
25882     },
25883     "range": {
25884         "$ref":
25885         "https://openconnectivityfoundation.github.io/IoTDataModels/schemas/oic.baseresource.properties-
25886         schema.json#/definitions/range_number"
25887     },
25888     "step": {
25889         "$ref":
25890         "https://openconnectivityfoundation.github.io/IoTDataModels/schemas/oic.baseresource.properties-
25891         schema.json#/definitions/step_number"
25892     },
25893     "precision": {
25894         "$ref":
25895         "https://openconnectivityfoundation.github.io/IoTDataModels/schemas/oic.baseresource.properties-
25896         schema.json#/definitions/precision"
25897     }
25898 },
25899 "type": "object",
25900 "required": [
25901     "status"
25902 ]
25903 }
25904 }
25905 }

```

25906 6.129.5 Property definition

25907 Table 261 defines the Properties that are part of the "oic.r.alarm" Resource Type.

25908 **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.

25909 **6.129.6 CRUDN behaviour**

25910 Table 262 defines the CRUDN operations that are supported on the "oic.r.alarm" Resource Type.

25911 **Table 262 – The CRUDN operations of the Resource with type "rt" = "oic.r.alarm".**

Create	Read	Update	Delete	Notify
	get	post		observe

25912 **6.130 Continuous Glucose Meter (CGM) Atomic Measurement Representation**

25913 **6.130.1 Introduction**

25914 This Resource describes the Properties associated with Continuous Glucose Meter.

25915 The Resource is an Atomic Measurement of glucose ("oic.r.glucose"), sensor
25916 ("oic.r.cgm.sensor"), observed time ("oic.r.time.stamp"), and user ID ("oic.r.userid").

25917 **6.130.2 Example URI**

25918 /ContinuousGlucoseMeterAMResURI

25919 **6.130.3 Resource type**

25920 The Resource Type is defined as: "oic.r.cgm-am, oic.wk.atomicmeasurement".

25921 **6.130.4 OpenAPI 2.0 definition**

```

25922 {
25923   "swagger": "2.0",
25924   "info": {
25925     "title": "Continuous Glucose Meter (CGM) Atomic Measurement Representation",
25926     "version": "2019-03-04",
25927     "license": {
25928       "name": "OCF Data Model License",
25929       "url":
25930         "https://github.com/openconnectivityfoundation/core/blob/e28a9e0a92e17042ba3e83661e4c0fbce8bdc4ba/LI
25931 CENSE.md",
25932       "x-copyright": "Copyright 2018-2019 Open Connectivity Foundation, Inc. All rights reserved."
25933     },

```



```

25934     "termsOfService": "https://openconnectivityfoundation.github.io/core/DISCLAIMER.md"
25935   },
25936   "schemes": [
25937     "http"
25938   ],
25939   "consumes": [
25940     "application/json"
25941   ],
25942   "produces": [
25943     "application/json"
25944   ],
25945   "paths": {
25946     "/ContinuousGlucoseMeterAMResURI?if=oic.if.b": {
25947       "get": {
25948         "description": "This Resource describes the Properties associated with Continuous Glucose
25949 Meter.\n The Resource is an Atomic Measurement of glucose (\\"oic.r.glucose\\"), sensor
25950 (\\"oic.r.cgm.sensor\\"), observed time (\\"oic.r.time.stamp\\"), and user ID (\\"oic.r.userid\\").",
25951         "parameters": [
25952           {
25953             "$ref": "#/parameters/interface-all"
25954           }
25955         ],
25956         "responses": {
25957           "200": {
25958             "description": "",
25959             "x-example": [
25960               {
25961                 "href": "/myGlucose",
25962                 "rep": {
25963                   "glucose": 100.0,
25964                   "units": "mg/dL"
25965                 }
25966               },
25967               {
25968                 "href": "/myContinuousGlucoseMeterSensor",
25969                 "rep": {
25970                   "starttime": "2018-06-20T14:30Z",
25971                   "runtime": 7.0
25972                 }
25973               },
25974               {
25975                 "href": "/myUserId",
25976                 "rep": {
25977                   "userid": "USER1"
25978                 }
25979               },
25980               {
25981                 "href": "/myTimeStamp",
25982                 "rep": {
25983                   "timestamp": "2018-11-09T12:15:00+08:00"
25984                 }
25985               }
25986             ],
25987             "schema": {
25988               "$ref": "#/definitions/batch-retrieve"
25989             }
25990           }
25991         }
25992       }
25993     },
25994     "/ContinuousGlucoseMeterAMResURI?if=oic.if.ll": {
25995       "get": {
25996         "description": "This Resource describes the Properties associated with Continuous Glucose
25997 Meter.\n The Resource is an Atomic Measurement of glucose (\\"oic.r.glucose\\"), sensor
25998 (\\"oic.r.cgm.sensor\\"), observed time (\\"oic.r.time.stamp\\"), and user ID (\\"oic.r.userid\\").",
25999         "parameters": [
26000           {
26001             "$ref": "#/parameters/interface-all"
26002           }
26003         ],
26004         "responses": {
26005           "200": {

```

```

26006         "description": "",
26007         "x-example": [
26008             {
26009                 "href": "/myGlucose",
26010                 "rt": [
26011                     "oic.r.glucose"
26012                 ],
26013                 "if": [
26014                     "oic.if.s",
26015                     "oic.if.baseline"
26016                 ]
26017             },
26018             {
26019                 "href": "/myContinuousGlucoseMeterSensor",
26020                 "rt": [
26021                     "oic.r.cgm.sensor"
26022                 ],
26023                 "if": [
26024                     "oic.if.s",
26025                     "oic.if.baseline"
26026                 ]
26027             },
26028             {
26029                 "href": "/myUserId",
26030                 "rt": [
26031                     "oic.r.userid"
26032                 ],
26033                 "if": [
26034                     "oic.if.r",
26035                     "oic.if.baseline"
26036                 ]
26037             },
26038             {
26039                 "href": "/myTimeStamp",
26040                 "rt": [
26041                     "oic.r.time.stamp"
26042                 ],
26043                 "if": [
26044                     "oic.if.r",
26045                     "oic.if.baseline"
26046                 ]
26047             }
26048         ],
26049         "schema": {
26050             "$ref": "#/definitions/links"
26051         }
26052     }
26053 }
26054 },
26055 "/ContinuousGlucoseMeterAMResURI?if=oic.if.baseline": {
26056     "get": {
26057         "description": "This Resource describes the Properties associated with Continuous Glucose
26058 Meter.\n The Resource is an Atomic Measurement of glucose (\\"oic.r.glucose\\"), sensor
26059 (\\"oic.r.cgm.sensor\\"), observed time (\\"oic.r.time.stamp\\"), and user ID (\\"oic.r.userid\\").",
26060         "parameters": [
26061             {
26062                 "$ref": "#/parameters/interface-all"
26063             }
26064         ],
26065         "responses": {
26066             "200": {
26067                 "description": "",
26068                 "x-example":
26069                 {
26070                     "rt": [
26071                         "oic.r.cgm-am",
26072                         "oic.wk.atomicmeasurement"
26073                     ],
26074                     "if": [
26075                         "oic.if.b",
26076                         "oic.if.ll",
26077

```

```

26078         "oic.if.baseline"
26079     ],
26080     "rts-m": [
26081         "oic.r.glucose"
26082     ],
26083     "rts": [
26084         "oic.r.glucose", "oic.r.cgm.sensor"
26085     ],
26086     "links": [
26087         {
26088             "href": "/myGlucose",
26089             "rt": [
26090                 "oic.r.glucose"
26091             ],
26092             "if": [
26093                 "oic.if.s",
26094                 "oic.if.baseline"
26095             ]
26096         },
26097         {
26098             "href": "/myContinuousGlucoseMeterSensor",
26099             "rt": [
26100                 "oic.r.cgm.sensor"
26101             ],
26102             "if": [
26103                 "oic.if.s",
26104                 "oic.if.baseline"
26105             ]
26106         },
26107         {
26108             "href": "/myUserId",
26109             "rt": [
26110                 "oic.r.userid"
26111             ],
26112             "if": [
26113                 "oic.if.r",
26114                 "oic.if.baseline"
26115             ]
26116         },
26117         {
26118             "href": "/myTimeStamp",
26119             "rt": [
26120                 "oic.r.time.stamp"
26121             ],
26122             "if": [
26123                 "oic.if.r",
26124                 "oic.if.baseline"
26125             ]
26126         }
26127     ]
26128 },
26129 "schema": {
26130     "$ref": "#/definitions/baseline"
26131 }
26132 }
26133 }
26134 }
26135 }
26136 },
26137 "parameters": {
26138     "interface-all": {
26139         "in": "query",
26140         "name": "if",
26141         "type": "string",
26142         "enum": [
26143             "oic.if.b",
26144             "oic.if.ll",
26145             "oic.if.baseline"
26146         ]
26147     }
26148 },
26149 "definitions": {

```

```

26150     "batch-retrieve": {
26151         "title": "Collection Batch Retrieve Format",
26152         "minItems": 1,
26153         "items": {
26154             "properties": {
26155                 "href": {
26156                     "$ref":
26157 "https://openconnectivityfoundation.github.io/core/schemas/oic.links.properties.core-
26158 schema.json#/definitions/href"
26159                 },
26160                 "rep": {
26161                     "type": "object",
26162                     "anyOf": [
26163                         {
26164                             "$ref":
26165 "https://openconnectivityfoundation.github.io/IoTDataModels/GlucoseResURI.swagger.json#/definitions/
26166 Glucose"
26167                         },
26168                         {
26169                             "$ref":
26170 "https://openconnectivityfoundation.github.io/IoTDataModels/ContinuousGlucoseMeterSensor.swagger.jso
26171 n#/definitions/ContinuousGlucoseMeterSensor"
26172                         },
26173                         {
26174                             "$ref":
26175 "https://openconnectivityfoundation.github.io/IoTDataModels/UserIDResURI.swagger.json#/definitions/U
26176 serID"
26177                         },
26178                         {
26179                             "$ref":
26180 "https://openconnectivityfoundation.github.io/IoTDataModels/TimeStampResURI.swagger.json#/definition
26181 s/TimeStamp"
26182                         }
26183                     ]
26184                 }
26185             },
26186             "required": [
26187                 "href",
26188                 "rep"
26189             ],
26190             "type": "object"
26191         },
26192         "type": "array"
26193     },
26194     "links": {
26195         "type": "array",
26196         "items": {
26197             "$ref": "#/definitions/oic.oic-link"
26198         }
26199     },
26200     "baseline": {
26201         "properties": {
26202             "rt": {
26203                 "items": {
26204                     "enum": [
26205                         "oic.r.cgm-am",
26206                         "oic.wk.atomicmeasurement"
26207                     ]
26208                 },
26209                 "minItems": 2,
26210                 "type": "array",
26211                 "uniqueItems": true,
26212                 "readOnly": true
26213             },
26214             "links": {
26215                 "$ref": "#/definitions/links"
26216             },
26217             "n": {
26218                 "$ref":
26219 "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
26220 schema.json#/definitions/n"
26221             },

```

```

26222         "rts": {
26223             "description": "This Property contains all possible Resource Types for this Atomic
26224 Measurement.",
26225             "items": {
26226                 "enum": [
26227                     "oic.r.glucose",
26228                     "oic.r.cgm.sensor",
26229                     "oic.r.time.stamp",
26230                     "oic.r.userid"
26231                 ]
26232             },
26233             "minItems": 1,
26234             "type": "array",
26235             "uniqueItems": true
26236         },
26237         "id": {
26238             "$ref":
26239 "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
26240 schema.json#/definitions/id"
26241         },
26242         "rts-m": {
26243             "description": "This Property contains all mandatory Resource Types for this Atomic
26244 Measurement.",
26245             "items": {
26246                 "enum": [
26247                     "oic.r.glucose"
26248                 ]
26249             },
26250             "maxItems": 1,
26251             "minItems": 1,
26252             "type": "array",
26253             "readOnly": true,
26254             "uniqueItems": true
26255         },
26256         "if": {
26257             "description": "The OCF Interface set supported by this Resource.",
26258             "items": {
26259                 "enum": [
26260                     "oic.if.baseline",
26261                     "oic.if.ll",
26262                     "oic.if.b"
26263                 ],
26264                 "type": "string"
26265             },
26266             "minItems": 1,
26267             "uniqueItems": true,
26268             "readOnly": true,
26269             "type": "array"
26270         }
26271     },
26272     "type": "object",
26273     "required": [
26274         "rts-m"
26275     ]
26276 },
26277 "oic.oic-link": {
26278     "properties": {
26279         "anchor": {
26280             "$ref":
26281 "https://openconnectivityfoundation.github.io/core/schemas/oic.links.properties.core-
26282 schema.json#/definitions/anchor"
26283         },
26284         "di": {
26285             "$ref":
26286 "https://openconnectivityfoundation.github.io/core/schemas/oic.links.properties.core-
26287 schema.json#/definitions/di"
26288         },
26289         "eps": {
26290             "$ref":
26291 "https://openconnectivityfoundation.github.io/core/schemas/oic.links.properties.core-
26292 schema.json#/definitions/eps"
26293         },

```

```

26294         "href": {
26295             "$ref":
26296 "https://openconnectivityfoundation.github.io/core/schemas/oic.links.properties.core-
26297 schema.json#/definitions/href"
26298         },
26299         "if": {
26300             "description": "The OCF Interface set supported by this Resource.",
26301             "items": {
26302                 "enum": [
26303                     "oic.if.baseline",
26304                     "oic.if.s",
26305                     "oic.if.r"
26306                 ],
26307                 "type": "string"
26308             },
26309             "minItems": 1,
26310             "uniqueItems": true,
26311             "type": "array"
26312         },
26313         "ins": {
26314             "$ref":
26315 "https://openconnectivityfoundation.github.io/core/schemas/oic.links.properties.core-
26316 schema.json#/definitions/ins"
26317         },
26318         "p": {
26319             "$ref":
26320 "https://openconnectivityfoundation.github.io/core/schemas/oic.links.properties.core-
26321 schema.json#/definitions/p"
26322         },
26323         "rel": {
26324             "$ref":
26325 "https://openconnectivityfoundation.github.io/core/schemas/oic.links.properties.core-
26326 schema.json#/definitions/rel_array"
26327         },
26328         "rt": {
26329             "description": "The Resource Type.",
26330             "items": {
26331                 "enum": [
26332                     "oic.r.glucose",
26333                     "oic.r.cgm.sensor",
26334                     "oic.r.time.stamp",
26335                     "oic.r.userid"
26336                 ],
26337                 "type": "string"
26338             },
26339             "minItems": 1,
26340             "uniqueItems": true,
26341             "readOnly": true,
26342             "type": "array"
26343         },
26344         "title": {
26345             "$ref":
26346 "https://openconnectivityfoundation.github.io/core/schemas/oic.links.properties.core-
26347 schema.json#/definitions/title"
26348         },
26349         "type": {
26350             "$ref":
26351 "https://openconnectivityfoundation.github.io/core/schemas/oic.links.properties.core-
26352 schema.json#/definitions/type"
26353         }
26354     },
26355     "required": [
26356         "href",
26357         "rt",
26358         "if"
26359     ],
26360     "type": "object"
26361 }
26362 }
26363 }

```

26364 **6.130.5 Property definition**

26365 Table 263 defines the Properties that are part of the "oic.r.cgm-am, oic.wk.atomicmeasurement"
 26366 Resource Type.

26367 **Table 263 – The Property definitions of the Resource with type "rt" = "oic.r.cgm-am,**
 26368 **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	

26369 **6.130.6 CRUDN behaviour**

26370 Table 264 defines the CRUDN operations that are supported on the "oic.r.cgm-am,
26371 oic.wk.atomicmeasurement" Resource Type.

26372 **Table 264 – The CRUDN operations of the Resource with type "rt" = "oic.r.cgm-am,
26373 oic.wk.atomicmeasurement".**

Create	Read	Update	Delete	Notify
	get			observe

26374 **6.131 Calibrate for Continuous Glucose Meter (CGM)**

26375 **6.131.1 Introduction**

26376 This Resource describes the Properties associated with Calibrate for Continuous Glucose Meter
26377 (CGM).

26378 **6.131.2 Example URI**

26379 /ContinuousGlucoseMeterCalibrateResURI

26380 **6.131.3 Resource type**

26381 The Resource Type is defined as: "oic.r.cgm.calibrate".

26382 **6.131.4 OpenAPI 2.0 definition**

```

26383 {
26384   "swagger": "2.0",
26385   "info": {
26386     "title": "Calibrate for Continuous Glucose Meter (CGM)",
26387     "version": "2019-03-04",
26388     "license": {
26389       "name": "OCF Data Model License",
26390       "url":
26391 "https://github.com/openconnectivityfoundation/core/blob/e28a9e0a92e17042ba3e83661e4c0fbce8bdc4ba/LI
26392 CENSE.md",
26393       "x-copyright": "Copyright 2018-2019 Open Connectivity Foundation, Inc. All rights reserved."
26394     },
26395     "termsOfService": "https://openconnectivityfoundation.github.io/core/DISCLAIMER.md"
26396   },
26397   "schemes": [
26398     "http"
26399   ],
26400   "consumes": [
26401     "application/json"
26402   ],
26403   "produces": [
26404     "application/json"
26405   ],
26406   "paths": {
26407     "/ContinuousGlucoseMeterCalibrateResURI": {
26408       "get": {
26409         "description": "This Resource describes the Properties associated with Calibrate for
26410 Continuous Glucose Meter (CGM).",
26411         "parameters": [
26412           {
26413             "$ref": "#/parameters/interface"
26414           }
26415         ],
26416         "responses": {
26417           "200": {
26418             "description": "",
26419             "x-example": {

```



```

26420         "rt": [
26421             "oic.r.cgm.calibrate"
26422         ],
26423         "Cvalue": 128.0,
26424         "Cstatus": true
26425     },
26426     "schema": {
26427         "$ref": "#/definitions/ContinuousGlucoseMeterCalibrate"
26428     }
26429 }
26430 },
26431 },
26432 "post": {
26433     "description": "This Resource describes the Properties associated with Calibrate for
Continuous Glucose Meter (CGM).",
26434     "parameters": [
26435         {
26436             "$ref": "#/parameters/interface"
26437         },
26438         {
26439             "name": "body",
26440             "in": "body",
26441             "required": true,
26442             "schema": { "$ref": "#/definitions/ContinuousGlucoseMeterCalibrate" },
26443             "x-example": {
26444                 "Cvalue": 130.0,
26445                 "Cstatus": true
26446             }
26447         }
26448     ],
26449     "responses": {
26450         "200": {
26451             "description": "",
26452             "x-example": {
26453                 "rt": [
26454                     "oic.r.cgm.calibrate"
26455                 ],
26456                 "Cvalue": 130.0,
26457                 "Cstatus": true
26458             },
26459             "schema": {
26460                 "$ref": "#/definitions/ContinuousGlucoseMeterCalibrate"
26461             }
26462         }
26463     }
26464 },
26465 },
26466 },
26467 },
26468 "parameters": {
26469     "interface": {
26470         "in": "query",
26471         "name": "if",
26472         "type": "string",
26473         "enum": [
26474             "oic.if.rw",
26475             "oic.if.baseline"
26476         ]
26477     }
26478 },
26479 "definitions": {
26480     "ContinuousGlucoseMeterCalibrate": {
26481         "properties": {
26482             "Cvalue": {
26483                 "description": "This Property describes the Sensor Calibration Value in mg/dL units. This
blood glucose measurement using other external glucose meter.",
26484                 "type": "number",
26485                 "minimum": 0,
26486                 "readOnly": false
26487             },
26488             "Cstatus": {
26489                 "description": "Sensor calibration required flag",
26490                 "type": "boolean",
26491

```

```

26492     "readOnly": true
26493   },
26494   "rt": {
26495     "description": "The Resource Type.",
26496     "items": {
26497       "enum": [
26498         "oic.r.cgm.calibrate"
26499       ],
26500       "type": "string"
26501     },
26502     "minItems": 1,
26503     "uniqueItems": true,
26504     "readOnly": true,
26505     "type": "array"
26506   },
26507   "n": {
26508     "$ref":
26509     "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
26510     schema.json#/definitions/n"
26511   },
26512   "if": {
26513     "description": "The OCF Interface set supported by this Resource.",
26514     "items": {
26515       "enum": [
26516         "oic.if.rw",
26517         "oic.if.baseline"
26518       ],
26519       "type": "string"
26520     },
26521     "minItems": 1,
26522     "uniqueItems": true,
26523     "readOnly": true,
26524     "type": "array"
26525   },
26526   "range": {
26527     "$ref":
26528     "https://openconnectivityfoundation.github.io/IoTDataModels/schemas/oic.baseresource.properties-
26529     schema.json#/definitions/range_number"
26530   },
26531   "step": {
26532     "$ref":
26533     "https://openconnectivityfoundation.github.io/IoTDataModels/schemas/oic.baseresource.properties-
26534     schema.json#/definitions/step_number"
26535   },
26536   "precision": {
26537     "$ref":
26538     "https://openconnectivityfoundation.github.io/IoTDataModels/schemas/oic.baseresource.properties-
26539     schema.json#/definitions/precision"
26540   }
26541 },
26542 "type": "object",
26543 "required": [
26544   "Cvalue", "Cstatus"
26545 ]
26546 }
26547 }
26548 }

```

26549 **6.131.5 Property definition**

26550 Table 265 defines the Properties that are part of the "oic.r.cgm.calibrate" Resource Type.

26551 **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

26552 **6.131.6 CRUDN behaviour**

26553 Table 266 defines the CRUDN operations that are supported on the "oic.r.cgm.calibrate" Resource
26554 Type.

26555 **Table 266 – The CRUDN operations of the Resource with type "rt" = "oic.r.cgm.calibrate".**

Create	Read	Update	Delete	Notify
	get	post		observe

26556 **6.132 Sampling Interval for Continuous Glucose Meter (CGM)**

26557 **6.132.1 Introduction**

26558 This Resource describes the Properties associated with Sampling Interval for Continuous
26559 Glucose Meter (CGM).

26560 **6.132.2 Example URI**

26561 /ContinuousGlucoseMeterSamplingIntervalResURI

26562 **6.132.3 Resource type**

26563 The Resource Type is defined as: "oic.r.cgm.samplinginterval".

26564 **6.132.4 OpenAPI 2.0 definition**

```

26565 {
26566   "swagger": "2.0",
26567   "info": {
26568     "title": "Sampling Interval for Continuous Glucose Meter (CGM)",
26569     "version": "2019-03-04",
26570     "license": {
26571       "name": "OCF Data Model License",
26572       "url":
26573         "https://github.com/openconnectivityfoundation/core/blob/e28a9e0a92e17042ba3e83661e4c0fbce8bdc4ba/LI
26574         CENSE.md",
26575       "x-copyright": "Copyright 2018-2019 Open Connectivity Foundation, Inc. All rights reserved."
26576     },

```

```

26577     "termsOfService": "https://openconnectivityfoundation.github.io/core/DISCLAIMER.md"
26578   },
26579   "schemas": [
26580     "http"
26581   ],
26582   "consumes": [
26583     "application/json"
26584   ],
26585   "produces": [
26586     "application/json"
26587   ],
26588   "paths": {
26589     "/ContinuousGlucoseMeterSamplingIntervalResURI": {
26590       "get": {
26591         "description": "This Resource describes the Properties associated with Sampling Interval for
26592 Continuous Glucose Meter (CGM).",
26593         "parameters": [
26594           {
26595             "$ref": "#/parameters/interface"
26596           }
26597         ],
26598         "responses": {
26599           "200": {
26600             "description": "",
26601             "x-example": {
26602               "rt": [
26603                 "oic.r.cgm.samplinginterval"
26604               ],
26605               "interval": 10.0
26606             },
26607             "schema": {
26608               "$ref": "#/definitions/ContinuousGlucoseMeterSamplingInterval"
26609             }
26610           }
26611         }
26612       },
26613       "post": {
26614         "description": "This Resource describes the Properties associated with Sampling Interval for
26615 Continuous Glucose Meter (CGM).",
26616         "parameters": [
26617           {
26618             "$ref": "#/parameters/interface"
26619           },
26620           {
26621             "name": "body",
26622             "in": "body",
26623             "required": true,
26624             "schema": { "$ref": "#/definitions/ContinuousGlucoseMeterSamplingInterval" },
26625             "x-example": {
26626               "interval": 20.0
26627             }
26628           }
26629         ],
26630         "responses": {
26631           "200": {
26632             "description": "",
26633             "x-example": {
26634               "rt": [
26635                 "oic.r.cgm.samplinginterval"
26636               ],
26637               "interval": 20.0
26638             },
26639             "schema": {
26640               "$ref": "#/definitions/ContinuousGlucoseMeterSamplingInterval"
26641             }
26642           }
26643         }
26644       }
26645     }
26646   },
26647   "parameters": {
26648     "interface": {

```

```

26649     "in": "query",
26650     "name": "if",
26651     "type": "string",
26652     "enum": [
26653         "oic.if.a",
26654         "oic.if.baseline"
26655     ]
26656 }
26657 },
26658 "definitions": {
26659     "ContinuousGlucoseMeterSamplingInterval": {
26660         "properties": {
26661             "interval": {
26662                 "description": "This Property describes the Sampling interval in seconds.",
26663                 "type": "number",
26664                 "minimum": 0.0,
26665                 "readOnly": false
26666             },
26667             "rt": {
26668                 "description": "The Resource Type.",
26669                 "items": {
26670                     "enum": [
26671                         "oic.r.cgm.samplinginterval"
26672                     ],
26673                     "type": "string"
26674                 },
26675                 "minItems": 1,
26676                 "uniqueItems": true,
26677                 "readOnly": true,
26678                 "type": "array"
26679             },
26680             "n": {
26681                 "$ref":
26682                 "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
26683                 schema.json#/definitions/n"
26684             },
26685             "id": {
26686                 "$ref":
26687                 "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
26688                 schema.json#/definitions/id"
26689             },
26690             "if": {
26691                 "description": "The OCF Interface set supported by this Resource.",
26692                 "items": {
26693                     "enum": [
26694                         "oic.if.a",
26695                         "oic.if.baseline"
26696                     ],
26697                     "type": "string"
26698                 },
26699                 "minItems": 1,
26700                 "uniqueItems": true,
26701                 "readOnly": true,
26702                 "type": "array"
26703             },
26704             "range": {
26705                 "$ref":
26706                 "https://openconnectivityfoundation.github.io/IoTDataModels/schemas/oic.baseresource.properties-
26707                 schema.json#/definitions/range_number"
26708             },
26709             "step": {
26710                 "$ref":
26711                 "https://openconnectivityfoundation.github.io/IoTDataModels/schemas/oic.baseresource.properties-
26712                 schema.json#/definitions/step_number"
26713             },
26714             "precision": {
26715                 "$ref":
26716                 "https://openconnectivityfoundation.github.io/IoTDataModels/schemas/oic.baseresource.properties-
26717                 schema.json#/definitions/precision"
26718             }
26719         },
26720         "type": "object",

```

```

26721     "required": [
26722         "interval"
26723     ]
26724 }
26725 }
26726 }

```

26727 6.132.5 Property definition

26728 Table 267 defines the Properties that are part of the "oic.r.cgm.samplinginterval" Resource Type.

26729 **Table 267 – The Property definitions of the Resource with type "rt" =**
26730 **"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.

26731 6.132.6 CRUDN behaviour

26732 Table 268 defines the CRUDN operations that are supported on the "oic.r.cgm.samplinginterval"
26733 Resource Type.

26734 **Table 268 – The CRUDN operations of the Resource with type "rt" =**
26735 **"oic.r.cgm.samplinginterval".**

Create	Read	Update	Delete	Notify
	get	post		observe

26736 6.133 Sensor for Continuous Glucose Meter (CGM)

26737 6.133.1 Introduction

26738 This Resource describes the Properties associated with Sensor for Continuous Glucose Meter
26739 (CGM).

26740 6.133.2 Example URI

26741 /ContinuousGlucoseMeterSensorResURI

26742 6.133.3 Resource type

26743 The Resource Type is defined as: "oic.r.cgm.sensor".

26744 6.133.4 OpenAPI 2.0 definition

```
26745 {
26746   "swagger": "2.0",
26747   "info": {
26748     "title": "Sensor for Continuous Glucose Meter (CGM)",
26749     "version": "2019-03-04",
26750     "license": {
26751       "name": "OCF Data Model License",
26752       "url":
26753         "https://github.com/openconnectivityfoundation/core/blob/e28a9e0a92e17042ba3e83661e4c0fbce8bdc4ba/LI
26754         CENSE.md",
26755       "x-copyright": "Copyright 2018-2019 Open Connectivity Foundation, Inc. All rights reserved."
26756     },
26757     "termsOfService": "https://openconnectivityfoundation.github.io/core/DISCLAIMER.md"
26758   },
26759   "schemes": [
26760     "http"
26761   ],
26762   "consumes": [
26763     "application/json"
26764   ],
26765   "produces": [
26766     "application/json"
26767   ],
26768   "paths": {
26769     "/ContinuousGlucoseMeterSensorResURI": {
26770       "get": {
26771         "description": "This Resource describes the Properties associated with Sensor for Continuous
26772         Glucose Meter (CGM).",
26773         "parameters": [
26774           {
26775             "$ref": "#/parameters/interface"
26776           }
26777         ],
26778         "responses": {
26779           "200": {
26780             "description": "",
26781             "x-example": {
26782               "rt": [
26783                 "oic.r.cgm.sensor"
26784               ],
26785               "starttime": "2018-06-20T14:30Z",
26786               "runtime": 7.0
26787             },
26788             "schema": {
26789               "$ref": "#/definitions/ContinuousGlucoseMeterSensor"
26790             }
26791           }
26792         }
26793       }
26794     }
26795   },
26796   "parameters": {
26797     "interface": {
26798       "in": "query",
26799       "name": "if",
26800       "type": "string",
26801       "enum": [
26802         "oic.if.s",
26803         "oic.if.baseline"
26804       ]
26805     }
26806   },
26807   "definitions": {
26808     "ContinuousGlucoseMeterSensor": {
26809       "properties": {
26810         "starttime": {
26811           "description": "This Property describes the Sensor start time using ISO 8601 datetime
26812           format (e.g: 2007-04-05T14:30Z, 2007-04-05T14:30+09:00)",
26813           "type": "string",
26814           "readOnly": true

```

```

26815     },
26816     "runtime": {
26817         "description": "This Property describes the recommended runtime days using CGM",
26818         "type": "number",
26819         "minimum": 0.0,
26820         "readOnly": true
26821     },
26822     "rt": {
26823         "description": "The Resource Type.",
26824         "items": {
26825             "enum": [
26826                 "oic.r.cgm.sensor"
26827             ],
26828             "type": "string"
26829         },
26830         "minItems": 1,
26831         "uniqueItems": true,
26832         "readOnly": true,
26833         "type": "array"
26834     },
26835     "n": {
26836         "$ref":
26837         "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
26838         schema.json#/definitions/n"
26839     },
26840     "if": {
26841         "description": "The OCF Interface set supported by this Resource.",
26842         "items": {
26843             "enum": [
26844                 "oic.if.s",
26845                 "oic.if.baseline"
26846             ],
26847             "type": "string"
26848         },
26849         "minItems": 1,
26850         "uniqueItems": true,
26851         "readOnly": true,
26852         "type": "array"
26853     },
26854     "range": {
26855         "$ref":
26856         "https://openconnectivityfoundation.github.io/IoTDataModels/schemas/oic.baseresource.properties-
26857         schema.json#/definitions/range_number"
26858     },
26859     "step": {
26860         "$ref":
26861         "https://openconnectivityfoundation.github.io/IoTDataModels/schemas/oic.baseresource.properties-
26862         schema.json#/definitions/step_number"
26863     },
26864     "precision": {
26865         "$ref":
26866         "https://openconnectivityfoundation.github.io/IoTDataModels/schemas/oic.baseresource.properties-
26867         schema.json#/definitions/precision"
26868     }
26869     },
26870     "type": "object",
26871     "required": [
26872         "starttime", "runtime"
26873     ]
26874 }
26875 }
26876 }

```

26877 **6.133.5 Property definition**

26878 Table 269 defines the Properties that are part of the "oic.r.cgm.sensor" Resource Type.

26879 **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.

26880 **6.133.6 CRUDN behaviour**

26881 Table 270 defines the CRUDN operations that are supported on the "oic.r.cgm.sensor" Resource
26882 Type.

26883 **Table 270 – The CRUDN operations of the Resource with type "rt" = "oic.r.cgm.sensor".**

Create	Read	Update	Delete	Notify
	get			observe

26884 **6.134 Status for Continuous Glucose Meter (CGM)**

26885 **6.134.1 Introduction**

26886 This Resource describes the Properties associated with Status for Continuous Glucose Meter
26887 (CGM).

26888 **6.134.2 Example URI**

26889 /ContinuousGlucoseMeterStatusResURI

26890 **6.134.3 Resource type**

26891 The Resource Type is defined as: "oic.r.cgm.status".

26892 **6.134.4 OpenAPI 2.0 definition**

26893 {
26894 "swagger": "2.0",
26895 "info": {
26896 "title": "Status for Continuous Glucose Meter (CGM)",
26897 "version": "2019-03-04",
26898 "license": {
26899 "name": "OCF Data Model License",

```

26900     "url":
26901     "https://github.com/openconnectivityfoundation/core/blob/e28a9e0a92e17042ba3e83661e4c0fbce8bdc4ba/LI
26902     CENSE.md",
26903     "x-copyright": "Copyright 2018-2019 Open Connectivity Foundation, Inc. All rights reserved."
26904     },
26905     "termsOfService": "https://openconnectivityfoundation.github.io/core/DISCLAIMER.md"
26906     },
26907     "schemes": [
26908     "http"
26909     ],
26910     "consumes": [
26911     "application/json"
26912     ],
26913     "produces": [
26914     "application/json"
26915     ],
26916     "paths": {
26917     "/ContinuousGlucoseMeterStatusResURI": {
26918     "get": {
26919     "description": "This Resource describes the Properties associated with Status for Continuous
26920     Glucose Meter (CGM).",
26921     "parameters": [
26922     {
26923     "$ref": "#/parameters/interface"
26924     }
26925     ],
26926     "responses": {
26927     "200": {
26928     "description": "",
26929     "x-example": {
26930     "rt": [
26931     "oic.r.cgm.status"
26932     ],
26933     "cgmtype": "Interstitial Fluid",
26934     "cgmstatus": "working",
26935     "gtrend": 100.0,
26936     "malfunction": false
26937     },
26938     "schema": {
26939     "$ref": "#/definitions/ContinuousGlucoseMeterStatus"
26940     }
26941     }
26942     }
26943     }
26944     },
26945     },
26946     "parameters": {
26947     "interface": {
26948     "in": "query",
26949     "name": "if",
26950     "type": "string",
26951     "enum": [
26952     "oic.if.s",
26953     "oic.if.baseline"
26954     ]
26955     }
26956     },
26957     "definitions": {
26958     "ContinuousGlucoseMeterStatus": {
26959     "properties": {
26960     "cgmtype": {
26961     "description": "This Property describes the CGM measurement type.",
26962     "type": "string",
26963     "enum": [
26964     "Capillary Whole blood",
26965     "Capillary Plasma",
26966     "Venous Plasma",
26967     "Arterial Whole blood",
26968     "Arterial Plasma",
26969     "Undetermined Whole blood",
26970     "Undetermined Plasma",
26971     "Interstitial Fluid"

```

```

26972         ],
26973         "readOnly": true
26974     },
26975     "cgmstatus": {
26976         "description": "This Property describes the specific notifications given by the CGM device
26977 including, but not limited to, warnings, errors, and handling events.",
26978         "type": "string",
26979         "readOnly": true
26980     },
26981     "gtrend": {
26982         "description": "This Property describes the rate of change in glucose measurements at a
26983 time instant.",
26984         "type": "number",
26985         "minimum": 0.0,
26986         "readOnly": true
26987     },
26988     "malfunction": {
26989         "description": "This Property describes the sensor malfunction detection check.",
26990         "type": "boolean",
26991         "readOnly": true
26992     },
26993     "rt": {
26994         "description": "The Resource Type.",
26995         "items": {
26996             "enum": [
26997                 "oic.r.cgm.status"
26998             ],
26999             "type": "string"
27000         },
27001         "minItems": 1,
27002         "uniqueItems": true,
27003         "readOnly": true,
27004         "type": "array"
27005     },
27006     "n": {
27007         "$ref":
27008 "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
27009 schema.json#/definitions/n"
27010     },
27011     "if": {
27012         "description": "The OCF Interface set supported by this Resource.",
27013         "items": {
27014             "enum": [
27015                 "oic.if.s",
27016                 "oic.if.baseline"
27017             ],
27018             "type": "string"
27019         },
27020         "minItems": 1,
27021         "uniqueItems": true,
27022         "readOnly": true,
27023         "type": "array"
27024     },
27025     "range": {
27026         "$ref":
27027 "https://openconnectivityfoundation.github.io/IoTDataModels/schemas/oic.baseresource.properties-
27028 schema.json#/definitions/range_number"
27029     },
27030     "step": {
27031         "$ref":
27032 "https://openconnectivityfoundation.github.io/IoTDataModels/schemas/oic.baseresource.properties-
27033 schema.json#/definitions/step_number"
27034     },
27035     "precision": {
27036         "$ref":
27037 "https://openconnectivityfoundation.github.io/IoTDataModels/schemas/oic.baseresource.properties-
27038 schema.json#/definitions/precision"
27039     }
27040 },
27041 "type": "object",
27042 "required": [
27043     "cgmttype",

```

```

27044     "cgmstatus",
27045     "gtrend",
27046     "malfunction"
27047   ]
27048 }
27049 }
27050 }

```

27051 **6.134.5 Property definition**

27052 Table 271 defines the Properties that are part of the "oic.r.cgm.status" Resource Type.

27053 **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	

27054 **6.134.6 CRUDN behaviour**

27055 Table 272 defines the CRUDN operations that are supported on the "oic.r.cgm.status" Resource
 27056 Type.

27057 **Table 272 – The CRUDN operations of the Resource with type "rt" = "oic.r.cgm.status".**

Create	Read	Update	Delete	Notify
	get			observe

27058 **6.135 Threshold for Continuous Glucose Meter (CGM)**

27059 **6.135.1 Introduction**

27060 This Resource describes the Properties associated with Threshold for Continuous Glucose Meter
 27061 (CGM).

27062 **6.135.2 Example URI**

27063 /ContinuousGlucoseMeterThresholdResURI

27064 **6.135.3 Resource type**

27065 The Resource Type is defined as: "oic.r.cgm.threshold".

27066 **6.135.4 OpenAPI 2.0 definition**

```

27067 {
27068   "swagger": "2.0",
27069   "info": {
27070     "title": "Threshold for Continuous Glucose Meter (CGM)",
27071     "version": "2019-03-04",
27072     "license": {
27073       "name": "OCF Data Model License",
27074       "url":
27075         "https://github.com/openconnectivityfoundation/core/blob/e28a9e0a92e17042ba3e83661e4c0fbce8bdc4ba/LI
27076         CENSE.md",
27077       "x-copyright": "Copyright 2018-2019 Open Connectivity Foundation, Inc. All rights reserved."
27078     },
27079     "termsOfService": "https://openconnectivityfoundation.github.io/core/DISCLAIMER.md"
27080   },
27081   "schemes": [
27082     "http"
27083   ],
27084   "consumes": [
27085     "application/json"
27086   ],
27087   "produces": [
27088     "application/json"
27089   ],
27090   "paths": {
27091     "/ContinuousGlucoseMeterThresholdResURI": {
27092       "get": {
27093         "description": "This Resource describes the Properties associated with Threshold for
27094         Continuous Glucose Meter (CGM).",
27095         "parameters": [
27096           {
27097             "$ref": "#/parameters/interface"
27098           }
27099         ],
27100         "responses": {
27101           "200": {
27102             "description": "",
27103             "x-example": {
27104               "rt": [
27105                 "oic.r.cgm.threshold"
27106               ],
27107               "plow": 100.0,
27108               "phigh": 180.0,
27109               "dhypo": 80.0,
27110               "dhyper": 125.0,

```

```

27111         "gir": 5.0,
27112         "gdr": 5.0
27113     },
27114     "schema": {
27115         "$ref": "#/definitions/ContinuousGlucoseMeterThreshold"
27116     }
27117 }
27118 },
27119 },
27120 "post": {
27121     "description": "This Resource describes the Properties associated with Threshold for
27122 Continuous Glucose Meter (CGM).",
27123     "parameters": [
27124         {
27125             "$ref": "#/parameters/interface"
27126         },
27127         {
27128             "name": "body",
27129             "in": "body",
27130             "required": true,
27131             "schema": { "$ref": "#/definitions/ContinuousGlucoseMeterThreshold" },
27132             "x-example": {
27133                 "plow": 70.0,
27134                 "phigh": 150.0,
27135                 "dhypo": 60.0,
27136                 "dhyper": 90.0,
27137                 "gir": 3.0,
27138                 "gdr": 3.0
27139             }
27140         }
27141     ],
27142     "responses": {
27143         "200": {
27144             "description": "",
27145             "x-example": {
27146                 "rt": [
27147                     "oic.r.cgm.threshold"
27148                 ],
27149                 "plow": 70.0,
27150                 "phigh": 150.0,
27151                 "dhypo": 60.0,
27152                 "dhyper": 90.0,
27153                 "gir": 3.0,
27154                 "gdr": 3.0
27155             },
27156             "schema": {
27157                 "$ref": "#/definitions/ContinuousGlucoseMeterThreshold"
27158             }
27159         }
27160     }
27161 },
27162 },
27163 },
27164 "parameters": {
27165     "interface": {
27166         "in": "query",
27167         "name": "if",
27168         "type": "string",
27169         "enum": [
27170             "oic.if.rw",
27171             "oic.if.baseline"
27172         ]
27173     }
27174 },
27175 "definitions": {
27176     "ContinuousGlucoseMeterThreshold": {
27177         "properties": {
27178             "plow": {
27179                 "description": "This Property describes the Patient low threshold (mg/dL)",
27180                 "type": "number",
27181                 "minimum": 0.0,
27182                 "readOnly": false

```

```

27183     },
27184     "phigh": {
27185       "description": "This Property describes the Patient high threshold (mg/dL)",
27186       "type": "number",
27187       "minimum": 0.0,
27188       "readOnly": false
27189     },
27190     "dhylo": {
27191       "description": "This Property describes the Device hypoglycemia threshold (mg/dL)",
27192       "type": "number",
27193       "minimum": 0.0,
27194       "readOnly": false
27195     },
27196     "dhyper": {
27197       "description": "This Property describes the Device hyperglycemia threshold (mg/dL)",
27198       "type": "number",
27199       "minimum": 0.0,
27200       "readOnly": false
27201     },
27202     "gir": {
27203       "description": "This Property describes the Glucose Increase rate of change threshold
27204 (%)",
27205       "type": "number",
27206       "minimum": 0.0,
27207       "readOnly": false
27208     },
27209     "gdr": {
27210       "description": "This Property describes the Glucose Decrease rate of change threshold
27211 (%)",
27212       "type": "number",
27213       "minimum": 0.0,
27214       "readOnly": false
27215     },
27216     "rt": {
27217       "description": "The Resource Type.",
27218       "items": {
27219         "enum": [
27220           "oic.r.cgm.threshold"
27221         ],
27222         "type": "string"
27223       },
27224       "minItems": 1,
27225       "uniqueItems": true,
27226       "readOnly": true,
27227       "type": "array"
27228     },
27229     "n": {
27230       "$ref":
27231 "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
27232 schema.json#/definitions/n"
27233     },
27234     "if": {
27235       "description": "The OCF Interface set supported by this Resource.",
27236       "items": {
27237         "enum": [
27238           "oic.if.rw",
27239           "oic.if.baseline"
27240         ],
27241         "type": "string"
27242       },
27243       "minItems": 1,
27244       "uniqueItems": true,
27245       "readOnly": true,
27246       "type": "array"
27247     },
27248     "range": {
27249       "$ref":
27250 "https://openconnectivityfoundation.github.io/IoTDataModels/schemas/oic.baseresource.properties-
27251 schema.json#/definitions/range_number"
27252     },
27253     "step": {
27254       "$ref":

```

```

27255 "https://openconnectivityfoundation.github.io/IoTDataModels/schemas/oic.baseresource.properties-
27256 schema.json#/definitions/step_number"
27257     },
27258     "precision": {
27259         "$ref":
27260         "https://openconnectivityfoundation.github.io/IoTDataModels/schemas/oic.baseresource.properties-
27261         schema.json#/definitions/precision"
27262     }
27263 },
27264 "type": "object",
27265 "required": [
27266     "plow",
27267     "phigh",
27268     "dhypo",
27269     "dhyper",
27270     "gir",
27271     "gdr"
27272 ]
27273 }
27274 }
27275 }

```

27276 **6.135.5 Property definition**

27277 Table 273 defines the Properties that are part of the "oic.r.cgm.threshold" Resource Type.

27278 **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	

27279 **6.135.6 CRUDN behaviour**

27280 Table 274 defines the CRUDN operations that are supported on the "oic.r.cgm.threshold" Resource
27281 Type.

27282 **Table 274 – The CRUDN operations of the Resource with type "rt" = "oic.r.cgm.threshold".**

Create	Read	Update	Delete	Notify
	get	post		observe

27283 **6.136 Heart Rate**

27284 **6.136.1 Introduction**

27285 This Resource describes the Properties associated with a person's heart rate.

27286 The unit, which is the default unit, is bpm.

27287 The heartrate Property is a read-only value that is provided by the server.

27288 When range (from "oic.r.baseresource") is omitted the default is 0 to +MAXFLOAT.

27289 **6.136.2 Example URI**

27290 /HeartRateResURI

27291 **6.136.3 Resource type**

27292 The Resource Type is defined as: "oic.r.heartrate".

27293 **6.136.4 OpenAPI 2.0 definition**

```

27294 {
27295   "swagger": "2.0",
27296   "info": {
27297     "title": "Heart Rate",
27298     "version": "2019-03-04",
27299     "license": {
27300       "name": "OCF Data Model License",
27301       "url":
27302         "https://github.com/openconnectivityfoundation/core/blob/e28a9e0a92e17042ba3e83661e4c0fbce8bdc4ba/LI
27303         CENSE.md",
27304       "x-copyright": "Copyright 2018-2019 Open Connectivity Foundation, Inc. All rights reserved."
27305     },
27306     "termsOfService": "https://openconnectivityfoundation.github.io/core/DISCLAIMER.md"
27307   },
27308   "schemes": [
27309     "http"
27310   ],
27311   "consumes": [
27312     "application/json"
27313   ],
27314   "produces": [

```

```

27315     "application/json"
27316   ],
27317   "paths": {
27318     "/HeartRateResURI": {
27319       "get": {
27320         "description": "This Resource describes the Properties associated with a person's heart
27321 rate.\n The unit, which is the default unit, is bpm.\n The heartrate Property is a read-only value
27322 that is provided by the server.\n When range (from \"oic.r.baseresource\") is omitted the default is
27323 0 to +MAXFLOAT.",
27324         "parameters": [
27325           {
27326             "$ref": "#/parameters/interface"
27327           }
27328         ],
27329         "responses": {
27330           "200": {
27331             "description": "",
27332             "x-example": {
27333               "rt": [
27334                 "oic.r.heartrate"
27335               ],
27336               "heartrate": 80
27337             },
27338             "schema": {
27339               "$ref": "#/definitions/HeartRate"
27340             }
27341           }
27342         }
27343       }
27344     },
27345   },
27346   "parameters": {
27347     "interface": {
27348       "in": "query",
27349       "name": "if",
27350       "type": "string",
27351       "enum": [
27352         "oic.if.s",
27353         "oic.if.baseline"
27354       ]
27355     }
27356   },
27357   "definitions": {
27358     "HeartRate": {
27359       "properties": {
27360         "heartrate": {
27361           "description": "This Property describes the heart rate in bpm.",
27362           "type": "integer",
27363           "minimum": 0,
27364           "readOnly": true
27365         },
27366         "rt": {
27367           "description": "The Resource Type.",
27368           "items": {
27369             "enum": [
27370               "oic.r.heartrate"
27371             ],
27372             "type": "string"
27373           },
27374           "minItems": 1,
27375           "uniqueItems": true,
27376           "readOnly": true,
27377           "type": "array"
27378         },
27379         "n": {
27380           "$ref":
27381 "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
27382 schema.json#/definitions/n"
27383         },
27384         "if": {
27385           "description": "The OCF Interface set supported by this Resource.",
27386           "items": {

```

```

27387         "enum": [
27388             "oic.if.s",
27389             "oic.if.baseline"
27390         ],
27391         "type": "string"
27392     },
27393     "minItems": 1,
27394     "uniqueItems": true,
27395     "readOnly": true,
27396     "type": "array"
27397 },
27398 "range": {
27399     "$ref":
27400 "https://openconnectivityfoundation.github.io/IoTDataModels/schemas/oic.baseresource.properties-
27401 schema.json#/definitions/range_integer"
27402 },
27403 "step": {
27404     "$ref":
27405 "https://openconnectivityfoundation.github.io/IoTDataModels/schemas/oic.baseresource.properties-
27406 schema.json#/definitions/step_integer"
27407 }
27408 },
27409 "type": "object",
27410 "required": [
27411     "heartrate"
27412 ]
27413 }
27414 }
27415 }

```

27416 6.136.5 Property definition

27417 Table 275 defines the Properties that are part of the "oic.r.heartrate" Resource Type.

27418 **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	

27419 6.136.6 CRUDN behaviour

27420 Table 276 defines the CRUDN operations that are supported on the "oic.r.heartrate" Resource
27421 Type.

27422 **Table 276 – The CRUDN operations of the Resource with type "rt" = "oic.r.heartrate".**

Create	Read	Update	Delete	Notify
	get			observe

27423 6.137 Heart Rate Monitor Atomic Measurement Representation

27424 6.137.1 Introduction

27425 This Resource describes the Properties associated with Heart Rate Monitor.

27426 The Resource is an Atomic Measurement of heart rate ("oic.r.heartrate"), observed time
27427 ("oic.r.time.stamp"), and user ID ("oic.r.userid").

27428 6.137.2 Example URI

27429 /HeartRateMonitorAMResURI

27430 6.137.3 Resource type

27431 The Resource Type is defined as: "oic.r.heartratemonitor-am, oic.wk.atomicmeasurement".

27432 6.137.4 OpenAPI 2.0 definition

```
27433 {  
27434   "swagger": "2.0",  
27435   "info": {  
27436     "title": "Heart Rate Monitor Atomic Measurement Representation",  
27437     "version": "2019-03-04",  
27438     "license": {  
27439       "name": "OCF Data Model License",  
27440       "url":  
27441       "https://github.com/openconnectivityfoundation/core/blob/e28a9e0a92e17042ba3e83661e4c0fbce8bdc4ba/LI  
27442       CENSE.md",  
27443       "x-copyright": "Copyright 2018-2019 Open Connectivity Foundation, Inc. All rights reserved."  
27444     },  
27445     "termsOfService": "https://openconnectivityfoundation.github.io/core/DISCLAIMER.md"  
27446   },  
27447   "schemes": [  
27448     "http"  
27449   ],  
27450   "consumes": [  
27451     "application/json"  
27452   ],  
27453   "produces": [  
27454     "application/json"  
27455   ],  
27456   "paths": {  
27457     "/HeartRateMonitorAMResURI?if=oic.if.b": {  
27458       "get": {  
27459         "description": "This Resource describes the Properties associated with Heart Rate Monitor.\n  
27460         The Resource is an Atomic Measurement of heart rate (\\"oic.r.heartrate\\"), observed time  
27461         (\\"oic.r.time.stamp\\"), and user ID (\\"oic.r.userid\\").",  
27462         "parameters": [  
27463           {  
27464             "$ref": "#/parameters/interface-all"  
27465           }  
27466         ],  
27467         "responses": {  
27468           "200": {  
27469             "description": "",  
27470             "x-example": [  
27471               {  
27472                 "href": "/myHeartrate",  
27473                 "rep": {  
27474                   "heartrate": 80  
27475                 }  
27476               },  
27477               {  
27478                 "href": "/myUserId",  
27479                 "rep": {  
27480                   "userid": "USER1"  
27481                 }  
27482               },  
27483               {  
27484                 "href": "/myTimeStamp",  
27485                 "rep": {  
27486                   "timestamp": "2018-11-09T12:15:00+08:00"
```

```

27487     }
27488     }
27489     ],
27490     "schema": {
27491         "$ref": "#/definitions/batch-retrieve"
27492     }
27493     }
27494     }
27495     }
27496 },
27497 "/HeartRateMonitorAMResURI?if=oic.if.ll": {
27498     "get": {
27499         "description": "This Resource describes the Properties associated with Heart Rate Monitor.\n
27500 The Resource is an Atomic Measurement of heart rate (\\"oic.r.heartrate\\"), observed time
27501 (\\"oic.r.time.stamp\\"), and user ID (\\"oic.r.userid\\").",
27502         "parameters": [
27503             {
27504                 "$ref": "#/parameters/interface-all"
27505             }
27506         ],
27507         "responses": {
27508             "200": {
27509                 "description": "",
27510                 "x-example": [
27511                     {
27512                         "href": "/myHeartrate",
27513                         "rt": [
27514                             "oic.r.heartrate"
27515                         ],
27516                         "if": [
27517                             "oic.if.s",
27518                             "oic.if.baseline"
27519                         ]
27520                     },
27521                     {
27522                         "href": "/myUserId",
27523                         "rt": [
27524                             "oic.r.userid"
27525                         ],
27526                         "if": [
27527                             "oic.if.r",
27528                             "oic.if.baseline"
27529                         ]
27530                     },
27531                     {
27532                         "href": "/myTimeStamp",
27533                         "rt": [
27534                             "oic.r.time.stamp"
27535                         ],
27536                         "if": [
27537                             "oic.if.r",
27538                             "oic.if.baseline"
27539                         ]
27540                     }
27541                 ],
27542                 "schema": {
27543                     "$ref": "#/definitions/links"
27544                 }
27545             }
27546         }
27547     }
27548 },
27549 "/HeartRateMonitorAMResURI?if=oic.if.baseline": {
27550     "get": {
27551         "description": "This Resource describes the Properties associated with Heart Rate Monitor.\n
27552 The Resource is an Atomic Measurement of heart rate (\\"oic.r.heartrate\\"), observed time
27553 (\\"oic.r.time.stamp\\"), and user ID (\\"oic.r.userid\\").",
27554         "parameters": [
27555             {
27556                 "$ref": "#/parameters/interface-all"
27557             }
27558         ],

```

```

27559     "responses": {
27560         "200": {
27561             "description": "",
27562             "x-example":
27563                 {
27564                     "rt": [
27565                         "oic.r.heartratemonitor-am",
27566                         "oic.wk.atomicmeasurement"
27567                     ],
27568                     "if": [
27569                         "oic.if.b",
27570                         "oic.if.ll",
27571                         "oic.if.baseline"
27572                     ],
27573                     "rts-m": [
27574                         "oic.r.heartrate"
27575                     ],
27576                     "rts": [
27577                         "oic.r.heartrate",
27578                         "oic.r.userid",
27579                         "oic.r.time.stamp"
27580                     ],
27581                     "links": [
27582                         {
27583                             "href": "/myHeartRateMonitor",
27584                             "rt": [
27585                                 "oic.r.heartrate"
27586                             ],
27587                             "if": [
27588                                 "oic.if.s",
27589                                 "oic.if.baseline"
27590                             ]
27591                         },
27592                         {
27593                             "href": "/myUserId",
27594                             "rt": [
27595                                 "oic.r.userid"
27596                             ],
27597                             "if": [
27598                                 "oic.if.r",
27599                                 "oic.if.baseline"
27600                             ]
27601                         },
27602                         {
27603                             "href": "/myTimeStamp",
27604                             "rt": [
27605                                 "oic.r.time.stamp"
27606                             ],
27607                             "if": [
27608                                 "oic.if.r",
27609                                 "oic.if.baseline"
27610                             ]
27611                         }
27612                     ]
27613                 }
27614             ,
27615             "schema": {
27616                 "$ref": "#/definitions/baseline"
27617             }
27618         }
27619     }
27620 }
27621 },
27622 "parameters": {
27623     "interface-all": {
27624         "in": "query",
27625         "name": "if",
27626         "type": "string",
27627         "enum": [
27628             "oic.if.b",
27629             "oic.if.ll",
27630

```

```

27631         "oic.if.baseline"
27632     ]
27633 }
27634 },
27635 "definitions": {
27636     "batch-retrieve": {
27637         "title": "Collection Batch Retrieve Format",
27638         "minItems": 1,
27639         "items": {
27640             "properties": {
27641                 "href": {
27642                     "$ref":
27643 "https://openconnectivityfoundation.github.io/core/schemas/oic.links.properties.core-
27644 schema.json#/definitions/href"
27645                 },
27646                 "rep": {
27647                     "type": "object",
27648                     "anyOf": [
27649                         {
27650                             "$ref":
27651 "https://openconnectivityfoundation.github.io/IoTDataModels/HeartRate.swagger.json#/definitions/Hear
27652 tRate"
27653                         },
27654                         {
27655                             "$ref":
27656 "https://openconnectivityfoundation.github.io/IoTDataModels/UserIDResURI.swagger.json#/definitions/U
27657 serID"
27658                         },
27659                         {
27660                             "$ref":
27661 "https://openconnectivityfoundation.github.io/IoTDataModels/TimeStampResURI.swagger.json#/definition
27662 s/TimeStamp"
27663                         }
27664                     ]
27665                 }
27666             },
27667             "required": [
27668                 "href",
27669                 "rep"
27670             ],
27671             "type": "object"
27672         },
27673         "type": "array"
27674     },
27675     "links": {
27676         "type": "array",
27677         "items": {
27678             "$ref": "#/definitions/oic.oic-link"
27679         }
27680     },
27681     "baseline": {
27682         "properties": {
27683             "rt": {
27684                 "items": {
27685                     "enum": [
27686                         "oic.r.heartratemonitor-am",
27687                         "oic.wk.atomicmeasurement"
27688                     ]
27689                 },
27690                 "minItems": 2,
27691                 "type": "array",
27692                 "uniqueItems": true,
27693                 "readOnly": true
27694             },
27695             "links": {
27696                 "$ref": "#/definitions/links"
27697             },
27698             "n": {
27699                 "$ref":
27700 "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
27701 schema.json#/definitions/n"
27702             },

```

```

27703     "rts": {
27704         "description": "This Property contains all possible Resource Types for this Atomic
27705 Measurement.",
27706         "items": {
27707             "enum": [
27708                 "oic.r.heartrate",
27709                 "oic.r.userid",
27710                 "oic.r.time.stamp"
27711             ]
27712         },
27713         "minItems": 1,
27714         "type": "array",
27715         "uniqueItems": true,
27716         "readOnly": true
27717     },
27718     "rts-m": {
27719         "description": "This Property contains all mandatory Resource Types for this Atomic
27720 Measurement.",
27721         "items": {
27722             "enum": [
27723                 "oic.r.heartrate"
27724             ]
27725         },
27726         "maxItems": 1,
27727         "minItems": 1,
27728         "type": "array",
27729         "readOnly": true,
27730         "uniqueItems": true
27731     },
27732     "if": {
27733         "description": "The OCF Interface set supported by this Resource.",
27734         "items": {
27735             "enum": [
27736                 "oic.if.b",
27737                 "oic.if.ll",
27738                 "oic.if.baseline"
27739             ],
27740             "type": "string"
27741         },
27742         "minItems": 1,
27743         "uniqueItems": true,
27744         "readOnly": true,
27745         "type": "array"
27746     }
27747 },
27748 "type": "object",
27749 "required": [
27750     "rts-m"
27751 ]
27752 },
27753 "oic.oic-link": {
27754     "properties": {
27755         "anchor": {
27756             "$ref":
27757 "https://openconnectivityfoundation.github.io/core/schemas/oic.links.properties.core-
27758 schema.json#/definitions/anchor"
27759         },
27760         "di": {
27761             "$ref":
27762 "https://openconnectivityfoundation.github.io/core/schemas/oic.links.properties.core-
27763 schema.json#/definitions/di"
27764         },
27765         "eps": {
27766             "$ref":
27767 "https://openconnectivityfoundation.github.io/core/schemas/oic.links.properties.core-
27768 schema.json#/definitions/eps"
27769         },
27770         "href": {
27771             "$ref":
27772 "https://openconnectivityfoundation.github.io/core/schemas/oic.links.properties.core-
27773 schema.json#/definitions/href"
27774         },

```



```

27775     "if": {
27776         "description": "The OCF Interface set supported by this Resource.",
27777         "items": {
27778             "enum": [
27779                 "oic.if.baseline",
27780                 "oic.if.s",
27781                 "oic.if.r"
27782             ],
27783             "type": "string"
27784         },
27785         "minItems": 1,
27786         "uniqueItems": true,
27787         "readOnly": true,
27788         "type": "array"
27789     },
27790     "ins": {
27791         "$ref":
27792         "https://openconnectivityfoundation.github.io/core/schemas/oic.links.properties.core-
27793         schema.json#/definitions/ins"
27794     },
27795     "p": {
27796         "$ref":
27797         "https://openconnectivityfoundation.github.io/core/schemas/oic.links.properties.core-
27798         schema.json#/definitions/p"
27799     },
27800     "rel": {
27801         "$ref":
27802         "https://openconnectivityfoundation.github.io/core/schemas/oic.links.properties.core-
27803         schema.json#/definitions/rel_array"
27804     },
27805     "rt": {
27806         "description": "The Resource Type.",
27807         "items": {
27808             "enum": [
27809                 "oic.r.heartrate",
27810                 "oic.r.time.stamp",
27811                 "oic.r.userid"
27812             ],
27813             "type": "string"
27814         },
27815         "minItems": 1,
27816         "uniqueItems": true,
27817         "readOnly": true,
27818         "type": "array"
27819     },
27820     "title": {
27821         "$ref":
27822         "https://openconnectivityfoundation.github.io/core/schemas/oic.links.properties.core-
27823         schema.json#/definitions/title"
27824     },
27825     "type": {
27826         "$ref":
27827         "https://openconnectivityfoundation.github.io/core/schemas/oic.links.properties.core-
27828         schema.json#/definitions/type"
27829     }
27830 },
27831 "required": [
27832     "href",
27833     "rt",
27834     "if"
27835 ],
27836 "type": "object"
27837 }
27838 }
27839 }

```

27840 **6.137.5 Property definition**

27841 Table 277 defines the Properties that are part of the "oic.r.heartratemonitor-am,
27842 oic.wk.atomicmeasurement" Resource Type.

Table 277 – The Property definitions of the Resource with type "rt" = "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.

27845 **6.137.6 CRUDN behaviour**

27846 Table 278 defines the CRUDN operations that are supported on the "oic.r.heartratemonitor-am,
27847 oic.wk.atomicmeasurement" Resource Type.

27848 **Table 278 – The CRUDN operations of the Resource with type "rt" =**
27849 **"oic.r.heartratemonitor-am, oic.wk.atomicmeasurement".**

Create	Read	Update	Delete	Notify
	get			observe

27850 **6.138 Pulsatile Characteristic for Pulse Oximeter**

27851 **6.138.1 Introduction**

27852 This Resource describes the Properties associated with a pulsatile characteristic of the pulsative
27853 wave of a Pulse Oximeter.

27854 The characteristic Property is a read-only value that is provided by the server.

27855 When range (from "oic.r.baseresource") is omitted the default is 0 to +MAXFLOAT.

27856 **6.138.2 Example URI**

27857 /PulsatileCharacteristicResURI

27858 **6.138.3 Resource type**

27859 The Resource Type is defined as: "oic.r.pulsatilecharacteristic".

27860 **6.138.4 OpenAPI 2.0 definition**

```

27861 {
27862   "swagger": "2.0",
27863   "info": {
27864     "title": "Pulsatile Characteristic for Pulse Oximeter",
27865     "version": "2019-03-04",
27866     "license": {
27867       "name": "OCF Data Model License",
27868       "url":
27869         "https://github.com/openconnectivityfoundation/core/blob/e28a9e0a92e17042ba3e83661e4c0fbce8bdc4ba/LI
27870 CENSE.md",
27871       "x-copyright": "Copyright 2018-2019 Open Connectivity Foundation, Inc. All rights reserved."
27872     },
27873     "termsOfService": "https://openconnectivityfoundation.github.io/core/DISCLAIMER.md"
27874   },
27875   "schemes": [
27876     "http"
27877   ],
27878   "consumes": [
27879     "application/json"
27880   ],
27881   "produces": [
27882     "application/json"
27883   ],
27884   "paths": {
27885     "/PulsatileCharacteristicResURI": {
27886       "get": {
27887         "description": "This Resource describes the Properties associated with a pulsatile
27888 characteristic of the pulsative wave of a Pulse Oximeter.\n The characteristic Property is a read-
27889 only value that is provided by the server.\n When range (from \"oic.r.baseresource\") is omitted the
27890 default is 0 to +MAXFLOAT.",
27891         "parameters": [
27892           {
27893             "$ref": "#/parameters/interface"
27894           }
27895         ],
27896         "responses": {
27897           "200": {
27898             "description": "",
27899             "x-example": {
27900               "rt": [

```

```

27901         "oic.r.pulsatilecharacteristic"
27902     ],
27903     "characteristic": 1
27904 },
27905     "schema": {
27906         "$ref": "#/definitions/pulsatilecharacteristic"
27907     }
27908 }
27909 }
27910 }
27911 }
27912 },
27913 "parameters": {
27914     "interface": {
27915         "in": "query",
27916         "name": "if",
27917         "type": "string",
27918         "enum": [
27919             "oic.if.s",
27920             "oic.if.baseline"
27921         ]
27922     }
27923 },
27924 "definitions": {
27925     "pulsatilecharacteristic": {
27926         "properties": {
27927             "characteristic": {
27928                 "description": "This Property describes the current pulsatile characteristic measurement.
27929 The value is an integer bit mapped value. The following describes what each integer means. 0 -
27930 Quality of the detected pulse is nominal, in that there are no recognized abnormalities in the
27931 detected pulse. 1 - Perfusion or quality of the detected pulse is marginal. 2 - Perfusion or quality
27932 of the detected pulse is minimal. 3 - Perfusion or quality of the detected pulse is unacceptable.",
27933                 "type": "integer",
27934                 "minimum": 0,
27935                 "maximum": 3,
27936                 "readOnly": true
27937             },
27938             "rt": {
27939                 "description": "The Resource Type.",
27940                 "items": {
27941                     "enum": [
27942                         "oic.r.pulsatilecharacteristic"
27943                     ],
27944                     "type": "string"
27945                 },
27946                 "minItems": 1,
27947                 "uniqueItems": true,
27948                 "readOnly": true,
27949                 "type": "array"
27950             },
27951             "n": {
27952                 "$ref":
27953 "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
27954 schema.json#/definitions/n"
27955             },
27956             "if": {
27957                 "description": "The OCF Interface set supported by this Resource.",
27958                 "items": {
27959                     "enum": [
27960                         "oic.if.s",
27961                         "oic.if.baseline"
27962                     ],
27963                     "type": "string"
27964                 },
27965                 "minItems": 1,
27966                 "uniqueItems": true,
27967                 "readOnly": true,
27968                 "type": "array"
27969             },
27970             "range": {
27971                 "$ref":
27972 "https://openconnectivityfoundation.github.io/IoTDataModels/schemas/oic.baseresource.properties-

```

```

27973 schema.json#/definitions/range_integer"
27974     },
27975     "step": {
27976       "$ref":
27977       "https://openconnectivityfoundation.github.io/IoTDataModels/schemas/oic.baseresource.properties-
27978       schema.json#/definitions/step_integer"
27979     }
27980   },
27981   "type": "object",
27982   "required": [
27983     "characteristic"
27984   ]
27985 }
27986 }
27987 }

```

27988 **6.138.5 Property definition**

27989 Table 279 defines the Properties that are part of the "oic.r.pulsatilecharacteristic" Resource Type.

27990 **Table 279 – The Property definitions of the Resource with type "rt" =**
27991 **"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.

27992 **6.138.6 CRUDN behaviour**

27993 Table 280 defines the CRUDN operations that are supported on the "oic.r.pulsatilecharacteristic"
27994 Resource Type.

27995 **Table 280 – The CRUDN operations of the Resource with type "rt" =**
27996 **"oic.r.pulsatilecharacteristic".**

Create	Read	Update	Delete	Notify
	get			observe

27997 **6.139 Pulsatile Occurrence for Pulse Oximeter**

27998 **6.139.1 Introduction**

27999 This Resource describes the Properties associated with a Pulsatile Occurrence detected by a
28000 Pulse Oximeter.

28001 The occurrence Property is a read-only value that is provided by the server.
28002 When range (from "oic.r.baseresource") is omitted the default is 0 to +MAXFLOAT.

28003 **6.139.2 Example URI**

28004 /PulsatileOccurrenceResURI

28005 **6.139.3 Resource type**

28006 The Resource Type is defined as: "oic.r.pulsatileoccurrence".

28007 **6.139.4 OpenAPI 2.0 definition**

```

28008 {
28009   "swagger": "2.0",
28010   "info": {
28011     "title": "Pulsatile Occurrence for Pulse Oximeter",
28012     "version": "2019-03-04",
28013     "license": {
28014       "name": "OCF Data Model License",
28015       "url":
28016 "https://github.com/openconnectivityfoundation/core/blob/e28a9e0a92e17042ba3e83661e4c0fbce8bdc4ba/LI
28017 CENSE.md",
28018       "x-copyright": "Copyright 2018-2019 Open Connectivity Foundation, Inc. All rights reserved."
28019     },
28020     "termsOfService": "https://openconnectivityfoundation.github.io/core/DISCLAIMER.md"
28021   },
28022   "schemes": [
28023     "http"
28024   ],
28025   "consumes": [
28026     "application/json"
28027   ],
28028   "produces": [
28029     "application/json"
28030   ],
28031   "paths": {
28032     "/PulsatileOccurrenceResURI": {
28033       "get": {
28034         "description": "This Resource describes the Properties associated with a Pulsatile
28035 Occurrence detected by a Pulse Oximeter.\n The occurrence Property is a read-only value that is
28036 provided by the server.\n When range (from \"oic.r.baseresource\") is omitted the default is 0 to

```

```

28037 +MAXFLOAT.",
28038     "parameters": [
28039       {
28040         "$ref": "#/parameters/interface"
28041       }
28042     ],
28043     "responses": {
28044       "200": {
28045         "description": "",
28046         "x-example": {
28047           "rt": [
28048             "oic.r.pulsatileoccurrence"
28049           ],
28050           "occurrence": "BEAT"
28051         },
28052         "schema": {
28053           "$ref": "#/definitions/pulsatileoccurrence"
28054         }
28055       }
28056     }
28057   }
28058 },
28059 "parameters": {
28060   "interface": {
28061     "in": "query",
28062     "name": "if",
28063     "type": "string",
28064     "enum": [
28065       "oic.if.s",
28066       "oic.if.baseline"
28067     ]
28068   }
28069 },
28070 },
28071 "definitions": {
28072   "pulsatileoccurrence": {
28073     "properties": {
28074       "occurrence": {
28075         "type": "string",
28076         "readOnly": true,
28077         "enum": [
28078           "BEAT",
28079           "BEAT_MAX_INRUSH",
28080           "NOS"
28081         ],
28082         "description": "This Property describes the Pulsatile Occurrence detected by a Pulse
28083 Oximeter. BEAT - Pulsatile occurrence has occurred. BEAT_MAX_INRUSH - Maximal inrush of the
28084 pulsatile wave has occurred. NOS - No pulsatile event occurred.",
28085         "default": "NOS"
28086       },
28087       "rt": {
28088         "description": "The Resource Type.",
28089         "items": {
28090           "enum": [
28091             "oic.r.pulsatileoccurrence"
28092           ],
28093           "type": "string"
28094         },
28095         "minItems": 1,
28096         "uniqueItems": true,
28097         "readOnly": true,
28098         "type": "array"
28099       },
28100       "n": {
28101         "$ref":
28102 "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
28103 schema.json#/definitions/n"
28104       },
28105       "if": {
28106         "description": "The OCF Interface set supported by this Resource.",
28107         "items": {
28108           "enum": [

```

```

28109         "oic.if.s",
28110         "oic.if.baseline"
28111     ],
28112     "type": "string"
28113 },
28114 "minItems": 1,
28115 "uniqueItems": true,
28116 "readOnly": true,
28117 "type": "array"
28118 }
28119 },
28120 "type": "object",
28121 "required": [
28122     "occurrence"
28123 ]
28124 }
28125 }
28126 }

```

28127 **6.139.5 Property definition**

28128 Table 281 defines the Properties that are part of the "oic.r.pulsatileoccurrence" Resource Type.

28129 **Table 281 – The Property definitions of the Resource with type "rt" =**
28130 **"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	

28131 **6.139.6 CRUDN behaviour**

28132 Table 282 defines the CRUDN operations that are supported on the "oic.r.pulsatileoccurrence"
28133 Resource Type.

28134 **Table 282 – The CRUDN operations of the Resource with type "rt" =**
28135 **"oic.r.pulsatileoccurrence".**

Create	Read	Update	Delete	Notify
	get			observe

28136 **6.140 Pulse Oximeter Atomic Measurement Representation**

28137 **6.140.1 Introduction**

28138 This Resource describes the Properties associated with Pulse Oximeter.

28139 The Resource is an Atomic Measurement of SpO2 ("oic.r.spo2"), pulse rate ("oic.r.pulserate"),

28140 pulsatile characteristic ("oic.r.pulsatilecharacteristic"), pulsatileoccurrence
28141 ("oic.r.pulsatileoccurrence"), observed time ("oic.r.time.stamp"), and user ID ("oic.r.userid").

28142 **6.140.2 Example URI**

28143 /PulseOximeterAMResURI

28144 **6.140.3 Resource type**

28145 The Resource Type is defined as: "oic.r.pulseoximeter-am, oic.wk.atomicmeasurement".

28146 **6.140.4 OpenAPI 2.0 definition**

```
28147 {  
28148   "swagger": "2.0",  
28149   "info": {  
28150     "title": "Pulse Oximeter Atomic Measurement Representation",  
28151     "version": "2019-03-04",  
28152     "license": {  
28153       "name": "OCF Data Model License",  
28154       "url":  
28155       "https://github.com/openconnectivityfoundation/core/blob/e28a9e0a92e17042ba3e83661e4c0fbce8bdc4ba/LI  
28156       CENSE.md",  
28157       "x-copyright": "Copyright 2018-2019 Open Connectivity Foundation, Inc. All rights reserved."  
28158     },  
28159     "termsOfService": "https://openconnectivityfoundation.github.io/core/DISCLAIMER.md"  
28160   },  
28161   "schemes": [  
28162     "http"  
28163   ],  
28164   "consumes": [  
28165     "application/json"  
28166   ],  
28167   "produces": [  
28168     "application/json"  
28169   ],  
28170   "paths": {  
28171     "/PulseOximeterAMResURI?if=oic.if.b": {  
28172       "get": {  
28173         "description": "This Resource describes the Properties associated with Pulse Oximeter.\n The  
28174         Resource is an Atomic Measurement of SpO2 (\\"oic.r.spo2\\"), pulse rate (\\"oic.r.pulserate\\"),  
28175         pulsatile characteristic (\\"oic.r.pulsatilecharacteristic\\"), pulsatileoccurrence  
28176         (\\"oic.r.pulsatileoccurrence\\"), observed time (\\"oic.r.time.stamp\\"), and user ID  
28177         (\\"oic.r.userid\\").",  
28178         "parameters": [  
28179           {  
28180             "$ref": "#/parameters/interface-all"  
28181           }  
28182         ],  
28183         "responses": {  
28184           "200": {  
28185             "description": "",  
28186             "x-example": [  
28187               {  
28188                 "href": "/mySpO2",  
28189                 "rep": {  
28190                   "spo2": 99.0,  
28191                   "perfusion": 20.0  
28192                 }  
28193               },  
28194               {  
28195                 "href": "/myPulseRate",  
28196                 "rep": {  
28197                   "pulserate": 80  
28198                 }  
28199               },  
28200               {  
28201                 "href": "/myPulsatileOccurrence",  
28202                 "rep": {  
28203                   "occurrence": "BEAT"  
28204                 }  
28205             }  
28206           }  
28207         }  
28208       }  
28209     }  
28210   }  
28211 }
```

```

28205     },
28206     {
28207         "href": "/myPulsatileCharacteristic",
28208         "rep": {
28209             "characteristic": 1
28210         }
28211     },
28212     {
28213         "href": "/myUserId",
28214         "rep": {
28215             "userid": "USER1"
28216         }
28217     },
28218     {
28219         "href": "/myTimeStamp",
28220         "rep": {
28221             "timestamp": "2018-11-09T12:15:00+08:00"
28222         }
28223     }
28224 ],
28225 "schema": {
28226     "$ref": "#/definitions/batch-retrieve"
28227 }
28228 }
28229 }
28230 }
28231 },
28232 "/PulseOximeterAMResURI?if=oic.if.ll": {
28233     "get": {
28234         "description": "This Resource describes the Properties associated with Pulse Oximeter.\n The
28235 Resource is an Atomic Measurement of SpO2 (\\"oic.r.spo2\\"), pulse rate (\\"oic.r.pulserate\\"),
28236 pulsatile characteristic (\\"oic.r.pulsatilecharacteristic\\"), pulsatileoccurrence
28237 (\\"oic.r.pulsatileoccurrence\\"), observed time (\\"oic.r.time.stamp\\"), and user ID
28238 (\\"oic.r.userid\\").",
28239         "parameters": [
28240             {
28241                 "$ref": "#/parameters/interface-all"
28242             }
28243         ],
28244         "responses": {
28245             "200": {
28246                 "description": "",
28247                 "x-example": [
28248                     {
28249                         "href": "/mySpO2",
28250                         "rt": [
28251                             "oic.r.spo2"
28252                         ],
28253                         "if": [
28254                             "oic.if.s",
28255                             "oic.if.baseline"
28256                         ]
28257                     },
28258                     {
28259                         "href": "/myPulseRate",
28260                         "rt": [
28261                             "oic.r.pulserate"
28262                         ],
28263                         "if": [
28264                             "oic.if.s",
28265                             "oic.if.baseline"
28266                         ]
28267                     }
28268                 ],
28269                 "href": "/myPulsatileOccurrence",
28270                 "rt": [
28271                     "oic.r.pulsatileoccurrence"
28272                 ],
28273                 "if": [
28274                     "oic.if.s",
28275                     "oic.if.baseline"
28276                 ]

```

```

28277     },
28278     {
28279         "href": "/myPulsatileCharacteristic",
28280         "rt": [
28281             "oic.r.pulsatilecharacteristic"
28282         ],
28283         "if": [
28284             "oic.if.s",
28285             "oic.if.baseline"
28286         ]
28287     },
28288     {
28289         "href": "/myUserId",
28290         "rt": [
28291             "oic.r.userid"
28292         ],
28293         "if": [
28294             "oic.if.r",
28295             "oic.if.baseline"
28296         ]
28297     },
28298     {
28299         "href": "/myTimeStamp",
28300         "rt": [
28301             "oic.r.time.stamp"
28302         ],
28303         "if": [
28304             "oic.if.r",
28305             "oic.if.baseline"
28306         ]
28307     }
28308 ],
28309 "schema": {
28310     "$ref": "#/definitions/links"
28311 }
28312 }
28313 }
28314 },
28315 "/PulseOximeterAMResURI?if=oic.if.baseline": {
28316     "get": {
28317         "description": "This Resource describes the Properties associated with Pulse Oximeter.\n The
28318 Resource is an Atomic Measurement of SpO2 (\\"oic.r.spo2\\"), pulse rate (\\"oic.r.pulserate\\"),
28319 pulsatile characteristic (\\"oic.r.pulsatilecharacteristic\\"), pulsatileoccurrence
28320 (\\"oic.r.pulsatileoccurrence\\"), observed time (\\"oic.r.time.stamp\\"), and user ID
28321 (\\"oic.r.userid\").",
28322     "parameters": [
28323         {
28324             "$ref": "#/parameters/interface-all"
28325         }
28326     ],
28327     "responses": {
28328         "200": {
28329             "description": "",
28330             "x-example":
28331                 {
28332                     "rt": [
28333                         "oic.r.pulseoximeter-am",
28334                         "oic.wk.atomicmeasurement"
28335                     ],
28336                     "if": [
28337                         "oic.if.b",
28338                         "oic.if.ll",
28339                         "oic.if.baseline"
28340                     ],
28341                     "rts-m": [
28342                         "oic.r.spo2",
28343                         "oic.r.pulserate"
28344                     ],
28345                     "rts": [
28346                         "oic.r.spo2",
28347                         "oic.r.pulserate",

```

```

28349         "oic.r.pulsatileoccurrence",
28350         "oic.r.pulsatilecharacteristic",
28351         "oic.r.userid",
28352         "oic.r.time.stamp"
28353     ],
28354     "links": [
28355         {
28356             "href": "/mySpO2",
28357             "rt": [
28358                 "oic.r.spo2"
28359             ],
28360             "if": [
28361                 "oic.if.s",
28362                 "oic.if.baseline"
28363             ]
28364         },
28365         {
28366             "href": "/myPulseRate",
28367             "rt": [
28368                 "oic.r.pulserate"
28369             ],
28370             "if": [
28371                 "oic.if.s",
28372                 "oic.if.baseline"
28373             ]
28374         },
28375         {
28376             "href": "/myPulsatileOccurrence",
28377             "rt": [
28378                 "oic.r.pulsatileoccurrence"
28379             ],
28380             "if": [
28381                 "oic.if.s",
28382                 "oic.if.baseline"
28383             ]
28384         },
28385         {
28386             "href": "/myPulsatileCharacteristic",
28387             "rt": [
28388                 "oic.r.pulsatilecharacteristic"
28389             ],
28390             "if": [
28391                 "oic.if.s",
28392                 "oic.if.baseline"
28393             ]
28394         },
28395         {
28396             "href": "/myUserId",
28397             "rt": [
28398                 "oic.r.userid"
28399             ],
28400             "if": [
28401                 "oic.if.r",
28402                 "oic.if.baseline"
28403             ]
28404         },
28405         {
28406             "href": "/myTimeStamp",
28407             "rt": [
28408                 "oic.r.time.stamp"
28409             ],
28410             "if": [
28411                 "oic.if.r",
28412                 "oic.if.baseline"
28413             ]
28414         }
28415     ],
28416     "schema": {
28417         "$ref": "#/definitions/baseline"
28418     }
28419 }
28420 }

```

```

28421     }
28422   }
28423 }
28424 },
28425 "parameters": {
28426   "interface-all": {
28427     "in": "query",
28428     "name": "if",
28429     "type": "string",
28430     "enum": [
28431       "oic.if.b",
28432       "oic.if.ll",
28433       "oic.if.baseline"
28434     ]
28435   }
28436 },
28437 "definitions": {
28438   "batch-retrieve": {
28439     "title": "Collection Batch Retrieve Format",
28440     "minItems": 1,
28441     "items": {
28442       "additionalProperties": true,
28443       "properties": {
28444         "href": {
28445           "$ref":
28446 "https://openconnectivityfoundation.github.io/core/schemas/oic.links.properties.core-
28447 schema.json#/definitions/href"
28448         },
28449         "rep": {
28450           "type": "object",
28451           "anyOf": [
28452             {
28453               "$ref":
28454 "https://openconnectivityfoundation.github.io/IoTDataModels/SpO2.swagger.json#/definitions/SpO2"
28455             },
28456             {
28457               "$ref":
28458 "https://openconnectivityfoundation.github.io/IoTDataModels/PulseRateResURI.swagger.json#/definition
28459 s/PulseRate"
28460             },
28461             {
28462               "$ref":
28463 "https://openconnectivityfoundation.github.io/IoTDataModels/PulsatileCharacteristic.swagger.json#/de
28464 finitions/pulsatilecharacteristic"
28465             },
28466             {
28467               "$ref":
28468 "https://openconnectivityfoundation.github.io/IoTDataModels/PulsatileOccurrence.swagger.json#/defini
28469 tions/pulsatileoccurrence"
28470             },
28471             {
28472               "$ref":
28473 "https://openconnectivityfoundation.github.io/IoTDataModels/UserIDResURI.swagger.json#/definitions/U
28474 serID"
28475             },
28476             {
28477               "$ref":
28478 "https://openconnectivityfoundation.github.io/IoTDataModels/TimeStampResURI.swagger.json#/definition
28479 s/TimeStamp"
28480             }
28481           ]
28482         }
28483       },
28484       "required": [
28485         "href",
28486         "rep"
28487       ],
28488       "type": "object"
28489     },
28490     "type": "array"
28491   },
28492   "links": {

```

```

28493     "type": "array",
28494     "items": {
28495       "$ref": "#/definitions/oic.oic-link"
28496     }
28497   },
28498   "baseline": {
28499     "properties": {
28500       "rt": {
28501         "items": {
28502           "enum": [
28503             "oic.r.pulseoximeter-am",
28504             "oic.wk.atomicmeasurement"
28505           ]
28506         },
28507         "minItems": 2,
28508         "type": "array",
28509         "uniqueItems": true,
28510         "readOnly": true
28511       },
28512       "links": {
28513         "$ref": "#/definitions/links"
28514       },
28515       "n": {
28516         "$ref":
28517 "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
28518 schema.json#/definitions/n"
28519       },
28520       "rts": {
28521         "description": "This Property contains all possible Resource Types for this Atomic
28522 Measurement.",
28523         "items": {
28524           "enum": [
28525             "oic.r.spo2",
28526             "oic.r.pulserate",
28527             "oic.r.pulsatilecharacteristic",
28528             "oic.r.pulsatileoccurrence",
28529             "oic.r.time.stamp",
28530             "oic.r.userid"
28531           ]
28532         },
28533         "minItems": 1,
28534         "type": "array",
28535         "uniqueItems": true
28536       },
28537       "rts-m": {
28538         "description": "This Property contains all mandatory Resource Types for this Atomic
28539 Measurement.",
28540         "items": {
28541           "enum": [
28542             "oic.r.spo2",
28543             "oic.r.pulserate"
28544           ]
28545         },
28546         "maxItems": 2,
28547         "minItems": 2,
28548         "type": "array",
28549         "readOnly": true,
28550         "uniqueItems": true
28551       },
28552       "if": {
28553         "description": "The OCF Interface set supported by this Resource.",
28554         "items": {
28555           "enum": [
28556             "oic.if.b",
28557             "oic.if.ll",
28558             "oic.if.baseline"
28559           ],
28560           "type": "string"
28561         },
28562         "minItems": 1,
28563         "uniqueItems": true,
28564         "readOnly": true,

```

```

28565         "type": "array"
28566     },
28567 },
28568     "type": "object",
28569     "required": [
28570         "rts-m"
28571     ]
28572 },
28573     "oic.oic-link": {
28574         "properties": {
28575             "anchor": {
28576                 "$ref":
28577                 "https://openconnectivityfoundation.github.io/core/schemas/oic.links.properties.core-
28578                 schema.json#/definitions/anchor"
28579             },
28580             "di": {
28581                 "$ref":
28582                 "https://openconnectivityfoundation.github.io/core/schemas/oic.links.properties.core-
28583                 schema.json#/definitions/di"
28584             },
28585             "eps": {
28586                 "$ref":
28587                 "https://openconnectivityfoundation.github.io/core/schemas/oic.links.properties.core-
28588                 schema.json#/definitions/eps"
28589             },
28590             "href": {
28591                 "$ref":
28592                 "https://openconnectivityfoundation.github.io/core/schemas/oic.links.properties.core-
28593                 schema.json#/definitions/href"
28594             },
28595             "if": {
28596                 "description": "The interface set supported by this resource",
28597                 "items": {
28598                     "enum": [
28599                         "oic.if.baseline",
28600                         "oic.if.s",
28601                         "oic.if.r"
28602                     ],
28603                     "type": "string"
28604                 },
28605                 "minItems": 1,
28606                 "type": "array"
28607             },
28608             "ins": {
28609                 "$ref":
28610                 "https://openconnectivityfoundation.github.io/core/schemas/oic.links.properties.core-
28611                 schema.json#/definitions/ins"
28612             },
28613             "p": {
28614                 "$ref":
28615                 "https://openconnectivityfoundation.github.io/core/schemas/oic.links.properties.core-
28616                 schema.json#/definitions/p"
28617             },
28618             "rel": {
28619                 "$ref":
28620                 "https://openconnectivityfoundation.github.io/core/schemas/oic.links.properties.core-
28621                 schema.json#/definitions/rel_array"
28622             },
28623             "rt": {
28624                 "description": "The Resource Type.",
28625                 "items": {
28626                     "enum": [
28627                         "oic.r.spo2",
28628                         "oic.r.pulserate",
28629                         "oic.r.pulsatilecharacteristic",
28630                         "oic.r.pulsatileoccurrence",
28631                         "oic.r.time.stamp",
28632                         "oic.r.userid"
28633                     ],
28634                     "type": "string"
28635                 },
28636                 "minItems": 1,

```

```

28637         "uniqueItems": true,
28638         "readOnly": true,
28639         "type": "array"
28640     },
28641     "title": {
28642         "$ref":
28643 "https://openconnectivityfoundation.github.io/core/schemas/oic.links.properties.core-
28644 schema.json#/definitions/title"
28645     },
28646     "type": {
28647         "$ref":
28648 "https://openconnectivityfoundation.github.io/core/schemas/oic.links.properties.core-
28649 schema.json#/definitions/type"
28650     }
28651 },
28652 "required": [
28653     "href",
28654     "rt",
28655     "if"
28656 ],
28657 "type": "object"
28658 }
28659 }
28660 }

```

28661 **6.140.5 Property definition**

28662 Table 283 defines the Properties that are part of the "oic.r.pulseoximeter-am,
28663 oic.wk.atomicmeasurement" Resource Type.

28664 **Table 283 – The Property definitions of the Resource with type "rt" = "oic.r.pulseoximeter-
28665 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

28666 **6.140.6 CRUDN behaviour**

28667 Table 284 defines the CRUDN operations that are supported on the "oic.r.pulseoximeter-am,
28668 oic.wk.atomicmeasurement" Resource Type.

Table 284 – The CRUDN operations of the Resource with type "rt" = "oic.r.pulseoximeter-am, oic.wk.atomicmeasurement".

Create	Read	Update	Delete	Notify
	get			observe

28671 **6.141 Sleep**

28672 **6.141.1 Introduction**

28673 This Resource describes the Properties associated with Sleep.

28674 Sleep shows the time spent in each of the sleep stages (awake, nrem1, nrem2, nrem3, nrem4,
28675 rem, light sleep, deep sleep), along with a sleep score indicating the quality of sleep.

28676 **6.141.2 Example URI**

28677 /SleepResURI

28678 **6.141.3 Resource type**

28679 The Resource Type is defined as: "oic.r.sleep".

28680 **6.141.4 OpenAPI 2.0 definition**

```

28681 {
28682   "swagger": "2.0",
28683   "info": {
28684     "title": "Sleep",
28685     "version": "2018-07-12",
28686     "license": {
28687       "name": "OCF Data Model License",
28688       "url":
28689 "https://github.com/openconnectivityfoundation/core/blob/e28a9e0a92e17042ba3e83661e4c0fbce8bdc4ba/LI
28690 CENSE.md",
28691     "x-copyright": "Copyright 2018-2019 Open Connectivity Foundation, Inc. All rights reserved."
28692   },
28693   "termsOfService": "https://openconnectivityfoundation.github.io/core/DISCLAIMER.md"

```

```

28694     },
28695     "schemes": [
28696         "http"
28697     ],
28698     "consumes": [
28699         "application/json"
28700     ],
28701     "produces": [
28702         "application/json"
28703     ],
28704     "paths": {
28705         "/SleepResURI": {
28706             "get": {
28707                 "description": "This Resource describes the Properties associated with Sleep.\nSleep shows
28708 the time spent in each of the sleep stages (awake, nrem1, nrem2, nrem3, nrem4, rem, light sleep,
28709 deep sleep), along with a sleep score indicating the quality of sleep.",
28710                 "parameters": [
28711                     {
28712                         "$ref": "#/parameters/interface"
28713                     }
28714                 ],
28715                 "responses": {
28716                     "200": {
28717                         "description": "Retrieves the sleep information.",
28718                         "x-example": {
28719                             "rt": [
28720                                 "oic.r.sleep"
28721                             ],
28722                             "if": [
28723                                 "oic.if.s",
28724                                 "oic.if.baseline"
28725                             ],
28726                             "awake": 1440,
28727                             "nrem1": 1440,
28728                             "nrem2": 14400,
28729                             "nrem3": 1440,
28730                             "nrem4": 4320,
28731                             "rem": 5760,
28732                             "lightsleep": 15840,
28733                             "deepsleep": 5760,
28734                             "sleepscore": 70.0
28735                         },
28736                         "schema": {
28737                             "$ref": "#/definitions/Sleep"
28738                         }
28739                     }
28740                 }
28741             }
28742         }
28743     },
28744     "parameters": {
28745         "interface": {
28746             "in": "query",
28747             "name": "if",
28748             "type": "string",
28749             "enum": [
28750                 "oic.if.s",
28751                 "oic.if.baseline"
28752             ]
28753         }
28754     },
28755     "definitions": {
28756         "Sleep": {
28757             "properties": {
28758                 "awake": {
28759                     "type": "integer",
28760                     "minimum": 0,
28761                     "readOnly": true,
28762                     "description": "Time spent in Awake stage (in seconds)"
28763                 },
28764                 "nrem1": {
28765                     "type": "integer",

```

```

28766         "minimum": 0,
28767         "readOnly": true,
28768         "description": "Time spent in Non Rapid Eye Movement stage 1 (in seconds)"
28769     },
28770     "nrem2": {
28771         "type": "integer",
28772         "minimum": 0,
28773         "readOnly": true,
28774         "description": "Time spent in Non Rapid Eye Movement stage 2 (in seconds)"
28775     },
28776     "nrem3": {
28777         "type": "integer",
28778         "minimum": 0,
28779         "readOnly": true,
28780         "description": "Time spent in Non Rapid Eye Movement stage 3 (in seconds)"
28781     },
28782     "nrem4": {
28783         "type": "integer",
28784         "minimum": 0,
28785         "readOnly": true,
28786         "description": "Time spent in Non Rapid Eye Movement stage 4 (in seconds)"
28787     },
28788     "rem": {
28789         "type": "integer",
28790         "minimum": 0,
28791         "readOnly": true,
28792         "description": "Time spent in Rapid Eye Movement (in seconds)"
28793     },
28794     "lightsleep": {
28795         "type": "integer",
28796         "minimum": 0,
28797         "readOnly": true,
28798         "description": "Time spent in Light Sleep stage, consisting in NREM stages 1 and 2 (in
28799 seconds)"
28800     },
28801     "deepsleep": {
28802         "type": "integer",
28803         "minimum": 0,
28804         "readOnly": true,
28805         "description": "Time spent in Deep Sleep stage, consisting in NREM stages 3 and 4 (in
28806 seconds)"
28807     },
28808     "sleepscore": {
28809         "type": "number",
28810         "minimum": 0,
28811         "readOnly": true,
28812         "description": "Score computed from the time spent in each sleep stage, indicative of the
28813 quality of sleep"
28814     },
28815     "if": {
28816         "description": "The Interface set supported by this Resource",
28817         "type": "array",
28818         "minItems": 1,
28819         "uniqueItems": true,
28820         "readOnly": true,
28821         "items": {
28822             "type": "string",
28823             "enum": [
28824                 "oic.if.s",
28825                 "oic.if.baseline"
28826             ]
28827         }
28828     },
28829     "rt": {
28830         "description": "Resource Type",
28831         "type": "array",
28832         "minItems": 1,
28833         "uniqueItems": true,
28834         "readOnly": true,
28835         "items": {
28836             "type": "string",
28837             "enum": [

```

```

28838         "oic.r.sleep"
28839     ]
28840 }
28841 },
28842 "n": {
28843     "$ref":
28844 "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
28845 schema.json#/definitions/n"
28846 },
28847 "range_phases": {
28848     "$ref":
28849 "https://openconnectivityfoundation.github.io/IoTDataModels/schemas/oic.baseresource.properties-
28850 schema.json#/definitions/range_integer"
28851 },
28852 "step_phases": {
28853     "$ref":
28854 "https://openconnectivityfoundation.github.io/IoTDataModels/schemas/oic.baseresource.properties-
28855 schema.json#/definitions/step_integer"
28856 },
28857 "range_score": {
28858     "$ref":
28859 "https://openconnectivityfoundation.github.io/IoTDataModels/schemas/oic.baseresource.properties-
28860 schema.json#/definitions/range_number"
28861 },
28862 "step_score": {
28863     "$ref":
28864 "https://openconnectivityfoundation.github.io/IoTDataModels/schemas/oic.baseresource.properties-
28865 schema.json#/definitions/step_number"
28866 },
28867 "precision": {
28868     "$ref":
28869 "https://openconnectivityfoundation.github.io/IoTDataModels/schemas/oic.baseresource.properties-
28870 schema.json#/definitions/precision"
28871 }
28872 },
28873 "type": "object",
28874 "required": [
28875     "awake",
28876     "nrem1",
28877     "nrem2",
28878     "nrem3",
28879     "rem"
28880 ]
28881 }
28882 }
28883 }

```

28884 **6.141.5 Property definition**

28885 Table 285 defines the Properties that are part of the "oic.r.sleep" Resource Type.

28886 **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)

28887 **6.141.6 CRUDN behaviour**

28888 Table 286 defines the CRUDN operations that are supported on the "oic.r.sleep" Resource Type.

28889 **Table 286 – The CRUDN operations of the Resource with type "rt" = "oic.r.sleep".**

Create	Read	Update	Delete	Notify
	get			observe

28890 **6.142 Sleep Monitor Atomic Measurement Batch Representation**

28891 **6.142.1 Introduction**

28892 This Resource describes the Properties associated with Sleep Monitor.

28893 The Resource is an Atomic Measurement of sleep (oic.r.sleep).

28894 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.

28896 **6.142.2 Example URI**

28897 /SleepMonitorAMResURI

28898 **6.142.3 Resource type**

28899 The Resource Type is defined as: "oic.r.sleepmonitor-am, oic.wk.atomicmeasurement".

28900 **6.142.4 OpenAPI 2.0 definition**

```
28901 {
28902   "swagger": "2.0",
28903   "info": {
28904     "title": "Sleep Monitor Atomic Measurement Batch Representation",
28905     "version": "2019-05-24",
28906     "license": {
28907       "name": "OCF Data Model License",
28908       "url":
28909 "https://github.com/openconnectivityfoundation/core/blob/e28a9e0a92e17042ba3e83661e4c0fbce8bdc4ba/LI
28910 CENSE.md",
28911       "x-copyright": "Copyright 2018-2019 Open Connectivity Foundation, Inc. All rights reserved."
28912     },
28913     "termsOfService": "https://openconnectivityfoundation.github.io/core/DISCLAIMER.md"
28914   },
28915   "schemes": [
28916     "http"
28917   ],
28918   "consumes": [
28919     "application/json"
28920   ],
28921   "produces": [
28922     "application/json"
28923   ],
28924   "paths": {
28925     "/SleepMonitorAMResURI?if=oic.if.b": {
28926       "get": {
28927         "description": "This Resource describes the Properties associated with Sleep Monitor.\n\nThe
28928 Resource is an Atomic Measurement of sleep (oic.r.sleep).\n\nSleep shows the time spent in each of the
28929 sleep stages (awake, nrem1, nrem2, nrem3, nrem4, rem, light sleep, deep sleep), along with a sleep
28930 score indicating the quality of sleep.",
28931         "parameters": [
28932           {
28933             "$ref": "#/parameters/interface-all"
28934           }
28935         ],
28936         "responses": {
28937           "200": {
28938             "description": "Retrieves the sleep monitor's information.",
28939             "x-example": [
28940               {
28941                 "href": "/mySleepMonitor",
28942                 "rep": {
28943                   "awake": 1440,
28944                   "nrem1": 1440,
28945                   "nrem2": 14400,
28946                   "nrem3": 1440,
28947                   "nrem4": 4320,
28948                   "rem": 5760,
28949                   "lightsleep": 15840,
28950                   "deepsleep": 5760,
28951                   "sleepscore": 70.0
28952                 }
28953             ]
28954           }
28955         }
28956       }
28957     }
28958   }
28959 }
```

```

28953     },
28954     {
28955         "href": "/myHeartRate",
28956         "rep": {
28957             "heartrate": 70
28958         }
28959     },
28960     {
28961         "href": "/myUserId",
28962         "rep": {
28963             "userid": "USER1"
28964         }
28965     },
28966     {
28967         "href": "/myTimeStamp",
28968         "rep": {
28969             "timestamp": "2018-11-08T21:00:00+08:00"
28970         }
28971     }
28972 ],
28973 "schema": {
28974     "$ref": "#/definitions/batch-retrieve"
28975 }
28976 }
28977 }
28978 }
28979 },
28980 "/SleepMonitorAMResURI?if=oic.if.ll": {
28981     "get": {
28982         "description": "This Resource describes the Properties associated with Sleep Monitor.\nThe
28983 Resource is an Atomic Measurement of sleep (oic.r.sleep).\nSleep shows the time spent in each of the
28984 sleep stages (awake, nrem1, nrem2, nrem3, nrem4, rem, light sleep, deep sleep), along with a sleep
28985 score indicating the quality of sleep.",
28986         "parameters": [
28987             {
28988                 "$ref": "#/parameters/interface-all"
28989             }
28990     ],
28991     "responses": {
28992         "200": {
28993             "description": "Retrieves the sleep monitor's information.",
28994             "x-example": [
28995                 {
28996                     "href": "/mySleepMonitor",
28997                     "rt": [
28998                         "oic.r.sleep"
28999                     ],
29000                     "if": [
29001                         "oic.if.s",
29002                         "oic.if.baseline"
29003                     ]
29004                 },
29005                 {
29006                     "href": "/myHeartRate",
29007                     "rt": [
29008                         "oic.r.heartrate"
29009                     ],
29010                     "if": [
29011                         "oic.if.s",
29012                         "oic.if.baseline"
29013                     ]
29014                 },
29015                 {
29016                     "href": "/myUserId",
29017                     "rt": [
29018                         "oic.r.userid"
29019                     ],
29020                     "if": [
29021                         "oic.if.r",
29022                         "oic.if.baseline"
29023                     ]
29024                 }

```

```

29025         {
29026             "href": "/myTimeStamp",
29027             "rt": [
29028                 "oic.r.time.stamp"
29029             ],
29030             "if": [
29031                 "oic.if.r",
29032                 "oic.if.baseline"
29033             ]
29034         }
29035     ],
29036     "schema": {
29037         "$ref": "#/definitions/links"
29038     }
29039 }
29040 }
29041 },
29042 },
29043 "/SleepMonitorAMResURI?if=oic.if.baseline": {
29044     "get": {
29045         "description": "This Resource describes the Properties associated with Sleep Monitor.\nThe
29046 Resource is an Atomic Measurement of sleep (oic.r.sleep).\nSleep shows the time spent in each of the
29047 sleep stages (awake, nrem1, nrem2, nrem3, nrem4, rem, light sleep, deep sleep), along with a sleep
29048 score indicating the quality of sleep.",
29049         "parameters": [
29050             {
29051                 "$ref": "#/parameters/interface-all"
29052             }
29053         ],
29054         "responses": {
29055             "200": {
29056                 "description": "Retrieves the sleep monitor's information.",
29057                 "x-example":
29058                 {
29059                     "rt": [
29060                         "oic.r.sleepmonitor-am",
29061                         "oic.wk.atomicmeasurement"
29062                     ],
29063                     "if": [
29064                         "oic.if.b",
29065                         "oic.if.ll",
29066                         "oic.if.baseline"
29067                     ],
29068                     "rts-m": [
29069                         "oic.r.sleep"
29070                     ],
29071                     "rts": [
29072                         "oic.r.sleep",
29073                         "oic.r.heartrate",
29074                         "oic.r.time.stamp",
29075                         "oic.r.userid"
29076                     ],
29077                     "links": [
29078                         {
29079                             "href": "/mySleepMonitor",
29080                             "rt": [
29081                                 "oic.r.sleep"
29082                             ],
29083                             "if": [
29084                                 "oic.if.s",
29085                                 "oic.if.baseline"
29086                             ]
29087                         },
29088                         {
29089                             "href": "/myHeartRate",
29090                             "rt": [
29091                                 "oic.r.heartrate"
29092                             ],
29093                             "if": [
29094                                 "oic.if.s",
29095                                 "oic.if.baseline"
29096                             ]

```



```

29097         },
29098         {
29099             "href": "/myUserId",
29100             "rt": [
29101                 "oic.r.userid"
29102             ],
29103             "if": [
29104                 "oic.if.r",
29105                 "oic.if.baseline"
29106             ]
29107         },
29108         {
29109             "href": "/myTimeStamp",
29110             "rt": [
29111                 "oic.r.time.stamp"
29112             ],
29113             "if": [
29114                 "oic.if.r",
29115                 "oic.if.baseline"
29116             ]
29117         }
29118     ],
29119     },
29120     "schema": {
29121         "$ref": "#/definitions/baseline"
29122     }
29123 }
29124 }
29125 }
29126 },
29127 "parameters": {
29128     "interface-all": {
29129         "in": "query",
29130         "name": "if",
29131         "type": "string",
29132         "enum": [
29133             "oic.if.b",
29134             "oic.if.ll",
29135             "oic.if.baseline"
29136         ]
29137     }
29138 },
29139 },
29140 "definitions": {
29141     "batch-retrieve": {
29142         "title": "Atomic Measurement Batch Retrieve Format",
29143         "minItems": 1,
29144         "uniqueItems": true,
29145         "readOnly": true,
29146         "items": {
29147             "properties": {
29148                 "href": {
29149                     "$ref":
29150 "https://openconnectivityfoundation.github.io/core/schemas/oic.links.properties.core-
29151 schema.json#/definitions/href"
29152                 },
29153                 "rep": {
29154                     "description": " The response payload from an Atomic Measurement (batch) resource",
29155                     "type": "object",
29156                     "items": {
29157                         "anyOf": [
29158                             {
29159                                 "$ref":
29160 "https://openconnectivityfoundation.github.io/IoTDataModels/Sleep.swagger.json#/definitions/Sleep"
29161                             },
29162                             {
29163                                 "$ref":
29164 "https://openconnectivityfoundation.github.io/IoTDataModels/HeartRate.swagger.json#/definitions/Hear
29165 tRate"
29166                             }
29167                         ],
29168                         "$ref":

```

```

29169 "https://openconnectivityfoundation.github.io/IoTDataModels/UserIDResURI.swagger.json#/definitions/U
29170 serID"
29171     },
29172     {
29173         "$ref":
29174         "https://openconnectivityfoundation.github.io/IoTDataModels/TimeStampResURI.swagger.json#/definition
29175         s/TimeStamp"
29176     }
29177 ]
29178 }
29179 },
29180 },
29181 "required": [
29182     "href",
29183     "rep"
29184 ],
29185 "type": "object"
29186 },
29187 "type": "array"
29188 },
29189 "links": {
29190     "type": "array",
29191     "items": {
29192         "$ref": "#/definitions/oic.oic-link"
29193     }
29194 },
29195 "baseline": {
29196     "properties": {
29197         "rt": {
29198             "type": "array",
29199             "readOnly": true,
29200             "uniqueItems": true,
29201             "minItems": 2,
29202             "items": {
29203                 "type": "string",
29204                 "enum": [
29205                     "oic.r.sleepmonitor-am",
29206                     "oic.wk.atomicmeasurement"
29207                 ]
29208             }
29209         },
29210         "rts": {
29211             "description": "This contains all possible resource types for this atomic measurement.",
29212             "type": "array",
29213             "uniqueItems": true,
29214             "minItems": 1,
29215             "readOnly": true,
29216             "items": {
29217                 "type": "string",
29218                 "enum": [
29219                     "oic.r.sleep",
29220                     "oic.r.heartrate",
29221                     "oic.r.userid",
29222                     "oic.r.time.stamp"
29223                 ]
29224             }
29225         },
29226         "rts-m": {
29227             "description": "This contains all mandatory resource types for this atomic measurement.",
29228             "type": "array",
29229             "uniqueItems": true,
29230             "minItems": 1,
29231             "maxItems": 1,
29232             "readOnly": true,
29233             "items": {
29234                 "type": "string",
29235                 "enum": [
29236                     "oic.r.sleep"
29237                 ]
29238             }
29239         },
29240         "if": {

```

```

29241         "description": "The interface set supported by this resource",
29242         "type": "array",
29243         "readOnly": true,
29244         "minItems": 3,
29245         "uniqueItems": true,
29246         "items": {
29247             "type": "string",
29248             "enum": [
29249                 "oic.if.b",
29250                 "oic.if.ll",
29251                 "oic.if.baseline"
29252             ]
29253         },
29254     },
29255     "links": {
29256         "$ref": "#/definitions/links"
29257     },
29258     "n": {
29259         "$ref":
29260 "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
29261 schema.json#/definitions/n"
29262     },
29263     },
29264     "type": "object",
29265     "required": [
29266         "rt",
29267         "if",
29268         "rts-m"
29269     ]
29270 },
29271 "oic.oic-link": {
29272     "properties": {
29273         "if": {
29274             "type": "array",
29275             "readOnly": true,
29276             "uniqueItems": true,
29277             "minItems": 1,
29278             "items": {
29279                 "type": "string",
29280                 "enum": [
29281                     "oic.if.baseline",
29282                     "oic.if.s",
29283                     "oic.if.r"
29284                 ]
29285             }
29286         },
29287         "rt": {
29288             "type": "array",
29289             "readOnly": true,
29290             "uniqueItems": true,
29291             "minItems": 1,
29292             "items": {
29293                 "type": "string",
29294                 "enum": [
29295                     "oic.r.sleep",
29296                     "oic.r.heartrate",
29297                     "oic.r.userid",
29298                     "oic.r.time.stamp"
29299                 ]
29300             }
29301         },
29302         "anchor": {
29303             "$ref":
29304 "https://openconnectivityfoundation.github.io/core/schemas/oic.links.properties.core-
29305 schema.json#/definitions/anchor"
29306         },
29307         "di": {
29308             "$ref":
29309 "https://openconnectivityfoundation.github.io/core/schemas/oic.links.properties.core-
29310 schema.json#/definitions/di"
29311         },
29312         "eps": {

```

```

29313         "$ref":
29314         "https://openconnectivityfoundation.github.io/core/schemas/oic.links.properties.core-
29315         schema.json#/definitions/eps"
29316         },
29317         "href": {
29318         "$ref":
29319         "https://openconnectivityfoundation.github.io/core/schemas/oic.links.properties.core-
29320         schema.json#/definitions/href"
29321         },
29322         "ins": {
29323         "$ref":
29324         "https://openconnectivityfoundation.github.io/core/schemas/oic.links.properties.core-
29325         schema.json#/definitions/ins"
29326         },
29327         "p": {
29328         "$ref":
29329         "https://openconnectivityfoundation.github.io/core/schemas/oic.links.properties.core-
29330         schema.json#/definitions/p"
29331         },
29332         "rel": {
29333         "$ref":
29334         "https://openconnectivityfoundation.github.io/core/schemas/oic.links.properties.core-
29335         schema.json#/definitions/rel_array"
29336         },
29337         "title": {
29338         "$ref":
29339         "https://openconnectivityfoundation.github.io/core/schemas/oic.links.properties.core-
29340         schema.json#/definitions/title"
29341         },
29342         "type": {
29343         "$ref":
29344         "https://openconnectivityfoundation.github.io/core/schemas/oic.links.properties.core-
29345         schema.json#/definitions/type"
29346         }
29347     },
29348     "required": [
29349     "href",
29350     "rt",
29351     "if"
29352     ],
29353     "type": "object"
29354 }
29355 }
29356 }

```

29357 6.142.5 Property definition

29358 Table 287 defines the Properties that are part of the "oic.r.sleepmonitor-am,
29359 oic.wk.atomicmeasurement" Resource Type.

29360 **Table 287 – The Property definitions of the Resource with type "rt" = "oic.r.sleepmonitor-
29361 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	

29362 **6.142.6 CRUDN behaviour**

29363 Table 288 defines the CRUDN operations that are supported on the "oic.r.sleepmonitor-am,
29364 oic.wk.atomicmeasurement" Resource Type.

29365 **Table 288 – The CRUDN operations of the Resource with type "rt" = "oic.r.sleepmonitor-am,
29366 oic.wk.atomicmeasurement".**

Create	Read	Update	Delete	Notify
	get			observe

29367 **6.143 SpO2 for Pulse Oximeter**

29368 **6.143.1 Introduction**

29369 This Resource describes the Properties associated with a person's blood oxygen saturation level.
29370 The spo2 and perfusion Properties are read-only value that is provided by the server.
29371 When range (from "oic.r.baseresource") is omitted the default is 0 to +MAXFLOAT.

29372 **6.143.2 Example URI**

29373 /SpO2ResURI

29374 **6.143.3 Resource type**

29375 The Resource Type is defined as: "oic.r.spo2".

29376 **6.143.4 OpenAPI 2.0 definition**

```
29377 {
29378   "swagger": "2.0",
29379   "info": {
29380     "title": "SpO2 for Pulse Oximeter",
29381     "version": "2019-03-04",
29382     "license": {
29383       "name": "OCF Data Model License",
29384       "url":
29385 "https://github.com/openconnectivityfoundation/core/blob/e28a9e0a92e17042ba3e83661e4c0fbce8bdc4ba/LI
29386 CENSE.md",
29387       "x-copyright": "Copyright 2018-2019 Open Connectivity Foundation, Inc. All rights reserved."
29388     },
29389     "termsOfService": "https://openconnectivityfoundation.github.io/core/DISCLAIMER.md"
29390   },
29391   "schemes": [
29392     "http"
29393   ],
29394   "consumes": [
29395     "application/json"
29396   ],
29397   "produces": [
29398     "application/json"
29399   ],
29400   "paths": {
29401     "/SpO2ResURI": {
29402       "get": {
29403         "description": "This Resource describes the Properties associated with a person's blood
29404 oxygen saturation level.\n The spo2 and perfusion Properties are read-only value that is provided by
29405 the server.\n When range (from \"oic.r.baseresource\") is omitted the default is 0 to +MAXFLOAT.",
29406         "parameters": [
29407           {
29408             "$ref": "#/parameters/interface"
29409           }
29410         ],
29411         "responses": {
29412           "200": {
29413             "description": "",
29414             "x-example": {
29415               "rt": [
29416                 "oic.r.spo2"
29417               ],
29418               "spo2": 99.0,
29419               "perfusion": 20.0
29420             },
29421             "schema": {
29422               "$ref": "#/definitions/SpO2"
29423             }
29424           }
29425         }
29426       }
29427     }
29428   },
29429   "parameters": {
29430     "interface": {
29431       "in": "query",
29432       "name": "if",
29433       "type": "string",
29434       "enum": [
29435         "oic.if.s",
29436         "oic.if.baseline"
29437       ]
29438     }
29439   },
29440   "definitions": {
29441     "SpO2": {
29442       "properties": {
```

```

29443         "spo2": {
29444             "description": "This Property describes the estimation of the oxygen saturation level in
29445 percentage.",
29446             "type": "number",
29447             "minimum": 0.0,
29448             "maximum": 100.0,
29449             "readOnly": true
29450         },
29451         "perfusion": {
29452             "description": "This Property describes the ratio of AC over DC of PPG.",
29453             "type": "number",
29454             "minimum": 0.0,
29455             "readOnly": true
29456         },
29457         "rt": {
29458             "description": "The Resource Type.",
29459             "items": {
29460                 "enum": [
29461                     "oic.r.spo2"
29462                 ],
29463                 "type": "string"
29464             },
29465             "minItems": 1,
29466             "uniqueItems": true,
29467             "readOnly": true,
29468             "type": "array"
29469         },
29470         "n": {
29471             "$ref":
29472 "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
29473 schema.json#/definitions/n"
29474         },
29475         "if": {
29476             "description": "The OCF Interface set supported by this Resource.",
29477             "items": {
29478                 "enum": [
29479                     "oic.if.s",
29480                     "oic.if.baseline"
29481                 ],
29482                 "type": "string"
29483             },
29484             "minItems": 1,
29485             "uniqueItems": true,
29486             "readOnly": true,
29487             "type": "array"
29488         },
29489         "spo2_range": {
29490             "$ref":
29491 "https://openconnectivityfoundation.github.io/IoTDataModels/schemas/oic.baseresource.properties-
29492 schema.json#/definitions/range_number"
29493         },
29494         "perfusion_range": {
29495             "$ref":
29496 "https://openconnectivityfoundation.github.io/IoTDataModels/schemas/oic.baseresource.properties-
29497 schema.json#/definitions/range_number"
29498         },
29499         "spo2_step": {
29500             "$ref":
29501 "https://openconnectivityfoundation.github.io/IoTDataModels/schemas/oic.baseresource.properties-
29502 schema.json#/definitions/step_number"
29503         },
29504         "perfusion_step": {
29505             "$ref":
29506 "https://openconnectivityfoundation.github.io/IoTDataModels/schemas/oic.baseresource.properties-
29507 schema.json#/definitions/step_number"
29508         },
29509         "spo2_precision": {
29510             "$ref":
29511 "https://openconnectivityfoundation.github.io/IoTDataModels/schemas/oic.baseresource.properties-
29512 schema.json#/definitions/precision"
29513         },
29514         "perfusion_precision": {

```

```

29515         "$ref":
29516         "https://openconnectivityfoundation.github.io/IoTDataModels/schemas/oic.baseresource.properties-
29517         schema.json#/definitions/precision"
29518     }
29519 },
29520 "type": "object",
29521 "required": [
29522     "spo2"
29523 ]
29524 }
29525 }
29526 }

```

29527 **6.143.5 Property definition**

29528 Table 289 defines the Properties that are part of the "oic.r.spo2" Resource Type.

29529 **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.

29530 **6.143.6 CRUDN behaviour**

29531 Table 290 defines the CRUDN operations that are supported on the "oic.r.spo2" Resource Type.

29532 **Table 290 – The CRUDN operations of the Resource with type "rt" = "oic.r.spo2".**

Create	Read	Update	Delete	Notify
	get			observe

29533

29534

29535