

OCF Resource Type Specification

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1258		

1259 **1 Scope**

1260 This document specifies the Resources that have been defined by OCF that may be exposed by
1261 an OCF Device.

1262 Application profile device specifications (for example those created for Smart Home or Healthcare)
1263 specify device types appropriate to the profile; such specifications use Resource Type definitions
1264 from this document.

1265 This document is built on top of ISO/IEC 30118-1:2018. ISO/IEC 30118-1:2018 specifies the OCF
1266 Framework that enables the implementation of profiles for IoT usages and ecosystems. The OCF
1267 Core Framework is scalable to support simple devices (constrained device) and more capable
1268 devices (smart device).

1269 **2 Normative references**

1270 The following documents are referred to in the text in such a way that some or all of their content
1271 constitutes requirements of this document. For dated references, only the edition cited applies. For
1272 undated references, the latest edition of the referenced document (including any amendments)
1273 applies.

1274 ISO/IEC 30118-1:2018 Information technology -- Open Connectivity Foundation (OCF)
1275 Specification -- Part 1: Core specification
1276 <https://www.iso.org/standard/53238.html>
1277 Latest version available at: https://openconnectivity.org/specs/OCF_Core_Specification.pdf

1278 OpenAPI specification, fka *Swagger RESTful API Documentation Specification, Version 2.0*
1279 <https://github.com/OAI/OpenAPI-Specification/blob/master/versions/2.0.md>

1280 oneIoTa
1281 <https://www.oneiota.org>

1282 **3 Terms, definitions, and abbreviated terms**

1283 For the purposes of this document, the terms and definitions given in ISO/IEC 30118-1:2018 and
1284 the following apply.

1285 ISO and IEC maintain terminological databases for use in standardization at the following
1286 addresses:

1287 – ISO Online browsing platform: available at <https://www.iso.org/obp>

1288 – IEC Electropedia: available at <http://www.electropedia.org/>

1289 **3.1 Terms and definitions**

1290 **3.1.1**

1291 **actuator**

1292 resource with support of the UPDATE operation

1293 **3.1.2**

1294 **Composite Resource Type**

1295 a Resource Type defined as an OCF Collection of other Resource Types

1296 **3.1.3**

1297 **sensor**

1298 resource without support of the UPDATE operation

1299 **3.2 Abbreviated terms**

1300 **3.2.1**

1301 **CRUDN**

1302 Create Retrieve Update Delete Notify

1303 This is an acronym indicating which operations are possible on the Resource.

1304 **4 Document conventions and organization**

1305 **4.1 Conventions**

1306 In this document a number of terms, conditions, mechanisms, sequences, parameters, events,
1307 states, or similar terms are printed with the first letter of each word in uppercase and the rest
1308 lowercase (e.g., Resource Type). Any lowercase uses of these words have the normal technical
1309 English meaning.

1310 **4.2 Notation**

1311 In this document, features are described as required, recommended, allowed or DEPRECATED as
1312 follows:

1313 Required (or shall or mandatory).

1314 These basic features shall be implemented to comply with OCF Resource Type Specification.
1315 The phrases "shall not", and "PROHIBITED" indicate behaviour that is prohibited, i.e. that if
1316 performed means the implementation is not in compliance.

1317 Recommended (or should).

1318 These features add functionality supported by the OCF Resource Type Specification and should
1319 be implemented. Recommended features take advantage of the capabilities of the OCF
1320 Resource Type Specification, usually without imposing major increase of complexity. Notice
1321 that for compliance testing, if a recommended feature is implemented, it shall meet the specified
1322 requirements to be in compliance with these guidelines. Some recommended features could
1323 become requirements in the future. The phrase "should not" indicates behaviour that is
1324 permitted but not recommended.

1325 Allowed (or allowed).

1326 These features are neither required nor recommended by OCF Resource Type Specification,
1327 but if the feature is implemented, it shall meet the specified requirements to be in compliance
1328 with these guidelines.

1329 DEPRECATED

1330 Although these features are still described in this document, they should not be implemented
1331 except for backward compatibility. The occurrence of a deprecated feature during operation of
1332 an implementation compliant with the current document has no effect on the implementation's
1333 operation and does not produce any error conditions. Backward compatibility may require that
1334 a feature is implemented and functions as specified but it shall never be used by
1335 implementations compliant with this document.

1336 Conditionally allowed (CA)

1337 The definition or behaviour depends on a condition. If the specified condition is met, then the
1338 definition or behaviour is allowed, otherwise it is not allowed.

1339 Conditionally required (CR)

1340 The definition or behaviour depends on a condition. If the specified condition is met, then the
1341 definition or behaviour is required. Otherwise the definition or behaviour is allowed as default
1342 unless specifically defined as not allowed.

1343 Strings that are to be taken literally are enclosed in "double quotes".

1344 Words that are emphasized are printed in *italic*.

1345 **4.3 Data types**

1346 This document adopts the types defined in ISO/IEC 30118-1:2018 with the exceptions defined in
1347 this clause

1348 All Properties in this document that are defined as JSON number type shall be transmitted encoded
1349 as floating point values and not integer values. Reception of Properties defined as JSON number
1350 type shall be as defined in ISO/IEC 30118-1:2018. See ISO/IEC 30118-1:2018 clause 12.4 for
1351 specifics.

1352 **5 Baseline Model Constructs**

1353 **5.1 URI**

1354 The URIs mentioned in this document are non-normative, they may be vendor defined.

1355 An Instance of a Resource is indicated by the URI. When more than one instance of the same
1356 Resource Type is used in an OCF Device, different URIs for the different Resource instances shall
1357 be used.

1358 An implementation shall follow the requirements defined in ISO/IEC 30118-1:2018 with respect to
1359 population of the URI. Please refer to the ISO/IEC 30118-1:2018 clauses 6.2 and 6.3 for specific
1360 details.

1361 **5.2 Interfaces**

1362 **5.2.1 Introduction**

1363 ISO/IEC 30118-1:2018 specifies that all Resource Types have associated with them at least one
1364 Interface; this Interface is advertised during Resource discovery. In addition ISO/IEC 30118-1:2018
1365 defines a number of Interfaces that can be applied to an instance of a Resource Type.

1366 The difference between using sensor/actuator and read/write interfaces is due to the fact that a
1367 sensor/actuator interface describes an action that has immediate effect on the device, either by
1368 reading the sensed value and putting the value on the wire, or as an UPDATE action that something
1369 needs to happen (e.g. actuate) on the device. The read/write interface is typically used to set a
1370 settings value on the device that might be used later when an action occurs. A typical example is
1371 setting the coffee strength that will be used when the coffee is brewed.

1372 **5.2.2 Restricting Interface Functionality**

1373 Note that the functionality associated with, or visibility of, an instance of any Resource exposed by
1374 a Device may be restricted depending upon local (per country or legislative region) regulatory
1375 requirements or other restrictions (e.g. with respect to Binary Switch in some jurisdictions the ability
1376 to remotely power on a connected device is restricted; a lock status could be read-only depending
1377 on the context).

1378 The actual implementation of a resource can be limited by:

- 1379 – Not implementing the optional properties defined in the payload of a CRUDN operation.
- 1380 – Removing CRUDN operations

1381 If an UPDATE operation of a resource that can be actuated is not implemented, this change in
1382 behaviour is indicated by changing the interfaces accordingly.

1383 When the resource is defined with the interface "oic.if.a", and the UPDATE operation is removed
1384 then the interface listed is "oic.if.s".

1385 When the resource is defined with the interface "oic.if.rw", and the UPDATE operation is removed
 1386 then the interface listed is "oic.if.r".

1387 5.3 OpenAPI Specification 2.0 definition

1388 The OpenAPI Specification 2.0 definitions provided in clause 6 in this document are normative.

1389 The OpenAPI Specification 2.0 definitions are used to describe the payloads of the CRUDN
 1390 operations on the specified Resource Type. The CRUDN operations are defined in ISO/IEC 30118-
 1391 1:2018. ISO/IEC 30118-1:2018 also specifies additional Properties in the payloads of the CRUDN
 1392 operations. The OpenAPI Specification 2.0 definitions in this document are not of themselves
 1393 sufficient to create an implementation, additional Properties defined in ISO/IEC 30118-1:2018 need
 1394 to be added to create a compliant implementation. This document makes use of a subset of the
 1395 responses supported by OpenAPI Specification 2.0, specifics on the use of these responses are
 1396 defined in Table 4. Note that the actual values of success and error conditions are defined in
 1397 ISO/IEC 30118-1:2018.

1398 The OpenAPI Specification 2.0 definitions map the OCF CRUDN behaviour to the OpenAPI
 1399 Specification 2.0 as defined in Table 1.

1400 **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

1401 Notify is not part of an OpenAPI Specification 2.0 definition but is defined in ISO/IEC 30118-1:2018.
 1402 All Resource Types defined in this document support notification via the use of observe as defined
 1403 in ISO/IEC 30118-1:2018 clause 11.4.2.

1404 5.4 Property definition

1405 5.4.1 Common Properties

1406 ISO/IEC 30118-1:2018 specifies a number of Properties that may be defined for OCF Resources.
 1407 The Common Properties "if" and "rt" shall be specified for all Resource Types defined in this
 1408 document; they are exposed within the ISO/IEC 30118-1:2018 defined "/oic/res/" Resource Type
 1409 through which the OCF Server and its available Resources are discovered. The Common
 1410 Properties "id" and "n" may be specified for all Resource Types defined in this document. Table 2
 1411 lists all of the noted Common Properties.

1412 If an OCF Client requires that these Properties be included in a Resource representation that is
 1413 provided in response to a RETRIEVE operation then the client shall select the ISO/IEC 30118-
 1414 1:2018 defined baseline interface (oic.if.baseline) by specifying this in a query parameter.

1415 **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

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

					document. See clause 6
n	Name	See ISO/IEC 30118-1:2018 clause 7.3.2.5	String	Readonly	Core defined; human understandable name for the Resource.
id	Resource Identity	See ISO/IEC 30118-1:2018 clause 7.3.2.6	String	Readonly	Core defined; Unique identifier of the Resource (over all Resources in the OCF device)

1416

1417 5.4.2 Resource Properties

1418 5.4.2.1 Introduction

1419 The Properties against which the CRUDN operations are specified are defined as part of an
1420 OpenAPI Specification 2.0 definition.

1421 A basic Resource Type is formulated around one single value denoting a physical property.

1422 Such a Resource Type is specified with the Properties as defined Table 3. Mandatory in the table
1423 means that the Property shall be defined as part of the overall Resource Type schema; actual
1424 inclusion of the Property as part of a returned or generated payload is dependent upon the schema
1425 that applies to the operation being invoked.

1426 **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.

1427

1428 For Resources, which by their nature have more than one physical parameter, the value Property
1429 can be replaced with multiple Properties specifying the different physical parameters, or with further
1430 structures such as arrays of Properties, objects, or Collections. The type of the value shall be
1431 indicated in the OpenAPI Specification 2.0 definition of the Resource Type and should be suitable
1432 for the conveyed value. All Property Names and Property Values defined in this document are case
1433 sensitive.

1434 **5.4.2.2 "range" Property**

1435 The "range" defines the valid range for the Property in the Resource as a two element array. This
1436 is either an integer or a number range. The first value in the array is the minimum value, the second
1437 value in the array is the maximum value.

1438 **5.4.2.3 "step" Property**

1439 The "step" defines the step value across the defined "range" as either an integer or a number. This
1440 is the increment for valid values across the range. For example, for the integer case if the "range"
1441 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
1442 0.0..10.0 and "step" is 2.5 then valid values are 0.0,2.5,5.0,7.5,10.0.

1443 **5.4.2.4 "precision" Property**

1444 When exposed the value in "precision" provides a +/- tolerance against the Properties in the
1445 Resource. Thus if a Property is UPDATED to a value and that Property then RETRIEVED, the
1446 RETRIEVED value is valid if in the range of the set value +/- precision

1447 **5.4.3 Basic Resource Schema**

1448 All Resource Types defined herein are represented as previously noted by OpenAPI Specification
1449 2.0 files.

1450 **5.4.4 CRUDN Operation Response Codes**

1451 A Resource can be created or updated depending on the Resource Type definition and the allowed
1452 CRUDN operations. The operation may have different response codes with different meanings.
1453 This is explained in Table 4.

1454 **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.

	<p>The response payload should include the allowed values for the query parameter.</p> <p>Case 2: 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>
--	-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------

1455

1456 **5.5 Example Resource Definitions**

1457 Please see the OCF Resource Types in Clause 6 for examples of Resource Definitions. For an
 1458 example Resource Type that models an actuator refer to the definition of Dimming; for an example
 1459 Resource Type that models a sensor refer to the definition of an Illuminance Sensor.

1460 **5.6 Observable Resource Types**

1461 **5.6.1 Introduction**

1462 ISO/IEC 30118-1:2018 defines a mechanism by which Resources can advertise themselves as
 1463 “Observable” to an OCF Client. All Resource Types defined in this document may be observed.
 1464 Whether or not a Resource Type is made observable via use of the Policy Link Parameter is entirely
 1465 implementation dependent.

1466 **5.6.2 Conditional Notification**

1467 **5.6.2.1 General**

1468 All observable Resources may apply conditions to the generation of notifications that result from
 1469 the observe action, these conditions can be time based or value based or time and value based.
 1470 This is achieved by composing the Conditional Notification (oic.r.value.conditional) Resource Type
 1471 with an instance of an observable Resource; that is the Resource that is exposed by the Server
 1472 has an “rt” of “[“oic.r.<resource>”,“oic.r.value.conditional”]”.

1473 **5.6.2.2 Conditional Notification Property Summary**

1474 Table 5 summarizes the Properties provided by the Conditional Notification Resource Type. At
 1475 least one Property from the table shall be present in an instance of the Resource Type.

1476 **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

1477

1478 All Properties if exposed shall be set with initial values. All Properties may be exposed with a value
 1479 of “0” (zero); this indicates that the functionality associated with the Property is not active. Any
 1480 Client may update the exposed values subject to any ACL restrictions; such changes are global
 1481 and apply to all notifications that are sent to all observers. A notifier may reject an update to the
 1482 Property values; in such cases a diagnostic payload should be included in the rejection response
 1483 indicating the valid ranges for the Properties.

1484 **5.6.2.3 Property Definition: threshold**

1485 Minimum value change between two notifications. A notification shall be sent (within the constraints
1486 of “minnotifyperiod”) when the change since the last notification is greater than or equal to this
1487 value. The measurement is done against the value in the last notification that was sent; thus all
1488 notifications (within any “maxnotifyperiod” constraints that may be present) will carry values that
1489 differ by at least “threshold”. A “threshold” value of “0” means that no “threshold” is applied.

1490 **5.6.2.4 Property Definition: minnotifyperiod**

1491 Minimum time (in ms) that shall occur between notifications. If a value change condition is met
1492 (“threshold” equalled or exceeded or any change in value if threshold is not present) before
1493 expiration the notification shall not be sent till the period expires. If the Property is present and set
1494 to “0” then no minimum notify period timer is run; if the Property is present and with a value greater
1495 than “0” then a minimum notify period timer shall be run equal to the value. The Property value
1496 itself is initially populated by the notifier. If the Property is not present, the minimum notify period
1497 is up to the notifier. The timer shall be reset each time a notification is sent.

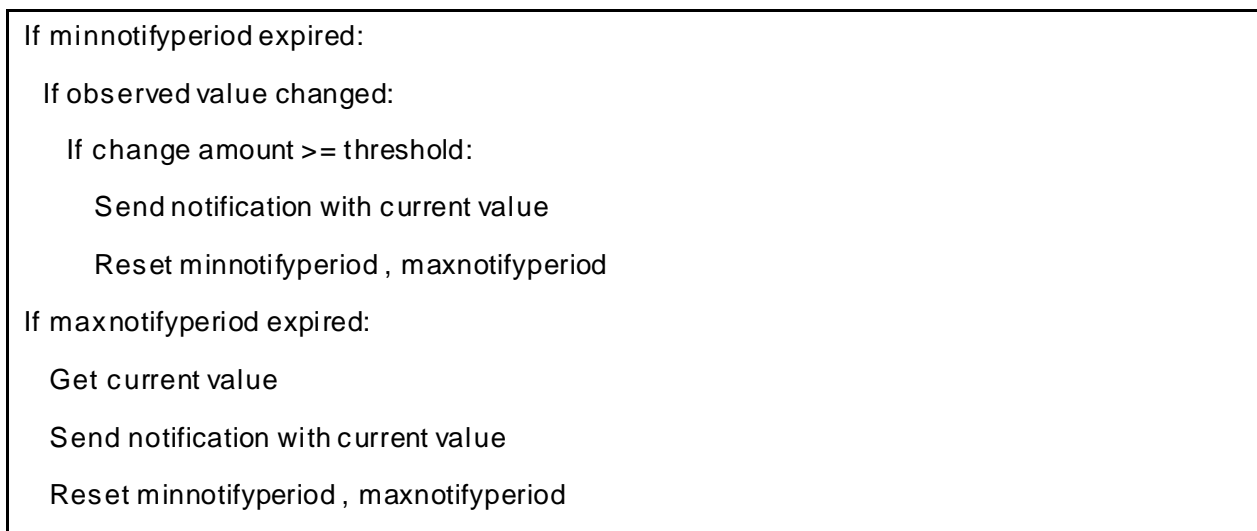
1498 **5.6.2.5 Property Definition: maxnotifyperiod**

1499 Maximum time (in ms) that the notifier shall not exceed between notifications. When the timer
1500 expires a notification shall be sent. If present and set to “0” then no maximum notify period timer
1501 is run; if present and with a value greater than 0 then a maximum notify period timer shall be run
1502 equal to the value. The Property value itself shall be initially populated by the notifier. When both
1503 “minnotifyperiod” and “maxnotifyperiod” are present and both are non-zero the value of
1504 “maxnotifyperiod” shall be larger than the “minnotifyperiod”. If not present, the value shall be set
1505 by the notifier. The timer shall be reset each time a notification is sent.

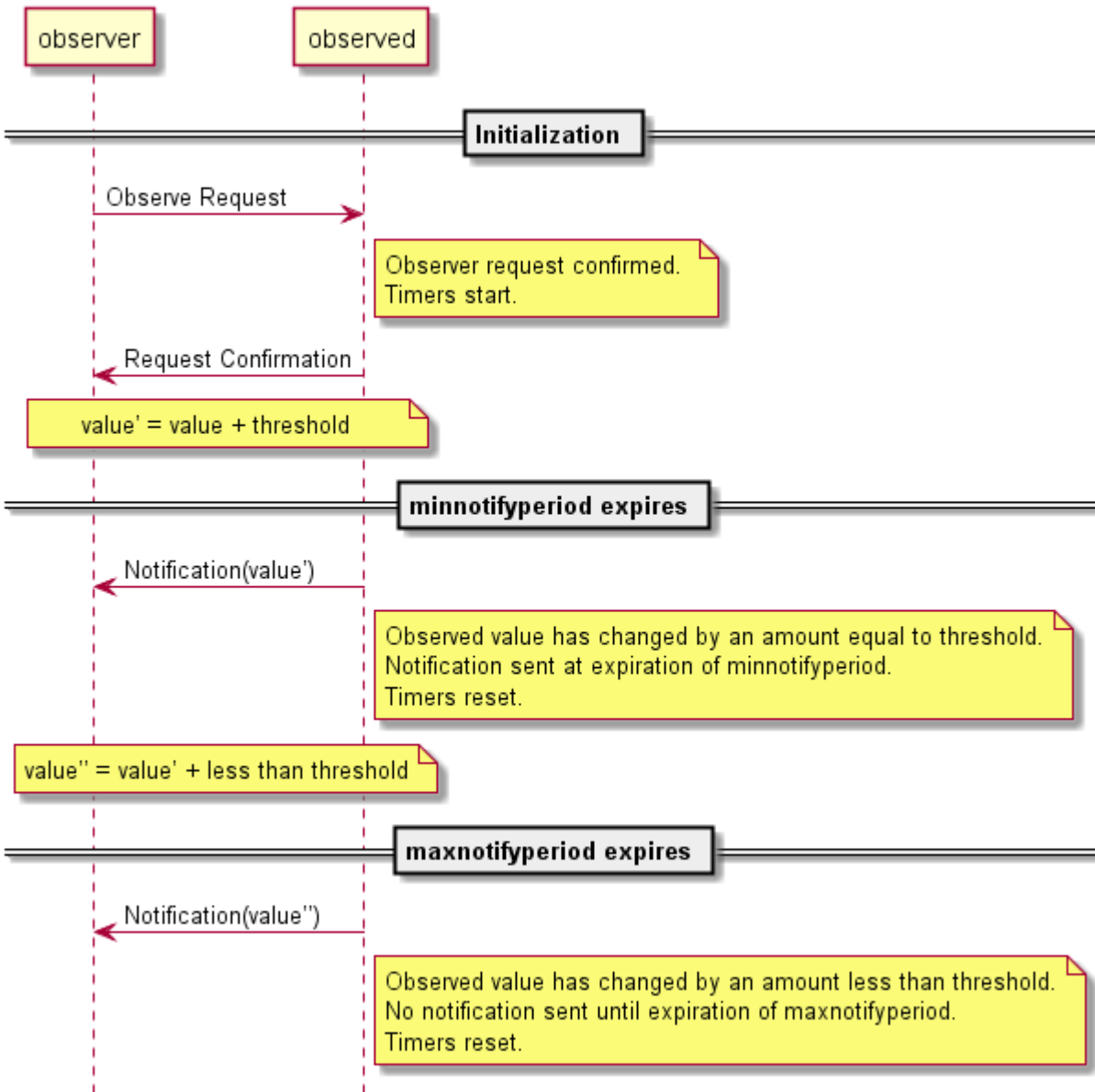
1506 **5.6.2.6 Governing State Machine**

1507 The “minnotifyperiod” and “maxnotifyperiod” timers are restarted each time a notification is sent
1508 (response to the Observe). A notification is sent when value change condition (threshold) and
1509 “minnotifyperiod” are both met if both are present. If the observed Property value subsequently
1510 drops beneath threshold before the expiration of “minnotifyperiod” the notifier may take no action
1511 or a notification may be sent on expiration of “minnotifyperiod” containing the current observed
1512 Property value (at the time of the notification). If there are no timer constraints; then notifications
1513 are sent whenever the observed Property value has changed by an amount greater than or equal
1514 to “threshold”.

1515 Overall logic is defined in Figure 1. Figure 2 provides an illustrative sequence.



1516 **Figure 1 – Overall conditional notification logic**



1518

1519

Figure 2 – Conditional Notification Example Flow

1520

1521 **5.7 Composite Resource Types**

1522 Composite Resource Types are Resources that comprises of one or more single or other composite
 1523 Resource Types, an example of which is shown in Figure 3. The Composite Resource Type can be
 1524 viewed upon as a new single Resource Type. The Composite Resource Type mechanism is a
 1525 powerful concept since it uses existing Resource Types in a new combination to express more
 1526 contexts to a Resource without specifying new single unit Resource Types.

1527 Composite Resource Types are defined by linking the referenced existing Resource values in to a
 1528 Collection.

1529 The linking is done by using an array of Links; refer to ISO/IEC 30118-1:2018 clause 7.8.2 for more
1530 details. Note that the example in Figure 3 contains a partial schema of this definition as it is for
1531 descriptive purpose only. The Property name of the array in the example is “resources”.

1532 The contents of the listed Resources can be achieved in a single operation by using the ISO/IEC
1533 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"}
          }
        }
      }
    }
  }
}
```

1534 **Figure 3 – Composite Resource Example**

1535 **5.8 Document Version**

1536 Devices conformant to this document version shall add the string “ocf.res.1.3.0” to the dmv Property
1537 in "oic.wk.d". This Property is for legacy Device support only and will no longer be revised in
1538 alignment with document versions.

1539 **6 Resource Type definitions**

1540 **6.1 Introduction**

1541 This clause contains definitions for all Resource Types; the complete set is listed in Table 6 –
1542 Alphabetical list of Resource Types.

1543 All Resource Types shall be created in accordance with ISO/IEC 30118-1:2018 clause 7.4. All
1544 comparisons against a Resource Type shall be case insensitive.

1545 All Resource Types in this document are prefixed with “oic.r” denoting that it is an OCF defined
1546 Resource Type.

1547 The schemas provided in this document are generated from parsable/machine readable
1548 files available on the OCF-sponsored data model site onelota: <https://oneiota.org/>

1549 **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 Count	oic.r.sensor.activity.count	6.24
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
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.ffmpeg	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
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
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 Zone Sensor	oic.r.sensor.heart.zone	6.39
Heating Zone	oic.r.heatingzone	6.72
Heating Zone Collection	oic.r.heatingzocollection	6.73
Height	oic.r.height	6.64
Humidity	oic.r.humidity	6.13
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	1.122
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
Pulse Rate	oic.r.pulserate	6.113
Ramp Time	oic.r.light.ramptime	6.20
Refrigeration	oic.r.refrigeration	6.21
Selectable Levels	oic.r.selectablelevels	6.74
Sensor Properties	oic.r.sensor.props	6.114

Signal Strength	oic.r.signalstrength	6.51
Sleep Sensor	oic.r.sensor.sleep	6.58
Smoke Sensor	oic.r.sensor.smoke	6.59
Speech Synthesis	oic.r.speech.tts	6.52
Temperature	oic.r.temperature	6.22
Three Axis Sensor	oic.r.sensor.threeaxis	6.60
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

1550

1551 6.2 Air Flow

1552 6.2.1 Introduction

1553 This Resource describes Properties associated with air flow.
 1554 The Property "supporteddirections" is the set of valid values for the direction property for a
 1555 particular instance of this Resource Type.
 1556 The Property "direction" is the directionality of the air flow if applicable, if Property
 1557 "supporteddirections" is also present it must be a value from that set.
 1558 The values of Property "direction" are dependent on the capabilities of the unit.
 1559 The Property "speed" is an integer representing the current speed level for the unit.
 1560 The Property "range" is an array of the min,max values for the speed level. If not present the
 1561 "range" defaults to [0,100].
 1562 Property "automode" is the status of the automode feature; Off means automode is not enabled,
 1563 On means automode is active and the speed is automatically controlled by the Device.

1564 6.2.2 Example URI

1565 /AirFlowResURI

1566 6.2.3 Resource type

1567 The Resource Type is defined as: "oic.r.airflow".

1568 6.2.4 OpenAPI 2.0 definition

```

1569 {
1570   "swagger": "2.0",
1571   "info": {
1572     "title": "Air Flow",
1573     "version": "20190215",
1574     "license": {
1575       "name": "OCF Data Model License",
1576       "url":
1577         "https://github.com/openconnectivityfoundation/core/blob/e28a9e0a92e17042ba3e83661e4c0fbce8bdc4ba/LI
1578         CENSE.md",
1579       "x-copyright": "copyright 2016-2017, 2019 Open Connectivity Foundation, Inc. All rights
1580 reserved."
1581     },
1582     "termsOfService": "https://openconnectivityfoundation.github.io/core/DISCLAIMER.md"

```

```

1583     },
1584     "schemes": ["http"],
1585     "consumes": ["application/json"],
1586     "produces": ["application/json"],
1587     "paths": {
1588         "/AirFlowResURI" : {
1589             "get": {
1590                 "description": "This Resource describes Properties associated with air flow.\nThe Property
1591 \supportedirections\" is the set of valid values for the direction property for a particular
1592 instance of this Resource Type.\nThe Property \"direction\" is the directionality of the air flow if
1593 applicable, if Property \"supportedirections\" is also present it must be a value from that set.\n
1594 The values of Property \"direction\" are dependent on the capabilities of the unit.\nThe Property
1595 \"speed\" is an integer representing the current speed level for the unit.\nThe Property \"range\"
1596 is an array of the min,max values for the speed level. If not present the \"range\" defaults to
1597 [0,100].\n Property \"automode\" is the status of the automode feature; Off means automode is not
1598 enabled, On means automode is active and the speed is automatically controlled by the Device.",
1599                 "parameters": [
1600                     { "$ref": "#/parameters/interface" }
1601                 ],
1602                 "responses": {
1603                     "200": {
1604                         "description": "",
1605                         "x-example":
1606                             {
1607                                 "rt": ["oic.r.airflow"],
1608                                 "if": ["oic.if.a", "oic.if.baseline"],
1609                                 "supportedirections": ["left", "right", "centre"],
1610                                 "direction": "left",
1611                                 "speed": 5,
1612                                 "range": [1, 7],
1613                                 "automode": "Off"
1614                             },
1615                         "schema": { "$ref": "#/definitions/AirFlow" }
1616                     }
1617                 }
1618             },
1619             "post": {
1620                 "description": "Sets the current air flow values.\nOnly \"direction\" and \"speed\"
1621 Properties may be set by an UPDATE operation.\n",
1622                 "parameters": [
1623                     { "$ref": "#/parameters/interface" },
1624                     {
1625                         "name": "body",
1626                         "in": "body",
1627                         "required": true,
1628                         "schema": { "$ref": "#/definitions/AirFlow" },
1629                         "x-example":
1630                             {
1631                                 "direction": "right",
1632                                 "speed": 3
1633                             }
1634                     }
1635                 ],
1636                 "responses": {
1637                     "200": {
1638                         "description": "",
1639                         "x-example":
1640                             {
1641                                 "direction": "right",
1642                                 "speed": 3
1643                             },
1644                         "schema": { "$ref": "#/definitions/AirFlow" }
1645                     },
1646                     "403": {
1647                         "description": "This response is generated by the OCF Server when the client sends:\n
1648 An UPDATE with an invalid Property value for direction.\n An UPDATE with an out of range property
1649 value for speed.\nThe server may respond with the current resource representation.\n",
1650                         "x-example":
1651                             {
1652                                 "supportedirections": ["left", "right", "centre"],
1653                                 "direction": "right",
1654                                 "speed": 3

```

```

1655         },
1656         "schema": { "$ref": "#/definitions/AirFlow" }
1657     }
1658 }
1659 }
1660 }
1661 },
1662 "parameters": {
1663     "interface" : {
1664         "in": "query",
1665         "name": "if",
1666         "type": "string",
1667         "enum": ["oic.if.a", "oic.if.baseline"]
1668     }
1669 },
1670 "definitions": {
1671     "AirFlow" : {
1672         "properties": {
1673             "rt" : {
1674                 "description": "The Resource Type",
1675                 "items": {
1676                     "enum": ["oic.r.airflow"],
1677                     "maxLength": 64,
1678                     "type": "string"
1679                 },
1680                 "minItems": 1,
1681                 "uniqueItems": true,
1682                 "readOnly": true,
1683                 "type": "array"
1684             },
1685             "speed" : {
1686                 "description": "The current speed level.",
1687                 "type": "integer"
1688             },
1689             "direction" : {
1690                 "description": "The directionality of the air flow, a value indicated by
1691 \supporteddirections\".",
1692                 "type": "string"
1693             },
1694             "automode" : {
1695                 "description": "The status of the automode feature, if on speed is set by the Device.",
1696                 "enum": [
1697                     "On",
1698                     "Off"
1699                 ],
1700                 "type": "string"
1701             },
1702             "supporteddirections" : {
1703                 "description": "The array of possible direction settings for this instance of the Resource
1704 Type.",
1705                 "items": {
1706                     "minItems": 1,
1707                     "type": "string",
1708                     "uniqueItems": true
1709                 },
1710                 "readOnly": true,
1711                 "type": "array"
1712             },
1713             "n" : {
1714                 "$ref":
1715 "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
1716 schema.json#/definitions/n"
1717             },
1718             "id" : {
1719                 "$ref":
1720 "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
1721 schema.json#/definitions/id"
1722             },
1723             "range" : {
1724                 "$ref":
1725 "https://openconnectivityfoundation.github.io/IoTDataModels/schemas/oic.baseresource.properties-
1726 schema.json#/definitions/range_integer"

```

```

1727     },
1728     "step": {
1729       "$ref":
1730       "https://openconnectivityfoundation.github.io/IoTDataModels/schemas/oic.baseresource.properties-
1731       schema.json#/definitions/step_integer"
1732     },
1733     "if": {
1734       "description": "The OCF Interface set supported by this Resource.",
1735       "items": {
1736         "enum": [
1737           "oic.if.a",
1738           "oic.if.baseline"
1739         ],
1740         "type": "string"
1741       },
1742       "minItems": 2,
1743       "uniqueItems": true,
1744       "readOnly": true,
1745       "type": "array"
1746     }
1747   },
1748   "type": "object",
1749   "required": ["speed"]
1750 }
1751 }
1752 }
1753

```

1754 **6.2.5 Property definition**

1755 Table 7 defines the Properties that are part of the "oic.r.airflow" Resource Type.

1756 **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	

1757 **6.2.6 CRUDN behaviour**

1758 Table 8 defines the CRUDN operations that are supported on the "oic.r.airflow" Resource Type.

1759 **Table 8 – The CRUDN operations of the Resource with type "rt" = "oic.r.airflow".**

Create	Read	Update	Delete	Notify
	get	post		observe

1760 **6.3 Air Flow Control**

1761 **6.3.1 Introduction**

1762 This Resource describes the attributes associated with control of air flow,
 1763 for example as modelled by a Thermostat (fan), Room A/C or other device.
 1764 The Resource is a Collection of:
 1765 AirFlow Resource
 1766 BinarySwitch Resource
 1767

1768 **6.3.2 Example URI**

1769 /AirFlowControlResURI

1770 **6.3.3 Resource type**

1771 The Resource Type is defined as: "oic.r.airflowcontrol".

1772 **6.3.4 OpenAPI 2.0 definition**

```

1773 {
1774   "swagger": "2.0",
1775   "info": {
1776     "title": "Air Flow Control",
1777     "version": "20190307",
1778     "license": {
1779       "name": "OCF Data Model License",
1780       "url":
1781 "https://github.com/openconnectivityfoundation/core/blob/e28a9e0a92e17042ba3e83661e4c0fbce8bdc4ba/LI
1782 CENSE.md",
1783       "x-copyright": "copyright 2016-2019 Open Connectivity Foundation, Inc. All rights reserved."
1784     },
1785     "termsOfService": "https://openconnectivityfoundation.github.io/core/DISCLAIMER.md"
1786   },
1787   "schemes": ["http"],
1788   "consumes": ["application/json"],

```

```

1789     "produces": ["application/json"],
1790     "paths": {
1791         "/AirFlowControlResURI?if=oic.if.ll" : {
1792             "get": {
1793                 "description": "This Resource describes the attributes associated with control of air
1794 flow,\nfor example as modelled by a Thermostat (fan), Room A/C or other device.\nThe Resource is a
1795 Collection of:\n AirFlow Resource\n BinarySwitch Resource\n",
1796                 "parameters": [
1797                     {"$ref": "#/parameters/interface-all"}
1798                 ],
1799                 "responses": {
1800                     "200": {
1801                         "description" : "",
1802                         "x-example": [
1803                             {"href": "/BinarySwitchResURI", "rt":["oic.r.switch.binary"],
1804 "if":["oic.if.a","oic.if.baseline"], "eps": [{"ep": "coaps://[fe80:b1d6]:1122}"}]},
1805                             {"href": "/AirFlowResURI", "rt":["oic.r.airflow"],
1806 "if":["oic.if.a","oic.if.baseline"], "eps": [{"ep": "coaps://[fe80:b1d6]:1122}"}]}
1807                         ],
1808                         "schema": { "$ref": "#/definitions/AirFlowControl-ll" }
1809                     }
1810                 }
1811             }
1812         },
1813         "/AirFlowControlResURI?if=oic.if.b": {
1814             "get": {
1815                 "description": "This Resource describes the attributes associated with control of air
1816 flow,\nfor example as modelled by a Thermostat (fan), Room A/C or other device.\nThe Resource is a
1817 Collection of:\n AirFlow Resource\n BinarySwitch Resource\n",
1818                 "parameters": [
1819                     {"$ref": "#/parameters/interface-all"}
1820                 ],
1821                 "responses": {
1822                     "200": {
1823                         "description" : "",
1824                         "x-example": [
1825                             {
1826                                 "href": "/BinarySwitchResURI",
1827                                 "rep": {
1828                                     "value": true
1829                                 }
1830                             },
1831                             {
1832                                 "href": "/AirFlowResURI",
1833                                 "rep": {
1834                                     "supporteddirections": ["left","right","centre"],
1835                                     "direction": "right",
1836                                     "speed": 3,
1837                                     "range": [1,7],
1838                                     "automode": "Off"
1839                                 }
1840                             }
1841                         ],
1842                         "schema": { "$ref": "#/definitions/AirFlowControlBatch-Retrieve" }
1843                     }
1844                 }
1845             },
1846             "post": {
1847                 "description": "Sets the current air flow control values using the batch OCF Interface\n",
1848                 "parameters": [
1849                     {"$ref": "#/parameters/interface-b"},
1850                     {
1851                         "name": "body",
1852                         "in": "body",
1853                         "required": true,
1854                         "schema": { "$ref": "#/definitions/AirFlowControlBatch-Update" },
1855                         "x-example": [
1856                             {
1857                                 "href": "/AirFlowResURI",
1858                                 "rep": {
1859                                     "direction": "left",
1860                                     "speed": 4

```

```

1861     }
1862   }
1863 ]
1864 }
1865 ],
1866 "responses": {
1867   "200": {
1868     "description" : "",
1869     "x-example": [
1870       {
1871         "href": "/BinarySwitchResURI",
1872         "rep": {
1873           "value": true
1874         }
1875       },
1876       {
1877         "href": "/AirFlowResURI",
1878         "rep": {
1879           "supporteddirections": ["left","right","centre"],
1880           "direction": "left",
1881           "speed": 4,
1882           "range": [1,7],
1883           "automode": "Off"
1884         }
1885       }
1886     ],
1887     "schema": { "$ref": "#/definitions/AirFlowControlBatch-Retrieve" }
1888   }
1889 }
1890 },
1891 },
1892 "/AirFlowControlResURI?if=oic.if.baseline" : {
1893   "get": {
1894     "description": "This Resource describes the attributes associated with control of air
1895 flow,\nfor example as modelled by a Thermostat (fan), Room A/C or other device.\nThe Resource is a
1896 Collection of:\n AirFlow Resource\n BinarySwitch Resource\n",
1897     "parameters": [
1898       { "$ref": "#/parameters/interface-all" }
1899     ],
1900     "responses": {
1901       "200": {
1902         "description" : "",
1903         "x-example": {
1904           "rt": ["oic.r.airflowcontrol"],
1905           "rts": ["oic.r.airflow","oic.r.switch.binary"],
1906           "if": ["oic.if.ll","oic.if.b","oic.if.baseline"],
1907           "links": [
1908             { "href": "/BinarySwitchResURI", "rt":["oic.r.switch.binary"],
1909 "if":["oic.if.a","oic.if.baseline"], "eps": [{"ep": "coaps://[fe80::b1d6]:1122"}]},
1910             { "href": "/AirFlowResURI", "rt":["oic.r.airflow"],
1911 "if":["oic.if.a","oic.if.baseline"], "eps": [{"ep": "coaps://[fe80::b1d6]:1122"}]}
1912           ],
1913         },
1914         "schema": { "$ref": "#/definitions/AirFlowControl-baseline" }
1915       }
1916     }
1917   }
1918 },
1919 },
1920 "parameters": {
1921   "interface-b" : {
1922     "in" : "query",
1923     "name" : "if",
1924     "type" : "string",
1925     "enum" : ["oic.if.b"]
1926   },
1927   "interface-all" : {
1928     "in" : "query",
1929     "name" : "if",
1930     "type" : "string",
1931     "enum" : ["oic.if.ll", "oic.if.b", "oic.if.baseline"]
1932   }
1933 }

```

```

1933     },
1934     "definitions": {
1935         "AirFlowControl-11" : {
1936             "type": "array",
1937             "minItems": 2,
1938             "uniqueItems": true,
1939             "readOnly": true,
1940             "items": {
1941                 "$ref": "#/definitions/oic.oic-link"
1942             }
1943         },
1944         "oic.oic-link": {
1945             "type": "object",
1946             "properties": {
1947                 "anchor": {
1948                     "$ref":
1949 "https://openconnectivityfoundation.github.io/core/schemas/oic.links.properties.core-
1950 schema.json#/definitions/anchor"
1951                 },
1952                 "di": {
1953                     "$ref":
1954 "https://openconnectivityfoundation.github.io/core/schemas/oic.links.properties.core-
1955 schema.json#/definitions/di"
1956                 },
1957                 "eps": {
1958                     "$ref":
1959 "https://openconnectivityfoundation.github.io/core/schemas/oic.links.properties.core-
1960 schema.json#/definitions/eps"
1961                 },
1962                 "href": {
1963                     "$ref":
1964 "https://openconnectivityfoundation.github.io/core/schemas/oic.links.properties.core-
1965 schema.json#/definitions/href"
1966                 },
1967                 "ins": {
1968                     "$ref":
1969 "https://openconnectivityfoundation.github.io/core/schemas/oic.links.properties.core-
1970 schema.json#/definitions/ins"
1971                 },
1972                 "p": {
1973                     "$ref":
1974 "https://openconnectivityfoundation.github.io/core/schemas/oic.links.properties.core-
1975 schema.json#/definitions/p"
1976                 },
1977                 "rel": {
1978                     "$ref":
1979 "https://openconnectivityfoundation.github.io/core/schemas/oic.links.properties.core-
1980 schema.json#/definitions/rel_array"
1981                 },
1982                 "title": {
1983                     "$ref":
1984 "https://openconnectivityfoundation.github.io/core/schemas/oic.links.properties.core-
1985 schema.json#/definitions/title"
1986                 },
1987                 "type": {
1988                     "$ref":
1989 "https://openconnectivityfoundation.github.io/core/schemas/oic.links.properties.core-
1990 schema.json#/definitions/type"
1991                 },
1992                 "if": {
1993                     "description": "The OCF Interfaces supported by the target Resource",
1994                     "items": {
1995                         "enum": [
1996                             "oic.if.a",
1997                             "oic.if.baseline"
1998                         ],
1999                         "type": "string",
2000                         "maxLength": 64
2001                     },
2002                     "minItems": 2,
2003                     "uniqueItems": true,
2004                     "type": "array",

```

```

2005         "readOnly": true
2006     },
2007     "rt": {
2008         "description": "Resource Type of the target Resource",
2009         "items": {
2010             "maxLength": 64,
2011             "type": "string",
2012             "enum": ["oic.r.switch.binary", "oic.r.airflow"]
2013         },
2014         "minItems": 1,
2015         "type": "array",
2016         "uniqueItems": true,
2017         "readOnly": true
2018     }
2019 },
2020 "required": [
2021     "href",
2022     "rt",
2023     "if"
2024 ]
2025 },
2026 "AirFlowControl-baseline" : {
2027     "properties": {
2028         "n": {
2029             "$ref" :
2030 "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
2031 schema.json#/definitions/n"
2032         },
2033         "id": {
2034             "$ref" :
2035 "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
2036 schema.json#/definitions/id"
2037         },
2038         "rt": {
2039             "description": "Resource Type of this Resource",
2040             "items": {
2041                 "maxLength": 64,
2042                 "type": "string",
2043                 "enum": ["oic.r.airflowcontrol"]
2044             },
2045             "minItems": 1,
2046             "uniqueItems": true,
2047             "readOnly": true,
2048             "type": "array"
2049         },
2050         "rts": {
2051             "items": {
2052                 "type": "string",
2053                 "enum": ["oic.r.airflow", "oic.r.switch.binary"],
2054                 "maxLength": 64
2055             },
2056             "minItems": 1,
2057             "type": "array",
2058             "uniqueItems": true,
2059             "readOnly": true
2060         },
2061         "if": {
2062             "description": "The OCF Interfaces supported by this Resource",
2063             "items": {
2064                 "enum": [
2065                     "oic.if.ll",
2066                     "oic.if.b",
2067                     "oic.if.baseline"
2068                 ],
2069                 "type": "string",
2070                 "maxLength": 64
2071             },
2072             "minItems": 1,
2073             "readOnly": true,
2074             "uniqueItems": true,
2075             "type": "array"
2076         },

```

```

2077     "links": {
2078         "description": "A set of simple or individual OCF Links.",
2079         "items": {
2080             "$ref": "#/definitions/oic.oic-link"
2081         },
2082         "type": "array",
2083         "minItems": 2,
2084         "uniqueItems": true,
2085         "readOnly": true
2086     }
2087 },
2088 "type" : "object",
2089 "required": ["rt","rts","if","links"]
2090 },
2091 "AirFlowControlBatch-Retrieve" : {
2092     "type": "array",
2093     "minItems": 2,
2094     "uniqueItems": true,
2095     "items": {
2096         "type": "object",
2097         "additionalProperties": true,
2098         "properties": {
2099             "href": {
2100                 "$ref":
2101 "https://openconnectivityfoundation.github.io/core/schemas/oic.links.properties.core-
2102 schema.json#/definitions/href"
2103             },
2104             "rep": {
2105                 "anyOf": [
2106                     {"$ref":
2107 "https://openconnectivityfoundation.github.io/IoTDataModels/AirFlowResURI.swagger.json#/definitions/
2108 AirFlow"},
2109                     {"$ref":
2110 "https://openconnectivityfoundation.github.io/IoTDataModels/BinarySwitchResURI.swagger.json#/definit
2111 ions/BinarySwitch"}
2112                 ]
2113             }
2114         },
2115         "required": [
2116             "href",
2117             "rep"
2118         ]
2119     }
2120 },
2121 "AirFlowControlBatch-Update" : {
2122     "type": "array",
2123     "minItems": 1,
2124     "uniqueItems": true,
2125     "items": {
2126         "type": "object",
2127         "additionalProperties": true,
2128         "properties": {
2129             "href": {
2130                 "$ref":
2131 "https://openconnectivityfoundation.github.io/core/schemas/oic.links.properties.core-
2132 schema.json#/definitions/href"
2133             },
2134             "rep": {
2135                 "anyOf": [
2136                     {"$ref":
2137 "https://openconnectivityfoundation.github.io/IoTDataModels/AirFlowResURI.swagger.json#/definitions/
2138 AirFlow"},
2139                     {"$ref":
2140 "https://openconnectivityfoundation.github.io/IoTDataModels/BinarySwitchResURI.swagger.json#/definit
2141 ions/BinarySwitch"}
2142                 ]
2143             }
2144         },
2145         "required": [
2146             "href",
2147             "rep"
2148         ]

```

2149 }
 2150 }
 2151 }
 2152 }
 2153 }

2154 **6.3.5 Property definition**

2155 Table 9 defines the Properties that are part of the "oic.r.airflowcontrol" Resource Type.

2156 **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	

2157 **6.3.6 CRUDN behaviour**

2158 Table 10 defines the CRUDN operations that are supported on the "oic.r.airflowcontrol" Resource
2159 Type.

2160 **Table 10 – The CRUDN operations of the Resource with type "rt" = "oic.r.airflowcontrol".**

Create	Read	Update	Delete	Notify
	get			observe

2161 **6.4 Battery**

2162 **6.4.1 Introduction**

2163 This Resource describes the attributes associated with a battery. The Property "charge" is an
2164 integer showing the current battery charge level as a percentage in the range 0 (fully discharged)
2165 to 100 (fully charged). The Property "capacity" represents the total capacity of battery in Amp Hours
2166 (Ah). The "charging" status and "discharging" status are represented by boolean values set to "true"
2167 indicating enabled and "false" indicating disabled. Low battery status is represented by a boolean
2168 value set to "true" indicating low charge level and "false" indicating otherwise, based upon the
2169 battery threshold represented as a percentage.

2170 6.4.2 Example URI

2171 /BatteryResURI

2172 6.4.3 Resource type

2173 The Resource Type is defined as: "oic.r.energy.battery".

2174 6.4.4 OpenAPI 2.0 definition

```
2175 {
2176   "swagger": "2.0",
2177   "info": {
2178     "title": "Battery",
2179     "version": "20190222",
2180     "license": {
2181       "name": "OCF Data Model License",
2182       "url":
2183         "https://github.com/openconnectivityfoundation/core/blob/e28a9e0a92e17042ba3e83661e4c0fbce8bdc4ba/LI
2184         CENSE.md",
2185       "x-copyright": "Copyright 2018-2019 Open Connectivity Foundation, Inc. All rights reserved."
2186     },
2187     "termsOfService": "https://openconnectivityfoundation.github.io/core/DISCLAIMER.md"
2188   },
2189   "schemes": ["http"],
2190   "consumes": ["application/json"],
2191   "produces": ["application/json"],
2192   "paths": {
2193     "/BatteryResURI" : {
2194       "get": {
2195         "description": "This Resource describes the attributes associated with a battery. The
2196         Property \"charge\" is an integer showing the current battery charge level as a percentage in the
2197         range 0 (fully discharged) to 100 (fully charged). The Property \"capacity\" represents the total
2198         capacity of battery in Amp Hours (Ah). The \"charging\" status and \"discharging\" status are
2199         represented by boolean values set to \"true\" indicating enabled and \"false\" indicating disabled.
2200         Low battery status is represented by a boolean value set to \"true\" indicating low charge level and
2201         \"false\" indicating otherwise, based upon the battery threshold represented as a percentage.",
2202         "parameters": [
2203           { "$ref": "#/parameters/interface" }
2204         ],
2205         "responses": {
2206           "200": {
2207             "description": "",
2208             "x-example":
2209               {
2210                 "rt": ["oic.r.energy.battery"],
2211                 "if": ["oic.if.rw", "oic.if.baseline"],
2212                 "charge": 50,
2213                 "capacity": 3000,
2214                 "charging": true,
2215                 "discharging": false,
2216                 "lowbattery": false,
2217                 "batterythreshold": 20
2218               },
2219             "schema": { "$ref": "#/definitions/Battery" }
2220           }
2221         }
2222       },
2223       "post": {
2224         "description": "Sets current battery values\n",
2225         "parameters": [
2226           { "$ref": "#/parameters/interface" },
2227           {
2228             "name": "body",
2229             "in": "body",
2230             "required": true,
2231             "schema": { "$ref": "#/definitions/BatteryUpdate" },
2232             "x-example":
2233               {
2234                 "batterythreshold": 20
2235               }
2236           }
2237         ]
2238       }
2239     }
2240   }
2241 }
```

```

2237     ],
2238     "responses": {
2239         "200": {
2240             "description": "",
2241             "x-example":
2242                 {
2243                     "batterythreshold": 20
2244                 },
2245             "schema": { "$ref": "#/definitions/BatteryUpdate" }
2246         }
2247     }
2248 }
2249 }
2250 },
2251 "parameters": {
2252     "interface" : {
2253         "in": "query",
2254         "name": "if",
2255         "type": "string",
2256         "enum": ["oic.if.rw", "oic.if.baseline"]
2257     }
2258 },
2259 "definitions": {
2260     "Battery" : {
2261         "properties": {
2262             "rt": {
2263                 "description": "The Resource Type.",
2264                 "items": {
2265                     "enum": ["oic.r.energy.battery"],
2266                     "maxLength": 64,
2267                     "type": "string"
2268                 },
2269                 "minItems": 1,
2270                 "uniqueItems": true,
2271                 "readOnly": true,
2272                 "type": "array"
2273             },
2274             "discharging": {
2275                 "description": "The status of discharging.",
2276                 "readOnly": true,
2277                 "type": "boolean"
2278             },
2279             "lowbattery": {
2280                 "description": "The status of the low battery warning based upon the defined threshold.",
2281                 "readOnly": true,
2282                 "type": "boolean"
2283             },
2284             "capacity": {
2285                 "description": "The total capacity in Amp-hours (Ah).",
2286                 "readOnly": true,
2287                 "type": "number"
2288             },
2289             "batterythreshold": {
2290                 "description": "The threshold percentage for the low battery warning.",
2291                 "maximum": 100,
2292                 "minimum": 0,
2293                 "type": "integer"
2294             },
2295             "charge": {
2296                 "description": "The current charge percentage.",
2297                 "maximum": 100,
2298                 "minimum": 0,
2299                 "readOnly": true,
2300                 "type": "integer"
2301             },
2302             "charging": {
2303                 "description": "The status of charging.",
2304                 "readOnly": true,
2305                 "type": "boolean"
2306             },
2307             "n": {
2308                 "$ref":

```

```

2309 "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
2310 schema.json#/definitions/n"
2311 },
2312 "id": {
2313   "$ref":
2314 "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
2315 schema.json#/definitions/id"
2316 },
2317 "if": {
2318   "description": "The OCF Interface set supported by this Resource.",
2319   "items": {
2320     "enum": [
2321       "oic.if.rw",
2322       "oic.if.baseline"
2323     ],
2324     "type": "string"
2325   },
2326   "minItems": 2,
2327   "uniqueItems": true,
2328   "readOnly": true,
2329   "type": "array"
2330 }
2331 },
2332 "type" : "object",
2333 "required": ["charge"]
2334 },
2335 "BatteryUpdate": {
2336   "properties": {
2337     "batterythreshold": {
2338       "description": "The threshold percentage for the low battery warning.",
2339       "maximum": 100,
2340       "minimum": 0,
2341       "type": "integer"
2342     }
2343   },
2344   "type" : "object",
2345   "required": ["batterythreshold"]
2346 }
2347 }
2348 }
2349

```

2350 6.4.5 Property definition

2351 Table 11 defines the Properties that are part of the "oic.r.energy.battery" Resource Type.

2352 **Table 11 – The Property definitions of the Resource with type "rt" = "oic.r.energy.battery".**

Property name	Value type	Mandatory	Access mode	Description
batterythreshold	integer	Yes	Read Write	The threshold percentage for the low battery warning.
batterythreshold	integer	No	Read Write	The threshold percentage for the low battery warning.
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	
discharging	boolean	No	Read Only	The status of discharging.
capacity	number	No	Read Only	The total capacity in Amp-hours (Ah).
charge	integer	Yes	Read Only	The current charge percentage.
lowbattery	boolean	No	Read Only	The status of the low battery warning based upon the defined threshold.
charging	boolean	No	Read Only	The status of charging.
if	array: see schema	No	Read Only	The OCF Interface set supported by this Resource.

2353 **6.4.6 CRUDN behaviour**

2354 Table 12 defines the CRUDN operations that are supported on the "oic.r.energy.battery" Resource
2355 Type.

2356 **Table 12 – The CRUDN operations of the Resource with type "rt" = "oic.r.energy.battery".**

Create	Read	Update	Delete	Notify
	get	post		observe

2357 **6.5 Binary Switch**

2358 **6.5.1 Introduction**

2359 This Resource describes a binary switch (on/off).

2360 The Property "value" is a boolean.

2361 A value of 'true' means that the switch is on.

2362 A value of 'false' means that the switch is off.

2363

2364 **6.5.2 Example URI**

2365 /BinarySwitchResURI

2366 **6.5.3 Resource type**

2367 The Resource Type is defined as: "oic.r.switch.binary".

2368 **6.5.4 OpenAPI 2.0 definition**

```
2369 {
2370   "swagger": "2.0",
2371   "info": {
2372     "title": "Binary Switch",
2373     "version": "20190222",
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     "/BinarySwitchResURI" : {
2388       "get": {
2389         "description": "This Resource describes a binary switch (on/off).\n\nThe Property \"value\" is
2390         a boolean.\n\nA value of 'true' means that the switch is on.\n\nA value of 'false' means that the switch
2391         is off.\n\n",
2392         "parameters": [
2393           { "$ref": "#/parameters/interface" }
2394         ],
2395         "responses": {
2396           "200": {
2397             "description": "",
2398             "x-example":
2399               {
2400                 "rt": ["oic.r.switch.binary"],
2401                 "if": ["oic.if.a", "oic.if.baseline"],
2402                 "value": false
2403               },
2404             "schema": { "$ref": "#/definitions/BinarySwitch" }
2405           }
2406         }
2407       },
2408       "post": {
2409         "description": "",
2410         "parameters": [
2411           { "$ref": "#/parameters/interface" },
2412           {
2413             "name": "body",
2414             "in": "body",
2415             "required": true,
2416             "schema": { "$ref": "#/definitions/BinarySwitch" },
2417             "x-example":
2418               {
2419                 "value": true
2420               }
2421           }
2422         ],
2423         "responses": {
2424           "200": {
2425             "description": "",
2426             "x-example":
2427               {
2428                 "value": true
2429               },
2430             "schema": { "$ref": "#/definitions/BinarySwitch" }
2431           }
2432         }
2433       }
2434     }
2435   }
2436 }
```

```

2435 },
2436 "parameters": {
2437   "interface" : {
2438     "in": "query",
2439     "name": "if",
2440     "type": "string",
2441     "enum": ["oic.if.a", "oic.if.baseline"]
2442   }
2443 },
2444 "definitions": {
2445   "BinarySwitch" : {
2446     "properties": {
2447       "rt": {
2448         "description": "The Resource Type.",
2449         "items": {
2450           "enum": ["oic.r.switch.binary"],
2451           "maxLength": 64,
2452           "type": "string"
2453         },
2454         "minItems": 1,
2455         "uniqueItems": true,
2456         "readOnly": true,
2457         "type": "array"
2458       },
2459       "value": {
2460         "description": "The status of the switch.",
2461         "type": "boolean"
2462       },
2463       "n": {
2464         "$ref":
2465         "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
2466         schema.json#/definitions/n"
2467       },
2468       "id": {
2469         "$ref":
2470         "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
2471         schema.json#/definitions/id"
2472       },
2473       "if": {
2474         "description": "The OCF Interface set supported by this Resource.",
2475         "items": {
2476           "enum": [
2477             "oic.if.a",
2478             "oic.if.baseline"
2479           ],
2480           "type": "string"
2481         },
2482         "minItems": 2,
2483         "uniqueItems": true,
2484         "readOnly": true,
2485         "type": "array"
2486       }
2487     },
2488     "type": "object",
2489     "required": ["value"]
2490   }
2491 }
2492 }
2493

```

2494 6.5.5 Property definition

2495 Table 13 defines the Properties that are part of the "oic.r.switch.binary" Resource Type.

2496 **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	

2497 **6.5.6 CRUDN behaviour**

2498 Table 14 defines the CRUDN operations that are supported on the "oic.r.switch.binary" Resource
 2499 Type.

2500 **Table 14 – The CRUDN operations of the Resource with type "rt" = "oic.r.switch.binary".**

Create	Read	Update	Delete	Notify
	get	post		observe

2501 **6.6 Brightness**

2502 **6.6.1 Introduction**

2503 This Resource describes the brightness of a light or lamp.
 2504 The Property "brightness" is an integer showing the current brightness level as a quantized
 2505 representation in the range 0-100.
 2506 A brightness of 0 is the minimum for the resource.
 2507 A brightness of 100 is the maximum for the resource.

2508 **6.6.2 Example URI**

2509 /BrightnessResURI

2510 **6.6.3 Resource type**

2511 The Resource Type is defined as: "oic.r.light.brightness".

2512 **6.6.4 OpenAPI 2.0 definition**

```

2513 {
2514   "swagger": "2.0",
2515   "info": {
2516     "title": "Brightness",
2517     "version": "20190222",
2518     "license": {
2519       "name": "OCF Data Model License",
2520       "url":
2521 "https://github.com/openconnectivityfoundation/core/blob/e28a9e0a92e17042ba3e83661e4c0fbce8bdc4ba/LI
2522 CENSE.md",
2523     "x-copyright": "Copyright 2018-2019 Open Connectivity Foundation, Inc. All rights reserved."
2524   },

```

```

2525     "termsOfService": "https://openconnectivityfoundation.github.io/core/DISCLAIMER.md"
2526   },
2527   "schemes": ["http"],
2528   "consumes": ["application/json"],
2529   "produces": ["application/json"],
2530   "paths": {
2531     "/BrightnessResURI" : {
2532       "get": {
2533         "description": "This Resource describes the brightness of a light or lamp.\n\nThe Property
2534 \brightness\b is an integer showing the current brightness level as a quantized representation in
2535 the range 0-100.\n\nA brightness of 0 is the minimum for the resource.\n\nA brightness of 100 is the
2536 maximum for the resource.",
2537         "parameters": [
2538           { "$ref": "#/parameters/interface" }
2539         ],
2540         "responses": {
2541           "200": {
2542             "description": "",
2543             "x-example":
2544               {
2545                 "rt": ["oic.r.light.brightness"],
2546                 "if": ["oic.if.a", "oic.if.baseline"],
2547                 "brightness": 50
2548               },
2549             "schema": { "$ref": "#/definitions/Brightness" }
2550           }
2551         }
2552       },
2553       "post": {
2554         "description": "Sets the desired brightness level.\n",
2555         "parameters": [
2556           { "$ref": "#/parameters/interface" },
2557           {
2558             "name": "body",
2559             "in": "body",
2560             "required": true,
2561             "schema": { "$ref": "#/definitions/Brightness" },
2562             "x-example":
2563               {
2564                 "brightness": 10
2565               }
2566           }
2567         ],
2568         "responses": {
2569           "200": {
2570             "description": "Indicates that the brightness was changed.\n\nThe new brightness level
2571 is provided in the response.\n",
2572             "x-example":
2573               {
2574                 "brightness": 10
2575               },
2576             "schema": { "$ref": "#/definitions/Brightness" }
2577           }
2578         }
2579       }
2580     }
2581   },
2582   "parameters": {
2583     "interface" : {
2584       "in": "query",
2585       "name": "if",
2586       "type": "string",
2587       "enum": ["oic.if.a", "oic.if.baseline"]
2588     }
2589   },
2590   "definitions": {
2591     "Brightness" : {
2592       "properties": {
2593         "rt": {
2594           "description": "The Resource Type.",
2595           "items": {
2596             "enum": ["oic.r.light.brightness"],

```



```

2597         "maxLength": 64,
2598         "type": "string"
2599     },
2600     "minItems": 1,
2601     "uniqueItems": true,
2602     "readOnly": true,
2603     "type": "array"
2604 },
2605 "brightness": {
2606     "description": "The Quantized representation in the range 0-100 of the current sensed or
set value for Brightness.",
2607     "maximum": 100,
2608     "minimum": 0,
2609     "type": "integer"
2610 },
2611 "n": {
2612     "$ref":
2613     "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
schema.json#/definitions/n"
2614 },
2615 "id": {
2616     "$ref":
2617     "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
schema.json#/definitions/id"
2618 },
2619 "if": {
2620     "description": "The OCF Interface set supported by this Resource.",
2621     "items": {
2622         "enum": [
2623             "oic.if.a",
2624             "oic.if.baseline"
2625         ],
2626         "type": "string"
2627     },
2628     "minItems": 2,
2629     "uniqueItems": true,
2630     "readOnly": true,
2631     "type": "array"
2632 }
2633 },
2634 "type": "object",
2635 "required": ["brightness"]
2636 }
2637 }
2638 }
2639 }
2640 }
2641 }
2642

```

2643 6.6.5 Property definition

2644 Table 15 defines the Properties that are part of the "oic.r.light.brightness" Resource Type.

2645 **Table 15 – The Property definitions of the Resource with type "rt" =**
2646 **"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	

2647 **6.6.6 CRUDN behaviour**

2648 Table 16 defines the CRUDN operations that are supported on the "oic.r.light.brightness" Resource
2649 Type.

2650 **Table 16 – The CRUDN operations of the Resource with type "rt" = "oic.r.light.brightness".**

Create	Read	Update	Delete	Notify
	get	post		observe

2651 **6.7 Colour Chroma**

2652 **6.7.1 Introduction**

2653 This Resource describes the colour using chroma conventions.
2654 Properties are "hue", "saturation", "csc", and "ct".
2655 The Property "hue" is the hue angle, it is an integer value as defined by the CIECAM02 model
2656 definition (see reference [CIE CIE 159:2004]).
2657 The Property "saturation" is an integer value as defined by the CIECAM02 model definition (see
2658 reference [CIE CIE 159:2004]).
2659 The Property "maximumsaturation" is the upper bound on the saturation supported by the Device.
2660 If not present the maximum value for "saturation" is 32767.
2661 The Property "csc" is the colour space coordinates in CIE colour space.
2662 The first item in the array is the X coordinate.
2663 The second item in the array is the Y coordinate.
2664 The Property "nct" is the Mired colour temperature.
2665 The Resource provides the colour using chroma conventions.

2666 **6.7.2 Example URI**

2667 /example/ColourChromaResURI

2668 **6.7.3 Resource type**

2669 The Resource Type is defined as: "oic.r.colour.chroma".

2670 **6.7.4 OpenAPI 2.0 definition**

```
2671 {
2672   "swagger": "2.0",
2673   "info": {
2674     "title": "Colour Chroma",
2675     "version": "20190215",
2676     "license": {
2677       "name": "OCF Data Model License",
2678       "url":
2679         "https://github.com/openconnectivityfoundation/core/blob/e28a9e0a92e17042ba3e83661e4c0fbce8bdc4ba/LI
2680 CENSE.md",
2681       "x-copyright": "copyright 2016-2017, 2019 Open Connectivity Foundation, Inc. All rights
```

```

2682 reserved."
2683 },
2684 "termsOfService": "https://openconnectivityfoundation.github.io/core/DISCLAIMER.md"
2685 },
2686 "schemes": ["http"],
2687 "consumes": ["application/json"],
2688 "produces": ["application/json"],
2689 "paths": {
2690   "/example/ColourChromaResURI" : {
2691     "get": {
2692       "description": "This Resource describes the colour using chroma conventions.\nProperties are
2693 \ "hue\", \"saturation\", \"csc\", and \"ct\".\nThe Property \"hue\" is the hue angle, it is an
2694 integer value as defined by the CIECAM02 model definition (see reference [CIE CIE159:2004]).\nThe
2695 Property \"saturation\" is an integer value as defined by the CIECAM02 model definition (see
2696 reference [CIE CIE159:2004]).\nThe Property \"maximumsaturation\" is the upper bound on the
2697 saturation supported by the Device.\nIf not present the maximum value for \"saturation\" is
2698 32767.\nThe Property \"csc\" is the colour space coordinates in CIE colour space.\n The first item
2699 in the array is the X coordinate.\n The second item in the array is the Y coordinate.\nThe Property
2700 \"nct\" is the Mired colour temperature.\nThe Resource provides the colour using chroma
2701 conventions.",
2702       "parameters": [
2703         { "$ref": "#/parameters/interface" }
2704       ],
2705       "responses": {
2706         "200": {
2707           "description": "",
2708           "x-example":
2709             {
2710               "rt": ["oic.r.colour.chroma"],
2711               "if": [ "oic.if.a", "oic.if.baseline"],
2712               "hue": 256.0,
2713               "saturation": 212,
2714               "maximumsaturation": 1000,
2715               "csc": [0.41, 0.51],
2716               "ct": 457
2717             },
2718           "schema": { "$ref": "#/definitions/ColourChroma" }
2719         }
2720       }
2721     },
2722     "post": {
2723       "description": "Sets current colour chroma values\n",
2724       "parameters": [
2725         { "$ref": "#/parameters/interface" },
2726         {
2727           "name": "body",
2728           "in": "body",
2729           "required": true,
2730           "schema": { "$ref": "#/definitions/ColourChroma" },
2731           "x-example":
2732             {
2733               "hue": 300.0,
2734               "saturation": 212,
2735               "csc": [0.41, 0.51],
2736               "ct": 457
2737             }
2738         }
2739       ],
2740       "responses": {
2741         "200": {
2742           "description": "",
2743           "x-example":
2744             {
2745               "hue": 300.0,
2746               "saturation": 212,
2747               "csc": [0.41, 0.51],
2748               "ct": 467
2749             },
2750           "schema": { "$ref": "#/definitions/ColourChroma" }
2751         }
2752       }
2753     }
2754   }
2755 }

```

```

2754     }
2755   },
2756   "parameters": {
2757     "interface" : {
2758       "in" : "query",
2759       "name" : "if",
2760       "type" : "string",
2761       "enum" : ["oic.if.a", "oic.if.baseline"]
2762     }
2763   },
2764   "definitions": {
2765     "ColourChroma" : {
2766       "properties": {
2767         "rt" : {
2768           "description": "The Resource Type.",
2769           "items": {
2770             "enum": ["oic.r.colour.chroma"],
2771             "maxLength": 64,
2772             "type": "string"
2773           },
2774           "minItems": 1,
2775           "uniqueItems": true,
2776           "readOnly": true,
2777           "type": "array"
2778         },
2779         "ct" : {
2780           "description": "The Mired colour temperature.",
2781           "minimum": 0,
2782           "type": "integer"
2783         },
2784         "hue" : {
2785           "description": "The hue angle as defined by the CIECAM02 model definition.",
2786           "maximum": 360.0,
2787           "minimum": 0.0,
2788           "type": "number"
2789         },
2790         "saturation" : {
2791           "description": "The saturation as defined by the CIECAM02 model definition.",
2792           "maximum": 32767,
2793           "minimum": 0,
2794           "type": "integer"
2795         },
2796         "maximumsaturation" : {
2797           "description": "The maximum supported value of \"saturation\" for this Device.",
2798           "maximum": 32767,
2799           "minimum": 0,
2800           "readOnly": true,
2801           "type": "integer"
2802         },
2803         "csc" : {
2804           "description": "The X and Y coordinates of the colour in CIE colour space",
2805           "items": {
2806             "maximum": 1,
2807             "minimum": 0,
2808             "type": "number"
2809           },
2810           "maxItems": 2,
2811           "minItems": 2,
2812           "type": "array"
2813         },
2814         "n" : {
2815           "$ref":
2816             "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
2817             schema.json#/definitions/n"
2818         },
2819         "id" : {
2820           "$ref":
2821             "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
2822             schema.json#/definitions/id"
2823         },
2824         "if" : {
2825           "description": "The OCF Interface set supported by this Resource.",

```

```

2826         "items": {
2827             "enum": [
2828                 "oic.if.a",
2829                 "oic.if.baseline"
2830             ],
2831             "maxLength": 64,
2832             "type": "string"
2833         },
2834         "minItems": 2,
2835         "uniqueItems": true,
2836         "readOnly": true,
2837         "type": "array"
2838     }
2839 },
2840     "type": "object",
2841     "required": ["hue", "saturation", "csc"]
2842 }
2843 }
2844 }
2845

```

6.7.5 Property definition

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

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

Property name	Value type	Mandatory	Access mode	Description
csc	array: see schema	Yes	Read Write	The X and Y coordinates of the colour in CIE colour space
hue	number	Yes	Read Write	The hue angle as defined by the CIECAM02 model definition.
saturation	integer	Yes	Read Write	The saturation as defined by the CIECAM02 model definition.
id	multiple types: see schema	No	Read Write	
n	multiple types: see schema	No	Read Write	
ct	integer	No	Read Write	The Mired colour temperature.
rt	array: see schema	No	Read Only	The Resource Type.
if	array: see schema	No	Read Only	The OCF Interface set

				supported by this Resource.
maximumsaturation	integer	No	Read Only	The maximum supported value of "saturation" for this Device.

2849 **6.7.6 CRUDN behaviour**

2850 Table 18 defines the CRUDN operations that are supported on the "oic.r.colour.chroma" Resource
2851 Type.

2852 **Table 18 – The CRUDN operations of the Resource with type "rt" = "oic.r.colour.chroma".**

Create	Read	Update	Delete	Notify
	get	post		observe

2853 **6.8 Colour RGB**

2854 **6.8.1 Introduction**

2855 This Resource specifies the actual colour in the RGB space represented as an array of integers.
2856 Each colour value is described with a Red, Green, Blue component.
2857 These colour values are encoded as an array of integer values ([R,G,B]).
2858 The minimum and maximum colour value per component may be described by the Property "range".
2859 When "range" is omitted, then the "range" is [0,255].

2860 **6.8.2 Example URI**

2861 /ColourRGBResURI

2862 **6.8.3 Resource type**

2863 The Resource Type is defined as: "oic.r.colour.rgb".

2864 **6.8.4 OpenAPI 2.0 definition**

```
2865 {
2866   "swagger": "2.0",
2867   "info": {
2868     "title": "Colour RGB",
2869     "version": "20190215",
2870     "license": {
2871       "name": "OCF Data Model License",
2872       "url":
2873         "https://github.com/openconnectivityfoundation/core/blob/e28a9e0a92e17042ba3e83661e4c0fbce8bdc4ba/LI
2874         CENSE.md",
2875       "x-copyright": "copyright 2016-2017, 2019 Open Connectivity Foundation, Inc. All rights
2876         reserved."
2877     },
2878     "termsOfService": "https://openconnectivityfoundation.github.io/core/DISCLAIMER.md"
2879   },
2880   "schemes": ["http"],
2881   "consumes": ["application/json"],
2882   "produces": ["application/json"],
2883   "paths": {
2884     "/ColourRGBResURI" : {
2885       "get": {
2886         "description": "This Resource specifies the actual colour in the RGB space represented as an
2887         array of integers.\nEach colour value is described with a Red, Green, Blue component.\nThese colour
2888         values are encoded as an array of integer values ([R,G,B]).\nThe minimum and maximum colour value
2889         per component may be described by the Property \"range\".\nWhen \"range\" is omitted, then the
```

```

2890 \ "range\" is [0,255].",
2891     "parameters": [
2892       { "$ref": "#/parameters/interface" }
2893     ],
2894     "responses": {
2895       "200": {
2896         "description": "",
2897         "x-example":
2898           {
2899             "rt": ["oic.r.colour.rgb"],
2900             "if": ["oic.if.a", "oic.if.baseline"],
2901             "rgbValue": [255, 255, 255],
2902             "range": [0, 255]
2903           },
2904         "schema": { "$ref": "#/definitions/ColourRGB" }
2905       }
2906     },
2907   },
2908   "post": {
2909     "description": "Sets the current colourRGB value\n",
2910     "parameters": [
2911       { "$ref": "#/parameters/interface" },
2912       {
2913         "name": "body",
2914         "in": "body",
2915         "required": true,
2916         "schema": { "$ref": "#/definitions/ColourRGB" },
2917         "x-example":
2918           {
2919             "rgbValue": [255, 0, 0]
2920           }
2921       }
2922     ],
2923     "responses": {
2924       "200": {
2925         "description": "",
2926         "x-example":
2927           {
2928             "rgbValue": [255, 0, 0]
2929           },
2930         "schema": { "$ref": "#/definitions/ColourRGB" }
2931       }
2932     }
2933   }
2934 },
2935 },
2936 "parameters": {
2937   "interface" : {
2938     "in": "query",
2939     "name": "if",
2940     "type": "string",
2941     "enum": ["oic.if.a", "oic.if.baseline"]
2942   }
2943 },
2944 "definitions": {
2945   "ColourRGB" : {
2946     "properties": {
2947       "rt": {
2948         "description": "The Resource Type.",
2949         "items": {
2950           "enum": ["oic.r.colour.rgb"],
2951           "maxLength": 64,
2952           "type": "string"
2953         },
2954         "minItems": 1,
2955         "uniqueItems": true,
2956         "readOnly": true,
2957         "type": "array"
2958       },
2959       "rgbValue": {
2960         "description": "The RGB value; the first item is the R, second the G, third the B.",
2961         "items": {

```

```

2962         "type": "integer"
2963     },
2964     "maxItems": 3,
2965     "minItems": 3,
2966     "type": "array"
2967 },
2968 "n": {
2969     "$ref":
2970 "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
2971 schema.json#/definitions/n"
2972 },
2973 "id": {
2974     "$ref":
2975 "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
2976 schema.json#/definitions/id"
2977 },
2978 "range": {
2979     "$ref":
2980 "https://openconnectivityfoundation.github.io/IoTDataModels/schemas/oic.baseresource.properties-
2981 schema.json#/definitions/range_integer"
2982 },
2983 "step": {
2984     "$ref":
2985 "https://openconnectivityfoundation.github.io/IoTDataModels/schemas/oic.baseresource.properties-
2986 schema.json#/definitions/step_integer"
2987 },
2988 "if": {
2989     "description": "The OCF Interface set supported by this Resource.",
2990     "items": {
2991         "enum": [
2992             "oic.if.a",
2993             "oic.if.baseline"
2994         ],
2995         "type": "string"
2996     },
2997     "minItems": 2,
2998     "uniqueItems": true,
2999     "readOnly": true,
3000     "type": "array"
3001 }
3002 },
3003 "type": "object",
3004 "required": ["rgbValue"]
3005 }
3006 }
3007 }
3008

```

3009 6.8.5 Property definition

3010 Table 19 defines the Properties that are part of the "oic.r.colour.rgb" Resource Type.

3011 **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	

3012 **6.8.6 CRUDN behaviour**

3013 Table 20 defines the CRUDN operations that are supported on the "oic.r.colour.rgb" Resource Type.

3014 **Table 20 – The CRUDN operations of the Resource with type "rt" = "oic.r.colour.rgb".**

Create	Read	Update	Delete	Notify
	get	post		observe

3015 **6.9 Dimming**

3016 **6.9.1 Introduction**

3017 This Resource describes a dimming function.
 3018 The Property "dimmingSetting" is an integer showing the current dimming level.
 3019 If Property "step" is present then it represents the increment between dimmer values.
 3020 When the Property "range" is omitted, then the range is [0,100].
 3021 A value of 0 means total dimming; a value of 100 means no dimming.

3022 **6.9.2 Example URI**

3023 /DimmingResURI

3024 **6.9.3 Resource type**

3025 The Resource Type is defined as: "oic.r.light.dimming".

3026 **6.9.4 OpenAPI 2.0 definition**

```

3027 {
3028   "swagger": "2.0",
3029   "info": {
3030     "title": "Dimming",
3031     "version": "20190215",
3032     "license": {
3033       "name": "OCF Data Model License",
3034       "url":
3035 "https://github.com/openconnectivityfoundation/core/blob/e28a9e0a92e17042ba3e83661e4c0fbce8bdc4ba/LI
3036 CENSE.md",
3037       "x-copyright": "copyright 2016-2017, 2019 Open Connectivity Foundation, Inc. All rights
3038 reserved."
3039     },
3040     "termsOfService": "https://openconnectivityfoundation.github.io/core/DISCLAIMER.md"
3041   },
3042   "schemes": ["http"],
3043   "consumes": ["application/json"],
3044   "produces": ["application/json"],

```

```

3045     "paths": {
3046         "/DimmingResURI" : {
3047             "get": {
3048                 "description": "This Resource describes a dimming function.\n\nThe Property \"dimmingSetting\"
3049 is an integer showing the current dimming level.\n\nIf Property \"step\" is present then it represents
3050 the increment between dimmer values.\n\nWhen the Property \"range\" is omitted, then the range is
3051 [0,100].\n\nA value of 0 means total dimming; a value of 100 means no dimming.",
3052                 "parameters": [
3053                     { "$ref": "#/parameters/interface" }
3054                 ],
3055                 "responses": {
3056                     "200": {
3057                         "description": "",
3058                         "x-example":
3059                         {
3060                             "rt": ["oic.r.light.dimming"],
3061                             "if": ["oic.if.a", "oic.if.baseline"],
3062                             "dimmingSetting": 30,
3063                             "step": 5,
3064                             "range": [0, 100]
3065                         },
3066                         "schema": { "$ref": "#/definitions/Dimming" }
3067                     }
3068                 },
3069             },
3070             "post": {
3071                 "description": "Sets the desired dimming level.\n\n",
3072                 "parameters": [
3073                     { "$ref": "#/parameters/interface" },
3074                     {
3075                         "name": "body",
3076                         "in": "body",
3077                         "required": true,
3078                         "schema": { "$ref": "#/definitions/Dimming" },
3079                         "x-example":
3080                         {
3081                             "dimmingSetting": 40
3082                         }
3083                     }
3084                 ],
3085                 "responses": {
3086                     "200": {
3087                         "description": "Indicates that the dimming was changed.\n\nThe new dimming level is
3088 provided in the response.\n\n",
3089                         "x-example":
3090                         {
3091                             "dimmingSetting": 40
3092                         },
3093                         "schema": { "$ref": "#/definitions/Dimming" }
3094                     },
3095                     "403": {
3096                         "description": "This response is generated by the OCF Server when the client sends:\n\n
3097 An update with an out of range property value for dimmingSetting.\n\nThe server responds with the
3098 current resource representation.\n\n",
3099                         "x-example":
3100                         {
3101                             "dimmingSetting": 40
3102                         },
3103                         "schema": { "$ref": "#/definitions/Dimming" }
3104                     }
3105                 }
3106             }
3107         },
3108     },
3109     "parameters": {
3110         "interface": {
3111             "in": "query",
3112             "name": "if",
3113             "type": "string",
3114             "enum": ["oic.if.a", "oic.if.baseline"]
3115         }
3116     },

```

```

3117 "definitions": {
3118   "Dimming" : {
3119     "properties": {
3120       "rt": {
3121         "description": "The Resource Type.",
3122         "items": {
3123           "enum": ["oic.r.light.dimming"],
3124           "maxLength": 64,
3125           "type": "string"
3126         },
3127         "minItems": 1,
3128         "uniqueItems": true,
3129         "readOnly": true,
3130         "type": "array"
3131       },
3132       "dimmingSetting": {
3133         "description": "The current dimming value.",
3134         "type": "integer"
3135       },
3136       "n": {
3137         "$ref":
3138         "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
3139         schema.json#/definitions/n"
3140       },
3141       "id": {
3142         "$ref":
3143         "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
3144         schema.json#/definitions/id"
3145       },
3146       "range": {
3147         "$ref":
3148         "https://openconnectivityfoundation.github.io/IoTDataModels/schemas/oic.baseresource.properties-
3149         schema.json#/definitions/range_integer"
3150       },
3151       "step": {
3152         "$ref":
3153         "https://openconnectivityfoundation.github.io/IoTDataModels/schemas/oic.baseresource.properties-
3154         schema.json#/definitions/step_integer"
3155       },
3156       "if": {
3157         "description": "The OCF Interface set supported by this Resource.",
3158         "items": {
3159           "enum": [
3160             "oic.if.a",
3161             "oic.if.baseline"
3162           ],
3163           "type": "string"
3164         },
3165         "minItems": 2,
3166         "uniqueItems": true,
3167         "readOnly": true,
3168         "type": "array"
3169       }
3170     },
3171     "type": "object",
3172     "required": ["dimmingSetting"]
3173   }
3174 }
3175 }
3176

```

3177 6.9.5 Property definition

3178 Table 21 defines the Properties that are part of the "oic.r.light.dimming" Resource Type.

3179 **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	

3180 **6.9.6 CRUDN behaviour**

3181 Table 22 defines the CRUDN operations that are supported on the "oic.r.light.dimming" Resource
3182 Type.

3183 **Table 22 – The CRUDN operations of the Resource with type "rt" = "oic.r.light.dimming".**

Create	Read	Update	Delete	Notify
	get	post		observe

3184 **6.10 Door**

3185 **6.10.1 Introduction**

3186 This Resource describes the open state of the door.
3187 A door is modelled by means of openState (Open/Closed), openDuration (ISO 8601 Time), and
3188 openAlarm (boolean).
3189 For Property "openState", the value 'Open' indicates the door is open.
3190 The value 'Closed' indicates the door is closed.
3191 The type of Property "openDuration" is an RFC Time encoded string.
3192 The Property "openAlarm" value 'true' indicates that the open alarm is active.
3193 The openAlarm value 'false' indicates that open alarm is not active.
3194 retrieves the state of the Door.

3195 **6.10.2 Example URI**

3196 /DoorResURI

3197 **6.10.3 Resource type**

3198 The Resource Type is defined as: "oic.r.door".

3199 6.10.4 OpenAPI 2.0 definition

```
3200 {
3201   "swagger": "2.0",
3202   "info": {
3203     "title": "Door",
3204     "version": "20190215",
3205     "license": {
3206       "name": "OCF Data Model License",
3207       "url":
3208         "https://github.com/openconnectivityfoundation/core/blob/e28a9e0a92e17042ba3e83661e4c0fbce8bdc4ba/LI
3209         CENSE.md",
3210       "x-copyright": "copyright 2016-2017, 2019 Open Connectivity Foundation, Inc. All rights
3211         reserved."
3212     },
3213     "termsOfService": "https://openconnectivityfoundation.github.io/core/DISCLAIMER.md"
3214   },
3215   "schemes": ["http"],
3216   "consumes": ["application/json"],
3217   "produces": ["application/json"],
3218   "paths": {
3219     "/DoorResURI" : {
3220       "get": {
3221         "description": "This Resource describes the open state of the door.\nA door is modelled by
3222         means of openState (Open/Closed), openDuration (ISO 8601 Time), and openAlarm (boolean).\nFor
3223         Property \"openState\", the value 'Open' indicates the door is open.\nThe value 'Closed' indicates
3224         the door is closed.\nThe type of Property \"openDuration\" is an RFC Time encoded string.\nThe
3225         Property \"openAlarm\" value 'true' indicates that the open alarm is active.\nThe openAlarm value
3226         'false' indicates that open alarm is not active.\nretrieves the state of the Door.",
3227         "parameters": [
3228           { "$ref": "#/parameters/interface" }
3229         ],
3230         "responses": {
3231           "200": {
3232             "description": "",
3233             "x-example": {
3234               "rt": ["oic.r.door"],
3235               "if": ["oic.if.a", "oic.if.baseline"],
3236               "openState": "Open",
3237               "openDuration": "P0Y0M0DT2H25M5S",
3238               "openAlarm": true
3239             },
3240             "schema": { "$ref": "#/definitions/Door" }
3241           }
3242         }
3243       },
3244       "post": {
3245         "description": "Sets the current Door properties.\nThe only property that can be set as part
3246         of an update operation is\n the openAlarm.\nThis can be made active (true) or inactive (false)\n",
3247         "parameters": [
3248           { "$ref": "#/parameters/interface" },
3249           {
3250             "name": "body",
3251             "in": "body",
3252             "required": true,
3253             "schema": { "$ref": "#/definitions/DoorUpdate" },
3254             "x-example": {
3255               "openAlarm": false
3256             }
3257           }
3258         ],
3259         "responses": {
3260           "200": {
3261             "description": "",
3262             "x-example": {
3263               "openAlarm": false
3264             },
3265             "schema": { "$ref": "#/definitions/DoorUpdate" }
3266           }
3267         }
3268       }
3269     }
3270   }
3271 }
```

```

3270 },
3271 "parameters": {
3272   "interface": {
3273     "in": "query",
3274     "name": "if",
3275     "type": "string",
3276     "enum": ["oic.if.a", "oic.if.baseline"]
3277   }
3278 },
3279 "definitions": {
3280   "Door" : {
3281     "properties": {
3282       "rt": {
3283         "description": "The Resource Type.",
3284         "items": {
3285           "enum": ["oic.r.door"],
3286           "maxLength": 64,
3287           "type": "string"
3288         },
3289         "minItems": 1,
3290         "uniqueItems": true,
3291         "readOnly": true,
3292         "type": "array"
3293       },
3294       "openDuration": {
3295         "$ref": "http://openconnectivityfoundation.github.io/core/schemas/oic.types-
3296 schema.json#/definitions/duration"
3297       },
3298       "openState": {
3299         "description": "The state of the door (open or closed).",
3300         "enum": [
3301           "Open",
3302           "Closed"
3303         ],
3304         "readOnly": true,
3305         "type": "string"
3306       },
3307       "openAlarm": {
3308         "description": "The state of the door open alarm.",
3309         "type": "boolean"
3310       },
3311       "n": {
3312         "$ref":
3313 "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
3314 schema.json#/definitions/n"
3315       },
3316       "id": {
3317         "$ref":
3318 "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
3319 schema.json#/definitions/id"
3320       },
3321       "if": {
3322         "description": "The OCF Interface set supported by this Resource.",
3323         "items": {
3324           "enum": [
3325             "oic.if.a",
3326             "oic.if.baseline"
3327           ],
3328           "type": "string"
3329         },
3330         "minItems": 2,
3331         "uniqueItems": true,
3332         "readOnly": true,
3333         "type": "array"
3334       }
3335     },
3336     "type": "object",
3337     "required": ["openState"]
3338   },
3339   "DoorUpdate" : {
3340     "properties": {
3341       "openAlarm": {

```

```

3342         "description": "The state of the door open alarm.",
3343         "type": "boolean"
3344     },
3345 },
3346     "type": "object",
3347     "required": [ "openAlarm" ]
3348 }
3349 }
3350 }
3351

```

3352 **6.10.5 Property definition**

3353 Table 23 defines the Properties that are part of the "oic.r.door" Resource Type.

3354 **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.

3355 **6.10.6 CRUDN behaviour**

3356 Table 24 defines the CRUDN operations that are supported on the "oic.r.door" Resource Type.

3357 **Table 24 – The CRUDN operations of the Resource with type "rt" = "oic.r.door".**

Create	Read	Update	Delete	Notify
	get	post		observe

3358 **6.11 Energy Consumption**

3359 **6.11.1 Introduction**

3360 This Resource describes the energy consumed by the Device since power up (the energy value is
3361 in Watt Hours [Wh])
3362 and the instantaneous power draw of the device (the power value is in Watts [W]) at the time the
3363 resource was queried.
3364 The Property "power" value is in Watts [W].
3365 The Property "energy" value is in Watt Hours [Wh].
3366 The Resource provides the current power draw and cumulative energy usage.

3367 **6.11.2 Example URI**

3368 /EnergyConsumptionResURI

3369 **6.11.3 Resource type**

3370 The Resource Type is defined as: "oic.r.energy.consumption".

3371 **6.11.4 OpenAPI 2.0 definition**

```
3372 {
3373   "swagger": "2.0",
3374   "info": {
3375     "title": "Energy Consumption",
3376     "version": "20190215",
3377     "license": {
3378       "name": "OCF Data Model License",
3379       "url":
3380 "https://github.com/openconnectivityfoundation/core/blob/e28a9e0a92e17042ba3e83661e4c0fbce8bdc4ba/LI
3381 CENSE.md",
3382       "x-copyright": "copyright 2016-2017, 2019 Open Connectivity Foundation, Inc. All rights
3383 reserved."
3384     },
3385     "termsOfService": "https://openconnectivityfoundation.github.io/core/DISCLAIMER.md"
3386   },
3387   "schemes": ["http"],
3388   "consumes": ["application/json"],
3389   "produces": ["application/json"],
3390   "paths": {
3391     "/EnergyConsumptionResURI" : {
3392       "get": {
3393         "description": "This Resource describes the energy consumed by the Device since power up
3394 (the energy value is in Watt Hours [Wh]) \nand the instantaneous power draw of the device (the power
3395 value is in Watts [W]) at the time the resource was queried.\nThe Property \"power\" value is in
3396 Watts [W].\nThe Property \"energy\" value is in Watt Hours [Wh].\nThe Resource provides the current
3397 power draw and cumulative energy usage.",
3398         "parameters": [
3399           {"$ref": "#/parameters/interface"}
3400         ],
3401         "responses": {
3402           "200": {
3403             "description": "",
3404             "x-example":
3405             {
3406               "rt": ["oic.r.energy.consumption"],
3407               "if": ["oic.if.s", "oic.if.baseline"],
3408               "power": 2000.1,
3409               "energy": 3500.4
3410             },
3411             "schema": { "$ref": "#/definitions/Consumption" }
3412           }
3413         }
3414       }
3415     }
3416   },
3417   "parameters": {
3418     "interface" : {
3419       "in" : "query",
```



```

3420     "name" : "if",
3421     "type" : "string",
3422     "enum" : ["oic.if.s", "oic.if.baseline"]
3423   }
3424 },
3425 "definitions": {
3426   "Consumption" : {
3427     "properties": {
3428       "rt": {
3429         "description": "The Resource Type.",
3430         "items": {
3431           "enum": ["oic.r.energy.consumption"],
3432           "maxLength": 64,
3433           "type": "string"
3434         },
3435         "minItems": 1,
3436         "uniqueItems": true,
3437         "readOnly": true,
3438         "type": "array"
3439       },
3440       "power": {
3441         "description": "The instantaneous Power.",
3442         "readOnly": true,
3443         "type": "number"
3444       },
3445       "energy": {
3446         "description": "The energy consumed.",
3447         "readOnly": true,
3448         "type": "number"
3449       },
3450       "n": {
3451         "$ref":
3452         "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
3453         schema.json#/definitions/n"
3454       },
3455       "id": {
3456         "$ref":
3457         "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
3458         schema.json#/definitions/id"
3459       },
3460       "if": {
3461         "description": "The OCF Interface set supported by this Resource.",
3462         "items": {
3463           "enum": [
3464             "oic.if.s",
3465             "oic.if.baseline"
3466           ],
3467           "type": "string"
3468         },
3469         "minItems": 2,
3470         "uniqueItems": true,
3471         "readOnly": true,
3472         "type": "array"
3473       }
3474     },
3475     "type": "object",
3476     "required": ["power", "energy"]
3477   }
3478 }
3479 }
3480

```

6.11.5 Property definition

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

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

3485 **6.11.6 CRUDN behaviour**

3486 Table 26 defines the CRUDN operations that are supported on the "oic.r.energy.consumption"
3487 Resource Type.

3488 **Table 26 – The CRUDN operations of the Resource with type "rt" =**
3489 **"oic.r.energy.consumption".**

Create	Read	Update	Delete	Notify
	get			observe

3490 **6.12 Energy Usage**

3491 **6.12.1 Introduction**

3492 This Resource describes a cumulative time-based energy usage query..
3493 The Resource is a Collection of:
3494 TimePeriod Resource
3495 EnergyConsumption Resource
3496

3497 **6.12.2 Example URI**

3498 /EnergyUsageResURI

3499 **6.12.3 Resource type**

3500 The Resource Type is defined as: "oic.r.energy.usage".

3501 **6.12.4 OpenAPI 2.0 definition**

```
3502 {
3503   "swagger": "2.0",
3504   "info": {
3505     "title": "Energy Usage",
3506     "version": "20190307",
```

```

3507     "license": {
3508         "name": "OCF Data Model License",
3509         "url":
3510 "https://github.com/openconnectivityfoundation/core/blob/e28a9e0a92e17042ba3e83661e4c0fbce8bdc4ba/LI
3511 CENSE.md",
3512         "x-copyright": "copyright 2016-2019 Open Connectivity Foundation, Inc. All rights reserved."
3513     },
3514     "termsOfService": "https://openconnectivityfoundation.github.io/core/DISCLAIMER.md"
3515 },
3516     "schemes": ["http"],
3517     "consumes": ["application/json"],
3518     "produces": ["application/json"],
3519     "paths": {
3520         "/EnergyUsageResURI?if=oic.if.ll": {
3521             "get": {
3522                 "description": "This Resource describes a cumulative time-based energy usage query.\nThe
3523 Resource is a Collection of:\n  TimePeriod Resource\n  EnergyConsumption Resource\n",
3524                 "parameters": [
3525                     {"$ref": "#/parameters/interface"}
3526                 ],
3527                 "responses": {
3528                     "200": {
3529                         "description": "",
3530                         "x-example":
3531 [
3532                 {"href": "/TimePeriodResURI", "rt":["oic.r.time.period"],
3533 "if":["oic.if.a", "oic.if.baseline"], "eps":[{"ep": "coaps://[fe80::b1d6]:1122}"}},
3534                 {"href": "/EnergyConsumptionResURI", "rt":["oic.r.energy.consumption"],
3535 "if":["oic.if.s", "oic.if.baseline"], "eps":[{"ep": "coaps://[fe80::b1d6]:1122}"}]}
3536             ],
3537                 "schema": { "$ref": "#/definitions/Usage-ll" }
3538             }
3539         }
3540     },
3541 },
3542     "/EnergyUsageResURI?if=oic.if.b" : {
3543         "get": {
3544             "description": "This Resource describes a cumulative time-based energy usage query.\nThe
3545 Resource is a Collection of:\n  TimePeriod Resource\n  EnergyConsumption Resource\n",
3546             "parameters": [
3547                 {"$ref": "#/parameters/interface"}
3548             ],
3549             "responses": {
3550                 "200": {
3551                     "description": "",
3552                     "x-example": [
3553                         {
3554                             "href": "/TimePeriodResURI",
3555                             "rep": {
3556                                 "startTime": "2015-01-09T14:30Z",
3557                                 "stopTime": "2015-01-09T14:45Z"
3558                             }
3559                         },
3560                         {
3561                             "href": "/EnergyConsumptionResURI",
3562                             "rep": {
3563                                 "power": 2000.1,
3564                                 "energy": 3500.4
3565                             }
3566                         }
3567                     ],
3568                     "schema": { "$ref": "#/definitions/EnergyUsageBatch-Retrieve" }
3569                 }
3570             }
3571         },
3572         "post": {
3573             "description": "Sets the timer period of the query using the batch OCF Interface\n",
3574             "parameters": [
3575                 {"$ref": "#/parameters/interface-b"},
3576                 {
3577                     "name": "body",
3578                     "in": "body",

```

```

3579         "required": true,
3580         "schema": { "$ref": "#/definitions/EnergyUsageBatch-Update" },
3581         "x-example": [
3582             {
3583                 "href": "/TimePeriodResURI",
3584                 "rep": {
3585                     "startTime": "2015-03-15T10:30Z",
3586                     "stopTime": "2015-03-15T10:45Z"
3587                 }
3588             }
3589         ]
3590     },
3591 ],
3592 "responses": {
3593     "200": {
3594         "description": "",
3595         "x-example": [
3596             {
3597                 "href": "/TimePeriodResURI",
3598                 "rep": {
3599                     "startTime": "2015-03-15T10:30Z",
3600                     "stopTime": "2015-03-15T10:45Z"
3601                 }
3602             },
3603             {
3604                 "href": "/EnergyConsumptionResURI",
3605                 "rep": {
3606                     "power": 1500.1,
3607                     "energy": 2200.4
3608                 }
3609             }
3610         ],
3611         "schema": { "$ref": "#/definitions/EnergyUsageBatch-Retrieve" }
3612     }
3613 },
3614 },
3615 },
3616 "/EnergyUsageResURI?if=oic.if.baseline" : {
3617     "get": {
3618         "description": "This Resource describes a cumulative time-based energy usage query..\nThe
3619 Resource is a Collection of:\n TimePeriod Resource\n EnergyConsumption Resource\n",
3620         "parameters": [
3621             { "$ref": "#/parameters/interface" }
3622         ],
3623         "responses": {
3624             "200": {
3625                 "description": "",
3626                 "x-example":
3627                 {
3628                     "rt": ["oic.r.energy.usage"],
3629                     "if": ["oic.if.ll", "oic.if.b", "oic.if.baseline"],
3630                     "rts": ["oic.r.time.period", "oic.r.energy.consumption"],
3631                     "links": [
3632                         { "href": "/TimePeriodResURI", "rt": ["oic.r.time.period"],
3633                           "if": ["oic.if.a", "oic.if.baseline"], "eps": [{"ep": "coaps://[fe80::b1d6]:1122"}]},
3634                         { "href": "/EnergyConsumptionResURI", "rt": ["oic.r.energy.consumption"],
3635                           "if": ["oic.if.s", "oic.if.baseline"], "eps": [{"ep": "coaps://[fe80::b1d6]:1122"}]}
3636                     ]
3637                 },
3638                 "schema": { "$ref": "#/definitions/Usage-baseline" }
3639             }
3640         }
3641     }
3642 },
3643 },
3644 "parameters": {
3645     "interface" : {
3646         "in" : "query",
3647         "name" : "if",
3648         "type" : "string",
3649         "enum" : ["oic.if.ll", "oic.if.b", "oic.if.baseline"]
3650     }
3651 },

```

```

3651     "interface-b" : {
3652         "in" : "query",
3653         "name" : "if",
3654         "type" : "string",
3655         "enum" : [ "oic.if.b" ]
3656     }
3657 },
3658 "definitions": {
3659     "Usage-ll": {
3660         "items": {
3661             "$ref": "#/definitions/oic.oic-link"
3662         },
3663         "type": "array"
3664     },
3665     "oic.oic-link": {
3666         "type": "object",
3667         "properties": {
3668             "anchor": {
3669                 "$ref":
3670 "https://openconnectivityfoundation.github.io/core/schemas/oic.links.properties.core-
3671 schema.json#/definitions/anchor"
3672             },
3673             "di": {
3674                 "$ref":
3675 "https://openconnectivityfoundation.github.io/core/schemas/oic.links.properties.core-
3676 schema.json#/definitions/di"
3677             },
3678             "eps": {
3679                 "$ref":
3680 "https://openconnectivityfoundation.github.io/core/schemas/oic.links.properties.core-
3681 schema.json#/definitions/eps"
3682             },
3683             "href": {
3684                 "$ref":
3685 "https://openconnectivityfoundation.github.io/core/schemas/oic.links.properties.core-
3686 schema.json#/definitions/href"
3687             },
3688             "ins": {
3689                 "$ref":
3690 "https://openconnectivityfoundation.github.io/core/schemas/oic.links.properties.core-
3691 schema.json#/definitions/ins"
3692             },
3693             "p": {
3694                 "$ref":
3695 "https://openconnectivityfoundation.github.io/core/schemas/oic.links.properties.core-
3696 schema.json#/definitions/p"
3697             },
3698             "rel": {
3699                 "$ref":
3700 "https://openconnectivityfoundation.github.io/core/schemas/oic.links.properties.core-
3701 schema.json#/definitions/rel_array"
3702             },
3703             "title": {
3704                 "$ref":
3705 "https://openconnectivityfoundation.github.io/core/schemas/oic.links.properties.core-
3706 schema.json#/definitions/title"
3707             },
3708             "type": {
3709                 "$ref":
3710 "https://openconnectivityfoundation.github.io/core/schemas/oic.links.properties.core-
3711 schema.json#/definitions/type"
3712             },
3713             "if": {
3714                 "description": "The OCF Interfaces supported by the target Resource",
3715                 "items": {
3716                     "enum": [
3717                         "oic.if.a",
3718                         "oic.if.s",
3719                         "oic.if.baseline"
3720                     ],
3721                     "type": "string",
3722                     "maxLength": 64

```

```

3723     },
3724     "minItems": 2,
3725     "uniqueItems": true,
3726     "type": "array",
3727     "readOnly": true
3728   },
3729   "rt": {
3730     "description": "Resource Type of the target Resource",
3731     "items": {
3732       "maxLength": 64,
3733       "type": "string",
3734       "enum": ["oic.r.time.period", "oic.r.energy.consumption"]
3735     },
3736     "minItems": 1,
3737     "type": "array",
3738     "uniqueItems": true,
3739     "readOnly": true
3740   }
3741 },
3742 "required": [
3743   "href",
3744   "rt",
3745   "if"
3746 ]
3747 },
3748 "Usage-baseline": {
3749   "properties": {
3750     "rt": {
3751       "description": "Resource Type of this Resource",
3752       "items": {
3753         "maxLength": 64,
3754         "type": "string",
3755         "enum": ["oic.r.energy.usage"]
3756       },
3757       "minItems": 1,
3758       "readOnly": true,
3759       "uniqueItems": true,
3760       "type": "array"
3761     },
3762     "rts": {
3763       "items": {
3764         "enum": [
3765           "oic.r.time.period",
3766           "oic.r.energy.consumption"
3767         ],
3768         "type": "string",
3769         "maxLength": 64
3770       },
3771       "minItems": 1,
3772       "type": "array",
3773       "readOnly": true,
3774       "uniqueItems": true
3775     },
3776     "links": {
3777       "description": "A set of simple or individual OCF Links.",
3778       "type": "array",
3779       "items": {
3780         "$ref": "#/definitions/oic.oic-link"
3781       }
3782     },
3783     "n": {
3784       "$ref":
3785 "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
3786 schema.json#/definitions/n"
3787     },
3788     "id": {
3789       "$ref":
3790 "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
3791 schema.json#/definitions/id"
3792     },
3793     "if": {
3794       "description": "The OCF Interfaces supported by this Resource",

```

```

3795         "items": {
3796             "enum": [
3797                 "oic.if.ll",
3798                 "oic.if.b",
3799                 "oic.if.baseline"
3800             ],
3801             "type": "string",
3802             "maxLength": 64
3803         },
3804         "minItems": 1,
3805         "readOnly": true,
3806         "uniqueItems": true,
3807         "type": "array"
3808     }
3809 },
3810     "type": "object",
3811     "required": ["rt", "if", "links"]
3812 },
3813 "EnergyUsageBatch-Retrieve" : {
3814     "type": "array",
3815     "minItems": 2,
3816     "uniqueItems": true,
3817     "items": {
3818         "type": "object",
3819         "additionalProperties": true,
3820         "properties": {
3821             "href": {
3822                 "$ref":
3823 "https://openconnectivityfoundation.github.io/core/schemas/oic.links.properties.core-
3824 schema.json#/definitions/href"
3825             },
3826             "rep": {
3827                 "anyOf": [
3828                     { "$ref":
3829 "https://openconnectivityfoundation.github.io/IoTDataModels/TimePeriodResURI.swagger.json#/definitio
3830 ns/TimePeriod"},
3831                     { "$ref":
3832 "https://openconnectivityfoundation.github.io/IoTDataModels/EnergyConsumptionResURI.swagger.json#/de
3833 finitions/Consumption"}
3834                 ]
3835             }
3836         },
3837         "required": [
3838             "href",
3839             "rep"
3840         ]
3841     }
3842 },
3843 "EnergyUsageBatch-Update" : {
3844     "type": "array",
3845     "minItems": 1,
3846     "uniqueItems": true,
3847     "items": {
3848         "type": "object",
3849         "additionalProperties": true,
3850         "properties": {
3851             "href": {
3852                 "$ref":
3853 "https://openconnectivityfoundation.github.io/core/schemas/oic.links.properties.core-
3854 schema.json#/definitions/href"
3855             },
3856             "rep": {
3857                 "anyOf": [
3858                     { "$ref":
3859 "https://openconnectivityfoundation.github.io/IoTDataModels/TimePeriodResURI.swagger.json#/definitio
3860 ns/TimePeriod"}
3861                 ]
3862             }
3863         },
3864         "required": [
3865             "href",
3866             "rep"

```

3867]
 3868 }
 3869 }
 3870 }
 3871 }
 3872 }

3873 **6.12.5 Property definition**

3874 Table 27 defines the Properties that are part of the "oic.r.energy.usage" Resource Type.

3875 **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

3876 **6.12.6 CRUDN behaviour**

3877 Table 28 defines the CRUDN operations that are supported on the "oic.r.energy.usage" Resource
3878 Type.

3879 **Table 28 – The CRUDN operations of the Resource with type "rt" = "oic.r.energy.usage".**

Create	Read	Update	Delete	Notify
	get			observe

3880 **6.13 Humidity**

3881 **6.13.1 Introduction**

3882 This Resource describes a sensed or desired humidity.
3883 The Property "humidity" is an integer describing the percentage measured relative humidity.
3884 The Property "desiredHumidity" is an integer showing the desired target relative humidity.

3885 **6.13.2 Example URI**

3886 /HumidityResURI

3887 **6.13.3 Resource type**

3888 The Resource Type is defined as: "oic.r.humidity".

3889 **6.13.4 OpenAPI 2.0 definition**

```
3890 {
3891   "swagger": "2.0",
3892   "info": {
3893     "title": "Humidity",
3894     "version": "20190215",
3895     "license": {
3896       "name": "OCF Data Model License",
3897       "url":
3898 "https://github.com/openconnectivityfoundation/core/blob/e28a9e0a92e17042ba3e83661e4c0fbce8bdc4ba/LI
3899 CENSE.md",
3900       "x-copyright": "copyright 2016-2017, 2019 Open Connectivity Foundation, Inc. All rights
3901 reserved."
3902     },
3903     "termsOfService": "https://openconnectivityfoundation.github.io/core/DISCLAIMER.md"
3904   },
3905   "schemes": ["http"],
3906   "consumes": ["application/json"],
3907   "produces": ["application/json"],
3908   "paths": {
3909     "/HumidityResURI" : {
3910       "get": {
3911         "description": "This Resource describes a sensed or desired humidity.\n\nThe Property
3912 \"humidity\" is an integer describing the percentage measured relative humidity.\n\nThe Property
3913 \"desiredHumidity\" is an integer showing the desired target relative humidity.",
3914         "parameters": [
3915           { "$ref": "#/parameters/interface" }
3916         ],
3917         "responses": {
3918           "200": {
3919             "description": "RETRIEVES the current (relative) humidity level.",
3920             "x-example":
3921             {
3922               "rt": ["oic.r.humidity"],
3923               "if": ["oic.if.a", "oic.if.baseline"],
3924               "humidity": 40,
3925               "desiredHumidity": 40
3926             },
3927             "schema": { "$ref": "#/definitions/Humidity" }
3928           }
3929         }
3930       },
3931       "post": {
3932         "description": "Sets the desired relative humidity level.",
3933         "parameters": [
3934           { "$ref": "#/parameters/interface" },
3935           {
3936             "name": "body",
3937             "in": "body",
3938             "required": true,
3939             "schema": { "$ref": "#/definitions/HumidityUpdate" },
3940             "x-example":
3941             {
3942               "desiredHumidity" : 45
3943             }
3944           }
3945         ],
3946         "responses": {
3947           "200": {
3948             "description": "Indicates that the relative humidity level was changed.\n\nThe new
3949 relative humidity level is provided in the response.",
3950             "x-example":
3951             {
3952               "desiredHumidity": 45
3953             },
3954             "schema": { "$ref": "#/definitions/HumidityUpdate" }
3955           }
3956         }
3957       }
3958     }
3959   }
3960 }
```

```

3956     }
3957   }
3958 }
3959 },
3960 "parameters": {
3961   "interface": {
3962     "in": "query",
3963     "name": "if",
3964     "type": "string",
3965     "enum": ["oic.if.a", "oic.if.s", "oic.if.baseline"]
3966   }
3967 },
3968 "definitions": {
3969   "Humidity": {
3970     "properties": {
3971       "rt": {
3972         "description": "The Resource Type.",
3973         "items": {
3974           "enum": ["oic.r.humidity"],
3975           "maxLength": 64,
3976           "type": "string"
3977         },
3978         "minItems": 1,
3979         "uniqueItems": true,
3980         "readOnly": true,
3981         "type": "array"
3982       },
3983       "desiredHumidity": {
3984         "description": "The desired value for humidity.",
3985         "maximum": 100,
3986         "minimum": 0,
3987         "type": "integer"
3988       },
3989       "humidity": {
3990         "description": "The current sensed value for humidity.",
3991         "maximum": 100,
3992         "minimum": 0,
3993         "readOnly": true,
3994         "type": "integer"
3995       },
3996       "n": {
3997         "$ref":
3998         "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
3999         schema.json#/definitions/n"
4000       },
4001       "id": {
4002         "$ref":
4003         "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
4004         schema.json#/definitions/id"
4005       },
4006       "if": {
4007         "description": "The OCF Interface set supported by this Resource.",
4008         "items": {
4009           "enum": [
4010             "oic.if.a",
4011             "oic.if.s",
4012             "oic.if.baseline"
4013           ],
4014           "type": "string"
4015         },
4016         "minItems": 2,
4017         "uniqueItems": true,
4018         "readOnly": true,
4019         "type": "array"
4020       }
4021     },
4022     "type": "object",
4023     "required": ["humidity"]
4024   },
4025   "HumidityUpdate": {
4026     "properties": {
4027       "desiredHumidity": {

```

```

4028         "description": "Desired value for Humidity",
4029         "maximum": 100,
4030         "minimum": 0,
4031         "type": "integer"
4032     },
4033 },
4034     "type": "object",
4035     "required": ["desiredHumidity"]
4036 }
4037 }
4038 }
4039

```

4040 **6.13.5 Property definition**

4041 Table 29 defines the Properties that are part of the "oic.r.humidity" Resource Type.

4042 **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

4043 **6.13.6 CRUDN behaviour**

4044 Table 30 defines the CRUDN operations that are supported on the "oic.r.humidity" Resource Type.

4045 **Table 30 – The CRUDN operations of the Resource with type "rt" = "oic.r.humidity".**

Create	Read	Update	Delete	Notify
	get	post		observe

4046 6.14 Ice Maker

4047 6.14.1 Introduction

4048 This Resource describes an the operational state of an Ice Maker.
4049 The Property "status" is a string containing a value from the set of possible ice maker statuses.
4050 The possible statuses are defined by the enumeration ["on", "off", "full"]
4051 A status of "on" means that the Ice Maker is operating.
4052 A status of "off" means that the Ice Maker is not operating.
4053 A status of "full" means that the ice collection bin is full (Ice Maker is operating).

4054 6.14.2 Example URI

4055 /IceMakerResURI

4056 6.14.3 Resource type

4057 The Resource Type is defined as: "oic.r.icemaker".

4058 6.14.4 OpenAPI 2.0 definition

```
4059 {
4060   "swagger": "2.0",
4061   "info": {
4062     "title": "Ice Maker",
4063     "version": "20190215",
4064     "license": {
4065       "name": "OCF Data Model License",
4066       "url":
4067         "https://github.com/openconnectivityfoundation/core/blob/e28a9e0a92e17042ba3e83661e4c0fbce8bdc4ba/LI
4068         CENSE.md",
4069       "x-copyright": "copyright 2016-2017, 2019 Open Connectivity Foundation, Inc. All rights
4070       reserved."
4071     },
4072     "termsOfService": "https://openconnectivityfoundation.github.io/core/DISCLAIMER.md"
4073   },
4074   "schemes": ["http"],
4075   "consumes": ["application/json"],
4076   "produces": ["application/json"],
4077   "paths": {
4078     "/IceMakerResURI" : {
4079       "get": {
4080         "description": "This Resource describes an the operational state of an Ice Maker.\nThe
4081         Property \"status\" is a string containing a value from the set of possible ice maker statuses.\nThe
4082         possible statuses are defined by the enumeration [\"on\", \"off\", \"full\"]\nA status of \"on\"
4083         means that the Ice Maker is operating.\nA status of \"off\" means that the Ice Maker is not
4084         operating.\nA status of \"full\" means that the ice collection bin is full (Ice Maker is
4085         operating).",
4086         "parameters": [
4087           { "$ref": "#/parameters/interface" }
4088         ],
4089         "responses": {
4090           "200": {
4091             "description": "RETRIEVES the current Ice Maker status.",
4092             "x-example":
4093               {
4094                 "rt": ["oic.r.icemaker"],
4095                 "if": ["oic.if.a", "oic.if.baseline"],
4096                 "status": "on"
4097               },
4098             "schema": { "$ref": "#/definitions/IceMaker" }
4099           }
4100         }
4101       },
4102       "post": {
4103         "description": "Sets the desired Ice Maker status.\nOnly valid settings for \"status\" in a
4104         UPDATE shall be \"on\" or \"off\".",
4105         "parameters": [
4106           { "$ref": "#/parameters/interface" },
4107           {
4108             "name": "body",
```

```

4109         "in": "body",
4110         "required": true,
4111         "schema": { "$ref": "#/definitions/IceMakerUpdate" },
4112         "x-example":
4113             {
4114                 "status": "off"
4115             }
4116     },
4117 ],
4118 "responses": {
4119     "200": {
4120         "description": "Indicates that the Ice Maker status was changed.\n\nThe new status is
4121 provided in the response.\n",
4122         "x-example":
4123             {
4124                 "status": "off"
4125             },
4126         "schema": { "$ref": "#/definitions/IceMakerUpdate" }
4127     },
4128     "403": {
4129         "description": "This response is generated by the OCF Server when the client sends:\n
4130 An UPDATE with an invalid property value for \"status\".\n\nThe OCF Server responds with the current
4131 resource representation.\n",
4132         "x-example":
4133             {
4134                 "status": "off"
4135             },
4136         "schema": { "$ref": "#/definitions/IceMakerUpdate" }
4137     }
4138 }
4139 }
4140 },
4141 },
4142 "parameters": {
4143     "interface": {
4144         "in": "query",
4145         "name": "if",
4146         "type": "string",
4147         "enum": ["oic.if.a", "oic.if.baseline"]
4148     }
4149 },
4150 "definitions": {
4151     "IceMaker": {
4152         "properties": {
4153             "rt": {
4154                 "description": "The Resource Type.",
4155                 "items": {
4156                     "enum": ["oic.r.icemaker"],
4157                     "maxLength": 64,
4158                     "type": "string"
4159                 },
4160                 "minItems": 1,
4161                 "uniqueItems": true,
4162                 "readOnly": true,
4163                 "type": "array"
4164             },
4165             "status": {
4166                 "description": "The status of the Ice Maker.",
4167                 "enum": [
4168                     "on",
4169                     "off",
4170                     "full"
4171                 ],
4172                 "type": "string"
4173             },
4174             "n": {
4175                 "$ref":
4176 "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
4177 schema.json#/definitions/n"
4178             },
4179             "id": {
4180                 "$ref":

```

```

4181 "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
4182 schema.json#/definitions/id"
4183 },
4184 "if": {
4185   "description": "The OCF Interface set supported by this Resource.",
4186   "items": {
4187     "enum": [
4188       "oic.if.a",
4189       "oic.if.baseline"
4190     ],
4191     "type": "string"
4192   },
4193   "minItems": 2,
4194   "uniqueItems": true,
4195   "readOnly": true,
4196   "type": "array"
4197 }
4198 },
4199 "type": "object",
4200 "required": ["status"]
4201 },
4202 "IceMakerUpdate" : {
4203   "properties": {
4204     "status": {
4205       "description": "Set the status of the Ice Maker.",
4206       "enum": [
4207         "on",
4208         "off"
4209       ]
4210     }
4211   },
4212   "type": "object",
4213   "required": ["status"]
4214 }
4215 }
4216 }
4217

```

4218 6.14.5 Property definition

4219 Table 31 defines the Properties that are part of the "oic.r.icemaker" Resource Type.

4220 **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.
--------	-------------------------------	-----	------------	-------------------------------------

4221 **6.14.6 CRUDN behaviour**

4222 Table 32 defines the CRUDN operations that are supported on the "oic.r.icemaker" Resource Type.

4223 **Table 32 – The CRUDN operations of the Resource with type "rt" = "oic.r.icemaker".**

Create	Read	Update	Delete	Notify
	get	post		observe

4224 **6.15 Lock**

4225 **6.15.1 Introduction**

4226 The Resource describing a lock.
 4227 The Property "lockState" is a string. The value 'Locked' indicates that the door is Locked.
 4228 The value 'Unlocked' indicates that the door is Unlocked.

4229 **6.15.2 Example URI**

4230 /LockStatusResURI

4231 **6.15.3 Resource type**

4232 The Resource Type is defined as: "oic.r.lock.status".

4233 **6.15.4 OpenAPI 2.0 definition**

```

4234 {
4235   "swagger": "2.0",
4236   "info": {
4237     "title": "Lock",
4238     "version": "20190215",
4239     "license": {
4240       "name": "OCF Data Model License",
4241       "url":
4242         "https://github.com/openconnectivityfoundation/core/blob/e28a9e0a92e17042ba3e83661e4c0fbce8bdc4ba/LI
4243         CENSE.md",
4244       "x-copyright": "copyright 2016-2017, 2019 Open Connectivity Foundation, Inc. All rights
4245         reserved."
4246     },
4247     "termsOfService": "https://openconnectivityfoundation.github.io/core/DISCLAIMER.md"
4248   },
4249   "schemes": ["http"],
4250   "consumes": ["application/json"],
4251   "produces": ["application/json"],
4252   "paths": {
4253     "/LockStatusResURI" : {
4254       "get": {
4255         "description": "The Resource describing a lock.\n\nThe Property \"lockState\" is a string. The
4256         value 'Locked' indicates that the door is Locked.\n\nThe value 'Unlocked' indicates that the door is
4257         Unlocked.",
4258         "parameters": [
4259           {"$ref": "#/parameters/interface"}
4260         ],
4261         "responses": {
4262           "200": {
4263             "description": "RETRIEVES the state of the lock.",
4264             "x-example":
4265               {
4266                 "rt": ["oic.r.lock.status"],
4267                 "if": ["oic.if.a", "oic.if.baseline"],
4268                 "lockState": "Locked"
4269               }
4270           }
4271         }
4272       }
4273     }
4274   }

```



```

4270         "schema": { "$ref": "#/definitions/Lock" }
4271     }
4272 }
4273 },
4274 "post": {
4275     "description": "Sets the current lock state.\n",
4276     "parameters": [
4277         { "$ref": "#/parameters/interface" },
4278         {
4279             "name": "body",
4280             "in": "body",
4281             "required": true,
4282             "schema": { "$ref": "#/definitions/Lock" },
4283             "x-example":
4284                 {
4285                     "lockState": "Unlocked"
4286                 }
4287         }
4288     ],
4289     "responses": {
4290         "200": {
4291             "description": "",
4292             "x-example":
4293                 {
4294                     "lockState": "Unlocked"
4295                 },
4296             "schema": { "$ref": "#/definitions/Lock" }
4297         },
4298         "403": {
4299             "description": "This response is generated by the OCF Server when the client sends:\n
4300 An UPDATE with an invalid property value for \"lockState\".\n
4301 The server responds with the current
4302 resource representation.\n",
4303             "x-example":
4304                 {
4305                     "lockState": "Unlocked"
4306                 },
4307             "schema": { "$ref": "#/definitions/Lock" }
4308         }
4309     }
4310 },
4311 },
4312 "parameters": {
4313     "interface": {
4314         "in": "query",
4315         "name": "if",
4316         "type": "string",
4317         "enum": ["oic.if.a", "oic.if.baseline"]
4318     }
4319 },
4320 "definitions": {
4321     "Lock": {
4322         "properties": {
4323             "rt": {
4324                 "description": "Resource Type",
4325                 "items": {
4326                     "enum": ["oic.r.lock.status"],
4327                     "maxLength": 64,
4328                     "type": "string"
4329                 },
4330                 "minItems": 1,
4331                 "uniqueItems": true,
4332                 "readOnly": true,
4333                 "type": "array"
4334             },
4335             "lockState": {
4336                 "description": "The state of the lock.",
4337                 "enum": [
4338                     "Locked",
4339                     "Unlocked"
4340                 ],
4341                 "type": "string"

```

```

4342     },
4343     "n": {
4344         "$ref":
4345         "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
4346         schema.json#/definitions/n"
4347     },
4348     "id": {
4349         "$ref":
4350         "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
4351         schema.json#/definitions/id"
4352     },
4353     "if": {
4354         "description": "The OCF Interface set supported by this Resource.",
4355         "items": {
4356             "enum": [
4357                 "oic.if.a",
4358                 "oic.if.baseline"
4359             ],
4360             "type": "string"
4361         },
4362         "minItems": 2,
4363         "uniqueItems": true,
4364         "readOnly": true,
4365         "type": "array"
4366     }
4367 },
4368 "type": "object",
4369 "required": ["lockState"]
4370 }
4371 }
4372 }
4373

```

6.15.5 Property definition

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

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.

6.15.6 CRUDN behaviour

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

4380 **Table 34 – The CRUDN operations of the Resource with type "rt" = "oic.r.lock.status".**

Create	Read	Update	Delete	Notify
	get	post		observe

4381 **6.16 Lock Code**

4382 **6.16.1 Introduction**

4383 The Resource describing a lock code.
 4384 The Property "lockCodeList" is an array of possible codes that may be associated with a lock.
 4385 The codes are all presented as strings.

4386 **6.16.2 Example URI**

4387 /LockCodeResURI

4388 **6.16.3 Resource type**

4389 The Resource Type is defined as: "oic.r.lock.code".

4390 **6.16.4 OpenAPI 2.0 definition**

```

4391 {
4392   "swagger": "2.0",
4393   "info": {
4394     "title": "Lock Code",
4395     "version": "20190215",
4396     "license": {
4397       "name": "OCF Data Model License",
4398       "url":
4399         "https://github.com/openconnectivityfoundation/core/blob/e28a9e0a92e17042ba3e83661e4c0fbce8bdc4ba/LI
4400         CENSE.md",
4401       "x-copyright": "copyright 2016-2017, 2019 Open Connectivity Foundation, Inc. All rights
4402         reserved."
4403     },
4404     "termsOfService": "https://openconnectivityfoundation.github.io/core/DISCLAIMER.md"
4405   },
4406   "schemes": ["http"],
4407   "consumes": ["application/json"],
4408   "produces": ["application/json"],
4409   "paths": {
4410     "/LockCodeResURI" : {
4411       "get": {
4412         "description": "The Resource describing a lock code.\n\nThe Property \"lockCodeList\" is an
4413         array of possible codes that may be associated with a lock.\n\nThe codes are all presented as
4414         strings.",
4415         "parameters": [
4416           { "$ref": "#/parameters/interface" }
4417         ],
4418         "responses": {
4419           "200": {
4420             "description": "RETRIEVES the current lock code values.",
4421             "x-example":
4422               {
4423                 "rt": ["oic.r.lock.code"],
4424                 "if": ["oic.if.a", "oic.if.baseline"],
4425                 "lockCodeList": ["012345", "112233"]
4426               },
4427             "schema": { "$ref": "#/definitions/LockCode" }
4428           }
4429         }
4430       },
4431       "post": {
4432         "description": "Updates the current lock code values. e.g. all value in the property
4433         \"lockCodeList\"",
4434         "parameters": [
4435           { "$ref": "#/parameters/interface" },

```

```

4436     {
4437         "name": "body",
4438         "in": "body",
4439         "required": true,
4440         "schema": { "$ref": "#/definitions/LockCode" },
4441         "x-example":
4442             {
4443                 "lockCodeList": ["543210", "332211"]
4444             }
4445     },
4446 ],
4447 "responses": {
4448     "200": {
4449         "description": "",
4450         "x-example":
4451             {
4452                 "lockCodeList": ["543210", "332211"]
4453             },
4454         "schema": { "$ref": "#/definitions/LockCode" }
4455     }
4456 },
4457 },
4458 },
4459 },
4460 "parameters": {
4461     "interface" : {
4462         "in" : "query",
4463         "name" : "if",
4464         "type" : "string",
4465         "enum" : ["oic.if.a", "oic.if.baseline"]
4466     },
4467 },
4468 "definitions": {
4469     "LockCode" : {
4470         "properties": {
4471             "rt": {
4472                 "description": "The Resource Type.",
4473                 "items": {
4474                     "enum": ["oic.r.lock.code"],
4475                     "maxLength": 64,
4476                     "type": "string"
4477                 },
4478                 "minItems": 1,
4479                 "uniqueItems": true,
4480                 "readOnly": true,
4481                 "type": "array"
4482             },
4483             "lockCodeList": {
4484                 "items": {
4485                     "description": "The value for the lock code.",
4486                     "type": "string"
4487                 },
4488                 "type": "array"
4489             },
4490             "n": {
4491                 "$ref":
4492                 "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
4493                 schema.json#/definitions/n"
4494             },
4495             "id": {
4496                 "$ref":
4497                 "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
4498                 schema.json#/definitions/id"
4499             },
4500             "if": {
4501                 "description": "The OCF Interface set supported by this Resource.",
4502                 "items": {
4503                     "enum": [
4504                         "oic.if.a",
4505                         "oic.if.baseline"
4506                     ],
4507                     "type": "string"

```

```

4508     },
4509     "minItems": 2,
4510     "uniqueItems": true,
4511     "readOnly": true,
4512     "type": "array"
4513   },
4514 },
4515 "type": "object",
4516 "required": ["lockCodeList"]
4517 }
4518 }
4519 }
4520

```

4521 **6.16.5 Property definition**

4522 Table 35 defines the Properties that are part of the "oic.r.lock.code" Resource Type.

4523 **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	

4524 **6.16.6 CRUDN behaviour**

4525 Table 36 defines the CRUDN operations that are supported on the "oic.r.lock.code" Resource Type.

4526 **Table 36 – The CRUDN operations of the Resource with type "rt" = "oic.r.lock.code".**

Create	Read	Update	Delete	Notify
	get	post		observe

4527 **6.17 Mode**

4528 **6.17.1 Introduction**

4529 This Resource describes the modes of operation that a Device can provide.
 4530 The mode can be read or set.
 4531 The Property "supportedModes" is an array of possible modes the device supports.
 4532 The Property "modes" is an array of the currently active mode(s).

4533 **6.17.2 Example URI**

4534 /ModeResURI

4535 **6.17.3 Resource type**

4536 The Resource Type is defined as: "oic.r.mode".

4537 **6.17.4 OpenAPI 2.0 definition**

```
4538 {
4539   "swagger": "2.0",
4540   "info": {
4541     "title": "Mode",
4542     "version": "20190215",
4543     "license": {
4544       "name": "OCF Data Model License",
4545       "url":
4546         "https://github.com/openconnectivityfoundation/core/blob/e28a9e0a92e17042ba3e83661e4c0fbce8bdc4ba/LI
4547         CENSE.md",
4548       "x-copyright": "copyright 2016-2017, 2019 Open Connectivity Foundation, Inc. All rights
4549         reserved."
4550     },
4551     "termsOfService": "https://openconnectivityfoundation.github.io/core/DISCLAIMER.md"
4552   },
4553   "schemes": ["http"],
4554   "consumes": ["application/json"],
4555   "produces": ["application/json"],
4556   "paths": {
4557     "/ModeResURI" : {
4558       "get": {
4559         "description": "This Resource describes the modes of operation that a Device can
4560         provide.\n\nThe mode can be read or set.\n\nThe Property \"supportedModes\" is an array of possible
4561         modes the device supports.\n\nThe Property \"modes\" is an array of the currently active mode(s).",
4562         "parameters": [
4563           { "$ref": "#/parameters/interface" }
4564         ],
4565         "responses": {
4566           "200": {
4567             "description": "RETRIEVES the current mode.",
4568             "x-example":
4569               {
4570                 "rt": ["oic.r.mode"],
4571                 "if": ["oic.if.a", "oic.if.baseline"],
4572                 "supportedModes": ["active", "armedAway", "armedStay", "armedInstant"],
4573                 "modes": ["active"]
4574               },
4575             "schema": { "$ref": "#/definitions/Mode" }
4576           }
4577         }
4578       },
4579       "post": {
4580         "description": "Sets the desired mode.",
4581         "parameters": [
4582           { "$ref": "#/parameters/interface" },
4583           {
4584             "name": "body",
4585             "in": "body",
4586             "required": true,
4587             "schema": { "$ref": "#/definitions/ModeUpdate" },
4588             "x-example":
4589               {
4590                 "modes": ["armedAway"]
4591               }
4592           }
4593         ],
4594         "responses": {
4595           "200": {
4596             "description": "",
4597             "x-example":
4598               {
4599                 "modes": ["armedAway"]
4600               }
4601           }
4602         }
4603       }
4604     }
4605   }
4606 }
```

```

4600         }
4601     },
4602     "schema": { "$ref": "#/definitions/ModeUpdate" }
4603 },
4604 "403": {
4605     "description": "This response is generated by the OCF Server when the client sends:\n
4606 An UPDATE with an value for \"modes\" that is not found in \"supportedModes\".\n
4607 The server responds with the current resource representation.\n",
4608     "x-example":
4609     {
4610         "supportedModes": ["active", "armedAway", "armedStay", "armedInstant"],
4611         "modes": ["active"]
4612     },
4613     "schema": { "$ref": "#/definitions/Mode" }
4614 }
4615 }
4616 }
4617 }
4618 },
4619 "parameters": {
4620     "interface": {
4621         "in": "query",
4622         "name": "if",
4623         "type": "string",
4624         "enum": ["oic.if.a", "oic.if.baseline"]
4625     }
4626 },
4627 "definitions": {
4628     "Mode" : {
4629         "properties": {
4630             "rt": {
4631                 "description": "The Resource Type.",
4632                 "items": {
4633                     "enum": ["oic.r.mode"],
4634                     "maxLength": 64,
4635                     "type": "string"
4636                 },
4637                 "minItems": 1,
4638                 "uniqueItems": true,
4639                 "readOnly": true,
4640                 "type": "array"
4641             },
4642             "modes": {
4643                 "description": "The array of the currently active mode(s).",
4644                 "items": {
4645                     "type": "string"
4646                 },
4647                 "type": "array"
4648             },
4649             "supportedModes": {
4650                 "description": "The array of possible modes the device supports.",
4651                 "items": {
4652                     "type": "string"
4653                 },
4654                 "readOnly": true,
4655                 "type": "array"
4656             },
4657             "n": {
4658                 "$ref":
4659 "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
4660 schema.json#/definitions/n"
4661             },
4662             "id": {
4663                 "$ref":
4664 "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
4665 schema.json#/definitions/id"
4666             },
4667             "if": {
4668                 "description": "The OCF Interface set supported by this Resource.",
4669                 "items": {
4670                     "enum": [
4671                         "oic.if.a",

```

```

4672         "oic.if.baseline"
4673     ],
4674     "type": "string"
4675 },
4676     "minItems": 2,
4677     "uniqueItems": true,
4678     "readOnly": true,
4679     "type": "array"
4680 },
4681 },
4682     "type": "object",
4683     "required": ["supportedModes", "modes"]
4684 },
4685     "ModeUpdate" : {
4686         "properties": {
4687             "modes": {
4688                 "description": "Desired mode",
4689                 "items": {
4690                     "type": "string"
4691                 },
4692                 "type": "array"
4693             }
4694         },
4695         "type": "object",
4696         "required": ["modes"]
4697     }
4698 }
4699 }
4700

```

4701 **6.17.5 Property definition**

4702 Table 37 defines the Properties that are part of the "oic.r.mode" Resource Type.

4703 **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	
---	-------------------------------	----	------------	--

4704 **6.17.6 CRUDN behaviour**

4705 Table 38 defines the CRUDN operations that are supported on the "oic.r.mode" Resource Type.

4706 **Table 38 – The CRUDN operations of the Resource with type "rt" = "oic.r.mode".**

Create	Read	Update	Delete	Notify
	get	post		observe

4707 **6.18 Open Level**

4708 **6.18.1 Introduction**

4709 This Resource describes how open or ajar an entity such as a window, door, blind or shutter is.
 4710 The Property "openLevel" can be read (acting as a sensor).
 4711 The "openLevel" can also be set (acting as an actuator).
 4712 The "openLevel" is device dependent across the range provided.
 4713 When the Property "range" is omitted then 0 to 100 is assumed where 0 means closed, 100 means
 4714 fully open.
 4715 If a "range" is provided then the lower bound=closed, upper bound=open.
 4716 If Property "step" is present then it represents the increment between possible values; if not
 4717 provided 1 is assumed.

4718 **6.18.2 Example URI**

4719 /OpenLevelResURI

4720 **6.18.3 Resource type**

4721 The Resource Type is defined as: "oic.r.openlevel".

4722 **6.18.4 OpenAPI 2.0 definition**

```

4723 {
4724   "swagger": "2.0",
4725   "info": {
4726     "title": "Open Level",
4727     "version": "20190215",
4728     "license": {
4729       "name": "OCF Data Model License",
4730       "url":
4731 "https://github.com/openconnectivityfoundation/core/blob/e28a9e0a92e17042ba3e83661e4c0fbce8bdc4ba/LI
4732 CENSE.md",
4733       "x-copyright": "copyright 2016-2017, 2019 Open Connectivity Foundation, Inc. All rights
4734 reserved."
4735     },
4736     "termsOfService": "https://openconnectivityfoundation.github.io/core/DISCLAIMER.md"
4737   },
4738   "schemes": ["http"],
4739   "consumes": ["application/json"],
4740   "produces": ["application/json"],
4741   "paths": {
4742     "/OpenLevelResURI" : {
4743       "get": {
4744         "description": "This Resource describes how open or ajar an entity such as a window, door,
4745 blind or shutter is.\nThe Property \"openLevel\" can be read (acting as a sensor).\nThe
4746 \"openLevel\" can also be set (acting as an actuator).\nThe \"openLevel\" is device dependent across
4747 the range provided.\nWhen the Property \"range\" is omitted then 0 to 100 is assumed where 0 means
4748 closed, 100 means fully open.\nIf a \"range\" is provided then the lower bound=closed, upper
4749 bound=open.\nIf Property \"step\" is present then it represents the increment between possible
4750 values; if not provided 1 is assumed.",

```

```

4751     "parameters": [
4752       { "$ref": "#/parameters/interface" }
4753     ],
4754     "responses": {
4755       "200": {
4756         "description": "RETRIEVES the current openLevel.",
4757         "x-example":
4758           {
4759             "rt": ["oic.r.openlevel"],
4760             "if": ["oic.if.a", "oic.if.baseline"],
4761             "openLevel": 50,
4762             "step": 2,
4763             "range": [0, 100]
4764           },
4765         "schema": { "$ref": "#/definitions/OpenLevel" }
4766       }
4767     },
4768   },
4769   "post": {
4770     "description": "Sets the desired openLevel.",
4771     "parameters": [
4772       { "$ref": "#/parameters/interface" },
4773       {
4774         "name": "body",
4775         "in": "body",
4776         "required": true,
4777         "schema": { "$ref": "#/definitions/OpenLevel" },
4778         "x-example":
4779           {
4780             "openLevel": 0
4781           }
4782       }
4783     ],
4784     "responses": {
4785       "200": {
4786         "description": "",
4787         "x-example":
4788           {
4789             "openLevel": 0
4790           },
4791         "schema": { "$ref": "#/definitions/OpenLevel" }
4792       },
4793       "403": {
4794         "description": "This response is generated by the OCF Server when the client sends:\n
4795 An UPDATE with an out of range property value for \"openLevel\".\nThe OCF Server responds with the
4796 current resource representation.\n",
4797         "x-example":
4798           {
4799             "openLevel": 50,
4800             "step": 2,
4801             "range": [0, 100]
4802           },
4803         "schema": { "$ref": "#/definitions/OpenLevel" }
4804       }
4805     }
4806   }
4807 },
4808 },
4809 "parameters": {
4810   "interface": {
4811     "in": "query",
4812     "name": "if",
4813     "type": "string",
4814     "enum": ["oic.if.a", "oic.if.baseline"]
4815   }
4816 },
4817 "definitions": {
4818   "OpenLevel": {
4819     "properties": {
4820       "rt": {
4821         "description": "The Resource Type.",
4822         "items": {

```

```

4823         "maxLength": 64,
4824         "type": "string",
4825         "enum": ["oic.r.openlevel"]
4826     },
4827     "minItems": 1,
4828     "uniqueItems": true,
4829     "readOnly": true,
4830     "type": "array"
4831 },
4832 "openLevel": {
4833     "description": "How open or ajar the entity is.",
4834     "type": "integer"
4835 },
4836 "n": {
4837     "$ref":
4838 "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
4839 schema.json#/definitions/n"
4840 },
4841 "id": {
4842     "$ref":
4843 "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
4844 schema.json#/definitions/id"
4845 },
4846 "range": {
4847     "$ref":
4848 "https://openconnectivityfoundation.github.io/IoTDataModels/schemas/oic.baseresource.properties-
4849 schema.json#/definitions/range_integer"
4850 },
4851 "step": {
4852     "$ref":
4853 "https://openconnectivityfoundation.github.io/IoTDataModels/schemas/oic.baseresource.properties-
4854 schema.json#/definitions/step_integer"
4855 },
4856 "if": {
4857     "description": "The OCF Interface set supported by this Resource.",
4858     "items": {
4859         "enum": [
4860             "oic.if.a",
4861             "oic.if.baseline"
4862         ],
4863         "type": "string"
4864     },
4865     "minItems": 2,
4866     "uniqueItems": true,
4867     "readOnly": true,
4868     "type": "array"
4869 }
4870 },
4871 "type": "object",
4872 "required": ["openLevel"]
4873 }
4874 }
4875 }
4876

```

4877 6.18.5 Property definition

4878 Table 39 defines the Properties that are part of the "oic.r.openlevel" Resource Type.

4879 **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	

4880 **6.18.6 CRUDN behaviour**

4881 Table 40 defines the CRUDN operations that are supported on the "oic.r.openlevel" Resource Type.

4882 **Table 40 – The CRUDN operations of the Resource with type "rt" = "oic.r.openlevel".**

Create	Read	Update	Delete	Notify
	get	post		observe

4883 **6.19 Operational State**

4884 **6.19.1 Introduction**

4885 This Resource describes the operational and job states on a device.
4886 The states can be read or set, setting indicates a desired state.
4887 A device may reject an attempt to set a state that would result
4888 in adverse operational characteristics.
4889 The Property "machineStates" is an array of the possible operational states.
4890 The Property "currentMachineState" is the current state of operation of the device.
4891 The Property "jobStates" is an array of the possible job states.
4892 The Property "currentJobState" is the currently active jobState.
4893 The Property "runningTime" is the ISO8601 encoded elapsed time in the current operational state.
4894 The Property "remainingTime" is the ISO8601 encoded time till completion of the current
4895 operational state.
4896 The Property "progressPercentage" is the percentage completeness of the current jobState.

4897 **6.19.2 Example URI**

4898 /OperationalStateResURI

4899 **6.19.3 Resource type**

4900 The Resource Type is defined as: "oic.r.operational.state".

4901 **6.19.4 OpenAPI 2.0 definition**

```
4902 {
4903   "swagger": "2.0",
4904   "info": {
```

```

4905     "title": "Operational State",
4906     "version": "20190215",
4907     "license": {
4908         "name": "OCF Data Model License",
4909         "url":
4910 "https://github.com/openconnectivityfoundation/core/blob/e28a9e0a92e17042ba3e83661e4c0fbce8bdc4ba/LI
4911 CENSE.md",
4912     "x-copyright": "copyright 2016-2017, 2019 Open Connectivity Foundation, Inc. All rights
4913 reserved."
4914     },
4915     "termsOfService": "https://openconnectivityfoundation.github.io/core/DISCLAIMER.md"
4916     },
4917     "schemes": ["http"],
4918     "consumes": ["application/json"],
4919     "produces": ["application/json"],
4920     "paths": {
4921         "/OperationalStateResURI": {
4922             "get": {
4923                 "description": "This Resource describes the operational and job states on a device.\nThe
4924 states can be read or set, setting indicates a desired state.\nA device may reject an attempt to set
4925 a state that would result\nin adverse operational characteristics.\n\nThe Property \"machineStates\"
4926 is an array of the possible operational states.\n\nThe Property \"currentMachineState\" is the current
4927 state of operation of the device.\n\nThe Property \"jobStates\" is an array of the possible job
4928 states.\n\nThe Property \"currentJobState\" is the currently active jobState.\n\nThe Property
4929 \"runningTime\" is the ISO8601 encoded elapsed time in the current operational state.\n\nThe Property
4930 \"remainingTime\" is the ISO8601 encoded time till completion of the current operational state.\n\nThe
4931 Property \"progressPercentage\" is the percentage completeness of the current jobState.",
4932                 "parameters": [
4933                     { "$ref": "#/parameters/interface" }
4934                 ],
4935                 "responses": {
4936                     "200": {
4937                         "description": "RETRIEVES the current operational and job states.",
4938                         "x-example": {
4939                             "rt": ["oic.r.operational.state"],
4940                             "if": ["oic.if.a", "oic.if.baseline"],
4941                             "machineStates": ["pause", "stopped", "idle", "active"],
4942                             "currentMachineState": "active",
4943                             "jobStates": ["preWash", "wash", "rinse", "spin", "dry", "airDry", "wrinklePrevent"],
4944                             "currentJobState": "rinse",
4945                             "runningTime": "PT15M20S",
4946                             "remainingTime": "PT10M40S",
4947                             "progressPercentage": 75
4948                         },
4949                         "schema": { "$ref": "#/definitions/Operation" }
4950                     }
4951                 }
4952             },
4953             "post": {
4954                 "description": "Sets the desired operational or job state.",
4955                 "parameters": [
4956                     { "$ref": "#/parameters/interface" },
4957                     {
4958                         "name": "body",
4959                         "in": "body",
4960                         "required": true,
4961                         "schema": { "$ref": "#/definitions/OperationUpdate" },
4962                         "x-example": {
4963                             "currentMachineState": "pause",
4964                             "currentJobState": "wash"
4965                         }
4966                     }
4967                 ],
4968                 "responses": {
4969                     "200": {
4970                         "description": "",
4971                         "x-example": {
4972                             "currentMachineState": "pause",
4973                             "currentJobState": "wash"
4974                         },
4975                         "schema": { "$ref": "#/definitions/OperationUpdate" }
4976                     }
4977                 }
4978             }
4979         }
4980     }

```

```

4977         "403": {
4978             "description" : "This response is generated by the OCF Server when the client sends:\n
An UPDATE with an value for \"currentMachineState\" that is not found in \"machineStates\".\n An
4980 UPDATE with an value for \"currentJobState\" that is not found in \"jobStates\".\n The OCF Server
4981 responds with the current resource representation.\n",
4982             "x-example": {
4983                 "machineStates": ["pause", "stopped", "idle", "active"],
4984                 "currentMachineState": "active",
4985                 "jobStates": ["preWash", "wash", "rinse", "spin", "dry", "airDry", "wrinklePrevent"],
4986                 "currentJobState": "rinse",
4987                 "runningTime": "PT15M20S",
4988                 "remainingTime": "PT10M40S",
4989                 "progressPercentage": 75
4990             },
4991             "schema": { "$ref": "#/definitions/Operation" }
4992         }
4993     }
4994 }
4995 },
4996 "parameters": {
4997     "interface": {
4998         "in": "query",
4999         "name": "if",
5000         "type": "string",
5001         "enum": ["oic.if.a", "oic.if.baseline"]
5002     },
5003 },
5004 "definitions": {
5005     "Operation" : {
5006         "properties": {
5007             "rt": {
5008                 "description": "The Resource Type.",
5009                 "items": {
5010                     "enum": ["oic.r.operational.state"],
5011                     "maxLength": 64,
5012                     "type": "string"
5013                 },
5014                 "minItems": 1,
5015                 "uniqueItems": true,
5016                 "readOnly": true,
5017                 "type": "array"
5018             },
5019             "currentMachineState": {
5020                 "description": "The current state of operation of the device.",
5021                 "type": "string"
5022             },
5023             "currentJobState": {
5024                 "description": "The currently active jobState.",
5025                 "type": "string"
5026             },
5027             "machineStates": {
5028                 "description": "The array of the possible operational states.",
5029                 "items": {
5030                     "type": "string"
5031                 },
5032                 "readOnly": true,
5033                 "type": "array"
5034             },
5035             "runningTime": {
5036                 "$ref": "http://openconnectivityfoundation.github.io/core/schemas/oic.types-
5037 schema.json#/definitions/duration"
5038             },
5039             "remainingTime": {
5040                 "$ref": "http://openconnectivityfoundation.github.io/core/schemas/oic.types-
5041 schema.json#/definitions/duration"
5042             },
5043             "progressPercentage": {
5044                 "description": "The percentage completeness of the current jobState.",
5045                 "maximum": 100,
5046                 "minimum": 0,
5047                 "readOnly": true,
5048

```

```

5049         "type": "integer"
5050     },
5051     "jobStates": {
5052         "description": "The Array of the possible job states.",
5053         "items": {
5054             "type": "string"
5055         },
5056         "readOnly": true,
5057         "type": "array"
5058     },
5059     "n": {
5060         "$ref":
5061         "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
5062         schema.json#/definitions/n"
5063     },
5064     "id": {
5065         "$ref":
5066         "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
5067         schema.json#/definitions/id"
5068     },
5069     "if": {
5070         "description": "The OCF Interface set supported by this Resource.",
5071         "items": {
5072             "enum": [
5073                 "oic.if.a",
5074                 "oic.if.baseline"
5075             ],
5076             "type": "string"
5077         },
5078         "minItems": 2,
5079         "uniqueItems": true,
5080         "readOnly": true,
5081         "type": "array"
5082     }
5083 },
5084 "type": "object",
5085 "required": ["machineStates", "currentMachineState"]
5086 },
5087 "OperationUpdate" : {
5088     "properties": {
5089         "currentMachineState": {
5090             "description": "The current state of operation of the device.",
5091             "type": "string"
5092         },
5093         "currentJobState": {
5094             "description": "The currently active jobState.",
5095             "type": "string"
5096         }
5097     },
5098     "type": "object"
5099 }
5100 }
5101 }
5102

```

5103 6.19.5 Property definition

5104 Table 41 defines the Properties that are part of the "oic.r.operational.state" Resource Type.

5105 **Table 41 – The Property definitions of the Resource with type "rt" =**
5106 **"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.

5107 **6.19.6 CRUDN behaviour**

5108 Table 42 defines the CRUDN operations that are supported on the "oic.r.operational.state"
5109 Resource Type.

5110 **Table 42 – The CRUDN operations of the Resource with type "rt" = "oic.r.operational.state".**

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

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

5111 **6.20 Ramp Time**

5112 **6.20.1 Introduction**

5113 This Resource that describes the ramp time of a dimming function.
 5114 It specifies the actual speed of changing between 2 dimming values.
 5115 The Property "ramptime" is specified in milliseconds [ms].
 5116 When range is omitted the maximum value is 100 ms.
 5117 The ramp time of 0ms indicates the minimal delay possible by the implementation.

5118 **6.20.2 Example URI**

5119 /RampTimeResURI

5120 **6.20.3 Resource type**

5121 The Resource Type is defined as: "oic.r.light.ramptime".

5122 **6.20.4 OpenAPI 2.0 definition**

```

5123 {
5124   "swagger": "2.0",
5125   "info": {
5126     "title": "Ramp Time",
5127     "version": "20190215",
5128     "license": {
5129       "name": "OCF Data Model License",
5130       "url":
5131         "https://github.com/openconnectivityfoundation/core/blob/e28a9e0a92e17042ba3e83661e4c0fbce8bdc4ba/LI
5132         CENSE.md",
5133       "x-copyright": "copyright 2016-2017, 2019 Open Connectivity Foundation, Inc. All rights
5134         reserved."
5135     },
5136     "termsOfService": "https://openconnectivityfoundation.github.io/core/DISCLAIMER.md"
5137   },
5138   "schemes": ["http"],
5139   "consumes": ["application/json"],
5140   "produces": ["application/json"],
5141   "paths": {
5142     "/RampTimeResURI" : {
5143       "get": {
5144         "description": "This Resource that describes the ramp time of a dimming function.\nIt
5145         specifies the actual speed of changing between 2 dimming values.\nThe Property \"ramptime\" is
5146         specified in milliseconds [ms].\nWhen range is omitted the maximum value is 100 ms.\nThe ramp time
5147         of 0ms indicates the minimal delay possible by the implementation.",
5148         "parameters": [
5149           {"$ref": "#/parameters/interface"}
5150         ],
5151         "responses": {
5152           "200": {
5153             "description": "RETRIEVES the current RampTime.",
5154             "x-example":
5155               {
5156                 "rt": ["oic.r.light.ramptime"],
5157                 "if": ["oic.if.a", "oic.if.baseline"],
5158                 "rampTime": 40,
5159                 "range": [0, 100]
5160               },
5161             "schema": { "$ref": "#/definitions/RampTime" }
5162           }
5163         }
5164       },
5165       "post": {
5166         "description": "Sets the current RampTime.\n",
5167         "parameters": [
5168           {"$ref": "#/parameters/interface"},
5169         ]
5170       }
5171     }
5172   }

```

```

5170         "name": "body",
5171         "in": "body",
5172         "required": true,
5173         "schema": { "$ref": "#/definitions/RampTime" },
5174         "x-example":
5175             {
5176                 "rampTime": 50
5177             }
5178     },
5179 ],
5180 "responses": {
5181     "200": {
5182         "description": "This response is generated by the OCF Server when the client sends an
5183 UPDATE with an in range Property value for \"rampTime\". The OCF Server responds with the current
5184 resource representation.",
5185         "x-example":
5186             {
5187                 "rampTime": 50,
5188                 "range": [0, 100]
5189             },
5190         "schema": { "$ref": "#/definitions/RampTime" }
5191     },
5192     "403": {
5193         "description": "Error response. This response is generated by the OCF Server when the
5194 client sends an UPDATE with an out of range Property value for \"rampTime\".",
5195         "x-example":
5196             {
5197                 "rampTime": 40,
5198                 "range": [0, 100]
5199             },
5200         "schema": { "$ref": "#/definitions/RampTime" }
5201     }
5202 }
5203 },
5204 },
5205 },
5206 "parameters": {
5207     "interface": {
5208         "in": "query",
5209         "name": "if",
5210         "type": "string",
5211         "enum": ["oic.if.a", "oic.if.baseline"]
5212     }
5213 },
5214 "definitions": {
5215     "RampTime": {
5216         "properties": {
5217             "rt": {
5218                 "description": "The Resource Type.",
5219                 "items": {
5220                     "enum": ["oic.r.light.ramptime"],
5221                     "maxLength": 64,
5222                     "type": "string"
5223                 },
5224                 "minItems": 1,
5225                 "uniqueItems": true,
5226                 "readOnly": true,
5227                 "type": "array"
5228             },
5229             "rampTime": {
5230                 {
5231                     "description": "The actual speed of changing between 2 dimming values.",
5232                     "type": "integer"
5233                 },
5234                 "n": {
5235                     "$ref":
5236 "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
5237 schema.json#/definitions/n"
5238                 },
5239                 "id": {
5240                     "$ref":
5241 "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-

```

```

5242 schema.json#/definitions/id"
5243     },
5244     "range": {
5245         "$ref":
5246         "https://openconnectivityfoundation.github.io/IoTDataModels/schemas/oic.baseresource.properties-
5247         schema.json#/definitions/range_integer"
5248     },
5249     "step": {
5250         "$ref":
5251         "https://openconnectivityfoundation.github.io/IoTDataModels/schemas/oic.baseresource.properties-
5252         schema.json#/definitions/step_integer"
5253     },
5254     "precision": {
5255         "$ref":
5256         "https://openconnectivityfoundation.github.io/IoTDataModels/schemas/oic.baseresource.properties-
5257         schema.json#/definitions/precision"
5258     },
5259     "if": {
5260         "description": "The OCF Interface set supported by this Resource.",
5261         "items": {
5262             "enum": [
5263                 "oic.if.a",
5264                 "oic.if.baseline"
5265             ],
5266             "type": "string"
5267         },
5268         "minItems": 2,
5269         "uniqueItems": true,
5270         "readOnly": true,
5271         "type": "array"
5272     }
5273 },
5274 "type": "object",
5275 "required": ["rampTime"]
5276 }
5277 }
5278 }
5279

```

5280 6.20.5 Property definition

5281 Table 43 defines the Properties that are part of the "oic.r.light.ramptime" Resource Type.

5282 **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	

5283 **6.20.6 CRUDN behaviour**

5284 Table 44 defines the CRUDN operations that are supported on the "oic.r.light.ramptime" Resource
5285 Type.

5286 **Table 44 – The CRUDN operations of the Resource with type "rt" = "oic.r.light.ramptime".**

Create	Read	Update	Delete	Notify
	get	post		observe

5287 **6.21 Refrigeration**

5288 **6.21.1 Introduction**

5289 This Resource describes a refrigeration function.
5290 The Property "filter" is a read-only value providing the percentage life time remaining for the water
5291 filter.

5292 The Property "rapidFreeze" is a boolean that controls the rapid freeze capability if present.
5293 The Property "rapidCool" is a boolean that controls the rapid cool capability if present.
5294 The Property "defrost" is a boolean that controls the defrost cycle if present.
5295 At least one of the listed Properties shall be present in a Resource Instance.

5296 **6.21.2 Example URI**

5297 /RefrigerationResURI

5298 **6.21.3 Resource type**

5299 The Resource Type is defined as: "oic.r.refrigeration".

5300 **6.21.4 OpenAPI 2.0 definition**

```
5301 {
5302   "swagger": "2.0",
5303   "info": {
5304     "title": "Refrigeration",
5305     "version": "20190215",
5306     "license": {
5307       "name": "OCF Data Model License",
5308       "url":
5309 "https://github.com/openconnectivityfoundation/core/blob/e28a9e0a92e17042ba3e83661e4c0fbce8bdc4ba/LI
5310 CENSE.md",
5311       "x-copyright": "copyright 2016-2017, 2019 Open Connectivity Foundation, Inc. All rights
5312 reserved."
5313     },
5314     "termsOfService": "https://openconnectivityfoundation.github.io/core/DISCLAIMER.md"
5315   },
5316   "schemes": ["http"],
5317   "consumes": ["application/json"],
5318   "produces": ["application/json"],
```

```

5319     "paths": {
5320         "/RefrigerationResURI" : {
5321             "get": {
5322                 "description": "This Resource describes a refrigeration function.\n\nThe Property \"filter\"
5323 is a read-only value providing the percentage life time remaining for the water filter.\n\nThe
5324 Property \"rapidFreeze\" is a boolean that controls the rapid freeze capability if present.\n\nThe
5325 Property \"rapidCool\" is a boolean that controls the rapid cool capability if present.\n\nThe
5326 Property \"defrost\" is a boolean that controls the defrost cycle if present.\n\nAt least one of the
5327 listed Properties shall be present in a Resource Instance.",
5328                 "parameters": [
5329                     { "$ref": "#/parameters/interface" }
5330                 ],
5331                 "responses": {
5332                     "200": {
5333                         "description": "Retrieves the current Refrigeration function status; all Properties
5334 supported by the Device are returned.",
5335                         "x-example":
5336                             {
5337                                 "rt": ["oic.r.refrigeration"],
5338                                 "if": ["oic.if.a", "oic.if.baseline"],
5339                                 "filter": 75,
5340                                 "rapidFreeze": false,
5341                                 "rapidCool": false,
5342                                 "defrost": true
5343                             },
5344                         "schema": { "$ref": "#/definitions/Refrigeration" }
5345                     }
5346                 },
5347             },
5348             "post": {
5349                 "description": "Activates the desired Refrigeration functions.\n\nSupported values are
5350 \"rapidFreeze\", \"rapidCool\" and \"defrost\".\n\nAt least one of the supported values shall be
5351 provided.\n\n",
5352                 "parameters": [
5353                     { "$ref": "#/parameters/interface" },
5354                     {
5355                         "name": "body",
5356                         "in": "body",
5357                         "required": true,
5358                         "schema": { "$ref": "#/definitions/RefrigerationUpdate" },
5359                         "x-example":
5360                             {
5361                                 "rapidFreeze": true
5362                             }
5363                     }
5364                 ],
5365                 "responses": {
5366                     "200": {
5367                         "description": "Indicates that the Refrigeration function was changed.\n\nThe new
5368 status can be provided in the response.\n\n",
5369                         "x-example":
5370                             {
5371                                 "rapidFreeze": true
5372                             },
5373                         "schema": { "$ref": "#/definitions/RefrigerationUpdate" }
5374                     }
5375                 }
5376             }
5377         },
5378     },
5379     "parameters": {
5380         "interface": {
5381             "in": "query",
5382             "name": "if",
5383             "type": "string",
5384             "enum": ["oic.if.a", "oic.if.baseline"]
5385         }
5386     },
5387     "definitions": {
5388         "Refrigeration": {
5389             "properties": {
5390                 "rt": {

```

```

5391         "description": "The Resource Type.",
5392         "items": {
5393             "enum": ["oic.r.refrigeration"],
5394             "maxLength": 64,
5395             "type": "string"
5396         },
5397         "minItems": 1,
5398         "uniqueItems": true,
5399         "readOnly": true,
5400         "type": "array"
5401     },
5402     "rapidFreeze": {
5403         "description": "Indicates whether the unit has a rapid freeze capability active.",
5404         "type": "boolean"
5405     },
5406     "defrost": {
5407         "description": "Indicates whether a defrost cycle is currently active.",
5408         "type": "boolean"
5409     },
5410     "filter": {
5411         "description": "Percentage life time remaining for the water filter.",
5412         "maximum": 100,
5413         "minimum": 0,
5414         "readOnly": true,
5415         "type": "integer"
5416     },
5417     "rapidCool": {
5418         "description": "Indicates whether the unit has a rapid cool capability active.",
5419         "type": "boolean"
5420     },
5421     "n": {
5422         "$ref":
5423         "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
5424         schema.json#/definitions/n"
5425     },
5426     "id": {
5427         "$ref":
5428         "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
5429         schema.json#/definitions/id"
5430     },
5431     "if": {
5432         "description": "The OCF Interface set supported by this Resource.",
5433         "items": {
5434             "enum": [
5435                 "oic.if.a",
5436                 "oic.if.baseline"
5437             ],
5438             "type": "string"
5439         },
5440         "minItems": 2,
5441         "readOnly": true,
5442         "type": "array"
5443     }
5444 },
5445 "anyOf": [
5446     {
5447         "required": ["filter"]
5448     },
5449     {
5450         "required": ["rapidFreeze"]
5451     },
5452     {
5453         "required": ["rapidCool"]
5454     },
5455     {
5456         "required": ["defrost"]
5457     }
5458 ],
5459 "type": "object"
5460 },
5461 "RefrigerationUpdate": {
5462     "properties": {

```

```

5463     "rapidFreeze": {
5464         "description": "Indicates whether the unit has a rapid freeze capability active.",
5465         "type": "boolean"
5466     },
5467     "defrost": {
5468         "description": "Indicates whether a defrost cycle is currently active.",
5469         "type": "boolean"
5470     },
5471     "rapidCool": {
5472         "description": "Indicates whether the unit has a rapid cool capability active.",
5473         "type": "boolean"
5474     }
5475 },
5476 "anyOf": [
5477     {
5478         "required": ["rapidFreeze"]
5479     },
5480     {
5481         "required": ["rapidCool"]
5482     },
5483     {
5484         "required": ["defrost"]
5485     }
5486 ],
5487 "type": "object"
5488 }
5489 }
5490 }
5491

```

5492 **6.21.5 Property definition**

5493 Table 45 defines the Properties that are part of the "oic.r.refrigeration" Resource Type.

5494 **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.

5495 **6.21.6 CRUDN behaviour**

5496 Table 46 defines the CRUDN operations that are supported on the "oic.r.refrigeration" Resource
5497 Type.

5498 **Table 46 – The CRUDN operations of the Resource with type "rt" = "oic.r.refrigeration".**

Create	Read	Update	Delete	Notify
	get	post		observe

5499 **6.22 Temperature**

5500 **6.22.1 Introduction**

5501 This Resource describes a sensed or actuated Temperature value.
5502 The Property "temperature" describes the current value measured.
5503 The Property "units" is a single value that is one of "C", "F" or "K".
5504 It provides the unit of measurement for the "temperature" value.
5505 It is a read-only value that is provided by the server.
5506 If the "units" Property is missing the default is Celsius [C].
5507 When the Property "range" is omitted the default is +/- MAXINT.
5508 A client can specify the units for the requested temperature by use of a query parameter.
5509 If no query parameter is provided the server provides its default measure or set value.
5510 It is recommended to return always the units Property in the result.

5511 **6.22.2 Example URI**

5512 /TemperatureResURI

5513 6.22.3 Resource type

5514 The Resource Type is defined as: "oic.r.temperature".

5515 6.22.4 OpenAPI 2.0 definition

```
5516 {
5517   "swagger": "2.0",
5518   "info": {
5519     "title": "Temperature",
5520     "version": "20190215",
5521     "license": {
5522       "name": "OCF Data Model License",
5523       "url":
5524         "https://github.com/openconnectivityfoundation/core/blob/e28a9e0a92e17042ba3e83661e4c0fbce8bdc4ba/LI
5525         CENSE.md",
5526       "x-copyright": "copyright 2016-2017, 2019 Open Connectivity Foundation, Inc. All rights
5527         reserved."
5528     },
5529     "termsOfService": "https://openconnectivityfoundation.github.io/core/DISCLAIMER.md"
5530   },
5531   "schemes": ["http"],
5532   "consumes": ["application/json"],
5533   "produces": ["application/json"],
5534   "paths": {
5535     "/TemperatureResURI" : {
5536       "get": {
5537         "description": "This Resource describes a sensed or actuated Temperature value.\nThe
5538         Property \"temperature\" describes the current value measured.\nThe Property \"units\" is a single
5539         value that is one of \"C\", \"F\" or \"K\".\nIt provides the unit of measurement for the
5540         \"temperature\" value.\nIt is a read-only value that is provided by the server.\nIf the \"units\"
5541         Property is missing the default is Celsius [C].\nWhen the Property \"range\" is omitted the default
5542         is +/- MAXINT.\nA client can specify the units for the requested temperature by use of a query
5543         parameter.\nIf no query parameter is provided the server provides its default measure or set
5544         value.\nIt is recommended to return always the units Property in the result.",
5545         "parameters": [
5546           {"$ref": "#/parameters/interface"},
5547           {"$ref": "#/parameters/unit"}
5548         ],
5549         "responses": {
5550           "200": {
5551             "description": "Retrieves the current temperature value.",
5552             "x-example":
5553               {
5554                 "rt": ["oic.r.temperature"],
5555                 "if": [ "oic.if.a", "oic.if.baseline"],
5556                 "temperature": 20.0,
5557                 "units": "C"
5558               }
5559             ,
5560             "schema": { "$ref": "#/definitions/Temperature" }
5561           },
5562           "403": {
5563             "description": "This response is generated by the OCF Server when the client sends:\n
5564             A RETRIEVE with queryParameter indicating a unit that the server does not support.\n
5565             The server responds with the current resource representation including the\n\n\"units\"
5566             property illustrating the supported units and the error.",
5567             "x-example":
5568               {
5569                 "temperature": 20.0,
5570                 "units": "C"
5571               }
5572             ,
5573             "schema": { "$ref": "#/definitions/Temperature" }
5574           }
5575         }
5576       }
5577     },
5578     "post": {
5579       "description": "Sets the desired temperature value.\nIf a \"unit\" is included and the
5580       server may not support the unit indicated the request will fail.\nIf the units are omitted value is
5581       taken to be in C.",
5582       "parameters": [
5583         {"$ref": "#/parameters/interface"},
```

```

5582     {
5583         "name": "body",
5584         "in": "body",
5585         "required": true,
5586         "schema": { "$ref": "#/definitions/Temperature" },
5587         "x-example":
5588             {
5589                 "temperature": 18.0,
5590                 "units": "F"
5591             }
5592     },
5593     "responses": {
5594         "200": {
5595             "description": "",
5596             "x-example":
5597                 {
5598                     "temperature": 18.0,
5599                     "units": "F"
5600                 }
5601             ,
5602             "schema": { "$ref": "#/definitions/Temperature" }
5603         },
5604         "403": {
5605             "description": "This response is generated by the OCF Server when the client sends:\n
5606 An UPDATE with an out of range property value for temperature.\n An UPDATE with an unsupported unit
5607 for this server.\nThe OCF Server responds with the current resource representation including\nthe
5608 \"range\" property illustrating the supported range and the error.",
5609             "x-example":
5610                 {
5611                     "temperature": 20.0,
5612                     "units": "C"
5613                 }
5614             ,
5615             "schema": { "$ref": "#/definitions/Temperature" }
5616         }
5617     }
5618 },
5619 },
5620 },
5621 },
5622 "parameters": {
5623     "interface": {
5624         "in": "query",
5625         "name": "if",
5626         "type": "string",
5627         "enum": ["oic.if.a", "oic.if.s", "oic.if.baseline"]
5628     },
5629     "unit": {
5630         "in": "query",
5631         "description": "Units",
5632         "type": "string",
5633         "enum": ["C", "F", "K"],
5634         "name": "units",
5635         "x-queryexample": "/TemperatureResURI?units=C"
5636     }
5637 },
5638 "definitions": {
5639     "Temperature": {
5640         "properties": {
5641             "rt": {
5642                 "description": "The Resource Type.",
5643                 "items": {
5644                     "maxLength": 64,
5645                     "type": "string",
5646                     "enum": ["oic.r.temperature"]
5647                 },
5648                 "minItems": 1,
5649                 "uniqueItems": true,
5650                 "readOnly": true,
5651                 "type": "array"
5652             },
5653             "temperature": {

```

```

5654         "description": "The current temperature setting or measurement.",
5655         "type": "number"
5656     },
5657     "units" : {
5658         "description": "The unit for the conveyed temperature value, Note that when doing an
5659 UPDATE, the unit on the device does NOT change, it only indicates the unit of the conveyed value
5660 during the UPDATE operation.",
5661         "enum": [
5662             "C",
5663             "F",
5664             "K"
5665         ],
5666         "type": "string"
5667     },
5668     "n": {
5669         "$ref":
5670 "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
5671 schema.json#/definitions/n"
5672     },
5673     "id": {
5674         "$ref":
5675 "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
5676 schema.json#/definitions/id"
5677     },
5678     "range" : {
5679         "$ref":
5680 "https://openconnectivityfoundation.github.io/IoTDataModels/schemas/oic.baseresource.properties-
5681 schema.json#/definitions/range_number"
5682     },
5683     "step" : {
5684         "$ref":
5685 "https://openconnectivityfoundation.github.io/IoTDataModels/schemas/oic.baseresource.properties-
5686 schema.json#/definitions/step_number"
5687     },
5688     "precision" : {
5689         "$ref":
5690 "https://openconnectivityfoundation.github.io/IoTDataModels/schemas/oic.baseresource.properties-
5691 schema.json#/definitions/precision"
5692     },
5693     "if" : {
5694         "description": "The OCF Interface set supported by this Resource.",
5695         "items": {
5696             "enum": [
5697                 "oic.if.baseline",
5698                 "oic.if.s",
5699                 "oic.if.a"
5700             ],
5701             "maxLength": 64,
5702             "type": "string"
5703         },
5704         "minItems": 2,
5705         "uniqueItems": true,
5706         "readOnly": true,
5707         "type": "array"
5708     }
5709 },
5710 "type" : "object",
5711 "required": ["temperature"]
5712 }
5713 }
5714 }

```

5715 6.22.5 Property definition

5716 Table 47 defines the Properties that are part of the "oic.r.temperature" Resource Type.

5717 **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	

5718 **6.22.6 CRUDN behaviour**

5719 Table 48 defines the CRUDN operations that are supported on the "oic.r.temperature" Resource
5720 Type.

5721 **Table 48 – The CRUDN operations of the Resource with type "rt" = "oic.r.temperature".**

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

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

5722 **6.23 Time Period**

5723 **6.23.1 Introduction**

5724 This Resource describes the time period over which any additionally provided information is derived
5725 or bounded.
5726 The Property "startTime" and "stopTime" are RFC3339 encoded strings. The Property "startTime"
5727 must be present.
5728 The interval is the interval of the time period in minutes, if present this value must be no less than
5729 1 minute.
5730 The Property "stoptime" and "interval" are mutually exclusive; both Properties cannot be present
5731 in a Resource instance.
5732 The Resource defines a time period for information retrieval, action or other behaviour.

5733 **6.23.2 Example URI**

5734 /TimePeriodResURI

5735 **6.23.3 Resource type**

5736 The Resource Type is defined as: "oic.r.time.period".

5737 **6.23.4 OpenAPI 2.0 definition**

```

5738 {
5739   "swagger": "2.0",
5740   "info": {
5741     "title": "Time Period",
5742     "version": "20190215",
5743     "license": {
5744       "name": "OCF Data Model License",
5745       "url":
5746         "https://github.com/openconnectivityfoundation/core/blob/e28a9e0a92e17042ba3e83661e4c0fbce8bdc4ba/LI
5747         CENSE.md",
5748       "x-copyright": "copyright 2016-2017, 2019 Open Connectivity Foundation, Inc. All rights
5749       reserved."
5750     },
5751     "termsOfService": "https://openconnectivityfoundation.github.io/core/DISCLAIMER.md"
5752   },
5753   "schemes": ["http"],
5754   "consumes": ["application/json"],
5755   "produces": ["application/json"],
5756   "paths": {
5757     "/TimePeriodResURI" : {
5758       "get": {
5759         "description": "This Resource describes the time period over which any additionally provided
5760         information is derived or bounded.\nThe Property \"startTime\" and \"stopTime\" are RFC3339 encoded
5761         strings. The Property \"startTime\" must be present.\nThe interval is the interval of the time
5762         period in minutes, if present this value must be no less than 1 minute.\nThe Property \"stoptime\"
5763         and \"interval\" are mutually exclusive; both Properties cannot be present in a Resource
5764         instance.\nThe Resource defines a time period for information retrieval, action or other
5765         behaviour.",
5766         "parameters": [
5767           { "$ref": "#/parameters/interface" }
5768         ],
5769         "responses": {
5770           "200": {
5771             "description": "",
5772             "x-example":
5773               {
5774                 "rt": ["oic.r.time.period"],
5775                 "if": ["oic.if.a", "oic.if.baseline"],
5776                 "startTime": "2015-01-09T14:30:00Z",
5777                 "stopTime": "2015-01-09T14:45:00Z"
5778               },
5779           },
5780           "schema": { "$ref": "#/definitions/TimePeriod" }

```

```

5780     }
5781   },
5782 },
5783 "post": {
5784   "description": "Sets or updates a time period for information retrieval, action or other
5785 behavior.",
5786   "parameters": [
5787     { "$ref": "#/parameters/interface" },
5788     {
5789       "name": "body",
5790       "in": "body",
5791       "required": true,
5792       "schema": { "$ref": "#/definitions/TimePeriod" },
5793       "x-example":
5794         {
5795           "startTime": "2015-01-09T14:30:00Z",
5796           "stopTime": "2015-01-09T14:45:00Z"
5797         }
5798     }
5799   ],
5800   "responses": {
5801     "200": {
5802       "description": "",
5803       "x-example":
5804         {
5805           "startTime": "2015-01-09T14:30:00Z",
5806           "stopTime": "2015-01-09T14:45:00Z"
5807         },
5808       "schema": { "$ref": "#/definitions/TimePeriod" }
5809     }
5810   }
5811 },
5812 },
5813 },
5814 "parameters": {
5815   "interface": {
5816     "in": "query",
5817     "name": "if",
5818     "type": "string",
5819     "enum": ["oic.if.a", "oic.if.baseline"]
5820   }
5821 },
5822 "definitions": {
5823   "TimePeriod": {
5824     "properties": {
5825       "rt": {
5826         "description": "The Resource Type.",
5827         "items": {
5828           "enum": ["oic.r.time.period"],
5829           "maxLength": 64,
5830           "type": "string"
5831         },
5832         "minItems": 1,
5833         "uniqueItems": true,
5834         "readOnly": true,
5835         "type": "array"
5836       },
5837       "interval": {
5838         "description": "The time interval in minutes after the \"startTime\", if present the
5839 Property \"stopTime\" cannot be present.",
5840         "type": "integer"
5841       },
5842       "stopTime": {
5843         "description": "The stop time for the time period, if present the Property \"interval\"
5844 cannot be present.",
5845         "type": "string",
5846         "format": "date-time"
5847       },
5848       "startTime": {
5849         "description": "The start time for the time period.",
5850         "type": "string",
5851         "format": "date-time"

```

```

5852     },
5853     "n": {
5854         "$ref":
5855         "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
5856         schema.json#/definitions/n"
5857     },
5858     "id": {
5859         "$ref":
5860         "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
5861         schema.json#/definitions/id"
5862     },
5863     "if": {
5864         "description": "The OCF Interface set supported by this Resource.",
5865         "items": {
5866             "enum": [
5867                 "oic.if.a",
5868                 "oic.if.baseline"
5869             ],
5870             "type": "string"
5871         },
5872         "minItems": 2,
5873         "uniqueItems": true,
5874         "readOnly": true,
5875         "type": "array"
5876     }
5877 },
5878 "type": "object",
5879 "required": ["startTime"]
5880 }
5881 }
5882 }
5883

```

6.23.5 Property definition

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

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

Property name	Value type	Mandatory	Access mode	Description
interval	integer	No	Read Write	The time interval in minutes after the "startTime", if present the Property "stopTime" cannot be present.
n	multiple types: see schema	No	Read Write	
startTime	string	Yes	Read Write	The start time for the time period.
id	multiple types: see schema	No	Read Write	
stopTime	string	No	Read Write	The stop time for the time period, if present the Property

				"interval" cannot be present.
rt	array: see schema	No	Read Only	The Resource Type.
if	array: see schema	No	Read Only	The OCF Interface set supported by this Resource.

5887 **6.23.6 CRUDN behaviour**

5888 Table 50 defines the CRUDN operations that are supported on the "oic.r.time.period" Resource
5889 Type.

5890 **Table 50 – The CRUDN operations of the Resource with type "rt" = "oic.r.time.period".**

Create	Read	Update	Delete	Notify
	get	post		observe

5891 **6.24 Activity Count**

5892 **6.24.1 Introduction**

5893 This Resource specifies an activity count.
5894 The Resource can be readonly (oic.if.s interface) in which instance it represents a count.
5895 The Resource can be readwrite (oic.if.a interface) in which instance it represents a goal or target
5896 for a count.
5897 The Property "count" is an integer representing either the current count or goal value.

5898 **6.24.2 Example URI**

5899 /ActivityCountResURI

5900 **6.24.3 Resource type**

5901 The Resource Type is defined as: "oic.r.sensor.activity.count".

5902 **6.24.4 OpenAPI 2.0 definition**

```
5903 {
5904   "swagger": "2.0",
5905   "info": {
5906     "title": "Activity Count",
5907     "version": "20190222",
5908     "license": {
5909       "name": "OCF Data Model License",
5910       "url":
5911 "https://github.com/openconnectivityfoundation/core/blob/e28a9e0a92e17042ba3e83661e4c0fbce8bdc4ba/LI
5912 CENSE.md",
5913       "x-copyright": "Copyright 2018-2019 Open Connectivity Foundation, Inc. All rights reserved."
5914     },
5915     "termsOfService": "https://openconnectivityfoundation.github.io/core/DISCLAIMER.md"
5916   },
5917   "schemes": ["http"],
5918   "consumes": ["application/json"],
5919   "produces": ["application/json"],
5920   "paths": {
5921     "/ActivityCountResURI" : {
5922       "get": {
5923         "description": "This Resource specifies an activity count.\nThe Resource can be readonly
```



```

5924 (oic.if.s interface) in which instance it represents a count.\nThe Resource can be readwrite
5925 (oic.if.a interface) in which instance it represents a goal or target for a count.\nThe Property
5926 \"count\" is an integer representing either the current count or goal value.",
5927 "parameters": [
5928   {"$ref": "#/parameters/interface"}
5929 ],
5930 "responses": {
5931   "200": {
5932     "description": "",
5933     "x-example":
5934     {
5935       "rt": ["oic.r.sensor.activity.count"],
5936       "if": ["oic.if.a", "oic.if.baseline"],
5937       "count": 2500
5938     },
5939     "schema": { "$ref": "#/definitions/Count" }
5940   }
5941 },
5942 },
5943 "post": {
5944   "description": "Sets the \"count\" target.",
5945   "parameters": [
5946     {"$ref": "#/parameters/interface"},
5947     {
5948       "name": "body",
5949       "in": "body",
5950       "required": true,
5951       "schema": { "$ref": "#/definitions/Count" },
5952       "x-example":
5953       {
5954         "count": 5000
5955       }
5956     }
5957 ],
5958 "responses": {
5959   "200": {
5960     "description": "",
5961     "x-example":
5962     {
5963       "count": 5000
5964     },
5965     "schema": { "$ref": "#/definitions/Count" }
5966   }
5967 },
5968 },
5969 },
5970 },
5971 "parameters": {
5972   "interface" : {
5973     "in": "query",
5974     "name": "if",
5975     "type": "string",
5976     "enum": ["oic.if.a", "oic.if.s", "oic.if.baseline"]
5977   }
5978 },
5979 "definitions": {
5980   "Count" : {
5981     "properties": {
5982       "rt": {
5983         "description": "The Resource Type.",
5984         "items": {
5985           "maxLength": 64,
5986           "type": "string",
5987           "enum": ["oic.r.sensor.activity.count"]
5988         },
5989         "minItems": 1,
5990         "uniqueItems": true,
5991         "readOnly": true,
5992         "type": "array"
5993       },
5994       "count": {
5995         "description": "The current or Target count.",

```

```

5996         "type": "integer"
5997     },
5998     "n": {
5999         "$ref":
6000         "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
6001         schema.json#/definitions/n"
6002     },
6003     "id": {
6004         "$ref":
6005         "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
6006         schema.json#/definitions/id"
6007     },
6008     "range": {
6009         "$ref":
6010         "https://openconnectivityfoundation.github.io/IoTDataModels/schemas/oic.baseresource.properties-
6011         schema.json#/definitions/range_integer"
6012     },
6013     "step": {
6014         "$ref":
6015         "https://openconnectivityfoundation.github.io/IoTDataModels/schemas/oic.baseresource.properties-
6016         schema.json#/definitions/step_integer"
6017     },
6018     "if": {
6019         "description": "The OCF Interface set supported by this Resource.",
6020         "items": {
6021             "enum": [
6022                 "oic.if.a",
6023                 "oic.if.s",
6024                 "oic.if.baseline"
6025             ],
6026             "type": "string"
6027         },
6028         "minItems": 2,
6029         "readOnly": true,
6030         "uniqueItems": true,
6031         "type": "array"
6032     }
6033 },
6034 "type": "object",
6035 "required": ["count"]
6036 }
6037 }
6038 }
6039

```

6.24.5 Property definition

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

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

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

				supported by this Resource.
id	multiple types: see schema	No	Read Write	
n	multiple types: see schema	No	Read Write	
count	integer	Yes	Read Write	The current or Target count.

6044 **6.24.6 CRUDN behaviour**

6045 Table 52 defines the CRUDN operations that are supported on the "oic.r.sensor.activity.count"
6046 Resource Type.

6047 **Table 52 – The CRUDN operations of the Resource with type "rt" =**
6048 **"oic.r.sensor.activity.count".**

Create	Read	Update	Delete	Notify
	get	post		observe

6049 **6.25 Atmospheric Pressure Sensor**

6050 **6.25.1 Introduction**

6051 This Resource provides a measurement of Mean Sea Level Pressure experienced at the measuring
6052 point expressed in millibars.
6053 The Property "atmosphericPressure" is a float which describes the atmospheric pressure in hPa
6054 (hectoPascals).

6055 Note that hPa and the also commonly used unit of millibars (mbar) are numerically equivalent.

6056 **6.25.2 Example URI**

6057 /AtmosphericPressureResURI

6058 **6.25.3 Resource type**

6059 The Resource Type is defined as: "oic.r.sensor.atmosphericpressure".

6060 **6.25.4 OpenAPI 2.0 definition**

```
6061 {
6062   "swagger": "2.0",
6063   "info": {
6064     "title": "Atmospheric Pressure Sensor",
6065     "version": "20190225",
6066     "license": {
6067       "name": "OCF Data Model License",
6068       "url":
6069         "https://github.com/openconnectivityfoundation/core/blob/e28a9e0a92e17042ba3e83661e4c0fbce8bdc4ba/LI
6070         CENSE.md",
6071       "x-copyright": "copyright 2016-2017, 2019 Open Connectivity Foundation, Inc. All rights
6072         reserved."
6073     },
6074     "termsOfService": "https://openconnectivityfoundation.github.io/core/DISCLAIMER.md"
6075   },
6076   "schemes": ["http"],
6077   "consumes": ["application/json"],
6078   "produces": ["application/json"],
```

```

6079     "paths": {
6080       "/AtmosphericPressureResURI" : {
6081         "get": {
6082           "description": "This Resource provides a measurement of Mean Sea Level Pressure experienced
6083 at the measuring point expressed in millibars.\n\nThe Property \"atmosphericPressure\" is a float
6084 which describes the atmospheric pressure in hPa (hectoPascals).\n\nNote that hPa and the also commonly
6085 used unit of millibars (mbar) are numerically equivalent.",
6086           "parameters": [
6087             { "$ref": "#/parameters/interface" }
6088           ],
6089           "responses": {
6090             "200": {
6091               "description": "",
6092               "x-example":
6093                 {
6094                   "rt": ["oic.r.sensor.atmosphericpressure"],
6095                   "if": ["oic.if.s", "oic.if.baseline"],
6096                   "atmosphericPressure": 1000.4
6097                 },
6098               "schema": { "$ref": "#/definitions/atmosphericPressure" }
6099             }
6100           }
6101         }
6102       }
6103     },
6104     "parameters": {
6105       "interface" : {
6106         "in": "query",
6107         "name": "if",
6108         "type": "string",
6109         "enum": ["oic.if.s", "oic.if.baseline"]
6110       }
6111     },
6112     "definitions": {
6113       "atmosphericPressure" : {
6114         "properties": {
6115           "rt" : {
6116             "description": "The Resource Type.",
6117             "items": {
6118               "enum": ["oic.r.sensor.atmosphericpressure"],
6119               "maxLength": 64,
6120               "type": "string"
6121             },
6122             "minItems": 1,
6123             "uniqueItems": true,
6124             "readOnly": true,
6125             "type": "array"
6126           },
6127           "atmosphericPressure": {
6128             "description": "The current atmospheric pressure in hPa.",
6129             "readOnly": true,
6130             "type": "number"
6131           },
6132           "n": {
6133             "$ref":
6134 "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
6135 schema.json#/definitions/n"
6136           },
6137           "id": {
6138             "$ref":
6139 "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
6140 schema.json#/definitions/id"
6141           },
6142           "precision": {
6143             "$ref":
6144 "https://openconnectivityfoundation.github.io/IoTDataModels/schemas/oic.baseresource.properties-
6145 schema.json#/definitions/precision"
6146           },
6147           "range": {
6148             "$ref":
6149 "https://openconnectivityfoundation.github.io/IoTDataModels/schemas/oic.baseresource.properties-
6150 schema.json#/definitions/range_number"

```

```

6151     },
6152     "step": {
6153       "$ref":
6154       "https://openconnectivityfoundation.github.io/IoTDataModels/schemas/oic.baseresource.properties-
6155       schema.json#/definitions/step_number"
6156     },
6157     "if": {
6158       "description": "The OCF Interface set supported by this Resource.",
6159       "items": {
6160         "enum": [
6161           "oic.if.s",
6162           "oic.if.baseline"
6163         ],
6164         "type": "string"
6165       },
6166       "minItems": 2,
6167       "uniqueItems": true,
6168       "readOnly": true,
6169       "type": "array"
6170     }
6171   },
6172   "type": "object",
6173   "required": ["atmosphericPressure"]
6174 }
6175 }
6176 }
6177

```

6178 **6.25.5 Property definition**

6179 Table 53 defines the Properties that are part of the "oic.r.sensor.atmosphericpressure" Resource
6180 Type.

6181 **Table 53 – The Property definitions of the Resource with type "rt" =**
6182 **"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	

6183 **6.25.6 CRUDN behaviour**

6184 Table 54 defines the CRUDN operations that are supported on the
6185 "oic.r.sensor.atmosphericpressure" Resource Type.

6186 **Table 54 – The CRUDN operations of the Resource with type "rt" =**
6187 **"oic.r.sensor.atmosphericpressure".**

Create	Read	Update	Delete	Notify
	get			observe

6188 **6.26 Audio Controls**

6189 **6.26.1 Introduction**

6190 This Resource defines basic audio control functions.
6191 The Property "volume" is an integer containing a percentage [0,100].
6192 A volume of 0 (zero) means no sound produced.
6193 A volume of 100 means maximum sound production.
6194 The Property "mute" is implemented as a boolean.
6195 A mute value of true means that the device is muted (no audio).
6196 A mute value of false means that the device is not muted (audio).

6197 **6.26.2 Example URI**

6198 /AudioResURI

6199 **6.26.3 Resource type**

6200 The Resource Type is defined as: "oic.r.audio".

6201 **6.26.4 OpenAPI 2.0 definition**

```
6202 {
6203   "swagger": "2.0",
6204   "info": {
6205     "title": "Audio Controls",
6206     "version": "20190225",
6207     "license": {
6208       "name": "OCF Data Model License",
6209       "url":
6210 "https://github.com/openconnectivityfoundation/core/blob/e28a9e0a92e17042ba3e83661e4c0fbce8bdc4ba/LI
6211 CENSE.md",
6212       "x-copyright": "copyright 2016-2017, 2019 Open Connectivity Foundation, Inc. All rights
6213 reserved."
6214     },
6215     "termsOfService": "https://openconnectivityfoundation.github.io/core/DISCLAIMER.md"
6216   },
6217   "schemes": ["http"],
6218   "consumes": ["application/json"],
6219   "produces": ["application/json"],
6220   "paths": {
6221     "/AudioResURI" : {
6222       "get": {
6223         "description": "This Resource defines basic audio control functions.\n\nThe Property
```

```

6224  \ "volume\" is an integer containing a percentage [0,100].\nA volume of 0 (zero) means no sound
6225  produced.\nA volume of 100 means maximum sound production.\nThe Property \"mute\" is implemented as
6226  a boolean.\nA mute value of true means that the device is muted (no audio).\nA mute value of false
6227  means that the device is not muted (audio).",
6228      "parameters": [
6229          { "$ref": "#/parameters/interface" }
6230      ],
6231      "responses": {
6232          "200": {
6233              "description": "",
6234              "x-example":
6235                  {
6236                      "rt": ["oic.r.audio"],
6237                      "if": ["oic.if.a", "oic.if.baseline"],
6238                      "volume": 50,
6239                      "mute": false
6240                  },
6241              "schema": { "$ref": "#/definitions/Audio" }
6242          }
6243      },
6244  },
6245  "post": {
6246      "description": "",
6247      "parameters": [
6248          { "$ref": "#/parameters/interface" },
6249          {
6250              "name": "body",
6251              "in": "body",
6252              "required": true,
6253              "schema": { "$ref": "#/definitions/Audio" },
6254              "x-example":
6255                  {
6256                      "volume": 75,
6257                      "mute": false
6258                  }
6259          }
6260      ],
6261      "responses": {
6262          "200": {
6263              "description": "",
6264              "x-example":
6265                  {
6266                      "volume": 75,
6267                      "mute": false
6268                  },
6269              "schema": { "$ref": "#/definitions/Audio" }
6270          }
6271      }
6272  },
6273  },
6274  },
6275  "parameters": {
6276      "interface": {
6277          "in": "query",
6278          "name": "if",
6279          "type": "string",
6280          "enum": ["oic.if.a", "oic.if.baseline"]
6281      }
6282  },
6283  "definitions": {
6284      "Audio": {
6285          "properties": {
6286              "rt": {
6287                  "description": "The Resource Type.",
6288                  "items": {
6289                      "enum": ["oic.r.audio"],
6290                      "maxLength": 64,
6291                      "type": "string"
6292                  },
6293                  "minItems": 1,
6294                  "uniqueItems": true,
6295                  "readOnly": true,

```

```

6296         "type": "array"
6297     },
6298     "mute": {
6299         "description": "The mute setting of an audio rendering device.",
6300         "type": "boolean"
6301     },
6302     "volume": {
6303         "description": "The volume setting of an audio rendering device.",
6304         "maximum": 100,
6305         "minimum": 0,
6306         "type": "integer"
6307     },
6308     "n": {
6309         "$ref":
6310         "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
6311         schema.json#/definitions/n"
6312     },
6313     "id": {
6314         "$ref":
6315         "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
6316         schema.json#/definitions/id"
6317     },
6318     "range": {
6319         "$ref":
6320         "https://openconnectivityfoundation.github.io/IoTDataModels/schemas/oic.baseresource.properties-
6321         schema.json#/definitions/range_integer"
6322     },
6323     "step": {
6324         "$ref":
6325         "https://openconnectivityfoundation.github.io/IoTDataModels/schemas/oic.baseresource.properties-
6326         schema.json#/definitions/step_integer"
6327     },
6328     "if": {
6329         "description": "The OCF Interface set supported by this Resource.",
6330         "items": {
6331             "enum": [
6332                 "oic.if.a",
6333                 "oic.if.baseline"
6334             ],
6335             "type": "string"
6336         },
6337         "minItems": 2,
6338         "uniqueItems": true,
6339         "readOnly": true,
6340         "type": "array"
6341     }
6342 },
6343 "type" : "object",
6344 "required": ["volume", "mute"]
6345 }
6346 }
6347 }
6348

```

6349 **6.26.5 Property definition**

6350 Table 55 defines the Properties that are part of the "oic.r.audio" Resource Type.

6351 **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	

6352 **6.26.6 CRUDN behaviour**

6353 Table 56 defines the CRUDN operations that are supported on the "oic.r.audio" Resource Type.

6354 **Table 56 – The CRUDN operations of the Resource with type "rt" = "oic.r.audio".**

Create	Read	Update	Delete	Notify
	get	post		observe

6355 **6.27 Auto Focus**

6356 **6.27.1 Introduction**

6357 This Resource describes an auto focus on/off feature.
6358 The Property "autoFocus" is a boolean.
6359 An "autoFocus" value of 'true' means that the auto focus feature is on.
6360 An "autoFocus" value of 'false' means that the auto focus feature is off.
6361 Note that when Pan Tilt Zoom (see 'Pan Tilt Zoom' Resource definition) is used the autofocus works
6362 only in the selected area.

6363 **6.27.2 Example URI**

6364 /AutoFocusResURI

6365 **6.27.3 Resource type**

6366 The Resource Type is defined as: "oic.r.autofocus".

6367 **6.27.4 OpenAPI 2.0 definition**

6368 {
6369 "swagger": "2.0",

```

6370     "info": {
6371         "title": "Auto Focus",
6372         "version": "20190222",
6373         "license": {
6374             "name": "OCF Data Model License",
6375             "url":
6376 "https://github.com/openconnectivityfoundation/core/blob/e28a9e0a92e17042ba3e83661e4c0fbce8bdc4ba/LI
6377 CENSE.md",
6378         "x-copyright": "Copyright 2018-2019 Open Connectivity Foundation, Inc. All rights reserved."
6379     },
6380     "termsOfService": "https://openconnectivityfoundation.github.io/core/DISCLAIMER.md"
6381 },
6382 "schemas": ["http"],
6383 "consumes": ["application/json"],
6384 "produces": ["application/json"],
6385 "paths": {
6386     "/AutoFocusResURI" : {
6387         "get": {
6388             "description": "This Resource describes an auto focus on/off feature.\n\nThe Property
6389 \"autoFocus\" is a boolean.\n\nAn \"autoFocus\" value of 'true' means that the auto focus feature is
6390 on.\n\nAn \"autoFocus\" value of 'false' means that the auto focus feature is off.\n\nNote that when Pan
6391 Tilt Zoom (see 'Pan Tilt Zoom' Resource definition) is used the autofocus works only in the selected
6392 area.",
6393             "parameters": [
6394                 { "$ref": "#/parameters/interface" }
6395             ],
6396             "responses": {
6397                 "200": {
6398                     "description": "",
6399                     "x-example":
6400                     {
6401                         "rt": ["oic.r.autofocus"],
6402                         "if": ["oic.if.a", "oic.if.baseline"],
6403                         "autoFocus": false
6404                     },
6405                     "schema": { "$ref": "#/definitions/AutoFocus" }
6406                 }
6407             }
6408         },
6409         "post": {
6410             "description": "",
6411             "parameters": [
6412                 { "$ref": "#/parameters/interface" },
6413                 {
6414                     "name": "body",
6415                     "in": "body",
6416                     "required": true,
6417                     "schema": { "$ref": "#/definitions/AutoFocus" },
6418                     "x-example":
6419                     {
6420                         "autoFocus": true
6421                     }
6422                 }
6423             ],
6424             "responses": {
6425                 "200": {
6426                     "description": "",
6427                     "x-example":
6428                     {
6429                         "autoFocus": true
6430                     },
6431                     "schema": { "$ref": "#/definitions/AutoFocus" }
6432                 }
6433             }
6434         }
6435     }
6436 },
6437 "parameters": {
6438     "interface" : {
6439         "in": "query",
6440         "name": "if",
6441         "type": "string",

```

```

6442     "enum": ["oic.if.a", "oic.if.baseline"]
6443   }
6444 },
6445 "definitions": {
6446   "AutoFocus" : {
6447     "properties": {
6448       "rt": {
6449         "description": "The Resource Type.",
6450         "items": {
6451           "enum": ["oic.r.autofocus"],
6452           "maxLength": 64,
6453           "type": "string"
6454         },
6455         "minItems": 1,
6456         "uniqueItems": true,
6457         "readOnly": true,
6458         "type": "array"
6459       },
6460       "autoFocus": {
6461         "description": "The status of the Auto Focus feature.",
6462         "type": "boolean"
6463       },
6464       "n": {
6465         "$ref":
6466         "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
6467         schema.json#/definitions/n"
6468       },
6469       "id": {
6470         "$ref":
6471         "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
6472         schema.json#/definitions/id"
6473       },
6474       "if": {
6475         "description": "The OCF Interface set supported by this Resource.",
6476         "items": {
6477           "enum": [
6478             "oic.if.a",
6479             "oic.if.baseline"
6480           ],
6481           "type": "string"
6482         },
6483         "minItems": 2,
6484         "readOnly": true,
6485         "uniqueItems": true,
6486         "type": "array"
6487       }
6488     },
6489     "type": "object",
6490     "required": ["autoFocus"]
6491   }
6492 }
6493 }
6494

```

6.27.5 Property definition

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

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

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

6498 **6.27.6 CRUDN behaviour**

6499 Table 58 defines the CRUDN operations that are supported on the "oic.r.autofocus" Resource Type.

6500 **Table 58 – The CRUDN operations of the Resource with type "rt" = "oic.r.autofocus".**

Create	Read	Update	Delete	Notify
	get	post		observe

6501 **6.28 Automatic Document Feeder**

6502 **6.28.1 Introduction**

6503 This Resource describes the state of an automatic document feeder, typically used with a scanner.
6504 The Property "adfstates" and "currentAdfState" are read only.
6505 The Property "adfStates" is an array of the possible operational states.
6506 The Property "adfProcessing" is the OK state, other states are errors or require 'user attention'.
6507 The currentAdfState is the current value of the ADF state on the device.

6508 **6.28.2 Example URI**

6509 /AutomaticDocumentFeederResURI

6510 **6.28.3 Resource type**

6511 The Resource Type is defined as: "oic.r.automaticdocumentfeeder".

6512 **6.28.4 OpenAPI 2.0 definition**

```
6513 {
6514   "swagger": "2.0",
6515   "info": {
6516     "title": "Automatic Document Feeder",
6517     "version": "20190222",
6518     "license": {
6519       "name": "OCF Data Model License",
6520       "url":
6521 "https://github.com/openconnectivityfoundation/core/blob/e28a9e0a92e17042ba3e83661e4c0fbce8bdc4ba/LI
6522 CENSE.md",
6523       "x-copyright": "Copyright 2018-2019 Open Connectivity Foundation, Inc. All rights reserved."
6524     },
6525     "termsOfService": "https://openconnectivityfoundation.github.io/core/DISCLAIMER.md"
6526   },
6527   "schemes": ["http"],
6528   "consumes": ["application/json"],
```

```

6529     "produces": ["application/json"],
6530     "paths": {
6531         "/AutomaticDocumentFeederResURI" : {
6532             "get": {
6533                 "description": "This Resource describes the state of an automatic document feeder, typically
6534 used with a scanner.\nThe Property \"adfStates\" and \"currentAdfState\" are read only.\nThe
6535 Property \"adfStates\" is an array of the possible operational states.\nThe Property
6536 \"adfProcessing\" is the OK state, other states are errors or require 'user attention'.\nThe
6537 currentAdfState is the current value of the ADF state on the device.",
6538                 "parameters": [
6539                     { "$ref": "#/parameters/interface" }
6540                 ],
6541                 "responses": {
6542                     "200": {
6543                         "description": "",
6544                         "x-example":
6545                             {
6546                                 "rt": ["oic.r.automaticdocumentfeeder"],
6547                                 "if": ["oic.if.s", "oic.if.baseline"],
6548                                 "adfStates": ["adfProcessing", "adfEmpty", "adfJam", "adfLoaded", "adfMispick",
6549 "adfHatchOpen", "adfDuplexPageTooShort", "adfDuplexPageTooLong", "adfMultipickDetected",
6550 "adfInputTrayFailed", "adfInputTrayOverloaded"],
6551                                 "currentAdfState": "adfProcessing"
6552                             },
6553                         "schema": { "$ref": "#/definitions/AutomaticDocumentFeeder" }
6554                     }
6555                 }
6556             }
6557         }
6558     },
6559     "parameters": {
6560         "interface" : {
6561             "in": "query",
6562             "name": "if",
6563             "type": "string",
6564             "enum": ["oic.if.s", "oic.if.baseline"]
6565         }
6566     },
6567     "definitions": {
6568         "AutomaticDocumentFeeder" : {
6569             "properties": {
6570                 "rt": {
6571                     "description": "The Resource Type.",
6572                     "items": {
6573                         "enum": ["oic.r.automaticdocumentfeeder"],
6574                         "maxLength": 64,
6575                         "type": "string"
6576                     },
6577                     "minItems": 1,
6578                     "uniqueItems": true,
6579                     "readOnly": true,
6580                     "type": "array"
6581                 },
6582                 "adfStates": {
6583                     "description": "The array of the possible adf states.",
6584                     "items": {
6585                         "type": "string"
6586                     },
6587                     "readOnly": true,
6588                     "uniqueItems": true,
6589                     "type": "array"
6590                 },
6591                 "currentAdfState": {
6592                     "description": "The current adf state.",
6593                     "readOnly": true,
6594                     "type": "string"
6595                 },
6596                 "n": {
6597                     "$ref":
6598 "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
6599 schema.json#/definitions/n"
6600                 },

```

```

6601     "id": {
6602         "$ref":
6603         "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
6604         schema.json#/definitions/id"
6605     },
6606     "if": {
6607         "description": "The OCF Interface set supported by this Resource.",
6608         "items": {
6609             "enum": [
6610                 "oic.if.s",
6611                 "oic.if.baseline"
6612             ],
6613             "type": "string"
6614         },
6615         "minItems": 2,
6616         "uniqueItems": true,
6617         "readOnly": true,
6618         "type": "array"
6619     }
6620 },
6621 "type": "object",
6622 "required": ["adfStates", "currentAdfState"]
6623 }
6624 }
6625 }
6626

```

6627 **6.28.5 Property definition**

6628 Table 59 defines the Properties that are part of the "oic.r.automaticdocumentfeeder" Resource
6629 Type.

6630 **Table 59 – The Property definitions of the Resource with type "rt" =**
6631 **"oic.r.automaticdocumentfeeder".**

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

6632 **6.28.6 CRUDN behaviour**

6633 Table 60 defines the CRUDN operations that are supported on the "oic.r.automaticdocumentfeeder"
6634 Resource Type.

6635 **Table 60 – The CRUDN operations of the Resource with type "rt" =**
6636 **"oic.r.automaticdocumentfeeder".**

Create	Read	Update	Delete	Notify
	get			observe

6637 **6.29 Button Switch**

6638 **6.29.1 Introduction**

6639 This Resource describes the operation of a button style switch.
6640 The Property "value" is a boolean.
6641 A value of 'true' means that the button is being pushed/pressed.
6642 A value of 'false' means that the button is not being pushed/pressed.

6643 **6.29.2 Example URI**

6644 /ButtonResURI

6645 **6.29.3 Resource type**

6646 The Resource Type is defined as: "oic.r.button".

6647 **6.29.4 OpenAPI 2.0 definition**

```
6648 {  
6649   "swagger": "2.0",  
6650   "info": {  
6651     "title": "Button Switch",  
6652     "version": "20190222",  
6653     "license": {  
6654       "name": "OCF Data Model License",  
6655       "url":  
6656       "https://github.com/openconnectivityfoundation/core/blob/e28a9e0a92e17042ba3e83661e4c0fbce8bdc4ba/LI  
6657       CENSE.md",  
6658       "x-copyright": "Copyright 2018-2019 Open Connectivity Foundation, Inc. All rights reserved."  
6659     },  
6660     "termsOfService": "https://openconnectivityfoundation.github.io/core/DISCLAIMER.md"  
6661   },  
6662   "schemes": ["http"],  
6663   "consumes": ["application/json"],  
6664   "produces": ["application/json"],  
6665   "paths": {  
6666     "/ButtonResURI" : {  
6667       "get": {  
6668         "description": "This Resource describes the operation of a button style switch.\nThe  
6669         Property \"value\" is a boolean.\nA value of 'true' means that the button is being  
6670         pushed/pressed.\nA value of 'false' means that the button is not being pushed/pressed.",  
6671         "parameters": [  
6672           { "$ref": "#/parameters/interface" }  
6673         ],  
6674         "responses": {  
6675           "200": {  
6676             "description": "",  
6677             "x-example":  
6678             {  
6679               "rt": ["oic.r.button"],  
6680               "if": ["oic.if.s", "oic.if.baseline"],  
6681               "value": true  
6682             }  
6683           }  
6684           "schema": { "$ref": "#/definitions/Button" }  
}
```

```

6685     }
6686   }
6687 }
6688 }
6689 },
6690 "parameters": {
6691   "interface": {
6692     "in": "query",
6693     "name": "if",
6694     "type": "string",
6695     "enum": ["oic.if.s", "oic.if.baseline"]
6696   }
6697 },
6698 "definitions": {
6699   "Button": {
6700     "properties": {
6701       "rt": {
6702         "description": "The Resource Type.",
6703         "items": {
6704           "enum": ["oic.r.button"],
6705           "maxLength": 64,
6706           "type": "string"
6707         },
6708         "minItems": 1,
6709         "uniqueItems": true,
6710         "readOnly": true,
6711         "type": "array"
6712       },
6713       "value": {
6714         "description": "The status of the button",
6715         "readOnly": true,
6716         "type": "boolean"
6717       },
6718       "n": {
6719         "$ref":
6720 "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
6721 schema.json#/definitions/n"
6722       },
6723       "id": {
6724         "$ref":
6725 "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
6726 schema.json#/definitions/id"
6727       },
6728       "if": {
6729         "description": "The OCF Interface set supported by this Resource.",
6730         "items": {
6731           "enum": [
6732             "oic.if.s",
6733             "oic.if.baseline"
6734           ],
6735           "type": "string"
6736         },
6737         "minItems": 2,
6738         "uniqueItems": true,
6739         "readOnly": true,
6740         "type": "array"
6741       }
6742     },
6743     "type": "object",
6744     "required": ["value"]
6745   }
6746 }
6747 }
6748

```

6749 6.29.5 Property definition

6750 Table 61 defines the Properties that are part of the "oic.r.button" Resource Type.

6751 **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	

6752 **6.29.6 CRUDN behaviour**

6753 Table 62 defines the CRUDN operations that are supported on the "oic.r.button" Resource Type.

6754 **Table 62 – The CRUDN operations of the Resource with type "rt" = "oic.r.button".**

Create	Read	Update	Delete	Notify
	get			observe

6755 **6.30 Carbon Dioxide Sensor**

6756 **6.30.1 Introduction**

6757 This Resource describes whether carbon dioxide has been sensed or not.
 6758 The Property "value" is a boolean.
 6759 A value of 'true' means that carbon dioxide has been detected.
 6760 A value of 'false' means that carbon dioxide has not been detected.

6761 **6.30.2 Example URI**

6762 /CarbonDioxideResURI

6763 **6.30.3 Resource type**

6764 The Resource Type is defined as: "oic.r.sensor.carbondioxide".

6765 **6.30.4 OpenAPI 2.0 definition**

```
6766 {
6767   "swagger": "2.0",
6768   "info": {
6769     "title": "Carbon Dioxide Sensor",
6770     "version": "20190215",
6771     "license": {
6772       "name": "OCF Data Model License",
6773       "url":
6774       "https://github.com/openconnectivityfoundation/core/blob/e28a9e0a92e17042ba3e83661e4c0fbce8bdc4ba/LI
```

```

6775 CENSE.md",
6776     "x-copyright": "copyright 2016-2017, 2019 Open Connectivity Foundation, Inc. All rights
6777 reserved."
6778 },
6779     "termsOfService": "https://openconnectivityfoundation.github.io/core/DISCLAIMER.md"
6780 },
6781     "schemes": ["http"],
6782     "consumes": ["application/json"],
6783     "produces": ["application/json"],
6784     "paths": {
6785         "/CarbonDioxideResURI" : {
6786             "get": {
6787                 "description": "This Resource describes whether carbon dioxide has been sensed or not.\nThe
6788 Property \"value\" is a boolean.\nA value of 'true' means that carbon dioxide has been detected.\nA
6789 value of 'false' means that carbon dioxide has not been detected.",
6790                 "parameters": [
6791                     {"$ref": "#/parameters/interface"}
6792                 ],
6793                 "responses": {
6794                     "200": {
6795                         "description": "",
6796                         "x-example":
6797                             {
6798                                 "rt": ["oic.r.sensor.carbondioxide"],
6799                                 "if": ["oic.if.s", "oic.if.baseline"],
6800                                 "value": true
6801                             },
6802                         "schema": { "$ref": "#/definitions/CO2" }
6803                     }
6804                 }
6805             }
6806         }
6807     },
6808     "parameters": {
6809         "interface" : {
6810             "in" : "query",
6811             "name" : "if",
6812             "type" : "string",
6813             "enum" : ["oic.if.s", "oic.if.baseline"]
6814         }
6815     },
6816     "definitions": {
6817         "CO2" : {
6818             "properties": {
6819                 "rt" : {
6820                     "description": "The Resource Type.",
6821                     "items": {
6822                         "enum": ["oic.r.sensor.carbondioxide"],
6823                         "maxLength": 64,
6824                         "type": "string"
6825                     },
6826                     "minItems": 1,
6827                     "uniqueItems": true,
6828                     "readOnly": true,
6829                     "type": "array"
6830                 },
6831                 "value" : {
6832                     "description": "The carbon dioxide indicator, true = sensed, false = not sensed.",
6833                     "readOnly": true,
6834                     "type": "boolean"
6835                 },
6836                 "id": {
6837                     "$ref":
6838 "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
6839 schema.json#/definitions/id"
6840                 },
6841                 "precision": {
6842                     "$ref":
6843 "https://openconnectivityfoundation.github.io/IoTDataModels/schemas/oic.baseresource.properties-
6844 schema.json#/definitions/precision"
6845                 },
6846                 "if": {

```

```

6847     "description": "The OCF Interface set supported by this Resource.",
6848     "items": {
6849         "enum": [
6850             "oic.if.s",
6851             "oic.if.baseline"
6852         ],
6853         "maxLength": 64,
6854         "type": "string"
6855     },
6856     "minItems": 2,
6857     "uniqueItems": true,
6858     "readOnly": true,
6859     "type": "array"
6860 }
6861 },
6862 "type" : "object",
6863 "required": ["value"]
6864 }
6865 }
6866 }
6867

```

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.

6.30.6 CRUDN behaviour

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

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

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

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

6877 **6.31 Carbon Monoxide Sensor**

6878 **6.31.1 Introduction**

6879 This Resource describes whether carbon monoxide has been sensed or not.
 6880 The Property "value" is a boolean.
 6881 A value of 'true' means that carbon monoxide has been detected.
 6882 A value of 'false' means that carbon monoxide has not been detected.

6883 **6.31.2 Example URI**

6884 /CarbonMonoxideResURI

6885 **6.31.3 Resource type**

6886 The Resource Type is defined as: "oic.r.sensor.carbonmonoxide".

6887 **6.31.4 OpenAPI 2.0 definition**

```

6888 {
6889   "swagger": "2.0",
6890   "info": {
6891     "title": "Carbon Monoxide Sensor",
6892     "version": "20190215",
6893     "license": {
6894       "name": "OCF Data Model License",
6895       "url":
6896         "https://github.com/openconnectivityfoundation/core/blob/e28a9e0a92e17042ba3e83661e4c0fbce8bdc4ba/LI
6897         CENSE.md",
6898       "x-copyright": "copyright 2016-2017, 2019 Open Connectivity Foundation, Inc. All rights
6899         reserved."
6900     },
6901     "termsOfService": "https://openconnectivityfoundation.github.io/core/DISCLAIMER.md"
6902   },
6903   "schemes": ["http"],
6904   "consumes": ["application/json"],
6905   "produces": ["application/json"],
6906   "paths": {
6907     "/CarbonMonoxideResURI" : {
6908       "get": {
6909         "description": "This Resource describes whether carbon monoxide has been sensed or not.\n\nThe
6910         Property \"value\" is a boolean.\n\nA value of 'true' means that carbon monoxide has been detected.\n\nA
6911         value of 'false' means that carbon monoxide has not been detected.",
6912         "parameters": [
6913           { "$ref": "#/parameters/interface" }
6914         ],
6915         "responses": {
6916           "200": {
6917             "description": "",
6918             "x-example":
6919               {
6920                 "rt": ["oic.r.sensor.carbonmonoxide"],
6921                 "if": ["oic.if.s","oic.if.baseline"],
6922                 "value": true
6923               },
6924             "schema": { "$ref": "#/definitions/CO" }
6925           }
6926         }
6927       }
6928     }
6929   },
6930   "parameters": {
6931     "interface" : {
6932       "in" : "query",
6933       "name" : "if",
6934       "type" : "string",
6935       "enum" : ["oic.if.s", "oic.if.baseline"]
6936     }
  
```

```

6937 },
6938 "definitions": {
6939   "CO" : {
6940     "properties": {
6941       "rt" : {
6942         "description": "The Resource Type.",
6943         "items": {
6944           "enum": ["oic.r.sensor.carbonmonoxide"],
6945           "maxLength": 64,
6946           "type": "string"
6947         },
6948         "minItems": 1,
6949         "readOnly": true,
6950         "uniqueItems": true,
6951         "type": "array"
6952       },
6953       "value" : {
6954         "description": "The carbon monoxide indicator, true = sensed, false = not sensed.",
6955         "readOnly": true,
6956         "type": "boolean"
6957       },
6958       "n": {
6959         "$ref":
6960 "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
6961 schema.json#/definitions/n"
6962       },
6963       "id": {
6964         "$ref":
6965 "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
6966 schema.json#/definitions/id"
6967       },
6968       "if" : {
6969         "description": "The OCF Interface set supported by this Resource.",
6970         "items": {
6971           "enum": [
6972             "oic.if.s",
6973             "oic.if.baseline"
6974           ],
6975           "maxLength": 64,
6976           "type": "string"
6977         },
6978         "minItems": 2,
6979         "uniqueItems": true,
6980         "readOnly": true,
6981         "type": "array"
6982       }
6983     },
6984     "type": "object",
6985     "required": ["value"]
6986   }
6987 }
6988 }

```

6989 6.31.5 Property definition

6990 Table 65 defines the Properties that are part of the "oic.r.sensor.carbonmonoxide" Resource Type.

6991 **Table 65 – The Property definitions of the Resource with type "rt" =**
6992 **"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	

6993 **6.31.6 CRUDN behaviour**

6994 Table 66 defines the CRUDN operations that are supported on the "oic.r.sensor.carbonmonoxide"
6995 Resource Type.

6996 **Table 66 – The CRUDN operations of the Resource with type "rt" =**
6997 **"oic.r.sensor.carbonmonoxide".**

Create	Read	Update	Delete	Notify
	get			observe

6998 **6.32 Auto White Balance**

6999 **6.32.1 Introduction**

7000 This Resource describes an auto balance on/off feature.
7001 The Property "autoWhiteBalance" is a boolean.
7002 An AutoWhiteBalance value of 'true' means that the auto white balance feature is on.
7003 An AutoWhiteBalance value of 'false' means that the auto white balance feature is off.
7004

7005 **6.32.2 Example URI**

7006 /AutoWhiteBalanceResURI

7007 **6.32.3 Resource type**

7008 The Resource Type is defined as: "oic.r.colour.autowhitebalance".

7009 **6.32.4 OpenAPI 2.0 definition**

```
7010 {
7011   "swagger": "2.0",
7012   "info": {
7013     "title": "Auto White Balance",
7014     "version": "20190222",
7015     "license": {
7016       "name": "OCF Data Model License",
7017       "url":
7018         "https://github.com/openconnectivityfoundation/core/blob/e28a9e0a92e17042ba3e83661e4c0fbce8bdc4ba/LI
7019         CENSE.md",
7020       "x-copyright": "Copyright 2018-2019 Open Connectivity Foundation, Inc. All rights reserved."
7021     },
7022     "termsOfService": "https://openconnectivityfoundation.github.io/core/DISCLAIMER.md"
7023   },
```

```

7024     "schemes": ["http"],
7025     "consumes": ["application/json"],
7026     "produces": ["application/json"],
7027     "paths": {
7028         "/AutoWhiteBalanceResURI" : {
7029             "get": {
7030                 "description": "This Resource describes an auto balance on/off feature.\n\nThe Property
7031 \autoWhiteBalance\" is a boolean.\n\nAn AutoWhiteBalance value of 'true' means that the auto white
7032 balance feature is on.\n\nAn AutoWhiteBalance value of 'false' means that the auto white balance
7033 feature is off.\n\n",
7034                 "parameters": [
7035                     { "$ref": "#/parameters/interface" }
7036                 ],
7037                 "responses": {
7038                     "200": {
7039                         "description": "",
7040                         "x-example":
7041                         {
7042                             "rt": ["oic.r.colour.autowhitebalance"],
7043                             "if": ["oic.if.a", "oic.if.baseline"],
7044                             "autoWhiteBalance": false
7045                         },
7046                         "schema": { "$ref": "#/definitions/AutoWhiteBalance" }
7047                     }
7048                 }
7049             },
7050             "post": {
7051                 "description": "",
7052                 "parameters": [
7053                     { "$ref": "#/parameters/interface" },
7054                     {
7055                         "name": "body",
7056                         "in": "body",
7057                         "required": true,
7058                         "schema": { "$ref": "#/definitions/AutoWhiteBalance" },
7059                         "x-example":
7060                         {
7061                             "autoWhiteBalance": true
7062                         }
7063                     }
7064                 ],
7065                 "responses": {
7066                     "200": {
7067                         "description": "",
7068                         "x-example":
7069                         {
7070                             "autoWhiteBalance": true
7071                         },
7072                         "schema": { "$ref": "#/definitions/AutoWhiteBalance" }
7073                     }
7074                 }
7075             }
7076         }
7077     },
7078     "parameters": {
7079         "interface" : {
7080             "in": "query",
7081             "name": "if",
7082             "type": "string",
7083             "enum": ["oic.if.a", "oic.if.baseline"]
7084         }
7085     },
7086     "definitions": {
7087         "AutoWhiteBalance" : {
7088             "properties": {
7089                 "rt": {
7090                     "description": "The Resource Type.",
7091                     "items": {
7092                         "enum": ["oic.r.colour.autowhitebalance"],
7093                         "maxLength": 64,
7094                         "type": "string"
7095                     }

```

```

7096         "minItems": 1,
7097         "uniqueItems": true,
7098         "readOnly": true,
7099         "type": "array"
7100     },
7101     "autoWhiteBalance": {
7102         "description": "The status of the Auto White balance feature.",
7103         "type": "boolean"
7104     },
7105     "n": {
7106         "$ref":
7107         "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
7108         schema.json#/definitions/n"
7109     },
7110     "id": {
7111         "$ref":
7112         "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
7113         schema.json#/definitions/id"
7114     },
7115     "if": {
7116         "description": "The OCF Interface set supported by this Resource.",
7117         "items": {
7118             "enum": [
7119                 "oic.if.a",
7120                 "oic.if.baseline"
7121             ],
7122             "type": "string"
7123         },
7124         "minItems": 2,
7125         "uniqueItems": true,
7126         "readOnly": true,
7127         "type": "array"
7128     }
7129 },
7130 "type": "object",
7131 "required": ["autoWhiteBalance"]
7132 }
7133 }
7134 }
7135

```

6.32.5 Property definition

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

Table 67 – The Property definitions of the Resource with type "rt" = "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.
------------------	---------	-----	------------	-----------------------------------------------

7140 **6.32.6 CRUDN behaviour**

7141 Table 68 defines the CRUDN operations that are supported on the "oic.r.colour.autowhitebalance"
7142 Resource Type.

7143 **Table 68 – The CRUDN operations of the Resource with type "rt" =**
7144 **"oic.r.colour.autowhitebalance".**

Create	Read	Update	Delete	Notify
	get	post		observe

7145 **6.33 Colour Saturation**

7146 **6.33.1 Introduction**

7147 This Resource describes a Colour saturation value.
7148 The Property "colourSaturation" is an integer.
7149 A "colourSaturation" has a range of [0,100].
7150 A "colourSaturation" value of 0 means producing black and white images.
7151 A "colourSaturation" value of 50 means producing device specific normal colour images.
7152 A "colourSaturation" value of 100 means producing device very full colour images.
7153

7154 **6.33.2 Example URI**

7155 /ColourSaturationResURI

7156 **6.33.3 Resource type**

7157 The Resource Type is defined as: "oic.r.colour.saturation".

7158 **6.33.4 OpenAPI 2.0 definition**

```
7159 {
7160   "swagger": "2.0",
7161   "info": {
7162     "title": "Colour Saturation",
7163     "version": "20190215",
7164     "license": {
7165       "name": "OCF Data Model License",
7166       "url":
7167         "https://github.com/openconnectivityfoundation/core/blob/e28a9e0a92e17042ba3e83661e4c0fbce8bdc4ba/LI
7168         CENSE.md",
7169       "x-copyright": "copyright 2016-2017, 2019 Open Connectivity Foundation, Inc. All rights
7170       reserved."
7171     },
7172     "termsOfService": "https://openconnectivityfoundation.github.io/core/DISCLAIMER.md"
7173   },
7174   "schemes": ["http"],
7175   "consumes": ["application/json"],
7176   "produces": ["application/json"],
7177   "paths": {
7178     "/ColourSaturationResURI" : {
7179       "get": {
7180         "description": "This Resource describes a Colour saturation value.\nThe Property
7181         \"colourSaturation\" is an integer.\nA \"colourSaturation\" has a range of [0,100].\nA
7182         \"colourSaturation\" value of 0 means producing black and white images.\nA \"colourSaturation\"
7183         value of 50 means producing device specific normal colour images.\nA \"colourSaturation\" value of
7184         100 means producing device very full colour images.\n",
7185         "parameters": [
```

```

7186     {"$ref": "#/parameters/interface"}
7187   ],
7188   "responses": {
7189     "200": {
7190       "description": "",
7191       "x-example":
7192         {
7193           "rt": ["oic.r.colour.saturation"],
7194           "if": ["oic.if.a", "oic.if.baseline"],
7195           "colourSaturation": 50
7196         },
7197       "schema": { "$ref": "#/definitions/Saturation" }
7198     }
7199   }
7200 },
7201 "post": {
7202   "description": "",
7203   "parameters": [
7204     {"$ref": "#/parameters/interface"},
7205     {
7206       "name": "body",
7207       "in": "body",
7208       "required": true,
7209       "schema": { "$ref": "#/definitions/Saturation" },
7210       "x-example":
7211         {
7212           "colourSaturation": 60
7213         }
7214     }
7215   ],
7216   "responses": {
7217     "200": {
7218       "description": "",
7219       "x-example":
7220         {
7221           "colourSaturation": 60
7222         }
7223       ,
7224       "schema": { "$ref": "#/definitions/Saturation" }
7225     }
7226   }
7227 }
7228 },
7229 },
7230 "parameters": {
7231   "interface" : {
7232     "in": "query",
7233     "name": "if",
7234     "type": "string",
7235     "enum": ["oic.if.a", "oic.if.baseline"]
7236   }
7237 },
7238 "definitions": {
7239   "Saturation" : {
7240     "properties": {
7241       "rt": {
7242         "description": "The Resource Type.",
7243         "items": {
7244           "enum": ["oic.r.colour.saturation"],
7245           "maxLength": 64,
7246           "type": "string"
7247         },
7248         "minItems": 1,
7249         "uniqueItems": true,
7250         "readOnly": true,
7251         "type": "array"
7252       },
7253       "colourSaturation": {
7254         "description": "The colour saturation value.",
7255         "maximum": 100,
7256         "minimum": 0,
7257         "type": "integer"

```

```

7258     },
7259     "n": {
7260         "$ref":
7261         "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
7262         schema.json#/definitions/n"
7263     },
7264     "id": {
7265         "$ref":
7266         "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
7267         schema.json#/definitions/id"
7268     },
7269     "if": {
7270         "description": "The OCF Interface set supported by this Resource.",
7271         "items": {
7272             "enum": [
7273                 "oic.if.a",
7274                 "oic.if.baseline"
7275             ],
7276             "type": "string"
7277         },
7278         "minItems": 2,
7279         "uniqueItems": true,
7280         "readOnly": true,
7281         "type": "array"
7282     }
7283 },
7284 "type": "object",
7285 "required": ["colourSaturation"]
7286 }
7287 }
7288 }
7289

```

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	

6.33.6 CRUDN behaviour

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

7297
7298

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

Create	Read	Update	Delete	Notify
	get	post		observe

7299 **6.34 Contact Sensor**

7300 **6.34.1 Introduction**

7301 This Resource describes whether a contact sensor has been tripped or not.
7302 Typical use case is in Security Systems detecting window or door open.
7303 The Property "value" is a boolean.
7304 A value of 'true' means that contact has been broken (open).
7305 A value of 'false' means that contact is in place (closed).
7306

7307 **6.34.2 Example URI**

7308 /ContactResURI

7309 **6.34.3 Resource type**

7310 The Resource Type is defined as: "oic.r.sensor.contact".

7311 **6.34.4 OpenAPI 2.0 definition**

```
7312 {  
7313   "swagger": "2.0",  
7314   "info": {  
7315     "title": "Contact Sensor",  
7316     "version": "20190215",  
7317     "license": {  
7318       "name": "OCF Data Model License",  
7319       "url":  
7320       "https://github.com/openconnectivityfoundation/core/blob/e28a9e0a92e17042ba3e83661e4c0fbce8bdc4ba/LI  
7321       CENSE.md",  
7322       "x-copyright": "copyright 2016-2017, 2019 Open Connectivity Foundation, Inc. All rights  
7323       reserved."  
7324     },  
7325     "termsOfService": "https://openconnectivityfoundation.github.io/core/DISCLAIMER.md"  
7326   },  
7327   "schemes": ["http"],  
7328   "consumes": ["application/json"],  
7329   "produces": ["application/json"],  
7330   "paths": {  
7331     "/ContactResURI" : {  
7332       "get": {  
7333         "description": "This Resource describes whether a contact sensor has been tripped or  
7334         not.\nTypical use case is in Security Systems detecting window or door open.\nThe Property \"value\  
7335         is a boolean.\nA value of 'true' means that contact has been broken (open).\nA value of 'false'  
7336         means that contact is in place (closed).\n",  
7337         "parameters": [  
7338           { "$ref": "#/parameters/interface" }  
7339         ],  
7340         "responses": {  
7341           "200": {  
7342             "description": "",  
7343             "x-example":  
7344               {  
7345                 "rt": ["oic.r.sensor.contact"],  
7346                 "if": ["oic.if.s", "oic.if.baseline"],  
7347                 "value": true  
7348               },  
7349             "schema": { "$ref": "#/definitions/Contact" }  
7350           }  
7351         }  
7352       }  
7353     }  
7354   }  
7355 }
```

```

7351     }
7352   }
7353 }
7354 },
7355 "parameters": {
7356   "interface" : {
7357     "in": "query",
7358     "name": "if",
7359     "type": "string",
7360     "enum": ["oic.if.s", "oic.if.baseline"]
7361   }
7362 },
7363 "definitions": {
7364   "Contact" : {
7365     "properties": {
7366       "rt": {
7367         "description": "The Resource Type.",
7368         "items": {
7369           "enum": ["oic.r.sensor.contact"],
7370           "maxLength": 64,
7371           "type": "string"
7372         },
7373         "minItems": 1,
7374         "uniqueItems": true,
7375         "readOnly": true,
7376         "type": "array"
7377       },
7378       "value": {
7379         "description": "The contact indication, true = broken (open), false = in place (closed).",
7380         "readOnly": true,
7381         "type": "boolean"
7382       },
7383       "n": {
7384         "$ref":
7385         "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
7386         schema.json#/definitions/n"
7387       },
7388       "id": {
7389         "$ref":
7390         "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
7391         schema.json#/definitions/id"
7392       },
7393       "if": {
7394         "description": "The OCF Interface set supported by this Resource.",
7395         "items": {
7396           "enum": [
7397             "oic.if.s",
7398             "oic.if.baseline"
7399           ],
7400           "type": "string"
7401         },
7402         "minItems": 2,
7403         "uniqueItems": true,
7404         "readOnly": true,
7405         "type": "array"
7406       }
7407     },
7408     "type": "object",
7409     "required": ["value"]
7410   }
7411 }
7412 }
7413

```

7414 6.34.5 Property definition

7415 Table 71 defines the Properties that are part of the "oic.r.sensor.contact" Resource Type.

7416 **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	

7417 **6.34.6 CRUDN behaviour**

7418 Table 72 defines the CRUDN operations that are supported on the "oic.r.sensor.contact" Resource
7419 Type.

7420 **Table 72 – The CRUDN operations of the Resource with type "rt" = "oic.r.sensor.contact".**

Create	Read	Update	Delete	Notify
	get			observe

7421 **6.35 Demand Response Load Control (DRLC).**

7422 **6.35.1 Introduction**

7423 This Resource describes any to be applied or currently being applied DRLC signal.
7424 The Property "DRType" is the ApplianceLoadReductionType defined in Zigbee/HA Smart Energy
7425 Profile 2.0.

7426 The Property "Start" is a string containing an RFC3339 encoded start time.
7427 The Property "duration" value is in minutes.

7428 The Property "Override" indicates whether the consumer has overridden the request (true) or not
7429 (false).

7430 The Resource provides the current DRLC action that is being applied.

7431 **6.35.2 Example URI**

7432 /DRLCResURI

7433 **6.35.3 Resource type**

7434 The Resource Type is defined as: "oic.r.energy.drlc".

7435 6.35.4 OpenAPI 2.0 definition

```
7436 {
7437   "swagger": "2.0",
7438   "info": {
7439     "title": "Demand Response Load Control (DRLC).",
7440     "version": "20190215",
7441     "license": {
7442       "name": "OCF Data Model License",
7443       "url":
7444         "https://github.com/openconnectivityfoundation/core/blob/e28a9e0a92e17042ba3e83661e4c0fbce8bdc4ba/LI
7445         CENSE.md",
7446       "x-copyright": "copyright 2016-2017, 2019 Open Connectivity Foundation, Inc. All rights
7447 reserved."
7448     },
7449     "termsOfService": "https://openconnectivityfoundation.github.io/core/DISCLAIMER.md"
7450   },
7451   "schemes": ["http"],
7452   "consumes": ["application/json"],
7453   "produces": ["application/json"],
7454   "paths": {
7455     "/DRLCResURI" : {
7456       "get": {
7457         "description": "This Resource describes any to be applied or currently being applied DRLC
7458 signal.\n\nThe Property \"DRTType\" is the ApplianceLoadReductionType defined in Zigbee/HA Smart Energy
7459 Profile 2.0.\n\nThe Property \"Start\" is a string containing an RFC3339 encoded start time.\n\nThe
7460 Property \"duration\" value is in minutes.\n\nThe Property \"Override\" indicates whether the consumer
7461 has overridden the request (true) or not (false).\n\nThe Resource provides the current DRLC action
7462 that is being applied.",
7463         "parameters": [
7464           { "$ref": "#/parameters/interface" }
7465         ],
7466         "responses": {
7467           "200": {
7468             "description": "",
7469             "x-example":
7470               {
7471                 "rt": ["oic.r.energy.drlc"],
7472                 "if": ["oic.if.a", "oic.if.baseline"],
7473                 "DRTType": 1,
7474                 "start": "2015-01-09T16:45:00Z",
7475                 "duration": 10,
7476                 "override": false,
7477                 "drlevel": 2,
7478                 "mandate": true
7479               },
7480             "schema": { "$ref": "#/definitions/DRLC" }
7481           }
7482         }
7483       },
7484       "post": {
7485         "description": "Provides the DRLC action to be applied to the device or updates an existing
7486 action.",
7487         "parameters": [
7488           { "$ref": "#/parameters/interface" },
7489           {
7490             "name": "body",
7491             "in": "body",
7492             "required": true,
7493             "schema": { "$ref": "#/definitions/DRLC" },
7494             "x-example":
7495               {
7496                 "DRTType": 1,
7497                 "start": "2015-01-09T17:00:00Z",
7498                 "duration": 10
7499               }
7500           }
7501         ],
7502         "responses": {
7503           "200": {
7504             "description": "Indicates that the target DRLC resource was changed.\n\nThe new
7505 resource attributes are provided in the response.",

```

```

7506         "x-example":
7507             {
7508                 "DRType": 1,
7509                 "start": "2015-01-09T17:00:00Z",
7510                 "duration": 15,
7511                 "override": false
7512             }
7513         ,
7514         "schema": {"$ref": "#/definitions/DRLC"}
7515     },
7516     "201": {
7517         "description": "Indicates successful creation of the DRLC Resource with the
7518 attributes provided.\nThe response includes the URI of the created Resource.",
7519         "x-example":
7520             {
7521                 "ResURI": "/MyDevice/MyDRLCURI"
7522             },
7523         "schema": {"$ref": "#/definitions/CreateResponse"}
7524     }
7525 }
7526 }
7527 }
7528 },
7529 "parameters": {
7530     "interface" : {
7531         "in" : "query",
7532         "name" : "if",
7533         "type" : "string",
7534         "enum" : ["oic.if.a", "oic.if.baseline"]
7535     }
7536 },
7537 "definitions": {
7538     "DRLC" : {
7539         "properties": {
7540             "rt": {
7541                 "description": "The Resource Type.",
7542                 "items": {
7543                     "enum": ["oic.r.energy.drlc"],
7544                     "maxLength": 64,
7545                     "type": "string"
7546                 },
7547                 "minItems": 1,
7548                 "uniqueItems": true,
7549                 "readOnly": true,
7550                 "type": "array"
7551             },
7552             "start": {
7553                 "description": "The start time for the application of DR.",
7554                 "type": "string"
7555             },
7556             "duration": {
7557                 "description": "The duration of the to be applied DR type.",
7558                 "type": "integer"
7559             },
7560             "override": {
7561                 "description": "Whether the consumer has overridden the application of DR.",
7562                 "type": "boolean"
7563             },
7564             "DRType": {
7565                 "description": "The to be applied demand-response type.",
7566                 "type": "integer"
7567             },
7568             "drlevel": {
7569                 "type": "integer",
7570                 "minimum": 0,
7571                 "maximum": 3,
7572                 "description": "Indicator of the strength of the DR response that is requested; 0-0%, 1-
7573 30%, 2-50%, 3-70%"
7574             },
7575             "mandate" : {
7576                 "type": "boolean",
7577                 "description": "Whether overriding the DR request by the consumer is allowed"

```



```

7578     },
7579     "n": {
7580         "$ref":
7581         "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
7582         schema.json#/definitions/n"
7583     },
7584     "id": {
7585         "$ref":
7586         "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
7587         schema.json#/definitions/id"
7588     },
7589     "if": {
7590         "description": "The OCF Interface set supported by this Resource.",
7591         "items": {
7592             "enum": [
7593                 "oic.if.a",
7594                 "oic.if.baseline"
7595             ],
7596             "type": "string"
7597         },
7598         "minItems": 2,
7599         "uniqueItems": true,
7600         "readOnly": true,
7601         "type": "array"
7602     }
7603 },
7604 "type": "object",
7605 "required": ["DRType"]
7606 },
7607 "CreateResponse" : {
7608     "properties": {
7609         "ResURI": {
7610             "description": "The url of the created Resource.",
7611             "type": "string",
7612             "format" : "uri"
7613         }
7614     },
7615     "type": "object",
7616     "required": ["ResURI"]
7617 }
7618 }
7619 }
7620

```

7621 6.35.5 Property definition

7622 Table 73 defines the Properties that are part of the "oic.r.energy.drlc" Resource Type.

7623 **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

7624 **6.35.6 CRUDN behaviour**

7625 Table 74 defines the CRUDN operations that are supported on the "oic.r.energy.drlic" Resource
7626 Type.

7627 **Table 74 – The CRUDN operations of the Resource with type "rt" = "oic.r.energy.drlic".**

Create	Read	Update	Delete	Notify
	get	post		observe

7628 **6.36 Energy Overload/Circuit Breaker**

7629 **6.36.1 Introduction**

7630 This Resource describes whether an energy overload detector/circuit breaker is currently tripped.
7631 The Property "value" is a boolean.
7632 A value of 'true' means that energy overload has been tripped.
7633 A value of 'false' means that energy overload has not been tripped.
7634

7635 **6.36.2 Example URI**

7636 /EnergyOverloadResURI

7637 **6.36.3 Resource type**

7638 The Resource Type is defined as: "oic.r.energy.overload".

7639 **6.36.4 OpenAPI 2.0 definition**

```
7640 {
7641   "swagger": "2.0",
7642   "info": {
7643     "title": "Energy Overload/Circuit Breaker",
7644     "version": "20190215",
7645     "license": {
7646       "name": "OCF Data Model License",
7647       "url":
7648         "https://github.com/openconnectivityfoundation/core/blob/e28a9e0a92e17042ba3e83661e4c0fbce8bdc4ba/LI
7649         CENSE.md",
7650       "x-copyright": "copyright 2016-2017, 2019 Open Connectivity Foundation, Inc. All rights
7651 reserved."
7652     },
7653     "termsOfService": "https://openconnectivityfoundation.github.io/core/DISCLAIMER.md"
7654   },
7655   "schemes": ["http"],
7656   "consumes": ["application/json"],
7657   "produces": ["application/json"],
7658   "paths": {
7659     "/EnergyOverloadResURI" : {
7660       "get": {
7661         "description": "This Resource describes whether an energy overload detector/circuit breaker
7662 is currently tripped.\n\nThe Property \"value\" is a boolean.\n\nA value of 'true' means that energy
7663 overload has been tripped.\n\nA value of 'false' means that energy overload has not been tripped.\n",
7664         "parameters": [
7665           { "$ref": "#/parameters/interface" }
7666         ],
7667         "responses": {
7668           "200": {
7669             "description": "",
7670             "x-example":
7671               {
7672                 "rt": ["oic.r.energy.overload"],
7673                 "if": ["oic.if.s", "oic.if.baseline"],
7674                 "value": true
7675               },
7676           "schema": { "$ref": "#/definitions/EnergyOverload" }
7677         }
7678       }
7679     }
7680   },
7681   "parameters": {
7682     "interface": {
7683       "in": "query",
7684       "name": "if",
7685       "type": "string",
7686       "enum": ["oic.if.s", "oic.if.baseline"]
7687     }
7688   },
7689   "definitions": {
7690     "EnergyOverload" : {
7691       "properties": {
7692         "rt": {
7693           "description": "The Resource Type.",
7694           "items": {
7695             "enum": ["oic.r.energy.overload"],
7696             "maxLength": 64,
7697             "type": "string"
7698           },
7699         },
7700         "minItems": 1,
7701         "uniqueItems": true,
```

```

7702         "readOnly": true,
7703         "type": "array"
7704     },
7705     "value": {
7706         "description": "The energy overload indication,true = tripped, false = not tripped.",
7707         "readOnly": true,
7708         "type": "boolean"
7709     },
7710     "n": {
7711         "$ref":
7712         "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
7713         schema.json#/definitions/n"
7714     },
7715     "id": {
7716         "$ref":
7717         "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
7718         schema.json#/definitions/id"
7719     },
7720     "if": {
7721         "description": "The OCF Interface set supported by this Resource.",
7722         "items": {
7723             "enum": [
7724                 "oic.if.s",
7725                 "oic.if.baseline"
7726             ],
7727             "type": "string"
7728         },
7729         "minItems": 2,
7730         "uniqueItems": true,
7731         "readOnly": true,
7732         "type": "array"
7733     }
7734 },
7735 "type": "object",
7736 "required": ["value"]
7737 }
7738 }
7739 }
7740

```

7741 6.36.5 Property definition

7742 Table 75 defines the Properties that are part of the "oic.r.energy.overload" Resource Type.

7743 **Table 75 – The Property definitions of the Resource with type "rt" =**
7744 **"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.
----	-------------------	----	-----------	---------------------------------------------------

7745 **6.36.6 CRUDN behaviour**

7746 Table 76 defines the CRUDN operations that are supported on the "oic.r.energy.overload"
7747 Resource Type.

7748 **Table 76 – The CRUDN operations of the Resource with type "rt" = "oic.r.energy.overload".**

Create	Read	Update	Delete	Notify
	get			observe

7749 **6.37 Generic Sensor**

7750 **6.37.1 Introduction**

7751 This Resource describes whether some value or property or entity has been sensed or not.
7752 The Property "value" is a boolean.
7753 A value of 'true' means that the target has been sensed.
7754 A value of 'false' means that the target has not been sensed.

7755 **6.37.2 Example URI**

7756 /GenericSensorResURI

7757 **6.37.3 Resource type**

7758 The Resource Type is defined as: "oic.r.sensor".

7759 **6.37.4 OpenAPI 2.0 definition**

```
7760 {
7761   "swagger": "2.0",
7762   "info": {
7763     "title": "Generic Sensor",
7764     "version": "20190215",
7765     "license": {
7766       "name": "OCF Data Model License",
7767       "url":
7768         "https://github.com/openconnectivityfoundation/core/blob/e28a9e0a92e17042ba3e83661e4c0fbce8bdc4ba/LI
7769         CENSE.md",
7770       "x-copyright": "copyright 2016-2017, 2019 Open Connectivity Foundation, Inc. All rights
7771       reserved."
7772     },
7773     "termsOfService": "https://openconnectivityfoundation.github.io/core/DISCLAIMER.md"
7774   },
7775   "schemes": ["http"],
7776   "consumes": ["application/json"],
7777   "produces": ["application/json"],
7778   "paths": {
7779     "/GenericSensorResURI" : {
7780       "get": {
7781         "description": "This Resource describes whether some value or property or entity has been
7782         sensed or not.\n\nThe Property \"value\" is a boolean.\n\nA value of 'true' means that the target has
7783         been sensed.\n\nA value of 'false' means that the target has not been sensed.",
7784         "parameters": [
7785           { "$ref": "#/parameters/interface" }
7786         ],
7787         "responses": {
7788           "200": {
7789             "description": "",
```

```

7790         "x-example": {
7791             "rt": ["oic.r.sensor"],
7792             "if": ["oic.if.s", "oic.if.baseline"],
7793             "value": true
7794         },
7795         "schema": { "$ref": "#/definitions/Sensor" }
7796     }
7797 }
7798 }
7799 }
7800 },
7801 "parameters": {
7802     "interface": {
7803         "in": "query",
7804         "name": "if",
7805         "type": "string",
7806         "enum": ["oic.if.s", "oic.if.baseline"]
7807     }
7808 },
7809 "definitions": {
7810     "Sensor": {
7811         "properties": {
7812             "rt": {
7813                 "description": "The Resource Type.",
7814                 "items": {
7815                     "enum": ["oic.r.sensor"],
7816                     "maxLength": 64,
7817                     "type": "string"
7818                 },
7819                 "minItems": 1,
7820                 "uniqueItems": true,
7821                 "readOnly": true,
7822                 "type": "array"
7823             },
7824             "value": {
7825                 "description": "true = sensed, false = not sensed.",
7826                 "readOnly": true,
7827                 "type": "boolean"
7828             },
7829             "n": {
7830                 "$ref":
7831 "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
7832 schema.json#/definitions/n"
7833             },
7834             "id": {
7835                 "$ref":
7836 "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
7837 schema.json#/definitions/id"
7838             },
7839             "if": {
7840                 "description": "The OCF Interface set supported by this Resource.",
7841                 "items": {
7842                     "enum": [
7843                         "oic.if.s",
7844                         "oic.if.baseline"
7845                     ],
7846                     "type": "string"
7847                 },
7848                 "minItems": 2,
7849                 "uniqueItems": true,
7850                 "readOnly": true,
7851                 "type": "array"
7852             }
7853         },
7854         "type": "object",
7855         "required": ["value"]
7856     }
7857 }
7858 }
7859 }

```

7860 **6.37.5 Property definition**

7861 Table 77 defines the Properties that are part of the "oic.r.sensor" Resource Type.

7862 **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.

7863 **6.37.6 CRUDN behaviour**

7864 Table 78 defines the CRUDN operations that are supported on the "oic.r.sensor" Resource Type.

7865 **Table 78 – The CRUDN operations of the Resource with type "rt" = "oic.r.sensor".**

Create	Read	Update	Delete	Notify
	get			observe

7866 **6.38 Glass Break Sensor**

7867 **6.38.1 Introduction**

7868 This Resource describes a glass break sensor.

7869 The Property "value" is a boolean.

7870 A value of 'true' means that glass break has been sensed.

7871 A value of 'false' means that glass break not been sensed.

7872 **6.38.2 Example URI**

7873 /GlassBreakResURI

7874 **6.38.3 Resource type**

7875 The Resource Type is defined as: "oic.r.sensor.glassbreak".

7876 **6.38.4 OpenAPI 2.0 definition**

```
7877 {
7878   "swagger": "2.0",
7879   "info": {
7880     "title": "Glass Break Sensor",
```

```

7881     "version": "20190215",
7882     "license": {
7883       "name": "OCF Data Model License",
7884       "url":
7885 "https://github.com/openconnectivityfoundation/core/blob/e28a9e0a92e17042ba3e83661e4c0fbce8bdc4ba/LI
7886 CENSE.md",
7887       "x-copyright": "copyright 2016-2017, 2019 Open Connectivity Foundation, Inc. All rights
7888 reserved."
7889     },
7890     "termsOfService": "https://openconnectivityfoundation.github.io/core/DISCLAIMER.md"
7891   },
7892   "schemes": ["http"],
7893   "consumes": ["application/json"],
7894   "produces": ["application/json"],
7895   "paths": {
7896     "/GlassBreakResURI" : {
7897       "get": {
7898         "description": "This Resource describes a glass break sensor.\nThe Property \"value\" is a
7899 boolean.\nA value of 'true' means that glass break has been sensed.\nA value of 'false' means that
7900 glass break not been sensed.",
7901         "parameters": [
7902           { "$ref": "#/parameters/interface" }
7903         ],
7904         "responses": {
7905           "200": {
7906             "description": "",
7907             "x-example":
7908               {
7909                 "rt": ["oic.r.sensor.glassbreak"],
7910                 "if": ["oic.if.s", "oic.if.baseline"],
7911                 "value": true
7912               },
7913             "schema": { "$ref": "#/definitions/GlassBreak" }
7914           }
7915         }
7916       }
7917     },
7918     "parameters": {
7919       "interface": {
7920         "in": "query",
7921         "name": "if",
7922         "type": "string",
7923         "enum": ["oic.if.s", "oic.if.baseline"]
7924       }
7925     }
7926   },
7927   "definitions": {
7928     "GlassBreak" : {
7929       "properties": {
7930         "rt": {
7931           "description": "The Resource Type.",
7932           "items": {
7933             "enum": ["oic.r.sensor.glassbreak"],
7934             "maxLength": 64,
7935             "type": "string"
7936           },
7937           "minItems": 1,
7938           "uniqueItems": true,
7939           "readOnly": true,
7940           "type": "array"
7941         },
7942         "value": {
7943           "description": "The glassbreak indication, true = glass break sensed, false = glass break
7944 not sensed.",
7945           "readOnly": true,
7946           "type": "boolean"
7947         },
7948         "n": {
7949           "$ref":
7950 "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
7951 schema.json#/definitions/n"
7952         }
7953       }
7954     }
7955   }

```



```

7953     "id": {
7954         "$ref":
7955         "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
7956         schema.json#/definitions/id"
7957     },
7958     "if": {
7959         "description": "The OCF Interface set supported by this Resource.",
7960         "items": {
7961             "enum": [
7962                 "oic.if.s",
7963                 "oic.if.baseline"
7964             ],
7965             "type": "string"
7966         },
7967         "minItems": 2,
7968         "uniqueItems": true,
7969         "readOnly": true,
7970         "type": "array"
7971     }
7972 },
7973 "type": "object",
7974 "required": ["value"]
7975 }
7976 }
7977 }
7978

```

7979 **6.38.5 Property definition**

7980 Table 79 defines the Properties that are part of the "oic.r.sensor.glassbreak" Resource Type.

7981 **Table 79 – The Property definitions of the Resource with type "rt" =**
7982 **"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.

7983 **6.38.6 CRUDN behaviour**

7984 Table 80 defines the CRUDN operations that are supported on the "oic.r.sensor.glassbreak"
7985 Resource Type.

7986
7987

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

Create	Read	Update	Delete	Notify
	get			observe

7988 **6.39 Heart Rate Zone**

7989 **6.39.1 Introduction**

7990 This Resource describes a measured heart rate by the current Zone using the Zoladz method. The
7991 Zoladz method defines Zones based on maximum heart rate; Zone 1 is the lowest, Zone 5 is the
7992 highest.

7993 The heartRateZone is an enumeration containing one of: "Zone1", "Zone2", "Zone3", "Zone4", and
7994 "Zone5".
7995

7996 **6.39.2 Example URI**

7997 /HeartRateZoneResURI

7998 **6.39.3 Resource type**

7999 The Resource Type is defined as: "oic.r.sensor.heart.zone".

8000 **6.39.4 OpenAPI 2.0 definition**

```

8001 {
8002   "swagger": "2.0",
8003   "info": {
8004     "title": "Heart Rate Zone",
8005     "version": "2019-03-28",
8006     "license": {
8007       "name": "OCF Data Model License",
8008       "url":
8009         "https://github.com/openconnectivityfoundation/core/blob/e28a9e0a92e17042ba3e83661e4c0fbce8bdc4ba/LI
8010         CENSE.md",
8011       "x-copyright": "copyright 2016-2017, 2019 Open Connectivity Foundation, Inc. All rights
8012         reserved."
8013     },
8014     "termsOfService": "https://openconnectivityfoundation.github.io/core/DISCLAIMER.md"
8015   },
8016   "schemes": ["http"],
8017   "consumes": ["application/json"],
8018   "produces": ["application/json"],
8019   "paths": {
8020     "/HeartRateZoneResURI" : {
8021       "get": {
8022         "description": "This Resource describes a measured heart rate by the current Zone using the
8023         Zoladz method. The Zoladz method defines Zones based on maximum heart rate; Zone 1 is the lowest,
8024         Zone 5 is the highest.\n\nThe heartRateZone is an enumeration containing one of: \"Zone1\", \"Zone2\",
8025         \"Zone3\", \"Zone4\", and \"Zone5\".\n\n",
8026         "parameters": [
8027           { "$ref": "#/parameters/interface" }
8028         ],
8029         "responses": {
8030           "200": {
8031             "description": "",
8032             "x-example":
8033               {
8034                 "rt": ["oic.r.sensor.heart.zone"],
8035                 "heartRateZone": "Zone3"
8036               },
8037             "schema": { "$ref": "#/definitions/heartRateZone" }
8038           }
8039         }
8040       }
8041     }
8042   }

```

```

8040     }
8041   }
8042 },
8043 "parameters": {
8044   "interface" : {
8045     "in" : "query",
8046     "name" : "if",
8047     "type" : "string",
8048     "enum" : ["oic.if.s", "oic.if.baseline"]
8049   }
8050 },
8051 "definitions": {
8052   "heartRateZone" : {
8053     "properties": {
8054       "rt": {
8055         "description": "Resource Type",
8056         "items": {
8057           "enum": ["oic.r.sensor.heart.zone"],
8058           "maxLength": 64,
8059           "type": "string"
8060         },
8061         "minItems": 1,
8062         "readOnly": true,
8063         "uniqueItems": true,
8064         "type": "array"
8065       },
8066       "n": {
8067         "$ref":
8068         "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
8069         schema.json#/definitions/n"
8070       },
8071       "id": {
8072         "$ref":
8073         "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
8074         schema.json#/definitions/id"
8075       },
8076       "heartRateZone": {
8077         "description": "Current heart rate zone based on the Zoladz system.",
8078         "enum": [
8079           "Zone1",
8080           "Zone2",
8081           "Zone3",
8082           "Zone4",
8083           "Zone5"
8084         ],
8085         "readOnly": true,
8086         "type": "string"
8087       },
8088       "if": {
8089         "description": "The OCF Interface set supported by this Resource",
8090         "items": {
8091           "enum": [
8092             "oic.if.s",
8093             "oic.if.baseline"
8094           ],
8095           "type": "string",
8096           "maxLength": 64
8097         },
8098         "minItems": 1,
8099         "readOnly": true,
8100         "uniqueItems": true,
8101         "type": "array"
8102       }
8103     },
8104     "type" : "object",
8105     "required": ["heartRateZone"]
8106   }
8107 }
8108 }
8109 }

```

8110 **6.39.5 Property definition**

8111 Table 81 defines the Properties that are part of the "oic.r.sensor.heart.zone" Resource Type.

8112 **Table 81 – The Property definitions of the Resource with type "rt" =**
 8113 **"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	

8114 **6.39.6 CRUDN behaviour**

8115 Table 82 defines the CRUDN operations that are supported on the "oic.r.sensor.heart.zone"
 8116 Resource Type.

8117 **Table 82 – The CRUDN operations of the Resource with type "rt" =**
 8118 **"oic.r.sensor.heart.zone".**

Create	Read	Update	Delete	Notify
	get			observe

8119

8120 **6.40 Illuminance Sensor**

8121 **6.40.1 Introduction**

8122 This Resource describes an illuminance sensor.
 8123 The Property "illuminance" is a float and represents the sensed luminous flux per unit area in lux.

8124 **6.40.2 Example URI**

8125 /IlluminanceSensorResURI

8126 **6.40.3 Resource type**

8127 The Resource Type is defined as: "oic.r.sensor.illuminance".

8128 6.40.4 OpenAPI 2.0 definition

```
8129 {
8130   "swagger": "2.0",
8131   "info": {
8132     "title": "Illuminance Sensor",
8133     "version": "20190215",
8134     "license": {
8135       "name": "OCF Data Model License",
8136       "url":
8137         "https://github.com/openconnectivityfoundation/core/blob/e28a9e0a92e17042ba3e83661e4c0fbce8bdc4ba/LI
8138         CENSE.md",
8139       "x-copyright": "copyright 2016-2017, 2019 Open Connectivity Foundation, Inc. All rights
8140       reserved."
8141     },
8142     "termsOfService": "https://openconnectivityfoundation.github.io/core/DISCLAIMER.md"
8143   },
8144   "schemes": ["http"],
8145   "consumes": ["application/json"],
8146   "produces": ["application/json"],
8147   "paths": {
8148     "/IlluminanceSensorResURI" : {
8149       "get": {
8150         "description": "This Resource describes an illuminance sensor.\n\nThe Property \"illuminance\"
8151         is a float and represents the sensed luminous flux per unit area in lux.",
8152         "parameters": [
8153           { "$ref": "#/parameters/interface" }
8154         ],
8155         "responses": {
8156           "200": {
8157             "description": "",
8158             "x-example":
8159               {
8160                 "rt": ["oic.r.sensor.illuminance"],
8161                 "if": ["oic.if.s", "oic.if.baseline"],
8162                 "illuminance": 450.0
8163               },
8164             "schema": { "$ref": "#/definitions/Illuminance" }
8165           }
8166         }
8167       }
8168     },
8169   },
8170   "parameters": {
8171     "interface" : {
8172       "in" : "query",
8173       "name" : "if",
8174       "type" : "string",
8175       "enum" : ["oic.if.s", "oic.if.baseline"]
8176     }
8177   },
8178   "definitions": {
8179     "Illuminance" : {
8180       "properties": {
8181         "rt": {
8182           "description": "The Resource Type.",
8183           "items": {
8184             "enum": ["oic.r.sensor.illuminance"],
8185             "maxLength": 64,
8186             "type": "string"
8187           },
8188           "minItems": 1,
8189           "uniqueItems": true,
8190           "readOnly": true,
8191           "type": "array"
8192         },
8193         "illuminance": {
8194           "description": "The sensed luminous flux per unit area in lux.",
8195           "readOnly": true,
8196           "type": "number"
8197         },
8198         "n": {
```

```

8199         "$ref":
8200         "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
8201         schema.json#/definitions/n"
8202     },
8203     "id": {
8204         "$ref":
8205         "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
8206         schema.json#/definitions/id"
8207     },
8208     "if": {
8209         "description": "The OCF Interface set supported by this Resource.",
8210         "items": {
8211             "enum": [
8212                 "oic.if.s",
8213                 "oic.if.baseline"
8214             ],
8215             "type": "string"
8216         },
8217         "minItems": 2,
8218         "uniqueItems": true,
8219         "readOnly": true,
8220         "type": "array"
8221     }
8222 },
8223 "type": "object",
8224 "required": ["illuminance"]
8225 }
8226 }
8227 }
8228

```

8229 6.40.5 Property definition

8230 Table 83 defines the Properties that are part of the "oic.r.sensor.illuminance" Resource Type.

8231 **Table 83 – The Property definitions of the Resource with type "rt" =**
8232 **"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	

8233 6.40.6 CRUDN behaviour

8234 Table 84 defines the CRUDN operations that are supported on the "oic.r.sensor.illuminance"
8235 Resource Type.

8236
8237

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

Create	Read	Update	Delete	Notify
	get			observe

8238 **6.41 Magnetic Field Direction Sensor**

8239 **6.41.1 Introduction**

8240 This Resource describes the direction of the Earth's magnetic field at the observer's current point
8241 in space.
8242 Typical use case includes measurement of compass readings on a personal device.
8243 The Property "value" is an array containing Hx, Hy, Hz (in that order) each of which are floats.
8244 Each of Hx, Hy and Hz are expressed in A/m (Amperes per metre).

8245 **6.41.2 Example URI**

8246 /MagneticFieldDirectionResURI

8247 **6.41.3 Resource type**

8248 The Resource Type is defined as: "oic.r.sensor.magneticfielddirection".

8249 **6.41.4 OpenAPI 2.0 definition**

```

8250 {
8251   "swagger": "2.0",
8252   "info": {
8253     "title": "Magnetic Field Direction Sensor",
8254     "version": "20190215",
8255     "license": {
8256       "name": "OCF Data Model License",
8257       "url":
8258         "https://github.com/openconnectivityfoundation/core/blob/e28a9e0a92e17042ba3e83661e4c0fbce8bdc4ba/LI
8259         CENSE.md",
8260       "x-copyright": "copyright 2016-2017, 2019 Open Connectivity Foundation, Inc. All rights
8261         reserved."
8262     },
8263     "termsOfService": "https://openconnectivityfoundation.github.io/core/DISCLAIMER.md"
8264   },
8265   "schemes": ["http"],
8266   "consumes": ["application/json"],
8267   "produces": ["application/json"],
8268   "paths": {
8269     "/MagneticFieldDirectionResURI" : {
8270       "get": {
8271         "description": "This Resource describes the direction of the Earth's magnetic field at the
8272         observer's current point in space.\nTypical use case includes measurement of compass readings on a
8273         personal device.\nThe Property \"value\" is an array containing Hx, Hy, Hz (in that order) each of
8274         which are floats.\nEach of Hx, Hy and Hz are expressed in A/m (Amperes per metre).",
8275         "parameters": [
8276           { "$ref": "#/parameters/interface" }
8277         ],
8278         "responses": {
8279           "200": {
8280             "description": "",
8281             "x-example":
8282               {
8283                 "rt": ["oic.r.sensor.magneticfielddirection"],
8284                 "if": ["oic.if.s", "oic.if.baseline"],
8285                 "value": [100.0, 15.0, 90.0]
8286               },
8287             "schema": { "$ref": "#/definitions/magneticFieldDirection" }
8288           }
8289         }
8290       }
8291     }

```

```

8291     }
8292   },
8293   "parameters": {
8294     "interface" : {
8295       "in" : "query",
8296       "name" : "if",
8297       "type" : "string",
8298       "enum" : ["oic.if.s", "oic.if.baseline"]
8299     }
8300   },
8301   "definitions": {
8302     "magneticFieldDirection" : {
8303       "properties": {
8304         "rt": {
8305           "description": "The Resource Type.",
8306           "items": {
8307             "enum": ["oic.r.sensor.magneticfielddirection"],
8308             "maxLength": 64,
8309             "type": "string"
8310           },
8311           "minItems": 1,
8312           "uniqueItems": true,
8313           "readOnly": true,
8314           "type": "array"
8315         },
8316         "value": {
8317           "description": "The array containing Hx, Hy, Hz.",
8318           "items": {
8319             "type": "number"
8320           },
8321           "maxItems": 3,
8322           "minItems": 3,
8323           "readOnly": true,
8324           "type": "array"
8325         },
8326         "n": {
8327           "$ref":
8328 "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
8329 schema.json#/definitions/n"
8330         },
8331         "id": {
8332           "$ref":
8333 "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
8334 schema.json#/definitions/id"
8335         },
8336         "if": {
8337           "description": "The OCF Interface set supported by this Resource.",
8338           "items": {
8339             "enum": [
8340               "oic.if.s",
8341               "oic.if.baseline"
8342             ],
8343             "type": "string"
8344           },
8345           "minItems": 2,
8346           "uniqueItems": true,
8347           "readOnly": true,
8348           "type": "array"
8349         }
8350       },
8351       "type": "object",
8352       "required": ["value"]
8353     }
8354   }
8355 }
8356

```

8357 6.41.5 Property definition

8358 Table 85 defines the Properties that are part of the "oic.r.sensor.magneticfielddirection" Resource
8359 Type.

8360
8361

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

8362 **6.41.6 CRUDN behaviour**

8363 Table 86 defines the CRUDN operations that are supported on the
8364 "oic.r.sensor.magneticfielddirection" Resource Type.

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

Create	Read	Update	Delete	Notify
	get			observe

8367 **6.42 Media**

8368 **6.42.1 Introduction**

8369 This Resource specifies the media types that an OCF Server supports.
8370 The resource is an array of media elements. Each element contains:
8371 A URL at which the specified media type can be accessed.
8372 A string array containing the definition of the media using SDP.
8373 Each entry in the sdp array is an SDP line.
8374 Each line shall follow the SDP description syntax as defined in the SDP specification.
8375 The SDP specification can be found at <http://tools.ietf.org/html/rfc4566>.

8376 **6.42.2 Example URI**

8377 /MediaResURI

8378 **6.42.3 Resource type**

8379 The Resource Type is defined as: "oic.r.media".

8380 6.42.4 OpenAPI 2.0 definition

```
8381 {
8382   "swagger": "2.0",
8383   "info": {
8384     "title": "Media",
8385     "version": "20190215",
8386     "license": {
8387       "name": "OCF Data Model License",
8388       "url":
8389         "https://github.com/openconnectivityfoundation/core/blob/e28a9e0a92e17042ba3e83661e4c0fbce8bdc4ba/LI
8390         CENSE.md",
8391       "x-copyright": "copyright 2016-2017, 2019 Open Connectivity Foundation, Inc. All rights
8392       reserved."
8393     },
8394     "termsOfService": "https://openconnectivityfoundation.github.io/core/DISCLAIMER.md"
8395   },
8396   "schemes": ["http"],
8397   "consumes": ["application/json"],
8398   "produces": ["application/json"],
8399   "paths": {
8400     "/MediaResURI" : {
8401       "get": {
8402         "description": "This Resource specifies the media types that an OCF Server supports.\nThe
8403         resource is an array of media elements. Each element contains:\n  A URL at which the specified
8404         media type can be accessed.\n  A string array containing the definition of the media using SDP.\n
8405         Each entry in the sdp array is an SDP line.\n  Each line shall follow the SDP description syntax
8406         as defined in the SDP specification.\nThe SDP specification can be found at
8407         http://tools.ietf.org/html/rfc4566.",
8408         "parameters": [
8409           { "$ref": "#/parameters/interface" }
8410         ],
8411         "responses": {
8412           "200": {
8413             "description": "RETRIEVES the current media resource.",
8414             "x-example":
8415               {
8416                 "rt": ["oic.r.media"],
8417                 "if": ["oic.if.s", "oic.if.baseline"],
8418                 "media": [
8419                   {
8420                     "url": "some example url",
8421                     "sdp": [
8422                       "m=video 1 RTP/AVP 96",
8423                       "a=rtpmap:96 H264/9000",
8424                       "a=fmtp:96 profile-level-id=42A028;packetization-mode=1"
8425                     ]
8426                   },
8427                   {
8428                     "url": "some other example1 url",
8429                     "sdp": [
8430                       "m=audio 2 RTP/AVP 97",
8431                       "a=rtpmap:97 MP4A-LATM/90000"
8432                     ]
8433                   },
8434                   {
8435                     "url": "some other example2 url",
8436                     "sdp": [
8437                       "m=video 3 RTP/AVP 98",
8438                       "a=rtpmap:98 jpeg/90000",
8439                       "a=fmtp:98 sampling=YCbCr-4:2:0;width=256;height=256"
8440                     ]
8441                   }
8442                 ]
8443             },
8444             "schema": { "$ref": "#/definitions/Media" }
8445           }
8446         }
8447       }
8448     },
8449     "parameters": {
```

```

8451     "interface": {
8452         "in": "query",
8453         "name": "if",
8454         "type": "string",
8455         "enum": ["oic.if.s", "oic.if.baseline"]
8456     }
8457 },
8458 "definitions": {
8459     "Media": {
8460         "properties": {
8461             "rt": {
8462                 "description": "The Resource Type.",
8463                 "items": {
8464                     "enum": ["oic.r.media"],
8465                     "maxLength": 64,
8466                     "type": "string"
8467                 },
8468                 "minItems": 1,
8469                 "uniqueItems": true,
8470                 "readOnly": true,
8471                 "type": "array"
8472             },
8473             "media": {
8474                 "items": {
8475                     "properties": {
8476                         "sdp": {
8477                             "description": "The array of strings, one per SDP line.",
8478                             "items": {
8479                                 "description": "SDP media or attribute line",
8480                                 "type": "string"
8481                             },
8482                             "type": "array"
8483                         },
8484                         "url": {
8485                             "description": "The url for the media instance.",
8486                             "type": "string"
8487                         }
8488                     },
8489                     "type": "object"
8490                 },
8491                 "type": "array"
8492             },
8493             "n": {
8494                 "$ref":
8495                 "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
8496                 schema.json#/definitions/n"
8497             },
8498             "id": {
8499                 "$ref":
8500                 "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
8501                 schema.json#/definitions/id"
8502             },
8503             "if": {
8504                 "description": "The OCF Interface set supported by this Resource.",
8505                 "items": {
8506                     "enum": [
8507                         "oic.if.s",
8508                         "oic.if.baseline"
8509                     ],
8510                     "type": "string"
8511                 },
8512                 "minItems": 2,
8513                 "uniqueItems": true,
8514                 "readOnly": true,
8515                 "type": "array"
8516             }
8517         },
8518         "type": "object",
8519         "required": ["media"]
8520     }
8521 }

```

8522 }

8523

8524 6.42.5 Property definition

8525 Table 87 defines the Properties that are part of the "oic.r.media" Resource Type.

8526 **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	

8527 6.42.6 CRUDN behaviour

8528 Table 88 defines the CRUDN operations that are supported on the "oic.r.media" Resource Type.

8529 **Table 88 – The CRUDN operations of the Resource with type "rt" = "oic.r.media".**

Create	Read	Update	Delete	Notify
	get			observe

8530 6.43 Media Source

8531 6.43.1 Introduction

8532 This Resource defines a single media source that exists on a device.
 8533 The source can be an input source or output source, this resource is agnostic of that.
 8534 The Property "sourceName" specifies a pre-defined media input or output (e.g."HDMI", "DVI").
 8535 The Property "sourceNumber" is a numeric identifier to specify the instance (e.g. "PC", 1).
 8536 The Property "sourceType" is an enumeration defining whether the source is audio, video or both.
 8537 The Property "status" is a boolean that determines if the specific source instance is selected or not.

8538 A status of true means that the source instance is selected.

8539 A status of false means that the source instance is not selected.

8540

8541 6.43.2 Example URI

8542 /mediaSourceResURI

8543 **6.43.3 Resource type**

8544 The Resource Type is defined as: "oic.r.mediasource".

8545 **6.43.4 OpenAPI 2.0 definition**

```
8546 {
8547   "swagger": "2.0",
8548   "info": {
8549     "title": "Media Source",
8550     "version": "20190215",
8551     "license": {
8552       "name": "OCF Data Model License",
8553       "url":
8554         "https://github.com/openconnectivityfoundation/core/blob/e28a9e0a92e17042ba3e83661e4c0fbce8bdc4ba/LI
8555         CENSE.md",
8556       "x-copyright": "copyright 2016-2017, 2019 Open Connectivity Foundation, Inc. All rights
8557         reserved."
8558     },
8559     "termsOfService": "https://openconnectivityfoundation.github.io/core/DISCLAIMER.md"
8560   },
8561   "schemes": ["http"],
8562   "consumes": ["application/json"],
8563   "produces": ["application/json"],
8564   "paths": {
8565     "/mediaSourceResURI" : {
8566       "get": {
8567         "description": "This Resource defines a single media source that exists on a device.\nThe
8568         source can be an input source or output source, this resource is agnostic of that.\nThe Property
8569         \"sourceName\" specifies a pre-defined media input or output (e.g.\n\"HDMI\", \"DVI\").\nThe Property
8570         \"sourceNumber\" is a numeric identifier to specify the instance (e.g. \"PC\", 1).\nThe Property
8571         \"sourceType\" is an enumeration defining whether the source is audio, video or both.\nThe Property
8572         \"status\" is a boolean that determines if the specific source instance is selected or not.\n  A
8573         status of true means that the source instance is selected.\n  A status of false means that the
8574         source instance is not selected.\n",
8575         "parameters": [
8576           { "$ref": "#/parameters/interface" }
8577         ],
8578         "responses": {
8579           "200": {
8580             "description": "",
8581             "x-example":
8582               {
8583                 "rt": ["oic.r.mediasource"],
8584                 "if": ["oic.if.a", "oic.if.baseline"],
8585                 "sourceName": "HDMI-CEC",
8586                 "sourceNumber": "1",
8587                 "sourceType": "audioPlusVideo",
8588                 "status": true
8589               },
8590             "schema": { "$ref": "#/definitions/mediaSource" }
8591           }
8592         }
8593       },
8594       "post": {
8595         "description": "Changes the status of the source.\nAllows changes of the \"sourceName\" and
8596         the \"status\". The sourceNumber is used to identify the object in the array.",
8597         "parameters": [
8598           { "$ref": "#/parameters/interface" },
8599           {
8600             "name": "body",
8601             "in": "body",
8602             "required": true,
8603             "schema": { "$ref": "#/definitions/mediaSource" },
8604             "x-example":
8605               {
8606                 "sourceName": "my new name",
8607                 "sourceNumber": "1",
8608                 "status": true
8609               }
8610           }
8611         ]
8612       }
8613     }
8614   }
8615 }
```

```

8612     "responses": {
8613         "200": {
8614             "description": "",
8615             "x-example":
8616                 {
8617                     "sourceName": "my new name",
8618                     "sourceNumber": "1",
8619                     "status": true
8620                 },
8621             "schema": { "$ref": "#/definitions/mediaSource" }
8622         }
8623     }
8624 }
8625 },
8626 "parameters": {
8627     "interface": {
8628         "in": "query",
8629         "name": "if",
8630         "type": "string",
8631         "enum": ["oic.if.a", "oic.if.baseline"]
8632     }
8633 },
8634 "definitions": {
8635     "mediaSource": {
8636         "properties": {
8637             "rt": {
8638                 "description": "The Resource Type.",
8639                 "items": {
8640                     "enum": ["oic.r.mediasource"],
8641                     "maxLength": 64,
8642                     "type": "string"
8643                 },
8644                 "minItems": 1,
8645                 "uniqueItems": true,
8646                 "readOnly": true,
8647                 "type": "array"
8648             },
8649             "status": {
8650                 "description": "Specifies if the specific source instance is selected or not.",
8651                 "type": "boolean"
8652             },
8653             "sourceType": {
8654                 "description": "Specifies the type of the source.",
8655                 "enum": [
8656                     "audioOnly",
8657                     "videoOnly",
8658                     "audioPlusVideo"
8659                 ],
8660                 "readOnly": true,
8661                 "type": "string"
8662             },
8663             "sourceName": {
8664                 "description": "Specifies a pre-defined media input or output.",
8665                 "type": "string"
8666             },
8667             "sourceNumber": {
8668                 "description": "Numeric identifier to specify the instance.",
8669                 "type": [
8670                     "integer",
8671                     "string"
8672                 ]
8673             },
8674             "n": {
8675                 "$ref":
8676                 "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
8677                 schema.json#/definitions/n"
8678             },
8679             "id": {
8680                 "$ref":
8681                 "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
8682                 schema.json#/definitions/id"
8683             }
8684         }
8685     }
8686 }

```

```

8684     },
8685     "if": {
8686       "description": "The OCF Interface set supported by this Resource.",
8687       "items": {
8688         "enum": [
8689           "oic.if.a",
8690           "oic.if.baseline"
8691         ],
8692         "type": "string"
8693       },
8694       "minItems": 2,
8695       "uniqueItems": true,
8696       "readOnly": true,
8697       "type": "array"
8698     }
8699   },
8700   "type": "object",
8701   "required": ["sourceName", "status"]
8702 }
8703 }
8704 }
8705

```

8706 6.43.5 Property definition

8707 Table 89 defines the Properties that are part of the "oic.r.mediasource" Resource Type.

8708 **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.
--	--	--	--	-----------------------

8709 **6.43.6 CRUDN behaviour**

8710 Table 90 defines the CRUDN operations that are supported on the "oic.r.mediasource" Resource
8711 Type.

8712 **Table 90 – The CRUDN operations of the Resource with type "rt" = "oic.r.mediasource".**

Create	Read	Update	Delete	Notify
	get	post		observe

8713 **6.44 Media Source List**

8714 **6.44.1 Introduction**

8715 This Resource provides the list of media sources available on the Device.
8716 The sources are an array of mediaSource(s) as separately defined see Resource Type
8717 "oic.r.mediasource".

8718 The basic Resource Type "oic.r.mediasourcelist" does not provide any indications whether the
8719 source is input or output.
8720 Hence, two specializations of this resource exist.
8721 When a device exposes input sources then an instance of this resource with a Resource Type of
8722 "oic.r.media.input" is exposed.
8723 When a Device exposes output sources then an instance of this resource with a Resource Type of
8724 "oic.r.media.output" is exposed.
8725 A device that exposes both input and output media sources then exposes two instances of this
8726 resource,
8727 one with a Resource Type of "oic.r.media.input" and one with a resource type of
8728 "oic.r.media.output"
8729

8730 **6.44.2 Example URI**

8731 /mediaSourceListResURI

8732 **6.44.3 Resource type**

8733 The Resource Type is defined as: "oic.r.mediasourcelist".

8734 **6.44.4 OpenAPI 2.0 definition**

```
8735 {
8736   "swagger": "2.0",
8737   "info": {
8738     "title": "Media Source List",
8739     "version": "20190215",
8740     "license": {
8741       "name": "OCF Data Model License",
8742       "url":
8743         "https://github.com/openconnectivityfoundation/core/blob/e28a9e0a92e17042ba3e83661e4c0fbce8bdc4ba/LI
8744         CENSE.md",
8745       "x-copyright": "copyright 2016-2017, 2019 Open Connectivity Foundation, Inc. All rights
8746       reserved."
8747     },
8748     "termsOfService": "https://openconnectivityfoundation.github.io/core/DISCLAIMER.md"
8749   },
8750   "schemes": ["http"],
8751   "consumes": ["application/json"],
8752   "produces": ["application/json"],
8753   "paths": {
8754     "/mediaSourceListResURI" : {
```



```

8755     "get": {
8756         "description": "This Resource provides the list of media sources available on the
8757 Device.\n\nThe sources are an array of mediaSource(s) as separately defined see Resource Type
8758 \"oic.r.mediasource\".\n\nThe basic Resource Type \"oic.r.mediasourcelist\" does not provide any
8759 indications whether the source is input or output.\n\nHence, two specializations of this resource
8760 exist.\n\nWhen a device exposes input sources then an instance of this resource with a Resource Type
8761 of \"oic.r.media.input\" is exposed.\n\nWhen a Device exposes output sources then an instance of this
8762 resource with a Resource Type of \"oic.r.media.output\" is exposed.\n\nA device that exposes both
8763 input and output media sources then exposes two instances of this resource,\n\none with a Resource
8764 Type of \"oic.r.media.input\" and one with a resource type of \"oic.r.media.output\".\n\n",
8765         "parameters": [
8766             { "$ref": "#/parameters/interface" }
8767         ],
8768         "responses": {
8769             "200": {
8770                 "description": "",
8771                 "x-example":
8772                 {
8773                     "rt": ["oic.r.mediasourcelist"],
8774                     "if": ["oic.if.a", "oic.if.baseline"],
8775                     "sources": [
8776                         {
8777                             "sourceName": "HDMI-CEC",
8778                             "sourceNumber": "1",
8779                             "sourceType": "audioPlusVideo",
8780                             "status": true
8781                         },
8782                         {
8783                             "sourceName": "dualRCA",
8784                             "sourceNumber": "1",
8785                             "sourceType": "audioOnly",
8786                             "status": false
8787                         }
8788                     ]
8789                 },
8790                 "schema": { "$ref": "#/definitions/mediaSourceList" }
8791             }
8792         }
8793     },
8794     "post": {
8795         "description": "Changes the status of the source(s).\n\nAllows changes of the sourceName and
8796 the status. The array index at sourceNumber will be changed.",
8797         "parameters": [
8798             { "$ref": "#/parameters/interface" },
8799             {
8800                 "name": "body",
8801                 "in": "body",
8802                 "required": true,
8803                 "schema": { "$ref": "#/definitions/mediaSourceList" },
8804                 "x-example":
8805                 {
8806                     "sources": [
8807                         {
8808                             "sourceName": "my new name",
8809                             "sourceNumber": "1",
8810                             "status": true
8811                         }
8812                     ]
8813                 }
8814             }
8815         ],
8816         "responses": {
8817             "200": {
8818                 "description": "",
8819                 "x-example":
8820                 {
8821                     "sources": [
8822                         {
8823                             "sourceName": "my new name",
8824                             "sourceNumber": "1",
8825                             "status": true
8826                         }

```

```

8827         ]
8828     },
8829     "schema": { "$ref": "#/definitions/mediaSourceList" }
8830 }
8831 }
8832 }
8833 }
8834 },
8835 "parameters": {
8836     "interface": {
8837         "in": "query",
8838         "name": "if",
8839         "type": "string",
8840         "enum": ["oic.if.a", "oic.if.baseline"]
8841     }
8842 },
8843 "definitions": {
8844     "mediaSourceList" : {
8845         "properties": {
8846             "rt": {
8847                 "description": "The Resource Type.",
8848                 "items": {
8849                     "enum": ["oic.r.mediasourcelist"],
8850                     "maxLength": 64,
8851                     "type": "string"
8852                 },
8853                 "minItems": 1,
8854                 "uniqueItems": true,
8855                 "readOnly": true,
8856                 "type": "array"
8857             },
8858             "sources": {
8859                 "items": {
8860                     "properties": {
8861                         "sourceName": {
8862                             "description": "Specifies a pre-defined media input or output.",
8863                             "type": "string"
8864                         },
8865                         "sourceNumber": {
8866                             "description": "Numeric identifier to specify the instance.",
8867                             "readOnly": true,
8868                             "type": [
8869                                 "integer",
8870                                 "string"
8871                             ]
8872                         },
8873                         "sourceType": {
8874                             "description": "Specifies the type of the source.",
8875                             "enum": [
8876                                 "audioOnly",
8877                                 "videoOnly",
8878                                 "audioPlusVideo"
8879                             ],
8880                             "readOnly": true,
8881                             "type": "string"
8882                         },
8883                         "status": {
8884                             "description": "Specifies if the specific source instance is selected or not.",
8885                             "type": "boolean"
8886                         }
8887                     },
8888                     "type": "object"
8889                 },
8890                 "type": "array"
8891             },
8892             "n": {
8893                 "$ref":
8894 "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
8895 schema.json#/definitions/n"
8896             },
8897             "id": {
8898                 "$ref":

```

```

8899 "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
8900 schema.json#/definitions/id"
8901   },
8902   "if": {
8903     "description": "The OCF Interface set supported by this Resource.",
8904     "items": {
8905       "enum": [
8906         "oic.if.a",
8907         "oic.if.baseline"
8908       ],
8909       "type": "string"
8910     },
8911     "minItems": 2,
8912     "uniqueItems": true,
8913     "readOnly": true,
8914     "type": "array"
8915   }
8916 },
8917 "type": "object",
8918 "required": ["sources"]
8919 }
8920 }
8921 }
8922

```

6.44.5 Property definition

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

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

6.44.6 CRUDN behaviour

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

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

Create	Read	Update	Delete	Notify

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

8931 6.45 Media Source Input

8932 6.45.1 Introduction

8933 This resource provides the list of input media sources available on the device.
8934 The sources are an array of mediaSource(s) see Resource Type "oic.r.mediasource"
8935

8936 6.45.2 Example URI

8937 /mediaSourceInputResURI

8938 6.45.3 Resource type

8939 The Resource Type is defined as: "oic.r.media.input".

8940 6.45.4 OpenAPI 2.0 definition

```

8941 {
8942   "swagger": "2.0",
8943   "info": {
8944     "title": "Media Source Input",
8945     "version": "20190215",
8946     "license": {
8947       "name": "OCF Data Model License",
8948       "url":
8949 "https://github.com/openconnectivityfoundation/core/blob/e28a9e0a92e17042ba3e83661e4c0fbce8bdc4ba/LI
8950 CENSE.md",
8951     "x-copyright": "copyright 2016-2017, 2019 Open Connectivity Foundation, Inc. All rights
8952 reserved."
8953   },
8954   "termsOfService": "https://openconnectivityfoundation.github.io/core/DISCLAIMER.md"
8955 },
8956 "schemes": ["http"],
8957 "consumes": ["application/json"],
8958 "produces": ["application/json"],
8959 "paths": {
8960   "/mediaSourceInputResURI" : {
8961     "get": {
8962       "description": "This resource provides the list of input media sources available on the
8963 device.\n\nThe sources are an array of mediaSource(s) see Resource Type \"oic.r.mediasource\"\n\n",
8964       "parameters": [
8965         { "$ref": "#/parameters/interface" }
8966       ],
8967       "responses": {
8968         "200": {
8969           "description": "",
8970           "x-example":
8971             {
8972               "rt": ["oic.r.media.input"],
8973               "if": ["oic.if.a", "oic.if.baseline"],
8974               "sources": [
8975                 {
8976                   "sourceName": "HDMI-CEC",
8977                   "sourceNumber": "1",
8978                   "sourceType": "audioPlusVideo",
8979                   "status": true
8980                 },
8981                 {
8982                   "sourceName": "dualRCA",
8983                   "sourceNumber": "1",
8984                   "sourceType": "audioOnly",
8985                   "status": false
8986                 }
8987               ]
8988             },
8989       "schema": { "$ref": "#/definitions/mediaSourceList" }
8990     }

```

```

8991     }
8992   },
8993   "post": {
8994     "description": "Changes the status of the source(s).\nAllows changes of the sourceName and
8995 the status.The array index at sourceNumber will be changed.",
8996     "parameters": [
8997       { "$ref": "#/parameters/interface" },
8998       {
8999         "name": "body",
9000         "in": "body",
9001         "required": true,
9002         "schema": { "$ref": "#/definitions/mediaSourceList" },
9003         "x-example":
9004           {
9005             "sources": [
9006               {
9007                 "sourceName": "my new name",
9008                 "sourceNumber": "1",
9009                 "status": true
9010               }
9011             ]
9012           }
9013       }
9014     ],
9015     "responses": {
9016       "200": {
9017         "description": "",
9018         "x-example":
9019           {
9020             "sources": [
9021               {
9022                 "sourceName": "my new name",
9023                 "sourceNumber": "1",
9024                 "status": true
9025               }
9026             ]
9027           }
9028       },
9029       "schema": { "$ref": "#/definitions/mediaSourceList" }
9030     }
9031   }
9032 }
9033 },
9034 "parameters": {
9035   "interface": {
9036     "in": "query",
9037     "name": "if",
9038     "type": "string",
9039     "enum": ["oic.if.a", "oic.if.baseline"]
9040   }
9041 },
9042 "definitions": {
9043   "mediaSourceList": {
9044     "properties": {
9045       "rt": {
9046         "description": "Resource Type",
9047         "items": {
9048           "enum": ["oic.r.media.input"],
9049           "maxLength": 64,
9050           "type": "string"
9051         },
9052       },
9053       "minItems": 1,
9054       "uniqueItems": true,
9055       "readOnly": true,
9056       "type": "array"
9057     },
9058     "sources": {
9059       "items": {
9060         "properties": {
9061           "sourceName": {
9062             "description": "Specifies a pre-defined media input or output",

```

```

9063         "type": "string"
9064     },
9065     "sourceNumber": {
9066         "description": "Numeric identifier to specify the instance",
9067         "readOnly": true,
9068         "type": [
9069             "integer",
9070             "string"
9071         ]
9072     },
9073     "sourceType": {
9074         "description": "Specifies the type of the source",
9075         "enum": [
9076             "audioOnly",
9077             "videoOnly",
9078             "audioPlusVideo"
9079         ],
9080         "readOnly": true,
9081         "type": "string"
9082     },
9083     "status": {
9084         "description": "Specifies if the specific source instance is selected or not",
9085         "type": "boolean"
9086     }
9087 },
9088 "type": "object"
9089 },
9090 "type": "array"
9091 },
9092 "n": {
9093     "$ref":
9094     "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
9095     schema.json#/definitions/n"
9096 },
9097 "id": {
9098     "$ref":
9099     "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
9100     schema.json#/definitions/id"
9101 },
9102 "if": {
9103     "description": "The interface set supported by this resource",
9104     "items": {
9105         "enum": [
9106             "oic.if.a",
9107             "oic.if.baseline"
9108         ],
9109         "type": "string"
9110     },
9111     "minItems": 2,
9112     "uniqueItems": true,
9113     "readOnly": true,
9114     "type": "array"
9115 }
9116 },
9117 "type": "object",
9118 "required": ["sources"]
9119 }
9120 }
9121 }
9122

```

6.45.5 Property definition

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

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

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

rt	array: see schema	No	Read Only	Resource Type
sources	array: see schema	Yes	Read Write	
n	multiple types: see schema	No	Read Write	
if	array: see schema	No	Read Only	The interface set supported by this resource
id	multiple types: see schema	No	Read Write	

9126 **6.45.6 CRUDN behaviour**

9127 Table 94 defines the CRUDN operations that are supported on the "oic.r.media.input" Resource
9128 Type.

9129 **Table 94 – The CRUDN operations of the Resource with type "rt" = "oic.r.media.input".**

Create	Read	Update	Delete	Notify
	get	post		observe

9130 **6.46 Media Source Output**

9131 **6.46.1 Introduction**

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

9134 **6.46.2 Example URI**

9135 /mediaSourceOutputResURI

9136 **6.46.3 Resource type**

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

9138 **6.46.4 OpenAPI 2.0 definition**

```
9139 {
9140   "swagger": "2.0",
9141   "info": {
9142     "title": "Media Source Output",
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         "/mediaSourceOutputResURI" : {
9159             "get": {
9160                 "description": "This resource provides the list of output media sources available on the
9161 device.\nThe sources are an array of mediaSource(s) see Resource Type \"oic.r.mediasource\"",
9162                 "parameters": [
9163                     { "$ref": "#/parameters/interface" }
9164                 ],
9165                 "responses": {
9166                     "200": {
9167                         "description": "",
9168                         "x-example":
9169                             {
9170                                 "rt": ["oic.r.media.output"],
9171                                 "if": ["oic.if.a", "oic.if.baseline"],
9172                                 "sources": [
9173                                     {
9174                                         "sourceName": "HDMI-CEC",
9175                                         "sourceNumber": "1",
9176                                         "sourceType": "audioPlusVideo",
9177                                         "status": true
9178                                     },
9179                                     {
9180                                         "sourceName": "dualRCA",
9181                                         "sourceNumber": "1",
9182                                         "sourceType": "audioOnly",
9183                                         "status": false
9184                                     }
9185                                 ]
9186                             },
9187                 "schema": { "$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             "schema": { "$ref": "#/definitions/mediaSourceList" }
9227         }

```



```

9228     }
9229   }
9230 }
9231 },
9232 "parameters": {
9233   "interface" : {
9234     "in" : "query",
9235     "name" : "if",
9236     "type" : "string",
9237     "enum" : ["oic.if.a", "oic.if.baseline"]
9238   }
9239 },
9240 "definitions": {
9241   "mediaSourceList" : {
9242     "properties": {
9243       "rt": {
9244         "description": "Resource Type",
9245         "items": {
9246           "enum": ["oic.r.media.output"],
9247           "maxLength": 64,
9248           "type": "string"
9249         },
9250         "minItems": 1,
9251         "uniqueItems": true,
9252         "readOnly": true,
9253         "type": "array"
9254       },
9255       "sources": {
9256         "items": {
9257           "properties": {
9258             "sourceName": {
9259               "description": "Specifies a pre-defined media input or output.",
9260               "type": "string"
9261             },
9262             "sourceNumber": {
9263               "description": "Numeric identifier to specify the instance.",
9264               "readOnly": true,
9265               "type": [
9266                 "integer",
9267                 "string"
9268               ]
9269             },
9270             "sourceType": {
9271               "description": "Specifies the type of the source.",
9272               "enum": [
9273                 "audioOnly",
9274                 "videoOnly",
9275                 "audioPlusVideo"
9276               ],
9277               "readOnly": true,
9278               "type": "string"
9279             },
9280             "status": {
9281               "description": "Specifies if the specific source instance is selected or not.",
9282               "type": "boolean"
9283             }
9284           },
9285           "type": "object"
9286         },
9287         "type": "array"
9288       },
9289       "n": {
9290         "$ref":
9291         "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
9292         schema.json#/definitions/n"
9293       },
9294       "id": {
9295         "$ref":
9296         "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
9297         schema.json#/definitions/id"
9298       },
9299       "if": {

```

```

9300     "description": "The OCF Interface set supported by this Resource.",
9301     "items": {
9302         "enum": [
9303             "oic.if.a",
9304             "oic.if.baseline"
9305         ],
9306         "type": "string"
9307     },
9308     "minItems": 2,
9309     "uniqueItems": true,
9310     "readOnly": true,
9311     "type": "array"
9312 }
9313 },
9314 "type": "object",
9315 "required": ["sources"]
9316 }
9317 }
9318 }
9319

```

6.46.5 Property definition

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

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.

6.46.6 CRUDN behaviour

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

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

Create	Read	Update	Delete	Notify
	get	post		observe

9327 **6.47 Motion Sensor**

9328 **6.47.1 Introduction**

9329 This Resource describes whether motion has been sensed or not.
9330 The Property "value" is a boolean.
9331 A value of 'true' means that motion has been sensed.
9332 A value of 'false' means that motion not been sensed.
9333

9334 **6.47.2 Example URI**

9335 /MotionResURI

9336 **6.47.3 Resource type**

9337 The Resource Type is defined as: "oic.r.sensor.motion".

9338 **6.47.4 OpenAPI 2.0 definition**

```
9339 {
9340   "swagger": "2.0",
9341   "info": {
9342     "title": "Motion Sensor",
9343     "version": "20190215",
9344     "license": {
9345       "name": "OCF Data Model License",
9346       "url":
9347         "https://github.com/openconnectivityfoundation/core/blob/e28a9e0a92e17042ba3e83661e4c0fbce8bdc4ba/LI
9348         CENSE.md",
9349       "x-copyright": "copyright 2016-2017, 2019 Open Connectivity Foundation, Inc. All rights
9350         reserved."
9351     },
9352     "termsOfService": "https://openconnectivityfoundation.github.io/core/DISCLAIMER.md"
9353   },
9354   "schemes": ["http"],
9355   "consumes": ["application/json"],
9356   "produces": ["application/json"],
9357   "paths": {
9358     "/MotionResURI" : {
9359       "get": {
9360         "description": "This Resource describes whether motion has been sensed or not.\n\nThe Property
9361         \"value\" is a boolean.\n\nA value of 'true' means that motion has been sensed.\n\nA value of 'false'
9362         means that motion not been sensed.\n\n",
9363         "parameters": [
9364           { "$ref": "#/parameters/interface" }
9365         ],
9366         "responses": {
9367           "200": {
9368             "description": "",
9369             "x-example":
9370               {
9371                 "rt": ["oic.r.sensor.motion"],
9372                 "if": ["oic.if.s", "oic.if.baseline"],
9373                 "value": true
9374               },
9375             "schema": { "$ref": "#/definitions/Motion" }
9376           }
9377         }
9378       }
9379     }
9380   },
9381   "parameters": {
9382     "interface" : {
9383       "in": "query",
9384       "name": "if",
9385       "type": "string",
9386       "enum": ["oic.if.s", "oic.if.baseline"]
9387     }
9388   },
9389   "definitions": {
```

```

9390     "Motion" : {
9391         "properties": {
9392             "rt": {
9393                 "description": "The Resource Type.",
9394                 "items": {
9395                     "enum": ["oic.r.sensor.motion"],
9396                     "maxLength": 64,
9397                     "type": "string"
9398                 },
9399                 "minItems": 1,
9400                 "uniqueItems": true,
9401                 "readOnly": true,
9402                 "type": "array"
9403             },
9404             "value": {
9405                 "description": "The motion sensor, true = motion sensed, false = motion not sensed.",
9406                 "readOnly": true,
9407                 "type": "boolean"
9408             },
9409             "n": {
9410                 "$ref":
9411                 "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
9412                 schema.json#/definitions/n"
9413             },
9414             "id": {
9415                 "$ref":
9416                 "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
9417                 schema.json#/definitions/id"
9418             },
9419             "if": {
9420                 "description": "The OCF Interface set supported by this Resource.",
9421                 "items": {
9422                     "enum": [
9423                         "oic.if.s",
9424                         "oic.if.baseline"
9425                     ],
9426                     "type": "string"
9427                 },
9428                 "minItems": 2,
9429                 "uniqueItems": true,
9430                 "readOnly": true,
9431                 "type": "array"
9432             }
9433         },
9434         "type": "object",
9435         "required": ["value"]
9436     }
9437 }
9438 }
9439

```

9440 6.47.5 Property definition

9441 Table 97 defines the Properties that are part of the "oic.r.sensor.motion" Resource Type.

9442 **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	

9443 **6.47.6 CRUDN behaviour**

9444 Table 98 defines the CRUDN operations that are supported on the "oic.r.sensor.motion" Resource
9445 Type.

9446 **Table 98 – The CRUDN operations of the Resource with type "rt" = "oic.r.sensor.motion".**

Create	Read	Update	Delete	Notify
	get			observe

9447 **6.48 Night Mode**

9448 **6.48.1 Introduction**

9449 This Resource describes a night mode on/off feature.
9450 A nightMode value of 'true' means that the feature is on.
9451 A nightMode value of 'false' means that the feature is off.

9452 **6.48.2 Example URI**

9453 /NightModeResURI

9454 **6.48.3 Resource type**

9455 The Resource Type is defined as: "oic.r.nightmode".

9456 **6.48.4 OpenAPI 2.0 definition**

```
9457 {
9458   "swagger": "2.0",
9459   "info": {
9460     "title": "Night Mode",
9461     "version": "20190215",
9462     "license": {
9463       "name": "OCF Data Model License",
9464       "url":
9465         "https://github.com/openconnectivityfoundation/core/blob/e28a9e0a92e17042ba3e83661e4c0fbce8bdc4ba/LI
9466         CENSE.md",
9467       "x-copyright": "copyright 2016-2017, 2019 Open Connectivity Foundation, Inc. All rights
9468         reserved."
9469     },
9470     "termsOfService": "https://openconnectivityfoundation.github.io/core/DISCLAIMER.md"
9471   },
9472   "schemes": ["http"],
9473   "consumes": ["application/json"],
9474   "produces": ["application/json"],
9475   "paths": {
9476     "/NightModeResURI" : {
9477       "get": {
9478         "description": "This Resource describes a night mode on/off feature.\nA nightMode value of
```

```

9479 'true' means that the feature is on.\nA nightMode value of 'false' means that the feature is off.",
9480     "parameters": [
9481       {"$ref": "#/parameters/interface"}
9482     ],
9483     "responses": {
9484       "200": {
9485         "description": "",
9486         "x-example":
9487           {
9488             "rt": ["oic.r.nightmode"],
9489             "if": ["oic.if.a", "oic.if.baseline"],
9490             "nightMode": false
9491           },
9492         "schema": { "$ref": "#/definitions/NightMode" }
9493       }
9494     }
9495   },
9496   "post": {
9497     "description": "",
9498     "parameters": [
9499       {"$ref": "#/parameters/interface"},
9500       {
9501         "name": "body",
9502         "in": "body",
9503         "required": true,
9504         "schema": { "$ref": "#/definitions/NightMode" },
9505         "x-example":
9506           {
9507             "nightMode": true
9508           }
9509       }
9510     ],
9511     "responses": {
9512       "200": {
9513         "description": "",
9514         "x-example":
9515           {
9516             "nightMode": true
9517           },
9518         "schema": { "$ref": "#/definitions/NightMode" }
9519       }
9520     }
9521   }
9522 },
9523 "parameters": {
9524   "interface": {
9525     "in": "query",
9526     "name": "if",
9527     "type": "string",
9528     "enum": ["oic.if.a", "oic.if.baseline"]
9529   }
9530 },
9531 "definitions": {
9532   "NightMode": {
9533     "properties": {
9534       "rt": {
9535         "description": "The Resource Type.",
9536         "items": {
9537           "enum": ["oic.r.nightmode"],
9538           "maxLength": 64,
9539           "type": "string"
9540         },
9541         "minItems": 1,
9542         "uniqueItems": true,
9543         "readOnly": true,
9544         "type": "array"
9545       },
9546       "nightMode": {
9547         "description": "The status of the Night Mode.",
9548         "type": "boolean"
9549       }
9550     }
9551   }

```

```

9551     "n": {
9552         "$ref":
9553         "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
9554         schema.json#/definitions/n"
9555     },
9556     "id": {
9557         "$ref":
9558         "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
9559         schema.json#/definitions/id"
9560     },
9561     "if": {
9562         "description": "The OCF Interface set supported by this Resource.",
9563         "items": {
9564             "enum": [
9565                 "oic.if.a",
9566                 "oic.if.baseline"
9567             ],
9568             "type": "string"
9569         },
9570         "minItems": 2,
9571         "uniqueItems": true,
9572         "readOnly": true,
9573         "type": "array"
9574     }
9575 },
9576 "type": "object",
9577 "required": ["nightMode"]
9578 }
9579 }
9580 }
9581

```

9582 **6.48.5 Property definition**

9583 Table 99 defines the Properties that are part of the "oic.r.nightmode" Resource Type.

9584 **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	

9585 **6.48.6 CRUDN behaviour**

9586 Table 100 defines the CRUDN operations that are supported on the "oic.r.nightmode" Resource
9587 Type.

9588 **Table 100 – The CRUDN operations of the Resource with type "rt" = "oic.r.nightmode".**

Create	Read	Update	Delete	Notify
	get	post		observe

9589 **6.49 Presence Sensor**

9590 **6.49.1 Introduction**

9591 This Resource describes whether presence has been sensed or not.
 9592 The Property "value" is a boolean.
 9593 A value of 'true' means that presence has been sensed.
 9594 A value of 'false' means that presence not been sensed.

9595 **6.49.2 Example URI**

9596 /PresenceResURI

9597 **6.49.3 Resource type**

9598 The Resource Type is defined as: "oic.r.sensor.presence".

9599 **6.49.4 OpenAPI 2.0 definition**

```

9600 {
9601   "swagger": "2.0",
9602   "info": {
9603     "title": "Presence Sensor",
9604     "version": "20190215",
9605     "license": {
9606       "name": "OCF Data Model License",
9607       "url":
9608         "https://github.com/openconnectivityfoundation/core/blob/e28a9e0a92e17042ba3e83661e4c0fbce8bdc4ba/LI
9609         CENSE.md",
9610       "x-copyright": "copyright 2016-2017, 2019 Open Connectivity Foundation, Inc. All rights
9611         reserved."
9612     },
9613     "termsOfService": "https://openconnectivityfoundation.github.io/core/DISCLAIMER.md"
9614   },
9615   "schemes": ["http"],
9616   "consumes": ["application/json"],
9617   "produces": ["application/json"],
9618   "paths": {
9619     "/PresenceResURI" : {
9620       "get": {
9621         "description": "This Resource describes whether presence has been sensed or not.\nThe
9622         Property \"value\" is a boolean.\nA value of 'true' means that presence has been sensed.\nA value of
9623         'false' means that presence not been sensed.",
9624         "parameters": [
9625           {"$ref": "#/parameters/interface"}
9626         ],
9627         "responses": {
9628           "200": {
9629             "description": "",
9630             "x-example":
9631               {
9632                 "rt": ["oic.r.sensor.presence"],
9633                 "if": ["oic.if.s", "oic.if.baseline"],
9634                 "value": true
9635               },
9636             "schema": { "$ref": "#/definitions/Presence" }
9637           }
9638         }
9639       }
9640     }
9641   },
9642   "parameters": {

```



```

9643     "interface": {
9644         "in": "query",
9645         "name": "if",
9646         "type": "string",
9647         "enum": ["oic.if.s", "oic.if.baseline"]
9648     }
9649 },
9650 "definitions": {
9651     "Presence": {
9652         "properties": {
9653             "rt": {
9654                 "description": "The Resource Type.",
9655                 "items": {
9656                     "enum": ["oic.r.sensor.presence"],
9657                     "maxLength": 64,
9658                     "type": "string"
9659                 },
9660                 "minItems": 1,
9661                 "uniqueItems": true,
9662                 "readOnly": true,
9663                 "type": "array"
9664             },
9665             "value": {
9666                 "description": "The presences sensor, true = precense sensed, false = precensenot
9667 sensed.",
9668                 "readOnly": true,
9669                 "type": "boolean"
9670             },
9671             "n": {
9672                 "$ref":
9673 "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
9674 schema.json#/definitions/n"
9675             },
9676             "id": {
9677                 "$ref":
9678 "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
9679 schema.json#/definitions/id"
9680             },
9681             "if": {
9682                 "description": "The OCF Interface set supported by this Resource.",
9683                 "items": {
9684                     "enum": [
9685                         "oic.if.s",
9686                         "oic.if.baseline"
9687                     ],
9688                     "type": "string"
9689                 },
9690                 "minItems": 2,
9691                 "uniqueItems": true,
9692                 "readOnly": true,
9693                 "type": "array"
9694             }
9695         },
9696         "type": "object",
9697         "required": ["value"]
9698     }
9699 }
9700 }
9701

```

9702 6.49.5 Property definition

9703 Table 101 defines the Properties that are part of the "oic.r.sensor.presence" Resource Type.

9704 **Table 101 – The Property definitions of the Resource with type "rt" =**
9705 **"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	

9706 **6.49.6 CRUDN behaviour**

9707 Table 102 defines the CRUDN operations that are supported on the "oic.r.sensor.presence"
9708 Resource Type.

9709 **Table 102 – The CRUDN operations of the Resource with type "rt" =**
9710 **"oic.r.sensor.presence".**

Create	Read	Update	Delete	Notify
	get			observe

9711 **6.50 Pan Tilt Zoom Movement**

9712 **6.50.1 Introduction**

9713 This Resource specifies the pan tilt and zoom capabilities of a device.
9714 The Resource Type is dynamic and reflects whether the values apply to
9715 physical movement of the device or digital/virtual enhancements to the image.
9716 For physical movement the Resource Type is "oic.r.movement.ptz".
9717 For digital/virtual image enhancements the Resource Type is "oic.r.image.ptz".
9718 The Properties "pan" and "tilt" are specified in degrees.
9719 The Property "zoomFactor" is a value in the range 1-100 for linear (optical) zoom.
9720 The zoom factor is a value in the range [1x, 2x, 4x, 8x, 16x, 32x] for digital zoom.
9721 If there is no zoom value to set the zoom factor shall be '1x'.
9722 The value 0 degrees means neutral, this is a vendor defined setting.
9723 Note that this resource also can be used to create an offset for physical movement.
9724 When that is the case, the Resource Type value is: "oic.r.movement.offset.ptz"
9725 Note that this resource also can be used to create an offset for image movement.
9726 When that is the case, the Resource Type value is: "oic.r.image.offset.ptz".
9727 When the Property "pan_range" value is omitted, then the range is [-180.0,180.0].
9728 If "pan" is not supported then the range shall be [0.0,0.0]
9729 When the Property "tilt_range" value is omitted, then the range is [-180.0,180.0].
9730 If "tilt" is not supported then the range shall be [0.0,0.0].

9731 **6.50.2 Example URI**

9732 /PanTiltZoomResURI

9733 **6.50.3 Resource type**

9734 The Resource Type is defined as: "oic.r.ptz".

9735 **6.50.4 OpenAPI 2.0 definition**

```
9736 {
9737   "swagger": "2.0",
9738   "info": {
9739     "title": "Pan Tilt Zoom Movement",
9740     "version": "20190215",
9741     "license": {
9742       "name": "OCF Data Model License",
9743       "url":
9744         "https://github.com/openconnectivityfoundation/core/blob/e28a9e0a92e17042ba3e83661e4c0fbce8bdc4ba/LI
9745         CENSE.md",
9746       "x-copyright": "copyright 2016-2017, 2019 Open Connectivity Foundation, Inc. All rights
9747         reserved."
9748     },
9749     "termsOfService": "https://openconnectivityfoundation.github.io/core/DISCLAIMER.md"
9750   },
9751   "schemes": ["http"],
9752   "consumes": ["application/json"],
9753   "produces": ["application/json"],
9754   "paths": {
9755     "/PanTiltZoomResURI" : {
9756       "get": {
9757         "description": "This Resource specifies the pan tilt and zoom capabilities of a device.\nThe
9758         Resource Type is dynamic and reflects whether the values apply to\n physical movement of the device
9759         or digital/virtual enhancements to the image.\nFor physical movement the Resource Type is
9760         \"oic.r.movement.ptz\".\nFor digital/virtual image enhancements the Resource Type is
9761         \"oic.r.image.ptz\".\n\nThe Properties \"pan\" and \"tilt\" are specified in degrees.\n\nThe Property
9762         \"zoomFactor\" is a value in the range 1-100 for linear (optical) zoom.\n\nThe zoom factor is a value
9763         in the range [1x, 2x, 4x, 8x, 16x, 32x] for digital zoom.\n\nIf there is no zoom value to set the zoom
9764         factor shall be '1x'.\n\nThe value 0 degrees means neutral, this is a vendor defined setting.\n\nNote
9765         that this resource also can be used to create an offset for physical movement.\n\nWhen that is the
9766         case, the Resource Type value is: \"oic.r.movement.offset.ptz\".\n\nNote that this resource also can be
9767         used to create an offset for image movement.\n\nWhen that is the case, the Resource Type value is:
9768         \"oic.r.image.offset.ptz\".\n\nWhen the Property \"pan_range\" value is omitted, then the range is [-
9769         180.0,180.0].\n\nIf \"pan\" is not supported then the range shall be [0.0,0.0]\n\nWhen the Property
9770         \"tilt_range\" value is omitted, then the range is [-180.0,180.0].\n\nIf \"tilt\" is not supported
9771         then the range shall be [0.0,0.0].",
9772         "parameters": [
9773           { "$ref": "#/parameters/interface" }
9774         ],
9775         "responses": {
9776           "200": {
9777             "description": "Retrieves the current pan, tilt and zoom setting.",
9778             "x-example":
9779               {
9780                 "rt": ["oic.r.ptz"],
9781                 "if": ["oic.if.a", "oic.if.baseline"],
9782                 "pan": 0.0,
9783                 "tilt": 0.0,
9784                 "zoomFactor": "2x"
9785               },
9786             "schema": { "$ref": "#/definitions/PanTiltZoom" }
9787           }
9788         }
9789       },
9790       "post": {
9791         "description": "Sets the current pan, tilt and zoom value.",
9792         "parameters": [
9793           { "$ref": "#/parameters/interface" },
9794           {
9795             "name": "body",
9796             "in": "body",
9797             "required": true,
```

```

9798         "schema": { "$ref": "#/definitions/PanTiltZoom" },
9799         "x-example":
9800         {
9801             "pan": 10.0,
9802             "tilt": -10.0,
9803             "zoomFactor": "4x"
9804         }
9805     },
9806 ],
9807 "responses": {
9808     "200": {
9809         "description": "",
9810         "x-example":
9811         {
9812             "pan": 10.0,
9813             "tilt": -10.0,
9814             "zoomFactor": "4x"
9815         },
9816         "schema": { "$ref": "#/definitions/PanTiltZoom" }
9817     }
9818 }
9819 }
9820 },
9821 },
9822 "parameters": {
9823     "interface": {
9824         "in": "query",
9825         "name": "if",
9826         "type": "string",
9827         "enum": ["oic.if.a", "oic.if.baseline"]
9828     }
9829 },
9830 "definitions": {
9831     "PanTiltZoom": {
9832         "properties": {
9833             "rt": {
9834                 "description": "The Resource Type.",
9835                 "items": {
9836                     "enum": ["oic.r.ptz"],
9837                     "maxLength": 64,
9838                     "type": "string"
9839                 },
9840                 "minItems": 1,
9841                 "uniqueItems": true,
9842                 "readOnly": true,
9843                 "type": "array"
9844             },
9845             "tilt_range": {
9846                 "$ref":
9847 "https://openconnectivityfoundation.github.io/IoTDataModels/schemas/oic.baseresource.properties-
9848 schema.json#/definitions/range_number"
9849             },
9850             "zoomFactor": {
9851                 "description": "The zoom factor value.",
9852                 "type": "string"
9853             },
9854             "tilt": {
9855                 "description": "The vertical tilt in degrees.",
9856                 "type": "number"
9857             },
9858             "precision": {
9859                 "$ref":
9860 "https://openconnectivityfoundation.github.io/IoTDataModels/schemas/oic.baseresource.properties-
9861 schema.json#/definitions/precision"
9862             },
9863             "pan_range": {
9864                 "$ref":
9865 "https://openconnectivityfoundation.github.io/IoTDataModels/schemas/oic.baseresource.properties-
9866 schema.json#/definitions/range_number"
9867             },
9868             "zoomFactorRange": {
9869                 "description": "The allowed Zoom Factor values. Linear equates to a 1-100 min/max.",

```

```

9870         "enum": [
9871             "linear",
9872             "1x",
9873             "2x",
9874             "4x",
9875             "8x",
9876             "16x",
9877             "32x"
9878         ],
9879         "readOnly": true,
9880         "type": "string"
9881     },
9882     "pan": {
9883         "description": "The horizontal pan in degrees.",
9884         "type": "number"
9885     },
9886     "n": {
9887         "$ref":
9888         "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
9889         schema.json#/definitions/n"
9890     },
9891     "id": {
9892         "$ref":
9893         "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
9894         schema.json#/definitions/id"
9895     },
9896     "if": {
9897         "description": "The OCF Interface set supported by this Resource.",
9898         "items": {
9899             "enum": [
9900                 "oic.if.a",
9901                 "oic.if.baseline"
9902             ],
9903             "type": "string"
9904         },
9905         "minItems": 2,
9906         "uniqueItems": true,
9907         "readOnly": true,
9908         "type": "array"
9909     }
9910 },
9911 "type": "object",
9912 "required": ["pan", "tilt", "zoomFactor"]
9913 }
9914 }
9915 }
9916

```

9917 **6.50.5 Property definition**

9918 Table 103 defines the Properties that are part of the "oic.r.ptz" Resource Type.

9919 **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	

9920 **6.50.6 CRUDN behaviour**

9921 Table 104 defines the CRUDN operations that are supported on the "oic.r.ptz" Resource Type.

9922 **Table 104 – The CRUDN operations of the Resource with type "rt" = "oic.r.ptz".**

Create	Read	Update	Delete	Notify
	get	post		observe

9923 **6.51 Signal Strength**

9924 **6.51.1 Introduction**

9925 This Resource describes the strength of a signal by means of lqi and rssi.
 9926 The Property "lqi" is a floating point number that represents Link Quality Indicator.
 9927 The Property "rssi" is a floating point number that represents the received signal strength indicator.

9928 **6.51.2 Example URI**

9929 /SignalStrengthResURI

9930 **6.51.3 Resource type**

9931 The Resource Type is defined as: "oic.r.signalstrength".

9932 6.51.4 OpenAPI 2.0 definition

```
9933 {
9934   "swagger": "2.0",
9935   "info": {
9936     "title": "Signal Strength",
9937     "version": "20190215",
9938     "license": {
9939       "name": "OCF Data Model License",
9940       "url":
9941         "https://github.com/openconnectivityfoundation/core/blob/e28a9e0a92e17042ba3e83661e4c0fbce8bdc4ba/LI
9942         CENSE.md",
9943       "x-copyright": "copyright 2016-2017, 2019 Open Connectivity Foundation, Inc. All rights
9944         reserved."
9945     },
9946     "termsOfService": "https://openconnectivityfoundation.github.io/core/DISCLAIMER.md"
9947   },
9948   "schemes": ["http"],
9949   "consumes": ["application/json"],
9950   "produces": ["application/json"],
9951   "paths": {
9952     "/SignalStrengthResURI" : {
9953       "get": {
9954         "description": "This Resource describes the strength of a signal by means of lqi and
9955         rssi.\n\nThe Property \"lqi\" is a floating point number that represents Link Quality Indicator.\n\nThe
9956         Property \"rssi\" is a floating point number that represents the received signal strength
9957         indicator.",
9958         "parameters": [
9959           { "$ref": "#/parameters/interface" }
9960         ],
9961         "responses": {
9962           "200": {
9963             "description": "",
9964             "x-example":
9965               {
9966                 "rt": ["oic.r.signalstrength"],
9967                 "if": ["oic.if.s", "oic.if.baseline"],
9968                 "lqi": 10.0,
9969                 "rssi": 55.0
9970               }
9971           },
9972           "schema": { "$ref": "#/definitions/SignalStrength" }
9973         }
9974       }
9975     }
9976   },
9977   "parameters": {
9978     "interface": {
9979       "in": "query",
9980       "name": "if",
9981       "type": "string",
9982       "enum": ["oic.if.s", "oic.if.baseline"]
9983     }
9984   },
9985   "definitions": {
9986     "SignalStrength" : {
9987       "properties": {
9988         "rt": {
9989           "description": "The Resource Type.",
9990           "items": {
9991             "enum": ["oic.r.signalstrength"],
9992             "maxLength": 64,
9993             "type": "string"
9994           },
9995           "minItems": 1,
9996           "uniqueItems": true,
9997           "readOnly": true,
9998           "type": "array"
9999         },
10000         "lqi": {
10001           "description": "The current value of Link Quality Indicator.",
```

```

10003         "readOnly": true,
10004         "type": "number"
10005     },
10006     "rssi": {
10007         "description": "The current value of Received Signal Strength Indicator.",
10008         "readOnly": true,
10009         "type": "number"
10010     },
10011     "n": {
10012         "$ref":
10013         "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
10014         schema.json#/definitions/n"
10015     },
10016     "id": {
10017         "$ref":
10018         "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
10019         schema.json#/definitions/id"
10020     },
10021     "if": {
10022         "description": "The OCF Interface set supported by this Resource.",
10023         "items": {
10024             "enum": [
10025                 "oic.if.s",
10026                 "oic.if.baseline"
10027             ],
10028             "type": "string"
10029         },
10030         "minItems": 2,
10031         "uniqueItems": true,
10032         "readOnly": true,
10033         "type": "array"
10034     }
10035 },
10036 "type": "object",
10037 "required": ["lqi", "rssi"]
10038 }
10039 }
10040 }
10041

```

10042 **6.51.5 Property definition**

10043 Table 105 defines the Properties that are part of the "oic.r.signalstrength" Resource Type.

10044 **Table 105 – The Property definitions of the Resource with type "rt" = "oic.r.signalstrength".**

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

rt	array: see schema	No	Read Only	The Resource Type.
rsssi	number	Yes	Read Only	The current value of Received Signal Strength Indicator.

10045 **6.51.6 CRUDN behaviour**

10046 Table 106 defines the CRUDN operations that are supported on the "oic.r.signalstrength" Resource
 10047 Type.

10048 **Table 106 – The CRUDN operations of the Resource with type "rt" = "oic.r.signalstrength".**

Create	Read	Update	Delete	Notify
	get			observe

10049 **6.52 Speech Synthesis-TTS**

10050 **6.52.1 Introduction**

10051 This Resource may be created on the OCF Server that is capable of rendering speech by an OCF
 10052 Client and allows the client to provide an SSML document with text to render
 10053 or may be created on the OIC Server by some resident application.
 10054 The audio rendered is at this stage local to the Server (i.e. not streamed).
 10055 The utterance is an SSML document.
 10056 The supportedLanguages is an array of the RFC5646 defined language tags that are supported.
 10057 The supportedVoices is an SSML document fragment indicating the voices that are supported.
 10058 Utterance in the example shall be a properly escaped (JSON rules) SSML document. An example:
 10059 "<?xml version="1.0" encoding="ISO-8859-1"?>

10060
 10061
 10062 <speak version="1.1" xmlns="http://www.w3.org/2001/10/synthesis"

10063
 10064
 10065 xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"

10066
 10067
 10068 xsi:schemaLocation="http://www.w3.org/2001/10/synthesis

10069
 10070
 10071 http://www.w3.org/TR/speech-synthesis11/synthesis.xsd"

10072
 10073
 10074 xml:lang="en-US">

10075
 10076
 10077
 10078
 10079
 10080 The title of the movie is:

10081
 10082

10083 "Monty Pythons The Meaning of Life"
 10084
 10085
 10086 which is directed by Terry Jones.
 10087
 10088
 10089 </speak"
 10090

10091 6.52.2 Example URI

10092 /SpeechTTSResURI

10093 6.52.3 Resource type

10094 The Resource Type is defined as: "oic.r.speech.tts".

10095 6.52.4 OpenAPI 2.0 definition

```

10096 {
10097   "swagger": "2.0",
10098   "info": {
10099     "title": "Speech Synthesis-TTS",
10100     "version": "20190215",
10101     "license": {
10102       "name": "OCF Data Model License",
10103       "url":
10104         "https://github.com/openconnectivityfoundation/core/blob/e28a9e0a92e17042ba3e83661e4c0fbce8bdc4ba/LI
10105         CENSE.md",
10106       "x-copyright": "copyright 2016-2017, 2019 Open Connectivity Foundation, Inc. All rights
10107         reserved."
10108     },
10109     "termsOfService": "https://openconnectivityfoundation.github.io/core/DISCLAIMER.md"
10110   },
10111   "schemes": ["http"],
10112   "consumes": ["application/json"],
10113   "produces": ["application/json"],
10114   "paths": {
10115     "/SpeechTTSResURI" : {
10116       "get": {
10117         "description": "This Resource may be created on the OCF Server that is capable of rendering
10118         speech by an OCF Client and allows the client to provide an SSML document with text to render\n or
10119         may be created on the OIC Server by some resident application.\nThe audio rendered is at this stage
10120         local to the Server (i.e. not streamed).\nThe utterance is an SSML document.\nThe supportedLanguages
10121         is an array of the RFC5646 defined language tags that are supported.\nThe supportedVoices is an SSML
10122         document fragment indicating the voices that are supported.\nUtterance in the example shall be a
10123         properly escaped (JSON rules) SSML document. An example:\n \n<?xml version=\n"1.0\n" encoding=\n"ISO-
10124         8859-1\n"?>\n\r\n <speak version=\n"1.1\n" xmlns=\n"http://\nwww.w3.org\n/2001\n/10\n/synthesis\n"\n\r\n
10125         \txmlns:xsi=\n"http://\nwww.w3.org\n/2001\n/XMLSchema-instance\n"\n\r\n
10126         \txsi:schemaLocation=\n"http://\nwww.w3.org\n/2001\n/10\n/synthesis\n"\n\r\n
10127         \thttp://\nwww.w3.org\n/TR\n/speech-synthesis11\n/synthesis.xsd\n"\n\r\n \txml:lang=\n"en-US\n">\n\r\n
10128         \n\r\n \tThe title of the movie is:\n\r\n \t\n\tMonty Pythons The Meaning of Life\n"\n\r\n \twhich
10129         is directed by Terry Jones.\n\r\n </speak\n"\n",
10130         "parameters": [
10131           { "$ref": "#/parameters/interface" }
10132         ],
10133         "responses": {
10134           "200": {
10135             "description": "",
10136             "x-example":
10137               {
10138                 "rt": ["oic.r.speech.tts"],
10139                 "if": ["oic.if.a", "oic.if.baseline"],
10140                 "utterance": "Strange women lying in ponds distributing swords is no basis for a
10141                 system of government.",
10142                 "supportedLanguages": ["en-US", "en-GB", "fr-CA"],
10143                 "supportedVoices": "<voice gender=\n"female\n" variant=\n"2\n">\n\r\n<voice
10144                 name=\n"Mike\n">\n\r\n</voice>"
10145               },
10146           "schema": { "$ref": "#/definitions/Speech" }

```

```

10147     }
10148   },
10149 },
10150 "post": {
10151   "description": "Changes the utterance being rendered.\nExample shows a change in language
10152 selected.\n",
10153   "parameters": [
10154     { "$ref": "#/parameters/interface" },
10155     {
10156       "name": "body",
10157       "in": "body",
10158       "required": true,
10159       "schema": { "$ref": "#/definitions/Speech" },
10160       "x-example":
10161         {
10162           "utterance": "Alright, but apart from the sanitation, the medicine, education, wine,
10163 public order, irrigation, roads, the fresh-water system, and public health, what have the Romans
10164 ever done for us?"
10165         }
10166     },
10167   ],
10168   "responses": {
10169     "200": {
10170       "description": "",
10171       "x-example":
10172         {
10173           "utterance": "Alright, but apart from the sanitation, the medicine, education,
10174 wine, public order, irrigation, roads, the fresh-water system, and public health, what have the
10175 Romans ever done for us?"
10176         },
10177       "schema": { "$ref": "#/definitions/Speech" }
10178     }
10179   }
10180 },
10181 },
10182 },
10183 "parameters": {
10184   "interface": {
10185     "in": "query",
10186     "name": "if",
10187     "type": "string",
10188     "enum": ["oic.if.a", "oic.if.baseline"]
10189   }
10190 },
10191 "definitions": {
10192   "Speech": {
10193     "properties": {
10194       "rt": {
10195         "description": "The Resource Type.",
10196         "items": {
10197           "enum": ["oic.r.speech.tts"],
10198           "maxLength": 64,
10199           "type": "string"
10200         },
10201         "minItems": 1,
10202         "uniqueItems": true,
10203         "readOnly": true,
10204         "type": "array"
10205       },
10206       "supportedLanguages": {
10207         "description": "The array of supported language tags.",
10208         "items": {
10209           "type": "string"
10210         },
10211         "readOnly": true,
10212         "type": "array"
10213       },
10214       "supportedVoices": {
10215         "description": "The SSML document fragment indicating supported voices.",
10216         "readOnly": true,
10217         "maxLength": 1024,
10218         "type": "string"

```

```

10219     },
10220     "utterance": {
10221       "description": "The SSML document including the speech body.",
10222       "maxLength": 1024,
10223       "type": "string"
10224     },
10225     "n": {
10226       "$ref":
10227       "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
10228       schema.json#/definitions/n"
10229     },
10230     "id": {
10231       "$ref":
10232       "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
10233       schema.json#/definitions/id"
10234     },
10235     "if": {
10236       "description": "The OCF Interface set supported by this Resource.",
10237       "items": {
10238         "enum": [
10239           "oic.if.a",
10240           "oic.if.baseline"
10241         ],
10242         "type": "string"
10243       },
10244       "minItems": 2,
10245       "uniqueItems": true,
10246       "readOnly": true,
10247       "type": "array"
10248     }
10249   },
10250   "type": "object",
10251   "required": ["utterance"]
10252 }
10253 }
10254 }
10255

```

10256 **6.52.5 Property definition**

10257 Table 107 defines the Properties that are part of the "oic.r.speech.tts" Resource Type.

10258 **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.

10259 **6.52.6 CRUDN behaviour**

10260 Table 108 defines the CRUDN operations that are supported on the "oic.r.speech.tts" Resource
10261 Type.

10262 **Table 108 – The CRUDN operations of the Resource with type "rt" = "oic.r.speech.tts".**

Create	Read	Update	Delete	Notify
	get	post		observe

10263 **6.53 Touch Sensor**

10264 **6.53.1 Introduction**

10265 This Resource describes whether a touch has been sensed or not.
10266 The Property "value" is a boolean.
10267 A value of 'true' means that touch has been sensed.
10268 A value of 'false' means that touch not been sensed.
10269

10270 **6.53.2 Example URI**

10271 /TouchResURI

10272 **6.53.3 Resource type**

10273 The Resource Type is defined as: "oic.r.sensor.touch".

10274 **6.53.4 OpenAPI 2.0 definition**

```

10275 {
10276   "swagger": "2.0",
10277   "info": {
10278     "title": "Touch Sensor",
10279     "version": "20190215",
10280     "license": {
10281       "name": "OCF Data Model License",
10282       "url":
10283         "https://github.com/openconnectivityfoundation/core/blob/e28a9e0a92e17042ba3e83661e4c0fbce8bdc4ba/LI
10284         CENSE.md",
10285       "x-copyright": "copyright 2016-2017, 2019 Open Connectivity Foundation, Inc. All rights
10286         reserved."
10287     },
10288     "termsOfService": "https://openconnectivityfoundation.github.io/core/DISCLAIMER.md"
10289   },

```

```

10290     "schemes": ["http"],
10291     "consumes": ["application/json"],
10292     "produces": ["application/json"],
10293     "paths": {
10294         "/TouchResURI" : {
10295             "get": {
10296                 "description": "This Resource describes whether a touch has been sensed or not.\nThe
10297 Property \"value\" is a boolean.\nA value of 'true' means that touch has been sensed.\nA value of
10298 'false' means that touch not been sensed.\n",
10299                 "parameters": [
10300                     { "$ref": "#/parameters/interface" }
10301                 ],
10302                 "responses": {
10303                     "200": {
10304                         "description": "",
10305                         "x-example":
10306                             {
10307                                 "rt": ["oic.r.sensor.touch"],
10308                                 "if": ["oic.if.s", "oic.if.baseline"],
10309                                 "value": true
10310                             },
10311                         "schema": { "$ref": "#/definitions/Touch" }
10312                     }
10313                 }
10314             }
10315         }
10316     },
10317     "parameters": {
10318         "interface" : {
10319             "in" : "query",
10320             "name" : "if",
10321             "type" : "string",
10322             "enum" : ["oic.if.s", "oic.if.baseline"]
10323         }
10324     },
10325     "definitions": {
10326         "Touch" : {
10327             "properties": {
10328                 "rt": {
10329                     "description": "The Resource Type.",
10330                     "items": {
10331                         "enum": ["oic.r.sensor.touch"],
10332                         "maxLength": 64,
10333                         "type": "string"
10334                     },
10335                     "minItems": 1,
10336                     "uniqueItems": true,
10337                     "readOnly": true,
10338                     "type": "array"
10339                 },
10340                 "value": {
10341                     "description": "The touch sensor, true = sensed, false = not sensed.",
10342                     "readOnly": true,
10343                     "type": "boolean"
10344                 },
10345                 "n": {
10346                     "$ref":
10347 "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
10348 schema.json#/definitions/n"
10349                 },
10350                 "id": {
10351                     "$ref":
10352 "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
10353 schema.json#/definitions/id"
10354                 },
10355                 "if": {
10356                     "description": "The OCF Interface set supported by this Resource.",
10357                     "items": {
10358                         "enum": [
10359                             "oic.if.s",
10360                             "oic.if.baseline"
10361                         ],

```

```

10362         "type": "string"
10363     },
10364     "minItems": 2,
10365     "uniqueItems": true,
10366     "readOnly": true,
10367     "type": "array"
10368 }
10369 },
10370 "type": "object",
10371 "required": ["value"]
10372 }
10373 }
10374 }
10375

```

10376 **6.53.5 Property definition**

10377 Table 109 defines the Properties that are part of the "oic.r.sensor.touch" Resource Type.

10378 **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	

10379 **6.53.6 CRUDN behaviour**

10380 Table 110 defines the CRUDN operations that are supported on the "oic.r.sensor.touch" Resource
10381 Type.

10382 **Table 110 – The CRUDN operations of the Resource with type "rt" = "oic.r.sensor.touch".**

Create	Read	Update	Delete	Notify
	get			observe

10383 **6.54 UV Radiation**

10384 **6.54.1 Introduction**

10385 This Resource specifies UV radiation measurement.
10386 The Property "measurement" is the current measured UV Index

10387 **6.54.2 Example URI**

10388 /UVRadiationResURI

10389 **6.54.3 Resource type**

10390 The Resource Type is defined as: "oic.r.sensor.radiation.uv".

10391 **6.54.4 OpenAPI 2.0 definition**

```
10392 {
10393   "swagger": "2.0",
10394   "info": {
10395     "title": "UV Radiation",
10396     "version": "20190215",
10397     "license": {
10398       "name": "OCF Data Model License",
10399       "url":
10400         "https://github.com/openconnectivityfoundation/core/blob/e28a9e0a92e17042ba3e83661e4c0fbce8bdc4ba/LI
10401         CENSE.md",
10402       "x-copyright": "copyright 2016-2017, 2019 Open Connectivity Foundation, Inc. All rights
10403       reserved."
10404     },
10405     "termsOfService": "https://openconnectivityfoundation.github.io/core/DISCLAIMER.md"
10406   },
10407   "schemes": ["http"],
10408   "consumes": ["application/json"],
10409   "produces": ["application/json"],
10410   "paths": {
10411     "/UVRadiationResURI" : {
10412       "get": {
10413         "description": "This Resource specifies UV radiation measurement.\nThe Property
10414         \"measurement\" is the current measured UV Index",
10415         "parameters": [
10416           { "$ref": "#/parameters/interface" }
10417         ],
10418         "responses": {
10419           "200": {
10420             "description": "",
10421             "x-example":
10422               {
10423                 "rt": ["oic.r.sensor.radiation.uv"],
10424                 "if": ["oic.if.s", "oic.if.baseline"],
10425                 "measurement": 3.5
10426               }
10427             ,
10428             "schema": { "$ref": "#/definitions/UVRadiation" }
10429           }
10430         }
10431       }
10432     }
10433   },
10434   "parameters": {
10435     "interface": {
10436       "in": "query",
10437       "name": "if",
10438       "type": "string",
10439       "enum": ["oic.if.s", "oic.if.baseline"]
10440     }
10441   },
10442   "definitions": {
10443     "UVRadiation" : {
10444       "properties": {
10445         "rt": {
10446           "description": "The Resource Type.",
10447           "items": {
10448             "enum": ["oic.r.sensor.radiation.uv"],
10449             "maxLength": 64,
10450             "type": "string"
10451           },
10452           "minItems": 1,
10453           "uniqueItems": true,
```



```

10454         "readOnly": true,
10455         "type": "array"
10456     },
10457     "measurement": {
10458         "description": "The measured UV Index.",
10459         "readOnly": true,
10460         "type": "number"
10461     },
10462     "n": {
10463         "$ref":
10464         "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
10465         schema.json#/definitions/n"
10466     },
10467     "id": {
10468         "$ref":
10469         "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
10470         schema.json#/definitions/id"
10471     },
10472     "if" :
10473     {
10474         "description": "The OCF Interface set supported by this Resource.",
10475         "items": {
10476             "enum": [
10477                 "oic.if.s",
10478                 "oic.if.baseline"
10479             ],
10480             "type": "string"
10481         },
10482         "minItems": 2,
10483         "uniqueItems": true,
10484         "readOnly": true,
10485         "type": "array"
10486     }
10487 },
10488 "type": "object",
10489 "required": ["measurement"]
10490 }
10491 }
10492 }
10493

```

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

10498 **6.54.6 CRUDN behaviour**

10499 Table 112 defines the CRUDN operations that are supported on the "oic.r.sensor.radiation.uv"
10500 Resource Type.

10501 **Table 112 – The CRUDN operations of the Resource with type "rt" =**
10502 **"oic.r.sensor.radiation.uv".**

Create	Read	Update	Delete	Notify
	get			observe

10503 **6.55 Water Sensor**

10504 **6.55.1 Introduction**

10505 This Resource describes whether water has been sensed or not.
10506 The Property "value" is a boolean.
10507 A value of 'true' means that water has been sensed.
10508 A value of 'false' means that water not been sensed.
10509

10510 **6.55.2 Example URI**

10511 /WaterResURI

10512 **6.55.3 Resource type**

10513 The Resource Type is defined as: "oic.r.sensor.water".

10514 **6.55.4 OpenAPI 2.0 definition**

```
10515 {
10516   "swagger": "2.0",
10517   "info": {
10518     "title": "Water Sensor",
10519     "version": "20190215",
10520     "license": {
10521       "name": "OCF Data Model License",
10522       "url":
10523         "https://github.com/openconnectivityfoundation/core/blob/e28a9e0a92e17042ba3e83661e4c0fbce8bdc4ba/LI
10524         CENSE.md",
10525       "x-copyright": "copyright 2016-2017, 2019 Open Connectivity Foundation, Inc. All rights
10526       reserved."
10527     },
10528     "termsOfService": "https://openconnectivityfoundation.github.io/core/DISCLAIMER.md"
10529   },
10530   "schemes": ["http"],
10531   "consumes": ["application/json"],
10532   "produces": ["application/json"],
10533   "paths": {
10534     "/WaterResURI" : {
10535       "get": {
10536         "description": "This Resource describes whether water has been sensed or not.\nThe Property
10537         \"value\" is a boolean.\nA value of 'true' means that water has been sensed.\nA value of 'false'
10538         means that water not been sensed.\n",
10539         "parameters": [
10540           { "$ref": "#/parameters/interface" }
10541         ],
10542         "responses": {
10543           "200": {
10544             "description": "",
```

```

10545         "x-example":
10546             {
10547                 "rt": ["oic.r.sensor.water"],
10548                 "if": ["oic.if.s", "oic.if.baseline"],
10549                 "value": true
10550             },
10551         "schema": { "$ref": "#/definitions/Water" }
10552     }
10553 }
10554 }
10555 },
10556 "parameters": {
10557     "interface": {
10558         "in": "query",
10559         "name": "if",
10560         "type": "string",
10561         "enum": ["oic.if.s", "oic.if.baseline"]
10562     }
10563 },
10564 "definitions": {
10565     "Water": {
10566         "properties": {
10567             "rt": {
10568                 "description": "The Resource Type.",
10569                 "items": {
10570                     "enum": ["oic.r.sensor.water"],
10571                     "maxLength": 64,
10572                     "type": "string"
10573                 },
10574                 "minItems": 1,
10575                 "uniqueItems": true,
10576                 "readOnly": true,
10577                 "type": "array"
10578             },
10579             "value": {
10580                 "description": "The water sensor, true = sensed, false = not sensed.",
10581                 "readOnly": true,
10582                 "type": "boolean"
10583             },
10584             "n": {
10585                 "$ref":
10586                 "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
10587                 schema.json#/definitions/n"
10588             },
10589             "id": {
10590                 "$ref":
10591                 "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
10592                 schema.json#/definitions/id"
10593             },
10594             "if": {
10595                 "description": "The OCF Interface set supported by this Resource.",
10596                 "items": {
10597                     "enum": [
10598                         "oic.if.s",
10599                         "oic.if.baseline"
10600                     ],
10601                     "type": "string"
10602                 },
10603                 "minItems": 2,
10604                 "uniqueItems": true,
10605                 "readOnly": true,
10606                 "type": "array"
10607             }
10608         },
10609         "type": "object",
10610         "required": ["value"]
10611     }
10612 }
10613 }
10614 }
10615

```

10616 **6.55.5 Property definition**

10617 Table 113 defines the Properties that are part of the "oic.r.sensor.water" Resource Type.

10618 **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.

10619 **6.55.6 CRUDN behaviour**

10620 Table 114 defines the CRUDN operations that are supported on the "oic.r.sensor.water" Resource Type.
10621

10622 **Table 114 – The CRUDN operations of the Resource with type "rt" = "oic.r.sensor.water".**

Create	Read	Update	Delete	Notify
	get			observe

10623 **6.56 Acceleration Sensor**

10624 **6.56.1 Introduction**

10625 This Resource provides a measure of proper acceleration (g force) as opposed to co-ordinate
10626 acceleration (which is dependent on the co-ordinate system and the observer).
10627 The Property "value" is a float which describes the acceleration experienced by the object in "g".

10628 **6.56.2 Example URI**

10629 /AccelerationResURI

10630 **6.56.3 Resource type**

10631 The Resource Type is defined as: "oic.r.sensor.acceleration".

10632 **6.56.4 OpenAPI 2.0 definition**

10633 {
10634 "swagger": "2.0",
10635 "info": {

```

10636     "title": "Acceleration Sensor",
10637     "version": "20190215",
10638     "license": {
10639         "name": "OCF Data Model License",
10640         "url":
10641 "https://github.com/openconnectivityfoundation/core/blob/e28a9e0a92e17042ba3e83661e4c0fbce8bdc4ba/LI
10642 CENSE.md",
10643     "x-copyright": "Copyright 2018-2019 Open Connectivity Foundation, Inc. All rights reserved."
10644     },
10645     "termsOfService": "https://openconnectivityfoundation.github.io/core/DISCLAIMER.md"
10646 },
10647     "schemes": ["http"],
10648     "consumes": ["application/json"],
10649     "produces": ["application/json"],
10650     "paths": {
10651         "/AccelerationResURI" : {
10652             "get": {
10653                 "description": "This Resource provides a measure of proper acceleration (g force) as opposed
10654 to co-ordinate acceleration (which is dependent on the co-ordinate system and the observer).\nThe
10655 Property \"value\" is a float which describes the acceleration experienced by the object in \"g\".",
10656                 "parameters": [
10657                     { "$ref": "#/parameters/interface" }
10658                 ],
10659                 "responses": {
10660                     "200": {
10661                         "description": "",
10662                         "x-example":
10663                             {
10664                                 "rt": ["oic.r.sensor.acceleration"],
10665                                 "if": ["oic.if.s", "oic.if.baseline"],
10666                                 "acceleration": 0.5
10667                             },
10668                         "schema": { "$ref": "#/definitions/acceleration" }
10669                     }
10670                 }
10671             }
10672         }
10673     },
10674     "parameters": {
10675         "interface" : {
10676             "in": "query",
10677             "name": "if",
10678             "type": "string",
10679             "enum": ["oic.if.s", "oic.if.baseline"]
10680         }
10681     },
10682     "definitions": {
10683         "acceleration" : {
10684             "properties": {
10685                 "rt": {
10686                     "description": "Resource Type",
10687                     "items": {
10688                         "maxLength": 64,
10689                         "type": "string",
10690                         "enum": ["oic.r.sensor.acceleration"]
10691                     },
10692                     "minItems": 1,
10693                     "uniqueItems": true,
10694                     "readOnly": true,
10695                     "type": "array"
10696                 },
10697                 "acceleration": {
10698                     "description": "The sensed acceleration experienced in 'g'.",
10699                     "readOnly": true,
10700                     "type": "number"
10701                 }
10702             },
10703             "n": {
10704                 "$ref":
10705 "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
10706 schema.json#/definitions/n"
10707             },
10708             "id": {

```

```

10708         "$ref":
10709         "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
10710         schema.json#/definitions/id"
10711     },
10712     "range": {
10713         "$ref":
10714         "https://openconnectivityfoundation.github.io/IoTDataModels/schemas/oic.baseresource.properties-
10715         schema.json#/definitions/range_number"
10716     },
10717     "step": {
10718         "$ref":
10719         "https://openconnectivityfoundation.github.io/IoTDataModels/schemas/oic.baseresource.properties-
10720         schema.json#/definitions/step_number"
10721     },
10722     "precision": {
10723         "$ref":
10724         "https://openconnectivityfoundation.github.io/IoTDataModels/schemas/oic.baseresource.properties-
10725         schema.json#/definitions/precision"
10726     },
10727     "if": {
10728         "description": "The OCF Interface set supported by this Resource.",
10729         "items": {
10730             "enum": [
10731                 "oic.if.s",
10732                 "oic.if.baseline"
10733             ],
10734             "type": "string"
10735         },
10736         "minItems": 2,
10737         "readOnly": true,
10738         "uniqueItems": true,
10739         "type": "array"
10740     }
10741 },
10742 "type": "object",
10743 "required": ["acceleration"]
10744 }
10745 }
10746 }
10747

```

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'.

10752 **6.56.6 CRUDN behaviour**

10753 Table 116 defines the CRUDN operations that are supported on the "oic.r.sensor.acceleration"
10754 Resource Type.

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

10755
10756

Create	Read	Update	Delete	Notify
	get			observe

10757 **6.57 Movement**

10758 **6.57.1 Introduction**

10759 This Resource specifies linear movement.
10760 The Property "movementSettings" is an array of strings containing possible movement values (e.g.
10761 spin, stop, left, right).
10762 The Property "movement" is the currently selected movement value.
10763 The Property "movementModifier" is a modifier to the movement value (e.g. "spin", "90")
10764

10765 **6.57.2 Example URI**

10766 /MovementResURI

10767 **6.57.3 Resource type**

10768 The Resource Type is defined as: "oic.r.movement.linear".

10769 **6.57.4 OpenAPI 2.0 definition**

```

10770 {
10771   "swagger": "2.0",
10772   "info": {
10773     "title": "Movement",
10774     "version": "20190215",
10775     "license": {
10776       "name": "OCF Data Model License",
10777       "url":
10778 "https://github.com/openconnectivityfoundation/core/blob/e28a9e0a92e17042ba3e83661e4c0fbce8bdc4ba/LI
10779 CENSE.md",
10780     "x-copyright": "copyright 2016-2017, 2019 Open Connectivity Foundation, Inc. All rights
10781 reserved."
10782   },
10783   "termsOfService": "https://openconnectivityfoundation.github.io/core/DISCLAIMER.md"

```

```

10784     },
10785     "schemes": ["http"],
10786     "consumes": ["application/json"],
10787     "produces": ["application/json"],
10788     "paths": {
10789         "/MovementResURI" : {
10790             "get": {
10791                 "description": "This Resource specifies linear movement.\nThe Property \"movementSettings\"
10792 is an array of strings containing possible movement values (e.g. spin, stop, left, right).\nThe
10793 Property \"movement\" is the currently selected movement value.\nThe Property \"movementModifier\"
10794 is a modifier to the movement value (e.g. \"spin\", \"90\")\n",
10795                 "parameters": [
10796                     { "$ref": "#/parameters/interface" }
10797                 ],
10798                 "responses": {
10799                     "200": {
10800                         "description": "",
10801                         "x-example":
10802                         {
10803                             "rt": ["oic.r.movement.linear"],
10804                             "if": ["oic.if.s", "oic.if.baseline"],
10805                             "movementSettings": ["stop", "left", "right", "rotate", "forward", "backward"],
10806                             "movement": "rotate",
10807                             "movementModifier": "90"
10808                         },
10809                         "schema": { "$ref": "#/definitions/movement" }
10810                     }
10811                 }
10812             },
10813             "post": {
10814                 "description": "Sets the current device movement.",
10815                 "parameters": [
10816                     { "$ref": "#/parameters/interface" },
10817                     {
10818                         "name": "body",
10819                         "in": "body",
10820                         "required": true,
10821                         "schema": { "$ref": "#/definitions/movement" },
10822                         "x-example":
10823                         {
10824                             "movementSettings": ["stop", "left", "right", "rotate", "forward", "backward"],
10825                             "movement": "stop"
10826                         }
10827                     }
10828                 ],
10829                 "responses": {
10830                     "200": {
10831                         "description": "",
10832                         "x-example":
10833                         {
10834                             "movementSettings": ["stop", "left", "right", "rotate", "forward", "backward"],
10835                             "movement": "stop"
10836                         },
10837                         "schema": { "$ref": "#/definitions/movement" }
10838                     }
10839                 }
10840             }
10841         }
10842     },
10843     "parameters": {
10844         "interface": {
10845             "in": "query",
10846             "name": "if",
10847             "type": "string",
10848             "enum": ["oic.if.s", "oic.if.baseline"]
10849         }
10850     },
10851     "definitions": {
10852         "movement": {
10853             "properties": {
10854                 "rt": {
10855                     "description": "The Resource Type.",

```



```

10856         "items": {
10857             "enum": ["oic.r.movement.linear"],
10858             "maxLength": 64,
10859             "type": "string"
10860         },
10861         "minItems": 1,
10862         "uniqueItems": true,
10863         "readOnly": true,
10864         "type": "array"
10865     },
10866     "movementSettings": {
10867         "description": "The array of possible movement values.",
10868         "items": {
10869             "type": "string"
10870         },
10871         "readOnly": true,
10872         "type": "array"
10873     },
10874     "movementModifier": {
10875         "description": "The modifier to the movement value (e.g. spin-90, left-20), units are
10876 device dependent.",
10877         "type": "string"
10878     },
10879     "movement": {
10880         "description": "The current movement value.",
10881         "type": "string"
10882     },
10883     "n": {
10884         "$ref":
10885 "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
10886 schema.json#/definitions/n"
10887     },
10888     "id": {
10889         "$ref":
10890 "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
10891 schema.json#/definitions/id"
10892     },
10893     "if": {
10894         "description": "The OCF Interface set supported by this Resource.",
10895         "items": {
10896             "enum": [
10897                 "oic.if.s",
10898                 "oic.if.baseline"
10899             ],
10900             "type": "string"
10901         },
10902         "minItems": 2,
10903         "uniqueItems": true,
10904         "readOnly": true,
10905         "type": "array"
10906     }
10907 },
10908 "type": "object",
10909 "required": ["movementSettings", "movement"]
10910 }
10911 }
10912 }
10913

```

6.57.5 Property definition

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

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

10918 **6.57.6 CRUDN behaviour**

10919 Table 118 defines the CRUDN operations that are supported on the "oic.r.movement.linear"
10920 Resource Type.

10921 **Table 118 – The CRUDN operations of the Resource with type "rt" =**
10922 **"oic.r.movement.linear".**

Create	Read	Update	Delete	Notify
	get	post		observe

10923 **6.58 Sleep Sensor**

10924 **6.58.1 Introduction**

10925 This Resource describes whether human sleep has been sensed or not.
10926 The Property "value" is a boolean.

10927 A value of 'true' means that sleep has been sensed.
10928 A value of 'false' means that sleep not been sensed.
10929

10930 **6.58.2 Example URI**

10931 /SleepSensorResURI

10932 **6.58.3 Resource type**

10933 The Resource Type is defined as: "oic.r.sensor.sleep".

10934 **6.58.4 OpenAPI 2.0 definition**

```
10935 {
10936   "swagger": "2.0",
10937   "info": {
10938     "title": "Sleep Sensor",
10939     "version": "20190215",
10940     "license": {
10941       "name": "OCF Data Model License",
10942       "url":
10943         "https://github.com/openconnectivityfoundation/core/blob/e28a9e0a92e17042ba3e83661e4c0fbce8bdc4ba/LI
10944         CENSE.md",
10945       "x-copyright": "copyright 2016-2017, 2019 Open Connectivity Foundation, Inc. All rights
10946         reserved."
10947     },
10948     "termsOfService": "https://openconnectivityfoundation.github.io/core/DISCLAIMER.md"
10949   },
10950   "schemes": ["http"],
10951   "consumes": ["application/json"],
10952   "produces": ["application/json"],
10953   "paths": {
10954     "/SleepSensorResURI" : {
10955       "get": {
10956         "description": "This Resource describes whether human sleep has been sensed or not.\nThe
10957         Property \"value\" is a boolean.\nA value of 'true' means that sleep has been sensed.\nA value of
10958         'false' means that sleep not been sensed.\n",
10959         "parameters": [
10960           { "$ref": "#/parameters/interface" }
10961         ],
10962         "responses": {
10963           "200": {
10964             "description": "",
10965             "x-example":
10966               {
10967                 "rt": ["oic.r.sensor.sleep"],
10968                 "if": ["oic.if.s", "oic.if.baseline"],
10969                 "value": true
10970               },
10971             "schema": { "$ref": "#/definitions/sleep" }
10972           }
10973         }
10974       }
10975     }
10976   },
10977   "parameters": {
10978     "interface": {
10979       "in": "query",
10980       "name": "if",
10981       "type": "string",
10982       "enum": ["oic.if.s", "oic.if.baseline"]
10983     }
10984   },
10985   "definitions": {
10986     "sleep" : {
10987       "properties": {
10988         "rt": {
10989           "description": "The Resource Type.",
10990           "items": {
10991             "enum": ["oic.r.sensor.sleep"],
10992             "maxLength": 64,
10993             "type": "string"
10994           },
10995           "minItems": 1,
10996           "uniqueItems": true,
10997           "readOnly": true,
10998           "type": "array"
10999         },
11000         "value": {
```

```

11001         "description": "The sleep sensor, true = sleep sensed, false = sleep not sensed.",
11002         "readOnly": true,
11003         "type": "boolean"
11004     },
11005     "n": {
11006         "$ref":
11007         "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
11008         schema.json#/definitions/n"
11009     },
11010     "id": {
11011         "$ref":
11012         "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
11013         schema.json#/definitions/id"
11014     },
11015     "if": {
11016         "description": "The OCF Interface set supported by this Resource.",
11017         "items": {
11018             "enum": [
11019                 "oic.if.s",
11020                 "oic.if.baseline"
11021             ],
11022             "type": "string"
11023         },
11024         "minItems": 2,
11025         "uniqueItems": true,
11026         "readOnly": true,
11027         "type": "array"
11028     }
11029 },
11030 "type": "object",
11031 "required": ["value"]
11032 }
11033 }
11034 }
11035

```

11036 6.58.5 Property definition

11037 Table 119 defines the Properties that are part of the "oic.r.sensor.sleep" Resource Type.

11038 **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	

11039 **6.58.6 CRUDN behaviour**

11040 Table 120 defines the CRUDN operations that are supported on the "oic.r.sensor.sleep" Resource
11041 Type.

11042 **Table 120 – The CRUDN operations of the Resource with type "rt" = "oic.r.sensor.sleep".**

Create	Read	Update	Delete	Notify
	get			observe

11043 **6.59 Smoke Sensor**

11044 **6.59.1 Introduction**

11045 This Resource describes whether smoke has been sensed or not.
11046 The Property "value" is a boolean.
11047 A value of 'true' means that smoke has been sensed.
11048 A value of 'false' means that smoke not been sensed.

11049 **6.59.2 Example URI**

11050 /SmokeSensorResURI

11051 **6.59.3 Resource type**

11052 The Resource Type is defined as: "oic.r.sensor.smoke".

11053 **6.59.4 OpenAPI 2.0 definition**

```
11054 {  
11055   "swagger": "2.0",  
11056   "info": {  
11057     "title": "Smoke Sensor",  
11058     "version": "20190215",  
11059     "license": {  
11060       "name": "OCF Data Model License",  
11061       "url":  
11062       "https://github.com/openconnectivityfoundation/core/blob/e28a9e0a92e17042ba3e83661e4c0fbce8bdc4ba/LI  
11063       CENSE.md",  
11064       "x-copyright": "copyright 2016-2017, 2019 Open Connectivity Foundation, Inc. All rights  
11065       reserved."  
11066     },  
11067     "termsOfService": "https://openconnectivityfoundation.github.io/core/DISCLAIMER.md"  
11068   },  
11069   "schemes": ["http"],  
11070   "consumes": ["application/json"],  
11071   "produces": ["application/json"],  
11072   "paths": {  
11073     "/SmokeSensorResURI" : {  
11074       "get": {  
11075         "description": "This Resource describes whether smoke has been sensed or not.\n\nThe Property  
11076         \"value\" is a boolean.\n\nA value of 'true' means that smoke has been sensed.\n\nA value of 'false'  
11077         means that smoke not been sensed.",  
11078         "parameters": [  
11079           { "$ref": "#/parameters/interface" }  
11080         ],  
11081         "responses": {  
11082           "200": {  
11083             "description": "",  
11084             "x-example":  
11085               {  
11086                 "rt": ["oic.r.sensor.smoke"],  
11087                 "if": ["oic.if.s", "oic.if.baseline"],  
11088                 "value": true  
11089               }  
11090           },  
11091           "schema": { "$ref": "#/definitions/smoke" }  
11091         }  
11091       }  
11091     }  
11091   }  
11091 }
```

```

11092     }
11093   }
11094 }
11095 }
11096 },
11097 "parameters": {
11098   "interface": {
11099     "in": "query",
11100     "name": "if",
11101     "type": "string",
11102     "enum": ["oic.if.s", "oic.if.baseline"]
11103   }
11104 },
11105 "definitions": {
11106   "smoke": {
11107     "properties": {
11108       "rt": {
11109         "description": "The Resource Type.",
11110         "items": {
11111           "enum": ["oic.r.sensor.smoke"],
11112           "maxLength": 64,
11113           "type": "string"
11114         },
11115         "minItems": 1,
11116         "uniqueItems": true,
11117         "readOnly": true,
11118         "type": "array"
11119       },
11120       "value": {
11121         "description": "The smoke indicator, true = sensed, false = not sensed.",
11122         "readOnly": true,
11123         "type": "boolean"
11124       },
11125       "n": {
11126         "$ref":
11127 "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
11128 schema.json#/definitions/n"
11129       },
11130       "id": {
11131         "$ref":
11132 "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
11133 schema.json#/definitions/id"
11134       },
11135       "if": {
11136         "description": "The OCF Interface set supported by this Resource.",
11137         "items": {
11138           "enum": [
11139             "oic.if.s",
11140             "oic.if.baseline"
11141           ],
11142           "type": "string"
11143         },
11144         "minItems": 2,
11145         "uniqueItems": true,
11146         "readOnly": true,
11147         "type": "array"
11148       }
11149     },
11150     "type": "object",
11151     "required": ["value"]
11152   }
11153 }
11154 }
11155

```

11156 6.59.5 Property definition

11157 Table 121 defines the Properties that are part of the "oic.r.sensor.smoke" Resource Type.

11158 **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.

11159 **6.59.6 CRUDN behaviour**

11160 Table 122 defines the CRUDN operations that are supported on the "oic.r.sensor.smoke" Resource
11161 Type.

11162 **Table 122 – The CRUDN operations of the Resource with type "rt" = "oic.r.sensor.smoke".**

Create	Read	Update	Delete	Notify
	get			observe

11163 **6.60 Three Axis Sensor**

11164 **6.60.1 Introduction**

11165 This Resource provides a representation of the measurement from a three-axis sensor.
11166 The Property "orientation" is an array of numbers representing x-plane, y-plane and z-plane values.
11167 The unit of measurement for each pane is 'g'.

11168 **6.60.2 Example URI**

11169 /ThreeAxisResURI

11170 **6.60.3 Resource type**

11171 The Resource Type is defined as: "oic.r.sensor.threeaxis".

11172 **6.60.4 OpenAPI 2.0 definition**

```
11173 {
11174   "swagger": "2.0",
11175   "info": {
11176     "title": "Three Axis Sensor",
11177     "version": "20190215",
11178     "license": {
11179       "name": "OCF Data Model License",
```

```

11180         "url":
11181         "https://github.com/openconnectivityfoundation/core/blob/e28a9e0a92e17042ba3e83661e4c0fbce8bdc4ba/LI
11182         CENSE.md",
11183         "x-copyright": "copyright 2016-2017, 2019 Open Connectivity Foundation, Inc. All rights
11184         reserved.",
11185     },
11186     "termsOfService": "https://openconnectivityfoundation.github.io/core/DISCLAIMER.md"
11187 },
11188 "schemas": ["http"],
11189 "consumes": ["application/json"],
11190 "produces": ["application/json"],
11191 "paths": {
11192     "/ThreeAxisResURI" : {
11193         "get": {
11194             "description": "This Resource provides a representation of the measurement from a three-axis
11195             sensor.\n\nThe Property \"orientation\" is an array of numbers representing x-plane, y-plane and z-
11196             plane values.\n\nThe unit of measurement for each pane is 'g'.",
11197             "parameters": [
11198                 { "$ref": "#/parameters/interface" }
11199             ],
11200             "responses": {
11201                 "200": {
11202                     "description": "",
11203                     "x-example":
11204                     {
11205                         "rt": ["oic.r.sensor.threeaxis"],
11206                         "if": ["oic.if.s", "oic.if.baseline"],
11207                         "orientation": [0.7, 1.1, -0.2]
11208                     },
11209                     "schema": { "$ref": "#/definitions/threeAxis" }
11210                 }
11211             }
11212         }
11213     }
11214 },
11215 "parameters": {
11216     "interface": {
11217         "in": "query",
11218         "name": "if",
11219         "type": "string",
11220         "enum": ["oic.if.s", "oic.if.baseline"]
11221     }
11222 },
11223 "definitions": {
11224     "threeAxis" : {
11225         "properties": {
11226             "rt": {
11227                 "description": "The Resource Type.",
11228                 "items": {
11229                     "enum": ["oic.r.sensor.threeaxis"],
11230                     "maxLength": 64,
11231                     "type": "string"
11232                 },
11233                 "minItems": 1,
11234                 "uniqueItems": true,
11235                 "readOnly": true,
11236                 "type": "array"
11237             },
11238             "orientation": {
11239                 "description": "The array containing x-plane, y-plane and z-plane orientation in 'g'.",
11240                 "items": {
11241                     "type": "number"
11242                 },
11243                 "maxItems": 3,
11244                 "minItems": 3,
11245                 "readOnly": true,
11246                 "type": "array"
11247             },
11248             "n": {
11249                 "$ref":
11250                 "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
11251                 schema.json#/definitions/n"

```



```

11252     },
11253     "id": {
11254         "$ref":
11255         "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
11256         schema.json#/definitions/id"
11257     },
11258     "if": {
11259         "description": "The OCF Interface set supported by this Resource.",
11260         "items": {
11261             "enum": [
11262                 "oic.if.s",
11263                 "oic.if.baseline"
11264             ],
11265             "type": "string"
11266         },
11267         "minItems": 2,
11268         "uniqueItems": true,
11269         "readOnly": true,
11270         "type": "array"
11271     }
11272 },
11273 "type": "object",
11274 "required": ["orientation"]
11275 }
11276 }
11277 }
11278

```

11279 6.60.5 Property definition

11280 Table 123 defines the Properties that are part of the "oic.r.sensor.threeaxis" Resource Type.

11281 **Table 123 – The Property definitions of the Resource with type "rt" =**
11282 **"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'.

11283 6.60.6 CRUDN behaviour

11284 Table 124 defines the CRUDN operations that are supported on the "oic.r.sensor.threeaxis"
11285 Resource Type.

11286
11287

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

Create	Read	Update	Delete	Notify
	get			observe

11288

6.61 Altimeter

11289

6.61.1 Introduction

11290 This Resource describes the properties associated with altimeter.
11291 The Property "alt" is the distance (metres) above or below 'local' sea-level.

11292

6.61.2 Example URI

11293

/AltimeterResURI

11294

6.61.3 Resource type

11295

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

11296

6.61.4 OpenAPI 2.0 definition

```
11297 {
11298   "swagger": "2.0",
11299   "info": {
11300     "title": "Altimeter",
11301     "version": "20190225",
11302     "license": {
11303       "name": "OCF Data Model License",
11304       "url":
11305         "https://github.com/openconnectivityfoundation/core/blob/e28a9e0a92e17042ba3e83661e4c0fbce8bdc4ba/LI
11306         CENSE.md",
11307       "x-copyright": "copyright 2016-2017, 2019 Open Connectivity Foundation, Inc. All rights
11308       reserved."
11309     },
11310     "termsOfService": "https://openconnectivityfoundation.github.io/core/DISCLAIMER.md"
11311   },
11312   "schemes": ["http"],
11313   "consumes": ["application/json"],
11314   "produces": ["application/json"],
11315   "paths": {
11316     "/AltimeterResURI" : {
11317       "get": {
11318         "description": "This Resource describes the properties associated with altimeter.\n\nThe
11319         Property \"alt\" is the distance (metres) above or below 'local' sea-level.",
11320         "parameters": [
11321           { "$ref": "#/parameters/interface" }
11322         ],
11323         "responses": {
11324           "200": {
11325             "description": "RETRIEVES the current the distance (metres) above or below 'local'
11326             sea-level.",
11327             "x-example":
11328               {
11329                 "rt": ["oic.r.altimeter"],
11330                 "if": ["oic.if.s", "oic.if.baseline"],
11331                 "alt": 1500.0
11332               },
11333             "schema": { "$ref": "#/definitions/Altimeter" }
11334           }
11335         }
11336       }
11337     },
11338     "parameters": {
11339       "interface" : {
11340         "in": "query",
```

```

11342     "name": "if",
11343     "type": "string",
11344     "enum": ["oic.if.s", "oic.if.baseline"]
11345   }
11346 },
11347 "definitions": {
11348   "Altimeter" : {
11349     "properties": {
11350       "rt": {
11351         "description": "The Resource Type.",
11352         "items": {
11353           "enum": ["oic.r.altimeter"],
11354           "maxLength": 64,
11355           "type": "string"
11356         },
11357         "minItems": 1,
11358         "uniqueItems": true,
11359         "readOnly": true,
11360         "type": "array"
11361       },
11362       "alt" :
11363         {
11364           "description": "The current distance (metres) above or below 'local' sea-level.",
11365           "readOnly": true,
11366           "type": "number"
11367         },
11368       "n": {
11369         "$ref":
11370 "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
11371 schema.json#/definitions/n"
11372       },
11373       "id": {
11374         "$ref":
11375 "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
11376 schema.json#/definitions/id"
11377       },
11378       "precision": {
11379         "$ref":
11380 "https://openconnectivityfoundation.github.io/IoTDataModels/schemas/oic.baseresource.properties-
11381 schema.json#/definitions/precision"
11382       },
11383       "range": {
11384         "$ref":
11385 "https://openconnectivityfoundation.github.io/IoTDataModels/schemas/oic.baseresource.properties-
11386 schema.json#/definitions/range_number"
11387       },
11388       "step": {
11389         "$ref":
11390 "https://openconnectivityfoundation.github.io/IoTDataModels/schemas/oic.baseresource.properties-
11391 schema.json#/definitions/step_number"
11392       },
11393       "if": {
11394         "description": "The OCF Interface set supported by this Resource.",
11395         "items": {
11396           "enum": [
11397             "oic.if.s",
11398             "oic.if.baseline"
11399           ],
11400           "type": "string"
11401         },
11402         "minItems": 2,
11403         "uniqueItems": true,
11404         "readOnly": true,
11405         "type": "array"
11406       }
11407     },
11408     "type": "object",
11409     "required": ["alt"]
11410   }
11411 }
11412 }
11413

```

11414 **6.61.5 Property definition**

11415 Table 125 defines the Properties that are part of the "oic.r.altimeter" Resource Type.

11416 **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.

11417 **6.61.6 CRUDN behaviour**

11418 Table 126 defines the CRUDN operations that are supported on the "oic.r.altimeter" Resource Type.

11419 **Table 126 – The CRUDN operations of the Resource with type "rt" = "oic.r.altimeter".**

Create	Read	Update	Delete	Notify
	get			observe

11420 **6.62 Clock**

11421 **6.62.1 Introduction**

11422 This Resource describes the properties associated with clock and time.
 11423 Clock is a time information.
 11424 The Property "datetime" is using RFC3339 datetime format (e.g: "2007-04-05T14:30Z")

11425 (Time+Date+Timezone)
11426 The Property "countdown" is the desired total seconds for countdown.

11427 6.62.2 Example URI

11428 /ClockResURI

11429 6.62.3 Resource type

11430 The Resource Type is defined as: "oic.r.clock".

11431 6.62.4 OpenAPI 2.0 definition

```
11432 {
11433   "swagger": "2.0",
11434   "info": {
11435     "title": "Clock",
11436     "version": "20190215",
11437     "license": {
11438       "name": "OCF Data Model License",
11439       "url":
11440         "https://github.com/openconnectivityfoundation/core/blob/e28a9e0a92e17042ba3e83661e4c0fbce8bdc4ba/LI
11441         CENSE.md",
11442       "x-copyright": "copyright 2016-2017, 2019 Open Connectivity Foundation, Inc. All rights
11443       reserved."
11444     },
11445     "termsOfService": "https://openconnectivityfoundation.github.io/core/DISCLAIMER.md"
11446   },
11447   "schemes": ["http"],
11448   "consumes": ["application/json"],
11449   "produces": ["application/json"],
11450   "paths": {
11451     "/ClockResURI" : {
11452       "get": {
11453         "description": "This Resource describes the properties associated with clock and
11454         time.\nClock is a time information.\nThe Property \"datetime\" is using RFC3339 datetime format
11455         (e.g: \"2007-04-05T14:30:00Z\") (Time+Date+Timezone)\nThe Property \"countdown\" is the desired
11456         total seconds for countdown.",
11457         "parameters": [
11458           {"$ref": "#/parameters/interface"}
11459         ],
11460         "responses": {
11461           "200": {
11462             "description": "",
11463             "x-example":
11464               {
11465                 "rt": ["oic.r.clock"],
11466                 "if": ["oic.if.a", "oic.if.baseline"],
11467                 "datetime": "2015-11-05T14:30:00Z",
11468                 "countdown": 0.0
11469               },
11470             "schema": { "$ref": "#/definitions/Clock" }
11471           }
11472         }
11473       },
11474       "post": {
11475         "description": "Sets the desired datetime.\n",
11476         "parameters": [
11477           {"$ref": "#/parameters/interface"},
11478           {
11479             "name": "body",
11480             "in": "body",
11481             "required": true,
11482             "schema": { "$ref": "#/definitions/Clock" },
11483             "x-example":
11484               {
11485                 "datetime": "2015-11-05T14:30:00Z",
11486                 "countdown": 0.0
11487               }
11488           }
11489         ]
11490       }
11491     }
11492   }
11493 }
```

```

11490     "responses": {
11491         "200": {
11492             "description": "Indicates that the datetime value was successfully changed.\n\nThe new
11493 datetime value is provided in the response.\n",
11494             "x-example":
11495                 {
11496                     "datetime": "2015-11-05T14:30:00Z",
11497                     "countdown": 0.0
11498                 }
11499             ,
11500             "schema": { "$ref": "#/definitions/Clock" }
11501         },
11502         "403": {
11503             "description": "Indicates that OIC client sent an invalid property value to the
11504 server.\n\nThe server responds with the required input representation.\n",
11505             "x-example":
11506                 {
11507                     "datetime": "2015-11-05T14:30:00Z",
11508                     "countdown": 0.0
11509                 }
11510             ,
11511             "schema": { "$ref": "#/definitions/Clock" }
11512         }
11513     }
11514 },
11515 },
11516 },
11517 "parameters": {
11518     "interface" : {
11519         "in": "query",
11520         "name": "if",
11521         "type": "string",
11522         "enum": ["oic.if.a", "oic.if.baseline"]
11523     }
11524 },
11525 "definitions": {
11526     "Clock": {
11527         "properties": {
11528             "rt": {
11529                 "description": "The Resource Type.",
11530                 "items": {
11531                     "enum": ["oic.r.clock"],
11532                     "maxLength": 64,
11533                     "type": "string"
11534                 },
11535                 "minItems": 1,
11536                 "readOnly": true,
11537                 "type": "array"
11538             },
11539             "countdown": {
11540                 "description": "The desired total seconds for countdown.",
11541                 "minimum": 0,
11542                 "type": "number"
11543             },
11544             "datetime": {
11545                 "description": "Rhe date time using RFC3339 datetime format (e.g: 2007-04-05T14:30:00Z,
11546 2007-04-05T14:30:00+09:00).",
11547                 "type": "string",
11548                 "format" : "date-time"
11549             },
11550             "n": {
11551                 "$ref":
11552                 "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
11553 schema.json#/definitions/n"
11554             },
11555             "id": {
11556                 "$ref":
11557                 "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
11558 schema.json#/definitions/id"
11559             },
11560             "if": {
11561                 "description": "The OCF Interface set supported by this Resource.",

```

```

11562     "items": {
11563         "enum": [
11564             "oic.if.a",
11565             "oic.if.baseline"
11566         ],
11567         "type": "string"
11568     },
11569     "minItems": 2,
11570     "uniqueItems": true,
11571     "readOnly": true,
11572     "type": "array"
11573 },
11574 },
11575 "type": "object",
11576 "required": ["datetime"]
11577 }
11578 }
11579 }
11580

```

6.62.5 Property definition

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

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	Rhe 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.

6.62.6 CRUDN behaviour

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

11586 **Table 128 – The CRUDN operations of the Resource with type "rt" = "oic.r.clock".**

Create	Read	Update	Delete	Notify
	get	post		observe

11587 **6.63 Geolocation**

11588 **6.63.1 Introduction**

11589 This Resource describes the properties associated with the current geolocation coordinate.
 11590 Geolocation is a geolocation coordinate data.
 11591 The Property "latitude" is a device's current Latitude coordinate (degrees).
 11592 The Property "longitude" is a device's current Longitude coordinate (degrees).
 11593 The Property "alt" is a device's current distance (metres) above or below 'local' sea-level.
 11594 The Property "accuracy" is the accuracy level of the latitude and longitude coordinates (metres).
 11595 The Property "altitudeAccuracy" is the accuracy level of the altitude coordinates (metres).
 11596 The Property "heading" is a direction of travel of device (degree).
 11597 The Property "speed" is a device's current velocity (metres per second).

11598 **6.63.2 Example URI**

11599 /GeolocationResURI

11600 **6.63.3 Resource type**

11601 The Resource Type is defined as: "oic.r.sensor.geolocation".

11602 **6.63.4 OpenAPI 2.0 definition**

```

11603 {
11604   "swagger": "2.0",
11605   "info": {
11606     "title": "Geolocation",
11607     "version": "20190215",
11608     "license": {
11609       "name": "OCF Data Model License",
11610       "url":
11611         "https://github.com/openconnectivityfoundation/core/blob/e28a9e0a92e17042ba3e83661e4c0fbce8bdc4ba/LI
11612         CENSE.md",
11613       "x-copyright": "copyright 2016-2017, 2019 Open Connectivity Foundation, Inc. All rights
11614         reserved."
11615     },
11616     "termsOfService": "https://openconnectivityfoundation.github.io/core/DISCLAIMER.md"
11617   },
11618   "schemes": ["http"],
11619   "consumes": ["application/json"],
11620   "produces": ["application/json"],
11621   "paths": {
11622     "/GeolocationResURI" : {
11623       "get": {
11624         "description": "This Resource describes the properties associated with the current
11625         geolocation coordinate.\nGeolocation is a geolocation coordinate data.\nThe Property \"latitude\" is
11626         a device's current Latitude coordinate (degrees).\nThe Property \"longitude\" is a device's current
11627         Longitude coordinate (degrees).\nThe Property \"alt\" is a device's current distance (metres) above
11628         or below 'local' sea-level.\nThe Property \"accuracy\" is the accuracy level of the latitude and
11629         longitude coordinates (metres).\nThe Property \"altitudeAccuracy\" is the accuracy level of the
11630         altitude coordinates (metres).\nThe Property \"heading\" is a direction of travel of device
11631         (degree).\nThe Property \"speed\" is a device's current velocity (metres per second).",
11632         "parameters": [
11633           { "$ref": "#/parameters/interface" }
11634         ],
11635         "responses": {
11636           "200": {
11637             "description": "RETRIEVES the current geolocation coordinates.",
11638             "x-example":
11639             {
    
```



```

11640         "rt": ["oic.r.sensor.geolocation"],
11641         "if": ["oic.if.s", "oic.if.baseline"],
11642         "latitude": 55.070859,
11643         "longitude": -3.60512,
11644         "alt": 12.07,
11645         "accuracy": 65.0,
11646         "altitudeAccuracy": 0.0,
11647         "heading": 90.0,
11648         "speed": 0.0
11649     },
11650     "schema": { "$ref": "#/definitions/Geolocation" }
11651 }
11652 }
11653 }
11654 }
11655 },
11656 "parameters": {
11657     "interface": {
11658         "in": "query",
11659         "name": "if",
11660         "type": "string",
11661         "enum": ["oic.if.s", "oic.if.baseline"]
11662     }
11663 },
11664 "definitions": {
11665     "Geolocation" : {
11666         "properties": {
11667             "rt": {
11668                 "description": "The Resource Type.",
11669                 "items": {
11670                     "enum": ["oic.r.sensor.geolocation"],
11671                     "maxLength": 64,
11672                     "type": "string"
11673                 },
11674                 "minItems": 1,
11675                 "uniqueItems": true,
11676                 "readOnly": true,
11677                 "type": "array"
11678             },
11679             "longitude": {
11680                 "description": "The Device's Current Longitude coordinate (degrees).",
11681                 "readOnly": true,
11682                 "type": "number"
11683             },
11684             "heading": {
11685                 "description": "The direction of travel of the Device (degree).",
11686                 "maximum": 360,
11687                 "minimum": 0,
11688                 "readOnly": true,
11689                 "type": "number"
11690             },
11691             "latitude": {
11692                 "description": "The Device's Current Latitude coordinate (degrees).",
11693                 "readOnly": true,
11694                 "type": "number"
11695             },
11696             "altitudeAccuracy": {
11697                 "description": "The accuracy level of the altitude coordinates (metres).",
11698                 "minimum": 0,
11699                 "readOnly": true,
11700                 "type": "number"
11701             },
11702             "alt": {
11703                 "description": "The current distance (metres) above or below 'local' sea-level.",
11704                 "readOnly": true,
11705                 "type": "number"
11706             },
11707             "accuracy": {
11708                 "description": "The accuracy level of the latitude and longitude coordinates (metres).",
11709                 "minimum": 0,
11710                 "readOnly": true,
11711                 "type": "number"

```

```

11712     },
11713     "speed": {
11714       "description": "The Device's current velocity (metres per second).",
11715       "minimum": 0,
11716       "readOnly": true,
11717       "type": "number"
11718     },
11719     "n": {
11720       "$ref":
11721       "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
11722       schema.json#/definitions/n"
11723     },
11724     "id": {
11725       "$ref":
11726       "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
11727       schema.json#/definitions/id"
11728     },
11729     "if": {
11730       "description": "The OCF Interface set supported by this Resource.",
11731       "items": {
11732         "enum": [
11733           "oic.if.s",
11734           "oic.if.baseline"
11735         ],
11736         "type": "string"
11737       },
11738       "minItems": 2,
11739       "uniqueItems": true,
11740       "readOnly": true,
11741       "type": "array"
11742     }
11743   },
11744   "type": "object",
11745   "required": ["latitude", "longitude", "alt"]
11746 }
11747 }
11748 }
11749

```

11750 6.63.5 Property definition

11751 Table 129 defines the Properties that are part of the "oic.r.sensor.geolocation" Resource Type.

11752 **Table 129 – The Property definitions of the Resource with type "rt" =**
11753 **"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).

11754 **6.63.6 CRUDN behaviour**

11755 Table 130 defines the CRUDN operations that are supported on the "oic.r.sensor.geolocation"
11756 Resource Type.

11757 **Table 130 – The CRUDN operations of the Resource with type "rt" =**
11758 **"oic.r.sensor.geolocation".**

Create	Read	Update	Delete	Notify
	get			observe

11759 **6.64 Height**

11760 **6.64.1 Introduction**

11761 This Resource describes the Properties associated with height of an object's physical size.
11762 The unit is a single value that is one of m, cm, ft or in.
11763 If the unit Property is missing the default is meters [m].

11764 The unit Property is a read-only value that is provided by the server.
11765 When range is omitted the default is 0 to +MAXFLOAT.

11766 6.64.2 Example URI

11767 /HeightResURI

11768 6.64.3 Resource type

11769 The Resource Type is defined as: "oic.r.height".

11770 6.64.4 OpenAPI 2.0 definition

```
11771 {  
11772   "swagger": "2.0",  
11773   "info": {  
11774     "title": "Height",  
11775     "version": "2019-03-22",  
11776     "license": {  
11777       "name": "OCF Data Model License",  
11778       "url":  
11779 "https://github.com/openconnectivityfoundation/core/blob/e28a9e0a92e17042ba3e83661e4c0fbce8bdc4ba/LI  
11780 CENSE.md",  
11781       "x-copyright": "Copyright 2016-2019 Open Connectivity Foundation, Inc. All rights reserved."  
11782     },  
11783     "termsOfService": "https://openconnectivityfoundation.github.io/core/DISCLAIMER.md"  
11784   },  
11785   "schemes": [  
11786     "http"  
11787   ],  
11788   "consumes": [  
11789     "application/json"  
11790   ],  
11791   "produces": [  
11792     "application/json"  
11793   ],  
11794   "paths": {  
11795     "/HeightResURI": {  
11796       "get": {  
11797         "description": "This Resource describes the Properties associated with height of an object's  
11798 physical size.\n\nThe unit is a single value that is one of m, cm, ft or in.\n\nIf the unit Property is  
11799 missing the default is meters [m].\n\nThe unit Property is a read-only value that is provided by the  
11800 server.\n\nWhen range is omitted the default is 0 to +MAXFLOAT.",  
11801         "parameters": [  
11802           {  
11803             "$ref": "#/parameters/interface"  
11804           }  
11805         ],  
11806         "responses": {  
11807           "200": {  
11808             "description": "",  
11809             "x-example": {  
11810               "rt": [  
11811                 "oic.r.height"  
11812               ],  
11813               "height": 1.8,  
11814               "units": "m"  
11815             },  
11816             "schema": {  
11817               "$ref": "#/definitions/Height"  
11818             }  
11819           }  
11820         }  
11821       },  
11822       "post": {  
11823         "description": "Sets the height.",  
11824         "parameters": [  
11825           {  
11826             "$ref": "#/parameters/interface"  
11827           }  
11828         ],  
11829       }  
11830     }  
11831   }  
11832 }
```

```

11829         "name": "body",
11830         "in": "body",
11831         "required": true,
11832         "schema": {
11833             "$ref": "#/definitions/Height"
11834         },
11835         "x-example": {
11836             "height": 1.75,
11837             "units": "m"
11838         }
11839     },
11840 ],
11841 "responses": {
11842     "200": {
11843         "description": "Indicates that the height was successfully changed.\nThe new height is
11844 provided in the response.",
11845         "x-example": {
11846             "height": 1.75,
11847             "units": "m"
11848         },
11849         "schema": {
11850             "$ref": "#/definitions/Height"
11851         }
11852     },
11853     "403": {
11854         "description": "Indicates that OCF Client sent an invalid Property value to the
11855 Server.\nThe Server responds with the current Resource representation.",
11856         "x-example": {
11857             "height": 1.8,
11858             "units": "m"
11859         },
11860         "schema": {
11861             "$ref": "#/definitions/Height"
11862         }
11863     }
11864 }
11865 }
11866 },
11867 },
11868 "parameters": {
11869     "interface": {
11870         "in": "query",
11871         "name": "if",
11872         "type": "string",
11873         "enum": [
11874             "oic.if.a",
11875             "oic.if.s",
11876             "oic.if.baseline"
11877         ]
11878     }
11879 },
11880 "definitions": {
11881     "Height": {
11882         "properties": {
11883             "rt": {
11884                 "description": "Resource Type",
11885                 "items": {
11886                     "enum": [
11887                         "oic.r.height"
11888                     ],
11889                     "type": "string",
11890                     "maxLength": 64
11891                 },
11892                 "minItems": 1,
11893                 "uniqueItems": true,
11894                 "readOnly": true,
11895                 "type": "array"
11896             },
11897             "height": {
11898                 "description": "Height of an object",
11899                 "minimum": 0,
11900                 "type": "number"

```

```

11901     },
11902     "units": {
11903         "description": "Height unit",
11904         "enum": [
11905             "m",
11906             "cm",
11907             "ft",
11908             "in"
11909         ],
11910         "readOnly": true,
11911         "type": "string",
11912         "default": "m"
11913     },
11914     "range": {
11915         "$ref":
11916         "https://openconnectivityfoundation.github.io/IoTDataModels/schemas/oic.baseresource.properties-
11917         schema.json#/definitions/range_number"
11918     },
11919     "step": {
11920         "$ref":
11921         "https://openconnectivityfoundation.github.io/IoTDataModels/schemas/oic.baseresource.properties-
11922         schema.json#/definitions/step_number"
11923     },
11924     "precision": {
11925         "$ref":
11926         "https://openconnectivityfoundation.github.io/IoTDataModels/schemas/oic.baseresource.properties-
11927         schema.json#/definitions/precision"
11928     },
11929     "n": {
11930         "$ref":
11931         "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
11932         schema.json#/definitions/n"
11933     },
11934     "id": {
11935         "$ref":
11936         "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
11937         schema.json#/definitions/id"
11938     },
11939     "if": {
11940         "description": "The OCF Interface set supported by this Resource",
11941         "items": {
11942             "enum": [
11943                 "oic.if.a",
11944                 "oic.if.s",
11945                 "oic.if.baseline"
11946             ],
11947             "type": "string",
11948             "maxLength": 64
11949         },
11950         "minItems": 1,
11951         "readOnly": true,
11952         "uniqueItems": true,
11953         "type": "array"
11954     }
11955 },
11956 "type": "object",
11957 "required": [
11958     "height"
11959 ]
11960 }
11961 }
11962 }
11963

```

11964 6.64.5 Property definition

11965 Table 131 defines the Properties that are part of the "oic.r.height" Resource Type.

11966 **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	

11967 **6.64.6 CRUDN behaviour**

11968 Table 132 defines the CRUDN operations that are supported on the "oic.r.height" Resource Type.

11969 **Table 132 – The CRUDN operations of the Resource with type "rt" = "oic.r.height".**

Create	Read	Update	Delete	Notify
	get	post		observe

11970 **6.65 Weight**

11971 **6.65.1 Introduction**

11972 This Resource describes the Properties associated with weight of an object.
 11973 The unit is a single value that is one of kg, g, lb or oz.
 11974 If the unit Property is missing the default is kilograms [kg].
 11975 The unit Property is a read-only value that is provided by the server.
 11976 When range is omitted the default is 0 to +MAXFLOAT.

11977 **6.65.2 Example URI**

11978 /WeightResURI

11979 **6.65.3 Resource type**

11980 The Resource Type is defined as: "oic.r.weight".

11981 **6.65.4 OpenAPI 2.0 definition**

```
11982 {
11983   "swagger": "2.0",
11984   "info": {
11985     "title": "Weight",
11986     "version": "2019-03-22",
11987     "license": {
11988       "name": "OCF Data Model License",
11989       "url":
11990         "https://github.com/openconnectivityfoundation/core/blob/e28a9e0a92e17042ba3e83661e4c0fbce8bdc4ba/LI
11991         CENSE.md",
11992       "x-copyright": "Copyright 2016-2019 Open Connectivity Foundation, Inc. All rights reserved."
11993     },
11994     "termsOfService": "https://openconnectivityfoundation.github.io/core/DISCLAIMER.md"
11995   },
11996   "schemes": [
11997     "http"
11998   ],
11999   "consumes": [
12000     "application/json"
12001   ],
12002   "produces": [
12003     "application/json"
12004   ],
12005   "paths": {
12006     "/WeightResURI": {
12007       "get": {
12008         "description": "This Resource describes the Properties associated with weight of an
12009         object.\nThe unit is a single value that is one of kg, g, lb or oz.\nIf the unit Property is missing
12010         the default is kilograms [kg].\nThe unit Property is a read-only value that is provided by the
12011         server.\nWhen range is omitted the default is 0 to +MAXFLOAT.",
12012         "parameters": [
12013           {
12014             "$ref": "#/parameters/interface"
12015           }
12016         ],
12017         "responses": {
12018           "200": {
12019             "description": "",
12020             "x-example": {
12021               "rt": [
12022                 "oic.r.weight"
12023               ],
12024               "weight": 80.0,
12025               "units": "kg"
12026             },
12027             "schema": {
12028               "$ref": "#/definitions/Weight"
12029             }
12030           }
12031         }
12032       },
12033       "post": {
12034         "description": "Sets the Weight.",
12035         "parameters": [
12036           {
12037             "$ref": "#/parameters/interface"
12038           },
12039           {
12040             "name": "body",
12041             "in": "body",
12042             "required": true,
12043             "schema": {
```



```

12044         "$ref": "#/definitions/Weight"
12045     },
12046     "x-example": {
12047         "weight": 75.0,
12048         "units": "kg"
12049     }
12050 },
12051 ],
12052 "responses": {
12053     "200": {
12054         "description": "Indicates that the weight was successfully changed.\n\nThe new weight is
12055 provided in the response.",
12056         "x-example": {
12057             "weight": 75.0,
12058             "units": "kg"
12059         },
12060         "schema": {
12061             "$ref": "#/definitions/Weight"
12062         }
12063     },
12064     "403": {
12065         "description": "Indicates that OCF client sent an invalid Property value to the
12066 Server.\n\nThe Server responds with the current resource representation.",
12067         "x-example": {
12068             "weight": 80.0,
12069             "units": "kg"
12070         },
12071         "schema": {
12072             "$ref": "#/definitions/Weight"
12073         }
12074     }
12075 }
12076 }
12077 },
12078 },
12079 "parameters": {
12080     "interface": {
12081         "in": "query",
12082         "name": "if",
12083         "type": "string",
12084         "enum": [
12085             "oic.if.s",
12086             "oic.if.a",
12087             "oic.if.baseline"
12088         ]
12089     }
12090 },
12091 "definitions": {
12092     "Weight": {
12093         "properties": {
12094             "rt": {
12095                 "description": "Resource Type",
12096                 "items": {
12097                     "enum": [
12098                         "oic.r.weight"
12099                     ],
12100                     "type": "string",
12101                     "maxLength": 64
12102                 },
12103                 "minItems": 1,
12104                 "uniqueItems": true,
12105                 "readOnly": true,
12106                 "type": "array"
12107             },
12108             "weight": {
12109                 "description": "Weight of an object",
12110                 "minimum": 0.0,
12111                 "type": "number"
12112             },
12113             "units": {
12114                 "description": "Weight unit",
12115                 "enum": [

```

```

12116         "kg",
12117         "g",
12118         "lb",
12119         "oz"
12120     ],
12121     "readOnly": true,
12122     "type": "string",
12123     "default": "kg"
12124 },
12125 "range": {
12126     "$ref":
12127 "https://openconnectivityfoundation.github.io/IoTDataModels/schemas/oic.baseresource.properties-
12128 schema.json#/definitions/range_number"
12129 },
12130 "step": {
12131     "$ref":
12132 "https://openconnectivityfoundation.github.io/IoTDataModels/schemas/oic.baseresource.properties-
12133 schema.json#/definitions/step_number"
12134 },
12135 "precision": {
12136     "$ref":
12137 "https://openconnectivityfoundation.github.io/IoTDataModels/schemas/oic.baseresource.properties-
12138 schema.json#/definitions/precision"
12139 },
12140 "n": {
12141     "$ref":
12142 "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
12143 schema.json#/definitions/n"
12144 },
12145 "id": {
12146     "$ref":
12147 "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
12148 schema.json#/definitions/id"
12149 },
12150 "if": {
12151     "description": "The OCF Interface set supported by this Resource",
12152     "items": {
12153         "enum": [
12154             "oic.if.s",
12155             "oic.if.a",
12156             "oic.if.baseline"
12157         ],
12158         "type": "string",
12159         "maxLength": 64
12160     },
12161     "minItems": 1,
12162     "readOnly": true,
12163     "uniqueItems": true,
12164     "type": "array"
12165 }
12166 },
12167 "type": "object",
12168 "required": [
12169     "weight",
12170     "units"
12171 ]
12172 }
12173 }
12174 }
12175

```

12176 6.65.5 Property definition

12177 Table 133 defines the Properties that are part of the "oic.r.weight" Resource Type.

12178 **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	

12179 **6.65.6 CRUDN behaviour**

12180 Table 134 defines the CRUDN operations that are supported on the "oic.r.weight" Resource Type.

12181 **Table 134 – The CRUDN operations of the Resource with type "rt" = "oic.r.weight".**

Create	Read	Update	Delete	Notify
	get	post		observe

12182 **6.66 Air Quality**

12183 **6.66.1 Introduction**

12184 This Resource describes a qualitative or measured contaminant that can be used to infer Air Quality.
12185 The Property "valueType" indicates a qualitative or measured reading within the contaminantvalue
12186 Property.

12187 The Property "contaminantvalue" can contain the actual sensed value with units per contaminant
12188 type.

12189 Qualitative is a representative value within the range provided where the minimum value is
12190 minimum contamination and maximum value is maximum contamination for the specific
12191 contaminant.

12192 contaminantvalue contains the actual measured or qualitative level.
12193 The Property Range contains the allowed range for the value that is being reported.
12194 If valueType is 'Measured' then the units for the contaminant types are as follows:
12195 Methanal (also known as Formaldehyde): CH₂O (ug/m³),

12196 Carbon Dioxide: CO2 (ppm),
 12197 Carbon Monoxide: CO (ppm),
 12198 Particulate Matter (less than 2.5 microns in diameter): PM2.5 (ug/m³),
 12199 Particulate Matter (less than 10 microns in diameter): PM10 (ug/m³),
 12200 Volatile Organic Compounds: VOC (ug/m³).

12201 6.66.2 Example URI

12202 /AirQualityResURI

12203 6.66.3 Resource type

12204 The Resource Type is defined as: "oic.r.airquality".

12205 6.66.4 OpenAPI 2.0 definition

```

12206 {
12207   "swagger": "2.0",
12208   "info": {
12209     "title": "Air Quality",
12210     "version": "20190225",
12211     "license": {
12212       "name": "OCF Data Model License",
12213       "url":
12214         "https://github.com/openconnectivityfoundation/core/blob/e28a9e0a92e17042ba3e83661e4c0fbce8bdc4ba/LI
12215         CENSE.md",
12216       "x-copyright": "copyright 2016-2017, 2019 Open Connectivity Foundation, Inc. All rights
12217         reserved."
12218     },
12219     "termsOfService": "https://openconnectivityfoundation.github.io/core/DISCLAIMER.md"
12220   },
12221   "schemes": ["http"],
12222   "consumes": ["application/json"],
12223   "produces": ["application/json"],
12224   "paths": {
12225     "/AirQualityResURI" : {
12226       "get": {
12227         "description": "This Resource describes a qualitative or measured contaminant that can be
12228         used to infer Air Quality.\n\nThe Property \"valueType\" indicates a qualitative or measured reading
12229         within the contaminantvalue Property.\n\nThe Property \"contaminantvalue\" can contain the actual
12230         sensed value with units per contaminant type.\n\nQualitative is a representative value within the
12231         range provided where the minium value is minimum contamination and maximum value is maximum
12232         contamination for the specific contaminant.\n\ncontaminantvalue contains the actual measured or
12233         qualitative level.\n\nThe Property Range contains the allowed range for the value that is being
12234         reported.\n\nIf valueType is 'Measured' then the units for the contaminant types are as follows:\n
12235         Methanal (also known as Formaldehyde): CH2O (ug/m^3),\n Carbon Dioxide: CO2 (ppm),\n Carbon
12236         Monoxide: CO (ppm),\n Particulate Matter (less than 2.5 microns in diameter): PM2.5 (ug/m^3),\n
12237         Particulate Matter (less than 10 microns in diameter): PM10 (ug/m^3),\n Volatile Organic Compounds:
12238         VOC (ug/m^3).",
12239         "parameters": [
12240           { "$ref": "#/parameters/interface" }
12241         ],
12242         "responses": {
12243           "200": {
12244             "description": "",
12245             "x-example":
12246               {
12247                 "rt": ["oic.r.airquality"],
12248                 "if": ["oic.if.s", "oic.if.baseline"],
12249                 "contaminanttype": "CO",
12250                 "valuetype": "Measured",
12251                 "contaminantvalue": 10,
12252                 "range": [0,500]
12253               },
12254             "schema": { "$ref": "#/definitions/AirQuality" }
12255           }
12256         }
12257       }
12258     }
12259   },
12260   "parameters": {

```

```

12261     "interface" : {
12262         "in" : "query",
12263         "name" : "if",
12264         "type" : "string",
12265         "enum" : ["oic.if.s", "oic.if.baseline"]
12266     }
12267 },
12268 "definitions": {
12269     "AirQuality" : {
12270         "properties": {
12271             "rt" : {
12272                 "description": "The Resource Type.",
12273                 "items": {
12274                     "enum": ["oic.r.airquality"],
12275                     "maxLength": 64,
12276                     "type": "string"
12277                 },
12278                 "minItems": 1,
12279                 "uniqueItems": true,
12280                 "readOnly": true,
12281                 "type": "array"
12282             },
12283             "contaminanttype": {
12284                 "description": "The contaminant being measured.",
12285                 "enum": [
12286                     "CH2O",
12287                     "CO2",
12288                     "CO",
12289                     "PM2.5",
12290                     "PM10",
12291                     "VOC",
12292                     "Smoke",
12293                     "Odor",
12294                     "AirPollution"
12295                 ],
12296                 "readOnly": true,
12297                 "type": "string"
12298             },
12299             "valuetype": {
12300                 "description": "The property that indicates whether the provided value is qualitative or
12301 measured.",
12302                 "enum": [
12303                     "Qualitative",
12304                     "Measured"
12305                 ],
12306                 "readOnly": true,
12307                 "type": "string"
12308             },
12309             "contaminantvalue": {
12310                 "description": "The measured or qualitative value for the contaminant.",
12311                 "readOnly": true,
12312                 "type": "integer"
12313             },
12314             "n": {
12315                 "$ref":
12316 "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
12317 schema.json#/definitions/n"
12318             },
12319             "id": {
12320                 "$ref":
12321 "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
12322 schema.json#/definitions/id"
12323             },
12324             "range": {
12325                 "$ref":
12326 "https://openconnectivityfoundation.github.io/IoTDataModels/schemas/oic.baseresource.properties-
12327 schema.json#/definitions/range_integer"
12328             },
12329             "if" : {
12330                 "description": "The OCF Interface set supported by this Resource.",
12331                 "items": {
12332                     "enum": [

```

```

12333         "oic.if.s",
12334         "oic.if.baseline"
12335     ],
12336     "type": "string"
12337 },
12338     "minItems": 2,
12339     "uniqueItems": true,
12340     "readOnly": true,
12341     "type": "array"
12342 }
12343 },
12344     "type": "object",
12345     "required": ["contaminantvalue", "contaminanttype", "valuetype"]
12346 }
12347 }
12348 }
12349

```

12350 6.66.5 Property definition

12351 Table 135 defines the Properties that are part of the "oic.r.airquality" Resource Type.

12352 **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	

12353 **6.66.6 CRUDN behaviour**

12354 Table 136 defines the CRUDN operations that are supported on the "oic.r.airquality" Resource
12355 Type.

12356 **Table 136 – The CRUDN operations of the Resource with type "rt" = "oic.r.airquality".**

Create	Read	Update	Delete	Notify
	get			observe

12357 **6.67 Air Quality Collection**

12358 **6.67.1 Introduction**

12359 This resource describes a sensor that provides the qualitative or measured Air Quality.
12360 The resource is a collection of instances of oic.r.airquality detailing the individual exposed
12361 contaminant measures

12362 There is one collection entry per contaminant type supported by the device. A device must expose
12363 at least one measured or qualitative value.
12364 Retrieves the current air quality.
12365

12366 **6.67.2 Example URI**

12367 /AirQualityResURI

12368 **6.67.3 Resource type**

12369 The Resource Type is defined as: "oic.r.airqualitycollection, oic.wk.col".

12370 **6.67.4 OpenAPI 2.0 definition**

```

12371 {
12372   "swagger": "2.0",
12373   "info": {
12374     "title": "Air Quality Collection",
12375     "version": "20190307",
12376     "license": {
12377       "name": "OCF Data Model License",
12378       "url":
12379 "https://github.com/openconnectivityfoundation/core/blob/e28a9e0a92e17042ba3e83661e4c0fbce8bdc4ba/LI
12380 CENSE.md",
12381       "x-copyright": "copyright 2016-2019 Open Connectivity Foundation, Inc. All rights reserved."
12382     },
12383     "termsOfService": "https://openconnectivityfoundation.github.io/core/DISCLAIMER.md"
12384   },
12385   "schemes": ["http"],
12386   "consumes": ["application/json"],
12387   "produces": ["application/json"],
12388   "paths": {
12389     "/AirQualityCollectionResURI?if=oic.if.ll" : {
12390       "get": {
12391         "description": "This resource describes a sensor that provides the qualitative or measured
12392 Air Quality.\nThe resource is a collection of instances of oic.r.airquality detailing the individual
12393 exposed contaminant measures\nThere is one collection entry per contaminant type supported by the
12394 device. A device must expose at least one measured or qualitative value.\nRetrieves the current air
12395 quality.\n",
12396         "parameters": [
12397           {"$ref": "#/parameters/interface-all"}
12398         ],
12399         "responses": {
12400           "200": {
12401             "description": "",
12402             "x-example":
12403 [
12404           {"href": "/myCOMeasureResURI", "rt": ["oic.r.airquality"], "if":

```

```

12405 ["oic.if.s","oic.if.baseline"], "eps": [{"ep": "coaps://[fe80::b1d6]:1122"}],
12406     {"href": "/myCO2ResURI", "rt": ["oic.r.airquality"], "if":
12407 ["oic.if.s","oic.if.baseline"], "eps": [{"ep": "coaps://[fe80::b1d6]:1122"}]}
12408     ],
12409     "schema": { "$ref": "#/definitions/AirQuality-11" }
12410   }
12411 }
12412 }
12413 },
12414 "/AirQualityCollectionResURI?if=oic.if.b": {
12415   "get": {
12416     "description": "This resource describes a sensor that provides the qualitative or measured
12417 Air Quality.\nThe resource is a collection of instances of oic.r.airquality detailing the individual
12418 exposed contaminant measures\nThere is one collection entry per contaminant type supported by the
12419 device. A device must expose at least one measured or qualitative value.\nRetrieves the current air
12420 quality.\n",
12421     "parameters": [
12422       {"$ref": "#/parameters/interface-all"}
12423     ],
12424     "responses": {
12425       "200": {
12426         "description": "",
12427         "x-example": [
12428           {
12429             "href": "/AirQualityCOResURI",
12430             "rep": {
12431               "contaminanttype": "CO",
12432               "valuetype": "Measured",
12433               "contaminantvalue": 10,
12434               "range": [0,500]
12435             }
12436           },
12437           {
12438             "href": "/AirQualitySmokeResURI",
12439             "rep": {
12440               "contaminanttype": "Smoke",
12441               "valuetype": "Measured",
12442               "contaminantvalue": 100,
12443               "range": [0,5000]
12444             }
12445           }
12446         ],
12447         "schema": { "$ref": "#/definitions/AirQualityCollectionBatch-Retrieve" }
12448       }
12449     }
12450   }
12451 },
12452 "/AirQualityCollectionResURI?if=oic.if.baseline": {
12453   "get": {
12454     "description": "This resource describes a sensor that provides the qualitative or measured
12455 Air Quality.\nThe resource is a collection of instances of oic.r.airquality detailing the individual
12456 exposed contaminant measures\nThere is one collection entry per contaminant type supported by the
12457 device. A device must expose at least one measured or qualitative value.\nRetrieves the current air
12458 quality.\n",
12459     "parameters": [
12460       {"$ref": "#/parameters/interface-all"}
12461     ],
12462     "responses": {
12463       "200": {
12464         "description": "",
12465         "x-example":
12466           {
12467             "rt": ["oic.r.airqualitycollection","oic.wk.col"],
12468             "if": ["oic.if.baseline","oic.if.ll"],
12469             "links": [
12470               {"href": "/myCOMeasureResURI", "rt": ["oic.r.airquality"], "if":
12471 ["oic.if.s","oic.if.baseline"], "eps": [{"ep": "coaps://[fe80::b1d6]:1122"}]},
12472               {"href": "/myCO2ResURI", "rt": ["oic.r.airquality"], "if":
12473 ["oic.if.s","oic.if.baseline"], "eps": [{"ep": "coaps://[fe80::b1d6]:1122"}]}
12474             ]
12475           },
12476     "schema": { "$ref": "#/definitions/AirQuality" }

```



```

12477     }
12478   }
12479 }
12480 }
12481 },
12482 "parameters": {
12483   "interface-all": {
12484     "in": "query",
12485     "name": "if",
12486     "type": "string",
12487     "enum": ["oic.if.ll", "oic.if.b", "oic.if.baseline"]
12488   }
12489 },
12490 "definitions": {
12491   "AirQuality-ll": {
12492     "items": {
12493       "$ref": "#/definitions/oic.oic-link"
12494     },
12495     "type": "array"
12496   },
12497   "oic.oic-link": {
12498     "type": "object",
12499     "properties": {
12500       "anchor": {
12501         "$ref":
12502 "https://openconnectivityfoundation.github.io/core/schemas/oic.links.properties.core-
12503 schema.json#/definitions/anchor"
12504       },
12505       "di": {
12506         "$ref":
12507 "https://openconnectivityfoundation.github.io/core/schemas/oic.links.properties.core-
12508 schema.json#/definitions/di"
12509       },
12510       "eps": {
12511         "$ref":
12512 "https://openconnectivityfoundation.github.io/core/schemas/oic.links.properties.core-
12513 schema.json#/definitions/eps"
12514       },
12515       "href": {
12516         "$ref":
12517 "https://openconnectivityfoundation.github.io/core/schemas/oic.links.properties.core-
12518 schema.json#/definitions/href"
12519       },
12520       "ins": {
12521         "$ref":
12522 "https://openconnectivityfoundation.github.io/core/schemas/oic.links.properties.core-
12523 schema.json#/definitions/ins"
12524       },
12525       "p": {
12526         "$ref":
12527 "https://openconnectivityfoundation.github.io/core/schemas/oic.links.properties.core-
12528 schema.json#/definitions/p"
12529       },
12530       "rel": {
12531         "$ref":
12532 "https://openconnectivityfoundation.github.io/core/schemas/oic.links.properties.core-
12533 schema.json#/definitions/rel_array"
12534       },
12535       "title": {
12536         "$ref":
12537 "https://openconnectivityfoundation.github.io/core/schemas/oic.links.properties.core-
12538 schema.json#/definitions/title"
12539       },
12540       "type": {
12541         "$ref":
12542 "https://openconnectivityfoundation.github.io/core/schemas/oic.links.properties.core-
12543 schema.json#/definitions/type"
12544       },
12545       "if": {
12546         "description": "The OCF Interfaces supported by the target Resource",
12547         "items": {
12548           "enum": [

```

```

12549         "oic.if.s",
12550         "oic.if.baseline"
12551     ],
12552     "type": "string",
12553     "maxLength": 64
12554 },
12555     "minItems": 2,
12556     "uniqueItems": true,
12557     "type": "array",
12558     "readOnly": true
12559 },
12560     "rt": {
12561         "description": "Resource Type of the target Resource",
12562         "items": {
12563             "maxLength": 64,
12564             "type": "string",
12565             "enum": ["oic.r.airquality"]
12566         },
12567         "minItems": 1,
12568         "type": "array",
12569         "uniqueItems": true,
12570         "readOnly": true
12571     }
12572 },
12573     "required": [
12574         "href",
12575         "rt",
12576         "if"
12577     ]
12578 },
12579     "AirQuality": {
12580         "type": "object",
12581         "properties": {
12582             "rt": {
12583                 "items": {
12584                     "enum": [
12585                         "oic.r.airqualitycollection",
12586                         "oic.wk.col"
12587                     ],
12588                     "type": "string",
12589                     "maxLength": 64
12590                 },
12591                 "minItems": 2,
12592                 "type": "array",
12593                 "uniqueItems": true
12594             },
12595             "links": {
12596                 "description": "A set of simple or individual OCF Links.",
12597                 "type": "array",
12598                 "items": {
12599                     "$ref": "#/definitions/oic.oic-link"
12600                 }
12601             },
12602             "n": {
12603                 "$ref": :
12604                 "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
12605                 schema.json#/definitions/n"
12606             },
12607             "id": {
12608                 "$ref": :
12609                 "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
12610                 schema.json#/definitions/id"
12611             },
12612             "rts": {
12613                 "items": {
12614                     "anyOf": [
12615                         {
12616                             "enum": [
12617                                 "oic.r.airquality",
12618                                 "oic.r.value.conditional"
12619                             ],
12620                             "type": "string",

```

```

12621         "maxLength": 64
12622     },
12623     {
12624         "enum": [
12625             "oic.r.airquality"
12626         ],
12627         "type": "string",
12628         "maxLength": 64
12629     }
12630 ]
12631 },
12632 "minItems": 1,
12633 "type": "array",
12634 "uniqueItems": true
12635 },
12636 "if": {
12637     "description": "The OCF Interfaces supported by this Resource",
12638     "items": {
12639         "enum": [
12640             "oic.if.ll",
12641             "oic.if.b",
12642             "oic.if.baseline"
12643         ],
12644         "type": "string",
12645         "maxLength": 64
12646     },
12647     "minItems": 1,
12648     "readOnly": true,
12649     "uniqueItems": true,
12650     "type": "array"
12651 }
12652 }
12653 },
12654 "AirQualityCollectionBatch-Retrieve" : {
12655     "type": "array",
12656     "minItems": 1,
12657     "uniqueItems": true,
12658     "items": {
12659         "type": "object",
12660         "additionalProperties": true,
12661         "properties": {
12662             "href": {
12663                 "$ref":
12664 "https://openconnectivityfoundation.github.io/core/schemas/oic.links.properties.core-
12665 schema.json#/definitions/href"
12666             },
12667             "rep": {
12668                 "$ref":
12669 "https://openconnectivityfoundation.github.io/IoTDataModels/AirQualityResURI.swagger.json#/definitio
12670 ns/AirQuality"
12671             }
12672         },
12673         "required": [
12674             "href",
12675             "rep"
12676         ]
12677     }
12678 }
12679 }
12680 }
12681

```

12682 6.67.5 Property definition

12683 Table 137 defines the Properties that are part of the "oic.r.airqualitycollection, oic.wk.col" Resource
12684 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	

12687 **6.67.6 CRUDN behaviour**

12688 Table 138 defines the CRUDN operations that are supported on the "oic.r.airqualitycollection,
12689 oic.wk.col" Resource Type.

12690 **Table 138 – The CRUDN operations of the Resource with type "rt" =**
12691 **"oic.r.airqualitycollection, oic.wk.col".**

Create	Read	Update	Delete	Notify
	get			observe

12692 **6.68 Consumable**

12693 **6.68.1 Introduction**

12694 This Resource specifies a thing that can be consumed such as filter material, printer toner etc
12695 The Property "typeofconsumable" is an enumeration defining the thing being consumed as defined
12696 by the Smart Home Device Specification
12697 The Property "remaining" is an integer capturing the percentage remaining life
12698 The Property "orderpercentage" is an integer capturing the percentage life at which replacement
12699 or replenishment is recommended by the manufacturer
12700 The Property "url" is a string containing a URL at which further information may be obtained with
12701 respect to the consumable.

12702 **6.68.2 Example URI**

12703 /ConsumableResURI

12704 **6.68.3 Resource type**

12705 The Resource Type is defined as: "oic.r.consumable".

12706 **6.68.4 OpenAPI 2.0 definition**

```
12707 {
12708   "swagger": "2.0",
12709   "info": {
12710     "title": "Consumable",
12711     "version": "20190215",
12712     "license": {
```

```

12713     "name": "OCF Data Model License",
12714     "url":
12715 "https://github.com/openconnectivityfoundation/core/blob/e28a9e0a92e17042ba3e83661e4c0fbce8bdc4ba/LI
12716 CENSE.md",
12717     "x-copyright": "copyright 2016-2017, 2019 Open Connectivity Foundation, Inc. All rights
12718 reserved."
12719   },
12720   "termsOfService": "https://openconnectivityfoundation.github.io/core/DISCLAIMER.md"
12721 },
12722 "schemas": ["http"],
12723 "consumes": ["application/json"],
12724 "produces": ["application/json"],
12725 "paths": {
12726   "/ConsumableResURI" : {
12727     "get": {
12728       "description": "This Resource specifies a thing that can be consumed such as filter
12729 material, printer toner etc\nThe Propert \"typeofconsumable\" is an enumeration defining the thing
12730 being consumed as defined by the Smart Home Device Specification\nThe Property \"remaining\" is an
12731 integer capturing the percentatge remaining life\nThe Property \"orderpercentage\" is an integer
12732 capturing the percentage life at which replacement or replenishment is recommended by the
12733 manufacturer\nThe Property \"url\" is a string containing a URL at which further information may be
12734 obtained with respect to the consumable.",
12735     "parameters": [
12736       { "$ref": "#/parameters/interface" }
12737     ],
12738     "responses": {
12739       "200": {
12740         "description": "",
12741         "x-example":
12742           {
12743             "rt": ["oic.r.consumable"],
12744             "if": ["oic.if.s", "oic.if.baseline"],
12745             "typeofconsumable": "tonerBlack",
12746             "remaining": 20,
12747             "orderpercentage": 10,
12748             "url": "http://myreorderURL"
12749           },
12750         "schema": { "$ref": "#/definitions/consumable" }
12751       }
12752     }
12753   }
12754 },
12755 },
12756 "parameters": {
12757   "interface": {
12758     "in": "query",
12759     "name": "if",
12760     "type": "string",
12761     "enum": ["oic.if.s", "oic.if.baseline"]
12762   }
12763 },
12764 "definitions": {
12765   "consumable" : {
12766     "properties": {
12767       "rt": {
12768         "description": "The Resource Type.",
12769         "items": {
12770           "enum": ["oic.r.consumable"],
12771           "maxLength": 64,
12772           "type": "string"
12773         },
12774         "minItems": 1,
12775         "uniqueItems": true,
12776         "readOnly": true,
12777         "type": "array"
12778       },
12779       "remaining": {
12780         "description": "The percentage remaining lifespan.",
12781         "maximum": 100,
12782         "minimum": 0,
12783         "readOnly": true,
12784         "type": "integer"

```

```

12785     },
12786     "typeofconsumable": {
12787       "description": "The thing that is being consumed.",
12788       "readOnly": true,
12789       "type": "string"
12790     },
12791     "url": {
12792       "description": "The URL at which additional ordering information may be found.",
12793       "format": "uri",
12794       "readOnly": true,
12795       "type": "string"
12796     },
12797     "orderpercentage": {
12798       "description": "The percentage at which re-ordering is recommended by the manufacturer.",
12799       "maximum": 100,
12800       "minimum": 0,
12801       "readOnly": true,
12802       "type": "integer"
12803     },
12804     "n": {
12805       "$ref":
12806       "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
12807       schema.json#/definitions/n"
12808     },
12809     "id": {
12810       "$ref":
12811       "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
12812       schema.json#/definitions/id"
12813     },
12814     "if": {
12815       "description": "The OCF Interface set supported by this Resource.",
12816       "items": {
12817         "enum": [
12818           "oic.if.s",
12819           "oic.if.baseline"
12820         ],
12821         "type": "string"
12822       },
12823       "minItems": 2,
12824       "uniqueItems": true,
12825       "readOnly": true,
12826       "type": "array"
12827     }
12828   },
12829   "type": "object",
12830   "required": ["typeofconsumable", "remaining"]
12831 }
12832 }
12833 }
12834

```

12835 6.68.5 Property definition

12836 Table 139 defines the Properties that are part of the "oic.r.consumable" Resource Type.

12837 **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	

12838 **6.68.6 CRUDN behaviour**

12839 Table 140 defines the CRUDN operations that are supported on the "oic.r.consumable" Resource
12840 Type.

12841 **Table 140 – The CRUDN operations of the Resource with type "rt" = "oic.r.consumable".**

Create	Read	Update	Delete	Notify
	get			observe

12842 **6.69 Consumables**

12843 **6.69.1 Introduction**

12844 This Resource specifies things that can be consumed such as filter material, printer toner etc
12845 The resource is a Collection of instances of oic.r.consumable detailing the individual consumed
12846 items
12847 supportedconsumables is the set of consumable types that this instance of the Resource supports
12848

12849 **6.69.2 Example URI**

12850 /ConsumablesResURI

12851 **6.69.3 Resource type**

12852 The Resource Type is defined as: "oic.r.consumablecollection, oic.wk.col".

12853 **6.69.4 OpenAPI 2.0 definition**

12854 {
12855 "swagger": "2.0",


```

12856     "info": {
12857         "title": "Consumables",
12858         "version": "20190307",
12859         "license": {
12860             "name": "OCF Data Model License",
12861             "url":
12862 "https://github.com/openconnectivityfoundation/core/blob/e28a9e0a92e17042ba3e83661e4c0fbce8bdc4ba/LI
12863 CENSE.md",
12864             "x-copyright": "copyright 2016-2019 Open Connectivity Foundation, Inc. All rights reserved."
12865         },
12866         "termsOfService": "https://openconnectivityfoundation.github.io/core/DISCLAIMER.md"
12867     },
12868     "schemes": ["http"],
12869     "consumes": ["application/json"],
12870     "produces": ["application/json"],
12871     "paths": {
12872         "/ConsumablesResURI?if=oic.if.ll": {
12873             "get": {
12874                 "description": "This Resource specifies things that can be consumed such as filter material,
12875 printer toner etc\nThe resource is a Collection of instances of oic.r.consumable detailing the
12876 individual consumed items\nsupportedconsumables is the set of consumable types that this instance of
12877 the Resource supports\n",
12878                 "parameters": [
12879                     {"$ref": "#/parameters/interface-all"}
12880                 ],
12881                 "responses": {
12882                     "200": {
12883                         "description": "",
12884                         "x-example":
12885                             [
12886                                 {"href": "/myTonerBlackResURI", "rt": ["oic.r.consumable"], "if":
12887 ["oic.if.s","oic.if.baseline"], "eps": [{"ep": "coaps://[fe80::b1d6]:1122"}]},
12888                                 {"href": "/myTonerCyanResURI", "rt": ["oic.r.consumable"], "if":
12889 ["oic.if.s","oic.if.baseline"], "eps": [{"ep": "coaps://[fe80::b1d6]:1122"}]},
12890                                 {"href": "/myTonerMagentaResURI", "rt": ["oic.r.consumable"], "if":
12891 ["oic.if.s","oic.if.baseline"], "eps": [{"ep": "coaps://[fe80::b1d6]:1122"}]},
12892                                 {"href": "/myTonerYellowResURI", "rt": ["oic.r.consumable"], "if":
12893 ["oic.if.s","oic.if.baseline"], "eps": [{"ep": "coaps://[fe80::b1d6]:1122"}]}
12894                             ],
12895                         "schema": {"$ref": "#/definitions/consumables-ll" }
12896                     }
12897                 }
12898             }
12899         },
12900         "/ConsumablesResURI?if=oic.if.b": {
12901             "get": {
12902                 "description": "This Resource specifies things that can be consumed such as filter material,
12903 printer toner etc\nThe resource is a Collection of instances of oic.r.consumable detailing the
12904 individual consumed items\nsupportedconsumables is the set of consumable types that this instance of
12905 the Resource supports\n",
12906                 "parameters": [
12907                     {"$ref": "#/parameters/interface-all"}
12908                 ],
12909                 "responses": {
12910                     "200": {
12911                         "description": "",
12912                         "x-example": [
12913                             {
12914                                 "href": "/tonerCyanResURI",
12915                                 "rep": {
12916                                     "typeofconsumable": "tonerCyan",
12917                                     "remaining": 70,
12918                                     "orderpercentage": 10,
12919                                     "url": "http://myreorderURL"
12920                                 }
12921                             },
12922                             {
12923                                 "href": "/tonerBlackResURI",
12924                                 "rep": {
12925                                     "typeofconsumable": "tonerBlack",
12926                                     "remaining": 20,
12927                                     "orderpercentage": 10,

```

```

12928         "url": "http://myreorderURL"
12929     }
12930 }
12931 ],
12932 "schema": { "$ref": "#/definitions/ConsumableCollectionBatch-Retrieve" }
12933 }
12934 }
12935 }
12936 },
12937 "/ConsumablesResURI?if=oic.if.baseline" : {
12938     "get": {
12939         "description": "This Resource specifies things that can be consumed such as filter material,
12940 printer toner etc\nThe resource is a Collection of instances of oic.r.consumable detailing the
12941 individual consumed items\nsupportedconsumables is the set of consumable types that this instance of
12942 the Resource supports\n",
12943         "parameters": [
12944             { "$ref": "#/parameters/interface-all" }
12945         ],
12946         "responses": {
12947             "200": {
12948                 "description" : "",
12949                 "x-example": {
12950                     "rt": [ "oic.r.consumablecollection", "oic.wk.col" ],
12951                     "if": [ "oic.if.ll", "oic.if.b", "oic.if.baseline" ],
12952                     "rts": [ "oic.r.consumable", "oic.r.value.conditional" ],
12953                     "supportedconsumables": [ "tonerBlack", "tonerCyan", "tonerMagenta", "tonerYellow" ],
12954                     "links": [
12955                         { "href": "/myTonerBlackResURI", "rt": [ "oic.r.consumable" ], "if":
12956 [ "oic.if.s", "oic.if.baseline" ], "eps": [ { "ep": "coaps://[fe80::b1d6]:1122" } ] },
12957                         { "href": "/myTonerCyanResURI", "rt": [ "oic.r.consumable" ], "if":
12958 [ "oic.if.s", "oic.if.baseline" ], "eps": [ { "ep": "coaps://[fe80::b1d6]:1122" } ] },
12959                         { "href": "/myTonerMagentaResURI", "rt": [ "oic.r.consumable" ], "if":
12960 [ "oic.if.s", "oic.if.baseline" ], "eps": [ { "ep": "coaps://[fe80::b1d6]:1122" } ] },
12961                         { "href": "/myTonerYellowResURI", "rt": [ "oic.r.consumable" ], "if":
12962 [ "oic.if.s", "oic.if.baseline" ], "eps": [ { "ep": "coaps://[fe80::b1d6]:1122" } ] }
12963                     ]
12964                 },
12965                 "schema": { "$ref": "#/definitions/consumables" }
12966             }
12967         }
12968     }
12969 },
12970 },
12971 "parameters": {
12972     "interface-all" : {
12973         "in" : "query",
12974         "name" : "if",
12975         "type" : "string",
12976         "enum" : [ "oic.if.ll", "oic.if.b", "oic.if.baseline" ]
12977     }
12978 },
12979 "definitions": {
12980     "consumables-ll" : {
12981         "items": {
12982             "$ref": "#/definitions/oic.oic-link"
12983         },
12984         "type": "array"
12985     },
12986     "consumables": {
12987         "properties": {
12988             "rt": {
12989                 "items": {
12990                     "enum": [
12991                         "oic.r.consumablecollection",
12992                         "oic.wk.col"
12993                     ],
12994                     "type": "string",
12995                     "maxLength": 64
12996                 },
12997                 "minItems": 2,
12998                 "type": "array",
12999                 "readOnly": true,

```

```

13000         "uniqueItems": true
13001     },
13002     "supportedconsumables": {
13003         "description": "Array of possible consumables the device measures.",
13004         "items": {
13005             "type": "string"
13006         },
13007         "readOnly": true,
13008         "type": "array"
13009     },
13010     "links": {
13011         "description": "A set of simple or individual OCF Links.",
13012         "items": {
13013             "$ref": "#/definitions/oic.oic-link"
13014         },
13015         "type": "array"
13016     },
13017     "n": {
13018         "$ref" :
13019         "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
13020         schema.json#/definitions/n"
13021     },
13022     "id": {
13023         "$ref" :
13024         "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
13025         schema.json#/definitions/id"
13026     },
13027     "rts": {
13028         "items": {
13029             "anyOf": [
13030                 {
13031                     "enum": [
13032                         "oic.r.consumable",
13033                         "oic.r.value.conditional"
13034                     ],
13035                     "type": "string",
13036                     "maxLength": 64
13037                 },
13038                 {
13039                     "enum": [
13040                         "oic.r.consumable"
13041                     ],
13042                     "type": "string",
13043                     "maxLength": 64
13044                 }
13045             ]
13046         },
13047         "minItems": 1,
13048         "type": "array",
13049         "readOnly": true,
13050         "uniqueItems": true
13051     },
13052     "if": {
13053         "description": "The OCF Interfaces supported by this Resource",
13054         "items": {
13055             "enum": [
13056                 "oic.if.ll",
13057                 "oic.if.b",
13058                 "oic.if.baseline"
13059             ],
13060             "type": "string",
13061             "maxLength": 64
13062         },
13063         "minItems": 1,
13064         "readOnly": true,
13065         "uniqueItems": true,
13066         "type": "array"
13067     }
13068 },
13069 "type" : "object"
13070 },
13071 "ConsumableCollectionBatch-Retrieve" : {

```

```

13072         "type": "array",
13073         "minItems": 1,
13074         "uniqueItems": true,
13075         "items": {
13076             "type": "object",
13077             "additionalProperties": true,
13078             "properties": {
13079                 "href": {
13080                     "$ref":
13081 "https://openconnectivityfoundation.github.io/core/schemas/oic.links.properties.core-
13082 schema.json#/definitions/href"
13083                 },
13084                 "rep": {
13085                     "$ref":
13086 "https://openconnectivityfoundation.github.io/IoTDataModels/ConsumableResURI.swagger.json#/definitio
13087 ns/consumable"
13088                 }
13089             },
13090             "required": [
13091                 "href",
13092                 "rep"
13093             ]
13094         }
13095     },
13096     "oic.oic-link": {
13097         "type": "object",
13098         "properties": {
13099             "anchor": {
13100                 "$ref":
13101 "https://openconnectivityfoundation.github.io/core/schemas/oic.links.properties.core-
13102 schema.json#/definitions/anchor"
13103             },
13104             "di": {
13105                 "$ref":
13106 "https://openconnectivityfoundation.github.io/core/schemas/oic.links.properties.core-
13107 schema.json#/definitions/di"
13108             },
13109             "eps": {
13110                 "$ref":
13111 "https://openconnectivityfoundation.github.io/core/schemas/oic.links.properties.core-
13112 schema.json#/definitions/eps"
13113             },
13114             "href": {
13115                 "$ref":
13116 "https://openconnectivityfoundation.github.io/core/schemas/oic.links.properties.core-
13117 schema.json#/definitions/href"
13118             },
13119             "ins": {
13120                 "$ref":
13121 "https://openconnectivityfoundation.github.io/core/schemas/oic.links.properties.core-
13122 schema.json#/definitions/ins"
13123             },
13124             "p": {
13125                 "$ref":
13126 "https://openconnectivityfoundation.github.io/core/schemas/oic.links.properties.core-
13127 schema.json#/definitions/p"
13128             },
13129             "rel": {
13130                 "$ref":
13131 "https://openconnectivityfoundation.github.io/core/schemas/oic.links.properties.core-
13132 schema.json#/definitions/rel_array"
13133             },
13134             "title": {
13135                 "$ref":
13136 "https://openconnectivityfoundation.github.io/core/schemas/oic.links.properties.core-
13137 schema.json#/definitions/title"
13138             },
13139             "type": {
13140                 "$ref":
13141 "https://openconnectivityfoundation.github.io/core/schemas/oic.links.properties.core-
13142 schema.json#/definitions/type"
13143             },

```

```

13144     "if": {
13145         "description": "The OCF Interfaces supported by the target Resource",
13146         "items": {
13147             "enum": [
13148                 "oic.if.s",
13149                 "oic.if.baseline"
13150             ],
13151             "type": "string",
13152             "maxLength": 64
13153         },
13154         "minItems": 2,
13155         "uniqueItems": true,
13156         "type": "array",
13157         "readOnly": true
13158     },
13159     "rt": {
13160         "description": "Resource Type of the target Resource",
13161         "items": {
13162             "maxLength": 64,
13163             "type": "string",
13164             "enum": ["oic.r.consumable"]
13165         },
13166         "minItems": 1,
13167         "type": "array",
13168         "uniqueItems": true,
13169         "readOnly": true
13170     },
13171 },
13172 "required": [
13173     "href",
13174     "rt",
13175     "if"
13176 ]
13177 }
13178 }
13179 }
13180

```

13181 6.69.5 Property definition

13182 Table 141 defines the Properties that are part of the "oic.r.consumablecollection, oic.wk.col"
 13183 Resource Type.

13184 **Table 141 – The Property definitions of the Resource with type "rt" =**
 13185 **"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.
-------	-------------------	--	------------	------------------------------------------

13186 **6.69.6 CRUDN behaviour**

13187 Table 142 defines the CRUDN operations that are supported on the "oic.r.consumablecollection,
13188 oic.wk.col" Resource Type.

13189 **Table 142 – The CRUDN operations of the Resource with type "rt" =**
13190 **"oic.r.consumablecollection, oic.wk.col".**

Create	Read	Update	Delete	Notify
	get			observe

13191 **6.70 Delay Defrost**

13192 **6.70.1 Introduction**

13193 This Resource describes the delay defrost function as defined by the US Energy Star Specifications.
13194 See Energy Star Refrigerator Requirements Version 5 Section 4).
13195 (<https://www.energystar.gov/sites/default/files/specs//private/ENERGY%20STAR%20Final%20Version%205.0%20Residential%20Refrigerators%20and%20Freezers%20Program%20Requirements.pdf>)

13196 The Property "status" is a boolean indicating whether the function is on, if off then defrost is
13197 scheduled as part of normal device operation.
13198 The Property "startTime" is an ISO8601 encoded start time for the interval in which defrost shall
13199 not occur.

13200 The Property "stopTime" is an ISO8601 encoded stop time for the interval in which defrost shall
13201 not occur.

13202 The Property "interval" with additional range restrictions is the time in minutes of the period that
13203 starts at starttime (if not present the default is 240).

13204 The Properties "stopTime" and "interval" are mutually exclusive; they cannot both be present in a
13205 Resource instance.
13206
13207

13208 **6.70.2 Example URI**

13209 /DelayDefrostResURI

13210 **6.70.3 Resource type**

13211 The Resource Type is defined as: "oic.r.delaydefrost".

13212 **6.70.4 OpenAPI 2.0 definition**

```
13213 {
13214   "swagger": "2.0",
13215   "info": {
13216     "title": "Delay Defrost",
13217     "version": "20190215",
13218     "license": {
13219       "name": "OCF Data Model License",
13220       "url":
13221         "https://github.com/openconnectivityfoundation/core/blob/e28a9e0a92e17042ba3e83661e4c0fbce8bdc4ba/LI
13222         CENSE.md",
13223       "x-copyright": "copyright 2016-2017, 2019 Open Connectivity Foundation, Inc. All rights
13224         reserved."
13225     },
13226     "termsOfService": "https://openconnectivityfoundation.github.io/core/DISCLAIMER.md"
13227   },
13228   "schemes": ["http"],
```

```

13229     "consumes": ["application/json"],
13230     "produces": ["application/json"],
13231     "paths": {
13232         "/DelayDefrostResURI" : {
13233             "get": {
13234                 "description": "This Resource describes the delay defrost function as defined by the US
13235 Energy Star Specifications.\nSee Energy Star Refrigerator Requirements Version 5 Section
13236 4).\n(https://www.energystar.gov/sites/default/files/specs//private/ENERGY%20STAR%20Final%20Version%
13237 205.0%20Residential%20Refrigerators%20and%20Freezers%20Program%20Requirements.pdf)\nThe Property
13238 \"status\" is a boolean indicating whether the function is on, if off then defrost is scheduled as
13239 part of normal device operation.\nThe Property \"startTime\" is an ISO8601 encoded start time for
13240 the interval in which defrost shall not occur.\nThe Property \"stopTime\" is an ISO8601 encoded stop
13241 time for the interval in which defrost shall not occur.\nThe Property \"interval\" with additional
13242 range restrictions is the time in minutes of the period that starts at starttime (if not present the
13243 default is 240).\nThe Properties \"stopTime\" and \"interval\" are mutually exclusive; they cannot
13244 both be present in a Resource instance.",
13245                 "parameters": [
13246                     { "$ref": "#/parameters/interface" }
13247                 ],
13248                 "responses": {
13249                     "200": {
13250                         "description": "",
13251                         "x-example":
13252                             {
13253                                 "rt": ["oic.r.delaydefrost"],
13254                                 "if": ["oic.if.a", "oic.if.baseline"],
13255                                 "startTime": "T06:00:00Z",
13256                                 "status": false
13257                             },
13258                         "schema": { "$ref": "#/definitions/DelayDefrost" }
13259                     }
13260                 }
13261             },
13262             "post": {
13263                 "description": "Activates the desired Delay Defrost functions\n",
13264                 "parameters": [
13265                     { "$ref": "#/parameters/interface" },
13266                     {
13267                         "name": "body",
13268                         "in": "body",
13269                         "required": true,
13270                         "schema": { "$ref": "#/definitions/DelayDefrost" },
13271                         "x-example":
13272                             {
13273                                 "status": true,
13274                                 "startTime": "T06:00:00Z",
13275                                 "interval": 180
13276                             }
13277                     }
13278                 ],
13279                 "responses": {
13280                     "200": {
13281                         "description": "Indicates that the DelayDefrost function was changed.\nThe new
13282 representation may be provided in the response.\n",
13283                         "x-example":
13284                             {
13285                                 "status": true,
13286                                 "startTime": "T06:00:00Z",
13287                                 "interval": 180
13288                             }
13289                     },
13290                     "403": {
13291                         "description": "Indicates the update to the time properties was rejected.\nReasons
13292 for rejection:\n invalid time entry\nThe current unchanged representation may be provided in the
13293 response.\n",
13294                         "x-example":
13295                             {
13296                                 "status": true,
13297                                 "startTime": "T06:00:00Z",
13298                                 "interval": 180
13299                             }
13300                     }
13301                 }
13302             }
13303         }
13304     }

```



```

13301         },
13302         "schema": { "$ref": "#/definitions/DelayDefrost" }
13303     }
13304 }
13305 }
13306 }
13307 },
13308 "parameters": {
13309     "interface": {
13310         "in": "query",
13311         "name": "if",
13312         "type": "string",
13313         "enum": ["oic.if.a", "oic.if.baseline"]
13314     }
13315 },
13316 "definitions": {
13317     "DelayDefrost" : {
13318         "properties": {
13319             "rt": {
13320                 "description": "The Resource Type.",
13321                 "items": {
13322                     "enum": ["oic.r.delaydefrost"],
13323                     "maxLength": 64,
13324                     "type": "string"
13325                 },
13326                 "minItems": 1,
13327                 "uniqueItems": true,
13328                 "readOnly": true,
13329                 "type": "array"
13330             },
13331             "status": {
13332                 "description": "Indicates whether any supported delay defrost function is active.",
13333                 "type": "boolean"
13334             },
13335             "interval": {
13336                 "description": "Defrost interval as defined by Energy Star.",
13337                 "minimum": 1,
13338                 "maximum": 1440,
13339                 "default": 240,
13340                 "type": "integer"
13341             },
13342             "stopTime": {
13343                 "description": "Stop time for the time period, if present interval cannot be present.
13344 This is the time of day at which the delay interval stops.",
13345                 "type": "string",
13346                 "pattern": "^[T]([0-2][0-9]:[0-5][0-9]:[0-5][0-9])([zZ]|([\\+\\-])([01]\\d|2[0-3]):?([0-
13347 5]\\d))$"
13348             },
13349             "startTime": {
13350                 "description": "Start time for the time period. This is the time of day at which the delay
13351 interval starts.",
13352                 "type": "string",
13353                 "pattern": "^[T]([0-2][0-9]:[0-5][0-9]:[0-5][0-9])([zZ]|([\\+\\-])([01]\\d|2[0-3]):?([0-
13354 5]\\d))$"
13355             },
13356             "n": {
13357                 "$ref":
13358 "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
13359 schema.json#/definitions/n"
13360             },
13361             "id": {
13362                 "$ref":
13363 "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
13364 schema.json#/definitions/id"
13365             },
13366             "if": {
13367                 "description": "The OCF Interface set supported by this Resource.",
13368                 "items": {
13369                     "enum": [
13370                         "oic.if.a",
13371                         "oic.if.baseline"
13372                     ]

```

```

13373         "type": "string"
13374     },
13375     "minItems": 2,
13376     "uniqueItems": true,
13377     "readOnly": true,
13378     "type": "array"
13379 }
13380 },
13381 "type": "object"
13382 }
13383 }
13384 }
13385 }

```

13386 **6.70.5 Property definition**

13387 Table 143 defines the Properties that are part of the "oic.r.delaydefrost" Resource Type.

13388 **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	

13389 **6.70.6 CRUDN behaviour**

13390 Table 144 defines the CRUDN operations that are supported on the "oic.r.delaydefrost" Resource
13391 Type.

13392 **Table 144 – The CRUDN operations of the Resource with type "rt" = "oic.r.delaydefrost".**

Create	Read	Update	Delete	Notify
	get	post		observe

13393 **6.71 Eco Mode**

13394 **6.71.1 Introduction**

13395 This Resource specifies the supported and currently active Eco Mode of a Device
13396 The Resource is a derivative of the Mode Resource (oic.r.mode) with a restriction that the
13397 population of supportedmodes and modes Properties is restricted to the set of values:
13398 "disabled","enabled","notsupported".

13399 The adminforced Property indicates that the value has been set by another party (e.g. via some
13400 offboard Smart Energy interaction)
13401

13402 **6.71.2 Example URI**

13403 /EcomodeResURI

13404 **6.71.3 Resource type**

13405 The Resource Type is defined as: "oic.r.ecomode".

13406 **6.71.4 OpenAPI 2.0 definition**

```
13407 {
13408   "swagger": "2.0",
13409   "info": {
13410     "title": "Eco Mode",
13411     "version": "20190215",
13412     "license": {
13413       "name": "OCF Data Model License",
13414       "url":
13415         "https://github.com/openconnectivityfoundation/core/blob/e28a9e0a92e17042ba3e83661e4c0fbce8bdc4ba/LI
13416         CENSE.md",
13417       "x-copyright": "copyright 2016-2017, 2019 Open Connectivity Foundation, Inc. All rights
13418       reserved."
13419     },
13420     "termsOfService": "https://openconnectivityfoundation.github.io/core/DISCLAIMER.md"
13421   },
13422   "schemes": ["http"],
13423   "consumes": ["application/json"],
13424   "produces": ["application/json"],
13425   "paths": {
13426     "/EcomodeResURI" : {
13427       "get": {
13428         "description": "This Resource specifies the supported and currently active Eco Mode of a
13429         Device\nThe Resource is a derivative of the Mode Resource (oic.r.mode) with a restriction that the
13430         population of supportedmodes and modes Properties is restricted to the set of
13431         values:\n\n\"disabled\", \"enabled\", \"notsupported\".\n\nThe adminforced Property indicates that the
```

```

13432 value has been set by another party (e.g. via some offboard Smart Energy interaction)\n",
13433     "parameters": [
13434         { "$ref": "#/parameters/interface" }
13435     ],
13436     "responses": {
13437         "200": {
13438             "description": "",
13439             "x-example":
13440                 {
13441                     "rt": ["oic.r.ecomode"],
13442                     "if": ["oic.if.a", "oic.if.baseline"],
13443                     "supportedModes": ["disabled", "enabled"],
13444                     "modes": ["disabled"],
13445                     "adminforced": false
13446                 },
13447             "schema": { "$ref": "#/definitions/ecomode" }
13448         }
13449     },
13450 },
13451 "post": {
13452     "description": "",
13453     "parameters": [
13454         { "$ref": "#/parameters/interface" },
13455         {
13456             "name": "body",
13457             "in": "body",
13458             "required": true,
13459             "schema": { "$ref": "#/definitions/ecomode-update" },
13460             "x-example":
13461                 {
13462                     "modes": ["enabled"]
13463                 }
13464         }
13465     ],
13466     "responses": {
13467         "200": {
13468             "description": "",
13469             "x-example":
13470                 {
13471                     "modes": ["enabled"]
13472                 },
13473             "schema": { "$ref": "#/definitions/ecomode-update" }
13474         }
13475     }
13476 },
13477 },
13478 },
13479 "parameters": {
13480     "interface": {
13481         "in": "query",
13482         "name": "if",
13483         "type": "string",
13484         "enum": ["oic.if.a", "oic.if.baseline"]
13485     }
13486 },
13487 "definitions": {
13488     "ecomode": {
13489         "properties": {
13490             "rt": {
13491                 "description": "The Resource Type.",
13492                 "items": {
13493                     "enum": ["oic.r.ecomode"],
13494                     "maxLength": 64,
13495                     "type": "string"
13496                 },
13497                 "minItems": 1,
13498                 "uniqueItems": true,
13499                 "readOnly": true,
13500                 "type": "array"
13501             },
13502             "modes": {
13503                 "description": "The array of the currently active mode(s).",

```

```

13504         "items": {
13505             "enum": ["disabled", "enabled", "notsupported"],
13506             "type": "string"
13507         },
13508         "uniqueItems": true,
13509         "type": "array"
13510     },
13511     "supportedModes": {
13512         "description": "The array of possible modes the device supports.",
13513         "items": {
13514             "enum": ["disabled", "enabled", "notsupported"],
13515             "type": "string"
13516         },
13517         "readOnly": true,
13518         "type": "array"
13519     },
13520     "adminforced": {
13521         "description": "The indicator that the current mode of operation has been forced by admin
13522 action.",
13523         "readOnly": true,
13524         "type": "boolean"
13525     },
13526     "n": {
13527         "$ref":
13528 "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
13529 schema.json#/definitions/n"
13530     },
13531     "id": {
13532         "$ref":
13533 "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
13534 schema.json#/definitions/id"
13535     },
13536     "if": {
13537         "description": "The OCF Interface set supported by this Resource.",
13538         "items": {
13539             "enum": [
13540                 "oic.if.a",
13541                 "oic.if.baseline"
13542             ],
13543             "type": "string"
13544         },
13545         "minItems": 2,
13546         "uniqueItems": true,
13547         "readOnly": true,
13548         "type": "array"
13549     }
13550 },
13551 "type" : "object",
13552 "required": ["supportedModes", "modes"]
13553 },
13554 "ecomode-update" : {
13555     "properties": {
13556         "modes": {
13557             "description": "The desired mode.",
13558             "items": {
13559                 "enum": ["disabled", "enabled", "notsupported"],
13560                 "type": "string"
13561             },
13562             "type": "array"
13563         }
13564     },
13565     "type": "object",
13566     "required": ["modes"]
13567 }
13568 }
13569 }
13570

```

13571 6.71.5 Property definition

13572 Table 145 defines the Properties that are part of the "oic.r.ecomode" Resource Type.

13573 **Table 145 – The Property definitions of the Resource with type "rt" = "oic.r.ecomode".**

Property name	Value type	Mandatory	Access mode	Description
modes	array: see schema	Yes	Read Write	The array of the currently active mode(s).
id	multiple types: see schema	No	Read Write	
supportedModes	array: see schema	Yes	Read Only	The array of possible modes the device supports.
rt	array: see schema	No	Read Only	The Resource Type.
if	array: see schema	No	Read Only	The OCF Interface set supported by this Resource.
n	multiple types: see schema	No	Read Write	
adminforced	boolean	No	Read Only	The indicator that the current mode of operation has been forced by admin action.
modes	array: see schema	Yes	Read Write	The desired mode.

13574 **6.71.6 CRUDN behaviour**

13575 Table 146 defines the CRUDN operations that are supported on the "oic.r.ecomode" Resource
 13576 Type.

13577 **Table 146 – The CRUDN operations of the Resource with type "rt" = "oic.r.ecomode".**

Create	Read	Update	Delete	Notify
	get	post		observe

13578 **6.72 Heating Zone**

13579 **6.72.1 Introduction**

13580 This Resource provides information about the status of a (single) heating zone of a Cook-Top.
 13581 It describes the case of a Cook-Top whose zones can be activated dynamically (i.e. the device

13582 implements pot recognition).
13583 The Property "maxheatinglevel" defines the max level for the heating zone
13584 The Property "heatinglevel" is the current heating level of the zone
13585 For each element, the value range is from 0 (indication that the zone is not heating) to
13586 "maxheatinglevel".

13587 6.72.2 Example URI

13588 /HeatingZoneResURI

13589 6.72.3 Resource type

13590 The Resource Type is defined as: "oic.r.heatingzone".

13591 6.72.4 OpenAPI 2.0 definition

```
13592 {  
13593   "swagger": "2.0",  
13594   "info": {  
13595     "title": "Heating Zone",  
13596     "version": "20190215",  
13597     "license": {  
13598       "name": "OCF Data Model License",  
13599       "url":  
13600 "https://github.com/openconnectivityfoundation/core/blob/e28a9e0a92e17042ba3e83661e4c0fbce8bdc4ba/LI  
13601 CENSE.md",  
13602       "x-copyright": "copyright 2016-2017, 2019 Open Connectivity Foundation, Inc. All rights  
13603 reserved."  
13604     },  
13605     "termsOfService": "https://openconnectivityfoundation.github.io/core/DISCLAIMER.md"  
13606   },  
13607   "schemes": ["http"],  
13608   "consumes": ["application/json"],  
13609   "produces": ["application/json"],  
13610   "paths": {  
13611     "/HeatingZoneResURI" : {  
13612       "get": {  
13613         "description": "This Resource provides information about the status of a (single) heating  
13614 zone of a Cook-Top.\nIt describes the case of a Cook-Top whose zones can be activated dynamically  
13615 (i.e. the device implements pot recognition).\nThe Property \"maxheatinglevel\" defines the max  
13616 level for the heating zone\nThe Property \"heatinglevel\" is the current heating level of the zone\n  
13617 For each element, the value range is from 0 (indication that the zone is not heating) to  
13618 \"maxheatinglevel\".",  
13619         "parameters": [  
13620           { "$ref": "#/parameters/interface" }  
13621         ],  
13622         "responses": {  
13623           "200": {  
13624             "description": "RETRIEVES the current heating zone information.",  
13625             "x-example":  
13626               {  
13627                 "rt": ["oic.r.heatingzone"],  
13628                 "if": ["oic.if.s", "oic.if.baseline"],  
13629                 "maxheatinglevel": 6,  
13630                 "heatinglevel": 0  
13631               },  
13632             "schema": { "$ref": "#/definitions/HeatingZone" }  
13633           }  
13634         }  
13635       }  
13636     },  
13637   },  
13638   "parameters": {  
13639     "interface": {  
13640       "in": "query",  
13641       "name": "if",  
13642       "type": "string",  
13643       "enum": ["oic.if.s", "oic.if.baseline"]  
13644     }  
13645   },  
13646   "definitions": {
```

```

13647     "HeatingZone" : {
13648         "properties": {
13649             "rt": {
13650                 "description": "The Resource Type.",
13651                 "items": {
13652                     "enum": ["oic.r.heatingzone"],
13653                     "maxLength": 64,
13654                     "type": "string"
13655                 },
13656                 "minItems": 1,
13657                 "uniqueItems": true,
13658                 "readOnly": true,
13659                 "type": "array"
13660             },
13661             "heatinglevel": {
13662                 "description": "The current heating level for the zone.",
13663                 "readOnly": true,
13664                 "type": "integer"
13665             },
13666             "maxheatinglevel": {
13667                 "description": "The maximum heating level for the zone.",
13668                 "readOnly": true,
13669                 "type": "integer"
13670             },
13671             "n": {
13672                 "$ref":
13673                 "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
13674                 schema.json#/definitions/n"
13675             },
13676             "id": {
13677                 "$ref":
13678                 "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
13679                 schema.json#/definitions/id"
13680             },
13681             "if": {
13682                 "description": "The OCF Interface set supported by this Resource.",
13683                 "items": {
13684                     "enum": [
13685                         "oic.if.s",
13686                         "oic.if.baseline"
13687                     ],
13688                     "type": "string"
13689                 },
13690                 "minItems": 2,
13691                 "uniqueItems": true,
13692                 "readOnly": true,
13693                 "type": "array"
13694             }
13695         },
13696         "type": "object",
13697         "required": ["maxheatinglevel", "heatinglevel"]
13698     }
13699 }
13700 }
13701

```

13702 6.72.5 Property definition

13703 Table 147 defines the Properties that are part of the "oic.r.heatingzone" Resource Type.

13704 **Table 147 – The Property definitions of the Resource with type "rt" = "oic.r.heatingzone".**

Property name	Value type	Mandatory	Access mode	Description
heatinglevel	integer	Yes	Read Only	The current heating level for the zone.

id	multiple types: see schema	No	Read Write	
maxheatinglevel	integer	Yes	Read Only	The maximum heating level for the zone.
rt	array: see schema	No	Read Only	The Resource Type.
if	array: see schema	No	Read Only	The OCF Interface set supported by this Resource.
n	multiple types: see schema	No	Read Write	

13705 **6.72.6 CRUDN behaviour**

13706 Table 148 defines the CRUDN operations that are supported on the "oic.r.heatingzone" Resource
13707 Type.

13708 **Table 148 – The CRUDN operations of the Resource with type "rt" = "oic.r.heatingzone".**

Create	Read	Update	Delete	Notify
	get			observe

13709 **6.73 Heating Zone Collection**

13710 **6.73.1 Introduction**

13711 This Resource provides information about the status of the heating zones of a Cook-Top.
13712 It describes the case of a Cook-Top whose zones can be activated dynamically (i.e. the device
13713 implements pot recognition).
13714 The resource is a Collection of instances of oic.r.heatingzone detailing the individual cooktop zones
13715 Retrieves the current heating zone information.
13716

13717 **6.73.2 Example URI**

13718 /HeatingZoneResURI

13719 **6.73.3 Resource type**

13720 The Resource Type is defined as: "oic.r.heatingzonecollection, oic.wk.col".

13721 **6.73.4 OpenAPI 2.0 definition**

```
13722 {
13723   "swagger": "2.0",
13724   "info": {
13725     "title": "Heating Zone Collection",
13726     "version": "20190307",
13727     "license": {
13728       "name": "OCF Data Model License",
13729       "url":
13730       "https://github.com/openconnectivityfoundation/core/blob/e28a9e0a92e17042ba3e83661e4c0fbce8bdc4ba/LI
13731       CENSE.md",
```

```

13732     "x-copyright": "copyright 2016-2019 Open Connectivity Foundation, Inc. All rights reserved."
13733   },
13734   "termsOfService": "https://openconnectivityfoundation.github.io/core/DISCLAIMER.md"
13735 },
13736 "schemes": ["http"],
13737 "consumes": ["application/json"],
13738 "produces": ["application/json"],
13739 "paths": {
13740   "/HeatingZoneResURI?if=oic.if.ll" : {
13741     "get": {
13742       "description": "This Resource provides information about the status of the heating zones of
13743 a Cook-Top.\nIt describes the case of a Cook-Top whose zones can be activated dynamically (i.e. the
13744 device implements pot recognition).\nThe resource is a Collection of instances of oic.r.heatingzone
13745 detailing the individual cooktop zones\n",
13746       "parameters": [
13747         { "$ref": "#/parameters/interface-all" }
13748       ],
13749       "responses": {
13750         "200": {
13751           "description" : "",
13752           "x-example": [
13753             [
13754               { "href": "/myZone1ResURI", "rt": ["oic.r.heatingzone"], "if":
13755 ["oic.if.s","oic.if.baseline"], "eps": [{"ep": "coaps://[fe80::b1d6]:1122"}]},
13756               { "href": "/myZone2ResURI", "rt": ["oic.r.heatingzone"], "if":
13757 ["oic.if.s","oic.if.baseline"], "eps": [{"ep": "coaps://[fe80::b1d6]:1122"}]},
13758               { "href": "/myZone3ResURI", "rt": ["oic.r.heatingzone"], "if":
13759 ["oic.if.s","oic.if.baseline"], "eps": [{"ep": "coaps://[fe80::b1d6]:1122"}]},
13760               { "href": "/myZone4ResURI", "rt": ["oic.r.heatingzone"], "if":
13761 ["oic.if.s","oic.if.baseline"], "eps": [{"ep": "coaps://[fe80::b1d6]:1122"}]}
13762             ],
13763             "schema": { "$ref": "#/definitions/HeatingZone-ll" }
13764           ]
13765         }
13766       }
13767     },
13768     "/HeatingZoneResURI?if=oic.if.b": {
13769       "get": {
13770         "description": "This Resource provides information about the status of the heating zones of
13771 a Cook-Top.\nIt describes the case of a Cook-Top whose zones can be activated dynamically (i.e. the
13772 device implements pot recognition).\nThe resource is a Collection of instances of oic.r.heatingzone
13773 detailing the individual cooktop zones\n",
13774         "parameters": [
13775           { "$ref": "#/parameters/interface-all" }
13776         ],
13777         "responses": {
13778           "200": {
13779             "description" : "",
13780             "x-example": [
13781               {
13782                 "href": "/heatingZoneLeftResURI",
13783                 "rep": {
13784                   "maxheatinglevel": 6,
13785                   "heatinglevel": 0
13786                 }
13787             },
13788             {
13789                 "href": "/heatingZoneRightResURI",
13790                 "rep": {
13791                   "maxheatinglevel": 6,
13792                   "heatinglevel": 3
13793                 }
13794             }
13795           ],
13796           "schema": { "$ref": "#/definitions/HeatingZoneCollectionBatch-Retrieve" }
13797         }
13798       }
13799     },
13800   },
13801   "/HeatingZoneResURI?if=oic.if.baseline" : {
13802     "get": {
13803       "description": "This Resource provides information about the status of the heating zones of

```

```

13804 a Cook-Top.\nIt describes the case of a Cook-Top whose zones can be activated dynamically (i.e. the
13805 device implements pot recognition).\nThe resource is a Collection of instances of oic.r.heatingzone
13806 detailing the individual cooktop zones\nRetrieves the current heating zone information.\n",
13807     "parameters": [
13808         {"$ref": "#/parameters/interface-all"}
13809     ],
13810     "responses": {
13811         "200": {
13812             "description": "",
13813             "x-example":
13814                 {
13815                     "rt": ["oic.r.heatingzonecollection", "oic.wk.col"],
13816                     "if": ["oic.if.ll", "oic.if.b", "oic.if.baseline"],
13817                     "rts": ["oic.r.heatingzone"],
13818                     "links": [
13819                         {"href": "/myZone1ResURI", "rt": ["oic.r.heatingzone"], "if":
13820 ["oic.if.s", "oic.if.baseline"], "eps": [{"ep": "coaps://[fe80::b1d6]:1122"}]},
13821                         {"href": "/myZone2ResURI", "rt": ["oic.r.heatingzone"], "if":
13822 ["oic.if.s", "oic.if.baseline"], "eps": [{"ep": "coaps://[fe80::b1d6]:1122"}]},
13823                         {"href": "/myZone3ResURI", "rt": ["oic.r.heatingzone"], "if":
13824 ["oic.if.s", "oic.if.baseline"], "eps": [{"ep": "coaps://[fe80::b1d6]:1122"}]},
13825                         {"href": "/myZone4ResURI", "rt": ["oic.r.heatingzone"], "if":
13826 ["oic.if.s", "oic.if.baseline"], "eps": [{"ep": "coaps://[fe80::b1d6]:1122"}]}
13827                     ]
13828                 },
13829             "schema": {"$ref": "#/definitions/HeatingZone"}
13830         }
13831     }
13832 }
13833 }
13834 },
13835 "parameters": {
13836     "interface-all": {
13837         "in": "query",
13838         "name": "if",
13839         "type": "string",
13840         "enum": ["oic.if.ll", "oic.if.b", "oic.if.baseline"]
13841     }
13842 },
13843 "definitions": {
13844     "HeatingZone-ll": {
13845         "items": {
13846             "$ref": "#/definitions/oic.oic-link"
13847         },
13848         "type": "array",
13849         "minItems": 1,
13850         "uniqueItems": true,
13851         "readOnly": true
13852     },
13853     "oic.oic-link": {
13854         "type": "object",
13855         "properties": {
13856             "anchor": {
13857                 "$ref":
13858 "https://openconnectivityfoundation.github.io/core/schemas/oic.links.properties.core-
13859 schema.json#/definitions/anchor"
13860             },
13861             "di": {
13862                 "$ref":
13863 "https://openconnectivityfoundation.github.io/core/schemas/oic.links.properties.core-
13864 schema.json#/definitions/di"
13865             },
13866             "eps": {
13867                 "$ref":
13868 "https://openconnectivityfoundation.github.io/core/schemas/oic.links.properties.core-
13869 schema.json#/definitions/eps"
13870             },
13871             "href": {
13872                 "$ref":
13873 "https://openconnectivityfoundation.github.io/core/schemas/oic.links.properties.core-
13874 schema.json#/definitions/href"
13875             },

```

```

13876         "ins": {
13877             "$ref":
13878 "https://openconnectivityfoundation.github.io/core/schemas/oic.links.properties.core-
13879 schema.json#/definitions/ins"
13880         },
13881         "p": {
13882             "$ref":
13883 "https://openconnectivityfoundation.github.io/core/schemas/oic.links.properties.core-
13884 schema.json#/definitions/p"
13885         },
13886         "rel": {
13887             "$ref":
13888 "https://openconnectivityfoundation.github.io/core/schemas/oic.links.properties.core-
13889 schema.json#/definitions/rel_array"
13890         },
13891         "title": {
13892             "$ref":
13893 "https://openconnectivityfoundation.github.io/core/schemas/oic.links.properties.core-
13894 schema.json#/definitions/title"
13895         },
13896         "type": {
13897             "$ref":
13898 "https://openconnectivityfoundation.github.io/core/schemas/oic.links.properties.core-
13899 schema.json#/definitions/type"
13900         },
13901         "if": {
13902             "description": "The OCF Interfaces supported by the target Resource",
13903             "items": {
13904                 "enum": [
13905                     "oic.if.s",
13906                     "oic.if.baseline"
13907                 ],
13908                 "type": "string",
13909                 "maxLength": 64
13910             },
13911             "minItems": 2,
13912             "uniqueItems": true,
13913             "type": "array",
13914             "readOnly": true
13915         },
13916         "rt": {
13917             "description": "Resource Type of the target Resource",
13918             "items": {
13919                 "maxLength": 64,
13920                 "type": "string",
13921                 "enum": ["oic.r.heatingzone"]
13922             },
13923             "minItems": 1,
13924             "type": "array",
13925             "uniqueItems": true,
13926             "readOnly": true
13927         }
13928     },
13929     "required": [
13930         "href",
13931         "rt",
13932         "if"
13933     ]
13934 },
13935 "HeatingZone" : {
13936     "properties": {
13937         "rt": {
13938             "items": {
13939                 "enum": [
13940                     "oic.r.heatingzonecollection",
13941                     "oic.wk.col"
13942                 ],
13943                 "type": "string",
13944                 "maxLength": 64
13945             },
13946             "minItems": 2,
13947             "type": "array",

```

```

13948         "uniqueItems": true
13949     },
13950     "links": {
13951         "items": {
13952             "$ref": "#/definitions/oic.oic-link"
13953         },
13954         "type": "array",
13955         "minItems": 1,
13956         "uniqueItems": true,
13957         "readOnly": true
13958     },
13959     "n": {
13960         "$ref" :
13961         "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
13962         schema.json#/definitions/n"
13963     },
13964     "id": {
13965         "$ref" :
13966         "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
13967         schema.json#/definitions/id"
13968     },
13969     "rts": {
13970         "items": {
13971             "anyOf": [
13972                 {
13973                     "enum": [
13974                         "oic.r.heatingzone",
13975                         "oic.r.value.conditional"
13976                     ],
13977                     "type": "string",
13978                     "maxLength": 64
13979                 },
13980                 {
13981                     "enum": [
13982                         "oic.r.heatingzone"
13983                     ],
13984                     "type": "string",
13985                     "maxLength": 64
13986                 }
13987             ]
13988         },
13989         "minItems": 1,
13990         "type": "array",
13991         "readOnly": true,
13992         "uniqueItems": true
13993     },
13994     "if": {
13995         "description": "The OCF Interfaces supported by this Resource",
13996         "items": {
13997             "enum": [
13998                 "oic.if.ll",
13999                 "oic.if.b",
14000                 "oic.if.baseline"
14001             ],
14002             "type": "string",
14003             "maxLength": 64
14004         },
14005         "minItems": 1,
14006         "readOnly": true,
14007         "uniqueItems": true,
14008         "type": "array"
14009     }
14010 },
14011 "type" : "object"
14012 },
14013 "HeatingZoneCollectionBatch-Retrieve" : {
14014     "type": "array",
14015     "minItems": 1,
14016     "uniqueItems": true,
14017     "items": {
14018         "type": "object",
14019         "additionalProperties": true,

```

```

14020     "properties": {
14021       "href": {
14022         "$ref":
14023         "https://openconnectivityfoundation.github.io/core/schemas/oic.links.properties.core-
14024         schema.json#/definitions/href"
14025       },
14026       "rep": {
14027         "$ref":
14028         "https://openconnectivityfoundation.github.io/IoTDataModels/HeatingZoneResURI.swagger.json#/definiti
14029         ons/HeatingZone"
14030       }
14031     },
14032     "required": [
14033       "href",
14034       "rep"
14035     ]
14036   }
14037 }
14038 }
14039 }
14040

```

14041 6.73.5 Property definition

14042 Table 149 defines the Properties that are part of the "oic.r.heatingzonecollection, oic.wk.col"
 14043 Resource Type.

14044 **Table 149 – The Property definitions of the Resource with type "rt" =**
 14045 **"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

14046 **6.73.6 CRUDN behaviour**
14047 Table 150 defines the CRUDN operations that are supported on the "oic.r.heatingzonecollection,
14048 oic.wk.col" Resource Type.

14049 **Table 150 – The CRUDN operations of the Resource with type "rt" =**
14050 **"oic.r.heatingzonecollection, oic.wk.col".**

Create	Read	Update	Delete	Notify
	get			observe

14051 **6.74 Selectable Levels**

14052 **6.74.1 Introduction**

14053 This Resource provides a set of device defined levels that can be selected for an operation.
14054 For example where a humidifier has a discrete set that model different humidity levels that can be
14055 set.

14056 The Property "availablelevels" is an array of the levels that can be selected, these can be a number
14057 or an integer (as subset of integer).
14058 The Property "targetlevel" is the level that has currently been selected and is written to in order to
14059 select a new level.
14060 When retrieved the targetlevel provides the actual value that has been selected.

14061 **6.74.2 Example URI**

14062 /SelectableLevelsResURI

14063 **6.74.3 Resource type**

14064 The Resource Type is defined as: "oic.r.selectablelevels".

14065 **6.74.4 OpenAPI 2.0 definition**

```
14066 {
14067   "swagger": "2.0",
14068   "info": {
14069     "title": "Selectable Levels",
14070     "version": "20190215",
14071     "license": {
14072       "name": "OCF Data Model License",
14073       "url":
14074 "https://github.com/openconnectivityfoundation/core/blob/e28a9e0a92e17042ba3e83661e4c0fbce8bdc4ba/LI
14075 CENSE.md",
14076       "x-copyright": "copyright 2016-2017, 2019 Open Connectivity Foundation, Inc. All rights
14077 reserved."
14078     },
14079     "termsOfService": "https://openconnectivityfoundation.github.io/core/DISCLAIMER.md"
14080   },
14081   "schemes": ["http"],
14082   "consumes": ["application/json"],
14083   "produces": ["application/json"],
14084   "paths": {
14085     "/SelectableLevelsResURI" : {
14086       "get": {
14087         "description": "This Resource provides a set of device defined levels that can be selected
14088 for an operation.\nFor example where a humidifier has a discrete set that model different humidity
14089 levels that can be set.\nThe Property \"availablelevels\" is an array of the levels that can be
14090 selected, these can be a number or an integer (as subset of integer).\nThe Property \"targetlevel\"
14091 is the level that has currently been selected and is written to in order to select a new
14092 level.\nWhen retrieved the targetlevel provides the actual value that has been selected.",
14093         "parameters": [
14094           { "$ref": "#/parameters/interface" }
14095         ],
14096         "responses": {
14097           "200": {
14098             "description": "Example is using integers for selection levels.",
14099             "x-example":
14100             {
14101               "rt": ["oic.r.selectablelevels"],
14102               "if": ["oic.if.a", "oic.if.baseline"],
14103               "availablelevels": [0, 2, 4, 6, 8],
14104               "targetlevel": 2
14105             },
14106             "schema": { "$ref": "#/definitions/SelectableLevels" }
14107           }
14108         }
14109       },
14110       "post": {
14111         "description": "Sets the current level from the set \"availablelevels\".",
14112         "parameters": [
```



```

14113         {"$ref": "#/parameters/interface"},
14114         {
14115             "name": "body",
14116             "in": "body",
14117             "required": true,
14118             "schema": { "$ref": "#/definitions/UpdateSchema" },
14119             "x-example":
14120                 {
14121                     "targetlevel": 4
14122                 }
14123         },
14124     ],
14125     "responses": {
14126         "200": {
14127             "description": "",
14128             "x-example":
14129                 {
14130                     "targetlevel": 4
14131                 },
14132             "schema": { "$ref": "#/definitions/UpdateSchema" }
14133         },
14134         "403": {
14135             "description": "Generated by a OCF Server when an attempt is made to update to a
14136 targetlevel that is not in the set of availablelevels",
14137             "x-example":
14138                 {
14139                     "availablelevels": [0, 2, 4, 6, 8],
14140                     "targetlevel": 2
14141                 },
14142             "schema": { "$ref": "#/definitions/SelectableLevels" }
14143         }
14144     }
14145 },
14146 },
14147 },
14148 "parameters": {
14149     "interface": {
14150         "in": "query",
14151         "name": "if",
14152         "type": "string",
14153         "enum": ["oic.if.a", "oic.if.baseline"]
14154     }
14155 },
14156 "definitions": {
14157     "SelectableLevels" : {
14158         "properties": {
14159             "rt": {
14160                 "description": "The Resource Type.",
14161                 "items": {
14162                     "enum": ["oic.r.selectablelevels"],
14163                     "maxLength": 64,
14164                     "type": "string"
14165                 },
14166                 "minItems": 1,
14167                 "uniqueItems": true,
14168                 "readOnly": true,
14169                 "type": "array"
14170             },
14171             "targetlevel": {
14172                 "description": "The target level from the available selectable set.",
14173                 "type": "number"
14174             },
14175             "availablelevels": {
14176                 "description": "The set of levels to select from.",
14177                 "items": {
14178                     "type": "number"
14179                 },
14180                 "readOnly": true,
14181                 "type": "array"
14182             },
14183             "if": {
14184                 "description": "The OCF Interface set supported by this Resource.",

```

```

14185     "items": {
14186         "enum": [
14187             "oic.if.a",
14188             "oic.if.baseline"
14189         ],
14190         "type": "string"
14191     },
14192     "minItems": 2,
14193     "uniqueItems": true,
14194     "readOnly": true,
14195     "type": "array"
14196 },
14197 },
14198 "type" : "object",
14199 "required": ["availablelevels", "targetlevel"]
14200 },
14201 "UpdateSchema" : {
14202     "properties": {
14203         "targetlevel": {
14204             "description": "The target level from the available selectable set",
14205             "type": "number"
14206         }
14207     },
14208     "type": "object",
14209     "required": ["targetlevel"]
14210 }
14211 }
14212 }
14213

```

14214 6.74.5 Property definition

14215 Table 151 defines the Properties that are part of the "oic.r.selectablelevels" Resource Type.

14216 **Table 151 – The Property definitions of the Resource with type "rt" =**
14217 **"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.

14218 **6.74.6 CRUDN behaviour**

14219 Table 152 defines the CRUDN operations that are supported on the "oic.r.selectablelevels"
14220 Resource Type.

14221 **Table 152 – The CRUDN operations of the Resource with type "rt" =**
14222 **"oic.r.selectablelevels".**

Create	Read	Update	Delete	Notify
	get	post		observe

14223 **6.75 Value Conditional**

14224 **6.75.1 Introduction**

14225 This Resource specifies conditions that can be applied to an observed value in any Resource.
14226 These conditions are applied by the OCF Server exposing the Resource to any generated
14227 notifications because of subscriptions to the Resource.
14228 A unicast RETRIEVE to the Resource will receive the most recent value; which may not be the
14229 most recent notified value.
14230 An OCF Server exposes this Resource in association with the Resource conveying the observed
14231 value.

14232 This is done by means of a new Resource instance with an RT of ["oic.r.<thing being observed>",
14233 "oic.r.value.conditional"], e.g ["oic.r.temperature", "oic.r.value.conditional"].
14234 The Property "threshold" is the amount by which the thing being observed must change before a
14235 notification is sent.
14236 The Property "minnotifyperiod" is the minimum time in ms (milliseconds) that must elapse before a
14237 notification is sent.
14238 If the maxnotifyperiod (time in ms (milliseconds)) elapses then a notification must be sent.
14239 The Property "maxnotifyperiod" is a timer that resets each time a notification is sent.
14240 A value of '0' for any of "threshold", "minnotifyperiod" or "maxnotifyperiod" means that the capability
14241 is supported but not active.

14242 **6.75.2 Example URI**

14243 /ValueConditionalResURI

14244 **6.75.3 Resource type**

14245 The Resource Type is defined as: "oic.r.value.conditional".

14246 **6.75.4 OpenAPI 2.0 definition**

```
14247 {  
14248   "swagger": "2.0",  
14249   "info": {  
14250     "title": "Value Conditional",  
14251     "version": "20190215",  
14252     "license": {  
14253       "name": "OCF Data Model License",  
14254       "url":  
14255       "https://github.com/openconnectivityfoundation/core/blob/e28a9e0a92e17042ba3e83661e4c0fbce8bdc4ba/LI  
14256       CENSE.md",  
14257       "x-copyright": "copyright 2016-2017, 2019 Open Connectivity Foundation, Inc. All rights  
14258       reserved."  
14259     },  
14260     "termsOfService": "https://openconnectivityfoundation.github.io/core/DISCLAIMER.md"  
14261   },  
14262   "schemes": ["http"],  
14263   "consumes": ["application/json"],  
14264   "produces": ["application/json"],  
14265   "paths": {  
14266     "/ValueConditionalResURI" : {
```

```

14267     "get": {
14268         "description": "This Resource specifies conditions that can be applied to an observed value
14269 in any Resource.\nThese conditions are applied by the OCF Server exposing the Resource to any
14270 generated notifications because of subscriptions to the Resource.\nA unicast RETRIEVE to the
14271 Resource will receive the most recent value; which may not be the most recent notified value.\nAn
14272 OCF Server exposes this Resource in association with the Resource conveying the observed
14273 value.\nThis is done by means of a new Resource instance with an RT of [\"oic.r.<thing being
14274 observed>\", \"oic.r.value.conditional\"], e.g [\"oic.r.temperature\",
14275 \"oic.r.value.conditional\"].\nThe Property \"threshold\" is the amount by which the thing being
14276 observed must change before a notification is sent.\nThe Property \"minnotifyperiod\" is the minimum
14277 time in ms (milliseconds) that must elapse before a notification is sent.\nIf the maxnotifyperiod
14278 (time in ms (milliseconds)) elapses then a notification must be sent.\nThe Property
14279 \"maxnotifyperiod\" is a timer that resets each time a notification is sent.\nA value of '0' for any
14280 of \"threshold\", \"minnotifyperiod\" or \"maxnotifyperiod\" means that the capability is supported
14281 but not active.",
14282         "parameters": [
14283             { "$ref": "#/parameters/interface" }
14284         ],
14285         "responses": {
14286             "200": {
14287                 "description": "",
14288                 "x-example":
14289                     {
14290                         "rt": ["oic.r.value.conditional"],
14291                         "if": ["oic.if.rw", "oic.if.baseline"],
14292                         "threshold": 2,
14293                         "minnotifyperiod": 2000,
14294                         "maxnotifyperiod": 5000
14295                     },
14296                 "schema": { "$ref": "#/definitions/valueconditional" }
14297             }
14298         },
14299     },
14300     "post": {
14301         "description": "",
14302         "parameters": [
14303             { "$ref": "#/parameters/interface" },
14304             {
14305                 "name": "body",
14306                 "in": "body",
14307                 "required": true,
14308                 "schema": { "$ref": "#/definitions/valueconditional" },
14309                 "x-example":
14310                     {
14311                         "threshold": 2,
14312                         "minnotifyperiod": 1500
14313                     }
14314             }
14315         ],
14316         "responses": {
14317             "200": {
14318                 "description": "",
14319                 "x-example":
14320                     {
14321                         "threshold": 2,
14322                         "minnotifyperiod": 1500
14323                     },
14324                 "schema": { "$ref": "#/definitions/valueconditional" }
14325             }
14326         }
14327     }
14328 },
14329 },
14330 "parameters": {
14331     "interface": {
14332         "in": "query",
14333         "name": "if",
14334         "type": "string",
14335         "enum": ["oic.if.rw", "oic.if.baseline"]
14336     }
14337 },
14338 "definitions": {

```

```

14339     "valueconditional" : {
14340         "properties": {
14341             "rt": {
14342                 "description": "The Resource Type.",
14343                 "items": {
14344                     "maxLength": 64,
14345                     "type": "string",
14346                     "enum": ["oic.r.value.conditional"]
14347                 },
14348                 "minItems": 1,
14349                 "uniqueItems": true,
14350                 "readOnly": true,
14351                 "type": "array"
14352             },
14353             "maxnotifyperiod": {
14354                 "description": "The maximum elapsed time in ms before a notification must be sent.",
14355                 "minimum": 0,
14356                 "type": "integer"
14357             },
14358             "minnotifyperiod": {
14359                 "description": "The minimum elapsed time in ms before a notification is sent.",
14360                 "minimum": 0,
14361                 "type": "integer"
14362             },
14363             "threshold": {
14364                 "description": "The amount by which the measured value must change before a notification
14365 is sent.",
14366                 "minimum": 0,
14367                 "type": "number"
14368             },
14369             "n": {
14370                 "$ref":
14371 "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
14372 schema.json#/definitions/n"
14373             },
14374             "id": {
14375                 "$ref":
14376 "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
14377 schema.json#/definitions/id"
14378             },
14379             "if": {
14380                 "description": "The OCF Interface set supported by this Resource.",
14381                 "items": {
14382                     "enum": [
14383                         "oic.if.rw",
14384                         "oic.if.baseline"
14385                     ],
14386                     "type": "string"
14387                 },
14388                 "minItems": 2,
14389                 "uniqueItems": true,
14390                 "readOnly": true,
14391                 "type": "array"
14392             }
14393         },
14394         "anyOf": [
14395             {
14396                 "required": ["threshold"]
14397             },
14398             {
14399                 "required": ["minnotifyperiod"]
14400             },
14401             {
14402                 "required": ["maxnotifyperiod"]
14403             }
14404         ],
14405         "type": "object"
14406     }
14407 }
14408 }
14409

```

14410 **6.75.5 Property definition**

14411 Table 153 defines the Properties that are part of the "oic.r.value.conditional" Resource Type.

14412 **Table 153 – The Property definitions of the Resource with type "rt" =**
 14413 **"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	

14414 **6.75.6 CRUDN behaviour**

14415 Table 154 defines the CRUDN operations that are supported on the "oic.r.value.conditional"
 14416 Resource Type.

14417 **Table 154 – The CRUDN operations of the Resource with type "rt" =**
 14418 **"oic.r.value.conditional".**

Create	Read	Update	Delete	Notify

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

14419 **6.76 Colour Space Coordinates**

14420 **6.76.1 Introduction**

14421 This Resource describes the colour using colour space co-ordinates.
 14422 The Property "csc" is the colour space coordinates in CIE colour space.
 14423 The first item in the array is the X coordinate.
 14424 The second item in the array is the Y coordinate.
 14425 If the Property "precision" is provided it applies to both the X and Y coordinates.
 14426 The Resource provides the colour using colour space coordinates.
 14427

14428 **6.76.2 Example URI**

14429 /example/ColourSpaceCoordinatesResURI

14430 **6.76.3 Resource type**

14431 The Resource Type is defined as: "oic.r.colour.csc".

14432 **6.76.4 OpenAPI 2.0 definition**

```

14433 {
14434   "swagger": "2.0",
14435   "info": {
14436     "title": "Colour Space Coordinates",
14437     "version": "20190215",
14438     "license": {
14439       "name": "OCF Data Model License",
14440       "url":
14441         "https://github.com/openconnectivityfoundation/core/blob/e28a9e0a92e17042ba3e83661e4c0fbce8bdc4ba/LI
14442         CENSE.md",
14443       "x-copyright": "copyright 2016-2017, 2019 Open Connectivity Foundation, Inc. All rights
14444       reserved."
14445     },
14446     "termsOfService": "https://openconnectivityfoundation.github.io/core/DISCLAIMER.md"
14447   },
14448   "schemes": ["http"],
14449   "consumes": ["application/json"],
14450   "produces": ["application/json"],
14451   "paths": {
14452     "/example/ColourSpaceCoordinatesResURI" : {
14453       "get": {
14454         "description": "This Resource describes the colour using colour space co-ordinates.\nThe
14455         Property \"csc\" is the colour space coordinates in CIE colour space.\n The first item in the array
14456         is the X coordinate.\n The second item in the array is the Y coordinate.\n If the Property
14457         \"precision\" is provided it applies to both the X and Y coordinates.\nThe Resource provides the
14458         colour using colour space coordinates.\n",
14459         "parameters": [
14460           { "$ref": "#/parameters/interface" }
14461         ],
14462         "responses": {
14463           "200": {
14464             "description": "",
14465             "x-example":
14466               {
14467                 "rt": ["oic.r.colour.csc"],
14468                 "if": ["oic.if.a", "oic.if.baseline"],
14469                 "csc": [0.41, 0.51]
14470               },
14471             "schema": { "$ref": "#/definitions/ColourCSC" }
14472           }
14473         }
14474       },
14475       "post": {
14476         "description": "Sets current colour space coordinates\n",
14477         "parameters": [

```

```

14478         {"$ref": "#/parameters/interface"},
14479         {
14480             "name": "body",
14481             "in": "body",
14482             "required": true,
14483             "schema": { "$ref": "#/definitions/ColourCSC" },
14484             "x-example":
14485                 {
14486                     "csc": [0.40, 0.70]
14487                 }
14488         },
14489     ],
14490     "responses": {
14491         "200": {
14492             "description": "",
14493             "x-example":
14494                 {
14495                     "csc": [0.40, 0.70]
14496                 },
14497             "schema": {"$ref": "#/definitions/ColourCSC" }
14498         }
14499     }
14500 },
14501 },
14502 },
14503 "parameters": {
14504     "interface": {
14505         "in": "query",
14506         "name": "if",
14507         "type": "string",
14508         "enum": ["oic.if.a", "oic.if.baseline"]
14509     }
14510 },
14511 "definitions": {
14512     "ColourCSC": {
14513         "properties": {
14514             "rt": {
14515                 "description": "The Resource Type.",
14516                 "items": {
14517                     "enum": ["oic.r.colour.csc"],
14518                     "maxLength": 64,
14519                     "type": "string"
14520                 },
14521                 "minItems": 1,
14522                 "uniqueItems": true,
14523                 "readOnly": true,
14524                 "type": "array"
14525             },
14526             "csc": {
14527                 "description": "The X and Y coordinates of the colour in CIE colour space.",
14528                 "items": {
14529                     "maximum": 1,
14530                     "minimum": 0,
14531                     "type": "number"
14532                 },
14533                 "maxItems": 2,
14534                 "minItems": 2,
14535                 "type": "array"
14536             },
14537             "n": {
14538                 "$ref":
14539                 "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
14540                 schema.json#/definitions/n"
14541             },
14542             "id": {
14543                 "$ref":
14544                 "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
14545                 schema.json#/definitions/id"
14546             },
14547             "precision": {
14548                 "$ref":
14549                 "https://openconnectivityfoundation.github.io/IoTDataModels/schemas/oic.baseresource.properties-

```



```

14550 schema.json#/definitions/precision"
14551 },
14552 "if": {
14553   "description": "The OCF Interface set supported by this Resource.",
14554   "items": {
14555     "enum": [
14556       "oic.if.a",
14557       "oic.if.baseline"
14558     ],
14559     "type": "string"
14560   },
14561   "minItems": 2,
14562   "uniqueItems": true,
14563   "readOnly": true,
14564   "type": "array"
14565 }
14566 },
14567 "type": "object",
14568 "required": ["csc"]
14569 }
14570 }
14571 }
14572

```

14573 6.76.5 Property definition

14574 Table 155 defines the Properties that are part of the "oic.r.colour.csc" Resource Type.

14575 **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	

14576 6.76.6 CRUDN behaviour

14577 Table 156 defines the CRUDN operations that are supported on the "oic.r.colour.csc" Resource
14578 Type.

14579 **Table 156 – The CRUDN operations of the Resource with type "rt" = "oic.r.colour.csc".**

Create	Read	Update	Delete	Notify
	get	post		observe

14580 **6.77 Colour Temperature**

14581 **6.77.1 Introduction**

14582 This Resource describes the colour using colour temperature conventions.
 14583 The Property "ct" is the Mired colour temperature.
 14584 The equivalent value in Kelvin is obtained by Colour Temp(K) = 1,000,000/Colour Temp(Mired)
 14585 The Resource provides the colour using colour temperature conventions.

14586 **6.77.2 Example URI**

14587 /example/ColourTemperatureResURI

14588 **6.77.3 Resource type**

14589 The Resource Type is defined as: "oic.r.colour.colourtemperature".

14590 **6.77.4 OpenAPI 2.0 definition**

```

14591 {
14592   "swagger": "2.0",
14593   "info": {
14594     "title": "Colour Temperature",
14595     "version": "20190215",
14596     "license": {
14597       "name": "OCF Data Model License",
14598       "url":
14599         "https://github.com/openconnectivityfoundation/core/blob/e28a9e0a92e17042ba3e83661e4c0fbce8bdc4ba/LI
14600         CENSE.md",
14601       "x-copyright": "copyright 2016-2017, 2019 Open Connectivity Foundation, Inc. All rights
14602         reserved."
14603     },
14604     "termsOfService": "https://openconnectivityfoundation.github.io/core/DISCLAIMER.md"
14605   },
14606   "schemes": ["http"],
14607   "consumes": ["application/json"],
14608   "produces": ["application/json"],
14609   "paths": {
14610     "/example/ColourTemperatureResURI" : {
14611       "get": {
14612         "description": "This Resource describes the colour using colour temperature
14613         conventions.\nThe Property \"ct\" is the Mired colour temperature.\n\nThe equivalent value in Kelvin
14614         is obtained by Colour Temp(K) = 1,000,000/Colour Temp(Mired)\n\nThe Resource provides the colour using
14615         colour temperature conventions.",
14616         "parameters": [
14617           { "$ref": "#/parameters/interface" }
14618         ],
14619         "responses": {
14620           "200": {
14621             "description": "",
14622             "x-example":
14623               {
14624                 "rt": ["oic.r.colour.colourtemperature"],
14625                 "if": ["oic.if.a", "oic.if.baseline"],
14626                 "ct": 457
14627               },
14628             "schema": { "$ref": "#/definitions/ColourTemp" }
14629           }
14630         }
14631       },
14632       "post": {
14633         "description": "Sets current colour temperature value\n",

```

```

14634     "parameters": [
14635         { "$ref": "#/parameters/interface" },
14636     ],
14637     "name": "body",
14638     "in": "body",
14639     "required": true,
14640     "schema": { "$ref": "#/definitions/ColourTemp" },
14641     "x-example":
14642         {
14643             "ct": 457
14644         }
14645     },
14646 ],
14647 "responses": {
14648     "200": {
14649         "description": "",
14650         "x-example":
14651             {
14652                 "ct": 467
14653             },
14654         "schema": { "$ref": "#/definitions/ColourTemp" }
14655     }
14656 },
14657 }
14658 },
14659 },
14660 "parameters": {
14661     "interface": {
14662         "in": "query",
14663         "name": "if",
14664         "type": "string",
14665         "enum": ["oic.if.a", "oic.if.baseline"]
14666     }
14667 },
14668 "definitions": {
14669     "ColourTemp": {
14670         "properties": {
14671             "rt":
14672                 {
14673                     "description": "The Resource Type.",
14674                     "items": {
14675                         "maxLength": 64,
14676                         "type": "string",
14677                         "enum": ["oic.r.colour.colourtemperature"]
14678                     },
14679                     "minItems": 1,
14680                     "uniqueItems": true,
14681                     "readOnly": true,
14682                     "type": "array"
14683                 },
14684             "ct": {
14685                 "description": "The Mired colour temperature.",
14686                 "minimum": 0,
14687                 "type": "integer"
14688             },
14689             "n": {
14690                 "$ref":
14691                 "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
14692                 schema.json#/definitions/n"
14693             },
14694             "id": {
14695                 "$ref":
14696                 "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
14697                 schema.json#/definitions/id"
14698             },
14699             "range": {
14700                 "$ref":
14701                 "https://openconnectivityfoundation.github.io/IoTDataModels/schemas/oic.baseresource.properties-
14702                 schema.json#/definitions/range_integer"
14703             },
14704             "step": {
14705                 "$ref":

```

```

14706 "https://openconnectivityfoundation.github.io/IoTDataModels/schemas/oic.baseresource.properties-
14707 schema.json#/definitions/step_integer"
14708 },
14709 "if": {
14710   "description": "The OCF Interface set supported by this Resource.",
14711   "items": {
14712     "enum": [
14713       "oic.if.a",
14714       "oic.if.baseline"
14715     ],
14716     "type": "string"
14717   },
14718   "minItems": 2,
14719   "uniqueItems": true,
14720   "readOnly": true,
14721   "type": "array"
14722 },
14723 },
14724 "type": "object",
14725 "required": ["ct"]
14726 }
14727 }
14728 }
14729

```

6.77.5 Property definition

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

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

14735 **6.77.6 CRUDN behaviour**

14736 Table 158 defines the CRUDN operations that are supported on the
14737 "oic.r.colour.colourtemperature" Resource Type.

14738 **Table 158 – The CRUDN operations of the Resource with type "rt" =**
14739 **"oic.r.colour.colourtemperature".**

Create	Read	Update	Delete	Notify
	get	post		observe

14740 **6.78 Colour Hue and Saturation**

14741 **6.78.1 Introduction**

14742 This Resource describes the colour using hue-saturation conventions.
14743 The Property "hue" is the hue angle, it is a number value as defined by the CIECAM02 model
14744 definition (see reference [CIE CIE159:2004]).
14745 A Device that does not support fractional hue angles can provide integer values.
14746 If Property "precision" is provided it applies to the hue angle.
14747 The Property "saturation" is an integer value as defined by the CIECAM02 model definition (see
14748 reference [CIE CIE159:2004]).
14749 The Property "saturation" can be converted to a percentage by saturation/maximalsaturation X
14750 100; where maximalsaturation is 32767 if the Property itself is not present.
14751 The Property "maximalsaturation" is the upper bound on the saturation supported by the Device.
14752 If not present the maximum value for saturation is 32767.
14753 The Resource provides the colour using hue and saturation conventions.
14754

14755 **6.78.2 Example URI**

14756 /example/ColourHueSaturationResURI

14757 **6.78.3 Resource type**

14758 The Resource Type is defined as: "oic.r.colour.hs".

14759 **6.78.4 OpenAPI 2.0 definition**

```
14760 {  
14761   "swagger": "2.0",  
14762   "info": {  
14763     "title": "Colour Hue and Saturation",  
14764     "version": "20190215",  
14765     "license": {  
14766       "name": "OCF Data Model License",  
14767       "url":  
14768 "https://github.com/openconnectivityfoundation/core/blob/e28a9e0a92e17042ba3e83661e4c0fbce8bdc4ba/LI  
14769 CENSE.md",  
14770       "x-copyright": "copyright 2016-2017, 2019 Open Connectivity Foundation, Inc. All rights  
14771 reserved."  
14772     },  
14773     "termsOfService": "https://openconnectivityfoundation.github.io/core/DISCLAIMER.md"  
14774   },  
14775   "schemes": ["http"],  
14776   "consumes": ["application/json"],  
14777   "produces": ["application/json"],  
14778   "paths": {  
14779     "/example/ColourHueSaturationResURI" : {  
14780       "get": {  
14781         "description": "This Resource describes the colour using hue-saturation conventions.\nThe  
14782 Property \"hue\" is the hue angle, it is a number value as defined by the CIECAM02 model definition  
14783 (see reference [CIE CIE159:2004]).\nA Device that does not support fractional hue angles can provide  
14784 integer values.\nIf Property \"precision\" is provided it applies to the hue angle.\nThe Property
```

```

14785  \"saturation\" is an integer value as defined by the CIECAM02 model definition (see reference [CIE
14786  CIE159:2004]).\n The Property \"saturation\" can be converted to a percentage by
14787  saturation/maximumsaturation X 100; where maximumsaturation is 32767 if the Property itself is not
14788  present.\nThe Property \"maximumsaturation\" is the upper bound on the saturation supported by the
14789  Device.\nIf not present the maximum value for saturation is 32767.\nThe Resource provides the colour
14790  using hue and saturation conventions.\n\",
14791  \"parameters\": [
14792  { \"$ref\": \"#/parameters/interface\" }
14793  ],
14794  \"responses\": {
14795  \"200\": {
14796  \"description\" : \"\",
14797  \"x-example\":
14798  {
14799  \"rt\": [ \"oic.r.colour.hs\" ],
14800  \"if\": [ \"oic.if.a\", \"oic.if.baseline\" ],
14801  \"hue\": 300.0,
14802  \"saturation\": 212,
14803  \"maximumsaturation\": 1000
14804  },
14805  \"schema\": { \"$ref\": \"#/definitions/ColourHS\" }
14806  }
14807  },
14808  },
14809  \"post\": {
14810  \"description\": \"Sets current colour hue and saturation values.\nAt least one of hue or
14811  saturation shall be provided in the payload.\n\",
14812  \"parameters\": [
14813  { \"$ref\": \"#/parameters/interface\" },
14814  {
14815  \"name\": \"body\",
14816  \"in\": \"body\",
14817  \"required\": true,
14818  \"schema\": { \"$ref\": \"#/definitions/ColourHS\" },
14819  \"x-example\":
14820  {
14821  \"hue\": 300.0,
14822  \"saturation\": 212
14823  }
14824  },
14825  ],
14826  \"responses\": {
14827  \"200\": {
14828  \"description\" : \"\",
14829  \"x-example\":
14830  {
14831  \"hue\": 300.0,
14832  \"saturation\": 212
14833  },
14834  \"schema\": { \"$ref\": \"#/definitions/ColourHS\" }
14835  }
14836  },
14837  },
14838  },
14839  },
14840  \"parameters\": {
14841  \"interface\" : {
14842  \"in\": \"query\",
14843  \"name\": \"if\",
14844  \"type\": \"string\",
14845  \"enum\": [ \"oic.if.a\", \"oic.if.baseline\" ]
14846  }
14847  },
14848  \"definitions\": {
14849  \"ColourHS\" : {
14850  \"properties\": {
14851  \"rt\": {
14852  \"description\": \"The Resource Type.\",
14853  \"items\": {
14854  \"enum\": [ \"oic.r.colour.hs\" ],
14855  \"maxLength\": 64,
14856  \"type\": \"string\"

```

```

14857     },
14858     "minItems": 1,
14859     "uniqueItems": true,
14860     "readOnly": true,
14861     "type": "array"
14862   },
14863   "hue": {
14864     "description": "The hue angle as defined by the CIECAM02 model definition.",
14865     "maximum": 360.0,
14866     "minimum": 0.0,
14867     "type": "number"
14868   },
14869   "saturation": {
14870     "description": "The saturation as defined by the CIECAM02 model definition.",
14871     "maximum": 32767,
14872     "minimum": 0,
14873     "type": "integer"
14874   },
14875   "maximumsaturation": {
14876     "description": "The maximum supported value of \"saturation\" for this Device.",
14877     "maximum": 32767,
14878     "minimum": 0,
14879     "readOnly": true,
14880     "type": "integer"
14881   },
14882   "n": {
14883     "$ref":
14884     "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
14885     schema.json#/definitions/n"
14886   },
14887   "id": {
14888     "$ref":
14889     "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
14890     schema.json#/definitions/id"
14891   },
14892   "precision": {
14893     "$ref":
14894     "https://openconnectivityfoundation.github.io/IoTDataModels/schemas/oic.baseresource.properties-
14895     schema.json#/definitions/precision"
14896   },
14897   "if": {
14898     "description": "The OCF Interface set supported by this Resource.",
14899     "items": {
14900       "enum": [
14901         "oic.if.a",
14902         "oic.if.baseline"
14903       ],
14904       "type": "string"
14905     },
14906     "minItems": 2,
14907     "uniqueItems": true,
14908     "readOnly": true,
14909     "type": "array"
14910   }
14911 },
14912 "type": "object",
14913 "required": ["hue", "saturation"]
14914 }
14915 }
14916 }
14917

```

6.78.5 Property definition

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

Table 159 – The Property definitions of the Resource with type "rt" = "oic.r.colour.hs".

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

hue	number	Yes	Read Write	The hue angle as defined by the CIECAM02 model definition.
n	multiple types: see schema	No	Read Write	
saturation	integer	Yes	Read Write	The saturation as defined by the CIECAM02 model definition.
precision	multiple types: see schema	No	Read Write	
rt	array: see schema	No	Read Only	The Resource Type.
maximumsaturation	integer	No	Read Only	The maximum supported value of "saturation" for this Device.
id	multiple types: see schema	No	Read Write	
if	array: see schema	No	Read Only	The OCF Interface set supported by this Resource.

14921 **6.78.6 CRUDN behaviour**

14922 Table 160 defines the CRUDN operations that are supported on the "oic.r.colour.hs" Resource
14923 Type.

14924 **Table 160 – The CRUDN operations of the Resource with type "rt" = "oic.r.colour.hs".**

Create	Read	Update	Delete	Notify
	get	post		observe

14925 **6.79 Battery Material**

14926 **6.79.1 Introduction**

14927 This Resource describes the battery material represented as an enumerated set of strings.

14928 **6.79.2 Example URI**

14929 /BatteryMaterialResURI

14930 **6.79.3 Resource type**

14931 The Resource Type is defined as: "oic.r.batterymaterial".

14932 6.79.4 OpenAPI 2.0 definition

```
14933 {
14934   "swagger": "2.0",
14935   "info": {
14936     "title": "Battery Material",
14937     "version": "20190222",
14938     "license": {
14939       "name": "OCF Data Model License",
14940       "url":
14941         "https://github.com/openconnectivityfoundation/core/blob/e28a9e0a92e17042ba3e83661e4c0fbce8bdc4ba/LI
14942         CENSE.md",
14943       "x-copyright": "Copyright 2018-2019 Open Connectivity Foundation, Inc. All rights reserved."
14944     },
14945     "termsOfService": "https://openconnectivityfoundation.github.io/core/DISCLAIMER.md"
14946   },
14947   "schemes": ["http"],
14948   "consumes": ["application/json"],
14949   "produces": ["application/json"],
14950   "paths": {
14951     "/BatteryMaterialResURI" : {
14952       "get": {
14953         "description": "This Resource describes the battery material represented as an enumerated
14954 set of strings.",
14955         "parameters": [
14956           { "$ref": "#/parameters/interface" }
14957         ],
14958         "responses": {
14959           "200": {
14960             "description": "",
14961             "x-example":
14962               {
14963                 "rt": ["oic.r.batterymaterial"],
14964                 "if": ["oic.if.s", "oic.if.baseline"],
14965                 "material": "Alkaline"
14966               },
14967             "schema": { "$ref": "#/definitions/BatteryMaterial" }
14968           }
14969         }
14970       }
14971     }
14972   },
14973   "parameters": {
14974     "interface" : {
14975       "in": "query",
14976       "name": "if",
14977       "type": "string",
14978       "enum": ["oic.if.s", "oic.if.baseline"]
14979     }
14980   },
14981   "definitions": {
14982     "BatteryMaterial" : {
14983       "properties": {
14984         "rt": {
14985           "description": "The Resource Type.",
14986           "items": {
14987             "enum": ["oic.r.batterymaterial"],
14988             "maxLength": 64,
14989             "type": "string"
14990           },
14991           "minItems": 1,
14992           "uniqueItems": true,
14993           "readOnly": true,
14994           "type": "array"
14995         },
14996         "material": {
14997           "description": "The battery construction material (type).",
14998           "enum": [
14999             "Alkaline",
15000             "Aluminium Air",
15001             "Aluminium Ion",
15002             "Atomic Betavoltaics",
```

15003 "Atomic Optoelectric Nuclear",
15004 "Atomic Nuclear",
15005 "Bunsen Cell",
15006 "Chromic Acid Cell",
15007 "Poggendorff Cell",
15008 "Clark Cell",
15009 "Daniell Cell",
15010 "Dry Cell",
15011 "Earth",
15012 "Flow",
15013 "Flow Vanadium Redox",
15014 "Flow Zinc Bromine",
15015 "Flow Zinc Cerium",
15016 "Frog",
15017 "Fuel",
15018 "Galvanic Cell",
15019 "Glass",
15020 "Grove Cell",
15021 "Lead Acid",
15022 "Lead Acid Deep Cycle",
15023 "Lead Acid VRLA",
15024 "Lead Acid AGM",
15025 "Lead Acid Gel",
15026 "Leclanche Cell",
15027 "Lemon Potato",
15028 "Lithium",
15029 "Lithium Air",
15030 "Lithium Ion",
15031 "Lithium Ion Cobalt Oxide (ICR)",
15032 "Lithium Ion Manganese Oxide (IMR)",
15033 "Lithium Ion Polymer",
15034 "Lithium Iron Phosphate",
15035 "Lithium Sulfur",
15036 "Lithium Titanate",
15037 "Lithium Ion Thin Film",
15038 "Magnesium",
15039 "Magnesium Ion",
15040 "Mercury",
15041 "Molten Salt",
15042 "Nickel Cadmium",
15043 "Nickel Cadmium Vented Cell",
15044 "Nickel Hydrogen",
15045 "Nickel Iron",
15046 "Nickel Metal Hydride",
15047 "Nickel Metal Hydride Low Self-Discharge",
15048 "Nickel Oxyhydroxide",
15049 "Nickel Oxyride",
15050 "Nickel Zinc",
15051 "Organic Radical",
15052 "Paper",
15053 "Polymer Based",
15054 "Polysulfide Bromide",
15055 "Potassium Ion",
15056 "Pulvermachers Chain",
15057 "Silicon Air",
15058 "Silver Calcium",
15059 "Silver Oxide",
15060 "Silver Zinc",
15061 "Sodium Ion",
15062 "Sodium Sulfur",
15063 "Solid State",
15064 "Sugar",
15065 "Super Iron",
15066 "UltraBattery",
15067 "Voltaic Pile",
15068 "Voltaic Pile Penny",
15069 "Voltaic Pile Trough",
15070 "Water Activated",
15071 "Weston Cell",
15072 "Zinc Air",
15073 "Zinc Carbon",
15074 "Zinc Chloride",

```

15075         "Zinc Ion",
15076         "Unknown"
15077     ],
15078     "readOnly": true,
15079     "type": "string"
15080 },
15081     "n": {
15082         "$ref":
15083         "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
15084         schema.json#/definitions/n"
15085     },
15086     "id": {
15087         "$ref":
15088         "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
15089         schema.json#/definitions/id"
15090     },
15091     "if": {
15092         "description": "The OCF Interface set supported by this Resource.",
15093         "items": {
15094             "enum": [
15095                 "oic.if.s",
15096                 "oic.if.baseline"
15097             ],
15098             "type": "string"
15099         },
15100         "minItems": 2,
15101         "uniqueItems": true,
15102         "readOnly": true,
15103         "type": "array"
15104     }
15105 },
15106 "type": "object",
15107 "required": ["material"]
15108 }
15109 }
15110 }
15111

```

6.79.5 Property definition

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

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

15116 **6.79.6 CRUDN behaviour**

15117 Table 162 defines the CRUDN operations that are supported on the "oic.r.batterymaterial"
15118 Resource Type.

15119 **Table 162 – The CRUDN operations of the Resource with type "rt" = "oic.r.batterymaterial".**

Create	Read	Update	Delete	Notify
	get			observe

15120 **6.80 Brewing**

15121 **6.80.1 Introduction**

15122 This Resource describes the attributes associated with brewing. This resource is used for
15123 configuration only. The Operation of the Device is handled independently of this Resource. The
15124 amount requested is in ml. The strength of a brewed drink is an integer, the range of which may be
15125 enforced by the presence of a strengthrange Property.

15126 **6.80.2 Example URI**

15127 /BrewingResURI

15128 **6.80.3 Resource type**

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

15130 **6.80.4 OpenAPI 2.0 definition**

```

15131 {
15132   "swagger": "2.0",
15133   "info": {
15134     "title": "Brewing",
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     "/BrewingResURI" : {
15150       "get": {
15151         "description": "This Resource describes the attributes associated with brewing. This
15152 resource is used for configuration only. The Operation of the Device is handled independently of
15153 this Resource. The amount requested is in ml. The strength of a brewed drink is an integer, the
15154 range of which may be enforced by the presence of a strengthrange Property.",
15155         "parameters": [
15156           {"$ref": "#/parameters/interface"}
15157         ],
15158         "responses": {
15159           "200": {
15160             "description": "",
15161             "x-example":
15162           {

```

```

15163         "rt": ["oic.r.brewing"],
15164         "if": ["oic.if.rw", "oic.if.baseline"],
15165         "amountrequested": 120,
15166         "strength": 8,
15167         "strengthrange": [1, 10]
15168     },
15169     "schema": { "$ref": "#/definitions/Brewing" }
15170 }
15171 },
15172 },
15173 "post": {
15174     "description": "Sets the brewing values\n",
15175     "parameters": [
15176         { "$ref": "#/parameters/interface"},
15177         {
15178             "name": "body",
15179             "in": "body",
15180             "required": true,
15181             "schema": { "$ref": "#/definitions/Brewing" },
15182             "x-example":
15183                 {
15184                     "amountrequested": 120,
15185                     "strength": 8
15186                 }
15187         }
15188     ],
15189     "responses": {
15190         "200": {
15191             "description": "",
15192             "x-example":
15193                 {
15194                     "amountrequested": 120,
15195                     "strength": 8
15196                 }
15197         }
15198     }
15199 }
15200 },
15201 },
15202 "parameters": {
15203     "interface" : {
15204         "in": "query",
15205         "name": "if",
15206         "type": "string",
15207         "enum": ["oic.if.rw", "oic.if.baseline"]
15208     }
15209 },
15210 "definitions": {
15211     "Brewing" : {
15212         "properties": {
15213             "rt": {
15214                 "description": "The Resource Type.",
15215                 "items": {
15216                     "enum": ["oic.r.brewing"],
15217                     "maxLength": 64,
15218                     "type": "string"
15219                 },
15220                 "minItems": 1,
15221                 "uniqueItems": true,
15222                 "readOnly": true,
15223                 "type": "array"
15224             },
15225             "strength": {
15226                 "description": "The strength of a brewed drink.",
15227                 "type": "integer"
15228             },
15229             "amountrequested": {
15230                 "description": "The amount requested in ml.",
15231                 "type": "integer"
15232             },
15233             "strengthrange": {
15234                 "items": {

```

```

15235         "type": "integer"
15236     },
15237     "maxItems": 2,
15238     "minItems": 2,
15239     "readOnly": true,
15240     "type": "array"
15241 },
15242 "n": {
15243     "$ref":
15244 "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
15245 schema.json#/definitions/n"
15246 },
15247 "id": {
15248     "$ref":
15249 "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
15250 schema.json#/definitions/id"
15251 },
15252 "if": {
15253     "description": "The OCF Interface set supported by this Resource.",
15254     "items": {
15255         "enum": [
15256             "oic.if.rw",
15257             "oic.if.baseline"
15258         ],
15259         "type": "string"
15260     },
15261     "minItems": 2,
15262     "uniqueItems": true,
15263     "readOnly": true,
15264     "type": "array"
15265 }
15266 },
15267 "type": "object",
15268 "required": ["amountrequested"]
15269 }
15270 }
15271 }
15272

```

15273 6.80.5 Property definition

15274 Table 163 defines the Properties that are part of the "oic.r.brewing" Resource Type.

15275 **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	

15276 **6.80.6 CRUDN behaviour**

15277 Table 164 defines the CRUDN operations that are supported on the "oic.r.brewing" Resource Type.

15278 **Table 164 – The CRUDN operations of the Resource with type "rt" = "oic.r.brewing".**

Create	Read	Update	Delete	Notify
	get	post		observe

15279 **6.81 Energy**

15280 **6.81.1 Introduction**

15281 This Resource describes the attributes associated with electrical energy. This Resource can be
 15282 used for either rated (read-only), desired (read-write) or measured (read-only) energy. The Property
 15283 "voltage" is in Volts (V), The Property "current" in Amps (A), and The Property "frequency" is in
 15284 Hertz (Hz).

15285 **6.81.2 Example URI**

15286 /EnergyResURI

15287 **6.81.3 Resource type**

15288 The Resource Type is defined as: "oic.r.energy.electrical".

15289 **6.81.4 OpenAPI 2.0 definition**

```

15290 {
15291   "swagger": "2.0",
15292   "info": {
15293     "title": "Energy",
15294     "version": "20190215",
15295     "license": {
15296       "name": "OCF Data Model License",
15297       "url":
15298         "https://github.com/openconnectivityfoundation/core/blob/e28a9e0a92e17042ba3e83661e4c0fbce8bdc4ba/LI
15299         CENSE.md",
15300       "x-copyright": "copyright 2016-2017, 2019 Open Connectivity Foundation, Inc. All rights
15301 reserved."
15302     },
15303     "termsOfService": "https://openconnectivityfoundation.github.io/core/DISCLAIMER.md"
15304   },
15305   "schemes": ["http"],
15306   "consumes": ["application/json"],
15307   "produces": ["application/json"],
15308   "paths": {
15309     "/EnergyResURI" : {
15310       "get": {
15311         "description": "This Resource describes the attributes associated with electrical energy.
15312 This Resource can be used for either rated (read-only), desired (read-write) or measured (read-only)
15313 energy. The Property \"voltage\" is in Volts (V), The Property \"current\" in Amps (A), and The
15314 Property \"frequency\" is in Hertz (Hz).",
15315         "parameters": [
15316           { "$ref": "#/parameters/interface" }
15317         ],
15318         "responses": {
15319           "200": {

```

```

15320         "description": "Retrieves the current energy.",
15321         "x-example":
15322             {
15323                 "rt": ["oic.r.energy.electrical"],
15324                 "if": ["oic.if.rw", "oic.if.baseline"],
15325                 "voltage": 120.0,
15326                 "current": 5.0,
15327                 "frequency": 60.0
15328             },
15329         "schema": { "$ref": "#/definitions/Energy" }
15330     }
15331 }
15332 },
15333 "post": {
15334     "description": "Sets the desired energy values\n",
15335     "parameters": [
15336         { "$ref": "#/parameters/interface" },
15337         {
15338             "name": "body",
15339             "in": "body",
15340             "required": true,
15341             "schema": { "$ref": "#/definitions/EnergyUpdate" },
15342             "x-example":
15343                 {
15344                     "desiredvoltage": 130.0,
15345                     "desiredcurrent": 6.0
15346                 }
15347         }
15348     ],
15349     "responses": {
15350         "200": {
15351             "description": "",
15352             "x-example":
15353                 {
15354                     "desiredvoltage": 130.0,
15355                     "desiredcurrent": 6.0
15356                 }
15357         }
15358     }
15359 }
15360 },
15361 },
15362 "parameters": {
15363     "interface": {
15364         "in": "query",
15365         "name": "if",
15366         "type": "string",
15367         "enum": ["oic.if.rw", "oic.if.baseline"]
15368     }
15369 },
15370 "definitions": {
15371     "Energy": {
15372         "properties": {
15373             "rt": {
15374                 "description": "The Resource Type.",
15375                 "items": {
15376                     "enum": ["oic.r.energy.electrical"],
15377                     "maxLength": 64,
15378                     "type": "string"
15379                 },
15380                 "minItems": 1,
15381                 "uniqueItems": true,
15382                 "readOnly": true,
15383                 "type": "array"
15384             },
15385             "desiredcurrent": {
15386                 "description": "The desired electric current in Amps (A).",
15387                 "type": "number"
15388             },
15389             "current": {
15390                 "description": "The electric current in Amps (A).",
15391                 "readOnly": true,

```



```

15392         "type": "number"
15393     },
15394     "frequency": {
15395         "description": "The electric frequency in Hertz (Hz).",
15396         "readOnly": true,
15397         "type": "number"
15398     },
15399     "voltage": {
15400         "description": "The electric voltage in Volts (V).",
15401         "readOnly": true,
15402         "type": "number"
15403     },
15404     "desiredfrequency": {
15405         "description": "The desired electric frequency in Hertz (Hz).",
15406         "type": "number"
15407     },
15408     "desiredvoltage": {
15409         "description": "The desired electric voltage in Volts (V).",
15410         "type": "number"
15411     },
15412     "n": {
15413         "$ref":
15414         "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
15415         schema.json#/definitions/n"
15416     },
15417     "id": {
15418         "$ref":
15419         "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
15420         schema.json#/definitions/id"
15421     },
15422     "if": {
15423         "description": "The OCF Interface set supported by this Resource.",
15424         "items": {
15425             "enum": [
15426                 "oic.if.rw",
15427                 "oic.if.baseline"
15428             ],
15429             "type": "string"
15430         },
15431         "minItems": 2,
15432         "uniqueItems": true,
15433         "readOnly": true,
15434         "type": "array"
15435     }
15436 },
15437 "type" : "object",
15438 "required": ["voltage", "current", "frequency"]
15439 }
15440 ,
15441 "EnergyUpdate" : {
15442     "properties": {
15443         "desiredcurrent": {
15444             "description": "The desired electric current in Amps (A).",
15445             "type": "number"
15446         },
15447         "desiredfrequency": {
15448             "description": "The desired electric frequency in Hertz (Hz).",
15449             "type": "number"
15450         },
15451         "desiredvoltage": {
15452             "description": "The desired electric voltage in Volts (V).",
15453             "type": "number"
15454         }
15455     },
15456     "anyOf": [
15457         {
15458             "required": ["desiredvoltage"]
15459         },
15460         {
15461             "required": ["desiredcurrent"]
15462         },
15463     ]

```

```

15464         "required": ["desiredfrequency"]
15465     },
15466 ],
15467     "type": "object"
15468 }
15469 }
15470 }
15471

```

15472 **6.81.5 Property definition**

15473 Table 165 defines the Properties that are part of the "oic.r.energy.electrical" Resource Type.

15474 **Table 165 – The Property definitions of the Resource with type "rt" =**
15475 **"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).

15476 **6.81.6 CRUDN behaviour**

15477 Table 166 defines the CRUDN operations that are supported on the "oic.r.energy.electrical"
15478 Resource Type.

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

Create	Read	Update	Delete	Notify
	get	post		observe

15481 **6.82 Energy Generation**

15482 **6.82.1 Introduction**

15483 This Resource describes the attributes associated with energy generation
15484 The Property "energygenerated" is a number that provides the energy generated in Watt-hour(Wh).

15485 **6.82.2 Example URI**

15486 /EnergyGenerationResURI

15487 **6.82.3 Resource type**

15488 The Resource Type is defined as: "oic.r.energy.generation".

15489 **6.82.4 OpenAPI 2.0 definition**

```

15490 {
15491   "swagger": "2.0",
15492   "info": {
15493     "title": "Energy Generation",
15494     "version": "20190215",
15495     "license": {
15496       "name": "OCF Data Model License",
15497       "url":
15498         "https://github.com/openconnectivityfoundation/core/blob/e28a9e0a92e17042ba3e83661e4c0fbce8bdc4ba/LI
15499         CENSE.md",
15500       "x-copyright": "copyright 2016-2017, 2019 Open Connectivity Foundation, Inc. All rights
15501         reserved."
15502     },
15503     "termsOfService": "https://openconnectivityfoundation.github.io/core/DISCLAIMER.md"
15504   },
15505   "schemes": ["http"],

```

```

15506     "consumes": ["application/json"],
15507     "produces": ["application/json"],
15508     "paths": {
15509         "/EnergyGenerationResURI" : {
15510             "get": {
15511                 "description": "This Resource describes the attributes associated with energy
15512 generation\nThe Property \"energygenerated\" is a number that provides the energy generated in Watt-
15513 hour(Wh).",
15514                 "parameters": [
15515                     { "$ref": "#/parameters/interface" }
15516                 ],
15517                 "responses": {
15518                     "200": {
15519                         "description": "",
15520                         "x-example":
15521                             {
15522                                 "rt": ["oic.r.energy.generation"],
15523                                 "if": ["oic.if.s", "oic.if.baseline"],
15524                                 "energygenerated": 3000.00
15525                             },
15526                         "schema": { "$ref": "#/definitions/EnergyGeneration" }
15527                     }
15528                 }
15529             }
15530         }
15531     },
15532     "parameters": {
15533         "interface" : {
15534             "in" : "query",
15535             "name" : "if",
15536             "type" : "string",
15537             "enum" : ["oic.if.s", "oic.if.baseline"]
15538         }
15539     },
15540     "definitions": {
15541         "EnergyGeneration" : {
15542             "properties": {
15543                 "rt": {
15544                     "description": "The Resource Type.",
15545                     "items": {
15546                         "enum": ["oic.r.energy.generation"],
15547                         "maxLength": 64,
15548                         "type": "string"
15549                     },
15550                     "minItems": 1,
15551                     "uniqueItems": true,
15552                     "readOnly": true,
15553                     "type": "array"
15554                 },
15555                 "energygenerated": {
15556                     "description": "The energy generated in Watt-hour(Wh).",
15557                     "readOnly": true,
15558                     "type": "number"
15559                 },
15560                 "n": {
15561                     "$ref":
15562 "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
15563 schema.json#/definitions/n"
15564                 },
15565                 "id": {
15566                     "$ref":
15567 "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
15568 schema.json#/definitions/id"
15569                 },
15570                 "if": {
15571                     "description": "The OCF Interface set supported by this Resource.",
15572                     "items": {
15573                         "enum": [
15574                             "oic.if.s",
15575                             "oic.if.baseline"
15576                         ],
15577                         "type": "string"

```

```

15578     },
15579     "minItems": 2,
15580     "uniqueItems": true,
15581     "readOnly": true,
15582     "type": "array"
15583   },
15584 },
15585 "type": "object",
15586 "required": ["energygenerated"]
15587 }
15588 }
15589 }
15590

```

15591 **6.82.5 Property definition**

15592 Table 167 defines the Properties that are part of the "oic.r.energy.generation" Resource Type.

15593 **Table 167 – The Property definitions of the Resource with type "rt" =**
 15594 **"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	

15595 **6.82.6 CRUDN behaviour**

15596 Table 168 defines the CRUDN operations that are supported on the "oic.r.energy.generation"
 15597 Resource Type.

15598 **Table 168 – The CRUDN operations of the Resource with type "rt" =**
 15599 **"oic.r.energy.generation".**

Create	Read	Update	Delete	Notify
	get			observe

15600 **6.83 Foaming**

15601 **6.83.1 Introduction**

15602 This Resource describes the attributes associated with foaming. The Property "foamstrength" of
 15603 the liquid is represented as an integer.

15604 The foam strength is an integer, the range of which may be enforced by the presence of the
15605 Property "range".

15606 **6.83.2 Example URI**

15607 /FoamingResURI

15608 **6.83.3 Resource type**

15609 The Resource Type is defined as: "oic.r.foaming".

15610 **6.83.4 OpenAPI 2.0 definition**

```
15611 {
15612   "swagger": "2.0",
15613   "info": {
15614     "title": "Foaming",
15615     "version": "20190215",
15616     "license": {
15617       "name": "OCF Data Model License",
15618       "url":
15619         "https://github.com/openconnectivityfoundation/core/blob/e28a9e0a92e17042ba3e83661e4c0fbce8bdc4ba/LI
15620 CENSE.md",
15621       "x-copyright": "copyright 2016-2017, 2019 Open Connectivity Foundation, Inc. All rights
15622 reserved."
15623     },
15624     "termsOfService": "https://openconnectivityfoundation.github.io/core/DISCLAIMER.md"
15625   },
15626   "schemes": ["http"],
15627   "consumes": ["application/json"],
15628   "produces": ["application/json"],
15629   "paths": {
15630     "/FoamingResURI" : {
15631       "get": {
15632         "description": "This Resource describes the attributes associated with foaming. The Property
15633         \"foamstrength\" of the liquid is represented as an integer.\n\nThe foam strength is an integer, the
15634         range of which may be enforced by the presence of the Property \"range\".",
15635         "parameters": [
15636           { "$ref": "#/parameters/interface" }
15637         ],
15638         "responses": {
15639           "200": {
15640             "description": "RETRIEVES the state of foaming.",
15641             "x-example":
15642               {
15643                 "rt": ["oic.r.foaming"],
15644                 "if": ["oic.if.rw", "oic.if.baseline"],
15645                 "foamstrength": 50,
15646                 "range": [0, 100]
15647               },
15648             "schema": { "$ref": "#/definitions/Foaming" }
15649           }
15650         }
15651       },
15652       "post": {
15653         "description": "Sets foaming value\n",
15654         "parameters": [
15655           { "$ref": "#/parameters/interface" },
15656           {
15657             "name": "body",
15658             "in": "body",
15659             "required": true,
15660             "schema": { "$ref": "#/definitions/Foaming" },
15661             "x-example":
15662               {
15663                 "foamstrength": 50
15664               }
15665           }
15666         ],
15667         "responses": {
15668           "200": {
```

```

15669         "description" : "",
15670         "x-example":
15671             {
15672                 "foamstrength": 50
15673             },
15674         "schema": { "$ref": "#/definitions/Foaming" }
15675     }
15676 }
15677 }
15678 }
15679 },
15680 "parameters": {
15681     "interface": {
15682         "in": "query",
15683         "name": "if",
15684         "type": "string",
15685         "enum": ["oic.if.rw", "oic.if.baseline"]
15686     }
15687 },
15688 "definitions": {
15689     "Foaming" : {
15690         "properties": {
15691             "rt": {
15692                 "description": "Resource Type",
15693                 "items": {
15694                     "enum": ["oic.r.foaming"],
15695                     "maxLength": 64,
15696                     "type": "string"
15697                 },
15698                 "minItems": 1,
15699                 "uniqueItems": true,
15700                 "readOnly": true,
15701                 "type": "array"
15702             },
15703             "foamstrength": {
15704                 "description": "The desired foaminess of the liquid.",
15705                 "type": "integer"
15706             },
15707             "n": {
15708                 "$ref":
15709 "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
15710 schema.json#/definitions/n"
15711             },
15712             "id": {
15713                 "$ref":
15714 "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
15715 schema.json#/definitions/id"
15716             },
15717             "range": {
15718                 "$ref":
15719 "https://openconnectivityfoundation.github.io/IoTDataModels/schemas/oic.baseresource.properties-
15720 schema.json#/definitions/range_integer"
15721             },
15722             "step": {
15723                 "$ref":
15724 "https://openconnectivityfoundation.github.io/IoTDataModels/schemas/oic.baseresource.properties-
15725 schema.json#/definitions/step_integer"
15726             },
15727             "if": {
15728                 "description": "The interface set supported by this resource",
15729                 "items": {
15730                     "enum": [
15731                         "oic.if.rw",
15732                         "oic.if.baseline"
15733                     ],
15734                     "type": "string"
15735                 },
15736                 "minItems": 2,
15737                 "uniqueItems": true,
15738                 "readOnly": true,
15739                 "type": "array"
15740             }
15741         }

```

```

15741     },
15742     "type": "object",
15743     "required": ["foamstrength"]
15744   }
15745 }
15746 }
15747

```

6.83.5 Property definition

Table 169 defines the Properties that are part of the "oic.r.foaming" Resource Type.

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	

6.83.6 CRUDN behaviour

Table 170 defines the CRUDN operations that are supported on the "oic.r.foaming" Resource Type.

Table 170 – The CRUDN operations of the Resource with type "rt" = "oic.r.foaming".

Create	Read	Update	Delete	Notify
	get	post		observe

6.84 Grinder

6.84.1 Introduction

This Resource describes the attributes associated with a grinder. The Property "coarseness" of the grounds is an integer. The higher the value, the less coarse. The Property "remaining" is a percentage that represents the unground material left.

15759 **6.84.2 Example URI**

15760 /GrinderResURI

15761 **6.84.3 Resource type**

15762 The Resource Type is defined as: "oic.r.grinder".

15763 **6.84.4 OpenAPI 2.0 definition**

```
15764 {
15765   "swagger": "2.0",
15766   "info": {
15767     "title": "Grinder",
15768     "version": "20190215",
15769     "license": {
15770       "name": "OCF Data Model License",
15771       "url":
15772         "https://github.com/openconnectivityfoundation/core/blob/e28a9e0a92e17042ba3e83661e4c0fbce8bdc4ba/LI
15773         CENSE.md",
15774       "x-copyright": "copyright 2016-2017, 2019 Open Connectivity Foundation, Inc. All rights
15775         reserved."
15776     },
15777     "termsOfService": "https://openconnectivityfoundation.github.io/core/DISCLAIMER.md"
15778   },
15779   "schemes": ["http"],
15780   "consumes": ["application/json"],
15781   "produces": ["application/json"],
15782   "paths": {
15783     "/GrinderResURI" : {
15784       "get": {
15785         "description": "This Resource describes the attributes associated with a grinder. The
15786         Property \"coarseness\" of the grounds is an integer. The higher the value, the less coarse. The
15787         Property \"remaining\" is a percentage that represents the unground material left.",
15788         "parameters": [
15789           { "$ref": "#/parameters/interface" }
15790         ],
15791         "responses": {
15792           "200": {
15793             "description": "RETRIEVES the state of a grinder.",
15794             "x-example":
15795               {
15796                 "rt": ["oic.r.grinder"],
15797                 "if": ["oic.if.rw", "oic.if.baseline"],
15798                 "coarseness": 10,
15799                 "remaining": 50
15800               },
15801             "schema": { "$ref": "#/definitions/Grinder" }
15802           }
15803         }
15804       },
15805       "post": {
15806         "description": "Sets grinding values.",
15807         "parameters": [
15808           { "$ref": "#/parameters/interface" },
15809           {
15810             "name": "body",
15811             "in": "body",
15812             "required": true,
15813             "schema": { "$ref": "#/definitions/GrinderUpdate" },
15814             "x-example":
15815               {
15816                 "coarseness": 10
15817               }
15818           }
15819         ],
15820         "responses": {
15821           "200": {
15822             "description": "",
15823             "x-example":
15824               {
15825                 "coarseness": 10

```

```

15826         },
15827         "schema": { "$ref": "#/definitions/GrinderUpdate" }
15828     }
15829 }
15830 }
15831 }
15832 },
15833 "parameters": {
15834     "interface": {
15835         "in": "query",
15836         "name": "if",
15837         "type": "string",
15838         "enum": ["oic.if.rw", "oic.if.baseline"]
15839     }
15840 },
15841 "definitions": {
15842     "Grinder" : {
15843         "properties": {
15844             "rt": {
15845                 "description": "Resource Type",
15846                 "items": {
15847                     "enum": ["oic.r.grinder"],
15848                     "maxLength": 64,
15849                     "type": "string"
15850                 },
15851                 "minItems": 1,
15852                 "uniqueItems": true,
15853                 "readOnly": true,
15854                 "type": "array"
15855             },
15856             "coarseness": {
15857                 "description": "The desired coarseness when grinding.",
15858                 "type": "integer"
15859             },
15860             "remaining": {
15861                 "description": "The percentage of unground material left.",
15862                 "maximum": 100,
15863                 "minimum": 0,
15864                 "readOnly": true,
15865                 "type": "integer"
15866             },
15867             "n": {
15868                 "$ref":
15869 "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
15870 schema.json#/definitions/n"
15871             },
15872             "id": {
15873                 "$ref":
15874 "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
15875 schema.json#/definitions/id"
15876             },
15877             "range": {
15878                 "$ref":
15879 "https://openconnectivityfoundation.github.io/IoTDataModels/schemas/oic.baseresource.properties-
15880 schema.json#/definitions/range_integer"
15881             },
15882             "step": {
15883                 "$ref":
15884 "https://openconnectivityfoundation.github.io/IoTDataModels/schemas/oic.baseresource.properties-
15885 schema.json#/definitions/step_integer"
15886             },
15887             "if": {
15888                 "description": "The OCF Interface set supported by this Resource.",
15889                 "items": {
15890                     "enum": [
15891                         "oic.if.rw",
15892                         "oic.if.baseline"
15893                     ],
15894                     "type": "string"
15895                 },
15896                 "minItems": 2,
15897                 "uniqueItems": true,

```

```

15898         "readOnly": true,
15899         "type": "array"
15900     }
15901 },
15902 "type": "object",
15903 "required": ["coarseness"]
15904 },
15905 "GrinderUpdate" : {
15906   "properties": {
15907     "coarseness": {
15908       "description": "The desired coarseness when grinding.",
15909       "type": "integer"
15910     }
15911   },
15912   "type": "object",
15913   "required": ["coarseness"]
15914 }
15915 }
15916 }
15917

```

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

15921 **6.84.6 CRUDN behaviour**

15922 Table 172 defines the CRUDN operations that are supported on the "oic.r.grinder" Resource Type.

15923 **Table 172 – The CRUDN operations of the Resource with type "rt" = "oic.r.grinder".**

Create	Read	Update	Delete	Notify
	get	post		observe

15924 **6.85 Liquid Level**

15925 **6.85.1 Introduction**

15926 This Resource describes the attributes associated with liquid level. The Property "currentlevel" and
 15927 "desiredlevel" are defined in terms of a percentage. The behaviour of when the currentlevel and
 15928 desiredlevel are not equal is determined by the device manufacturer.

15929 **6.85.2 Example URI**

15930 /LiquidLevelResURI

15931 **6.85.3 Resource type**

15932 The Resource Type is defined as: "oic.r.liquid.level".

15933 **6.85.4 OpenAPI 2.0 definition**

```

15934 {
15935   "swagger": "2.0",
15936   "info": {
15937     "title": "Liquid Level",
15938     "version": "20190215",
15939     "license": {
15940       "name": "OCF Data Model License",
15941       "url":
15942         "https://github.com/openconnectivityfoundation/core/blob/e28a9e0a92e17042ba3e83661e4c0fbce8bdc4ba/LI
15943         CENSE.md",
15944       "x-copyright": "copyright 2016-2017, 2019 Open Connectivity Foundation, Inc. All rights
15945       reserved."
15946     },
15947     "termsOfService": "https://openconnectivityfoundation.github.io/core/DISCLAIMER.md"
15948   },
15949   "schemes": ["http"],
15950   "consumes": ["application/json"],
15951   "produces": ["application/json"],
15952   "paths": {
15953     "/LiquidLevelResURI" : {
15954       "get": {
15955         "description": "This Resource describes the attributes associated with liquid level. The
15956         Property \"currentlevel\" and \"desiredlevel\" are defined in terms of a percentage. The behaviour
15957         of when the currentlevel and desiredlevel are not equal is determined by the device manufacturer.",
15958         "parameters": [
15959           { "$ref": "#/parameters/interface" }
15960         ],
15961         "responses": {
15962           "200": {
15963             "description": "RETRIEVES the state of liquid level.",
15964             "x-example":
15965               {
15966                 "rt": ["oic.r.liquid.level"],
15967                 "if": ["oic.if.rw", "oic.if.r", "oic.if.baseline"],

```

```

15968         "currentlevel": 60,
15969         "desiredlevel": 80
15970     },
15971     "schema": { "$ref": "#/definitions/LiquidLevel" }
15972 }
15973 },
15974 },
15975 "post": {
15976     "description": "Sets liquid level value.",
15977     "parameters": [
15978         { "$ref": "#/parameters/interface-rw" },
15979         {
15980             "name": "body",
15981             "in": "body",
15982             "required": true,
15983             "schema": { "$ref": "#/definitions/LiquidLevelUpdate" },
15984             "x-example":
15985                 {
15986                     "desiredlevel": 80
15987                 }
15988         }
15989     ],
15990     "responses": {
15991         "200": {
15992             "description": "",
15993             "x-example":
15994                 {
15995                     "desiredlevel": 80
15996                 },
15997             "schema": { "$ref": "#/definitions/LiquidLevelUpdate" }
15998         }
15999     }
16000 }
16001 },
16002 },
16003 "parameters": {
16004     "interface" : {
16005         "in" : "query",
16006         "name" : "if",
16007         "type" : "string",
16008         "enum" : ["oic.if.rw", "oic.if.r", "oic.if.baseline"]
16009     },
16010     "interface-rw" : {
16011         "in" : "query",
16012         "name" : "if",
16013         "type" : "string",
16014         "enum" : ["oic.if.rw", "oic.if.baseline"]
16015     }
16016 },
16017 "definitions": {
16018     "LiquidLevel" : {
16019         "properties": {
16020             "rt": {
16021                 "description": "The Resource Type.",
16022                 "items": {
16023                     "enum": ["oic.r.liquid.level"],
16024                     "maxLength": 64,
16025                     "type": "string"
16026                 },
16027                 "minItems": 1,
16028                 "uniqueItems": true,
16029                 "readOnly": true,
16030                 "type": "array"
16031             },
16032             "currentlevel": {
16033                 "description": "The current level of the liquid in percentage.",
16034                 "maximum": 100,
16035                 "minimum": 0,
16036                 "readOnly": true,
16037                 "type": "integer"
16038             },
16039             "desiredlevel": {

```

```

16040         "description": "The desired level of the liquid in percentage.",
16041         "maximum": 100,
16042         "minimum": 0,
16043         "type": "integer"
16044     },
16045     "n": {
16046         "$ref":
16047         "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
16048         schema.json#/definitions/n"
16049     },
16050     "id": {
16051         "$ref":
16052         "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
16053         schema.json#/definitions/id"
16054     },
16055     "step": {
16056         "$ref":
16057         "https://openconnectivityfoundation.github.io/IoTDataModels/schemas/oic.baseresource.properties-
16058         schema.json#/definitions/step_integer"
16059     },
16060     "if": {
16061         "description": "The OCF Interface set supported by this Resource.",
16062         "items": {
16063             "enum": [
16064                 "oic.if.rw",
16065                 "oic.if.r",
16066                 "oic.if.baseline"
16067             ],
16068             "type": "string"
16069         },
16070         "minItems": 2,
16071         "uniqueItems": true,
16072         "readOnly": true,
16073         "type": "array"
16074     }
16075 },
16076 "type" : "object",
16077 "required": ["currentlevel"]
16078 },
16079 "LiquidLevelUpdate" : {
16080     "properties": {
16081         "desiredlevel": {
16082             "description": "The desired level of the liquid in percentage.",
16083             "maximum": 100,
16084             "minimum": 0,
16085             "type": "integer"
16086         }
16087     },
16088     "type": "object",
16089     "required": ["desiredlevel"]
16090 }
16091 }
16092 }
16093

```

6.85.5 Property definition

Table 173 defines the Properties that are part of the "oic.r.liquid.level" Resource Type.

Table 173 – The Property definitions of the Resource with type "rt" = "oic.r.liquid.level".

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

n	multiple types: see schema	No	Read Write	
currentlevel	integer	Yes	Read Only	The current level of the liquid in percentage.
rt	array: see schema	No	Read Only	The Resource Type.
desiredlevel	integer	No	Read Write	The desired level of the liquid in percentage.
id	multiple types: see schema	No	Read Write	
step	multiple types: see schema	No	Read Write	
desiredlevel	integer	Yes	Read Write	The desired level of the liquid in percentage.

16097 **6.85.6 CRUDN behaviour**

16098 Table 174 defines the CRUDN operations that are supported on the "oic.r.liquid.level" Resource
16099 Type.

16100 **Table 174 – The CRUDN operations of the Resource with type "rt" = "oic.r.liquid.level".**

Create	Read	Update	Delete	Notify
	get	post		observe

16101 **6.86 Vehicle Connector**

16102 **6.86.1 Introduction**

16103 This Resource describes the attributes associated with an electric vehicle charging connector. The
16104 Property "connected" is a boolean indicating the status of the connector (False = disconnected,
16105 True = connected). The Property "ratedchargingcapacity" and "rateddischargingcapacity" are in
16106 Amps (A).

16107 **6.86.2 Example URI**

16108 /VehicleConnectorResURI

16109 **6.86.3 Resource type**

16110 The Resource Type is defined as: "oic.r.vehicle.connector".

16111 **6.86.4 OpenAPI 2.0 definition**

```
16112 {
16113   "swagger": "2.0",
16114   "info": {
16115     "title": "Vehicle Connector",
```

```

16116     "version": "20190215",
16117     "license": {
16118         "name": "OCF Data Model License",
16119         "url":
16120 "https://github.com/openconnectivityfoundation/core/blob/e28a9e0a92e17042ba3e83661e4c0fbce8bdc4ba/LI
16121 CENSE.md",
16122         "x-copyright": "copyright 2016-2017, 2019 Open Connectivity Foundation, Inc. All rights
16123 reserved."
16124     },
16125     "termsOfService": "https://openconnectivityfoundation.github.io/core/DISCLAIMER.md"
16126 },
16127     "schemes": ["http"],
16128     "consumes": ["application/json"],
16129     "produces": ["application/json"],
16130     "paths": {
16131         "/VehicleConnectorResURI" : {
16132             "get": {
16133                 "description": "This Resource describes the attributes associated with an electric vehicle
16134 charging connector. The Property \"connected\" is a boolean indicating the status of the connector
16135 (False = disconnected, True = connected). The Property \"ratedchargingcapacity\" and
16136 \"rateddischargingcapacity\" are in Amps (A).",
16137                 "parameters": [
16138                     { "$ref": "#/parameters/interface" }
16139                 ],
16140                 "responses": {
16141                     "200": {
16142                         "description": "",
16143                         "x-example":
16144                             {
16145                                 "rt": ["oic.r.vehicle.connector"],
16146                                 "if": ["oic.if.s", "oic.if.baseline"],
16147                                 "connected": true,
16148                                 "ratedchargingcapacity": 20.0,
16149                                 "rateddischargingcapacity": 5.0
16150                             },
16151                         "schema": { "$ref": "#/definitions/VehicleConnector" }
16152                     }
16153                 }
16154             }
16155         }
16156     },
16157     "parameters": {
16158         "interface": {
16159             "in": "query",
16160             "name": "if",
16161             "type": "string",
16162             "enum": ["oic.if.s", "oic.if.baseline"]
16163         }
16164     },
16165     "definitions": {
16166         "VehicleConnector" : {
16167             "properties": {
16168                 "rt": {
16169                     "description": "The Resource Type.",
16170                     "items": {
16171                         "enum": ["oic.r.vehicle.connector"],
16172                         "maxLength": 64,
16173                         "type": "string"
16174                     },
16175                     "minItems": 1,
16176                     "uniqueItems": true,
16177                     "readOnly": true,
16178                     "type": "array"
16179                 },
16180                 "connected": {
16181                     "description": "The connection state.",
16182                     "readOnly": true,
16183                     "type": "boolean"
16184                 },
16185                 "ratedchargingcapacity": {
16186                     "description": "The rated charging capacity in Amps (A).",
16187                     "readOnly": true,

```



```

16188         "type": "number"
16189     },
16190     "rateddischargingcapacity": {
16191         "description": "The rated discharging capacity in Amps (A).",
16192         "readOnly": true,
16193         "type": "number"
16194     },
16195     "n": {
16196         "$ref":
16197         "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
16198         schema.json#/definitions/n"
16199     },
16200     "id": {
16201         "$ref":
16202         "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
16203         schema.json#/definitions/id"
16204     },
16205     "if": {
16206         "description": "The OCF Interface set supported by this Resource.",
16207         "items": {
16208             "enum": [
16209                 "oic.if.s",
16210                 "oic.if.baseline"
16211             ],
16212             "type": "string"
16213         },
16214         "minItems": 2,
16215         "uniqueItems": true,
16216         "readOnly": true,
16217         "type": "array"
16218     }
16219 },
16220 "type": "object",
16221 "required": ["connected"]
16222 }
16223 }
16224 }
16225

```

6.86.5 Property definition

Table 175 defines the Properties that are part of the "oic.r.vehicle.connector" Resource Type.

Table 175 – The Property definitions of the Resource with type "rt" = "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.

16230 **6.86.6 CRUDN behaviour**

16231 Table 176 defines the CRUDN operations that are supported on the "oic.r.vehicle.connector"
16232 Resource Type.

Table 176 – The CRUDN operations of the Resource with type "rt" = "oic.r.vehicle.connector".

16233
16234

Create	Read	Update	Delete	Notify
	get			observe

16235 **6.87 Time Stamp**

16236 **6.87.1 Introduction**

16237 This Resource describes Properties associated with a timestamp.
16238 The "timestamp" Property is a string that captures a timestamp using the RFC3339 datetime format
16239 (e.g: 2007-04-05T14:30Z) (Time+Date+Timezone).

16240 **6.87.2 Example URI**

16241 /TimeStampResURI

16242 **6.87.3 Resource type**

16243 The Resource Type is defined as: "oic.r.time.stamp".

16244 **6.87.4 OpenAPI 2.0 definition**

```

16245 {
16246   "swagger": "2.0",
16247   "info": {
16248     "title": "Time Stamp",
16249     "version": "20190215",
16250     "license": {
16251       "name": "OCF Data Model License",
16252       "url":
16253 "https://github.com/openconnectivityfoundation/core/blob/e28a9e0a92e17042ba3e83661e4c0fbce8bdc4ba/LI
16254 CENSE.md",
16255       "x-copyright": "copyright 2016-2017, 2019 Open Connectivity Foundation, Inc. All rights
16256 reserved."
16257     },
16258     "termsOfService": "https://openconnectivityfoundation.github.io/core/DISCLAIMER.md"
16259   },
16260   "schemes": ["http"],
16261   "consumes": ["application/json"],
16262   "produces": ["application/json"],
16263   "paths": {

```

```

16264     "/TimeStampResURI" : {
16265         "get": {
16266             "description": "This Resource describes Properties associated with a timestamp.\nThe
16267 \timestamp\ Property is a string that captures a timestamp using the RFC3339 datetime format (e.g:
16268 2007-04-05T14:30Z) (Time+Date+Timezone).",
16269             "parameters": [
16270                 {"$ref": "#/parameters/interface"}
16271             ],
16272             "responses": {
16273                 "200": {
16274                     "description" : "",
16275                     "x-example":
16276                     {
16277                         "rt": ["oic.r.time.stamp"],
16278                         "if": ["oic.if.s", "oic.if.r", "oic.if.baseline"],
16279                         "timestamp": "2015-11-05T14:30:00Z"
16280                     },
16281                     "schema": { "$ref": "#/definitions/TimeStamp" }
16282                 }
16283             }
16284         }
16285     },
16286     "parameters": {
16287         "interface": {
16288             "in": "query",
16289             "name": "if",
16290             "type": "string",
16291             "enum": ["oic.if.s", "oic.if.r", "oic.if.baseline"]
16292         }
16293     },
16294     "definitions": {
16295         "TimeStamp" : {
16296             "properties": {
16297                 "rt": {
16298                     "description": "The Resource Type.",
16299                     "items": {
16300                         "enum": ["oic.r.time.stamp"],
16301                         "maxLength": 64,
16302                         "type": "string"
16303                     },
16304                     "minItems": 1,
16305                     "uniqueItems": true,
16306                     "readOnly": true,
16307                     "type": "array"
16308                 },
16309                 "timestamp": {
16310                     "description": "An RFC3339 formatted time indicating when the data was observed (e.g.:
16311 2016-02-15T09:19Z, 1996-12-19T16:39:57-08:00).",
16312                     "format": "date-time",
16313                     "readOnly": true,
16314                     "type": "string"
16315                 },
16316                 "n": {
16317                     "$ref":
16318                     "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
16319 schema.json#/definitions/n"
16320                 },
16321                 "id": {
16322                     "$ref":
16323                     "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
16324 schema.json#/definitions/id"
16325                 },
16326                 "if": {
16327                     "description": "The OCF Interface set supported by this Resource.",
16328                     "items": {
16329                         "enum": [
16330                             "oic.if.s",
16331                             "oic.if.r",
16332                             "oic.if.baseline"
16333                         ],
16334                     "type": "string"
16335                 }
16336             }
16337         }
16338     }

```

```

16336     },
16337     "minItems": 2,
16338     "uniqueItems": true,
16339     "readOnly": true,
16340     "type": "array"
16341   },
16342 },
16343 "type": "object",
16344 "required": ["timestamp"]
16345 }
16346 }
16347 }
16348

```

16349 **6.87.5 Property definition**

16350 Table 177 defines the Properties that are part of the "oic.r.time.stamp" Resource Type.

16351 **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	

16352 **6.87.6 CRUDN behaviour**

16353 Table 178 defines the CRUDN operations that are supported on the "oic.r.time.stamp" Resource Type.
16354

16355 **Table 178 – The CRUDN operations of the Resource with type "rt" = "oic.r.time.stamp".**

Create	Read	Update	Delete	Notify
	get			observe

16356 6.88 3D Printer

16357 6.88.1 Introduction

16358 This Resource describes the attributes associated with 3D Printer. The type of 3D printing
16359 technology is specified by an enumerated string value. The maximum sizes in mm are included for
16360 the x, y, and z dimensions. A designation of whether the device is capable of WAN connectivity is
16361 represented in a boolean. The memory capacity is captured in MB.

16362 6.88.2 Example URI

16363 /3DPrinterResURI

16364 6.88.3 Resource type

16365 The Resource Type is defined as: "oic.r.printer.3d".

16366 6.88.4 OpenAPI 2.0 definition

```
16367 {
16368   "swagger": "2.0",
16369   "info": {
16370     "title": "3D Printer",
16371     "version": "20190222",
16372     "license": {
16373       "name": "OCF Data Model License",
16374       "url":
16375         "https://github.com/openconnectivityfoundation/core/blob/e28a9e0a92e17042ba3e83661e4c0fbce8bdc4ba/LI
16376         CENSE.md",
16377       "x-copyright": "Copyright 2018-2019 Open Connectivity Foundation, Inc. All rights reserved."
16378     },
16379     "termsOfService": "https://openconnectivityfoundation.github.io/core/DISCLAIMER.md"
16380   },
16381   "schemes": ["http"],
16382   "consumes": ["application/json"],
16383   "produces": ["application/json"],
16384   "paths": {
16385     "/3DPrinterResURI" : {
16386       "get": {
16387         "description": "This Resource describes the attributes associated with 3D Printer. The type
16388         of 3D printing technology is specified by an enumerated string value. The maximum sizes in mm are
16389         included for the x, y, and z dimensions. A designation of whether the device is capable of WAN
16390         connectivity is represented in a boolean. The memory capacity is captured in MB.",
16391         "parameters": [
16392           { "$ref": "#/parameters/interface" }
16393         ],
16394         "responses": {
16395           "200": {
16396             "description": "",
16397             "x-example":
16398               {
16399                 "rt" : ["oic.r.printer.3d"],
16400                 "if" : ["oic.if.r", "oic.if.baseline"],
16401                 "3dprinttype" : "Digital Light Processing",
16402                 "printsize" : 300.00,
16403                 "printsizey" : 200.50,
16404                 "printsizez" : 250.75,
16405                 "wanconnected" : false,
16406                 "memorysize" : 120.5
16407               },
16408             "schema": { "$ref": "#/definitions/3DPrinter" }
16409           }
16410         }
16411       }
16412     }
16413   },
16414   "parameters": {
16415     "interface" : {
16416       "in": "query",
16417       "name": "if",
16418       "type": "string",
```

```

16419         "enum": ["oic.if.r", "oic.if.baseline"]
16420     }
16421 },
16422 "definitions": {
16423     "3DPrinter": {
16424         "properties": {
16425             "rt": {
16426                 "description": "The Resource Type",
16427                 "items": {
16428                     "maxLength": 64,
16429                     "type": "string",
16430                     "enum": ["oic.r.printer.3d"]
16431                 },
16432                 "minItems": 1,
16433                 "uniqueItems": true,
16434                 "readOnly": true,
16435                 "type": "array"
16436             },
16437             "printsizex": {
16438                 "description": "This Property represents the maximum size of printing object in the
16439 direction of X-axis. The unit is mm.",
16440                 "readOnly": true,
16441                 "type": "number"
16442             },
16443             "memorysize": {
16444                 "description": "This Property represents the total memory size of the printer. The unit is
16445 MB(Mega Bytes)",
16446                 "readOnly": true,
16447                 "type": "number"
16448             },
16449             "3dprinttype": {
16450                 "description": "The type of 3D printing technology.",
16451                 "enum": [
16452                     "Fused Filament Fabrication",
16453                     "Fused Deposition Modeling",
16454                     "Digital Light Processing",
16455                     "Powder Bed & inkjet head 3D Printing",
16456                     "Photopolymer Jetting Technology",
16457                     "Laminated Object Manufacturing",
16458                     "Stereolithography Apparatus",
16459                     "Selective Laser Sintering",
16460                     "Unknown"
16461                 ],
16462                 "readOnly": true,
16463                 "type": "string"
16464             },
16465             "wanconnected": {
16466                 "description": "This Property indicates the connectivity capability of the 3D printer. If
16467 the value is false, the printer does not have network facility to Wide Area Network such as internet
16468 and GSM. If the value is true, the printer has network connectivity",
16469                 "readOnly": true,
16470                 "type": "boolean"
16471             },
16472             "printsizex": {
16473                 "description": "This Property represents the maximum size of printing object in the
16474 direction of X-axis. The unit is mm.",
16475                 "readOnly": true,
16476                 "type": "number"
16477             },
16478             "printsizex": {
16479                 "description": "This Property represents the maximum size of printing object in the
16480 direction of Z-axis. The unit is mm.",
16481                 "readOnly": true,
16482                 "type": "number"
16483             },
16484             "n": {
16485                 "$ref":
16486 "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
16487 schema.json#/definitions/n"
16488             },
16489             "id": {
16490                 "$ref":

```

```

16491 "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
16492 schema.json#/definitions/id"
16493 },
16494 "if": {
16495   "description": "The OCF Interface set supported by this Resource.",
16496   "items": {
16497     "enum": [
16498       "oic.if.r",
16499       "oic.if.baseline"
16500     ],
16501     "type": "string"
16502   },
16503   "minItems": 2,
16504   "readOnly": true,
16505   "uniqueItems": true,
16506   "type": "array"
16507 }
16508 },
16509 "type": "object",
16510 "required": ["3dprinttype", "printsizex", "printsizex", "printsizex", "wanconnected",
16511 "memorysize"]
16512 }
16513 }
16514 }
16515

```

16516 **6.88.5 Property definition**

16517 Table 179 defines the Properties that are part of the "oic.r.printer.3d" Resource Type.

16518 **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.

16519 **6.88.6 CRUDN behaviour**

16520 Table 180 defines the CRUDN operations that are supported on the "oic.r.printer.3d" Resource
16521 Type.

16522 **Table 180 – The CRUDN operations of the Resource with type "rt" = "oic.r.printer.3d".**

Create	Read	Update	Delete	Notify
	get			observe

16523 **6.89 Blood Pressure**

16524 **6.89.1 Introduction**

16525 This Resource describes the Properties associated with a person's blood pressure.
16526 The unit is a single value that is one of mmHg or kPa.
16527 If the unit Property is missing the default is a millimeter of mercury [mmHg].
16528 The bloodpressure and unit Properties are read-only values that are provided by the Server.
16529 When range is omitted the default is 0 to +MAXFLOAT.

16530 **6.89.2 Example URI**

16531 /BloodPressureResURI

16532 **6.89.3 Resource type**

16533 The Resource Type is defined as: "oic.r.blood.pressure".

16534 **6.89.4 OpenAPI 2.0 definition**

```
16535 {  
16536   "swagger": "2.0",  
16537   "info": {  
16538     "title": "Blood Pressure",  
16539     "version": "2019-03-22",  
16540     "license": {  
16541       "name": "OCF Data Model License",  
16542       "url":  
16543         "https://github.com/openconnectivityfoundation/core/blob/e28a9e0a92e17042ba3e83661e4c0fbce8bdc4ba/LI  
16544         CENSE.md",  
16545       "x-copyright": "Copyright 2016-2019 Open Connectivity Foundation, Inc. All rights reserved."  
16546     },  
16547     "termsOfService": "https://openconnectivityfoundation.github.io/core/DISCLAIMER.md"  
16548   },  
16549   "schemes": [  
16550     "http"  
16551   ],  
16552   "consumes": [  
16553     "application/json"  
16554   ],  
16555   "produces": [  
16556     "application/json"  
16557   ],  
16558   "paths": {  
16559     "/BloodPressureResURI": {  
16560       "get": {  
16561         "description": "This Resource describes the Properties associated with a person's blood  
16562         pressure.\n\nThe unit is a single value that is one of mmHg or kPa.\n\nIf the unit Property is missing  
16563         the default is a millimeter of mercury [mmHg].\n\nThe bloodpressure and unit Properties are read-only  
16564         values that are provided by the Server.\n\nWhen range is omitted the default is 0 to +MAXFLOAT.",  
16565         "parameters": [  
16566           {  
16567             "$ref": "#/parameters/interface"  
16568           }  
16569         ],  
16570         "responses": {  
16571           "200": {  
16572             "description": "",  
16573             "x-example": {  
16574               "rt": [  
16575                 "oic.r.blood.pressure"  
16576               ],  
16577               "systolic": 110.0,  
16578               "diastolic": 85.0,  
16579               "map": 93.0,  
16580               "range": [20.0, 300.0],  
16581               "step": 1.0,  
16582               "units": "mmHg"  
16583             },  
16584             "schema": {  
16585               "$ref": "#/definitions/BloodPressure"
```

```

16586     }
16587   }
16588 }
16589 }
16590 }
16591 },
16592 "parameters": {
16593   "interface": {
16594     "in": "query",
16595     "name": "if",
16596     "type": "string",
16597     "enum": [
16598       "oic.if.s",
16599       "oic.if.baseline"
16600     ]
16601   }
16602 },
16603 "definitions": {
16604   "BloodPressure": {
16605     "properties": {
16606       "rt": {
16607         "description": "Resource Type",
16608         "items": {
16609           "enum": [
16610             "oic.r.blood.pressure"
16611           ],
16612           "type": "string",
16613           "maxLength": 64
16614         },
16615         "minItems": 1,
16616         "uniqueItems": true,
16617         "readOnly": true,
16618         "type": "array"
16619       },
16620       "map": {
16621         "description": "Mean arterial pressure (MAP)",
16622         "minimum": 0.0,
16623         "readOnly": true,
16624         "type": "number"
16625       },
16626       "units": {
16627         "description": "Blood pressure unit",
16628         "enum": [
16629           "mmHg",
16630           "kPa"
16631         ],
16632         "readOnly": true,
16633         "type": "string",
16634         "default": "mmHg"
16635       },
16636       "systolic": {
16637         "description": "Systolic blood pressure",
16638         "minimum": 0.0,
16639         "readOnly": true,
16640         "type": "number"
16641       },
16642       "diastolic": {
16643         "description": "Diastolic blood pressure",
16644         "minimum": 0.0,
16645         "readOnly": true,
16646         "type": "number"
16647       },
16648       "if": {
16649         "description": "The OCF Interface set supported by this Resource",
16650         "items": {
16651           "enum": [
16652             "oic.if.s",
16653             "oic.if.baseline"
16654           ],
16655           "type": "string",
16656           "maxLength": 64
16657         },

```

```

16658         "minItems": 1,
16659         "readOnly": true,
16660         "uniqueItems": true,
16661         "type": "array"
16662     },
16663     "range": {
16664         "$ref":
16665         "https://openconnectivityfoundation.github.io/IoTDataModels/schemas/oic.baseresource.properties-
16666         schema.json#/definitions/range_number"
16667     },
16668     "step": {
16669         "$ref":
16670         "https://openconnectivityfoundation.github.io/IoTDataModels/schemas/oic.baseresource.properties-
16671         schema.json#/definitions/step_number"
16672     },
16673     "precision": {
16674         "$ref":
16675         "https://openconnectivityfoundation.github.io/IoTDataModels/schemas/oic.baseresource.properties-
16676         schema.json#/definitions/precision"
16677     },
16678     "n": {
16679         "$ref":
16680         "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
16681         schema.json#/definitions/n"
16682     }
16683 },
16684 "type": "object",
16685 "required": [
16686     "systolic",
16687     "diastolic"
16688 ]
16689 }
16690 }
16691 }
16692

```

6.89.5 Property definition

Table 181 defines the Properties that are part of the "oic.r.blood.pressure" Resource Type.

Table 181 – The Property definitions of the Resource with type "rt" = "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)

16697 **6.89.6 CRUDN behaviour**

16698 Table 182 defines the CRUDN operations that are supported on the "oic.r.blood.pressure"
16699 Resource Type.

16700 **Table 182 – The CRUDN operations of the Resource with type "rt" = "oic.r.blood.pressure".**

Create	Read	Update	Delete	Notify
	get			observe

16701 **6.90 Blood Pressure Monitor Atomic Measurement**

16702 **6.90.1 Introduction**

16703 This Resource describes the Properties associated with a blood pressure monitor.
16704 The Resource is an Atomic Measurement of blood pressure (oic.r.blood.pressure), pulse rate
16705 (oic.r.pulserate), observed time (oic.r.time.stamp), and user id (oic.r.userid).

16706 **6.90.2 Example URI**

16707 /BloodPressureMonitorAMResURI

16708 **6.90.3 Resource type**

16709 The Resource Type is defined as: "oic.r.bloodpressuremonitor-am, oic.wk.atomicmeasurement".

16710 **6.90.4 OpenAPI 2.0 definition**

```
16711 {
16712   "swagger": "2.0",
16713   "info": {
16714     "title": "Blood Pressure Monitor Atomic Measurement",
16715     "version": "2019-03-22",
16716     "license": {
16717       "name": "OCF Data Model License",
16718       "url":
16719 "https://github.com/openconnectivityfoundation/core/blob/e28a9e0a92e17042ba3e83661e4c0fbce8bdc4ba/LI
16720 CENSE.md",
16721       "x-copyright": "Copyright 2016-2019 Open Connectivity Foundation, Inc. All rights reserved."
16722     },
16723     "termsOfService": "https://openconnectivityfoundation.github.io/core/DISCLAIMER.md"
16724   },
16725   "schemes": [
16726     "http"
16727   ],
```

```

16728     "consumes": [
16729         "application/json"
16730     ],
16731     "produces": [
16732         "application/json"
16733     ],
16734     "paths": {
16735         "/BloodPressureMonitorAMResURI?if=oic.if.b": {
16736             "get": {
16737                 "description": "This Resource describes the Properties associated with a blood pressure
16738 monitor.\nThe Resource is an Atomic Measurement of blood pressure (oic.r.blood.pressure), pulse
16739 rate (oic.r.pulserate), observed time (oic.r.time.stamp), and user id (oic.r.userid).",
16740                 "parameters": [
16741                     {
16742                         "$ref": "#/parameters/interface-all"
16743                     }
16744                 ],
16745                 "responses": {
16746                     "200": {
16747                         "description": "",
16748                         "x-example": [
16749                             {
16750                                 "href": "/myBloodPressureResURI",
16751                                 "rep": {
16752                                     "systolic": 120.0,
16753                                     "diastolic": 80.0,
16754                                     "map": 93.0,
16755                                     "range": [20.0, 300.0],
16756                                     "step": 1,
16757                                     "units": "mmHg"
16758                                 }
16759                             },
16760                             {
16761                                 "href": "/myPulseRateResURI",
16762                                 "rep": {
16763                                     "pulserate": 70,
16764                                     "range": [20, 220],
16765                                     "step": 1
16766                                 }
16767                             },
16768                             {
16769                                 "href": "/myUserId",
16770                                 "rep": {
16771                                     "userid": "USER1"
16772                                 }
16773                             },
16774                             {
16775                                 "href": "/myTimeStamp",
16776                                 "rep": {
16777                                     "timestamp": "2018-11-08T21:00+08:00"
16778                                 }
16779                             }
16780                         ],
16781                         "schema": {
16782                             "$ref": "#/definitions/batch-retrieve"
16783                         }
16784                     }
16785                 }
16786             }
16787         },
16788         "/BloodPressureMonitorAMResURI?if=oic.if.ll": {
16789             "get": {
16790                 "description": "This Resource describes the Properties associated with a blood pressure
16791 monitor.\nThe Resource is an Atomic Measurement of blood pressure (oic.r.blood.pressure), pulse
16792 rate (oic.r.pulserate), observed time (oic.r.time.stamp), and user id (oic.r.userid).",
16793                 "parameters": [
16794                     {
16795                         "$ref": "#/parameters/interface-all"
16796                     }
16797                 ],
16798                 "responses": {
16799                     "200": {

```

```

16800         "description": "",
16801         "x-example": [
16802             {
16803                 "href": "/myBloodPressureResURI",
16804                 "rt": [
16805                     "oic.r.blood.pressure"
16806                 ],
16807                 "if": [
16808                     "oic.if.s",
16809                     "oic.if.baseline"
16810                 ]
16811             },
16812             {
16813                 "href": "/myPulseRateResURI",
16814                 "rt": [
16815                     "oic.r.pulserate"
16816                 ],
16817                 "if": [
16818                     "oic.if.s",
16819                     "oic.if.baseline"
16820                 ]
16821             },
16822             {
16823                 "href": "/myUserId",
16824                 "rt": [
16825                     "oic.r.userid"
16826                 ],
16827                 "if": [
16828                     "oic.if.r",
16829                     "oic.if.baseline"
16830                 ]
16831             },
16832             {
16833                 "href": "/myTimeStamp",
16834                 "rt": [
16835                     "oic.r.time.stamp"
16836                 ],
16837                 "if": [
16838                     "oic.if.r",
16839                     "oic.if.baseline"
16840                 ]
16841             }
16842         ],
16843         "schema": {
16844             "$ref": "#/definitions/links"
16845         }
16846     }
16847 }
16848 }
16849 },
16850 "/BloodPressureMonitorAMResURI?if=oic.if.baseline": {
16851     "get": {
16852         "description": "This Resource describes the Properties associated with a blood pressure
16853 monitor.\nThe Resource is an Atomic Measurement of blood pressure (oic.r.blood.pressure), pulse
16854 rate (oic.r.pulserate), observed time (oic.r.time.stamp), and user id (oic.r.userid).",
16855         "parameters": [
16856             {
16857                 "$ref": "#/parameters/interface-all"
16858             }
16859         ],
16860         "responses": {
16861             "200": {
16862                 "description": "",
16863                 "x-example": {
16864                     "rt": [
16865                         "oic.r.bloodpressuremonitor-am",
16866                         "oic.wk.atomicmeasurement"
16867                     ],
16868                     "if": [
16869                         "oic.if.b",
16870                         "oic.if.ll",
16871                         "oic.if.baseline"

```

```

16872     ],
16873     "rts-m": [
16874         "oic.r.blood.pressure"
16875     ],
16876     "rts": [
16877         "oic.r.blood.pressure",
16878         "oic.r.pulserate",
16879         "oic.r.userid",
16880         "oic.r.time.stamp"
16881     ],
16882     "links": [
16883         {
16884             "href": "/myBloodPressureResURI",
16885             "rt": [
16886                 "oic.r.blood.pressure"
16887             ],
16888             "if": [
16889                 "oic.if.s",
16890                 "oic.if.baseline"
16891             ]
16892         },
16893         {
16894             "href": "/myPulseRateResURI",
16895             "rt": [
16896                 "oic.r.pulserate"
16897             ],
16898             "if": [
16899                 "oic.if.s",
16900                 "oic.if.baseline"
16901             ]
16902         },
16903         {
16904             "href": "/myUserId",
16905             "rt": [
16906                 "oic.r.userid"
16907             ],
16908             "if": [
16909                 "oic.if.r",
16910                 "oic.if.baseline"
16911             ]
16912         },
16913         {
16914             "href": "/myTimeStamp",
16915             "rt": [
16916                 "oic.r.time.stamp"
16917             ],
16918             "if": [
16919                 "oic.if.r",
16920                 "oic.if.baseline"
16921             ]
16922         }
16923     ],
16924     "schema": {
16925         "$ref": "#/definitions/baseline"
16926     }
16927 }
16928 }
16929 }
16930 }
16931 }
16932 },
16933 "parameters": {
16934     "interface-all": {
16935         "in": "query",
16936         "name": "if",
16937         "type": "string",
16938         "enum": [
16939             "oic.if.b",
16940             "oic.if.ll",
16941             "oic.if.baseline"
16942         ]
16943     }

```

```

16944 },
16945 "definitions": {
16946   "batch-retrieve": {
16947     "minItems": 1,
16948     "items": {
16949       "properties": {
16950         "href": {
16951           "$ref":
16952 "https://openconnectivityfoundation.github.io/core/schemas/oic.links.properties.core-
16953 schema.json#/definitions/href"
16954         },
16955         "rep": {
16956           "type": "object",
16957           "anyOf": [
16958             {
16959               "$ref":
16960 "https://openconnectivityfoundation.github.io/IoTDataModels/BloodPressureResURI.swagger.json#/defini-
16961 tions/BloodPressure"
16962             },
16963             {
16964               "$ref":
16965 "https://openconnectivityfoundation.github.io/IoTDataModels/PulseRateResURI.swagger.json#/definition-
16966 s/PulseRate"
16967             },
16968             {
16969               "$ref":
16970 "https://openconnectivityfoundation.github.io/IoTDataModels/UserIDResURI.swagger.json#/definitions/U-
16971 serID"
16972             },
16973             {
16974               "$ref":
16975 "https://openconnectivityfoundation.github.io/IoTDataModels/TimeStampResURI.swagger.json#/definition-
16976 s/TimeStamp"
16977             }
16978           ]
16979         }
16980       },
16981       "required": [
16982         "href",
16983         "rep"
16984       ],
16985       "type": "object"
16986     },
16987     "type": "array"
16988   },
16989   "links": {
16990     "type": "array",
16991     "items": {
16992       "$ref": "#/definitions/oic.oic-link"
16993     }
16994   },
16995   "baseline": {
16996     "properties": {
16997       "rt": {
16998         "items": {
16999           "enum": [
17000             "oic.r.bloodpressuremonitor-am",
17001             "oic.wk.atomicmeasurement"
17002           ],
17003           "type": "string",
17004           "maxLength": 64
17005         },
17006         "minItems": 2,
17007         "uniqueItems": true,
17008         "readOnly": true,
17009         "type": "array"
17010       },
17011       "rts": {
17012         "description": "This contains all possible Resource Types for this Atomic Measurement.",
17013         "items": {
17014           "enum": [
17015             "oic.r.blood.pressure",

```



```

17016         "oic.r.pulserate",
17017         "oic.r.userid",
17018         "oic.r.time.stamp"
17019     ],
17020     "type": "string",
17021     "maxLength": 64
17022 },
17023     "minItems": 1,
17024     "uniqueItems": true,
17025     "readOnly": true,
17026     "type": "array"
17027 },
17028 "rts-m": {
17029     "description": "This contains all mandatory Resource Types for this Atomic Measurement.",
17030     "items": {
17031         "enum": [
17032             "oic.r.blood.pressure"
17033         ],
17034         "type": "string",
17035         "maxLength": 64
17036     },
17037     "maxItems": 1,
17038     "minItems": 1,
17039     "uniqueItems": true,
17040     "readOnly": true,
17041     "type": "array"
17042 },
17043 "if": {
17044     "description": "The OCF Interface set supported by this Resource",
17045     "items": {
17046         "enum": [
17047             "oic.if.b",
17048             "oic.if.ll",
17049             "oic.if.baseline"
17050         ],
17051         "type": "string"
17052     },
17053     "minItems": 3,
17054     "uniqueItems": true,
17055     "readOnly": true,
17056     "type": "array"
17057 },
17058 "n": {
17059     "$ref":
17060     "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
17061     schema.json#/definitions/n"
17062 },
17063 "id": {
17064     "$ref":
17065     "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
17066     schema.json#/definitions/id"
17067 },
17068 "links": {
17069     "$ref": "#/definitions/links"
17070 }
17071 },
17072 "type": "object",
17073 "required": [
17074     "rt", "if", "rts", "rts-m", "links"
17075 ]
17076 },
17077 "oic.oic-link": {
17078     "properties": {
17079         "if": {
17080             "type": "array",
17081             "readOnly": true,
17082             "uniqueItems": true,
17083             "minItems": 1,
17084             "items": {
17085                 "type": "string",
17086                 "maxLength": 64,
17087                 "enum": [

```

```

17088         "oic.if.s",
17089         "oic.if.r",
17090         "oic.if.baseline"
17091     ]
17092 }
17093 },
17094 "rt": {
17095     "type": "array",
17096     "readOnly": true,
17097     "uniqueItems": true,
17098     "minItems": 1,
17099     "items": {
17100         "type": "string",
17101         "maxLength": 64,
17102         "enum": [
17103             "oic.r.blood.pressure",
17104             "oic.r.pulserate",
17105             "oic.r.userid",
17106             "oic.r.time.stamp"
17107         ]
17108     }
17109 },
17110 "anchor": {
17111     "$ref":
17112     "https://openconnectivityfoundation.github.io/core/schemas/oic.links.properties.core-
17113     schema.json#/definitions/anchor"
17114 },
17115 "di": {
17116     "$ref":
17117     "https://openconnectivityfoundation.github.io/core/schemas/oic.links.properties.core-
17118     schema.json#/definitions/di"
17119 },
17120 "eps": {
17121     "$ref":
17122     "https://openconnectivityfoundation.github.io/core/schemas/oic.links.properties.core-
17123     schema.json#/definitions/eps"
17124 },
17125 "href": {
17126     "$ref":
17127     "https://openconnectivityfoundation.github.io/core/schemas/oic.links.properties.core-
17128     schema.json#/definitions/href"
17129 },
17130 "ins": {
17131     "$ref":
17132     "https://openconnectivityfoundation.github.io/core/schemas/oic.links.properties.core-
17133     schema.json#/definitions/ins"
17134 },
17135 "p": {
17136     "$ref":
17137     "https://openconnectivityfoundation.github.io/core/schemas/oic.links.properties.core-
17138     schema.json#/definitions/p"
17139 },
17140 "rel": {
17141     "$ref":
17142     "https://openconnectivityfoundation.github.io/core/schemas/oic.links.properties.core-
17143     schema.json#/definitions/rel_array"
17144 },
17145 "title": {
17146     "$ref":
17147     "https://openconnectivityfoundation.github.io/core/schemas/oic.links.properties.core-
17148     schema.json#/definitions/title"
17149 },
17150 "type": {
17151     "$ref":
17152     "https://openconnectivityfoundation.github.io/core/schemas/oic.links.properties.core-
17153     schema.json#/definitions/type"
17154 }
17155 },
17156 "required": [
17157     "href",
17158     "rt",
17159     "if"

```

```

17160     ],
17161     "type": "object"
17162   }
17163 }
17164 }
17165

```

17166 **6.90.5 Property definition**

17167 Table 183 defines the Properties that are part of the "oic.r.bloodpressuremonitor-am,
17168 oic.wk.atomicmeasurement" Resource Type.

17169 **Table 183 – The Property definitions of the Resource with type "rt" =**
17170 **"oic.r.bloodpressuremonitor-am, oic.wk.atomicmeasurement".**

Property name	Value type	Mandatory	Access mode	Description
rep	object: see schema	Yes	Read Write	
href	multiple types: see schema	Yes	Read Write	
rts	array: see schema	Yes	Read Only	This contains all possible Resource Types for this Atomic Measurement.
n	multiple types: see schema	No	Read Write	
id	multiple types: see schema	No	Read Write	
if	array: see schema	Yes	Read Only	The OCF Interface set supported by this Resource
rts-m	array: see schema	Yes	Read Only	This contains all mandatory Resource Types for this Atomic Measurement.
rt	array: see schema	Yes	Read Only	
links	multiple types: see schema	Yes	Read Write	
rel	multiple types: see schema	No	Read Write	

ins	multiple types: see schema	No	Read Write	
href	multiple types: see schema	Yes	Read Write	
eps	multiple types: see schema	No	Read Write	
title	multiple types: see schema	No	Read Write	
if	array: see schema	Yes	Read Only	
p	multiple types: see schema	No	Read Write	
anchor	multiple types: see schema	No	Read Write	
rt	array: see schema	Yes	Read Only	
di	multiple types: see schema	No	Read Write	
type	multiple types: see schema	No	Read Write	

17171 **6.90.6 CRUDN behaviour**

17172 Table 184 defines the CRUDN operations that are supported on the "oic.r.bloodpressuremonitor-
17173 am, oic.wk.atomicmeasurement" Resource Type.

17174 **Table 184 – The CRUDN operations of the Resource with type "rt" =**
17175 **"oic.r.bloodpressuremonitor-am, oic.wk.atomicmeasurement".**

Create	Read	Update	Delete	Notify
	get			observe

17176 **6.91 Body Mass Index(BMI)**

17177 **6.91.1 Introduction**

17178 This Resource describes the Properties associated with a person's Body Mass Index (BMI).
17179 The unit, which is the default unit, is kg/m².
17180 The bmi and unit Properties are read-only values that are provided by the server.
17181 When range is omitted the default is 0 to +MAXFLOAT.

17182 **6.91.2 Example URI**

17183 /BMIResURI

17184 6.91.3 Resource type

17185 The Resource Type is defined as: "oic.r.bmi".

17186 6.91.4 OpenAPI 2.0 definition

```
17187 {
17188   "swagger": "2.0",
17189   "info": {
17190     "title": "Body Mass Index(BMI)",
17191     "version": "2019-03-22",
17192     "license": {
17193       "name": "OCF Data Model License",
17194       "url":
17195         "https://github.com/openconnectivityfoundation/core/blob/e28a9e0a92e17042ba3e83661e4c0fbce8bdc4ba/LI
17196         CENSE.md",
17197       "x-copyright": "Copyright 2016-2019 Open Connectivity Foundation, Inc. All rights reserved."
17198     },
17199     "termsOfService": "https://openconnectivityfoundation.github.io/core/DISCLAIMER.md"
17200   },
17201   "schemes": [
17202     "http"
17203   ],
17204   "consumes": [
17205     "application/json"
17206   ],
17207   "produces": [
17208     "application/json"
17209   ],
17210   "paths": {
17211     "/BMIResURI": {
17212       "get": {
17213         "description": "This Resource describes the Properties associated with a person's Body Mass
17214         Index (BMI).\n\nThe unit, which is the default unit, is kg/m^2.\n\nThe bmi and unit Properties are read-
17215         only values that are provided by the server.\n\nWhen range is omitted the default is 0 to +MAXFLOAT.",
17216         "parameters": [
17217           {
17218             "$ref": "#/parameters/interface"
17219           }
17220         ],
17221         "responses": {
17222           "200": {
17223             "description": "",
17224             "x-example": {
17225               "rt": [
17226                 "oic.r.bmi"
17227               ],
17228               "bmi": 20.0
17229             },
17230             "schema": {
17231               "$ref": "#/definitions/BMI"
17232             }
17233           }
17234         }
17235       }
17236     }
17237   },
17238   "parameters": {
17239     "interface": {
17240       "in": "query",
17241       "name": "if",
17242       "type": "string",
17243       "enum": [
17244         "oic.if.s",
17245         "oic.if.baseline"
17246       ]
17247     }
17248   },
17249   "definitions": {
17250     "BMI": {
17251       "properties": {
17252         "rt": {
```

```

17253         "description": "Resource Type",
17254         "items": {
17255             "enum": [
17256                 "oic.r.bmi"
17257             ],
17258             "type": "string",
17259             "maxLength": 64
17260         },
17261         "minItems": 1,
17262         "uniqueItems": true,
17263         "readOnly": true,
17264         "type": "array"
17265     },
17266     "bmi": {
17267         "description": "Body Mass Index (BMI) in kg/m^2",
17268         "minimum": 0.0,
17269         "readOnly": true,
17270         "type": "number"
17271     },
17272     "range": {
17273         "$ref":
17274         "https://openconnectivityfoundation.github.io/IoTDataModels/schemas/oic.baseresource.properties-
17275         schema.json#/definitions/range_number"
17276     },
17277     "step": {
17278         "$ref":
17279         "https://openconnectivityfoundation.github.io/IoTDataModels/schemas/oic.baseresource.properties-
17280         schema.json#/definitions/step_number"
17281     },
17282     "precision": {
17283         "$ref":
17284         "https://openconnectivityfoundation.github.io/IoTDataModels/schemas/oic.baseresource.properties-
17285         schema.json#/definitions/precision"
17286     },
17287     "n": {
17288         "$ref":
17289         "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
17290         schema.json#/definitions/n"
17291     },
17292     "id": {
17293         "$ref":
17294         "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
17295         schema.json#/definitions/id"
17296     },
17297     "if": {
17298         "description": "The OCF Interface set supported by this Resource",
17299         "items": {
17300             "enum": [
17301                 "oic.if.s",
17302                 "oic.if.baseline"
17303             ],
17304             "type": "string",
17305             "maxLength": 64
17306         },
17307         "minItems": 1,
17308         "readOnly": true,
17309         "uniqueItems": true,
17310         "type": "array"
17311     }
17312 },
17313 "type": "object",
17314 "required": [
17315     "bmi"
17316 ]
17317 }
17318 }
17319 }
17320

```

17321 6.91.5 Property definition

17322 Table 185 defines the Properties that are part of the "oic.r.bmi" Resource Type.

17323 **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

17324 **6.91.6 CRUDN behaviour**

17325 Table 186 defines the CRUDN operations that are supported on the "oic.r.bmi" Resource Type.

17326 **Table 186 – The CRUDN operations of the Resource with type "rt" = "oic.r.bmi".**

Create	Read	Update	Delete	Notify
	get			observe

17327 **6.92 Body Fat**

17328 **6.92.1 Introduction**

17329 This Resource describes the Properties associated with a person's body fat.
 17330 The unit is a single value that is one of kg, lb or percent.
 17331 If the unit Property is missing the default is kilograms [kg].
 17332 The bodyfat and unit Properties are read-only values that are provided by the Server.
 17333 When range is omitted the default is 0 to +MAXFLOAT.

17334 **6.92.2 Example URI**

17335 /BodyFatResURI

17336 **6.92.3 Resource type**

17337 The Resource Type is defined as: "oic.r.body.fat".

17338 **6.92.4 OpenAPI 2.0 definition**

```
17339 {
17340   "swagger": "2.0",
17341   "info": {
17342     "title": "Body Fat",
17343     "version": "2019-03-22",
17344     "license": {
17345       "name": "OCF Data Model License",
17346       "url":
17347 "https://github.com/openconnectivityfoundation/core/blob/e28a9e0a92e17042ba3e83661e4c0fbce8bdc4ba/LI
17348 CENSE.md",
17349       "x-copyright": "Copyright 2016-2019 Open Connectivity Foundation, Inc. All rights reserved."
17350     },
17351     "termsOfService": "https://openconnectivityfoundation.github.io/core/DISCLAIMER.md"
17352   },
17353   "schemes": [
17354     "http"
17355   ],
17356   "consumes": [
17357     "application/json"
17358   ],
17359   "produces": [
17360     "application/json"
17361   ],
17362   "paths": {
17363     "/BodyFatResURI": {
17364       "get": {
17365         "description": "This Resource describes the Properties associated with a person's body
17366 fat.\n\nThe unit is a single value that is one of kg, lb or percent.\n\nIf the unit Property is missing
17367 the default is kilograms [kg].\n\nThe bodyfat and unit Properties are read-only values that are
17368 provided by the Server.\n\nWhen range is omitted the default is 0 to +MAXFLOAT.",
17369         "parameters": [
17370           {
17371             "$ref": "#/parameters/interface"
17372           }
17373         ],
17374         "responses": {
17375           "200": {
17376             "description": "",
17377             "x-example": {
17378               "rt": [
17379                 "oic.r.body.fat"
17380               ],
17381               "bodyfat": 20.0,
17382               "units": "kg"
17383             },
17384             "schema": {
17385               "$ref": "#/definitions/BodyFat"
17386             }
17387           }
17388         }
17389       }
17390     }
17391   },
17392   "parameters": {
17393     "interface": {
17394       "in": "query",
17395       "name": "if",
17396       "type": "string",
17397       "enum": [
17398         "oic.if.s",
17399         "oic.if.baseline"
17400       ]
17401     }
17402   },
17403   "definitions": {
17404     "BodyFat": {
```



```

17405     "properties": {
17406       "rt": {
17407         "description": "Resource Type",
17408         "items": {
17409           "enum": [
17410             "oic.r.body.fat"
17411           ],
17412           "type": "string",
17413           "maxLength": 64
17414         },
17415         "minItems": 1,
17416         "uniqueItems": true,
17417         "readOnly": true,
17418         "type": "array"
17419       },
17420       "bodyfat": {
17421         "description": "Body fat.",
17422         "minimum": 0.0,
17423         "readOnly": true,
17424         "type": "number"
17425       },
17426       "units": {
17427         "description": "Body fat units",
17428         "enum": [
17429           "kg",
17430           "lb",
17431           "percent"
17432         ],
17433         "readOnly": true,
17434         "type": "string",
17435         "default": "kg"
17436       },
17437       "range": {
17438         "$ref":
17439           "https://openconnectivityfoundation.github.io/IoTDataModels/schemas/oic.baseresource.properties-
17440           schema.json#/definitions/range_number"
17441       },
17442       "step": {
17443         "$ref":
17444           "https://openconnectivityfoundation.github.io/IoTDataModels/schemas/oic.baseresource.properties-
17445           schema.json#/definitions/step_number"
17446       },
17447       "precision": {
17448         "$ref":
17449           "https://openconnectivityfoundation.github.io/IoTDataModels/schemas/oic.baseresource.properties-
17450           schema.json#/definitions/precision"
17451       },
17452       "n": {
17453         "$ref":
17454           "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
17455           schema.json#/definitions/n"
17456       },
17457       "id": {
17458         "$ref":
17459           "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
17460           schema.json#/definitions/id"
17461       },
17462       "if": {
17463         "description": "The OCF Interface set supported by this Resource",
17464         "items": {
17465           "enum": [
17466             "oic.if.s",
17467             "oic.if.baseline"
17468           ],
17469           "type": "string",
17470           "maxLength": 64
17471         },
17472         "minItems": 1,
17473         "readOnly": true,
17474         "type": "array"
17475       }
17476     },

```

```

17477     "type": "object",
17478     "required": [
17479         "bodyfat"
17480     ]
17481 }
17482 }
17483 }
17484

```

17485 **6.92.5 Property definition**

17486 Table 187 defines the Properties that are part of the "oic.r.body.fat" Resource Type.

17487 **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

17488 **6.92.6 CRUDN behaviour**

17489 Table 188 defines the CRUDN operations that are supported on the "oic.r.body.fat" Resource Type.

17490 **Table 188 – The CRUDN operations of the Resource with type "rt" = "oic.r.body.fat".**

Create	Read	Update	Delete	Notify
	get			observe

17491 **6.93 Body Fat Free Mass**

17492 **6.93.1 Introduction**

17493 This Resource describes the Properties associated with a person's body fat free mass.
17494 The unit is a single value that is one of kg, lb or percent.
17495 If the unit Property is missing the default is kilograms [kg].
17496 The ffm and unit Properties are read-only values that are provided by the Server.
17497 When range is omitted the default is 0 to +MAXFLOAT.

17498 **6.93.2 Example URI**

17499 /BodyFatFreeMassResURI

17500 **6.93.3 Resource type**

17501 The Resource Type is defined as: "oic.r.body.ffm".

17502 **6.93.4 OpenAPI 2.0 definition**

```
17503 {
17504   "swagger": "2.0",
17505   "info": {
17506     "title": "Body Fat Free Mass",
17507     "version": "2019-03-22",
17508     "license": {
17509       "name": "OCF Data Model License",
17510       "url":
17511         "https://github.com/openconnectivityfoundation/core/blob/e28a9e0a92e17042ba3e83661e4c0fbce8bdc4ba/LI
17512         CENSE.md",
17513       "x-copyright": "Copyright 2016-2019 Open Connectivity Foundation, Inc. All rights reserved."
17514     },
17515     "termsOfService": "https://openconnectivityfoundation.github.io/core/DISCLAIMER.md"
17516   },
17517   "schemes": [
17518     "http"
17519   ],
17520   "consumes": [
17521     "application/json"
17522   ],
17523   "produces": [
17524     "application/json"
17525   ],
17526   "paths": {
17527     "/BodyFatFreeMassResURI": {
17528       "get": {
17529         "description": "This Resource describes the Properties associated with a person's body fat
17530         free mass.\n\nThe unit is a single value that is one of kg, lb or percent.\n\nIf the unit Property is
17531         missing the default is kilograms [kg].\n\nThe ffm and unit Properties are read-only values that are
17532         provided by the Server.\n\nWhen range is omitted the default is 0 to +MAXFLOAT.",
17533         "parameters": [
17534           {
17535             "$ref": "#/parameters/interface"
17536           }
17537         ],
17538         "responses": {
17539           "200": {
17540             "description": "",
17541             "x-example": {
17542               "rt": [
17543                 "oic.r.body.ffm"
17544               ],
17545               "ffm": 40.0,
17546               "units": "kg"
17547             },
17548             "schema": {
17549               "$ref": "#/definitions/BodyFatFreeMass"
17550             }
17551           }
17552         }
17553       }
17554     }
17555   }
```

```

17554     }
17555   },
17556   "parameters": {
17557     "interface": {
17558       "in": "query",
17559       "name": "if",
17560       "type": "string",
17561       "enum": [
17562         "oic.if.s",
17563         "oic.if.baseline"
17564       ]
17565     }
17566   },
17567   "definitions": {
17568     "BodyFatFreeMass": {
17569       "properties": {
17570         "rt": {
17571           "description": "Resource Type",
17572           "items": {
17573             "enum": [
17574               "oic.r.body.ffm"
17575             ],
17576             "type": "string",
17577             "maxLength": 64
17578           },
17579           "minItems": 1,
17580           "uniqueItems": true,
17581           "readOnly": true,
17582           "type": "array"
17583         },
17584         "ffm": {
17585           "description": "Body fat free mass.",
17586           "minimum": 0.0,
17587           "readOnly": true,
17588           "type": "number"
17589         },
17590         "units": {
17591           "description": "Body fat free mass units",
17592           "enum": [
17593             "kg",
17594             "lb",
17595             "percent"
17596           ],
17597           "readOnly": true,
17598           "type": "string",
17599           "default": "kg"
17600         },
17601         "range": {
17602           "$ref":
17603             "https://openconnectivityfoundation.github.io/IoTDataModels/schemas/oic.baseresource.properties-
17604             schema.json#/definitions/range_number"
17605         },
17606         "step": {
17607           "$ref":
17608             "https://openconnectivityfoundation.github.io/IoTDataModels/schemas/oic.baseresource.properties-
17609             schema.json#/definitions/step_number"
17610         },
17611         "precision": {
17612           "$ref":
17613             "https://openconnectivityfoundation.github.io/IoTDataModels/schemas/oic.baseresource.properties-
17614             schema.json#/definitions/precision"
17615         },
17616         "n": {
17617           "$ref":
17618             "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
17619             schema.json#/definitions/n"
17620         },
17621         "id": {
17622           "$ref":
17623             "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
17624             schema.json#/definitions/id"
17625         },

```

```

17626     "if": {
17627         "description": "The OCF Interface set supported by this Resource",
17628         "items": {
17629             "enum": [
17630                 "oic.if.s",
17631                 "oic.if.baseline"
17632             ],
17633             "type": "string",
17634             "maxLength": 64
17635         },
17636         "minItems": 1,
17637         "readOnly": true,
17638         "uniqueItems": true,
17639         "type": "array"
17640     }
17641 },
17642 "type": "object",
17643 "required": [
17644     "ffm"
17645 ]
17646 }
17647 }
17648 }
17649

```

6.93.5 Property definition

Table 189 defines the Properties that are part of the "oic.r.body.ffm" Resource Type.

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

17653 **6.93.6 CRUDN behaviour**

17654 Table 190 defines the CRUDN operations that are supported on the "oic.r.body.ffm" Resource Type.

17655 **Table 190 – The CRUDN operations of the Resource with type "rt" = "oic.r.body.ffm".**

Create	Read	Update	Delete	Notify
	get			observe

17656 **6.94 Body Location Temperature**

17657 **6.94.1 Introduction**

17658 This Resource describes the Properties associated with body location for temperature
 17659 measurement of a person.
 17660 The bloc Property is a read-only value that is provided by the Server.

17661 **6.94.2 Example URI**

17662 /BodyLocationTemperatureResURI

17663 **6.94.3 Resource type**

17664 The Resource Type is defined as: "oic.r.body.location.temperature".

17665 **6.94.4 OpenAPI 2.0 definition**

```

17666 {
17667   "swagger": "2.0",
17668   "info": {
17669     "title": "Body Location Temperature",
17670     "version": "2019-03-22",
17671     "license": {
17672       "name": "OCF Data Model License",
17673       "url":
17674         "https://github.com/openconnectivityfoundation/core/blob/e28a9e0a92e17042ba3e83661e4c0fbce8bdc4ba/LI
17675         CENSE.md",
17676       "x-copyright": "Copyright 2016-2019 Open Connectivity Foundation, Inc. All rights reserved."
17677     },
17678     "termsOfService": "https://openconnectivityfoundation.github.io/core/DISCLAIMER.md"
17679   },
17680   "schemes": [
17681     "http"
17682   ],
17683   "consumes": [
17684     "application/json"
17685   ],
17686   "produces": [
17687     "application/json"
17688   ],
17689   "paths": {
17690     "/BodyLocationTemperatureResURI": {
17691       "get": {
17692         "description": "This Resource describes the Properties associated with body location for
17693         temperature measurement of a person.\n\nThe bloc Property is a read-only value that is provided by the
17694         Server.",
17695         "parameters": [
17696           {
17697             "$ref": "#/parameters/interface"
17698           }
17699         ],
17700         "responses": {
17701           "200": {

```

```

17702         "description": "",
17703         "x-example": {
17704             "rt": [
17705                 "oic.r.body.location.temperature"
17706             ],
17707             "bloc": "ear"
17708         },
17709         "schema": {
17710             "$ref": "#/definitions/BodyLocationTemperature"
17711         }
17712     }
17713 }
17714 }
17715 }
17716 },
17717 "parameters": {
17718     "interface": {
17719         "in": "query",
17720         "name": "if",
17721         "type": "string",
17722         "enum": [
17723             "oic.if.s",
17724             "oic.if.baseline"
17725         ]
17726     }
17727 },
17728 "definitions": {
17729     "BodyLocationTemperature": {
17730         "properties": {
17731             "rt": {
17732                 "description": "Resource Type",
17733                 "items": {
17734                     "enum": [
17735                         "oic.r.body.location.temperature"
17736                     ],
17737                     "type": "string",
17738                     "maxLength": 64
17739                 },
17740                 "minItems": 1,
17741                 "uniqueItems": true,
17742                 "readOnly": true,
17743                 "type": "array"
17744             },
17745             "bloc": {
17746                 "description": "A list specific to temperature site",
17747                 "enum": [
17748                     "axillary",
17749                     "body",
17750                     "ear",
17751                     "finger",
17752                     "gitract",
17753                     "mouth",
17754                     "rectum",
17755                     "toe",
17756                     "tympanum"
17757                 ],
17758                 "readOnly": true,
17759                 "type": "string"
17760             },
17761             "n": {
17762                 "$ref":
17763 "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
17764 schema.json#/definitions/n"
17765             },
17766             "id": {
17767                 "$ref":
17768 "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
17769 schema.json#/definitions/id"
17770             },
17771             "if": {
17772                 "description": "The OCF Interface set supported by this Resource",
17773                 "items": {

```

```

17774         "enum": [
17775             "oic.if.s",
17776             "oic.if.baseline"
17777         ],
17778         "type": "string",
17779         "maxLength": 64
17780     },
17781     "minItems": 1,
17782     "readOnly": true,
17783     "uniqueItems": true,
17784     "type": "array"
17785 }
17786 },
17787 "type": "object",
17788 "required": [
17789     "bloc"
17790 ]
17791 }
17792 }
17793 }
17794

```

17795 **6.94.5 Property definition**

17796 Table 191 defines the Properties that are part of the "oic.r.body.location.temperature" Resource
17797 Type.

17798 **Table 191 – The Property definitions of the Resource with type "rt" =**
17799 **"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	

17800 **6.94.6 CRUDN behaviour**

17801 Table 192 defines the CRUDN operations that are supported on the
17802 "oic.r.body.location.temperature" Resource Type.

17803 **Table 192 – The CRUDN operations of the Resource with type "rt" =**
17804 **"oic.r.body.location.temperature".**

Create	Read	Update	Delete	Notify

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

17805 **6.95 Body Scale Atomic Measurement**

17806 **6.95.1 Introduction**

17807 This Resource describes the Properties associated with body scale.
 17808 The Resource is an Atomic Measurement of weight (oic.r.weight), body mass index (BMI)
 17809 (oic.r.bmi), height (oic.r.height), body fat (oic.r.body.fat), body water (oic.r.body.water), body soft
 17810 lean mass (oic.r.body.slm), body fat free mass (oic.r.body.ffm), observed time (oic.r.time.stamp),
 17811 and user id (oic.r.userid).

17812 **6.95.2 Example URI**

17813 /BodyScaleAMResURI

17814 **6.95.3 Resource type**

17815 The Resource Type is defined as: "oic.r.bodyscale-am, oic.wk.atomicmeasurement".

17816 **6.95.4 OpenAPI 2.0 definition**

```

17817 {
17818   "swagger": "2.0",
17819   "info": {
17820     "title": "Body Scale Atomic Measurement",
17821     "version": "2019-03-22",
17822     "license": {
17823       "name": "OCF Data Model License",
17824       "url":
17825         "https://github.com/openconnectivityfoundation/core/blob/e28a9e0a92e17042ba3e83661e4c0fbce8bdc4ba/LI
17826         CENSE.md",
17827       "x-copyright": "Copyright 2016-2019 Open Connectivity Foundation, Inc. All rights reserved."
17828     },
17829     "termsOfService": "https://openconnectivityfoundation.github.io/core/DISCLAIMER.md"
17830   },
17831   "schemes": [
17832     "http"
17833   ],
17834   "consumes": [
17835     "application/json"
17836   ],
17837   "produces": [
17838     "application/json"
17839   ],
17840   "paths": {
17841     "/BodyScaleAMResURI?if=oic.if.b": {
17842       "get": {
17843         "description": "This Resource describes the Properties associated with body scale.\nThe
17844         Resource is an Atomic Measurement of weight (oic.r.weight), body mass index (BMI) (oic.r.bmi),
17845         height (oic.r.height), body fat (oic.r.body.fat), body water (oic.r.body.water), body soft lean mass
17846         (oic.r.body.slm), body fat free mass (oic.r.body.ffm), observed time (oic.r.time.stamp), and user id
17847         (oic.r.userid).",
17848         "parameters": [
17849           {
17850             "$ref": "#/parameters/interface-all"
17851           }
17852         ],
17853         "responses": {
17854           "200": {
17855             "description": "",
17856             "x-example": [
17857               {
17858                 "href": "/myWeight",
17859                 "rep": {
17860                   "weight": 80.0,
17861                   "units": "kg"
17862                 }
17863               }
17864             ]
17865           }
17866         }
17867       }
17868     }
17869   }

```

```

17864     {
17865         "href": "/myBMI",
17866         "rep": {
17867             "bmi": 20.0
17868         }
17869     },
17870     {
17871         "href": "/myHeight",
17872         "rep": {
17873             "height": 1.8,
17874             "units": "m"
17875         }
17876     },
17877     {
17878         "href": "/myBodyFat",
17879         "rep": {
17880             "bodyfat": 20.0,
17881             "units": "kg"
17882         }
17883     },
17884     {
17885         "href": "/myBodyWater",
17886         "rep": {
17887             "bwater": 20.0,
17888             "units": "kg"
17889         }
17890     },
17891     {
17892         "href": "/myBodySoftLeanMass",
17893         "rep": {
17894             "slm": 20.0,
17895             "units": "kg"
17896         }
17897     },
17898     {
17899         "href": "/myBodyFatFreeMass",
17900         "rep": {
17901             "ffm": 40.0,
17902             "units": "kg"
17903         }
17904     },
17905     {
17906         "href": "/myUserId",
17907         "rep": {
17908             "userid": "USER1"
17909         }
17910     },
17911     {
17912         "href": "/myTimeStamp",
17913         "rep": {
17914             "timestamp": "2018-11-09T12:15+08:00"
17915         }
17916     }
17917 ],
17918 "schema": {
17919     "$ref": "#/definitions/batch-retrieve"
17920 }
17921 }
17922 }
17923 },
17924 "/BodyScaleAMResURI?if=oic.if.ll": {
17925     "get": {
17926         "description": "This Resource describes the Properties associated with body scale.\nThe
17927 Resource is an Atomic Measurement of weight (oic.r.weight), body mass index (BMI) (oic.r.bmi),
17928 height (oic.r.height), body fat (oic.r.body.fat), body water (oic.r.body.water), body soft lean mass
17929 (oic.r.body.slm), body fat free mass (oic.r.body.ffm), observed time (oic.r.time.stamp), and user id
17930 (oic.r.userid).",
17931         "parameters": [
17932             {
17933                 "$ref": "#/parameters/interface-all"
17934             }
17935         ]
17936     }
17937 }

```

```

17936 ],
17937 "responses": {
17938   "200": {
17939     "description": "",
17940     "x-example": [
17941       {
17942         "href": "/myWeight",
17943         "rt": [
17944           "oic.r.weight"
17945         ],
17946         "if": [
17947           "oic.if.s",
17948           "oic.if.baseline"
17949         ]
17950       },
17951       {
17952         "href": "/myBMI",
17953         "rt": [
17954           "oic.r.bmi"
17955         ],
17956         "if": [
17957           "oic.if.s",
17958           "oic.if.baseline"
17959         ]
17960       },
17961       {
17962         "href": "/myHeight",
17963         "rt": [
17964           "oic.r.height"
17965         ],
17966         "if": [
17967           "oic.if.s",
17968           "oic.if.baseline"
17969         ]
17970       },
17971       {
17972         "href": "/myBodyFat",
17973         "rt": [
17974           "oic.r.body.fat"
17975         ],
17976         "if": [
17977           "oic.if.s",
17978           "oic.if.baseline"
17979         ]
17980       },
17981       {
17982         "href": "/myBodyWater",
17983         "rt": [
17984           "oic.r.body.water"
17985         ],
17986         "if": [
17987           "oic.if.s",
17988           "oic.if.baseline"
17989         ]
17990       },
17991       {
17992         "href": "/myBodySoftLeanMass",
17993         "rt": [
17994           "oic.r.body.slm"
17995         ],
17996         "if": [
17997           "oic.if.s",
17998           "oic.if.baseline"
17999         ]
18000       },
18001       {
18002         "href": "/myBodyFatFreeMass",
18003         "rt": [
18004           "oic.r.body.ffm"
18005         ],
18006         "if": [
18007           "oic.if.s",

```

```

18008         "oic.if.baseline"
18009     ]
18010 },
18011 {
18012     "href": "/myUserId",
18013     "rt": [
18014         "oic.r.userid"
18015     ],
18016     "if": [
18017         "oic.if.r",
18018         "oic.if.baseline"
18019     ]
18020 },
18021 {
18022     "href": "/myTimeStamp",
18023     "rt": [
18024         "oic.r.time.stamp"
18025     ],
18026     "if": [
18027         "oic.if.r",
18028         "oic.if.baseline"
18029     ]
18030 }
18031 ],
18032 "schema": {
18033     "$ref": "#/definitions/links"
18034 }
18035 }
18036 }
18037 },
18038 "/BodyScaleAMResURI?if=oic.if.baseline": {
18039     "get": {
18040         "description": "This Resource describes the Properties associated with body scale.\nThe
18041 Resource is an Atomic Measurement of weight (oic.r.weight), body mass index (BMI) (oic.r.bmi),
18042 height (oic.r.height), body fat (oic.r.body.fat), body water (oic.r.body.water), body soft lean mass
18043 (oic.r.body.slm), body fat free mass (oic.r.body.ffm), observed time (oic.r.time.stamp), and user id
18044 (oic.r.userid).",
18045     "parameters": [
18046         {
18047             "$ref": "#/parameters/interface-all"
18048         }
18049     ],
18050     "responses": {
18051         "200": {
18052             "description": "",
18053             "x-example": {
18054                 "rt": [
18055                     "oic.r.bodyscale-am",
18056                     "oic.wk.atomicmeasurement"
18057                 ],
18058                 "if": [
18059                     "oic.if.b",
18060                     "oic.if.ll",
18061                     "oic.if.baseline"
18062                 ],
18063                 "rts": [
18064                     "oic.r.weight",
18065                     "oic.r.bmi",
18066                     "oic.r.height",
18067                     "oic.r.body.fat",
18068                     "oic.r.body.water",
18069                     "oic.r.body.slm",
18070                     "oic.r.body.ffm",
18071                     "oic.r.userid",
18072                     "oic.r.time.stamp"
18073                 ],
18074                 "rts-m": [
18075                     "oic.r.weight"
18076                 ],
18077             "links": [
18078                 {
18079

```

```

18080         "href": "/myWeight",
18081         "rt": [
18082             "oic.r.weight"
18083         ],
18084         "if": [
18085             "oic.if.s",
18086             "oic.if.baseline"
18087         ]
18088     },
18089     {
18090         "href": "/myBMI",
18091         "rt": [
18092             "oic.r.bmi"
18093         ],
18094         "if": [
18095             "oic.if.s",
18096             "oic.if.baseline"
18097         ]
18098     },
18099     {
18100         "href": "/myHeight",
18101         "rt": [
18102             "oic.r.height"
18103         ],
18104         "if": [
18105             "oic.if.s",
18106             "oic.if.baseline"
18107         ]
18108     },
18109     {
18110         "href": "/myBodyFat",
18111         "rt": [
18112             "oic.r.body.fat"
18113         ],
18114         "if": [
18115             "oic.if.s",
18116             "oic.if.baseline"
18117         ]
18118     },
18119     {
18120         "href": "/myBodyWater",
18121         "rt": [
18122             "oic.r.body.water"
18123         ],
18124         "if": [
18125             "oic.if.s",
18126             "oic.if.baseline"
18127         ]
18128     },
18129     {
18130         "href": "/myBodySoftLeanMass",
18131         "rt": [
18132             "oic.r.body.slm"
18133         ],
18134         "if": [
18135             "oic.if.s",
18136             "oic.if.baseline"
18137         ]
18138     },
18139     {
18140         "href": "/myBodyFatFreeMass",
18141         "rt": [
18142             "oic.r.body.ffmpeg"
18143         ],
18144         "if": [
18145             "oic.if.s",
18146             "oic.if.baseline"
18147         ]
18148     },
18149     {
18150         "href": "/myUserId",
18151         "rt": [

```

```

18152         "oic.r.userid"
18153     ],
18154     "if": [
18155         "oic.if.r",
18156         "oic.if.baseline"
18157     ]
18158 },
18159 {
18160     "href": "/myTimeStamp",
18161     "rt": [
18162         "oic.r.time.stamp"
18163     ],
18164     "if": [
18165         "oic.if.r",
18166         "oic.if.baseline"
18167     ]
18168 }
18169 ]
18170 },
18171 "schema": {
18172     "$ref": "#/definitions/baseline"
18173 }
18174 }
18175 }
18176 }
18177 }
18178 },
18179 "parameters": {
18180     "interface-all": {
18181         "in": "query",
18182         "name": "if",
18183         "type": "string",
18184         "enum": [
18185             "oic.if.b",
18186             "oic.if.ll",
18187             "oic.if.baseline"
18188         ]
18189     }
18190 },
18191 "definitions": {
18192     "links": {
18193         "type": "array",
18194         "items": {
18195             "$ref": "#/definitions/oic.oic-link"
18196         }
18197     },
18198     "baseline": {
18199         "properties": {
18200             "rt": {
18201                 "items": {
18202                     "enum": [
18203                         "oic.r.bodyscale-am",
18204                         "oic.wk.atomicmeasurement"
18205                     ],
18206                     "type": "string",
18207                     "maxLength": 64
18208                 },
18209                 "minItems": 2,
18210                 "uniqueItems": true,
18211                 "readOnly": true,
18212                 "type": "array"
18213             },
18214             "rts": {
18215                 "description": "This contains all possible Resource Types for this Atomic Measurement.",
18216                 "items": {
18217                     "enum": [
18218                         "oic.r.weight",
18219                         "oic.r.bmi",
18220                         "oic.r.height",
18221                         "oic.r.body.fat",
18222                         "oic.r.body.water",
18223                         "oic.r.body.slm",

```

```

18224         "oic.r.body.ffm",
18225         "oic.r.time.stamp",
18226         "oic.r.userid"
18227     ],
18228     "type": "string",
18229     "maxLength": 64
18230 },
18231 "minItems": 1,
18232 "uniqueItems": true,
18233 "readOnly": true,
18234 "type": "array"
18235 },
18236 "rts-m": {
18237     "description": "This contains all mandatory Resource Types for this Atomic Measurement.",
18238     "items": {
18239         "enum": [
18240             "oic.r.weight"
18241         ],
18242         "type": "string",
18243         "maxLength": 64
18244     },
18245     "maxItems": 1,
18246     "minItems": 1,
18247     "uniqueItems": true,
18248     "readOnly": true,
18249     "type": "array"
18250 },
18251 "if": {
18252     "description": "The OCF Interface set supported by this Resource",
18253     "items": {
18254         "enum": [
18255             "oic.if.b",
18256             "oic.if.ll",
18257             "oic.if.baseline"
18258         ],
18259         "type": "string",
18260         "maxLength": 64
18261     },
18262     "minItems": 3,
18263     "uniqueItems": true,
18264     "readOnly": true,
18265     "type": "array"
18266 },
18267 "n": {
18268     "$ref":
18269     "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
18270     schema.json#/definitions/n"
18271 },
18272 "id": {
18273     "$ref":
18274     "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
18275     schema.json#/definitions/id"
18276 },
18277 "links": {
18278     "$ref": "#/definitions/links"
18279 }
18280 },
18281 "type": "object",
18282 "required": [
18283     "rt", "if", "links", "rts", "rts-m"
18284 ]
18285 },
18286 "batch-retrieve": {
18287     "minItems": 1,
18288     "items": {
18289         "properties": {
18290             "href": {
18291                 "$ref":
18292                 "https://openconnectivityfoundation.github.io/core/schemas/oic.links.properties.core-
18293                 schema.json#/definitions/href"
18294             },
18295             "rep": {

```

```

18296         "type": "object",
18297         "anyOf": [
18298             {
18299                 "$ref":
18300 "https://openconnectivityfoundation.github.io/IoTDataModels/WeightResURI.swagger.json#/definitions/W
18301 eight"
18302             },
18303             {
18304                 "$ref":
18305 "https://openconnectivityfoundation.github.io/IoTDataModels/BMIResURI.swagger.json#/definitions/BMI"
18306             },
18307             {
18308                 "$ref":
18309 "https://openconnectivityfoundation.github.io/IoTDataModels/HeightResURI.swagger.json#/definitions/H
18310 eight"
18311             },
18312             {
18313                 "$ref":
18314 "https://openconnectivityfoundation.github.io/IoTDataModels/BodyFatResURI.swagger.json#/definitions/
18315 BodyFat"
18316             },
18317             {
18318                 "$ref":
18319 "https://openconnectivityfoundation.github.io/IoTDataModels/BodyWaterResURI.swagger.json#/definition
18320 s/BodyWater"
18321             },
18322             {
18323                 "$ref":
18324 "https://openconnectivityfoundation.github.io/IoTDataModels/BodySoftLeanMassResURI.swagger.json#/def
18325 initions/BodySoftLeanMass"
18326             },
18327             {
18328                 "$ref":
18329 "https://openconnectivityfoundation.github.io/IoTDataModels/BodyFatFreeMassResURI.swagger.json#/defi
18330 nitions/BodyFatFreeMass"
18331             },
18332             {
18333                 "$ref":
18334 "https://openconnectivityfoundation.github.io/IoTDataModels/UserIDResURI.swagger.json#/definitions/U
18335 serID"
18336             },
18337             {
18338                 "$ref":
18339 "https://openconnectivityfoundation.github.io/IoTDataModels/TimeStampResURI.swagger.json#/definition
18340 s/TimeStamp"
18341             }
18342         ]
18343     },
18344     "required": [
18345         "href",
18346         "rep"
18347     ],
18348     "type": "object"
18349 },
18350 "type": "array"
18351 },
18352 "oic.oic-link": {
18353     "properties": {
18354         "rt": {
18355             "description": "Resource Type of the target Resource",
18356             "items": {
18357                 "enum": [
18358                     "oic.r.weight",
18359                     "oic.r.bmi",
18360                     "oic.r.height",
18361                     "oic.r.body.fat",
18362                     "oic.r.body.water",
18363                     "oic.r.body.slm",
18364                     "oic.r.body.ffm",
18365                     "oic.r.time.stamp",
18366                     "oic.r.userid"

```



```

18368     ],
18369     "type": "string",
18370     "maxLength": 64
18371   },
18372   "minItems": 1,
18373   "uniqueItems": true,
18374   "readOnly": true,
18375   "type": "array"
18376 },
18377 "if": {
18378   "description": "The OCF Interface set supported by the target Resource",
18379   "items": {
18380     "enum": [
18381       "oic.if.s",
18382       "oic.if.r",
18383       "oic.if.baseline"
18384     ],
18385     "type": "string",
18386     "maxLength": 64
18387   },
18388   "minItems": 1,
18389   "uniqueItems": true,
18390   "readOnly": true,
18391   "type": "array"
18392 },
18393 "anchor": {
18394   "$ref":
18395     "https://openconnectivityfoundation.github.io/core/schemas/oic.links.properties.core-
18396     schema.json#/definitions/anchor"
18397 },
18398 "di": {
18399   "$ref":
18400     "https://openconnectivityfoundation.github.io/core/schemas/oic.links.properties.core-
18401     schema.json#/definitions/di"
18402 },
18403 "eps": {
18404   "$ref":
18405     "https://openconnectivityfoundation.github.io/core/schemas/oic.links.properties.core-
18406     schema.json#/definitions/eps"
18407 },
18408 "href": {
18409   "$ref":
18410     "https://openconnectivityfoundation.github.io/core/schemas/oic.links.properties.core-
18411     schema.json#/definitions/href"
18412 },
18413 "ins": {
18414   "$ref":
18415     "https://openconnectivityfoundation.github.io/core/schemas/oic.links.properties.core-
18416     schema.json#/definitions/ins"
18417 },
18418 "p": {
18419   "$ref":
18420     "https://openconnectivityfoundation.github.io/core/schemas/oic.links.properties.core-
18421     schema.json#/definitions/p"
18422 },
18423 "rel": {
18424   "$ref":
18425     "https://openconnectivityfoundation.github.io/core/schemas/oic.links.properties.core-
18426     schema.json#/definitions/rel_array"
18427 },
18428 "title": {
18429   "$ref":
18430     "https://openconnectivityfoundation.github.io/core/schemas/oic.links.properties.core-
18431     schema.json#/definitions/title"
18432 },
18433 "type": {
18434   "$ref":
18435     "https://openconnectivityfoundation.github.io/core/schemas/oic.links.properties.core-
18436     schema.json#/definitions/type"
18437 }
18438 },
18439 "required": [

```

```

18440     "href",
18441     "rt",
18442     "if"
18443 ],
18444     "type": "object"
18445 }
18446 }
18447 }
18448

```

18449 **6.95.5 Property definition**

18450 Table 193 defines the Properties that are part of the "oic.r.bodyscale-am,
18451 oic.wk.atomicmeasurement" Resource Type.

18452 **Table 193 – The Property definitions of the Resource with type "rt" = "oic.r.bodyscale-am,
18453 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.

18454 **6.95.6 CRUDN behaviour**

18455 Table 194 defines the CRUDN operations that are supported on the "oic.r.bodyscale-am,
18456 oic.wk.atomicmeasurement" Resource Type.

18457 **Table 194 – The CRUDN operations of the Resource with type "rt" = "oic.r.bodyscale-am,
18458 oic.wk.atomicmeasurement".**

Create	Read	Update	Delete	Notify
	get			observe

18459 **6.96 Body Soft Lean Mass**

18460 **6.96.1 Introduction**

18461 This Resource describes the Properties associated with a person's body soft lean mass.
18462 The unit is a single value that is one of kg, lb or percent.
18463 If the unit Property is missing the default is kilograms [kg].

18464 The slm and unit Properties are read-only values that are provided by the Server.
18465 When range is omitted the default is 0 to +MAXFLOAT.

18466 6.96.2 Example URI

18467 /BodySoftLeanMassResURI

18468 6.96.3 Resource type

18469 The Resource Type is defined as: "oic.r.body.slm".

18470 6.96.4 OpenAPI 2.0 definition

```
18471 {
18472   "swagger": "2.0",
18473   "info": {
18474     "title": "Body Soft Lean Mass",
18475     "version": "2019-03-22",
18476     "license": {
18477       "name": "OCF Data Model License",
18478       "url":
18479         "https://github.com/openconnectivityfoundation/core/blob/e28a9e0a92e17042ba3e83661e4c0fbce8bdc4ba/LI
18480 CENSE.md",
18481       "x-copyright": "Copyright 2016-2019 Open Connectivity Foundation, Inc. All rights reserved."
18482     },
18483     "termsOfService": "https://openconnectivityfoundation.github.io/core/DISCLAIMER.md"
18484   },
18485   "schemes": [
18486     "http"
18487   ],
18488   "consumes": [
18489     "application/json"
18490   ],
18491   "produces": [
18492     "application/json"
18493   ],
18494   "paths": {
18495     "/BodySoftLeanMassResURI": {
18496       "get": {
18497         "description": "This Resource describes the Properties associated with a person's body soft
18498 lean mass.\nThe unit is a single value that is one of kg, lb or percent.\nIf the unit Property is
18499 missing the default is kilograms [kg].\nThe slm and unit Properties are read-only values that are
18500 provided by the Server.\nWhen range is omitted the default is 0 to +MAXFLOAT.",
18501         "parameters": [
18502           {
18503             "$ref": "#/parameters/interface"
18504           }
18505         ],
18506         "responses": {
18507           "200": {
18508             "description": "",
18509             "x-example": {
18510               "rt": [
18511                 "oic.r.body.slm"
18512               ],
18513               "slm": 20.0,
18514               "units": "kg"
18515             },
18516             "schema": {
18517               "$ref": "#/definitions/BodySoftLeanMass"
18518             }
18519           }
18520         }
18521       }
18522     }
18523   },
18524   "parameters": {
18525     "interface": {
18526       "in": "query",
18527       "name": "if",
18528       "type": "string",
```

```

18529         "enum": [
18530             "oic.if.s",
18531             "oic.if.baseline"
18532         ]
18533     },
18534 },
18535 "definitions": {
18536     "BodySoftLeanMass": {
18537         "properties": {
18538             "rt": {
18539                 "description": "Resource Type",
18540                 "items": {
18541                     "enum": [
18542                         "oic.r.body.slm"
18543                     ],
18544                     "type": "string",
18545                     "maxLength": 64
18546                 },
18547                 "minItems": 1,
18548                 "uniqueItems": true,
18549                 "readOnly": true,
18550                 "type": "array"
18551             },
18552             "slm": {
18553                 "description": "Body soft lean mass.",
18554                 "minimum": 0.0,
18555                 "readOnly": true,
18556                 "type": "number"
18557             },
18558             "units": {
18559                 "description": "Body soft lean mass units",
18560                 "enum": [
18561                     "kg",
18562                     "lb",
18563                     "percent"
18564                 ],
18565                 "readOnly": true,
18566                 "type": "string",
18567                 "default": "kg"
18568             },
18569             "range": {
18570                 "$ref":
18571 "https://openconnectivityfoundation.github.io/IoTDataModels/schemas/oic.baseresource.properties-
18572 schema.json#/definitions/range_number"
18573             },
18574             "step": {
18575                 "$ref":
18576 "https://openconnectivityfoundation.github.io/IoTDataModels/schemas/oic.baseresource.properties-
18577 schema.json#/definitions/step_number"
18578             },
18579             "precision": {
18580                 "$ref":
18581 "https://openconnectivityfoundation.github.io/IoTDataModels/schemas/oic.baseresource.properties-
18582 schema.json#/definitions/precision"
18583             },
18584             "n": {
18585                 "$ref":
18586 "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
18587 schema.json#/definitions/n"
18588             },
18589             "id": {
18590                 "$ref":
18591 "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
18592 schema.json#/definitions/id"
18593             },
18594             "if": {
18595                 "description": "The OCF Interface set supported by this Resource",
18596                 "items": {
18597                     "enum": [
18598                         "oic.if.s",
18599                         "oic.if.baseline"
18600                     ],

```

```

18601         "type": "string",
18602         "maxLength": 64
18603     },
18604     "minItems": 1,
18605     "readOnly": true,
18606     "uniqueItems": true,
18607     "type": "array"
18608 }
18609 },
18610 "type": "object",
18611 "required": [
18612     "slm"
18613 ]
18614 }
18615 }
18616 }
18617

```

18618 6.96.5 Property definition

18619 Table 195 defines the Properties that are part of the "oic.r.body.slm" Resource Type.

18620 **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	

18621 6.96.6 CRUDN behaviour

18622 Table 196 defines the CRUDN operations that are supported on the "oic.r.body.slm" Resource Type.

18623 **Table 196 – The CRUDN operations of the Resource with type "rt" = "oic.r.body.slm".**

Create	Read	Update	Delete	Notify
	get			observe

18624 **6.97 Body Thermometer Atomic Measurement**

18625 **6.97.1 Introduction**

18626 This Resource describes the Properties associated with body thermometer.
 18627 The Resource is an Atomic Measurement of temperature (oic.r.temperature), body location for
 18628 temperature (oic.r.body.location.temperature), observed time (oic.r.time.stamp), and user id
 18629 (oic.r.userid).

18630 **6.97.2 Example URI**

18631 /BodyThermometerAMResURI

18632 **6.97.3 Resource type**

18633 The Resource Type is defined as: "oic.r.bodythermometer-am, oic.wk.atomicmeasurement".

18634 **6.97.4 OpenAPI 2.0 definition**

```

18635 {
18636   "swagger": "2.0",
18637   "info": {
18638     "title": "Body Thermometer Atomic Measurement",
18639     "version": "2019-03-22",
18640     "license": {
18641       "name": "OCF Data Model License",
18642       "url":
18643         "https://github.com/openconnectivityfoundation/core/blob/e28a9e0a92e17042ba3e83661e4c0fbce8bdc4ba/LI
18644         CENSE.md",
18645       "x-copyright": "Copyright 2016-2019 Open Connectivity Foundation, Inc. All rights reserved."
18646     },
18647     "termsOfService": "https://openconnectivityfoundation.github.io/core/DISCLAIMER.md"
18648   },
18649   "schemes": [
18650     "http"
18651   ],
18652   "consumes": [
18653     "application/json"
18654   ],
18655   "produces": [
18656     "application/json"
18657   ],
18658   "paths": {
18659     "/BodyThermometerAMResURI?if=oic.if.b": {
18660       "get": {
18661         "description": "This Resource describes the Properties associated with body
18662 thermometer.\nThe Resource is an Atomic Measurement of temperature (oic.r.temperature), body
18663 location for temperature (oic.r.body.location.temperature), observed time (oic.r.time.stamp), and
18664 user id (oic.r.userid).",
18665         "parameters": [
18666           {
18667             "$ref": "#/parameters/interface-all"
18668           }
18669         ],
18670         "responses": {
18671           "200": {
18672             "description": "",
18673             "x-example": [
18674               {
18675                 "href": "/myTemperature",
18676                 "rep": {
18677                   "temperature": 38.0,

```

```

18678         "units": "C"
18679     }
18680 },
18681 {
18682     "href": "/myBodyLocationForTemperature",
18683     "rep": {
18684         "bloc": "mouth"
18685     }
18686 },
18687 {
18688     "href": "/myUserId",
18689     "rep": {
18690         "userid": "USER1"
18691     }
18692 },
18693 {
18694     "href": "/myTimeStamp",
18695     "rep": {
18696         "timestamp": "2018-11-09T12:15+08:00"
18697     }
18698 }
18699 ],
18700 "schema": {
18701     "$ref": "#/definitions/batch-retrieve"
18702 }
18703 }
18704 }
18705 }
18706 },
18707 "/BodyThermometerAMResURI?if=oic.if.ll": {
18708     "get": {
18709         "description": "This Resource describes the Properties associated with body
18710 thermometer.\n\nThe Resource is an Atomic Measurement of temperature (oic.r.temperature), body
18711 location for temperature (oic.r.body.location.temperature), observed time (oic.r.time.stamp), and
18712 user id (oic.r.userid).",
18713         "parameters": [
18714             {
18715                 "$ref": "#/parameters/interface-all"
18716             }
18717         ],
18718         "responses": {
18719             "200": {
18720                 "description": "",
18721                 "x-example": [
18722                     {
18723                         "href": "/myTemperature",
18724                         "rt": [
18725                             "oic.r.temperature"
18726                         ],
18727                         "if": [
18728                             "oic.if.s",
18729                             "oic.if.baseline"
18730                         ]
18731                     },
18732                     {
18733                         "href": "/myBodyLocationForTemperature",
18734                         "rt": [
18735                             "oic.r.body.location.temperature"
18736                         ],
18737                         "if": [
18738                             "oic.if.s",
18739                             "oic.if.baseline"
18740                         ]
18741                     }
18742                 ],
18743                 {
18744                     "href": "/myUserId",
18745                     "rt": [
18746                         "oic.r.userid"
18747                     ],
18748                     "if": [
18749                         "oic.if.r",
18750                         "oic.if.baseline"

```



```

18750         ]
18751     },
18752     {
18753         "href": "/myTimeStamp",
18754         "rt": [
18755             "oic.r.time.stamp"
18756         ],
18757         "if": [
18758             "oic.if.r",
18759             "oic.if.baseline"
18760         ]
18761     }
18762 ],
18763 "schema": {
18764     "$ref": "#/definitions/links"
18765 }
18766 }
18767 }
18768 },
18769 ],
18770 "/BodyThermometerAMResURI?if=oic.if.baseline": {
18771     "get": {
18772         "description": "This Resource describes the Properties associated with body
18773 thermometer.\nThe Resource is an Atomic Measurement of temperature (oic.r.temperature), body
18774 location for temperature (oic.r.body.location.temperature), observed time (oic.r.time.stamp), and
18775 user id (oic.r.userid).",
18776         "parameters": [
18777             {
18778                 "$ref": "#/parameters/interface-all"
18779             }
18780         ],
18781         "responses": {
18782             "200": {
18783                 "description": "",
18784                 "x-example": {
18785                     "rt": [
18786                         "oic.r.bodythermometer-am",
18787                         "oic.wk.atomicmeasurement"
18788                     ],
18789                     "if": [
18790                         "oic.if.b",
18791                         "oic.if.ll",
18792                         "oic.if.baseline"
18793                     ],
18794                     "rts": [
18795                         "oic.r.temperature",
18796                         "oic.r.body.location.temperature",
18797                         "oic.r.userid",
18798                         "oic.r.time.stamp"
18799                     ],
18800                     "rts-m": [
18801                         "oic.r.temperature"
18802                     ],
18803                     "links": [
18804                         {
18805                             "href": "/myTemperature",
18806                             "rt": [
18807                                 "oic.r.temperature"
18808                             ],
18809                             "if": [
18810                                 "oic.if.s",
18811                                 "oic.if.baseline"
18812                             ]
18813                         },
18814                         {
18815                             "href": "/myBodyLocationForTemperature",
18816                             "rt": [
18817                                 "oic.r.body.location.temperature"
18818                             ],
18819                             "if": [
18820                                 "oic.if.s",
18821                                 "oic.if.baseline"

```

```

18822         ]
18823     },
18824     {
18825         "href": "/myUserId",
18826         "rt": [
18827             "oic.r.userid"
18828         ],
18829         "if": [
18830             "oic.if.r",
18831             "oic.if.baseline"
18832         ]
18833     },
18834     {
18835         "href": "/myTimeStamp",
18836         "rt": [
18837             "oic.r.time.stamp"
18838         ],
18839         "if": [
18840             "oic.if.r",
18841             "oic.if.baseline"
18842         ]
18843     }
18844 ]
18845 },
18846 "schema": {
18847     "$ref": "#/definitions/baseline"
18848 }
18849 }
18850 }
18851 }
18852 },
18853 },
18854 "parameters": {
18855     "interface-all": {
18856         "in": "query",
18857         "name": "if",
18858         "type": "string",
18859         "enum": [
18860             "oic.if.b",
18861             "oic.if.ll",
18862             "oic.if.baseline"
18863         ]
18864     }
18865 },
18866 "definitions": {
18867     "batch-retrieve": {
18868         "minItems": 1,
18869         "items": {
18870             "additionalProperties": true,
18871             "properties": {
18872                 "href": {
18873                     "$ref":
18874 "https://openconnectivityfoundation.github.io/core/schemas/oic.links.properties.core-
18875 schema.json#/definitions/href"
18876                 },
18877                 "rep": {
18878                     "type": "object",
18879                     "anyOf": [
18880                         {
18881                             "$ref":
18882 "https://openconnectivityfoundation.github.io/IoTDataModels/TemperatureResURI.swagger.json#/definiti
18883 ons/Temperature"
18884                         },
18885                         {
18886                             "$ref":
18887 "https://openconnectivityfoundation.github.io/IoTDataModels/BodyLocationTemperatureResURI.swagger.js
18888 on#/definitions/BodyLocationTemperature"
18889                         },
18890                         {
18891                             "$ref":
18892 "https://openconnectivityfoundation.github.io/IoTDataModels/UserIDResURI.swagger.json#/definitions/U
18893 serID"

```

```

18894         },
18895         {
18896             "$ref":
18897             "https://openconnectivityfoundation.github.io/IoTDataModels/TimeStampResURI.swagger.json#/definition
18898             s/TimeStamp"
18899         }
18900     ]
18901     }
18902 },
18903 "required": [
18904     "href",
18905     "rep"
18906 ],
18907 "type": "object"
18908 },
18909 "type": "array"
18910 },
18911 "links": {
18912     "type": "array",
18913     "items": {
18914         "$ref": "#/definitions/oic.oic-link"
18915     }
18916 },
18917 "baseline": {
18918     "properties": {
18919         "rt": {
18920             "items": {
18921                 "enum": [
18922                     "oic.r.bodythermometer-am",
18923                     "oic.wk.atomicmeasurement"
18924                 ],
18925                 "type": "string",
18926                 "maxLength": 64
18927             },
18928             "minItems": 2,
18929             "uniqueItems": true,
18930             "readOnly": true,
18931             "type": "array"
18932         },
18933         "rts": {
18934             "description": "This contains all possible Resource Types for this Atomic Measurement.",
18935             "items": {
18936                 "enum": [
18937                     "oic.r.temperature",
18938                     "oic.r.body.location.temperature",
18939                     "oic.r.time.stamp",
18940                     "oic.r.userid"
18941                 ],
18942                 "type": "string",
18943                 "maxLength": 64
18944             },
18945             "minItems": 1,
18946             "uniqueItems": true,
18947             "readOnly": true,
18948             "type": "array"
18949         },
18950         "rts-m": {
18951             "description": "This contains all mandatory Resource Types for this Atomic Measurement.",
18952             "items": {
18953                 "enum": [
18954                     "oic.r.temperature"
18955                 ],
18956                 "type": "string",
18957                 "maxLength": 64
18958             },
18959             "maxItems": 1,
18960             "minItems": 1,
18961             "uniqueItems": true,
18962             "readOnly": true,
18963             "type": "array"
18964         },
18965         "if": {

```

```

18966         "description": "The OC Interface set supported by this Resource",
18967         "items": {
18968             "enum": [
18969                 "oic.if.b",
18970                 "oic.if.ll",
18971                 "oic.if.baseline"
18972             ],
18973             "type": "string",
18974             "maxLength": 64
18975         },
18976         "minItems": 3,
18977         "uniqueItems": true,
18978         "readOnly": true,
18979         "type": "array"
18980     },
18981     "n": {
18982         "$ref":
18983         "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
18984         schema.json#/definitions/n"
18985     },
18986     "id": {
18987         "$ref":
18988         "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
18989         schema.json#/definitions/id"
18990     },
18991     "links": {
18992         "$ref": "#/definitions/links"
18993     }
18994 },
18995 "type": "object",
18996 "required": [
18997     "rt","if","links","rts","rts-m"
18998 ]
18999 },
19000 "oic.oic-link": {
19001     "properties": {
19002         "if": {
19003             "description": "The OCF Interface set supported by target Resource",
19004             "items": {
19005                 "enum": [
19006                     "oic.if.baseline",
19007                     "oic.if.s",
19008                     "oic.if.r"
19009                 ],
19010                 "type": "string",
19011                 "maxLength": 64
19012             },
19013             "minItems": 1,
19014             "uniqueItems": true,
19015             "readOnly": true,
19016             "type": "array"
19017         },
19018         "rt": {
19019             "description": "Resource Type of the target Resource",
19020             "items": {
19021                 "enum": [
19022                     "oic.r.temperature",
19023                     "oic.r.body.location.temperature",
19024                     "oic.r.time.stamp",
19025                     "oic.r.userid"
19026                 ],
19027                 "type": "string",
19028                 "maxLength": 64
19029             },
19030             "minItems": 1,
19031             "uniqueItems": true,
19032             "readOnly": true,
19033             "type": "array"
19034         },
19035         "anchor": {
19036             "$ref":
19037             "https://openconnectivityfoundation.github.io/core/schemas/oic.links.properties.core-

```

```

19038 schema.json#/definitions/anchor"
19039     },
19040     "di": {
19041       "$ref":
19042       "https://openconnectivityfoundation.github.io/core/schemas/oic.links.properties.core-
19043       schema.json#/definitions/di"
19044     },
19045     "eps": {
19046       "$ref":
19047       "https://openconnectivityfoundation.github.io/core/schemas/oic.links.properties.core-
19048       schema.json#/definitions/eps"
19049     },
19050     "href": {
19051       "$ref":
19052       "https://openconnectivityfoundation.github.io/core/schemas/oic.links.properties.core-
19053       schema.json#/definitions/href"
19054     },
19055     "ins": {
19056       "$ref":
19057       "https://openconnectivityfoundation.github.io/core/schemas/oic.links.properties.core-
19058       schema.json#/definitions/ins"
19059     },
19060     "p": {
19061       "$ref":
19062       "https://openconnectivityfoundation.github.io/core/schemas/oic.links.properties.core-
19063       schema.json#/definitions/p"
19064     },
19065     "rel": {
19066       "$ref":
19067       "https://openconnectivityfoundation.github.io/core/schemas/oic.links.properties.core-
19068       schema.json#/definitions/rel_array"
19069     },
19070     "title": {
19071       "$ref":
19072       "https://openconnectivityfoundation.github.io/core/schemas/oic.links.properties.core-
19073       schema.json#/definitions/title"
19074     },
19075     "type": {
19076       "$ref":
19077       "https://openconnectivityfoundation.github.io/core/schemas/oic.links.properties.core-
19078       schema.json#/definitions/type"
19079     }
19080   },
19081   "required": [
19082     "href",
19083     "rt",
19084     "if"
19085   ],
19086   "type": "object"
19087 }
19088 }
19089 }
19090

```

19091 6.97.5 Property definition

19092 Table 197 defines the Properties that are part of the "oic.r.bodythermometer-am,
19093 oic.wk.atomicmeasurement" Resource Type.

19094 **Table 197 – The Property definitions of the Resource with type "rt" =**
19095 **"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

19096 **6.97.6 CRUDN behaviour**

19097 Table 198 defines the CRUDN operations that are supported on the "oic.r.bodythermometer-am,
19098 oic.wk.atomicmeasurement" Resource Type.

19099 **Table 198 – The CRUDN operations of the Resource with type "rt" =**
19100 **"oic.r.bodythermometer-am, oic.wk.atomicmeasurement".**

Create	Read	Update	Delete	Notify
	get			observe

19101 **6.98 Body Water**

19102 **6.98.1 Introduction**

19103 This Resource describes the Properties associated with a person's body water.
19104 The unit is a single value that is one of kg or lb.
19105 If the unit Property is missing the default is kilograms [kg].
19106 The bwater and unit Properties are read-only values that are provided by the Server.
19107 When range is omitted the default is 0 to +MAXFLOAT.

19108 **6.98.2 Example URI**

19109 /BodyWaterResURI

19110 **6.98.3 Resource type**

19111 The Resource Type is defined as: "oic.r.body.water".

19112 **6.98.4 OpenAPI 2.0 definition**

```

19113 {
19114   "swagger": "2.0",
19115   "info": {
19116     "title": "Body Water",
19117     "version": "2019-03-22",
19118     "license": {
19119       "name": "OCF Data Model License",
19120       "url":
19121         "https://github.com/openconnectivityfoundation/core/blob/e28a9e0a92e17042ba3e83661e4c0fbce8bdc4ba/LI
19122         CENSE.md",
19123       "x-copyright": "Copyright 2016-2019 Open Connectivity Foundation, Inc. All rights reserved."
19124     },
19125     "termsOfService": "https://openconnectivityfoundation.github.io/core/DISCLAIMER.md"
19126   },

```

```

19127     "schemes": [
19128         "http"
19129     ],
19130     "consumes": [
19131         "application/json"
19132     ],
19133     "produces": [
19134         "application/json"
19135     ],
19136     "paths": {
19137         "/BodyWaterResURI": {
19138             "get": {
19139                 "description": "This Resource describes the Properties associated with a person's body
19140 water.\nThe unit is a single value that is one of kg or lb.\nIf the unit Property is missing the
19141 default is kilograms [kg].\nThe bwater and unit Properties are read-only values that are provided by
19142 the Server.\nWhen range is omitted the default is 0 to +MAXFLOAT.",
19143                 "parameters": [
19144                     {
19145                         "$ref": "#/parameters/interface"
19146                     }
19147                 ],
19148                 "responses": {
19149                     "200": {
19150                         "description": "",
19151                         "x-example": {
19152                             "rt": [
19153                                 "oic.r.body.water"
19154                             ],
19155                             "bwater": 20.0,
19156                             "units": "kg"
19157                         },
19158                         "schema": {
19159                             "$ref": "#/definitions/BodyWater"
19160                         }
19161                     }
19162                 }
19163             }
19164         }
19165     },
19166     "parameters": {
19167         "interface": {
19168             "in": "query",
19169             "name": "if",
19170             "type": "string",
19171             "enum": [
19172                 "oic.if.s",
19173                 "oic.if.baseline"
19174             ]
19175         }
19176     },
19177     "definitions": {
19178         "BodyWater": {
19179             "properties": {
19180                 "rt": {
19181                     "description": "Resource Type",
19182                     "items": {
19183                         "enum": [
19184                             "oic.r.body.water"
19185                         ],
19186                         "type": "string",
19187                         "maxLength": 64
19188                     },
19189                     "minItems": 1,
19190                     "uniqueItems": true,
19191                     "readOnly": true,
19192                     "type": "array"
19193                 },
19194                 "bwater": {
19195                     "description": "Body water.",
19196                     "minimum": 0.0,
19197                     "readOnly": true,
19198                     "type": "number"

```



```

19199     },
19200     "units": {
19201         "description": "Body water unit",
19202         "enum": [
19203             "kg",
19204             "lb"
19205         ],
19206         "readOnly": true,
19207         "type": "string",
19208         "default": "kg"
19209     },
19210     "range": {
19211         "$ref":
19212         "https://openconnectivityfoundation.github.io/IoTDataModels/schemas/oic.baseresource.properties-
19213         schema.json#/definitions/range_number"
19214     },
19215     "step": {
19216         "$ref":
19217         "https://openconnectivityfoundation.github.io/IoTDataModels/schemas/oic.baseresource.properties-
19218         schema.json#/definitions/step_number"
19219     },
19220     "precision": {
19221         "$ref":
19222         "https://openconnectivityfoundation.github.io/IoTDataModels/schemas/oic.baseresource.properties-
19223         schema.json#/definitions/precision"
19224     },
19225     "n": {
19226         "$ref":
19227         "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
19228         schema.json#/definitions/n"
19229     },
19230     "id": {
19231         "$ref":
19232         "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
19233         schema.json#/definitions/id"
19234     },
19235     "if": {
19236         "description": "The OCF Interface set supported by this Resource",
19237         "items": {
19238             "enum": [
19239                 "oic.if.s",
19240                 "oic.if.baseline"
19241             ],
19242             "type": "string",
19243             "maxLength": 64
19244         },
19245         "minItems": 1,
19246         "readOnly": true,
19247         "uniqueItems": true,
19248         "type": "array"
19249     }
19250 },
19251 "type": "object",
19252 "required": [
19253     "bwater"
19254 ]
19255 }
19256 }
19257 }
19258

```

6.98.5 Property definition

Table 199 defines the Properties that are part of the "oic.r.body.water" Resource Type.

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	

19262 **6.98.6 CRUDN behaviour**

19263 Table 200 defines the CRUDN operations that are supported on the "oic.r.body.water" Resource
19264 Type.

19265 **Table 200 – The CRUDN operations of the Resource with type "rt" = "oic.r.body.water".**

Create	Read	Update	Delete	Notify
	get			observe

19266 **6.99 Glucose**

19267 **6.99.1 Introduction**

19268 This Resource describes the Properties associated with a person's glucose level.
19269 The unit is a single value that is one of mg/dL, mmol/L.
19270 If the unit Property is missing the default is milligrams per decilitre [mg/dL].
19271 The glucose and unit Properties are read-only values that are provided by the Server.
19272 When range is omitted the default is 0 to +MAXFLOAT.

19273 **6.99.2 Example URI**

19274 /GlucoseResURI

19275 **6.99.3 Resource type**

19276 The Resource Type is defined as: "oic.r.glucose".

19277 6.99.4 OpenAPI 2.0 definition

```
19278 {
19279   "swagger": "2.0",
19280   "info": {
19281     "title": "Glucose",
19282     "version": "2019-03-22",
19283     "license": {
19284       "name": "OCF Data Model License",
19285       "url":
19286         "https://github.com/openconnectivityfoundation/core/blob/e28a9e0a92e17042ba3e83661e4c0fbce8bdc4ba/LI
19287         CENSE.md",
19288       "x-copyright": "Copyright 2016-2019 Open Connectivity Foundation, Inc. All rights reserved."
19289     },
19290     "termsOfService": "https://openconnectivityfoundation.github.io/core/DISCLAIMER.md"
19291   },
19292   "schemes": [
19293     "http"
19294   ],
19295   "consumes": [
19296     "application/json"
19297   ],
19298   "produces": [
19299     "application/json"
19300   ],
19301   "paths": {
19302     "/GlucoseResURI": {
19303       "get": {
19304         "description": "This Resource describes the Properties associated with a person's glucose
19305         level.\n\nThe unit is a single value that is one of mg/dL, mmol/L.\n\nIf the unit Property is missing
19306         the default is milligrams per decilitre [mg/dL].\n\nThe glucose and unit Properties are read-only
19307         values that are provided by the Server.\n\nWhen range is omitted the default is 0 to +MAXFLOAT.",
19308         "parameters": [
19309           {
19310             "$ref": "#/parameters/interface"
19311           }
19312         ],
19313         "responses": {
19314           "200": {
19315             "description": "",
19316             "x-example": {
19317               "rt": [
19318                 "oic.r.glucose"
19319               ],
19320               "glucose": 90.0,
19321               "units": "mg/dL",
19322               "range": [
19323                 20.0,
19324                 600.0
19325               ],
19326               "step": 1
19327             },
19328             "schema": {
19329               "$ref": "#/definitions/Glucose"
19330             }
19331           }
19332         }
19333       }
19334     }
19335   },
19336   "parameters": {
19337     "interface": {
19338       "in": "query",
19339       "name": "if",
19340       "type": "string",
19341       "enum": [
19342         "oic.if.s",
19343         "oic.if.baseline"
19344       ]
19345     }
19346   },
19347   "definitions": {
```

```

19348     "Glucose": {
19349         "properties": {
19350             "rt": {
19351                 "description": "Resource Type",
19352                 "items": {
19353                     "enum": [
19354                         "oic.r.glucose"
19355                     ],
19356                     "type": "string",
19357                     "maxLength": 64
19358                 },
19359                 "minItems": 1,
19360                 "uniqueItems": true,
19361                 "readOnly": true,
19362                 "type": "array"
19363             },
19364             "glucose": {
19365                 "description": "A measurement of glucose concentration in the blood",
19366                 "minimum": 0.0,
19367                 "readOnly": true,
19368                 "type": "number"
19369             },
19370             "units": {
19371                 "description": "Glucose unit",
19372                 "enum": [
19373                     "mg/dL",
19374                     "mmol/L"
19375                 ],
19376                 "readOnly": true,
19377                 "type": "string",
19378                 "default": "mg/dL"
19379             },
19380             "range": {
19381                 "$ref":
19382                 "https://openconnectivityfoundation.github.io/IoTDataModels/schemas/oic.baseresource.properties-
19383                 schema.json#/definitions/range_number"
19384             },
19385             "step": {
19386                 "$ref":
19387                 "https://openconnectivityfoundation.github.io/IoTDataModels/schemas/oic.baseresource.properties-
19388                 schema.json#/definitions/step_number"
19389             },
19390             "precision": {
19391                 "$ref":
19392                 "https://openconnectivityfoundation.github.io/IoTDataModels/schemas/oic.baseresource.properties-
19393                 schema.json#/definitions/precision"
19394             },
19395             "n": {
19396                 "$ref":
19397                 "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
19398                 schema.json#/definitions/n"
19399             },
19400             "id": {
19401                 "$ref":
19402                 "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
19403                 schema.json#/definitions/id"
19404             },
19405             "if": {
19406                 "description": "The OCF Interface set supported by this Resource",
19407                 "items": {
19408                     "enum": [
19409                         "oic.if.s",
19410                         "oic.if.baseline"
19411                     ],
19412                     "type": "string",
19413                     "maxLength": 64
19414                 },
19415                 "minItems": 1,
19416                 "readOnly": true,
19417                 "uniqueItems": true,
19418                 "type": "array"
19419             }

```

```

19420     },
19421     "type": "object",
19422     "required": [
19423         "glucose"
19424     ]
19425 }
19426 }
19427 }
19428

```

19429 **6.99.5 Property definition**

19430 Table 201 defines the Properties that are part of the "oic.r.glucose" Resource Type.

19431 **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	

19432 **6.99.6 CRUDN behaviour**

19433 Table 202 defines the CRUDN operations that are supported on the "oic.r.glucose" Resource Type.

19434 **Table 202 – The CRUDN operations of the Resource with type "rt" = "oic.r.glucose".**

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

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

19435 **6.100 Context Carbohydrates for Glucose Meter**

19436 **6.100.1 Introduction**

19437 This Resource describes the Properties associated with a context carbohydrates.
 19438 The carb Property has a default unit of grams[g].
 19439 The carb and meal Properties are read-only values that are provided by the Server.
 19440 When range is omitted the default is 0 to +MAXFLOAT.

19441 **6.100.2 Example URI**

19442 /GlucoseCarbResURI

19443 **6.100.3 Resource type**

19444 The Resource Type is defined as: "oic.r.glucose.carb".

19445 **6.100.4 OpenAPI 2.0 definition**

```

19446 {
19447   "swagger": "2.0",
19448   "info": {
19449     "title": "Context Carbohydrates for Glucose Meter",
19450     "version": "2019-03-22",
19451     "license": {
19452       "name": "OCF Data Model License",
19453       "url":
19454         "https://github.com/openconnectivityfoundation/core/blob/e28a9e0a92e17042ba3e83661e4c0fbce8bdc4ba/LI
19455         CENSE.md",
19456       "x-copyright": "Copyright 2016-2019 Open Connectivity Foundation, Inc. All rights reserved."
19457     },
19458     "termsOfService": "https://openconnectivityfoundation.github.io/core/DISCLAIMER.md"
19459   },
19460   "schemes": [
19461     "http"
19462   ],
19463   "consumes": [
19464     "application/json"
19465   ],
19466   "produces": [
19467     "application/json"
19468   ],
19469   "paths": {
19470     "/GlucoseCarbResURI": {
19471       "get": {
19472         "description": "This Resource describes the Properties associated with a context
19473 carbohydrates.\n\nThe carb Property has a default unit of grams[g].\n\nThe carb and meal Properties are
19474 read-only values that are provided by the Server.\n\nWhen range is omitted the default is 0 to
19475 +MAXFLOAT.",
19476         "parameters": [
19477           {
19478             "$ref": "#/parameters/interface"
19479           }
19480         ],
19481         "responses": {
19482           "200": {
19483             "description": "",
19484             "x-example": {
19485               "rt": [
19486                 "oic.r.glucose.carb"
19487               ],
19488               "carb": 100.0,
19489               "meal": "breakfast"
19490             },
19491             "schema": {
19492               "$ref": "#/definitions/GlucoseCarb"
19493             }
19494           }
19495         }
19496       }
19497     }
19498   }

```

```

19495     }
19496   }
19497 }
19498 },
19499 "parameters": {
19500   "interface": {
19501     "in": "query",
19502     "name": "if",
19503     "type": "string",
19504     "enum": [
19505       "oic.if.s",
19506       "oic.if.baseline"
19507     ]
19508   }
19509 },
19510 "definitions": {
19511   "GlucoseCarb": {
19512     "properties": {
19513       "rt": {
19514         "description": "Resource Type",
19515         "items": {
19516           "enum": [
19517             "oic.r.glucose.carb"
19518           ],
19519           "type": "string",
19520           "maxLength": 64
19521         },
19522         "minItems": 1,
19523         "uniqueItems": true,
19524         "readOnly": true,
19525         "type": "array"
19526       },
19527       "carb": {
19528         "description": "The amount of carbohydrates undertaken in grams",
19529         "readOnly": true,
19530         "type": "number",
19531         "minimum": 0.0
19532       },
19533       "meal": {
19534         "description": "Recorded time of carbohydrates intake",
19535         "enum": [
19536           "breakfast",
19537           "lunch",
19538           "dinner",
19539           "snack",
19540           "drink",
19541           "supper",
19542           "brunch",
19543           "undetermined",
19544           "other",
19545           "no_entry",
19546           "no_ingestion"
19547         ],
19548         "readOnly": true,
19549         "type": "string"
19550       },
19551       "range": {
19552         "description": "The range applies to the carb property only",
19553         "$ref":
19554         "https://openconnectivityfoundation.github.io/IoTDataModels/schemas/oic.baseresource.properties-
19555         schema.json#/definitions/range_number"
19556       },
19557       "step": {
19558         "description": "The step applies to the carb property only",
19559         "$ref":
19560         "https://openconnectivityfoundation.github.io/IoTDataModels/schemas/oic.baseresource.properties-
19561         schema.json#/definitions/step_number"
19562       },
19563       "precision": {
19564         "description": "The precision applies to the carb property only",
19565         "$ref":
19566         "https://openconnectivityfoundation.github.io/IoTDataModels/schemas/oic.baseresource.properties-

```

```

19567 schema.json#/definitions/precision"
19568     },
19569     "n": {
19570       "$ref":
19571       "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
19572       schema.json#/definitions/n"
19573     },
19574     "id": {
19575       "$ref":
19576       "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
19577       schema.json#/definitions/id"
19578     },
19579     "if": {
19580       "description": "The OCF Interface set supported by this Resource",
19581       "items": {
19582         "enum": [
19583           "oic.if.s",
19584           "oic.if.baseline"
19585         ],
19586         "type": "string",
19587         "maxLength": 64
19588       },
19589       "minItems": 1,
19590       "readOnly": true,
19591       "uniqueItems": true,
19592       "type": "array"
19593     }
19594   },
19595   "type": "object",
19596   "required": [
19597     "carb",
19598     "meal"
19599   ]
19600 }
19601 }
19602 }
19603

```

19604 6.100.5 Property definition

19605 Table 203 defines the Properties that are part of the "oic.r.glucose.carb" Resource Type.

19606 **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

19607 **6.100.6 CRUDN behaviour**

19608 Table 204 defines the CRUDN operations that are supported on the "oic.r.glucose.carb" Resource
19609 Type.

19610 **Table 204 – The CRUDN operations of the Resource with type "rt" = "oic.r.glucose.carb".**

Create	Read	Update	Delete	Notify
	get			observe

19611 **6.101 Exercise for Glucose Meter**

19612 **6.101.1 Introduction**

19613 This Resource describes the Properties associated with glucose exercise.
19614 The exercise Property has a default unit of percentage.
19615 The exercise Property is a read-only value that is provided by the Server.

19616 **6.101.2 Example URI**

19617 /ExerciseResURI

19618 **6.101.3 Resource type**

19619 The Resource Type is defined as: "oic.r.glucose.exercise".

19620 **6.101.4 OpenAPI 2.0 definition**

```
19621 {
19622   "swagger": "2.0",
19623   "info": {
19624     "title": "Exercise for Glucose Meter",
19625     "version": "2019-03-22",
19626     "license": {
19627       "name": "OCF Data Model License",
19628       "url":
19629       "https://github.com/openconnectivityfoundation/core/blob/e28a9e0a92e17042ba3e83661e4c0fbce8bdc4ba/LI
19630       CENSE.md",
19631       "x-copyright": "Copyright 2016-2019 Open Connectivity Foundation, Inc. All rights reserved."
```

```

19632     },
19633     "termsOfService": "https://openconnectivityfoundation.github.io/core/DISCLAIMER.md"
19634   },
19635   "schemes": [
19636     "http"
19637   ],
19638   "consumes": [
19639     "application/json"
19640   ],
19641   "produces": [
19642     "application/json"
19643   ],
19644   "paths": {
19645     "/ExerciseResURI": {
19646       "get": {
19647         "description": "This Resource describes the Properties associated with glucose
19648 exercise.\n\nThe exercise Property has a default unit of percentage.\n\nThe exercise Property is a read-
19649 only value that is provided by the Server.",
19650         "parameters": [
19651           {
19652             "$ref": "#/parameters/interface"
19653           }
19654         ],
19655         "responses": {
19656           "200": {
19657             "description": "",
19658             "x-example": {
19659               "rt": [
19660                 "oic.r.glucose.exercise"
19661               ],
19662               "exercise": 30.0
19663             },
19664             "schema": {
19665               "$ref": "#/definitions/Exercise"
19666             }
19667           }
19668         }
19669       }
19670     }
19671   },
19672   "parameters": {
19673     "interface": {
19674       "in": "query",
19675       "name": "if",
19676       "type": "string",
19677       "enum": [
19678         "oic.if.s",
19679         "oic.if.baseline"
19680       ]
19681     }
19682   },
19683   "definitions": {
19684     "Exercise": {
19685       "properties": {
19686         "rt": {
19687           "description": "Resource Type",
19688           "items": {
19689             "enum": [
19690               "oic.r.glucose.exercise"
19691             ],
19692             "type": "string",
19693             "maxLength": 64
19694           },
19695           "minItems": 1,
19696           "uniqueItems": true,
19697           "readOnly": true,
19698           "type": "array"
19699         },
19700         "exercise": {
19701           "description": "The level of exercise undertaken in percentage",
19702           "maximum": 100.0,
19703           "minimum": 0.0,

```

```

19704         "readOnly": true,
19705         "type": "number"
19706     },
19707     "range": {
19708         "$ref":
19709         "https://openconnectivityfoundation.github.io/IoTDataModels/schemas/oic.baseresource.properties-
19710         schema.json#/definitions/range_number"
19711     },
19712     "step": {
19713         "$ref":
19714         "https://openconnectivityfoundation.github.io/IoTDataModels/schemas/oic.baseresource.properties-
19715         schema.json#/definitions/step_number"
19716     },
19717     "precision": {
19718         "$ref":
19719         "https://openconnectivityfoundation.github.io/IoTDataModels/schemas/oic.baseresource.properties-
19720         schema.json#/definitions/precision"
19721     },
19722     "n": {
19723         "$ref":
19724         "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
19725         schema.json#/definitions/n"
19726     },
19727     "id": {
19728         "$ref":
19729         "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
19730         schema.json#/definitions/id"
19731     },
19732     "if": {
19733         "description": "The OCF Interface set supported by this Resource",
19734         "items": {
19735             "enum": [
19736                 "oic.if.s",
19737                 "oic.if.baseline"
19738             ],
19739             "type": "string",
19740             "maxLength": 64
19741         },
19742         "minItems": 1,
19743         "readOnly": true,
19744         "uniqueItems": true,
19745         "type": "array"
19746     }
19747 },
19748 "type": "object",
19749 "required": [
19750     "exercise"
19751 ]
19752 }
19753 }
19754 }
19755

```

6.101.5 Property definition

Table 205 defines the Properties that are part of the "oic.r.glucose.exercise" Resource Type.

Table 205 – The Property definitions of the Resource with type "rt" = "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	

19760 **6.101.6 CRUDN behaviour**

19761 Table 206 defines the CRUDN operations that are supported on the "oic.r.glucose.exercise"
19762 Resource Type.

19763 **Table 206 – The CRUDN operations of the Resource with type "rt" =**
19764 **"oic.r.glucose.exercise".**

Create	Read	Update	Delete	Notify
	get			observe

19765 **6.102 Hemoglobin Bound to Glucose A1c Form (HbA1c) for Glucose Meter**

19766 **6.102.1 Introduction**

19767 This Resource describes the Properties associated with a person's hba1c level.
19768 The unit is a single value that is percentage.
19769 The hba1c Property is a read-only value that is provided by the Server.

19770 **6.102.2 Example URI**

19771 /GlucoseHbA1cResURI

19772 **6.102.3 Resource type**

19773 The Resource Type is defined as: "oic.r.glucose.hba1c".

19774 **6.102.4 OpenAPI 2.0 definition**

19775 {
19776 "swagger": "2.0",
19777 "info": {
19778 "title": "Hemoglobin Bound to Glucose A1c Form (HbA1c) for Glucose Meter",
19779 "version": "2019-03-22",
19780 "license": {
19781 "name": "OCF Data Model License",

```

19782         "url":
19783 "https://github.com/openconnectivityfoundation/core/blob/e28a9e0a92e17042ba3e83661e4c0fbce8bdc4ba/LI
19784 CENSE.md",
19785     "x-copyright": "Copyright 2016-2019 Open Connectivity Foundation, Inc. All rights reserved."
19786     },
19787     "termsOfService": "https://openconnectivityfoundation.github.io/core/DISCLAIMER.md"
19788     },
19789     "schemes": [
19790     "http"
19791     ],
19792     "consumes": [
19793     "application/json"
19794     ],
19795     "produces": [
19796     "application/json"
19797     ],
19798     "paths": {
19799     "/GlucoseHbA1cResURI": {
19800     "get": {
19801         "description": "This Resource describes the Properties associated with a person's hbalc
19802 level.\nThe unit is a single value that is percentage.\nThe hbalc Property is a read-only value that
19803 is provided by the Server.",
19804         "parameters": [
19805         {
19806             "$ref": "#/parameters/interface"
19807         }
19808         ],
19809         "responses": {
19810             "200": {
19811                 "description": "",
19812                 "x-example": {
19813                     "rt": [
19814                         "oic.r.glucose.hbalc"
19815                     ],
19816                     "hbalc": 5.0
19817                 },
19818                 "schema": {
19819                     "$ref": "#/definitions/HbA1c"
19820                 }
19821             }
19822         }
19823     }
19824     },
19825     },
19826     "parameters": {
19827     "interface": {
19828         "in": "query",
19829         "name": "if",
19830         "type": "string",
19831         "enum": [
19832         "oic.if.s",
19833         "oic.if.baseline"
19834         ]
19835     }
19836     },
19837     "definitions": {
19838     "HbA1c": {
19839         "properties": {
19840         "rt": {
19841             "description": "Resource Type",
19842             "items": {
19843                 "enum": [
19844                 "oic.r.glucose.hbalc"
19845                 ],
19846                 "type": "string",
19847                 "maxLength": 64
19848             },
19849             "minItems": 1,
19850             "uniqueItems": true,
19851             "readOnly": true,
19852             "type": "array"
19853         }
19854     }
19855     },

```

```

19854     "hbalc": {
19855         "description": "Current HbA1c measurement in percentage",
19856         "maximum": 100.0,
19857         "minimum": 0.0,
19858         "readOnly": true,
19859         "type": "number"
19860     },
19861     "range": {
19862         "$ref":
19863         "https://openconnectivityfoundation.github.io/IoTDataModels/schemas/oic.baseresource.properties-
19864         schema.json#/definitions/range_number"
19865     },
19866     "step": {
19867         "$ref":
19868         "https://openconnectivityfoundation.github.io/IoTDataModels/schemas/oic.baseresource.properties-
19869         schema.json#/definitions/step_number"
19870     },
19871     "precision": {
19872         "$ref":
19873         "https://openconnectivityfoundation.github.io/IoTDataModels/schemas/oic.baseresource.properties-
19874         schema.json#/definitions/precision"
19875     },
19876     "n": {
19877         "$ref":
19878         "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
19879         schema.json#/definitions/n"
19880     },
19881     "id": {
19882         "$ref":
19883         "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
19884         schema.json#/definitions/id"
19885     },
19886     "if": {
19887         "description": "The OCF Interface set supported by this Resource",
19888         "items": {
19889             "enum": [
19890                 "oic.if.s",
19891                 "oic.if.baseline"
19892             ],
19893             "type": "string",
19894             "maxLength": 64
19895         },
19896         "minItems": 1,
19897         "readOnly": true,
19898         "uniqueItems": true,
19899         "type": "array"
19900     }
19901 },
19902 "type": "object",
19903 "required": [
19904     "hbalc"
19905 ]
19906 }
19907 }
19908 }
19909

```

6.102.5 Property definition

Table 207 defines the Properties that are part of the "oic.r.glucose.hba1c" Resource Type.

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

19913 **6.102.6 CRUDN behaviour**

19914 Table 208 defines the CRUDN operations that are supported on the "oic.r.glucose.hba1c" Resource
19915 Type.

19916 **Table 208 – The CRUDN operations of the Resource with type "rt" = "oic.r.glucose.hba1c".**

Create	Read	Update	Delete	Notify
	get			observe

19917 **6.103 Context Health for Glucose Meter**

19918 **6.103.1 Introduction**

19919 This Resource describes the Properties associated with context health.
19920 The health Property is a read-only value that is provided by the Server where
19921 minor and major are related to the general health or the level of illness of the person;
19922 menses refers to the female menstrual cycle;
19923 stress refers to physiological or psychological stress.

19924 **6.103.2 Example URI**

19925 /GlucoseHealthResURI

19926 **6.103.3 Resource type**

19927 The Resource Type is defined as: "oic.r.glucose.health".

19928 **6.103.4 OpenAPI 2.0 definition**

19929 {
19930 "swagger": "2.0",

```

19931     "info": {
19932         "title": "Context Health for Glucose Meter",
19933         "version": "2019-03-22",
19934         "license": {
19935             "name": "OCF Data Model License",
19936             "url":
19937 "https://github.com/openconnectivityfoundation/core/blob/e28a9e0a92e17042ba3e83661e4c0fbce8bdc4ba/LI
19938 CENSE.md",
19939             "x-copyright": "Copyright 2016-2019 Open Connectivity Foundation, Inc. All rights reserved."
19940         },
19941         "termsOfService": "https://openconnectivityfoundation.github.io/core/DISCLAIMER.md"
19942     },
19943     "schemes": [
19944         "http"
19945     ],
19946     "consumes": [
19947         "application/json"
19948     ],
19949     "produces": [
19950         "application/json"
19951     ],
19952     "paths": {
19953         "/GlucoseHealthResURI": {
19954             "get": {
19955                 "description": "This Resource describes the Properties associated with context health.\n\nThe
19956 health Property is a read-only value that is provided by the Server where\n\nminor and major are
19957 related to the general health or the level of illness of the person;\n\nmenses refers to the female
19958 menstrual cycle;\n\nstress refers to physiological or psychological stress.",
19959                 "parameters": [
19960                     {
19961                         "$ref": "#/parameters/interface"
19962                     }
19963                 ],
19964                 "responses": {
19965                     "200": {
19966                         "description": "",
19967                         "x-example": {
19968                             "rt": [
19969                                 "oic.r.glucose.health"
19970                             ],
19971                             "health": "major"
19972                         },
19973                         "schema": {
19974                             "$ref": "#/definitions/GlucoseHealth"
19975                         }
19976                     }
19977                 }
19978             }
19979         }
19980     },
19981     "parameters": {
19982         "interface": {
19983             "in": "query",
19984             "name": "if",
19985             "type": "string",
19986             "enum": [
19987                 "oic.if.s",
19988                 "oic.if.baseline"
19989             ]
19990         }
19991     },
19992     "definitions": {
19993         "GlucoseHealth": {
19994             "properties": {
19995                 "rt": {
19996                     "description": "Resource Type",
19997                     "items": {
19998                         "enum": [
19999                             "oic.r.glucose.health"
20000                         ],
20001                         "type": "string",
20002                         "maxLength": 64

```



```

20003     },
20004     "minItems": 1,
20005     "readOnly": true,
20006     "type": "array"
20007   },
20008   "health": {
20009     "description": "The various levels of health a person feels when taking a glucose.",
20010     "enum": [
20011       "minor",
20012       "major",
20013       "menses",
20014       "stress",
20015       "none"
20016     ],
20017     "readOnly": true,
20018     "type": "string"
20019   },
20020   "n": {
20021     "$ref":
20022     "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
20023     schema.json#/definitions/n"
20024   },
20025   "id": {
20026     "$ref":
20027     "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
20028     schema.json#/definitions/id"
20029   },
20030   "if": {
20031     "description": "The OCF Interface set supported by this Resource",
20032     "items": {
20033       "enum": [
20034         "oic.if.s",
20035         "oic.if.baseline"
20036       ],
20037       "type": "string",
20038       "maxLength": 64
20039     },
20040     "minItems": 1,
20041     "readOnly": true,
20042     "uniqueItems": true,
20043     "type": "array"
20044   }
20045 },
20046 "type": "object",
20047 "required": [
20048   "health"
20049 ]
20050 }
20051 }
20052 }
20053

```

20054 **6.103.5 Property definition**

20055 Table 209 defines the Properties that are part of the "oic.r.glucose.health" Resource Type.

20056 **Table 209 – The Property definitions of the Resource with type "rt" =**
20057 **"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	

20058 **6.103.6 CRUDN behaviour**

20059 Table 210 defines the CRUDN operations that are supported on the "oic.r.glucose.health" Resource
20060 Type.

20061 **Table 210 – The CRUDN operations of the Resource with type "rt" = "oic.r.glucose.health".**

Create	Read	Update	Delete	Notify
	get			observe

20062 **6.104 Context Meal for Glucose Meter**

20063 **6.104.1 Introduction**

20064 This Resource describes the Properties associated with context meal.
20065 Preprandial means pre-meal.
20066 Postprandial means post-meal.
20067 Fasting means the effect of long-term absence of food intake (overnight).
20068 The meal Property is a read-only value that is provided by the Server.

20069 **6.104.2 Example URI**

20070 /GlucoseMealResURI

20071 **6.104.3 Resource type**

20072 The Resource Type is defined as: "oic.r.glucose.meal".

20073 **6.104.4 OpenAPI 2.0 definition**

```
20074 {
20075   "swagger": "2.0",
20076   "info": {
20077     "title": "Context Meal for Glucose Meter",
20078     "version": "2019-03-22",
20079     "license": {
20080       "name": "OCF Data Model License",
20081       "url":
20082         "https://github.com/openconnectivityfoundation/core/blob/e28a9e0a92e17042ba3e83661e4c0fbce8bdc4ba/LI
20083         CENSE.md",
20084       "x-copyright": "Copyright 2016-2019 Open Connectivity Foundation, Inc. All rights reserved."
20085     },
20086     "termsOfService": "https://openconnectivityfoundation.github.io/core/DISCLAIMER.md"
20087   },
20088   "schemes": [
20089     "http"
20090   ],

```

```

20091     "consumes": [
20092         "application/json"
20093     ],
20094     "produces": [
20095         "application/json"
20096     ],
20097     "paths": {
20098         "/GlucoseMealResURI": {
20099             "get": {
20100                 "description": "This Resource describes the Properties associated with context
20101 meal.\nPreprandial means pre-meal.\nPostprandial means post-meal.\nFasting means the effect of long-
20102 term absence of food intake (overnight).\nThe meal Property is a read-only value that is provided by
20103 the Server.",
20104                 "parameters": [
20105                     {
20106                         "$ref": "#/parameters/interface"
20107                     }
20108                 ],
20109                 "responses": {
20110                     "200": {
20111                         "description": "",
20112                         "x-example": {
20113                             "rt": [
20114                                 "oic.r.glucose.meal"
20115                             ],
20116                             "meal": "preprandial"
20117                         },
20118                         "schema": {
20119                             "$ref": "#/definitions/GlucoseMeal"
20120                         }
20121                     }
20122                 }
20123             }
20124         }
20125     },
20126     "parameters": {
20127         "interface": {
20128             "in": "query",
20129             "name": "if",
20130             "type": "string",
20131             "enum": [
20132                 "oic.if.s",
20133                 "oic.if.baseline"
20134             ]
20135         }
20136     },
20137     "definitions": {
20138         "GlucoseMeal": {
20139             "properties": {
20140                 "rt": {
20141                     "description": "Resource Type",
20142                     "items": {
20143                         "enum": [
20144                             "oic.r.glucose.meal"
20145                         ],
20146                         "type": "string",
20147                         "maxLength": 64
20148                     },
20149                     "minItems": 1,
20150                     "uniqueItems": true,
20151                     "readOnly": true,
20152                     "type": "array"
20153                 },
20154                 "meal": {
20155                     "description": "Time of day when the measurement is taken.",
20156                     "enum": [
20157                         "preprandial",
20158                         "postprandial",
20159                         "fasting",
20160                         "bedtime",
20161                         "casual"
20162                     ]

```

```

20163         "readOnly": true,
20164         "type": "string"
20165     },
20166     "n": {
20167         "$ref":
20168         "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
20169         schema.json#/definitions/n"
20170     },
20171     "id": {
20172         "$ref":
20173         "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
20174         schema.json#/definitions/id"
20175     },
20176     "if": {
20177         "description": "The OCF Interface set supported by this Resource",
20178         "items": {
20179             "enum": [
20180                 "oic.if.s",
20181                 "oic.if.baseline"
20182             ],
20183             "type": "string",
20184             "maxLength": 64
20185         },
20186         "minItems": 1,
20187         "readOnly": true,
20188         "uniqueItems": true,
20189         "type": "array"
20190     }
20191 },
20192 "type": "object",
20193 "required": [
20194     "meal"
20195 ]
20196 }
20197 }
20198 }
20199

```

20200 **6.104.5 Property definition**

20201 Table 211 defines the Properties that are part of the "oic.r.glucose.meal" Resource Type.

20202 **Table 211 – The Property definitions of the Resource with type "rt" = "oic.r.glucose.meal".**

Property name	Value type	Mandatory	Access mode	Description
meal	string	Yes	Read Only	Time of day when the measurement is taken.
if	array: see schema	No	Read Only	The OCF Interface set supported by this Resource
id	multiple types: see schema	No	Read Write	
n	multiple types: see schema	No	Read Write	

rt	array: see schema	No	Read Only	Resource Type
----	----------------------	----	-----------	---------------

20203 **6.104.6 CRUDN behaviour**

20204 Table 212 defines the CRUDN operations that are supported on the "oic.r.glucose.meal" Resource
20205 Type.

20206 **Table 212 – The CRUDN operations of the Resource with type "rt" = "oic.r.glucose.meal".**

Create	Read	Update	Delete	Notify
	get			observe

20207 **6.105 Context Medication for Glucose Meter**

20208 **6.105.1 Introduction**

20209 This Resource describes the Properties associated with context medication.
20210 The unit is a single value that is one of mg and mL.
20211 The medication Property has a default unit of milligrams[mg].
20212 The medication, unit and regimen Properties are read-only values that are provided by the Server.
20213 When range is omitted the default is 0 to +MAXFLOAT.

20214 **6.105.2 Example URI**

20215 /GlucoseMedicationResURI

20216 **6.105.3 Resource type**

20217 The Resource Type is defined as: "oic.r.glucose.medication".

20218 **6.105.4 OpenAPI 2.0 definition**

```

20219 {
20220   "swagger": "2.0",
20221   "info": {
20222     "title": "Context Medication for Glucose Meter",
20223     "version": "2019-03-22",
20224     "license": {
20225       "name": "OCF Data Model License",
20226       "url":
20227 "https://github.com/openconnectivityfoundation/core/blob/e28a9e0a92e17042ba3e83661e4c0fbce8bdc4ba/LI
20228 CENSE.md",
20229       "x-copyright": "Copyright 2016-2019 Open Connectivity Foundation, Inc. All rights reserved."
20230     },
20231     "termsOfService": "https://openconnectivityfoundation.github.io/core/DISCLAIMER.md"
20232   },
20233   "schemes": [
20234     "http"
20235   ],
20236   "consumes": [
20237     "application/json"
20238   ],
20239   "produces": [
20240     "application/json"
20241   ],
20242   "paths": {
20243     "/GlucoseMedicationResURI": {
20244       "get": {
20245         "description": "This Resource describes the Properties associated with context
20246 medication.\nThe unit is a single value that is one of mg and mL.\nThe medication Property has a
20247 default unit of milligrams[mg].\nThe medication, unit and regimen Properties are read-only values
20248 that are provided by the Server.\nWhen range is omitted the default is 0 to +MAXFLOAT.",
20249         "parameters": [
20250           {

```

```

20251         "$ref": "#/parameters/interface"
20252     }
20253 ],
20254     "responses": {
20255         "200": {
20256             "description": "",
20257             "x-example": {
20258                 "rt": [
20259                     "oic.r.glucose.medication"
20260                 ],
20261                 "medication": 100.0,
20262                 "units": "mg",
20263                 "regimen": "rapidacting"
20264             },
20265             "schema": {
20266                 "$ref": "#/definitions/GlucoseMedication"
20267             }
20268         }
20269     }
20270 }
20271 },
20272 },
20273 "parameters": {
20274     "interface": {
20275         "in": "query",
20276         "name": "if",
20277         "type": "string",
20278         "enum": [
20279             "oic.if.s",
20280             "oic.if.baseline"
20281         ]
20282     }
20283 },
20284 "definitions": {
20285     "GlucoseMedication": {
20286         "properties": {
20287             "rt": {
20288                 "description": "Resource Type",
20289                 "items": {
20290                     "enum": [
20291                         "oic.r.glucose.medication"
20292                     ],
20293                     "type": "string",
20294                     "maxLength": 64
20295                 },
20296                 "minItems": 1,
20297                 "uniqueItems": true,
20298                 "readOnly": true,
20299                 "type": "array"
20300             },
20301             "regimen": {
20302                 "description": "Medication regimen",
20303                 "enum": [
20304                     "rapidacting",
20305                     "shortacting",
20306                     "intermediateacting",
20307                     "longacting",
20308                     "premix"
20309                 ],
20310                 "readOnly": true,
20311                 "type": "string"
20312             },
20313             "medication": {
20314                 "description": "The amount of medication taken",
20315                 "readOnly": true,
20316                 "type": "number",
20317                 "minimum": 0.0
20318             },
20319             "units": {
20320                 "description": "Unit for the amount of medication taken",
20321                 "enum": [
20322                     "mg",

```

```

20323         "mL"
20324     ],
20325     "readOnly": true,
20326     "type": "string",
20327     "default": "mg"
20328 },
20329     "range": {
20330         "$ref":
20331         "https://openconnectivityfoundation.github.io/IoTDataModels/schemas/oic.baseresource.properties-
20332         schema.json#/definitions/range_number"
20333     },
20334     "step": {
20335         "$ref":
20336         "https://openconnectivityfoundation.github.io/IoTDataModels/schemas/oic.baseresource.properties-
20337         schema.json#/definitions/step_number"
20338     },
20339     "precision": {
20340         "$ref":
20341         "https://openconnectivityfoundation.github.io/IoTDataModels/schemas/oic.baseresource.properties-
20342         schema.json#/definitions/precision"
20343     },
20344     "n": {
20345         "$ref":
20346         "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
20347         schema.json#/definitions/n"
20348     },
20349     "id": {
20350         "$ref":
20351         "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
20352         schema.json#/definitions/id"
20353     },
20354     "if": {
20355         "description": "The OCF Interface set supported by this Resource",
20356         "items": {
20357             "enum": [
20358                 "oic.if.s",
20359                 "oic.if.baseline"
20360             ],
20361             "type": "string",
20362             "maxLength": 64
20363         },
20364         "minItems": 1,
20365         "readOnly": true,
20366         "uniqueItems": true,
20367         "type": "array"
20368     }
20369 },
20370 "type": "object",
20371 "required": [
20372     "medication"
20373 ]
20374 }
20375 }
20376 }
20377

```

20378 **6.105.5 Property definition**

20379 Table 213 defines the Properties that are part of the "oic.r.glucose.medication" Resource Type.

20380 **Table 213 – The Property definitions of the Resource with type "rt" =**
20381 **"oic.r.glucose.medication".**

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

if	array: schema see	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: schema see	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	

20382 **6.105.6 CRUDN behaviour**

20383 Table 214 defines the CRUDN operations that are supported on the "oic.r.glucose.medication"
20384 Resource Type.

20385 **Table 214 – The CRUDN operations of the Resource with type "rt" =**
20386 **"oic.r.glucose.medication".**

Create	Read	Update	Delete	Notify
	get			observe

20387 **6.106 Glucose Meter Atomic Measurement**

20388 **6.106.1 Introduction**

20389 This Resource describes the Properties associated with glucose meter.
20390 The Resource is an Atomic Measurement of glucose (oic.r.glucose), context carbohydrates
20391 (oic.r.glucose.carb), context exercise (oic.r.glucose.exercise), Hemoglobin Bound to glucose a1c
20392 Form (HbA1c) (oic.r.glucose.hba1c), context health (oic.r.glucose.health), context meal
20393 (oic.r.glucose.meal), context medication (oic.r.glucose.medication), context sample location
20394 (oic.r.glucose.samplelocation), context tester (oic.r.glucose.testers), observed time
20395 (oic.r.time.stamp), and user id (oic.r.userid).

20396 **6.106.2 Example URI**
20397 /GlucoseMeterAMResURI

20398 **6.106.3 Resource type**

20399 The Resource Type is defined as: "oic.r.glucosemeter-am, oic.wk.atomicmeasurement".

20400 **6.106.4 OpenAPI 2.0 definition**

```
20401 {
20402   "swagger": "2.0",
20403   "info": {
20404     "title": "Glucose Meter Atomic Measurement",
20405     "version": "2019-03-22",
20406     "license": {
20407       "name": "OCF Data Model License",
20408       "url":
20409         "https://github.com/openconnectivityfoundation/core/blob/e28a9e0a92e17042ba3e83661e4c0fbce8bdc4ba/LI
20410 CENSE.md",
20411       "x-copyright": "Copyright 2016-2019 Open Connectivity Foundation, Inc. All rights reserved."
20412     },
20413     "termsOfService": "https://openconnectivityfoundation.github.io/core/DISCLAIMER.md"
20414   },
20415   "schemes": [
20416     "http"
20417   ],
20418   "consumes": [
20419     "application/json"
20420   ],
20421   "produces": [
20422     "application/json"
20423   ],
20424   "paths": {
20425     "/GlucoseMeterAMResURI?if=oic.if.b": {
20426       "get": {
20427         "description": "This Resource describes the Properties associated with glucose meter.\nThe
20428 Resource is an Atomic Measurement of glucose (oic.r.glucose), context carbohydrates
20429 (oic.r.glucose.carb), context exercise (oic.r.glucose.exercise), hemoglobin bound to glucose alc
20430 Form (HbA1c) (oic.r.glucose.hb1c), context health (oic.r.glucose.health), context meal
20431 (oic.r.glucose.meal), context medication (oic.r.glucose.medication), context sample location
20432 (oic.r.glucose.samplelocation), context tester (oic.r.glucose.tester), observed time
20433 (oic.r.time.stamp), and user id (oic.r.userid).",
20434         "parameters": [
20435           {
20436             "$ref": "#/parameters/interface-all"
20437           }
20438         ],
20439         "responses": {
20440           "200": {
20441             "description": "",
20442             "x-example": [
20443               {
20444                 "href": "/myGlucose",
20445                 "rep": {
20446                   "glucose": 100.0,
20447                   "units": "mg/dL",
20448                   "range": [
20449                     20.0,
20450                     600.0
20451                   ],
20452                   "step": 1
20453                 }
20454             },
20455             {
20456               "href": "/myGlucoseCarb",
20457               "rep": {
20458                 "carb": 100.0,
20459                 "meal": "breakfast"
20460             }
20461           },
20462         }
20463       }
20464     }
20465   }
20466 }
```

```

20463         "href": "/myGlucoseExercise",
20464         "rep": {
20465             "exercise": 30.0
20466         }
20467     },
20468     {
20469         "href": "/myGlucoseHbA1c",
20470         "rep": {
20471             "hba1c": 5.0
20472         }
20473     },
20474     {
20475         "href": "/myGlucoseHealth",
20476         "rep": {
20477             "health": "major"
20478         }
20479     },
20480     {
20481         "href": "/myGlucoseMeal",
20482         "rep": {
20483             "meal": "preprandial"
20484         }
20485     },
20486     {
20487         "href": "/myGlucoseMedication",
20488         "rep": {
20489             "medication": 100.0,
20490             "units": "mg",
20491             "regimen": "rapidacting"
20492         }
20493     },
20494     {
20495         "href": "/myGlucoseSampleLocation",
20496         "rep": {
20497             "samplelocation": "finger"
20498         }
20499     },
20500     {
20501         "href": "/myGlucoseTester",
20502         "rep": {
20503             "tester": "self"
20504         }
20505     },
20506     {
20507         "href": "/myUserId",
20508         "rep": {
20509             "userid": "USER1"
20510         }
20511     },
20512     {
20513         "href": "/myTimeStamp",
20514         "rep": {
20515             "timestamp": "2018-11-09T12:15+08:00"
20516         }
20517     }
20518 ],
20519 "schema": {
20520     "$ref": "#/definitions/batch-retrieve"
20521 }
20522 }
20523 }
20524 }
20525 },
20526 "/GlucoseMeterAMResURI?if=oidc.if.11": {
20527     "get": {
20528         "description": "This Resource describes the Properties associated with glucose meter.\n\nThe
20529 Resource is an Atomic Measurement of glucose (oidc.r.glucose), context carbohydrates
20530 (oidc.r.glucose.carb), context exercise (oidc.r.glucose.exercise), hemoglobin bound to glucose alc
20531 Form (HbA1c) (oidc.r.glucose.hba1c), context health (oidc.r.glucose.health), context meal
20532 (oidc.r.glucose.meal), context medication (oidc.r.glucose.medication), context sample location
20533 (oidc.r.glucose.samplelocation), context tester (oidc.r.glucose.tester), observed time
20534 (oidc.r.time.stamp), and user id (oidc.r.userid).",

```

```

20535     "parameters": [
20536         {
20537             "$ref": "#/parameters/interface-all"
20538         }
20539     ],
20540     "responses": {
20541         "200": {
20542             "description": "",
20543             "x-example": [
20544                 {
20545                     "href": "/myGlucose",
20546                     "rt": [
20547                         "oic.r.glucose"
20548                     ],
20549                     "if": [
20550                         "oic.if.s",
20551                         "oic.if.baseline"
20552                     ]
20553                 },
20554                 {
20555                     "href": "/myGlucoseCarb",
20556                     "rt": [
20557                         "oic.r.glucose.carb"
20558                     ],
20559                     "if": [
20560                         "oic.if.s",
20561                         "oic.if.baseline"
20562                     ]
20563                 },
20564                 {
20565                     "href": "/myGlucoseExercise",
20566                     "rt": [
20567                         "oic.r.glucose.exercise"
20568                     ],
20569                     "if": [
20570                         "oic.if.s",
20571                         "oic.if.baseline"
20572                     ]
20573                 },
20574                 {
20575                     "href": "/myGlucoseHbA1c",
20576                     "rt": [
20577                         "oic.r.glucose.hbA1c"
20578                     ],
20579                     "if": [
20580                         "oic.if.s",
20581                         "oic.if.baseline"
20582                     ]
20583                 },
20584                 {
20585                     "href": "/myGlucoseHealth",
20586                     "rt": [
20587                         "oic.r.glucose.health"
20588                     ],
20589                     "if": [
20590                         "oic.if.s",
20591                         "oic.if.baseline"
20592                     ]
20593                 },
20594                 {
20595                     "href": "/myGlucoseMeal",
20596                     "rt": [
20597                         "oic.r.glucose.meal"
20598                     ],
20599                     "if": [
20600                         "oic.if.s",
20601                         "oic.if.baseline"
20602                     ]
20603                 },
20604                 {
20605                     "href": "/myGlucoseMedication",
20606                     "rt": [

```

```

20607         "oic.r.glucose.medication"
20608     ],
20609     "if": [
20610         "oic.if.s",
20611         "oic.if.baseline"
20612     ]
20613 },
20614 {
20615     "href": "/myGlucoseSampleLocation",
20616     "rt": [
20617         "oic.r.glucose.samplelocation"
20618     ],
20619     "if": [
20620         "oic.if.r",
20621         "oic.if.baseline"
20622     ]
20623 },
20624 {
20625     "href": "/myGlucoseTester",
20626     "rt": [
20627         "oic.r.glucose.testers"
20628     ],
20629     "if": [
20630         "oic.if.r",
20631         "oic.if.baseline"
20632     ]
20633 },
20634 {
20635     "href": "/myUserId",
20636     "rt": [
20637         "oic.r.userid"
20638     ],
20639     "if": [
20640         "oic.if.r",
20641         "oic.if.baseline"
20642     ]
20643 },
20644 {
20645     "href": "/myTimeStamp",
20646     "rt": [
20647         "oic.r.time.stamp"
20648     ],
20649     "if": [
20650         "oic.if.r",
20651         "oic.if.baseline"
20652     ]
20653 }
20654 ],
20655 "schema": {
20656     "$ref": "#/definitions/links"
20657 }
20658 }
20659 }
20660 },
20661 "/GlucoseMeterAMResURI?if=oic.if.baseline": {
20662     "get": {
20663         "description": "This Resource describes the Properties associated with glucose meter.\n\nThe
20664 Resource is an Atomic Measurement of glucose (oic.r.glucose), context carbohydrates
20665 (oic.r.glucose.carb), context exercise (oic.r.glucose.exercise), Hemoglobin Bound to glucose alc
20666 Form (HbA1c) (oic.r.glucose.hbalc), context health (oic.r.glucose.health), context meal
20667 (oic.r.glucose.meal), context medication (oic.r.glucose.medication), context sample location
20668 (oic.r.glucose.samplelocation), context tester (oic.r.glucose.testers), observed time
20669 (oic.r.time.stamp), and user id (oic.r.userid).",
20670         "parameters": [
20671             {
20672                 "$ref": "#/parameters/interface-all"
20673             }
20674         ],
20675         "responses": {
20676             "200": {
20677                 "description": "",

```

```

20679 "x-example": {
20680   "rt": [
20681     "oic.r.glucosemeter-am",
20682     "oic.wk.atomicmeasurement"
20683   ],
20684   "if": [
20685     "oic.if.b",
20686     "oic.if.ll",
20687     "oic.if.baseline"
20688   ],
20689   "rts": [
20690     "oic.r.glucose",
20691     "oic.r.glucose.carb",
20692     "oic.r.glucose.exercise",
20693     "oic.r.glucose.hbA1c",
20694     "oic.r.glucose.health",
20695     "oic.r.glucose.meal",
20696     "oic.r.glucose.medication",
20697     "oic.r.glucose.samplelocation",
20698     "oic.r.glucose.tester",
20699     "oic.r.userid",
20700     "oic.r.time.stamp"
20701   ],
20702   "rts-m": [
20703     "oic.r.glucose"
20704   ],
20705   "links": [
20706     {
20707       "href": "/myGlucose",
20708       "rt": [
20709         "oic.r.glucose"
20710       ],
20711       "if": [
20712         "oic.if.s",
20713         "oic.if.baseline"
20714       ]
20715     },
20716     {
20717       "href": "/myGlucoseCarb",
20718       "rt": [
20719         "oic.r.glucose.carb"
20720       ],
20721       "if": [
20722         "oic.if.s",
20723         "oic.if.baseline"
20724       ]
20725     },
20726     {
20727       "href": "/myGlucoseExercise",
20728       "rt": [
20729         "oic.r.glucose.exercise"
20730       ],
20731       "if": [
20732         "oic.if.s",
20733         "oic.if.baseline"
20734       ]
20735     },
20736     {
20737       "href": "/myGlucoseHbA1c",
20738       "rt": [
20739         "oic.r.glucose.hbA1c"
20740       ],
20741       "if": [
20742         "oic.if.s",
20743         "oic.if.baseline"
20744       ]
20745     },
20746     {
20747       "href": "/myGlucoseHealth",
20748       "rt": [
20749         "oic.r.glucose.health"
20750       ],

```

```

20751         "if": [
20752             "oic.if.s",
20753             "oic.if.baseline"
20754         ]
20755     },
20756     {
20757         "href": "/myGlucoseMeal",
20758         "rt": [
20759             "oic.r.glucose.meal"
20760         ],
20761         "if": [
20762             "oic.if.s",
20763             "oic.if.baseline"
20764         ]
20765     },
20766     {
20767         "href": "/myGlucoseMedication",
20768         "rt": [
20769             "oic.r.glucose.medication"
20770         ],
20771         "if": [
20772             "oic.if.s",
20773             "oic.if.baseline"
20774         ]
20775     },
20776     {
20777         "href": "/myGlucoseSampleLocation",
20778         "rt": [
20779             "oic.r.glucose.samplelocation"
20780         ],
20781         "if": [
20782             "oic.if.r",
20783             "oic.if.baseline"
20784         ]
20785     },
20786     {
20787         "href": "/myGlucoseTester",
20788         "rt": [
20789             "oic.r.glucose.testster"
20790         ],
20791         "if": [
20792             "oic.if.r",
20793             "oic.if.baseline"
20794         ]
20795     },
20796     {
20797         "href": "/myUserId",
20798         "rt": [
20799             "oic.r.userid"
20800         ],
20801         "if": [
20802             "oic.if.r",
20803             "oic.if.baseline"
20804         ]
20805     },
20806     {
20807         "href": "/myTimeStamp",
20808         "rt": [
20809             "oic.r.time.stamp"
20810         ],
20811         "if": [
20812             "oic.if.r",
20813             "oic.if.baseline"
20814         ]
20815     }
20816 ]
20817 },
20818 "schema": {
20819     "$ref": "#/definitions/baseline"
20820 }
20821 }
20822 }

```

```

20823     }
20824   }
20825 },
20826 "parameters": {
20827   "interface-all": {
20828     "in": "query",
20829     "name": "if",
20830     "type": "string",
20831     "enum": [
20832       "oic.if.b",
20833       "oic.if.ll",
20834       "oic.if.baseline"
20835     ]
20836   }
20837 },
20838 "definitions": {
20839   "links": {
20840     "type": "array",
20841     "items": {
20842       "$ref": "#/definitions/oic.oic-link"
20843     }
20844   },
20845   "batch-retrieve": {
20846     "minItems": 1,
20847     "items": {
20848       "properties": {
20849         "href": {
20850           "$ref":
20851 "https://openconnectivityfoundation.github.io/core/schemas/oic.links.properties.core-
20852 schema.json#/definitions/href"
20853         },
20854         "rep": {
20855           "type": "object",
20856           "anyOf": [
20857             {
20858               "$ref":
20859 "https://openconnectivityfoundation.github.io/IoTDataModels/GlucoseResURI.swagger.json#/definitions/
20860 Glucose"
20861             },
20862             {
20863               "$ref":
20864 "https://openconnectivityfoundation.github.io/IoTDataModels/GlucoseCarbResURI.swagger.json#/definiti
20865 ons/GlucoseCarb"
20866             },
20867             {
20868               "$ref":
20869 "https://openconnectivityfoundation.github.io/IoTDataModels/ExerciseResURI.swagger.json#/definitions
20870 /Exercise"
20871             },
20872             {
20873               "$ref":
20874 "https://openconnectivityfoundation.github.io/IoTDataModels/GlucoseHbA1cResURI.swagger.json#/definit
20875 ions/HbA1c"
20876             },
20877             {
20878               "$ref":
20879 "https://openconnectivityfoundation.github.io/IoTDataModels/GlucoseHealthResURI.swagger.json#/defini
20880 tions/GlucoseHealth"
20881             },
20882             {
20883               "$ref":
20884 "https://openconnectivityfoundation.github.io/IoTDataModels/GlucoseMealResURI.swagger.json#/definiti
20885 ons/GlucoseMeal"
20886             },
20887             {
20888               "$ref":
20889 "https://openconnectivityfoundation.github.io/IoTDataModels/GlucoseMedicationResURI.swagger.json#/de
20890 finitions/GlucoseMedication"
20891             },
20892             {
20893               "$ref":
20894 "https://openconnectivityfoundation.github.io/IoTDataModels/GlucoseSampleLocationResURI.swagger.json

```

```

20895 #/definitions/GlucoseSampleLocation"
20896     },
20897     {
20898         "$ref":
20899         "https://openconnectivityfoundation.github.io/IoTDataModels/GlucoseTesterResURI.swagger.json#/definitions/GlucoseTester"
20900     },
20901     {
20902         "$ref":
20903         "https://openconnectivityfoundation.github.io/IoTDataModels/UserIDResURI.swagger.json#/definitions/UserID"
20904     },
20905     {
20906         "$ref":
20907         "https://openconnectivityfoundation.github.io/IoTDataModels/TimeStampResURI.swagger.json#/definitions/TimeStamp"
20908     }
20909     ]
20910 }
20911 ],
20912 "required": [
20913     "href",
20914     "rep"
20915 ],
20916 "type": "object"
20917 },
20918 "type": "array"
20919 },
20920 "baseline": {
20921     "properties": {
20922         "rt": {
20923             "items": {
20924                 "enum": [
20925                     "oic.r.glucosemeter-am",
20926                     "oic.wk.atomicmeasurement"
20927                 ],
20928                 "type": "string",
20929                 "maxLength": 64
20930             },
20931             "minItems": 2,
20932             "uniqueItems": true,
20933             "readOnly": true,
20934             "type": "array"
20935         },
20936         "rts": {
20937             "description": "This contains all possible Resource Types for this Atomic Measurement.",
20938             "items": {
20939                 "enum": [
20940                     "oic.r.glucose",
20941                     "oic.r.glucose.carb",
20942                     "oic.r.glucose.exercise",
20943                     "oic.r.glucose.hbalc",
20944                     "oic.r.glucose.health",
20945                     "oic.r.glucose.meal",
20946                     "oic.r.glucose.medication",
20947                     "oic.r.glucose.samplelocation",
20948                     "oic.r.glucose.testers",
20949                     "oic.r.time.stamp",
20950                     "oic.r.userid"
20951                 ],
20952                 "type": "string",
20953                 "maxLength": 64
20954             },
20955             "minItems": 1,
20956             "uniqueItems": true,
20957             "readOnly": true,
20958             "type": "array"
20959         },
20960         "rts-m": {
20961             "description": "This contains all mandatory Resource Types for this Atomic Measurement.",
20962             "items": {
20963                 "enum": [

```



```

20967         "oic.r.glucose"
20968     ],
20969     "type": "string",
20970     "maxLength": 64
20971 },
20972     "maxItems": 1,
20973     "minItems": 1,
20974     "uniqueItems": true,
20975     "readOnly": true,
20976     "type": "array"
20977 },
20978     "if": {
20979         "description": "The OCF Interface set supported by this Resource",
20980         "items": {
20981             "enum": [
20982                 "oic.if.b",
20983                 "oic.if.ll",
20984                 "oic.if.baseline"
20985             ],
20986             "type": "string",
20987             "maxLength": 64
20988         },
20989         "minItems": 3,
20990         "uniqueItems": true,
20991         "readOnly": true,
20992         "type": "array"
20993     },
20994     "n": {
20995         "$ref":
20996         "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
20997         schema.json#/definitions/n"
20998     },
20999     "id": {
21000         "$ref":
21001         "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
21002         schema.json#/definitions/id"
21003     },
21004     "links": {
21005         "$ref": "#/definitions/links"
21006     }
21007 },
21008 "type": "object",
21009 "required": [
21010     "rt","if","links","rts","rts-m"
21011 ]
21012 },
21013 "oic.oic-link": {
21014     "properties": {
21015         "if": {
21016             "description": "The OCF Interface set supported by the target Resource",
21017             "items": {
21018                 "enum": [
21019                     "oic.if.s",
21020                     "oic.if.r",
21021                     "oic.if.baseline"
21022                 ],
21023                 "type": "string",
21024                 "maxLength": 64
21025             },
21026             "minItems": 1,
21027             "uniqueItems": true,
21028             "readOnly": true,
21029             "type": "array"
21030         },
21031         "rt": {
21032             "description": "Resource Type of the target Resource",
21033             "items": {
21034                 "enum": [
21035                     "oic.r.glucose",
21036                     "oic.r.glucose.carb",
21037                     "oic.r.glucose.exercise",
21038                     "oic.r.glucose.hbabc",

```

```

21039         "oic.r.glucose.health",
21040         "oic.r.glucose.meal",
21041         "oic.r.glucose.medication",
21042         "oic.r.glucose.samplelocation",
21043         "oic.r.glucose.tester",
21044         "oic.r.time.stamp",
21045         "oic.r.userid"
21046     ],
21047     "type": "string",
21048     "maxLength": 64
21049 },
21050     "minItems": 1,
21051     "uniqueItems": true,
21052     "readOnly": true,
21053     "type": "array"
21054 },
21055     "anchor": {
21056         "$ref":
21057         "https://openconnectivityfoundation.github.io/core/schemas/oic.links.properties.core-
21058         schema.json#/definitions/anchor"
21059     },
21060     "di": {
21061         "$ref":
21062         "https://openconnectivityfoundation.github.io/core/schemas/oic.links.properties.core-
21063         schema.json#/definitions/di"
21064     },
21065     "eps": {
21066         "$ref":
21067         "https://openconnectivityfoundation.github.io/core/schemas/oic.links.properties.core-
21068         schema.json#/definitions/eps"
21069     },
21070     "href": {
21071         "$ref":
21072         "https://openconnectivityfoundation.github.io/core/schemas/oic.links.properties.core-
21073         schema.json#/definitions/href"
21074     },
21075     "ins": {
21076         "$ref":
21077         "https://openconnectivityfoundation.github.io/core/schemas/oic.links.properties.core-
21078         schema.json#/definitions/ins"
21079     },
21080     "p": {
21081         "$ref":
21082         "https://openconnectivityfoundation.github.io/core/schemas/oic.links.properties.core-
21083         schema.json#/definitions/p"
21084     },
21085     "rel": {
21086         "$ref":
21087         "https://openconnectivityfoundation.github.io/core/schemas/oic.links.properties.core-
21088         schema.json#/definitions/rel_array"
21089     },
21090     "title": {
21091         "$ref":
21092         "https://openconnectivityfoundation.github.io/core/schemas/oic.links.properties.core-
21093         schema.json#/definitions/title"
21094     },
21095     "type": {
21096         "$ref":
21097         "https://openconnectivityfoundation.github.io/core/schemas/oic.links.properties.core-
21098         schema.json#/definitions/type"
21099     }
21100 },
21101     "required": [
21102         "href",
21103         "rt",
21104         "if"
21105     ],
21106     "type": "object"
21107 }
21108 }
21109 }
21110

```

21111

6.106.5 Property definition

21112 Table 215 defines the Properties that are part of the "oic.r.glucosemeter-am,
21113 oic.wk.atomicmeasurement" Resource Type.

21114 **Table 215 – The Property definitions of the Resource with type "rt" = "oic.r.glucosemeter-
21115 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	

21116 **6.106.6 CRUDN behaviour**

21117 Table 216 defines the CRUDN operations that are supported on the "oic.r.glucosemeter-am,
21118 oic.wk.atomicmeasurement" Resource Type.

21119 **Table 216 – The CRUDN operations of the Resource with type "rt" = "oic.r.glucosemeter-
21120 am, oic.wk.atomicmeasurement".**

Create	Read	Update	Delete	Notify
	get			observe

21121 **6.107 Context Sample Location for Glucose Meter**

21122 **6.107.1 Introduction**

21123 This Resource describes the Properties associated with context sample Location.
21124 AST means Alternative Site Test specifying that the location of test performed was from an
21125 alternative site on the body.
21126 The samplelocation Property is a read-only value that is provided by the Server.

21127 **6.107.2 Example URI**

21128 /GlucoseSampleLocationResURI

21129 **6.107.3 Resource type**

21130 The Resource Type is defined as: "oic.r.glucose.samplelocation".

21131 **6.107.4 OpenAPI 2.0 definition**

```
21132 {
21133   "swagger": "2.0",
21134   "info": {
21135     "title": "Context Sample Location for Glucose Meter",
21136     "version": "2019-03-22",
21137     "license": {
21138       "name": "OCF Data Model License",
21139       "url":
21140 "https://github.com/openconnectivityfoundation/core/blob/e28a9e0a92e17042ba3e83661e4c0fbce8bdc4ba/LI
21141 CENSE.md",
21142       "x-copyright": "Copyright 2016-2019 Open Connectivity Foundation, Inc. All rights reserved."
21143     },
21144     "termsOfService": "https://openconnectivityfoundation.github.io/core/DISCLAIMER.md"
21145   },
21146   "schemes": [
21147     "http"
21148   ],
21149   "consumes": [
21150     "application/json"
21151   ],
21152   "produces": [
21153     "application/json"
21154   ],
21155   "paths": {
21156     "/GlucoseSampleLocationResURI": {
21157       "get": {
21158         "description": "This Resource describes the Properties associated with context sample
21159 Location.\nAST means Alternative Site Test specifying that the location of test performed was from
21160 an alternative site on the body.\nThe samplelocation Property is a read-only value that is provided
21161 by the Server.",
21162         "parameters": [
21163           {
21164             "$ref": "#/parameters/interface"
21165           }
21166         ],
21167         "responses": {
21168           "200": {
21169             "description": "",
21170             "x-example": {
21171               "rt": [
21172                 "oic.r.glucose.samplelocation"
21173               ],
21174               "samplelocation": "finger"
21175             },
21176             "schema": {
21177               "$ref": "#/definitions/GlucoseSampleLocation"
21178             }
21179           }
21180         }
21181       }
21182     }
21183   },
21184   "parameters": {
21185     "interface": {
21186       "in": "query",
21187       "name": "if",
21188       "type": "string",
21189       "enum": [
21190         "oic.if.r",
21191         "oic.if.baseline"
21192       ]
21193     }
21194   },
21195   "definitions": {
21196     "GlucoseSampleLocation": {
21197       "properties": {
```

```

21198     "rt": {
21199         "description": "Resource Type",
21200         "items": {
21201             "enum": [
21202                 "oic.r.glucose.samplelocation"
21203             ],
21204             "type": "string",
21205             "maxLength": 64
21206         },
21207         "minItems": 1,
21208         "uniqueItems": true,
21209         "readOnly": true,
21210         "type": "array"
21211     },
21212     "samplelocation": {
21213         "description": "The possible blood locations where the blood sample may be taken.",
21214         "enum": [
21215             "finger",
21216             "ast",
21217             "earlobe",
21218             "ctrlsolution"
21219         ],
21220         "readOnly": true,
21221         "type": "string"
21222     },
21223     "n": {
21224         "$ref":
21225         "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
21226         schema.json#/definitions/n"
21227     },
21228     "id": {
21229         "$ref":
21230         "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
21231         schema.json#/definitions/id"
21232     },
21233     "if": {
21234         "description": "The OCF Interface set supported by this Resource",
21235         "items": {
21236             "enum": [
21237                 "oic.if.r",
21238                 "oic.if.baseline"
21239             ],
21240             "type": "string",
21241             "maxLength": 64
21242         },
21243         "minItems": 1,
21244         "readOnly": true,
21245         "uniqueItems": true,
21246         "type": "array"
21247     }
21248 },
21249 "type": "object",
21250 "required": [
21251     "samplelocation"
21252 ]
21253 }
21254 }
21255 }
21256

```

21257 **6.107.5 Property definition**

21258 Table 217 defines the Properties that are part of the "oic.r.glucose.samplelocation" Resource Type.

21259 **Table 217 – The Property definitions of the Resource with type "rt" =**
21260 **"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.

21261 **6.107.6 CRUDN behaviour**

21262 Table 218 defines the CRUDN operations that are supported on the "oic.r.glucose.samplelocation"
 21263 Resource Type.

Table 218 – The CRUDN operations of the Resource with type "rt" = "oic.r.glucose.samplelocation".

21264
 21265

Create	Read	Update	Delete	Notify
	get			observe

21266 **6.108 Context Tester for Glucose Meter**

21267 **6.108.1 Introduction**

21268 This Resource describes the Properties associated with context tester.
 21269 The tester Property is a read-only value that is provided by the Server where especially
 21270 hcp stands for HealthCare Professional.

21271 **6.108.2 Example URI**

21272 /GlucoseTesterResURI

21273 **6.108.3 Resource type**

21274 The Resource Type is defined as: "oic.r.glucose.tester".

21275 **6.108.4 OpenAPI 2.0 definition**

```

21276 {
21277   "swagger": "2.0",
21278   "info": {
21279     "title": "Context Tester for Glucose Meter",
21280     "version": "2019-03-22",
21281     "license": {
21282       "name": "OCF Data Model License",
21283       "url":
21284         "https://github.com/openconnectivityfoundation/core/blob/e28a9e0a92e17042ba3e83661e4c0fbce8bdc4ba/LI
21285         CENSE.md",

```

```

21286         "x-copyright": "Copyright 2016-2019 Open Connectivity Foundation, Inc. All rights reserved."
21287     },
21288     "termsOfService": "https://openconnectivityfoundation.github.io/core/DISCLAIMER.md"
21289 },
21290 "schemes": [
21291     "http"
21292 ],
21293 "consumes": [
21294     "application/json"
21295 ],
21296 "produces": [
21297     "application/json"
21298 ],
21299 "paths": {
21300     "/GlucoseTesterResURI": {
21301         "get": {
21302             "description": "This Resource describes the Properties associated with context tester.\nThe
21303 tester Property is a read-only value that is provided by the Server where especially\nnhcp stands for
21304 HealthCare Professional.",
21305             "parameters": [
21306                 {
21307                     "$ref": "#/parameters/interface"
21308                 }
21309             ],
21310             "responses": {
21311                 "200": {
21312                     "description": "",
21313                     "x-example": {
21314                         "rt": [
21315                             "oic.r.glucose.testler"
21316                         ],
21317                         "tester": "self"
21318                     },
21319                     "schema": {
21320                         "$ref": "#/definitions/GlucoseTester"
21321                     }
21322                 }
21323             }
21324         }
21325     }
21326 },
21327 "parameters": {
21328     "interface": {
21329         "in": "query",
21330         "name": "if",
21331         "type": "string",
21332         "enum": [
21333             "oic.if.r",
21334             "oic.if.baseline"
21335         ]
21336     }
21337 },
21338 "definitions": {
21339     "GlucoseTester": {
21340         "properties": {
21341             "rt": {
21342                 "description": "Resource Type",
21343                 "items": {
21344                     "enum": [
21345                         "oic.r.glucose.testler"
21346                     ],
21347                     "type": "string",
21348                     "maxLength": 64
21349                 },
21350                 "minItems": 1,
21351                 "uniqueItems": true,
21352                 "readOnly": true,
21353                 "type": "array"
21354             },
21355             "tester": {
21356                 "description": "The possible cases of testers who may perform the blood sugar
21357 measurement.",

```



```

21358         "enum": [
21359             "self",
21360             "hcp",
21361             "lab"
21362         ],
21363         "readOnly": true,
21364         "type": "string"
21365     },
21366     "n": {
21367         "$ref":
21368         "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
21369         schema.json#/definitions/n"
21370     },
21371     "id": {
21372         "$ref":
21373         "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
21374         schema.json#/definitions/id"
21375     },
21376     "if": {
21377         "description": "The OCF Interface set supported by this Resource",
21378         "items": {
21379             "enum": [
21380                 "oic.if.r",
21381                 "oic.if.baseline"
21382             ],
21383             "type": "string",
21384             "maxLength": 64
21385         },
21386         "minItems": 1,
21387         "readOnly": true,
21388         "uniqueItems": true,
21389         "type": "array"
21390     }
21391 },
21392 "type": "object",
21393 "required": [
21394     "tester"
21395 ]
21396 }
21397 }
21398 }
21399

```

21400 6.108.5 Property definition

21401 Table 219 defines the Properties that are part of the "oic.r.glucose.tester" Resource Type.

21402 **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	

21403 **6.108.6 CRUDN behaviour**

21404 Table 220 defines the CRUDN operations that are supported on the "oic.r.glucose.tester" Resource
21405 Type.

21406 **Table 220 – The CRUDN operations of the Resource with type "rt" = "oic.r.glucose.tester".**

Create	Read	Update	Delete	Notify
	get			observe

21407 **6.109 Optical RFID Station**

21408 **6.109.1 Introduction**

21409 The Property "process" represents the stage of the product in the product line which has an optical
21410 RFID tag on its body.
21411 The Property "event" is represented by a Boolean value set to "true" and "false" alarming the issue
21412 when additional action is requested for the tagged product.
21413 The Property "actionrequest" represent necessary actions like the isolation of the product, to send
21414 the product back to other specific line to modify or fix the issue.

21415 **6.109.2 Example URI**

21416 /ORFIDStationResURI

21417 **6.109.3 Resource type**

21418 The Resource Type is defined as: "oic.r.orfid.station".

21419 **6.109.4 OpenAPI 2.0 definition**

```

21420 {
21421   "swagger": "2.0",
21422   "info": {
21423     "title": "Optical RFID Station",
21424     "version": "20190215",
21425     "license": {
21426       "name": "OCF Data Model License",
21427       "url":
21428 "https://github.com/openconnectivityfoundation/core/blob/e28a9e0a92e17042ba3e83661e4c0fbce8bdc4ba/LI
21429 CENSE.md",
21430     "x-copyright": "copyright 2016-2017, 2019 Open Connectivity Foundation, Inc. All rights
21431 reserved."
21432   },
21433   "termsOfService": "https://openconnectivityfoundation.github.io/core/DISCLAIMER.md"
21434 },
21435   "schemes": ["http"],
21436   "consumes": ["application/json"],
21437   "produces": ["application/json"],
21438   "paths": {
21439     "/ORFIDStationResURI" : {
21440       "get": {
21441         "description": "The Property \"process\" represents the stage of the product in the product
21442 line which has an optical RFID tag on its body.\nThe Property \"event\" is represented by a Boolean
21443 value set to \"true\" and \"false\" alarming the issue when additional action is requested for the
21444 tagged product.\nThe Property \"actionrequest\" represent necessary actions like the isolation of
21445 the product, to send the product back to other specific line to modify or fix the issue.",
21446         "parameters": [

```

```

21447         {"$ref": "#/parameters/interface"}
21448     ],
21449     "responses": {
21450         "200": {
21451             "description": "RETRIEVES the station information from optical augmented RFID reader
21452 in smart factory environment.",
21453             "x-example":
21454                 {
21455                     "rt": ["oic.r.orfid.station"],
21456                     "if": ["oic.if.rw", "oic.if.baseline"],
21457                     "process": 17,
21458                     "event": true,
21459                     "actionrequest": 2
21460                 },
21461             "schema": { "$ref": "#/definitions/ORFID" }
21462         }
21463     },
21464 },
21465 "post": {
21466     "description": "Sets necessary action in accordance with Tag Information.",
21467     "parameters": [
21468         {"$ref": "#/parameters/interface"},
21469         {
21470             "name": "body",
21471             "in": "body",
21472             "required": true,
21473             "schema": { "$ref": "#/definitions/ORFID" },
21474             "x-example":
21475                 {
21476                     "event": false,
21477                     "actionrequest": 0
21478                 }
21479         }
21480     ],
21481     "responses": {
21482         "200": {
21483             "description": "",
21484             "x-example":
21485                 {
21486                     "event": false,
21487                     "actionrequest": 0
21488                 },
21489             "schema": { "$ref": "#/definitions/ORFID" }
21490         }
21491     }
21492 },
21493 },
21494 },
21495 "parameters": {
21496     "interface": {
21497         "in": "query",
21498         "name": "if",
21499         "type": "string",
21500         "enum": ["oic.if.rw", "oic.if.baseline"]
21501     }
21502 },
21503 "definitions": {
21504     "ORFID": {
21505         "properties": {
21506             "rt": {
21507                 "description": "The Resource Type.",
21508                 "items": {
21509                     "enum": ["oic.r.orfid.station"],
21510                     "maxLength": 64,
21511                     "type": "string"
21512                 },
21513                 "minItems": 1,
21514                 "uniqueItems": true,
21515                 "readOnly": true,
21516                 "type": "array"
21517             },
21518             "process": {

```

```

21519         "description": "The process step that is being performed at this station.",
21520         "readOnly": true,
21521         "type": "integer"
21522     },
21523     "actionrequest": {
21524         "description": "The action request identifier.",
21525         "type": "integer"
21526     },
21527     "event": {
21528         "description": "The Event indicator, when True, the action request should be applied to
the product identified by the tagid.",
21529         "type": "boolean"
21530     },
21531     },
21532     "n": {
21533         "$ref":
21534         "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
schema.json#/definitions/n"
21535     },
21536     "id": {
21537         "$ref":
21538         "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
schema.json#/definitions/id"
21539     },
21540     },
21541     "if": {
21542         "description": "The OCF Interface set supported by this Resource.",
21543         "items": {
21544             "enum": [
21545                 "oic.if.rw",
21546                 "oic.if.baseline"
21547             ],
21548             "type": "string"
21549         },
21550         "minItems": 2,
21551         "uniqueItems": true,
21552         "readOnly": true,
21553         "type": "array"
21554     }
21555 },
21556 },
21557 "type": "object",
21558 "required": ["event", "actionrequest"]
21559 }
21560 }
21561 }
21562

```

21563 **6.109.5 Property definition**

21564 Table 221 defines the Properties that are part of the "oic.r.orfid.station" Resource Type.

21565 **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.

21566 **6.109.6 CRUDN behaviour**

21567 Table 222 defines the CRUDN operations that are supported on the "oic.r.orfid.station" Resource
21568 Type.

21569 **Table 222 – The CRUDN operations of the Resource with type "rt" = "oic.r.orfid.station".**

Create	Read	Update	Delete	Notify
	get	post		observe

21570 **6.110 Optical RFID Tag**

21571 **6.110.1 Introduction**

21572 The Property "tagid" is an integer showing the currently read optical augmented RFID tag's identity
21573 information.

21574 **6.110.2 Example URI**

21575 /ORFIDTagResURI

21576 **6.110.3 Resource type**

21577 The Resource Type is defined as: "oic.r.orfid.tag".

21578 **6.110.4 OpenAPI 2.0 definition**

```

21579 {
21580   "swagger": "2.0",
21581   "info": {
21582     "title": "Optical RFID Tag",
21583     "version": "20190215",
21584     "license": {
21585       "name": "OCF Data Model License",
21586       "url":
21587         "https://github.com/openconnectivityfoundation/core/blob/e28a9e0a92e17042ba3e83661e4c0fbce8bdc4ba/LI
21588         CENSE.md",
21589       "x-copyright": "copyright 2016-2017, 2019 Open Connectivity Foundation, Inc. All rights
21590         reserved."
21591     },
21592     "termsOfService": "https://openconnectivityfoundation.github.io/core/DISCLAIMER.md"
21593   },

```

```

21594     "schemes": ["http"],
21595     "consumes": ["application/json"],
21596     "produces": ["application/json"],
21597     "paths": {
21598         "/ORFIDTagResURI" : {
21599             "get": {
21600                 "description": "The Property \"tagid\" is an integer showing the currently read optical
21601 augmented RFID tag's identity information.",
21602                 "parameters": [
21603                     { "$ref": "#/parameters/interface" }
21604                 ],
21605                 "responses": {
21606                     "200": {
21607                         "description": "RETRIEVES the tag information from optical augmented RFID reader in
21608 smart factory environment.",
21609                         "x-example":
21610                             {
21611                                 "rt": ["oic.r.orfid.tag"],
21612                                 "if": ["oic.if.r", "oic.if.baseline"],
21613                                 "tagid": 10965742,
21614                                 "reading": true
21615                             },
21616                         "schema": { "$ref": "#/definitions/ORFID" }
21617                     }
21618                 }
21619             }
21620         },
21621     },
21622     "parameters": {
21623         "interface": {
21624             "in": "query",
21625             "name": "if",
21626             "type": "string",
21627             "enum": ["oic.if.r", "oic.if.baseline"]
21628         }
21629     },
21630     "definitions": {
21631         "ORFID" : {
21632             "properties": {
21633                 "rt": {
21634                     "description": "The Resource Type.",
21635                     "items": {
21636                         "enum": ["oic.r.orfid.tag"],
21637                         "maxLength": 64,
21638                         "type": "string"
21639                     },
21640                     "minItems": 1,
21641                     "uniqueItems": true,
21642                     "readOnly": true,
21643                     "type": "array"
21644                 },
21645                 "tagid": {
21646                     "description": "The tag read by the RFID reader.",
21647                     "readOnly": true,
21648                     "type": "integer"
21649                 },
21650                 "reading": {
21651                     "description": "The reading indication. true: the tagid is read e.g. being valid. false:
21652 the tagid is invalid.",
21653                     "readOnly": true,
21654                     "type": "boolean"
21655                 },
21656                 "n": {
21657                     "$ref":
21658 "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
21659 schema.json#/definitions/n"
21660                 },
21661                 "id": {
21662                     "$ref":
21663 "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
21664 schema.json#/definitions/id"
21665                 },

```

```

21666     "if": {
21667         "description": "The OCF Interface set supported by this Resource.",
21668         "items": {
21669             "enum": [
21670                 "oic.if.r",
21671                 "oic.if.baseline"
21672             ],
21673             "type": "string"
21674         },
21675         "minItems": 2,
21676         "uniqueItems": true,
21677         "readOnly": true,
21678         "type": "array"
21679     }
21680 },
21681 "type": "object",
21682 "required": ["tagid", "reading"]
21683 }
21684 }
21685 }
21686

```

21687 **6.110.5 Property definition**

21688 Table 223 defines the Properties that are part of the "oic.r.orfid.tag" Resource Type.

21689 **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.

21690 **6.110.6 CRUDN behaviour**

21691 Table 224 defines the CRUDN operations that are supported on the "oic.r.orfid.tag" Resource Type.

21692 **Table 224 – The CRUDN operations of the Resource with type "rt" = "oic.r.orfid.tag".**

Create	Read	Update	Delete	Notify
	get			observe

21693 **6.111 PowerSource**

21694 **6.111.1 Introduction**

21695 This Resource list the available power sources for the Device.
 21696 The Property "powerSources" is a list that is read only and is informative only.
 21697 If there is more than 1 power sources active, use multiple resources to indicate the active power
 21698 sources.
 21699 If the power source is unknown use the value "unknown".

21700 **6.111.2 Example URI**

21701 /PowerSourceResURI

21702 **6.111.3 Resource type**

21703 The Resource Type is defined as: "oic.r.powersource".

21704 **6.111.4 OpenAPI 2.0 definition**

```

21705 {
21706   "swagger": "2.0",
21707   "info": {
21708     "title": "PowerSource",
21709     "version": "20190215",
21710     "license": {
21711       "name": "OCF Data Model License",
21712       "url":
21713         "https://github.com/openconnectivityfoundation/core/blob/e28a9e0a92e17042ba3e83661e4c0fbce8bdc4ba/LI
21714         CENSE.md",
21715       "x-copyright": "copyright 2016-2017, 2019 Open Connectivity Foundation, Inc. All rights
21716       reserved."
21717     },
21718     "termsOfService": "https://openconnectivityfoundation.github.io/core/DISCLAIMER.md"
21719   },
21720   "schemes": ["http"],
21721   "consumes": ["application/json"],
21722   "produces": ["application/json"],
21723   "paths": {
21724     "/PowerSourceResURI" : {
21725       "get": {
21726         "description": "This Resource list the available power sources for the Device.\n
21727         \powerSources\" is a list that is read only and is informative only.\n
21728         If there is more than 1 power
21729         sources active, use multiple resources to indicate the active power sources.\n
21730         If the power source is
21731         unknown use the value \"unknown\".",
21732         "parameters": [
21733           { "$ref": "#/parameters/interface" }
21734         ],
21735         "responses": {
21736           "200": {
21737             "description": "Retrieves the list of available power sources.",
21738             "x-example":
21739             {
21740               "rt": ["oic.r.powersource"],
21741               "if": ["oic.if.r", "oic.if.baseline"],
21742               "powerSources": [
21743                 "DC power",
21744                 "Internal Battery",
21745                 "External Battery",
21746                 "Power over Ethernet",
21747                 "USB",
21748                 "AC (Mains) Power",

```



```

21747         "Solar"]
21748     },
21749     "schema": { "$ref": "#/definitions/powerSourceSchema" }
21750 }
21751 }
21752 }
21753 }
21754 },
21755 "parameters": {
21756     "interface": {
21757         "in": "query",
21758         "name": "if",
21759         "type": "string",
21760         "enum": ["oic.if.r", "oic.if.baseline"]
21761     }
21762 },
21763 "definitions": {
21764     "powerSourceSchema" : {
21765         "properties": {
21766             "rt": {
21767                 "description": "The Resource Type.",
21768                 "items": {
21769                     "enum": ["oic.r.powersource"],
21770                     "maxLength": 64,
21771                     "type": "string"
21772                 },
21773                 "minItems": 1,
21774                 "uniqueItems": true,
21775                 "readOnly": true,
21776                 "type": "array"
21777             },
21778             "powerSources": {
21779                 "items": {
21780                     "enum": [
21781                         "unknown",
21782                         "DC power",
21783                         "Internal Battery",
21784                         "External Battery",
21785                         "Power over Ethernet",
21786                         "USB",
21787                         "AC (Mains) Power",
21788                         "Solar"
21789                     ],
21790                     "minItems": 1,
21791                     "type": "string",
21792                     "uniqueItems": true
21793                 },
21794                 "type": "array"
21795             },
21796             "n": {
21797                 "$ref":
21798                 "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
21799                 schema.json#/definitions/n"
21800             },
21801             "id": {
21802                 "$ref":
21803                 "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
21804                 schema.json#/definitions/id"
21805             },
21806             "if" :
21807                 {
21808                 "description": "The OCF Interface set supported by this Resource.",
21809                 "items": {
21810                     "enum": [
21811                         "oic.if.r",
21812                         "oic.if.baseline"
21813                     ],
21814                     "type": "string"
21815                 },
21816                 "minItems": 2,
21817                 "uniqueItems": true,
21818                 "readOnly": true,

```

```

21819         "type": "array"
21820     },
21821 },
21822     "type": "object",
21823     "required": ["powerSources"]
21824 }
21825 }
21826 }
21827

```

21828 **6.111.5 Property definition**

21829 Table 225 defines the Properties that are part of the "oic.r.powersource" Resource Type.

21830 **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.
id	multiple types: see schema	No	Read Write	
powerSources	array: see schema	Yes	Read Write	
rt	array: see schema	No	Read Only	The Resource Type.
n	multiple types: see schema	No	Read Write	

21831 **6.111.6 CRUDN behaviour**

21832 Table 226 defines the CRUDN operations that are supported on the "oic.r.powersource" Resource Type.

21834 **Table 226 – The CRUDN operations of the Resource with type "rt" = "oic.r.powersource".**

Create	Read	Update	Delete	Notify
	get			observe

21835 **6.112 Print Queue**

21836 **6.112.1 Introduction**

21837 This Resource describes the items in a Printer Queue. The Properties "uri" and "status" are read
 21838 only items that cannot be changed through this resource.

21839 **6.112.2 Example URI**

21840 /PrintQueueResURI

21841 **6.112.3 Resource type**

21842 The Resource Type is defined as: "oic.r.printer.queue".

21843 6.112.4 OpenAPI 2.0 definition

```
21844 {
21845   "swagger": "2.0",
21846   "info": {
21847     "title": "Print Queue",
21848     "version": "20190215",
21849     "license": {
21850       "name": "OCF Data Model License",
21851       "url":
21852         "https://github.com/openconnectivityfoundation/core/blob/e28a9e0a92e17042ba3e83661e4c0fbce8bdc4ba/LI
21853 CENSE.md",
21854       "x-copyright": "copyright 2016-2017, 2019 Open Connectivity Foundation, Inc. All rights
21855 reserved."
21856     },
21857     "termsOfService": "https://openconnectivityfoundation.github.io/core/DISCLAIMER.md"
21858   },
21859   "schemes": ["http"],
21860   "consumes": ["application/json"],
21861   "produces": ["application/json"],
21862   "paths": {
21863     "/PrintQueueResURI" : {
21864       "get": {
21865         "description": "This Resource describes the items in a Printer Queue. The Properties \"uri\"
21866 and \"status\" are read only items that cannot be changed through this resource.",
21867         "parameters": [
21868           { "$ref": "#/parameters/interface" }
21869         ],
21870         "responses": {
21871           "200": {
21872             "description": "Retrieves the current Print Queue.",
21873             "x-example": {
21874               "rt": ["oic.r.printer.queue"],
21875               "if": ["oic.if.r", "oic.if.baseline"],
21876               "queue": [
21877                 {
21878                   "uri": "file://10.10.10.10/3dprinter/queueitem/1",
21879                   "status": "Printing"
21880                 },
21881                 {
21882                   "uri": "file://10.10.10.10/3dprinter/queueitem/2",
21883                   "status": "Pending"
21884                 }
21885               ]
21886             },
21887             "schema": { "$ref": "#/definitions/PrintQueue" }
21888           }
21889         }
21890       }
21891     }
21892   },
21893   "parameters": {
21894     "interface": {
21895       "in": "query",
21896       "name": "if",
21897       "type": "string",
21898       "enum": ["oic.if.r", "oic.if.baseline"]
21899     }
21900   },
21901   "definitions": {
21902     "PrintQueue" : {
21903       "properties": {
21904         "rt": {
21905           "description": "The Resource Type.",
21906           "items": {
21907             "enum": ["oic.r.printer.queue"],
21908             "maxLength": 64,
21909             "type": "string"
21910           },
21911           "minItems": 1,
21912           "uniqueItems": true,
21913           "readOnly": true,
```

```

21914     "type": "array"
21915   },
21916   "queue": {
21917     "description": "The array of queue items for the printer.",
21918     "items": {
21919       "properties": {
21920         "status": {
21921           "description": "The status of the queue item.",
21922           "enum": [
21923             "Printing",
21924             "Pending",
21925             "Paused",
21926             "Error",
21927             "Unknown"
21928           ],
21929           "readOnly": true,
21930           "type": "string"
21931         },
21932         "uri": {
21933           "description": "The uri of the queue item (i.e. the actual file).",
21934           "format": "uri",
21935           "maxLength": 256,
21936           "readOnly": true,
21937           "type": "string"
21938         }
21939       },
21940       "required": [
21941         "uri",
21942         "status"
21943       ],
21944       "type": "object"
21945     },
21946     "readOnly": true,
21947     "type": "array"
21948   },
21949   "n": {
21950     "$ref":
21951     "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
21952     schema.json#/definitions/n"
21953   },
21954   "id": {
21955     "$ref":
21956     "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
21957     schema.json#/definitions/id"
21958   },
21959   "if": {
21960     "description": "The OCF Interface set supported by this Resource.",
21961     "items": {
21962       "enum": [
21963         "oic.if.r",
21964         "oic.if.baseline"
21965       ],
21966       "type": "string"
21967     },
21968     "minItems": 2,
21969     "uniqueItems": true,
21970     "readOnly": true,
21971     "type": "array"
21972   }
21973 },
21974 "type": "object",
21975 "required": ["queue"]
21976 }
21977 }
21978 }
21979

```

21980 6.112.5 Property definition

21981 Table 227 defines the Properties that are part of the "oic.r.printer.queue" Resource Type.

21982 **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.

21983 **6.112.6 CRUDN behaviour**

21984 Table 228 defines the CRUDN operations that are supported on the "oic.r.printer.queue" Resource
21985 Type.

21986 **Table 228 – The CRUDN operations of the Resource with type "rt" = "oic.r.printer.queue".**

Create	Read	Update	Delete	Notify
	get			observe

21987 **6.113 Pulse Rate**

21988 **6.113.1 Introduction**

21989 This Resource describes the Properties associated with a person's pulse rate.
21990 The unit, which is the default unit, is bpm.
21991 The pulserate and unit Properties are read-only values that are provided by the Server.
21992 When range is omitted the default is 0 to +MAXFLOAT.

21993 **6.113.2 Example URI**

21994 /PulseRateResURI

21995 **6.113.3 Resource type**

21996 The Resource Type is defined as: "oic.r.pulserate".

21997 **6.113.4 OpenAPI 2.0 definition**

```
21998 {
21999   "swagger": "2.0",
22000   "info": {
22001     "title": "Pulse Rate",
22002     "version": "2019-03-22",
22003     "license": {
22004       "name": "OCF Data Model License",
```

```

22005     "url":
22006     "https://github.com/openconnectivityfoundation/core/blob/e28a9e0a92e17042ba3e83661e4c0fbce8bdc4ba/LI
22007     CENSE.md",
22008     "x-copyright": "Copyright 2016-2019 Open Connectivity Foundation, Inc. All rights reserved."
22009     },
22010     "termsOfService": "https://openconnectivityfoundation.github.io/core/DISCLAIMER.md"
22011     },
22012     "schemas": [
22013     "http"
22014     ],
22015     "consumes": [
22016     "application/json"
22017     ],
22018     "produces": [
22019     "application/json"
22020     ],
22021     "paths": {
22022     "/PulseRateResURI": {
22023     "get": {
22024     "description": "This Resource describes the Properties associated with a person's pulse
22025     rate.\n\nThe unit, which is the default unit, is bpm.\n\nThe pulserate and unit Properties are read-only
22026     values that are provided by the Server.\n\nWhen range is omitted the default is 0 to +MAXFLOAT.",
22027     "parameters": [
22028     {
22029     "$ref": "#/parameters/interface"
22030     }
22031     ],
22032     "responses": {
22033     "200": {
22034     "description": "",
22035     "x-example": {
22036     "rt": [
22037     "oic.r.pulserate"
22038     ],
22039     "pulserate": 80,
22040     "range": [20, 220],
22041     "step": 1
22042     },
22043     "schema": {
22044     "$ref": "#/definitions/PulseRate"
22045     }
22046     }
22047     }
22048     }
22049     }
22050     },
22051     "parameters": {
22052     "interface": {
22053     "in": "query",
22054     "name": "if",
22055     "type": "string",
22056     "enum": [
22057     "oic.if.s",
22058     "oic.if.baseline"
22059     ]
22060     }
22061     },
22062     "definitions": {
22063     "PulseRate": {
22064     "properties": {
22065     "rt": {
22066     "description": "Resource Type",
22067     "items": {
22068     "enum": [
22069     "oic.r.pulserate"
22070     ],
22071     "type": "string",
22072     "maxLength": 64
22073     },
22074     "minItems": 1,
22075     "uniqueItems": true,
22076     "readOnly": true,

```

```

22077     "type": "array"
22078   },
22079   "pulserate": {
22080     "description": "Pulse rate in bpm.",
22081     "minimum": 0,
22082     "readOnly": true,
22083     "type": "integer"
22084   },
22085   "if": {
22086     "description": "The OCF Interface set supported by this Resource",
22087     "items": {
22088       "enum": [
22089         "oic.if.s",
22090         "oic.if.baseline"
22091       ],
22092       "type": "string",
22093       "maxLength": 64
22094     },
22095     "minItems": 1,
22096     "readOnly": true,
22097     "uniqueItems": true,
22098     "type": "array"
22099   },
22100   "range": {
22101     "$ref":
22102     "https://openconnectivityfoundation.github.io/IoTDataModels/schemas/oic.baseresource.properties-
22103     schema.json#/definitions/range_integer"
22104   },
22105   "step": {
22106     "$ref":
22107     "https://openconnectivityfoundation.github.io/IoTDataModels/schemas/oic.baseresource.properties-
22108     schema.json#/definitions/step_integer"
22109   },
22110   "n": {
22111     "$ref":
22112     "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
22113     schema.json#/definitions/n"
22114   }
22115 },
22116 "type": "object",
22117 "required": [
22118   "pulserate"
22119 ]
22120 }
22121 }
22122 }
22123

```

22124 6.113.5 Property definition

22125 Table 229 defines the Properties that are part of the "oic.r.pulserate" Resource Type.

22126 **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	

22127 **6.113.6 CRUDN behaviour**

22128 Table 230 defines the CRUDN operations that are supported on the "oic.r.pulserate" Resource
22129 Type.

22130 **Table 230 – The CRUDN operations of the Resource with type "rt" = "oic.r.pulserate".**

Create	Read	Update	Delete	Notify
	get			observe

22131 **6.114 Sensor Properties**

22132 **6.114.1 Introduction**

22133 This Resource describes the properties which guide the reporting of a state change of a Sensor.
22134 The Property "silenttime" represents the period after which a state change report was sent where
22135 the Sensor state change is not reported.
22136 The Property "sensitivity" represents the level at which the sensor detects a state change.
22137 These values are completely dependent on the type of Sensor and the manufacturer capability, so
22138 no range restrictions are used.
22139 The Properties "range", "step" and "precision" are only applied to the "sensitivity" Property.

22140 **6.114.2 Example URI**

22141 /SensorPropsResURI

22142 **6.114.3 Resource type**

22143 The Resource Type is defined as: "oic.r.sensor.props".

22144 **6.114.4 OpenAPI 2.0 definition**

```
22145 {
22146   "swagger": "2.0",
22147   "info": {
22148     "title": "Sensor Properties",
22149     "version": "20190215",
22150     "license": {
22151       "name": "OCF Data Model License",
22152       "url":
22153 "https://github.com/openconnectivityfoundation/core/blob/e28a9e0a92e17042ba3e83661e4c0fbce8bdc4ba/LI
22154 CENSE.md",
22155       "x-copyright": "copyright 2016-2017, 2019 Open Connectivity Foundation, Inc. All rights
22156 reserved."
22157     },
22158     "termsOfService": "https://openconnectivityfoundation.github.io/core/DISCLAIMER.md"
22159   },
22160   "schemes": ["http"],
22161   "consumes": ["application/json"],
22162   "produces": ["application/json"],
```



```

22163     "paths": {
22164         "/SensorPropsResURI" : {
22165             "get": {
22166                 "description": "This Ressource describes the properties which guide the reporting of a state
22167 change of a Sensor.\nThe Property \"silenttime\" represents the period after which a state change
22168 report was sent where the Sensor state change is not reported.\nThe Property \"sensitivity\"
22169 represents the level at which the sensor detects a state change.\nThese values are completely
22170 dependend on the type of Sensor and the manufacturer capability, so no range restrictions are
22171 used.\nThe Properties \"range\", \"step\" and \"precision\" are only applied to the \"sensitivity\"
22172 Property.",
22173                 "parameters": [
22174                     { "$ref": "#/parameters/interface" }
22175                 ],
22176                 "responses": {
22177                     "200": {
22178                         "description": "Gets current Sensor Property values.",
22179                         "x-example":
22180                             {
22181                                 "rt": ["oic.r.sensor.props"],
22182                                 "if": ["oic.if.rw", "oic.if.baseline"],
22183                                 "silenttime": 10,
22184                                 "sensitivity": 20.5
22185                             },
22186                         "schema": { "$ref": "#/definitions/SensorProps" }
22187                     }
22188                 },
22189             },
22190             "post": {
22191                 "description": "Sets Sensor Property values\n",
22192                 "parameters": [
22193                     { "$ref": "#/parameters/interface" },
22194                     {
22195                         "name": "body",
22196                         "in": "body",
22197                         "required": true,
22198                         "schema": { "$ref": "#/definitions/SensorProps" },
22199                         "x-example":
22200                             {
22201                                 "silenttime": 20,
22202                                 "sensitivity": 10.75
22203                             }
22204                     }
22205                 ],
22206                 "responses": {
22207                     "200": {
22208                         "description": "",
22209                         "x-example":
22210                             {
22211                                 "silenttime": 20,
22212                                 "sensitivity": 10.75
22213                             },
22214                         "schema": { "$ref": "#/definitions/SensorProps" }
22215                     }
22216                 }
22217             }
22218         },
22219     },
22220     "parameters": {
22221         "interface": {
22222             "in": "query",
22223             "name": "if",
22224             "type": "string",
22225             "enum": ["oic.if.rw", "oic.if.baseline"]
22226         }
22227     },
22228     "definitions": {
22229         "SensorProps" : {
22230             "properties": {
22231                 "rt": {
22232                     "description": "The Resource Type.",
22233                     "items": {
22234                         "enum": ["oic.r.sensor.props"],

```

```

22235         "maxLength": 64,
22236         "type": "string"
22237     },
22238     "minItems": 1,
22239     "uniqueItems": true,
22240     "readOnly": true,
22241     "type": "array"
22242 },
22243 "silentlytime": {
22244     "description": "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.",
22245     "type": "integer"
22246 },
22247 },
22248 "sensitivity": {
22249     "description": "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
22250 manufacturer device capabilities.",
22251     "type": "number"
22252 },
22253 },
22254 "n": {
22255     "$ref":
22256 "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
22257 schema.json#/definitions/n"
22258 },
22259 "id": {
22260     "$ref":
22261 "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
22262 schema.json#/definitions/id"
22263 },
22264 "range": {
22265     "$ref":
22266 "https://openconnectivityfoundation.github.io/IoTDataModels/schemas/oic.baseresource.properties-
22267 schema.json#/definitions/range_number"
22268 },
22269 "step": {
22270     "$ref":
22271 "https://openconnectivityfoundation.github.io/IoTDataModels/schemas/oic.baseresource.properties-
22272 schema.json#/definitions/step_number"
22273 },
22274 "precision": {
22275     "$ref":
22276 "https://openconnectivityfoundation.github.io/IoTDataModels/schemas/oic.baseresource.properties-
22277 schema.json#/definitions/precision"
22278 },
22279 "if": {
22280     "description": "The OCF Interface set supported by this Resource.",
22281     "items": {
22282         "enum": [
22283             "oic.if.rw",
22284             "oic.if.baseline"
22285         ],
22286         "type": "string"
22287     },
22288     "minItems": 2,
22289     "uniqueItems": true,
22290     "readOnly": true,
22291     "type": "array"
22292 }
22293 },
22294 "type": "object",
22295 "required": ["silentlytime", "sensitivity"]
22296 }
22297 }
22298 }
22299

```

22300 6.114.5 Property definition

22301 Table 231 defines the Properties that are part of the "oic.r.sensor.props" Resource Type.

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

22303 **6.114.6 CRUDN behaviour**

22304 Table 232 defines the CRUDN operations that are supported on the "oic.r.sensor.props" Resource
22305 Type.

22306 **Table 232 – The CRUDN operations of the Resource with type "rt" = "oic.r.sensor.props".**

Create	Read	Update	Delete	Notify
	get	post		observe

22307 **6.115 User ID**

22308 **6.115.1 Introduction**

22309 This Resource describes the Properties associated with user id of an OCF Client.
22310 The userid Property is a single value of type string.
22311 The userid Property is a read-only value that is provided by the Server.

22312 **6.115.2 Example URI**

22313 /UserIDResURI

22314 **6.115.3 Resource type**

22315 The Resource Type is defined as: "oic.r.userid".

22316 **6.115.4 OpenAPI 2.0 definition**

```

22317 {
22318   "swagger": "2.0",
22319   "info": {
22320     "title": "User ID",
22321     "version": "2019-03-22",
22322     "license": {
22323       "name": "OCF Data Model License",
22324       "url":
22325         "https://github.com/openconnectivityfoundation/core/blob/e28a9e0a92e17042ba3e83661e4c0fbce8bdc4ba/LI
22326         CENSE.md",
22327       "x-copyright": "Copyright 2016-2019 Open Connectivity Foundation, Inc. All rights reserved."
22328     },
22329     "termsOfService": "https://openconnectivityfoundation.github.io/core/DISCLAIMER.md"
22330   },
22331   "schemes": [
22332     "http"
22333   ],
22334   "consumes": [
22335     "application/json"
22336   ],
22337   "produces": [
22338     "application/json"
22339   ],
22340   "paths": {
22341     "/UserIDResURI": {
22342       "get": {
22343         "description": "This Resource describes the Properties associated with user id of an OCF
22344 Client.\nThe userid Property is a single value of type string.\nThe userid Property is a read-only
22345 value that is provided by the Server.",
22346         "parameters": [
22347           {
22348             "$ref": "#/parameters/interface"
22349           }
22350         ],

```

```

22351     "responses": {
22352       "200": {
22353         "description": "",
22354         "x-example": {
22355           "rt": [
22356             "oic.r.userid"
22357           ],
22358           "userid": "USER1"
22359         },
22360         "schema": {
22361           "$ref": "#/definitions/UserID"
22362         }
22363       }
22364     }
22365   }
22366 }
22367 },
22368 "parameters": {
22369   "interface": {
22370     "in": "query",
22371     "name": "if",
22372     "type": "string",
22373     "enum": [
22374       "oic.if.r",
22375       "oic.if.baseline"
22376     ]
22377   }
22378 },
22379 "definitions": {
22380   "UserID": {
22381     "properties": {
22382       "rt": {
22383         "description": "Resource Type",
22384         "items": {
22385           "enum": [
22386             "oic.r.userid"
22387           ],
22388           "type": "string",
22389           "maxLength": 64
22390         },
22391         "minItems": 1,
22392         "uniqueItems": true,
22393         "readOnly": true,
22394         "type": "array"
22395       },
22396       "userid": {
22397         "description": "Id of a patient/user of healthcare devices",
22398         "readOnly": true,
22399         "type": "string"
22400       },
22401       "n": {
22402         "$ref":
22403 "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
22404 schema.json#/definitions/n"
22405       },
22406       "if": {
22407         "description": "The OCF Interface set supported by this Resource",
22408         "items": {
22409           "enum": [
22410             "oic.if.r",
22411             "oic.if.baseline"
22412           ],
22413           "type": "string",
22414           "maxLength": 64
22415         },
22416         "minItems": 1,
22417         "readOnly": true,
22418         "uniqueItems": true,
22419         "type": "array"
22420       }
22421     },
22422     "type": "object",

```

```

22423     "required": [
22424         "userid"
22425     ]
22426 }
22427 }
22428 }
22429 }

```

22430 **6.115.5 Property definition**

22431 Table 233 defines the Properties that are part of the "oic.r.userid" Resource Type.

22432 **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

22433 **6.115.6 CRUDN behaviour**

22434 Table 234 defines the CRUDN operations that are supported on the "oic.r.userid" Resource Type.

22435 **Table 234 – The CRUDN operations of the Resource with type "rt" = "oic.r.userid".**

Create	Read	Update	Delete	Notify
	get			observe

22436 **6.116 Calorific Value**

22437 **6.116.1 Introduction**

22438 This Resource describes Properties associated with the energy associated with the consumption
22439 of different fuels (including natural gas)
22440 The calorific value is a number
22441 the calorific value is a measure of the available heat energy, used as part of the calculation to
22442 convert a volume of a fuel (e.g. m3) to an energy value (e.g. KWh).
22443

22444 **6.116.2 Example URI**

22445 /CalorificValueResURI

22446 **6.116.3 Resource type**

22447 The Resource Type is defined as: "oic.r.calorificvalue".

22448 6.116.4 OpenAPI 2.0 definition

```
22449 {
22450   "swagger": "2.0",
22451   "info": {
22452     "title": "Calorific Value",
22453     "version": "2019-03-18",
22454     "license": {
22455       "name": "OCF Data Model License",
22456       "url": "https://openconnectivityfoundation.github.io/core/LICENSE.md",
22457       "x-copyright": "Copyright 2019 Open Connectivity Foundation, Inc. All rights reserved."
22458     },
22459     "termsOfService": "https://openconnectivityfoundation.github.io/core/DISCLAIMER.md"
22460   },
22461   "schemes": ["http"],
22462   "consumes": ["application/json"],
22463   "produces": ["application/json"],
22464   "paths": {
22465     "/CalorificValueResURI" : {
22466       "get": {
22467         "description": "This Resource describes Properties associated with the energy associated
22468 with the consumption of different fuels (including natural gas)\n\nThe calorific value is a
22469 number\n\nthe calorific value is a measure of the available heat energy, used as part of the
22470 calculation to convert a volume of a fuel (e.g. m3) to an energy value (e.g. KWh).\n\n",
22471         "parameters": [
22472           { "$ref": "#/parameters/interface" }
22473         ],
22474         "responses": {
22475           "200": {
22476             "description": "Success path response for the Resource",
22477             "x-example": {
22478               "rt": ["oic.r.calorificvalue"],
22479               "calorific": 39.2
22480             },
22481             "schema": { "$ref": "#/definitions/Calorific" }
22482           }
22483         }
22484       }
22485     }
22486   },
22487   "parameters": {
22488     "interface" : {
22489       "in" : "query",
22490       "name" : "if",
22491       "type" : "string",
22492       "enum" : ["oic.if.r", "oic.if.baseline"]
22493     }
22494   },
22495   "definitions": {
22496     "Calorific" : {
22497       "properties": {
22498         "rt" : {
22499           "description": "Resource Type",
22500           "items": {
22501             "maxLength": 64,
22502             "type": "string",
22503             "enum": ["oic.r.calorificvalue"]
22504           },
22505           "minItems": 1,
22506           "readOnly": true,
22507           "uniqueItems": true,
22508           "type": "array"
22509         },
22510         "if" : {
22511           "description": "The OCF Interfaces supported by this Resource",
22512           "items": {
22513             "enum": ["oic.if.baseline", "oic.if.r"],
22514             "type": "string",
22515             "maxLength": 64
22516           },
22517           "minItems": 2,
22518           "readOnly": true,
```

```

22519         "uniqueItems": true,
22520         "type": "array"
22521     },
22522     "n": {
22523         "$ref" :
22524         "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
22525         schema.json#/definitions/n"
22526     },
22527     "id": {
22528         "$ref" :
22529         "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
22530         schema.json#/definitions/id"
22531     },
22532     "precision" : {
22533         "description": "Accuracy granularity of the exposed value",
22534         "readOnly": true,
22535         "type": "number"
22536     },
22537     "calorific" : {
22538         "description": "Calorific value of fuel",
22539         "readOnly": true,
22540         "type": "number",
22541         "minimum": 0,
22542         "exclusiveMinimum": true
22543     }
22544 },
22545 "type" : "object",
22546 "required": ["calorific"]
22547 }
22548 }
22549 }
22550

```

6.116.5 Property definition

Table 235 defines the Properties that are part of the "oic.r.calorificvalue" Resource Type.

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	

22554 **6.116.6 CRUDN behaviour**

22555 Table 236 defines the CRUDN operations that are supported on the "oic.r.calorificvalue" Resource
22556 Type.

22557 **Table 236 – The CRUDN operations of the Resource with type "rt" = "oic.r.calorificvalue".**

Create	Read	Update	Delete	Notify
	get			observe

22558 **6.117 Conversion Factor**

22559 **6.117.1 Introduction**

22560 This Resource describes Properties associated with the energy associated with the consumption
22561 of different fuels (including natural gas)
22562 The conversion factor is a number used as part of the calculation to convert gas volume to gas
22563 energy. The value used for this calculation is generally defined by local regulations and the
22564 conversion factor resource is therefore configurable.
22565 Provides the conversion factor used/required as part of the calculation to convert from fuel volume
22566 (m3) to fuel energy (kWh).
22567

22568 **6.117.2 Example URI**

22569 /ConversionFactorResURI

22570 **6.117.3 Resource type**

22571 The Resource Type is defined as: "oic.r.conversionfactor".

22572 **6.117.4 OpenAPI 2.0 definition**

```

22573 {
22574   "swagger": "2.0",
22575   "info": {
22576     "title": "Conversion Factor",
22577     "version": "2019-03-18",
22578     "license": {
22579       "name": "OCF Data Model License",
22580       "url": "https://openconnectivityfoundation.github.io/core/LICENSE.md",
22581       "x-copyright": "Copyright 2019 Open Connectivity Foundation, Inc. All rights reserved."
22582     },
22583     "termsOfService": "https://openconnectivityfoundation.github.io/core/DISCLAIMER.md"
22584   },
22585   "schemes": ["http"],
22586   "consumes": ["application/json"],
22587   "produces": ["application/json"],
22588   "paths": {
22589     "/ConversionFactorResURI" : {
22590       "get": {
22591         "description": "This Resource describes Properties associated with the energy associated
22592 with the consumption of different fuels (including natural gas)\n\nThe conversion factor is a number
22593 used as part of the calculation to convert gas volume to gas energy. The value used for this
22594 calculation is generally defined by local regulations and the conversion factor resource is
22595 therefore configurable.\n\nProvides the conversion factor used/required as part of the calculation to
22596 convert from fuel volume (m3) to fuel energy (kWh).\n\n",
22597         "parameters": [
22598           { "$ref": "#/parameters/interface" }
22599         ],
22600         "responses": {
22601           "200": {
22602             "description": "Success path response for the Resource",
22603             "x-example": {
22604               "rt": ["oic.r.conversionfactor"],
22605               "conversion": 1.02264

```

```

22606         },
22607         "schema": { "$ref": "#/definitions/Conversion" }
22608     }
22609 }
22610 }
22611 }
22612 },
22613 "parameters": {
22614     "interface" : {
22615         "in" : "query",
22616         "name" : "if",
22617         "type" : "string",
22618         "enum" : ["oic.if.r", "oic.if.baseline"]
22619     }
22620 },
22621 "definitions": {
22622     "Conversion" : {
22623         "properties": {
22624             "rt" : {
22625                 "description": "Resource Type",
22626                 "items": {
22627                     "maxLength": 64,
22628                     "type": "string",
22629                     "enum": ["oic.r.conversionfactor"]
22630                 },
22631                 "minItems": 1,
22632                 "readOnly": true,
22633                 "uniqueItems": true,
22634                 "type": "array"
22635             },
22636             "if" : {
22637                 "description": "The OCF Interfaces supported by this Resource",
22638                 "items": {
22639                     "enum": [
22640                         "oic.if.r",
22641                         "oic.if.baseline"
22642                     ],
22643                     "type": "string",
22644                     "maxLength": 64
22645                 },
22646                 "minItems": 2,
22647                 "readOnly": true,
22648                 "uniqueItems": true,
22649                 "type": "array"
22650             },
22651             "n": {
22652                 "$ref" :
22653                 "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
22654                 schema.json#/definitions/n"
22655             },
22656             "id": {
22657                 "$ref" :
22658                 "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
22659                 schema.json#/definitions/id"
22660             },
22661             "conversion" : {
22662                 "description": "Conversion factor to convert a volume of a fuel to energy consumption",
22663                 "readOnly": true,
22664                 "type": "number",
22665                 "minimum": 0,
22666                 "exclusiveMinimum": true
22667             },
22668             "precision" : {
22669                 "description": "Accuracy granularity of the exposed value",
22670                 "readOnly": true,
22671                 "type": "number"
22672             }
22673         },
22674         "type" : "object",
22675         "required": ["conversion"]
22676     }
22677 }

```

22678 }
22679

22680 **6.117.5 Property definition**

22681 Table 237 defines the Properties that are part of the "oic.r.conversionfactor" Resource Type.

22682 **Table 237 – The Property definitions of the Resource with type "rt" =**
22683 **"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

22684 **6.117.6 CRUDN behaviour**

22685 Table 238 defines the CRUDN operations that are supported on the "oic.r.conversionfactor"
22686 Resource Type.

22687 **Table 238 – The CRUDN operations of the Resource with type "rt" =**
22688 **"oic.r.conversionfactor".**

Create	Read	Update	Delete	Notify
	get			observe

22689 **6.118 Gas Consumption**

22690 **6.118.1 Introduction**

22691 This Resource describes Properties associated with the energy associated with the consumption
22692 of natural gas
22693 The gas value is in kilowatt hours [kWh].
22694 The volume value is in metres cubed [m3].

22695 Provides the cumulative gas energy, the cumulative gas volume and the calorific value and
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22696 conversion factor used/required to convert from gas volume (m3[TB1]) to gas energy (KWh).
22697

22698 **6.118.2 Example URI**

22699 /GasConsumptionResURI

22700 **6.118.3 Resource type**

22701 The Resource Type is defined as: "oic.r.gas.consumption".

22702 **6.118.4 OpenAPI 2.0 definition**

```
22703 {  
22704   "swagger": "2.0",  
22705   "info": {  
22706     "title": "Gas Consumption",  
22707     "version": "2019-03-18",  
22708     "license": {  
22709       "name": "OCF Data Model License",  
22710       "url": "https://openconnectivityfoundation.github.io/core/LICENSE.md",  
22711       "x-copyright": "Copyright 2019 Open Connectivity Foundation, Inc. All rights reserved."  
22712     },  
22713     "termsOfService": "https://openconnectivityfoundation.github.io/core/DISCLAIMER.md"  
22714   },  
22715   "schemes": ["http"],  
22716   "consumes": ["application/json"],  
22717   "produces": ["application/json"],  
22718   "paths": {  
22719     "/GasConsumptionResURI" : {  
22720       "get": {  
22721         "description": "This Resource describes Properties associated with the energy associated  
22722 with the consumption of natural gas\nThe gas value is in kilowatt hours [kWh].\nThe volume value is  
22723 in metres cubed [m3].\nProvides the cumulative gas energy, the cumulative gas volume and the  
22724 calorific value and conversion factor used/required to convert from gas volume (m3[TB1]) to gas  
22725 energy (KWh).\n",  
22726         "parameters": [  
22727           { "$ref": "#/parameters/interface" }  
22728         ],  
22729         "responses": {  
22730           "200": {  
22731             "description" : "Success path response for the Resource",  
22732             "x-example": {  
22733               "rt": ["oic.r.gas.consumption"],  
22734               "gas": 11135.41,  
22735               "volume": 1000.0  
22736             },  
22737             "schema": { "$ref": "#/definitions/Consumption" }  
22738           }  
22739         }  
22740       }  
22741     }  
22742   },  
22743   "parameters": {  
22744     "interface" : {  
22745       "in" : "query",  
22746       "name" : "if",  
22747       "type" : "string",  
22748       "enum" : ["oic.if.s", "oic.if.baseline"]  
22749     }  
22750   },  
22751   "definitions": {  
22752     "Consumption" : {  
22753       "properties": {  
22754         "rt": {  
22755           "description": "Resource Type",  
22756           "items": {  
22757             "maxLength": 64,  
22758             "type": "string",  
22759             "enum": ["oic.r.gas.consumption"]  
22760           },
```

```

22761         "minItems": 1,
22762         "uniqueItems": true,
22763         "readOnly": true,
22764         "type": "array"
22765     },
22766     "if": {
22767         "description": "The OCF Interfaces supported by this Resource",
22768         "items": {
22769             "enum": ["oic.if.r", "oic.if.baseline"],
22770             "type": "string"
22771         },
22772         "minItems": 1,
22773         "readOnly": true,
22774         "uniqueItems": true,
22775         "type": "array"
22776     },
22777     "n": {
22778         "$ref" :
22779         "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
22780         schema.json#/definitions/n"
22781     },
22782     "id": {
22783         "$ref" :
22784         "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
22785         schema.json#/definitions/id"
22786     },
22787     "gas" : {
22788         "description": "gas energy consumed in kWh",
22789         "readOnly": true,
22790         "type": "number",
22791         "minimum": 0
22792     },
22793     "precision" : {
22794         "description": "Accuracy granularity of the exposed value",
22795         "readOnly": true,
22796         "type": "number"
22797     },
22798     "volume" : {
22799         "description": "gas volume consumed in m3 (metres cubed)",
22800         "readOnly": true,
22801         "type": "number",
22802         "minimum": 0
22803     }
22804 },
22805 "type" : "object",
22806 "required": ["gas"]
22807 }
22808 }
22809 }
22810

```

22811 **6.118.5 Property definition**

22812 Table 239 defines the Properties that are part of the "oic.r.gas.consumption" Resource Type.

22813 **Table 239 – The Property definitions of the Resource with type "rt" =**
22814 **"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

22815 **6.118.6 CRUDN behaviour**

22816 Table 240 defines the CRUDN operations that are supported on the "oic.r.gas.consumption"
22817 Resource Type.

Table 240 – The CRUDN operations of the Resource with type "rt" = "oic.r.gas.consumption".

22818
22819

Create	Read	Update	Delete	Notify
	get			observe

22820 **6.119 Gas Usage**

22821 **6.119.1 Introduction**

22822 This Resource describes a cumulative time-based gas usage query.
22823 The Resource is a Collection of:
22824 TimePeriod Resource
22825 Gas Consumption Resource
22826

22827 **6.119.2 Example URI**

22828 /GasUsageResURI

22829 **6.119.3 Resource type**

22830 The Resource Type is defined as: "oic.r.gas.usage".

22831 **6.119.4 OpenAPI 2.0 definition**

22832 {
22833 "swagger": "2.0",
22834 "info": {
22835 "title": "Gas Usage",
22836 "version": "2019-03-18",
22837 "license": {
22838 "name": "OCF Data Model License",

```

22839         "url": "https://openconnectivityfoundation.github.io/core/LICENSE.md",
22840         "x-copyright": "Copyright 2019 Open Connectivity Foundation, Inc. All rights reserved."
22841     },
22842     "termsOfService": "https://openconnectivityfoundation.github.io/core/DISCLAIMER.md"
22843 },
22844 "schemes": ["http"],
22845 "consumes": ["application/json"],
22846 "produces": ["application/json"],
22847 "paths": {
22848     "/GasUsageResURI?if=oic.if.ll" : {
22849         "get": {
22850             "description": "This Resource describes a cumulative time-based gas usage query.\nThe
22851 Resource is a Collection of:\n  TimePeriod Resource\n  Gas Consumption Resource\nThe Collection has
22852 a single instance of a Link per Resource Type.\n",
22853             "parameters": [
22854                 {"$ref": "#/parameters/interface-all"}
22855             ],
22856             "responses": {
22857                 "200": {
22858                     "description" : "Success path response for the Resource",
22859                     "x-example":
22860                     [
22861                         {
22862                             "href": "/TimeIntervalResURI",
22863                             "rt": ["oic.r.time.period"],
22864                             "if": ["oic.if.a","oic.if.baseline"],
22865                             "eps": [{"ep": "coaps://[fe80::b1d6]:1122"}]
22866                         },
22867                         {
22868                             "href": "/GasConsumptionResURI",
22869                             "rt": ["oic.r.gas.consumption"],
22870                             "if": ["oic.if.s","oic.if.baseline"],
22871                             "eps": [{"ep": "coaps://[fe80::b1d6]:1122"}]
22872                         }
22873                     ],
22874                     "schema": { "$ref": "#/definitions/links" }
22875                 }
22876             }
22877         }
22878     },
22879     "/GasUsageResURI?if=oic.if.baseline" : {
22880         "get": {
22881             "description": "This Resource describes a cumulative time-based gas usage query.\nThe
22882 Resource is a Collection of:\n  TimePeriod Resource\n  Gas Consumption Resource\n",
22883             "parameters": [
22884                 {"$ref": "#/parameters/interface-all"}
22885             ],
22886             "responses": {
22887                 "200": {
22888                     "description" : "Success path response for the Resource",
22889                     "x-example":
22890                     {
22891                         "rt": ["oic.r.gas.usage"],
22892                         "if": ["oic.if.ll","oic.if.b","oic.if.baseline"],
22893                         "resources": [
22894                             {
22895                                 "href": "/TimeIntervalResURI",
22896                                 "rt": ["oic.r.time.period"],
22897                                 "if": ["oic.if.a","oic.if.baseline"],
22898                                 "eps": [{"ep": "coaps://[fe80::b1d6]:1122"}]
22899                             },
22900                             {
22901                                 "href": "/GasConsumptionResURI",
22902                                 "rt": ["oic.r.gas.consumption"],
22903                                 "if": ["oic.if.s","oic.if.baseline"],
22904                                 "eps": [{"ep": "coaps://[fe80::b1d6]:1122"}]
22905                             }
22906                         ]
22907                     },
22908                     "schema": { "$ref": "#/definitions/Usage" }
22909                 }
22910             }
22911         }
22912     }
22913 }

```

```

22911     }
22912   },
22913   "/GasUsageResURI?if=oic.if.b" : {
22914     "get": {
22915       "description": "This Resource describes a cumulative time-based gas usage query.\nThe
22916 Resource is a Collection of:\n TimePeriod Resource\n Gas Consumption Resource\n",
22917       "parameters": [
22918         { "$ref": "#/parameters/interface-all" }
22919       ],
22920       "responses": {
22921         "200": {
22922           "description" : "Success path response for the Resource",
22923           "x-example":
22924             [
22925               {
22926                 "href": "/TimeIntervalResURI",
22927                 "rep": {
22928                   "startTime": "2018-01-09T14:30Z",
22929                   "stopTime": "2018-01-09T14:45Z"
22930                 }
22931               },
22932               {
22933                 "href": "/GasConsumptionResURI",
22934                 "rep": {
22935                   "gas": 11135.41,
22936                   "volume": 1000.0
22937                 }
22938               }
22939             ],
22940           "schema": { "$ref": "#/definitions/batch" }
22941         }
22942       }
22943     },
22944     "post": {
22945       "description": "Sets the current time period. A Client may also post directly to the exposed
22946 URL for the Time Period Resource.\n",
22947       "x-method": [ "optional" ],
22948       "parameters": [
22949         { "$ref": "#/parameters/interface-b" },
22950         {
22951           "name": "body",
22952           "in": "body",
22953           "required": true,
22954           "schema": { "$ref": "#/definitions/batchupdate" },
22955           "x-example":
22956             [
22957               {
22958                 "href": "/TimePeriodResURI",
22959                 "rep": {
22960                   "startTime": "2018-01-15T16:30Z",
22961                   "stopTime": "2018-01-16T16:30Z"
22962                 }
22963               }
22964             ]
22965         }
22966       ],
22967       "responses": {
22968         "200": {
22969           "description" : "Success path response code\n"
22970         }
22971       }
22972     }
22973   },
22974 },
22975 "parameters": {
22976   "interface-all" : {
22977     "in" : "query",
22978     "name" : "if",
22979     "type" : "string",
22980     "enum" : [ "oic.if.ll", "oic.if.b", "oic.if.baseline" ]
22981   },
22982   "interface-b" : {

```



```

22983     "in" : "query",
22984     "name" : "if",
22985     "type" : "string",
22986     "enum" : [ "oic.if.b" ]
22987   }
22988 },
22989 "definitions": {
22990   "links": {
22991     "type": "array",
22992     "items": {
22993       "$ref": "#/definitions/oic.oic-link"
22994     },
22995     "minItems": 2,
22996     "maxItems": 4
22997   },
22998   "oic.oic-link": {
22999     "properties": {
23000       "if": {
23001         "description": "The interface set supported by the Linked Resource",
23002         "items": {
23003           "enum": [
23004             "oic.if.baseline",
23005             "oic.if.a",
23006             "oic.if.s"
23007           ],
23008           "type": "string"
23009         },
23010         "minItems": 1,
23011         "uniqueItems": true,
23012         "readOnly": true,
23013         "type": "array"
23014       },
23015       "rt": {
23016         "description": "Resource Type of the linked Resource",
23017         "items": {
23018           "enum": [
23019             "oic.r.time.period",
23020             "oic.r.gas.consumption",
23021             "oic.r.conversionfactor",
23022             "oic.r.calorificvalue"
23023           ],
23024           "type": "string",
23025           "maxLength": 64
23026         },
23027         "minItems": 1,
23028         "uniqueItems": true,
23029         "readOnly": true,
23030         "type": "array"
23031       },
23032       "anchor": {
23033         "$ref":
23034 "https://openconnectivityfoundation.github.io/core/schemas/oic.links.properties.core-
23035 schema.json#/definitions/anchor"
23036       },
23037       "di": {
23038         "$ref":
23039 "https://openconnectivityfoundation.github.io/core/schemas/oic.links.properties.core-
23040 schema.json#/definitions/di"
23041       },
23042       "eps": {
23043         "$ref":
23044 "https://openconnectivityfoundation.github.io/core/schemas/oic.links.properties.core-
23045 schema.json#/definitions/eps"
23046       },
23047       "href": {
23048         "$ref":
23049 "https://openconnectivityfoundation.github.io/core/schemas/oic.links.properties.core-
23050 schema.json#/definitions/href"
23051       },
23052       "ins": {
23053         "$ref":
23054 "https://openconnectivityfoundation.github.io/core/schemas/oic.links.properties.core-

```

```

23055 schema.json#/definitions/ins"
23056     },
23057     "p": {
23058         "$ref":
23059         "https://openconnectivityfoundation.github.io/core/schemas/oic.links.properties.core-
23060         schema.json#/definitions/p"
23061     },
23062     "rel": {
23063         "$ref":
23064         "https://openconnectivityfoundation.github.io/core/schemas/oic.links.properties.core-
23065         schema.json#/definitions/rel_array"
23066     },
23067     "title": {
23068         "$ref":
23069         "https://openconnectivityfoundation.github.io/core/schemas/oic.links.properties.core-
23070         schema.json#/definitions/title"
23071     },
23072     "type": {
23073         "$ref":
23074         "https://openconnectivityfoundation.github.io/core/schemas/oic.links.properties.core-
23075         schema.json#/definitions/type"
23076     }
23077 },
23078 "required": [
23079     "href",
23080     "rt",
23081     "if"
23082 ],
23083 "type": "object"
23084 },
23085 "batch": {
23086     "title": "Collection Batch Retrieve Format",
23087     "minItems": 2,
23088     "maxItems": 4,
23089     "type": "array",
23090     "items": {
23091         "additionalProperties": true,
23092         "type": "object",
23093         "properties": {
23094             "href": {
23095                 "$ref":
23096                 "https://openconnectivityfoundation.github.io/core/schemas/oic.links.properties.core-
23097                 schema.json#/definitions/href"
23098             },
23099             "rep": {
23100                 "anyOf": [
23101                     {
23102                         "$ref":
23103                         "https://openconnectivityfoundation.github.io/IoTDataModels/TimePeriodResURI.swagger.json#/definitio-
23104                         ns/TimePeriod"
23105                     },
23106                     {
23107                         "$ref":
23108                         "https://openconnectivityfoundation.github.io/IoTDataModels/GasConsumptionResURI.swagger.json#/defin-
23109                         itions/Consumption"
23110                     },
23111                     {
23112                         "$ref":
23113                         "https://openconnectivityfoundation.github.io/IoTDataModels/CalorificValueResURI.swagger.json#/defin-
23114                         itions/Calorific"
23115                     },
23116                     {
23117                         "$ref":
23118                         "https://openconnectivityfoundation.github.io/IoTDataModels/ConversionFactorResURI.swagger.json#/def-
23119                         initions/Conversion"
23120                     }
23121                 ]
23122             }
23123         },
23124         "required": ["href","rep"]
23125     }
23126 },

```

```

23127     "batchupdate" : {
23128         "title": "Collection Batch Update Format",
23129         "minItems": 1,
23130         "type": "array",
23131         "items": {
23132             "additionalProperties": true,
23133             "type": "object",
23134             "properties": {
23135                 "href": {
23136                     "$ref":
23137 "https://openconnectivityfoundation.github.io/core/schemas/oic.links.properties.core-
23138 schema.json#/definitions/href"
23139                 },
23140                 "rep": {
23141                     "$ref":
23142 "https://openconnectivityfoundation.github.io/IoTDataModels/TimePeriodResURI.swagger.json#/definitio
23143 ns/TimePeriod"
23144                 }
23145             }
23146         },
23147     },
23148     "Usage" : {
23149         "properties": {
23150             "rt" : {
23151                 "description": "Resource Type",
23152                 "items": {
23153                     "type": "string",
23154                     "enum": ["oic.r.gas.usage"],
23155                     "maxLength": 64
23156                 },
23157                 "minItems": 1,
23158                 "readOnly": true,
23159                 "uniqueItems": true,
23160                 "type": "array"
23161             },
23162             "rts" : {
23163                 "description": "Allowed Resource Type",
23164                 "items": {
23165                     "type": "string",
23166                     "enum":
23167 ["oic.r.gas.consumption","oic.r.time.period","oic.r.calorificvalue","oic.r.conversionfactor"],
23168                     "maxLength": 64
23169                 },
23170                 "minItems": 2,
23171                 "readOnly": true,
23172                 "uniqueItems": true,
23173                 "type": "array"
23174             },
23175             "rts-m" : {
23176                 "description": "Mandatory Resource Type",
23177                 "items": {
23178                     "type": "string",
23179                     "enum": ["oic.r.gas.consumption","oic.r.time.period"],
23180                     "maxLength": 64
23181                 },
23182                 "minItems": 2,
23183                 "readOnly": true,
23184                 "uniqueItems": true,
23185                 "type": "array"
23186             },
23187             "n" : {
23188                 "$ref" :
23189 "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
23190 schema.json#/definitions/n"
23191             },
23192             "id" : {
23193                 "$ref" :
23194 "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
23195 schema.json#/definitions/id"
23196             },
23197             "resources" : {
23198                 "$ref": "#/definitions/links"

```

```

23199     },
23200     "if" : {
23201       "description": "The interface set supported by this resource",
23202       "items": {
23203         "enum": [
23204           "oic.if.ll",
23205           "oic.if.b",
23206           "oic.if.baseline"
23207         ],
23208         "type": "string",
23209         "maxLength": 64
23210       },
23211       "minItems": 1,
23212       "readOnly": true,
23213       "uniqueItems": true,
23214       "type": "array"
23215     }
23216   },
23217   "type" : "object",
23218   "required": ["resources"]
23219 }
23220 }
23221 }
23222

```

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	

23226 **6.119.6 CRUDN behaviour**

23227 Table 242 defines the CRUDN operations that are supported on the "oic.r.gas.usage" Resource
23228 Type.

23229 **Table 242 – The CRUDN operations of the Resource with type "rt" = "oic.r.gas.usage".**

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

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

23230 **6.120 Impact Sensor**

23231 **6.120.1 Introduction**

23232 This Resource provides a status and properties of an impact sensor. Included is the current status
23233 (boolean), horizontal and vertical direction (in degrees) and impact level (g force).

23234 **6.120.2 Example URI**

23235 /ImpactSensorResURI

23236 **6.120.3 Resource type**

23237 The Resource Type is defined as: "oic.r.impactsensor".

23238 **6.120.4 OpenAPI 2.0 definition**

```

23239 {
23240   "swagger": "2.0",
23241   "info": {
23242     "title": "Impact Sensor",
23243     "version": "12122018",
23244     "license": {
23245       "name": "OCF Data Model License",
23246       "url":
23247         "https://github.com/openconnectivityfoundation/core/blob/e28a9e0a92e17042ba3e83661e4c0fbce8bdc4ba/LI
23248         CENSE.md",
23249       "x-copyright": "copyright 2018-2019 Open Connectivity Foundation, Inc. All rights reserved."
23250     },
23251     "termsOfService": "https://openconnectivityfoundation.github.io/core/DISCLAIMER.md"
23252   },
23253   "schemes": ["http"],
23254   "consumes": ["application/json"],
23255   "produces": ["application/json"],
23256   "paths": {
23257     "/ImpactSensorResURI" : {
23258       "get": {
23259         "description": "This Resource provides a status and properties of an impact sensor. Included
23260         is the current status (boolean), horizontal and vertical direction (in degrees) and impact level (g
23261         force).",
23262         "parameters": [
23263           { "$ref": "#/parameters/interface" }
23264         ],
23265         "responses": {
23266           "200": {
23267             "description": "The success path response for the Resource.",
23268             "x-example":
23269               {
23270                 "rt": ["oic.r.impactsensor"],
23271                 "if": ["oic.if.s", "oic.if.baseline"],
23272                 "impactstatus": true,
23273                 "impactlevel": 2.25,
23274                 "impactdirectionhorizontal": 120.0,
23275                 "impactdirectionvertical": 240.0
23276               },
23277             "schema": { "$ref": "#/definitions/ImpactSensor" }
23278           }
23279         }
23280       }
23281     },
23282     "parameters": {
23283       "interface": {
23284         "in": "query",
23285         "name": "if",
23286         "type": "string",
23287         "enum": ["oic.if.s", "oic.if.baseline"]
23288       }
23289     }

```

```

23290 },
23291 "definitions": {
23292   "ImpactSensor": {
23293     "properties": {
23294       "rt": {
23295         "description": "The Resource Type.",
23296         "items": {
23297           "maxLength": 64,
23298           "type": "string",
23299           "enum": ["oic.r.impactsensor"]
23300         },
23301         "minItems": 1,
23302         "uniqueItems": true,
23303         "readOnly": true,
23304         "type": "array"
23305       },
23306       "impactstatus": {
23307         "type": "boolean",
23308         "readOnly": true,
23309         "description": "The \"impactstatus\" Property indicates the impact as: \"true\" A physical
23310 impact is detected, \"false\" Normal status, an impact is not detected."
23311       },
23312       "impactlevel": {
23313         "type": "number",
23314         "readOnly": true,
23315         "description": "The \"impactlevel\" Property provides the level of impact. The unit is in
23316 \"G\" (G-force)."
23317       },
23318       "impactdirectionhorizontal": {
23319         "type": "number",
23320         "readOnly": true,
23321         "description": "The \"impactdirectionhorizontal\" Property shows a horizontal direction
23322 where the impact comes from. The value is 0 to 360 degrees. 0 is the front of the sensor and
23323 clockwise increment.",
23324         "minimum": 0,
23325         "maximum": 360
23326       },
23327       "impactdirectionvertical": {
23328         "type": "number",
23329         "readOnly": true,
23330         "description": "The \"impactdirectionvertical\" Property shows a vertical direction where
23331 the impact comes from. The value is 0 to 360 degrees. 0 is the front of the sensor and upward
23332 increment.",
23333         "minimum": 0,
23334         "maximum": 360
23335       },
23336       "n": {
23337         "$ref":
23338 "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
23339 schema.json#/definitions/n"
23340       },
23341       "id": {
23342         "$ref":
23343 "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
23344 schema.json#/definitions/id"
23345       },
23346       "if": {
23347         "description": "The OCF Interface set supported by this Resource.",
23348         "items": {
23349           "enum": [
23350             "oic.if.s",
23351             "oic.if.baseline"
23352           ],
23353           "type": "string"
23354         },
23355         "minItems": 2,
23356         "uniqueItems": true,
23357         "readOnly": true,
23358         "type": "array"
23359       }
23360     },
23361     "type": "object",

```

```

23362     "required": [ "impactstatus" ]
23363     }
23364 }
23365 }
23366

```

23367 **6.120.5 Property definition**

23368 Table 243 defines the Properties that are part of the "oic.r.impactsensor" Resource Type.

23369 **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.
--	--	--	--	----------------------------------------------------------------------------------------------------

23370 **6.120.6 CRUDN behaviour**

23371 Table 244 defines the CRUDN operations that are supported on the "oic.r.impactsensor" Resource
23372 Type.

23373 **Table 244 – The CRUDN operations of the Resource with type "rt" = "oic.r.impactsensor".**

Create	Read	Update	Delete	Notify
	get			observe

23374 **6.121 Keypad Character**

23375 **6.121.1 Introduction**

23376 This Resource describes a char (0-9,*,#) which is selected on a number keypad.

23377 **6.121.2 Example URI**

23378 /KeyPadCharResURI

23379 **6.121.3 Resource type**

23380 The Resource Type is defined as: "oic.r.keypadchar".

23381 **6.121.4 OpenAPI 2.0 definition**

```

23382 {
23383   "swagger": "2.0",
23384   "info": {
23385     "title": "KeyPadChar",
23386     "version": "12122018",
23387     "license": {
23388       "name": "OCF Data Model License",
23389       "url":
23390         "https://github.com/openconnectivityfoundation/core/blob/e28a9e0a92e17042ba3e83661e4c0fbce8bdc4ba/LI
23391         CENSE.md",
23392       "x-copyright": "copyright 2018-2019 Open Connectivity Foundation, Inc. All rights reserved."
23393     },
23394     "termsOfService": "https://openconnectivityfoundation.github.io/core/DISCLAIMER.md"
23395   },
23396   "schemes": ["http"],
23397   "consumes": ["application/json"],
23398   "produces": ["application/json"],
23399   "paths": {
23400     "/KeyPadCharResURI" : {
23401       "get": {
23402         "description": "This Resource describes a char (0-9,*,#) which is selected on a number
23403 keypad.",
23404         "parameters": [
23405           {"$ref": "#/parameters/interface"}
23406         ],
23407         "responses": {
23408           "200": {
23409             "description": "Success path response for the Resource",
23410             "x-example":
23411               {
23412                 "rt": ["oic.r.keypadchar"],
23413                 "if": ["oic.if.rw", "oic.if.baseline"],
23414                 "keyvalue": "7"
23415               }

```

```

23416         "schema": { "$ref": "#/definitions/KeyPadChar" }
23417     }
23418 }
23419 },
23420 "post": {
23421     "description": "This Resource describes a char (0-9, *, #) which is selected on a number
23422 keypad.\n",
23423     "parameters": [
23424         { "$ref": "#/parameters/interface" },
23425         {
23426             "name": "body",
23427             "in": "body",
23428             "required": true,
23429             "schema": { "$ref": "#/definitions/KeyPadChar" },
23430             "x-example":
23431                 {
23432                     "keyvalue": "4"
23433                 }
23434         }
23435     ],
23436     "responses": {
23437         "200": {
23438             "description": "",
23439             "x-example":
23440                 {
23441                     "keyvalue": "4"
23442                 },
23443             "schema": { "$ref": "#/definitions/KeyPadChar" }
23444         }
23445     }
23446 }
23447 },
23448 },
23449 "parameters": {
23450     "interface": {
23451         "in": "query",
23452         "name": "if",
23453         "type": "string",
23454         "enum": ["oic.if.rw", "oic.if.baseline"]
23455     }
23456 },
23457 "definitions": {
23458     "KeyPadChar": {
23459         "properties": {
23460             "rt": {
23461                 "description": "The Resource Type.",
23462                 "items": {
23463                     "maxLength": 64,
23464                     "type": "string",
23465                     "enum": ["oic.r.keypadchar"]
23466                 },
23467                 "minItems": 1,
23468                 "uniqueItems": true,
23469                 "readOnly": true,
23470                 "type": "array"
23471             },
23472             "keyvalue": {
23473                 "type": "string",
23474                 "enum": [
23475                     "0",
23476                     "1",
23477                     "2",
23478                     "3",
23479                     "4",
23480                     "5",
23481                     "6",
23482                     "7",
23483                     "8",
23484                     "9",
23485                     "*",
23486                     "#"
23487                 ]

```

```

23488         "description": "The value of the key pad char."
23489     },
23490     "n": {
23491         "$ref":
23492         "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
23493         schema.json#/definitions/n"
23494     },
23495     "id": {
23496         "$ref":
23497         "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
23498         schema.json#/definitions/id"
23499     },
23500     "if": {
23501         "description": "The OCF Interface set supported by this Resource.",
23502         "items": {
23503             "enum": [
23504                 "oic.if.baseline",
23505                 "oic.if.rw"
23506             ],
23507             "type": "string"
23508         },
23509         "minItems": 2,
23510         "uniqueItems": true,
23511         "readOnly": true,
23512         "type": "array"
23513     }
23514 },
23515 "type": "object",
23516 "required": ["keyvalue"]
23517 }
23518 }
23519 }

```

23520 **6.121.5 Property definition**

23521 Table 245 defines the Properties that are part of the "oic.r.keypadchar" Resource Type.

23522 **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.

23523 **6.121.6 CRUDN behaviour**

23524 Table 246 defines the CRUDN operations that are supported on the "oic.r.keypadchar" Resource
23525 Type.

23526 **Table 246 – The CRUDN operations of the Resource with type "rt" = "oic.r.keypadchar".**

Create	Read	Update	Delete	Notify
	get	post		observe

23527 **6.122 Opaque Data**

23528 **6.122.1 Introduction**

23529 This Resource defines opaque data that can be transferred between endpoints where the data itself
 23530 is not interpretable by the OCF endpoints.
 23531 The stringdata is a string of ASCII characters.

23532 **6.122.2 Example URI**

23533 /OpaqueDataResURI

23534 **6.122.3 Resource type**

23535 The Resource Type is defined as: "oic.r.opaquedata".

23536 **6.122.4 OpenAPI 2.0 definition**

```

23537 {
23538   "swagger": "2.0",
23539   "info": {
23540     "title": "Opaque Data",
23541     "version": "12122018",
23542     "license": {
23543       "name": "OCF Data Model License",
23544       "url":
23545         "https://github.com/openconnectivityfoundation/core/blob/e28a9e0a92e17042ba3e83661e4c0fbce8bdc4ba/LI
23546         CENSE.md",
23547       "x-copyright": "copyright 2018-2019 Open Connectivity Foundation, Inc. All rights reserved."
23548     },
23549     "termsOfService": "https://openconnectivityfoundation.github.io/core/DISCLAIMER.md"
23550   },
23551   "schemes": ["http"],
23552   "consumes": ["application/json"],
23553   "produces": ["application/json"],
23554   "paths": {
23555     "/OpaqueDataResURI" : {
23556       "get": {
23557         "description": "This Resource defines opaque data that can be transferred between endpoints
23558         where the data itself is not interpretable by the OCF endpoints.\n\nThe stringdata is a string of
23559         ASCII characters.",
23560         "parameters": [
23561           { "$ref": "#/parameters/interface" }
23562         ],
23563         "responses": {
23564           "200": {
23565             "description": "",
23566             "x-example":
23567               {
23568                 "rt": ["oic.r.opaquedata"],
23569                 "if": ["oic.if.rw", "oic.if.baseline"],
23570                 "payload": "asdf0123",
23571                 "payloadtype": "switch-get",
23572                 "encoding": "base64",
23573                 "size": 8,
23574                 "hash": "AlAl",
23575                 "system": "foreign system"
23576               },
23577             "schema": { "$ref": "#/definitions/OpaqueData" }
23578           }
23579         }
23580       },
23581       "post": {

```

```

23582     "description": "",
23583     "parameters": [
23584       { "$ref": "#/parameters/interface" },
23585       {
23586         "name": "body",
23587         "in": "body",
23588         "required": true,
23589         "schema": { "$ref": "#/definitions/OpaqueData" },
23590         "x-example":
23591           {
23592             "payload": "asdf0123",
23593             "payloadtype": "switch-get",
23594             "encoding": "base64",
23595             "size": 8,
23596             "hash": "AlAl",
23597             "system": "foreign system"
23598           }
23599       }
23600     ],
23601     "responses": {
23602       "200": {
23603         "description": "",
23604         "x-example":
23605           {
23606             "payload": "asdf0123",
23607             "payloadtype": "switch-get",
23608             "encoding": "base64",
23609             "size": 8,
23610             "hash": "AlAl",
23611             "system": "foreign system"
23612           },
23613         "schema": { "$ref": "#/definitions/OpaqueData" }
23614       }
23615     }
23616   }
23617 },
23618 "parameters": {
23619   "interface": {
23620     "in": "query",
23621     "name": "if",
23622     "type": "string",
23623     "enum": ["oic.if.rw", "oic.if.baseline"]
23624   }
23625 },
23626 "definitions": {
23627   "OpaqueData": {
23628     "properties": {
23629       "rt": {
23630         "description": "The Resource Type.",
23631         "items": {
23632           "maxLength": 64,
23633           "type": "string",
23634           "enum": ["oic.r.opaquedata"]
23635         },
23636         "minItems": 1,
23637         "uniqueItems": true,
23638         "readOnly": true,
23639         "type": "array"
23640       },
23641       "payload": {
23642         "type": "string",
23643         "description": "This Property contains the opaque data."
23644       },
23645       "encoding": {
23646         "type": "string",
23647         "description": "This Property describes the encoding of the payload, e.g. binary as
23648 base64, json, xml, utf-8."
23649       },
23650       "payloadtype": {
23651         "type": "string",
23652         "description": "This Property describes the identification of the payload, e.g. what the
23653

```

```

23654 payload is representing ."
23655     },
23656     "size": {
23657       "type": "integer",
23658       "description": "The size in bytes of the decoded binary object."
23659     },
23660     "hash": {
23661       "type": "string",
23662       "description": "The hash code of the blob. If present, it is used to check the decoded
23663 content of the object data point for integrity. The algorithm used for generating the hash value is
23664 SHA-2 [15]. The data point contains the hash as a hex encoded value."
23665     },
23666     "system": {
23667       "type": "string",
23668       "description": "The eco system that is using the payload."
23669     },
23670     "if": {
23671       "description": "The OCF Interface set supported by this Resource.",
23672       "items": {
23673         "enum": [
23674           "oic.if.baseline",
23675           "oic.if.rw"
23676         ],
23677         "type": "string"
23678       },
23679       "minItems": 2,
23680       "uniqueItems": true,
23681       "readOnly": true,
23682       "type": "array"
23683     }
23684   },
23685   "type": "object",
23686   "required": [ "payload", "encoding", "system" ]
23687 }
23688 }
23689 }

```

23690 **6.122.5 Property definition**

23691 Table 247 defines the Properties that are part of the "oic.r.opaquedata" Resource Type.

23692 **Table 247 – The Property definitions of the Resource with type "rt" = "oic.r.opaquedata".**

Property name	Value type	Mandatory	Access mode	Description
size	integer	No	Read Write	The size in bytes of the decoded binary object.
system	string	Yes	Read Write	The eco system that is using the payload.
if	array: see schema	No	Read Only	The OCF Interface set supported by this Resource.
hash	string	No	Read Write	The hash code of the blob. If present, it is used to check the decoded content of the object data

				point for integrity. The algorithm used for generating the hash value is SHA-2 [15]. The data point contains the hash as a hex encoded value.
payload	string	Yes	Read Write	This Property contains the opaque data.
encoding	string	Yes	Read Write	This Property describes the encoding of the payload, e.g. binary as base64, json, xml, utf-8.
payloadtype	string	No	Read Write	This Property describes the identification of the payload, e.g. what the payload is representing .
rt	array: see schema	No	Read Only	The Resource Type.

23693 **6.122.6 CRUDN behaviour**

23694 Table 248 defines the CRUDN operations that are supported on the "oic.r.opaquedata" Resource
23695 Type.

23696 **Table 248 – The CRUDN operations of the Resource with type "rt" = "oic.r.opaquedata".**

Create	Read	Update	Delete	Notify
	get	post		observe

23697 **6.123 User Info for Application Layer**

23698 **6.123.1 Introduction**

23699 This Resource defines credentials for user to application layer login. This does not relate to OCF
23700 Device to Device or Device to Cloud authentication. The username, password and token are strings.

23701 **6.123.2 Example URI**

23702 /UserInfoResURI

23703 **6.123.3 Resource type**

23704 The Resource Type is defined as: "oic.r.userinfo".

23705 **6.123.4 OpenAPI 2.0 definition**

```
23706 {
23707   "swagger": "2.0",
23708   "info": {
23709     "title": "User Info for Application Layer",
23710     "version": "12122018",
23711     "license": {
23712       "name": "OCF Data Model License",
23713       "url":
23714         "https://github.com/openconnectivityfoundation/core/blob/e28a9e0a92e17042ba3e83661e4c0fbce8bdc4ba/LI
23715         CENSE.md",
23716       "x-copyright": "copyright 2018-2019 Open Connectivity Foundation, Inc. All rights reserved."
23717     },
23718     "termsOfService": "https://openconnectivityfoundation.github.io/core/DISCLAIMER.md"
23719   },
23720   "schemes": ["http"],
23721   "consumes": ["application/json"],
23722   "produces": ["application/json"],
23723   "paths": {
23724     "/UserInfoResURI" : {
23725       "get": {
23726         "description": "This Resource defines credentials for user to application layer login. This
23727         does not relate to OCF Device to Device or Device to Cloud authentication. The username, password
23728         and token are strings.",
23729         "parameters": [
23730           { "$ref": "#/parameters/interface" }
23731         ],
23732         "responses": {
23733           "200": {
23734             "description": "Success path response for the Resource, note that the info supplied
23735             is NOT returned on RETRIEVE",
23736             "x-example":
23737               {
23738                 "rt": ["oic.r.userinfo"],
23739                 "if": ["oic.if.rw", "oic.if.baseline"]
23740               },
23741             "schema": { "$ref": "#/definitions/UserInfo-retrieve" }
23742           }
23743         }
23744       },
23745       "post": {
23746         "description": "This Resource defines credentials for user to application layer login. This
23747         does not relate to OCF Device to Device or Device to Cloud authentication. The username, password
23748         and token are strings.",
23749         "parameters": [
23750           { "$ref": "#/parameters/interface" },
23751           {
23752             "name": "body",
23753             "in": "body",
23754             "required": true,
23755             "schema": { "$ref": "#/definitions/UserInfo-update" },
23756             "x-example":
23757               {
23758                 "username": "username",
23759                 "password": "password",
23760                 "token": "AlA1"
23761               }
23762           }
23763         ],
23764         "responses": {
23765           "200": {
23766             "description": "The success path response for the Resource.",
23767             "x-example":
23768               {
23769                 "username": "username",
23770                 "password": "password",
23771                 "token": "AlA1"

```



```

23772         },
23773         "schema": { "$ref": "#/definitions/UserInfo-update" }
23774     }
23775 }
23776 }
23777 }
23778 },
23779 "parameters": {
23780     "interface" : {
23781         "in": "query",
23782         "name": "if",
23783         "type": "string",
23784         "enum": ["oic.if.rw", "oic.if.baseline"]
23785     }
23786 },
23787 "definitions": {
23788     "UserInfo-retrieve": {
23789         "properties": {
23790             "rt": {
23791                 "description": "The Resource Type.",
23792                 "items": {
23793                     "maxLength": 64,
23794                     "type": "string",
23795                     "enum": ["oic.r.userinfo"]
23796                 },
23797                 "minItems": 1,
23798                 "uniqueItems": true,
23799                 "readOnly": true,
23800                 "type": "array"
23801             },
23802             "n": {
23803                 "$ref":
23804                 "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
23805                 schema.json#/definitions/n"
23806             },
23807             "id": {
23808                 "$ref":
23809                 "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
23810                 schema.json#/definitions/id"
23811             },
23812             "if": {
23813                 "description": "The OCF Interface set supported by this Resource.",
23814                 "items": {
23815                     "enum": [
23816                         "oic.if.rw",
23817                         "oic.if.baseline"
23818                     ],
23819                     "type": "string"
23820                 },
23821                 "minItems": 2,
23822                 "uniqueItems": true,
23823                 "readOnly": true,
23824                 "type": "array"
23825             }
23826         },
23827         "type": "object",
23828         "required": [ ]
23829     },
23830     "UserInfo-update": {
23831         "properties": {
23832             "username": {
23833                 "type": "string",
23834                 "description": "Login name."
23835             },
23836             "password": {
23837                 "type": "string",
23838                 "description": "Login password."
23839             },
23840             "token": {
23841                 "type": "string",
23842                 "description": "Authentication token."
23843             }

```

```

23844     },
23845     "type": "object",
23846     "required": [ ]
23847   }
23848 }
23849 }
23850

```

6.123.5 Property definition

Table 249 defines the Properties that are part of the "oic.r.userinfo" Resource Type.

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.

6.123.6 CRUDN behaviour

Table 250 defines the CRUDN operations that are supported on the "oic.r.userinfo" Resource Type.

Table 250 – The CRUDN operations of the Resource with type "rt" = "oic.r.userinfo".

Create	Read	Update	Delete	Notify
	get	post		observe