

# OCF Resource to OneM2M Module Class Mapping Specification

VERSION 2.1.0 | November 2019



**OPEN** CONNECTIVITY  
FOUNDATION™

CONTACT [admin@openconnectivity.org](mailto:admin@openconnectivity.org)

Copyright Open Connectivity Foundation, Inc. © 2019.  
All Rights Reserved.

3 Legal Disclaimer

4

5 NOTHING CONTAINED IN THIS DOCUMENT SHALL BE DEEMED AS GRANTING YOU ANY  
6 KIND OF LICENSE IN ITS CONTENT, EITHER EXPRESSLY OR IMPLIEDLY, OR TO ANY  
7 INTELLECTUAL PROPERTY OWNED OR CONTROLLED BY ANY OF THE AUTHORS OR  
8 DEVELOPERS OF THIS DOCUMENT. THE INFORMATION CONTAINED HEREIN IS PROVIDED  
9 ON AN "AS IS" BASIS, AND TO THE MAXIMUM EXTENT PERMITTED BY APPLICABLE LAW,  
10 THE AUTHORS AND DEVELOPERS OF THIS SPECIFICATION HEREBY DISCLAIM ALL OTHER  
11 WARRANTIES AND CONDITIONS, EITHER EXPRESS OR IMPLIED, STATUTORY OR AT  
12 COMMON LAW, INCLUDING, BUT NOT LIMITED TO, IMPLIED WARRANTIES OF  
13 MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE. OPEN CONNECTIVITY  
14 FOUNDATION, INC. FURTHER DISCLAIMS ANY AND ALL WARRANTIES OF NON-  
15 INFRINGEMENT, ACCURACY OR LACK OF VIRUSES.

16 The OCF logo is a trademark of Open Connectivity Foundation, Inc. in the United States or other  
17 countries. \*Other names and brands may be claimed as the property of others.

18 Copyright © 2019 Open Connectivity Foundation, Inc. All rights reserved.

19 Copying or other form of reproduction and/or distribution of these works are strictly prohibited.

20

## CONTENTS

22	1	Scope .....	1
23	2	Normative references .....	1
24	3	Terms and definitions .....	1
25	3.1	Terms and definitions .....	1
26	4	Document conventions and organization .....	2
27	4.1	Conventions .....	2
28	4.2	Notation.....	2
29	5	Theory of Operation .....	3
30	5.1	Interworking Approach.....	3
31	5.2	Mapping Syntax.....	3
32	5.2.1	Introduction .....	3
33	5.2.2	General.....	3
34	5.2.3	Value Assignment .....	3
35	5.2.4	Property Naming .....	3
36	5.2.5	Arrays .....	3
37	5.2.6	Conditional Mapping.....	3
38	6	oneM2M Translation.....	3
39	6.1	Operational Scenarios .....	3
40	6.2	Enabling oneM2M Application access to OCF Servers.....	4
41	6.3	Enabling OCF Client access to oneM2M Devices.....	4
42	6.4	On-the-fly Translation.....	4
43	7	Device Type Mapping.....	4
44	7.1	Introduction .....	4
45	7.2	oneM2M Device Types to OCF Device Types .....	4
46	8	Resource to oneM2M Module Class Equivalence .....	6
47	8.1	Introduction .....	6
48	8.2	oneM2M Module Classes to OCF Resources .....	6
49	9	Detailed Mapping APIs.....	9
50	9.1	Introduction .....	9
51	9.2	3D Printer.....	9
52	9.2.1	Derived model.....	9
53	9.2.2	Property definition .....	9
54	9.2.3	Derived model definition.....	10
55	9.3	Acoustic Sensor .....	11
56	9.3.1	Derived model.....	11
57	9.3.2	Property definition .....	11
58	9.3.3	Derived model definition.....	12
59	9.4	AirCon Job Mode.....	13
60	9.4.1	Derived model.....	13
61	9.4.2	Property definition .....	13
62	9.4.3	Derived model definition.....	15
63	9.5	Airflow.....	17

64	9.5.1	Derived model .....	17
65	9.5.2	Property definition .....	17
66	9.5.3	Derived model definition .....	19
67	9.6	Air Purifier Job Mode .....	21
68	9.6.1	Derived model .....	21
69	9.6.2	Property definition .....	21
70	9.6.3	Derived model definition .....	23
71	9.7	Air Quality Sensor .....	24
72	9.7.1	Derived model .....	24
73	9.7.2	Property definition .....	24
74	9.7.3	Derived model definition .....	27
75	9.8	Alarm Speaker .....	29
76	9.8.1	Derived model .....	29
77	9.8.2	Property definition .....	30
78	9.8.3	Derived model definition .....	30
79	9.9	Audio Volume .....	31
80	9.9.1	Derived model .....	31
81	9.9.2	Property definition .....	31
82	9.9.3	Derived model definition .....	32
83	9.10	Auto Document Feeder .....	33
84	9.10.1	Derived model .....	33
85	9.10.2	Property definition .....	33
86	9.10.3	Derived model definition .....	34
87	9.11	Battery .....	35
88	9.11.1	Derived model .....	35
89	9.11.2	Property definition .....	35
90	9.11.3	Derived model definition .....	37
91	9.12	Binary Object .....	39
92	9.12.1	Derived model .....	39
93	9.12.2	Property definition .....	39
94	9.12.3	Derived model definition .....	40
95	9.13	Binary Switch .....	41
96	9.13.1	Derived model .....	41
97	9.13.2	Property definition .....	41
98	9.13.3	Derived model definition .....	42
99	9.14	Boiler .....	42
100	9.14.1	Derived model .....	42
101	9.14.2	Property definition .....	42
102	9.14.3	Derived model definition .....	43
103	9.15	Brewing .....	43
104	9.15.1	Derived model .....	43
105	9.15.2	Property definition .....	43
106	9.15.3	Derived model definition .....	44
107	9.16	Brightness .....	45

108	9.16.1	Derived model .....	45
109	9.16.2	Property definition .....	45
110	9.16.3	Derived model definition .....	45
111	9.17	Clock .....	46
112	9.17.1	Derived model .....	46
113	9.17.2	Property definition .....	46
114	9.17.3	Derived model definition .....	47
115	9.18	Clothes Dryer Job Mode .....	48
116	9.18.1	Derived model .....	48
117	9.18.2	Property definition .....	48
118	9.18.3	Derived model definition .....	50
119	9.19	Colour .....	52
120	9.19.1	Derived model .....	52
121	9.19.2	Property definition .....	52
122	9.19.3	Derived model definition .....	52
123	9.20	Colour Saturation .....	53
124	9.20.1	Derived model .....	53
125	9.20.2	Property definition .....	53
126	9.20.3	Derived model definition .....	54
127	9.21	Credentials .....	54
128	9.21.1	Derived model .....	54
129	9.21.2	Property definition .....	54
130	9.21.3	Derived model definition .....	55
131	9.22	Dehumidifer Job Mode .....	56
132	9.22.1	Derived model .....	56
133	9.22.2	Property definition .....	56
134	9.22.3	Derived model definition .....	58
135	9.23	Door Status .....	59
136	9.23.1	Derived model .....	59
137	9.23.2	Property definition .....	59
138	9.23.3	Derived model definition .....	60
139	9.24	Electric Vehicle Connector .....	61
140	9.24.1	Derived model .....	61
141	9.24.2	Property definition .....	61
142	9.24.3	Derived model definition .....	62
143	9.25	Energy Consumption .....	63
144	9.25.1	Derived model .....	63
145	9.25.2	Property definition .....	63
146	9.25.3	Derived model definition .....	65
147	9.26	Energy Generation .....	66
148	9.26.1	Derived model .....	66
149	9.26.2	Property definition .....	66
150	9.26.3	Derived model definition .....	68
151	9.27	Filter Info .....	69

152	9.27.1	Derived model .....	69
153	9.27.2	Property definition .....	69
154	9.27.3	Derived model definition .....	69
155	9.28	Foaming .....	70
156	9.28.1	Derived model .....	70
157	9.28.2	Property definition .....	70
158	9.28.3	Derived model definition .....	71
159	9.29	Grinder .....	71
160	9.29.1	Derived model .....	71
161	9.29.2	Property definition .....	71
162	9.29.3	Derived model definition .....	72
163	9.30	Heating Zone .....	73
164	9.30.1	Derived model .....	73
165	9.30.2	Property definition .....	73
166	9.30.3	Derived model definition .....	74
167	9.31	Height .....	75
168	9.31.1	Derived model .....	75
169	9.31.2	Property definition .....	75
170	9.31.3	Derived model definition .....	75
171	9.32	Hot Water Supply .....	76
172	9.32.1	Derived model .....	76
173	9.32.2	Property definition .....	76
174	9.32.3	Derived model definition .....	77
175	9.33	Impact Sensor .....	78
176	9.33.1	Derived model .....	78
177	9.33.2	Property definition .....	78
178	9.33.3	Derived model definition .....	79
179	9.34	Keep Warm .....	80
180	9.34.1	Derived model .....	80
181	9.34.2	Property definition .....	80
182	9.34.3	Derived model definition .....	81
183	9.35	Keypad .....	81
184	9.35.1	Derived model .....	81
185	9.35.2	Property definition .....	81
186	9.35.3	Derived model definition .....	82
187	9.36	Liquid Level .....	83
188	9.36.1	Derived model .....	83
189	9.36.2	Property definition .....	83
190	9.36.3	Derived model definition .....	83
191	9.37	Liquid Remaining .....	84
192	9.37.1	Derived model .....	84
193	9.37.2	Property definition .....	84
194	9.37.3	Derived model definition .....	85
195	9.38	Lock .....	85

196	9.38.1	Derived model .....	85
197	9.38.2	Property definition .....	85
198	9.38.3	Derived model definition .....	86
199	9.39	Motion Sensor .....	86
200	9.39.1	Derived model .....	86
201	9.39.2	Property definition .....	86
202	9.39.3	Derived model definition .....	87
203	9.40	Open Level .....	88
204	9.40.1	Derived model .....	88
205	9.40.2	Property definition .....	88
206	9.40.3	Derived model definition .....	89
207	9.41	Operation Mode .....	90
208	9.41.1	Derived model .....	90
209	9.41.2	Property definition .....	90
210	9.41.3	Derived model definition .....	91
211	9.42	Overcurrent Sensor .....	91
212	9.42.1	Derived model .....	91
213	9.42.2	Property definition .....	91
214	9.42.3	Derived model definition .....	92
215	9.43	Power Save .....	93
216	9.43.1	Derived model .....	93
217	9.43.2	Property definition .....	93
218	9.43.3	Derived model definition .....	94
219	9.44	Print Queue .....	94
220	9.44.1	Derived model .....	94
221	9.44.2	Property definition .....	94
222	9.44.3	Derived model definition .....	95
223	9.45	Push Button .....	96
224	9.45.1	Derived model .....	96
225	9.45.2	Property definition .....	96
226	9.45.3	Derived model definition .....	96
227	9.46	Refrigeration .....	97
228	9.46.1	Derived model .....	97
229	9.46.2	Property definition .....	97
230	9.46.3	Derived model definition .....	98
231	9.47	Relative Humidity .....	99
232	9.47.1	Derived model .....	99
233	9.47.2	Property definition .....	99
234	9.47.3	Derived model definition .....	99
235	9.48	Robot Cleaner Job Mode .....	100
236	9.48.1	Derived model .....	100
237	9.48.2	Property definition .....	100
238	9.48.3	Derived model definition .....	101
239	9.49	Steam Closet Job Mode .....	103

240	9.49.1	Derived model .....	103
241	9.49.2	Property definition .....	103
242	9.49.3	Derived model definition .....	104
243	9.50	Temperature .....	106
244	9.50.1	Derived model .....	106
245	9.50.2	Property definition .....	106
246	9.50.3	Derived model definition .....	107
247	9.51	UV Sensor .....	109
248	9.51.1	Derived model .....	109
249	9.51.2	Property definition .....	109
250	9.51.3	Derived model definition .....	110
251	9.52	Water Sensor .....	111
252	9.52.1	Derived model .....	111
253	9.52.2	Property definition .....	111
254	9.52.3	Derived model definition .....	111
255	9.53	Weight .....	112
256	9.53.1	Derived model .....	112
257	9.53.2	Property definition .....	112
258	9.53.3	Derived model definition .....	112
259			
260			



261

## Figures

262

**No table of figures entries found.**

## Tables

264	Table 1 – oneM2M Device Type to OCF Device Type Mapping .....	4
265	Table 2 – oneM2M Module Classes to OCF Resource Type Mapping .....	6
266	Table 3 – The property mapping for "onem2m.3Dprinter".....	9
267	Table 4 – The properties of "onem2m.3Dprinter". .....	10
268	Table 5 – The property mapping for "onem2m.acousticsensor".....	12
269	Table 6 – The properties of "onem2m.acousticsensor".....	12
270	Table 7 – The property mapping for "onem2m.airconjobmode". .....	13
271	Table 8 – The properties of "onem2m.airconjobmode". .....	15
272	Table 9 – The property mapping for "onem2m.airflow".....	17
273	Table 10 – The properties of "onem2m.airflow".....	18
274	Table 11 – The property mapping for "onem2m.airpurifierjobmode". .....	21
275	Table 12 – The properties of "onem2m.airpurifierjobmode".....	22
276	Table 13 – The property mapping for "onem2m.airqualitysensor".....	24
277	Table 14 – The properties of "onem2m.airqualitysensor". .....	26
278	Table 15 – The property mapping for "onem2m.alarmspeaker". .....	30
279	Table 16 – The properties of "onem2m.alarmspeaker".....	30
280	Table 17 – The property mapping for "onem2m.audioVolume". .....	31
281	Table 18 – The properties of "onem2m.audioVolume".....	32
282	Table 19 – The property mapping for "onem2m.autodocumentfeeder". .....	33
283	Table 20 – The properties of "onem2m.m.autodocumentfeeder". .....	34
284	Table 21 – The property mapping for "onem2m.m.battery".....	35
285	Table 22 – The properties of "onem2m.m.battery". .....	36
286	Table 23 – The property mapping for "onem2m.m.binaryobject". .....	39
287	Table 24 – The properties of "onem2m.m.binaryobject". .....	40
288	Table 25 – The property mapping for "onem2m.m.binaryswitch". .....	41
289	Table 26 – The properties of "onem2m.m.binaryswitch. ....	42
290	Table 27 – The property mapping for "onem2m.m.boiler".....	42
291	Table 28 – The properties of "onem2m.m.boiler". .....	43
292	Table 29 – The property mapping for "onem2m.m.brewing". .....	43
293	Table 30 – The properties of "onem2m.m.brewing".....	44
294	Table 31 – The property mapping for "onem2m.m.brightness". .....	45
295	Table 32 – The properties of "onem2m.m.brightness".....	45
296	Table 33 – The property mapping for "onem2m.m.clock". .....	46
297	Table 34 – The properties of "onem2m.m.clock". .....	47
298	Table 35 – The property mapping for "onem2m.m.clothesdryerjobmode". .....	48
299	Table 36 – The properties of "onem2m.m.clothesdryerjobmode".....	50
300	Table 37 – The property mapping for "onem2m.m.colour".....	52
301	Table 38 – The properties of "onem2m.m.colour". .....	52

302	Table 39 – The property mapping for "onem2m.m.coloursaturation".	53
303	Table 40 – The properties of "onem2m.m.coloursaturation".	54
304	Table 41 – The property mapping for "onem2m.m.credentials".	55
305	Table 42 – The properties of "onem2m.m.credentials".	55
306	Table 43 – The property mapping for "onem2m.m.dehumidiiferjobmode".	56
307	Table 44 – The properties of "onem2m.m.dehumidiiferjobmode".	57
308	Table 45 – The property mapping for "onem2m.m.doorStatus".	59
309	Table 46 – The properties of "onem2m.m.doorStatus".	60
310	Table 47 – The property mapping for "onem2m.m.electricvehicleconnector".	61
311	Table 48 – The properties of "onem2m.m.electricvehicleconnector".	62
312	Table 49 – The property mapping for "onem2m.m.energyconsumption".	63
313	Table 50 – The properties of "onem2m.m.energyconsumption".	64
314	Table 51 – The property mapping for "onem2m.m.energygeneration".	67
315	Table 52 – The properties of "onem2m.m.energygeneration".	67
316	Table 53 – The property mapping for "onem2m.m.filterinfo".	69
317	Table 54 – The properties of "onem2m.m.filterinfo".	69
318	Table 55 – The property mapping for "onem2m.m.foaming".	70
319	Table 56 – The properties of "onem2m.m.foaming".	71
320	Table 57 – The property mapping for "onem2m.m.grinder".	72
321	Table 58 – The properties of "onem2m.m.grinder".	72
322	Table 59 – The property mapping for "onem2m.m.heatingzone".	73
323	Table 60 – The properties of "onem2m.m.heatingzone".	74
324	Table 61 – The property mapping for "onem2m.m.height".	75
325	Table 62 – The properties of "onem2m.m.height".	75
326	Table 63 – The property mapping for "onem2m.m.hotwatersupply".	76
327	Table 64 – The properties of "onem2m.m.hotwatersupply".	77
328	Table 65 – The property mapping for "onem2m.m.impactsensor".	78
329	Table 66 – The properties of "onem2m.m.impactsensor".	78
330	Table 67 – The property mapping for "onem2m.m.keepwarm".	80
331	Table 68 – The properties of "onem2m.m.keepwarm".	80
332	Table 69 – The property mapping for "onem2m.m.keypad".	81
333	Table 70 – The properties of "onem2m.m.keypad".	82
334	Table 71 – The property mapping for "onem2m.m.liquidlevel".	83
335	Table 72 – The properties of "onem2m.m.liquidlevel".	83
336	Table 73 – The property mapping for "onem2m.m.liquidremaining".	84
337	Table 74 – The properties of "onem2m.m.liquidremaining".	84
338	Table 75 – The property mapping for "onem2m.m.lock".	85
339	Table 76 – The properties of "onem2m.m.lock".	86
340	Table 77 – The property mapping for "onem2m.m.motionSensor".	86

341	Table 78 – The properties of "onem2m.m.motionSensor" .....	87
342	Table 79 – The property mapping for "onem2m.m.openlevel". .....	88
343	Table 80 – The properties of "onem2m.m.openlevel". .....	89
344	Table 81 – The property mapping for "onem2m.m.operationmode". .....	90
345	Table 82 – The properties of "onem2m.m.operationmode" .....	91
346	Table 83 – The property mapping for "onem2m.m.overcurrentsensor". .....	91
347	Table 84 – The properties of "onem2m.m.overcurrentsensor". .....	92
348	Table 85 – The property mapping for "onem2m.m.powersave".....	93
349	Table 86 – The properties of "onem2m.m.powersave". .....	93
350	Table 87 – The property mapping for "onem2m.m.printqueue". .....	94
351	Table 88 – The properties of "onem2m.m.printqueue". .....	95
352	Table 89 – The property mapping for "onem2m.m.pushbutton". .....	96
353	Table 90 – The properties of "onem2m.m.pushbutton" .....	96
354	Table 91 – The property mapping for "onem2m.m.refrigeration" .....	97
355	Table 92 – The properties of "onem2m.m.refrigeration". .....	97
356	Table 93 – The property mapping for "onem2m.m.relativeHumidity". .....	99
357	Table 94 – The properties of "onem2m.m.relativeHumidity". .....	99
358	Table 95 – The property mapping for "onem2m.m.robotcleanerjobmode".....	100
359	Table 96 – The properties of "onem2m.m.robotcleanerjobmode". .....	101
360	Table 97 – The property mapping for "onem2m.m.steamclosetjobmode".....	103
361	Table 98 – The properties of "onem2m.m.steamclosetjobmode". .....	104
362	Table 99 – The property mapping for "onem2m.m.temperature".....	106
363	Table 100 – The properties of "onem2m.m.temperature". .....	107
364	Table 101 – The property mapping for "onem2m.m.uvsensor". .....	109
365	Table 102 – The properties of "onem2m.m.uvsensor". .....	110
366	Table 103 – The property mapping for "onem2m.m.watersensor".....	111
367	Table 104 – The properties of "onem2m.m.watersensor". .....	111
368	Table 105 – The property mapping for "onem2m.m.weight". .....	112
369	Table 106 – The properties of "onem2m.m.weight". .....	112
370		

## 371 **1 Scope**

372 This document provides detailed mapping information to provide equivalency between oneM2M  
373 defined Module Classes and OCF defined Resources.

374 A oneM2M Bridge is Asymmetric Client Bridge, therefore this document provides unidirectional  
375 mapping for Device Types (oneM2M Devices to OCF Devices), identifies equivalent OCF  
376 Resources for specific oneM2M Module Classes, and defines the detailed Property by Property  
377 mapping using OCF defined extensions to JSON schema to programmatically define the mappings.

## 378 **2 Normative references**

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

383 ISO/IEC 30118-1:2018 Information technology -- Open Connectivity Foundation (OCF)  
384 Specification -- Part 1: Core specification  
385 <https://www.iso.org/standard/53238.html>  
386 Latest version available at: [https://openconnectivity.org/specs/OCF\\_Core\\_Specification.pdf](https://openconnectivity.org/specs/OCF_Core_Specification.pdf)

387 ISO/IEC 30118-2:2019, Information technology – Open Connectivity Foundation (OCF)  
388 Specification – Part 2: Security specification  
389 <https://www.iso.org/standard/74239.html>  
390 Latest version available at: [https://openconnectivity.org/specs/OCF\\_Security\\_Specification.pdf](https://openconnectivity.org/specs/OCF_Security_Specification.pdf)

391 ISO/IEC 30118-3:2019, Information technology – Open Connectivity Foundation (OCF)  
392 Specification – Part 3: Bridging specification  
393 <https://www.iso.org/standard/74240.html>  
394 Latest version available at: [https://openconnectivity.org/specs/OCF\\_Bridging\\_Specification.pdf](https://openconnectivity.org/specs/OCF_Bridging_Specification.pdf)

395 ISO/IEC 30118-4:2019, Information technology – Open Connectivity Foundation (OCF)  
396 Specification – Part 4: Resource type specification  
397 <https://www.iso.org/standard/74241.html>  
398 Latest version available at:  
399 [https://openconnectivity.org/specs/OCF\\_Resource\\_Type\\_Specification.pdf](https://openconnectivity.org/specs/OCF_Resource_Type_Specification.pdf)

400 ISO/IEC 30118-5:2019, Information technology – Open Connectivity Foundation (OCF)  
401 Specification – Part 5: Smart home device specification  
402 <https://www.iso.org/standard/74242.html>  
403 Latest version available at: [https://openconnectivity.org/specs/OCF\\_Device\\_Specification.pdf](https://openconnectivity.org/specs/OCF_Device_Specification.pdf)

404 Derived Models for Interoperability between IoT Ecosystems, Stevens & Merriam, March 2016  
405 [https://www.iab.org/wp-content/IAB-uploads/2016/03/OCF-Derived-Models-for-Interoperability-](https://www.iab.org/wp-content/IAB-uploads/2016/03/OCF-Derived-Models-for-Interoperability-Between-IoT-Ecosystems_v2-examples.pdf)  
406 [Between-IoT-Ecosystems\\_v2-examples.pdf](https://www.iab.org/wp-content/IAB-uploads/2016/03/OCF-Derived-Models-for-Interoperability-Between-IoT-Ecosystems_v2-examples.pdf)

## 407 **3 Terms and definitions**

### 408 **3.1 Terms and definitions**

409 For the purposes of this document, the terms and definitions given in ISO/IEC 30118-1:2018,  
410 ISO/IEC 30118-2:2019, and ISO/IEC 30118-3:2019 and the following apply.

411 ISO and IEC maintain terminological databases for use in standardization at the following  
412 addresses:

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

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

### 415 **3.1.1 oneM2M Application**

416 In an OCF-oneM2M asymmetric bridge environment, the oneM2M application represents the  
417 oneM2M control point (i.e. client) being mapped to a virtual OCF client.

## 418 **4 Document conventions and organization**

### 419 **4.1 Conventions**

420 In this document a number of terms, conditions, mechanisms, sequences, parameters, events,  
421 states, or similar terms are printed with the first letter of each word in uppercase and the rest  
422 lowercase (e.g., Network Architecture). Any lowercase uses of these words have the normal  
423 technical English meaning

### 424 **4.2 Notation**

425 In this document, features are described as required, recommended, allowed or DEPRECATED as  
426 follows:

427 Required (or shall or mandatory).

428 – These basic features shall be implemented to comply with OIC Core Architecture. The phrases  
429 "shall not", and "PROHIBITED" indicate behaviour that is prohibited, i.e. that if performed  
430 means the implementation is not in compliance.

431 Recommended (or should).

432 – These features add functionality supported by OIC Core Architecture and should be  
433 implemented. Recommended features take advantage of the capabilities OIC Core Architecture,  
434 usually without imposing major increase of complexity. Notice that for compliance testing, if a  
435 recommended feature is implemented, it shall meet the specified requirements to be in  
436 compliance with these guidelines. Some recommended features could become requirements  
437 in the future. The phrase "should not" indicates behaviour that is permitted but not  
438 recommended.

439 Allowed (or allowed).

440 – These features are neither required nor recommended by OIC Core Architecture, but if the  
441 feature is implemented, it shall meet the specified requirements to be in compliance with these  
442 guidelines.

443 – Conditionally allowed (CA) The definition or behaviour depends on a condition. If the specified  
444 condition is met, then the definition or behaviour is allowed, otherwise it is not allowed.

445 Conditionally required (CR)

446 – The definition or behaviour depends on a condition. If the specified condition is met, then the  
447 definition or behaviour is required. Otherwise the definition or behaviour is allowed as default  
448 unless specifically defined as not allowed.

449 DEPRECATED

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

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

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

## 458 **5 Theory of Operation**

### 459 **5.1 Interworking Approach**

460 The interworking between oneM2M defined Module Classes and OCF defined Resource Types is  
461 modelled using the derived model syntax described in Derived Models for Interoperability.

### 462 **5.2 Mapping Syntax**

#### 463 **5.2.1 Introduction**

464 Within the defined syntax for derived modelling used by this document there are two blocks that  
465 define the actual Property-Property equivalence or mapping. These blocks are identified by the  
466 keywords "x-to-ocf" and "x-from-ocf". Derived Models for Interoperability does not define a rigid  
467 syntax for these blocks; they are free form string arrays that contain pseudo-coded mapping logic.

468 Within this document we apply the rules defined in clause 5.2 to these blocks to ensure consistency  
469 and re-usability and extensibility of the mapping logic that is defined.

#### 470 **5.2.2 General**

471 All statements are terminated with a carriage return.

#### 472 **5.2.3 Value Assignment**

473 The equals sign (=) is used to assign one value to another. The assignee is on the left of the  
474 operator; the value being assigned on the right.

#### 475 **5.2.4 Property Naming**

476 All Property names are identical to the name used by the original model; for example, from the  
477 OCF Temperature Resource the Property name "temperature" is used whereas when referred to  
478 the derived ecosystem then the semantically equivalent Property name is used.

#### 479 **5.2.5 Arrays**

480 An array element is indicated by the use of square brackets "[]" with the index of the element  
481 contained therein, e.g. range[1]. All arrays start at an index of 0. If an entire array is being  
482 referenced, then no index is included.

#### 483 **5.2.6 Conditional Mapping**

484 When a mapping is dependent on the meeting of other conditions then the syntax:

485       if "condition", "mapping".

486 is applied.

## 487 **6 oneM2M Translation**

### 488 **6.1 Operational Scenarios**

489 The purpose of the oneM2M Bridge Platform is to enable access by the oneM2M ecosystem to  
490 select OCF Servers. This is accomplished by creating Virtual OCF Clients to represent the  
491 necessary access levels to the OCF servers that are exposed to the oneM2M ecosystem. The  
492 oneM2M Bridge Platform then exposes native oneM2M entities that map to those Virtual OCF  
493 Clients.

494 The oneM2M Bridge Platform is an Asymmetric Client Bridge.

495 The mapping between the OCF data models and the oneM2M data models is specified in 9.  
496 Programmatic (i.e. On-the-fly) data model translation is not supported.

497 **6.2 Enabling oneM2M Application access to OCF Servers**

498 Each level of oneM2M application access for OCF servers is modelled as a Virtual OCF Client. In  
499 this way, oneM2M application access can be appropriately restricted and enforced by the OCF  
500 security capabilities.

501 **6.3 Enabling OCF Client access to oneM2M Devices**

502 This capability is not supported.

503 **6.4 On-the-fly Translation**

504 All devices and resources have been aligned between the OCF and oneM2M ecosystems, so on-  
505 the-fly translation is not required.

506 If new OCF devices are not reflected into the oneM2M ecosystem by updates to the oneM2M  
507 specifications, the Bridge Platform will not provide a successful translation of those devices.

508 **7 Device Type Mapping**

509 **7.1 Introduction**

510 This clause contains the mappings to/from Device Types.

511 **7.2 oneM2M Device Types to OCF Device Types**

512 Table 1 captures the equivalency mapping between oneM2M defined Device Types and OCF  
513 defined Device Types. The minimum Resource sets for each OCF Device is provided in  
514 ISO/IEC 30118-5:2019.

515 **Table 1 – oneM2M Device Type to OCF Device Type Mapping**

oneM2M Device Type	OCF Device Type
device3DPrinter	oic.d.3dprinter
deviceAirConditioner	oic.d.airconditioner
deviceAirPurifier	oic.d.airpurifier
deviceAirQualityMonitor	oic.d.airqualitymonitor
deviceAudioReceiver	oic.d.receiver
deviceBloodPressureMonitor	oic.d.bloodpressuremonitor
deviceCamera	oic.d.camera
deviceClothesDryer	oic.d.dryer
deviceClothesWasher	oic.d.washer
deviceCoffeeMachine	oic.d.coffeemachine
deviceCookerHood	oic.d.cookerhood



deviceCooktop	oic.d.cooktop
deviceDehumidifier	oic.d.dehumidifier
deviceDishWasher	oic.d.dishwasher
deviceDoor	oic.d.door
deviceDoorLock	oic.d.smartlock
deviceElectricVehicleCharger	oic.d.electricvehiclecharger
deviceFan	oic.d.fan
deviceFoodProbe	oic.d.foodprobe
deviceFreezer	oic.d.freezer
deviceGlucosemeter	oic.d.glucosemeter
deviceHumidifier	oic.d.humidifier
deviceKettle	oic.d.kettle
deviceLight	oic.d.light
deviceMicrogeneration	oic.d.energygenerator
deviceMultiFunctionPrinter	oic.d.multifunctionprinter
deviceOutdoorLamp	oic.d.light
deviceOven	oic.d.oven
devicePrinter	oic.d.printer
deviceRefrigerator	oic.d.refrigerator
deviceRobotCleaner	oic.d.robotcleaner
deviceScanner	oic.d.scanner
deviceSecurityPanel	oic.d.securitypanel
deviceSetTopBox	oic.d.stb

deviceSmartElectricMeter	oic.d.electricmeter
deviceSmartPlug	oic.d.smartplug
deviceSteamCloset	oic.d.steamcloset
deviceStorageBattery	oic.d.battery
deviceSwitch	oic.d.switch
deviceTelevision	oic.d.tv
deviceThermostat	oic.d.thermostat
deviceWaterHeater	oic.d.waterheater
deviceWaterValve	oic.d.watervalve
deviceWeightScaleAndBodyCompositionAnalyzer	oic.d.bodyscale
deviceWindowShade	oic.d.blind
deviceThermometer	oic.d.bodythermometer

516 **8 Resource to oneM2M Module Class Equivalence**

517 **8.1 Introduction**

518 This clause lists the complete set of applicable oneM2M Module Classes and provides the  
519 equivalent OCF Resource Type(s) to which the Module Classes map.

520 **8.2 oneM2M Module Classes to OCF Resources**

521 Table 2 captures the equivalency mapping between oneM2M defined Module Classes and OCF  
522 defined Resource Types (see ISO/IEC 30118-4:2019). Detailed Property by Property mappings  
523 are provided in clause 9.

524 **Table 2 – oneM2M Module Classes to OCF Resource Type Mapping**

oneM2M Module Class	OCF Resource Type
3Dprinter	oic.r.3dprinter
acousticsensor	oic.r.soundpressure
airconjobmode	oic.r.operational.state
airflow	oic.r.airflow

airpurifierjobmode	oic.r.operational.state
airqualitysensor	oic.r.airquality oic.r.switch.binary oic.r.humidity
alarmspeaker	oic.r.audiovolume oic.r.switch.binary oic.r.light.dimming
audioVolume	oic.r.audio
autodocumentfeeder	oic.r.operational.state
battery	oic.r.energy.battery
binaryswitch	oic.r.switch.binary
boiler	oic.r.sensor
brewing	oic.r.brewing
brightness	oic.r.light.brightness
clock	oic.r.clock
clothesdryerjobmode	oic.r.operational.state
colour	oic.r.colour
coloursaturation	oic.r.colour.saturation
credentials	oic.r.userinfo
dehumidifierjobmode	oic.r.operational.state
doorStatus	oic.r.door
electricvehicleconnector	oic.r.vehicle.connector
energyconsumption	oic.r.energy.electrical oic.r.energy.consumption
energygeneration	oic.r.energy.generation
filterinfo	oic.r.consumable oic.r.sensor

foaming	oic.r.foaming
grinder	oic.r.grinder oic.r.switch.binary
heatingzone	oic.r.heatingzone
height	oic.r.height
hotwatersupply	oic.r.switch.binary oic.r.sensor
impactsensor	oic.r.impactsensor
keepwarm	oic.r.time.period
Keypad	oic.r.keypadchar
liquidlevel	oic.r.liquid.level
liquidremaining	oic.r.liquid.level
lock	oic.r.lock
motionSensor	oic.r.sensor.motion oic.r.sensor.props
openlevel	oic.r.openlevel
operationmode	oic.r.switch.binary
overcurrentsensor	oic.r.time.period oic.r.sensor
powersave	oic.r.switch.binary
printqueue	oic.r.printer.queue
pushbutton	oic.r.button
refrigeration	oic.r.refrigeration
relativeHumidity	oic.r.humidity
robotcleanerjobmode	oic.r.operational.state
steamclosetjobmode	oic.r.operational.state

temperature	oic.r.temperature
uvsensor	oic.r.sensor.radiation.uv
watersensor	oic.r.sensor.water
weight	oic.r.weight

525

## 526 9 Detailed Mapping APIs

### 527 9.1 Introduction

528 This clause provides an API and mapping description that aligns with the Derived Modelling syntax  
 529 described in Derived Models for Interoperability for all Module Classes and Resources that are  
 530 within scope.

531 The derived model definitions presented in clause 9 are formatted for readability, and so may  
 532 appear to have extra line breaks.

### 533 9.2 3D Printer

#### 534 9.2.1 Derived model

535 The derived model: "onem2m.m.3Dprinter".

#### 536 9.2.2 Property definition

537 Table 3 provides the detailed per Property mapping for "onem2m.m.3Dprinter".

538 **Table 3 – The property mapping for "onem2m.3Dprinter".**

oneM2M Property name	OCF Resource	To OCF	From OCF
memorySize	oic.r.3dprinter	oic.r.3dprinter.memorysize = memorySize	memorySize = oic.r.3dprinter.memorysize
printType	oic.r.3dprinter	oic.r.3dprinter.3dprinttype = printType	printType = oic.r.3dprinter.3dprinttype
printSizeX	oic.r.3dprinter	oic.r.3dprinter.printsizeX = printSizeX	printSizeX = oic.r.3dprinter.printsizeX
printSizeZ	oic.r.3dprinter	oic.r.3dprinter.printsizeZ = printSizeZ	printSizeZ = oic.r.3dprinter.printsizeZ
network	oic.r.3dprinter	oic.r.3dprinter.wanconnected = network	network = oic.r.3dprinter.wanconnected
printSizeY	oic.r.3dprinter	oic.r.3dprinter.printsizeY = printSizeY	printSizeY = oic.r.3dprinter.printsizeY

539 Table 4 provides the details of the Properties that are part of "onem2m.m.3Dprinter".

540 **Table 4 – The properties of "onem2m.3Dprinter".**

oneM2M name	Property	Type	Required	Description
memorySize		number	yes	Memory Size
printType		string	yes	3D Printer Type
printSizeX		number	yes	Print Size X
printSizeZ		number	yes	Print Size Z
network		boolean	yes	WAN Connected
printSizeY		number	yes	Print Size Y

541 **9.2.3 Derived model definition**

```

542 {
543   "id": "http://openinterconnect.org/onem2mmapping/schemas/onem2m.m.3Dprinter.json#",
544   "$schema": "http://json-schema.org/draft-04/schema#",
545   "description": "Copyright (c) 2019 Open Connectivity Foundation, Inc. All rights reserved.",
546   "title": "3D Printer",
547   "definitions": {
548     "onem2m.m.3Dprinter": {
549       "type": "object",
550       "properties": {
551         "printType": {
552           "type": "string",
553           "description": "3D Printer Type",
554           "x-ocf-conversion": {
555             "x-ocf-alias": "oic.r.3dprinter",
556             "x-to-ocf": [
557               "oic.r.3dprinter.3dprinttype = printType"
558             ],
559             "x-from-ocf": [
560               "printType = oic.r.3dprinter.3dprinttype"
561             ]
562           }
563         },
564         "printSizeX": {
565           "type": "number",
566           "description": "Print Size X",
567           "x-ocf-conversion": {
568             "x-ocf-alias": "oic.r.3dprinter",
569             "x-to-ocf": [
570               "oic.r.3dprinter.printsizeX = printSizeX"
571             ],
572             "x-from-ocf": [
573               "printSizeX = oic.r.3dprinter.printsizeX"
574             ]
575           }
576         },
577         "printSizeY": {
578           "type": "number",
579           "description": "Print Size Y",
580           "x-ocf-conversion": {
581             "x-ocf-alias": "oic.r.3dprinter",
582             "x-to-ocf": [
583               "oic.r.3dprinter.printsizeY = printSizeY"

```

```

584         ],
585         "x-from-ocf": [
586             "printSizeY = oic.r.3dprinter.printsizey"
587         ]
588     },
589     },
590     "printSizeZ": {
591         "type": "number",
592         "description": "Print Size Z",
593         "x-ocf-conversion": {
594             "x-ocf-alias": "oic.r.3dprinter",
595             "x-to-ocf": [
596                 "oic.r.3dprinter.printsizez = printSizeZ"
597             ],
598             "x-from-ocf": [
599                 "printSizeZ = oic.r.3dprinter.printsizez"
600             ]
601         }
602     },
603     "network": {
604         "type": "boolean",
605         "description": "WAN Connected",
606         "x-ocf-conversion": {
607             "x-ocf-alias": "oic.r.3dprinter",
608             "x-to-ocf": [
609                 "oic.r.3dprinter.wanconnected = network"
610             ],
611             "x-from-ocf": [
612                 "network = oic.r.3dprinter.wanconnected"
613             ]
614         }
615     },
616     "memorySize": {
617         "type": "number",
618         "description": "Memory Size",
619         "x-ocf-conversion": {
620             "x-ocf-alias": "oic.r.3dprinter",
621             "x-to-ocf": [
622                 "oic.r.3dprinter.memorysize = memorySize"
623             ],
624             "x-from-ocf": [
625                 "memorySize = oic.r.3dprinter.memorysize"
626             ]
627         }
628     }
629 }
630 }
631 },
632 "type": "object",
633 "allof": [
634     {"$ref": "#/definitions/onem2m.m.3Dprinter"}
635 ],
636 "required": [ "printType", "printSizeX", "printSizeY", "printSizeZ", "network", "memorySize" ]
637 }

```

### 638 9.3 Acoustic Sensor

#### 639 9.3.1 Derived model

640 The derived model: "onem2m.m.acousticsensor".

#### 641 9.3.2 Property definition

642 Table 5 provides the detailed per Property mapping for "onem2m.m.acousticsensor".

**Table 5 – The property mapping for "onem2m.acousticsensor".**

oneM2M Property name	OCF Resource	To OCF	From OCF
loudness	oic.r.soundpressure	oic.r.soundpressure.dba = loudness	loudness = oic.r.soundpressure.dba
acousticStatus	oic.r.soundpressure	oic.r.soundpressure.percentage = acousticStatus	acousticStatus = oic.r.soundpressure.percentage

644 Table 6 provides the details of the Properties that are part of "onem2m.m.acousticsensor".

645

**Table 6 – The properties of "onem2m.acousticsensor".**

oneM2M Property name	Type	Required	Description
loudness	number	yes	The common unit of the sound pressure in dBa.
acousticStatus	integer	no	The rounded percentage of the current sound pressure as compared to the sensitivity range of the sensor. The acousticStatus indicates as follows: (0) No sound ~ (100) Most noisy.

646

**9.3.3 Derived model definition**

647

```

648 {
649   "id": "http://openinterconnect.org/onem2mmapping/schemas/onem2m.m.acousticsensor.json#",
650   "$schema": "http://json-schema.org/draft-04/schema#",
651   "description": "Copyright (c) 2019 Open Connectivity Foundation, Inc. All rights reserved.",
652   "title": "Acoustic Sensor",
653   "definitions": {
654     "onem2m.m.acousticsensor": {
655       "type": "object",
656       "properties": {
657         "loudness": {
658           "type": "number",
659           "description": "The common unit of the sound pressure in dBa.",
660           "x-ocf-conversion": {
661             "x-ocf-alias": "oic.r.soundpressure",
662             "x-to-ocf": [
663               "oic.r.soundpressure.dba = loudness"
664             ],
665             "x-from-ocf": [
666               "loudness = oic.r.soundpressure.dba"
667             ]
668           }
669         }
670       }
671     }
672   }

```



```

668     },
669     "acousticStatus": {
670       "type": "integer",
671       "description": "The rounded percentage of the current sound pressure as compared to the
672 sensitivity range of the sensor. The acousticStatus indicates as follows: (0) No sound ~ (100) Most
673 noisy.",
674       "x-ocf-conversion": {
675         "x-ocf-alias": "oic.r.soundpressure",
676         "x-to-ocf": [
677           "oic.r.soundpressure.percentage = acousticStatus"
678         ],
679         "x-from-ocf": [
680           "acousticStatus = oic.r.soundpressure.percentage"
681         ]
682       }
683     }
684   }
685 }
686 },
687 "type": "object",
688 "allOf": [
689   {"$ref": "#/definitions/onem2m.m.acousticsensor"}
690 ],
691 "required": [ "loudness" ]
692 }
693

```

## 694 9.4 AirCon Job Mode

### 695 9.4.1 Derived model

696 The derived model: "onem2m.m.airconjobmode".

### 697 9.4.2 Property definition

698 Table 7 provides the detailed per Property mapping for "onem2m.m.airconjobmode".

699 **Table 7 – The property mapping for "onem2m.airconjobmode".**

oneM2M Property name	OCF Resource	To OCF	From OCF
jobModes	oic.r.operational.state	This does not exist in OCF as all possible operational states are available.	This is an array of integers in oneM2M defined by the current version of the specification as follows: jobModes[1] = 1 jobModes[2] = 2 jobModes[3] = 3 jobModes[4] = 4 jobModes[5] = 5 jobModes[6] = 6 jobModes[7] = 7 jobModes[8] = 8
currentJobModeName	oic.r.operational.state	This value does not exist in OCF as it is already accommodated in the currentJobMode property.	Need to translate between the OCF operational state enumerated string and the oneM2M string value if (oic.r.operational.state.currentJobState == "cooling" ) { currentJobModeName = "cool"; }if

			<pre>(oic.r.operational.state.currentJobState == "airDry" ) { currentJobModeName = "airDry"; }if (oic.r.operational.state.currentJobState == "fan" { currentJobModeName = "fan"; }if (oic.r.operational.state.currentJobState == "artificialintelligence" ) { currentJobModeName = "AI"; }if (oic.r.operational.state.currentJobState == "heating" ) { currentJobModeName = "heat"; }if (oic.r.operational.state.currentJobState == "cleaning" ) { currentJobModeName = "airClean"; }if (oic.r.operational.state.currentJobState == "auto" ) { currentJobModeName = "ACO"; }if (oic.r.operational.state.currentJobState == "aroma" ) { currentJobModeName = "aroma"; }else { currentJobModeName = ""; }</pre>
currentJobMode	oic.r.operational.state	<p>Need to translate between the oneM2M integer value and the OCF operational state enumerated string</p> <pre>if ( currentJobMode == 1 ) { oic.r.operational.state.currentJobState == "cooling"; }if ( currentJobMode == 2 ) { oic.r.operational.state.currentJobState == "airDry"; }if ( currentJobMode == 3 ) { oic.r.operational.state.currentJobState == "fan"; }if ( currentJobMode == 4 ) { oic.r.operational.state.currentJobState == "artificialintelligence"; }if ( currentJobMode == 5 ) { oic.r.operational.state.currentJobState == "heating"; }if ( currentJobMode == 6 ) { oic.r.operational.state.currentJobState ==</pre>	<p>Need to translate between the OCF operational state enumerated string and the oneM2M integer value</p> <pre>if (oic.r.operational.state.currentJobState == "cooling" ) { currentJobMode = 1; }if (oic.r.operational.state.currentJobState == "airDry" ) { currentJobMode = 2; }if (oic.r.operational.state.currentJobState == "fan" { currentJobMode = 3; }if (oic.r.operational.state.currentJobState == "artificialintelligence" ) { currentJobMode = 4; }if (oic.r.operational.state.currentJobState == "heating" ) { currentJobMode = 5; }if (oic.r.operational.state.currentJobState == "cleaning" ) { currentJobMode = 6; }if</pre>

		<pre>"cleaning";          }if ( currentJobMode == 7 ) { oic.r.operational.state.curr entJobState == "auto"; }if ( currentJobMode == 8 ) { oic.r.operational.state.curr entJobState          == "aroma";              }else { oic.r.operational.state.curr entJobState == "unknown"; }</pre>	<pre>(oic.r.operational.state.curr entJobState == "auto" ) { currentJobMode = 7; }if (oic.r.operational.state.curr entJobState == "aroma" ) { currentJobMode = 8; }else { currentJobMode = 0; }</pre>
--	--	---	---

700 Table 8 provides the details of the Properties that are part of "onem2m.m.airconjobmode".

701 **Table 8 – The properties of "onem2m.airconjobmode".**

oneM2M name	Property	Type	Required	Description
jobModes		array	yes	List of possible job states the device supports
currentJobModeName		string	no	Name of current job mode in string. This can be used when currentJobMode is vendor-specific.
currentJobMode		integer	yes	Currently active job mode.

702 **9.4.3 Derived model definition**

```
703 {
704   "id": "http://openinterconnect.org/onem2mmapping/schemas/onem2m.m.airconjobmode.json#",
705   "$schema": "http://json-schema.org/draft-04/schema#",
706   "description": "Copyright (c) 2019 Open Connectivity Foundation, Inc. All rights reserved.",
707   "title": "AirCon Job Mode",
708   "definitions": {
709     "onem2m.m.airconjobmode": {
710       "type": "object",
711       "properties": {
712         "currentJobMode": {
713           "type": "integer",
714           "description": "Currently active job mode.",
715           "x-ocf-conversion": {
716             "x-ocf-alias": "oic.r.operational.state",
717             "x-to-ocf": [
718               "Need to translate between the oneM2M integer value and the OCF operational state
719               enumerated string",
720               "if ( currentJobMode == 1 ) { oic.r.operational.state.currentJobState ==
721               \"cooling\"; }",
722               "if ( currentJobMode == 2 ) { oic.r.operational.state.currentJobState ==
723               \"airDry\"; }",
724               "if ( currentJobMode == 3 ) { oic.r.operational.state.currentJobState == \"fan\"; }",
725               "if ( currentJobMode == 4 ) { oic.r.operational.state.currentJobState ==
726               \"artificialintelligence\"; }",
727               "if ( currentJobMode == 5 ) { oic.r.operational.state.currentJobState ==
728               \"heating\"; }",
729               "if ( currentJobMode == 6 ) { oic.r.operational.state.currentJobState ==
```

```

730  \ "cleaning\"; }",
731      "if ( currentJobMode == 7 ) { oic.r.operational.state.currentJobState ==
732  \ "auto\"; }",
733      "if ( currentJobMode == 8 ) { oic.r.operational.state.currentJobState ==
734  \ "aroma\"; }",
735      "else { oic.r.operational.state.currentJobState == \ "unknown\"; }"
736  ],
737      "x-from-ocf": [
738      "Need to translate between the OCF operational state enumerated string and the oneM2M
739  integer value",
740      "if ( oic.r.operational.state.currentJobState == \ "cooling\ " ) { currentJobMode =
741  1; }",
742      "if ( oic.r.operational.state.currentJobState == \ "airDry\ " ) { currentJobMode =
743  2; }",
744      "if ( oic.r.operational.state.currentJobState == \ "fan\ " { currentJobMode = 3; }",
745      "if ( oic.r.operational.state.currentJobState == \ "artificialintelligence\ " )
746  { currentJobMode = 4; }",
747      "if ( oic.r.operational.state.currentJobState == \ "heating\ " ) { currentJobMode =
748  5; }",
749      "if ( oic.r.operational.state.currentJobState == \ "cleaning\ " ) { currentJobMode =
750  6; }",
751      "if ( oic.r.operational.state.currentJobState == \ "auto\ " ) { currentJobMode = 7; }",
752      "if ( oic.r.operational.state.currentJobState == \ "aroma\ " ) { currentJobMode = 8; }",
753      "else { currentJobMode = 0; }"
754  ]
755  },
756  },
757  "currentJobModeName": {
758      "type": "string",
759      "description": "Name of current job mode in string. This can be used when currentJobMode
760  is vendor-specific.",
761      "x-ocf-conversion": {
762      "x-ocf-alias": "oic.r.operational.state",
763      "x-to-ocf": [
764      "This value does not exist in OCF as it is already accommodated in the currentJobMode
765  property."
766  ],
767      "x-from-ocf": [
768      "Need to translate between the OCF operational state enumerated string and the oneM2M
769  string value",
770      "if ( oic.r.operational.state.currentJobState == \ "cooling\ " ) { currentJobModeName =
771  \ "cool\"; }",
772      "if ( oic.r.operational.state.currentJobState == \ "airDry\ " ) { currentJobModeName =
773  \ "airDry\"; }",
774      "if ( oic.r.operational.state.currentJobState == \ "fan\ " { currentJobModeName =
775  \ "fan\"; }",
776      "if ( oic.r.operational.state.currentJobState == \ "artificialintelligence\ " )
777  { currentJobModeName = \ "AI\"; }",
778      "if ( oic.r.operational.state.currentJobState == \ "heating\ " ) { currentJobModeName =
779  \ "heat\"; }",
780      "if ( oic.r.operational.state.currentJobState == \ "cleaning\ " ) { currentJobModeName =
781  \ "airClean\"; }",
782      "if ( oic.r.operational.state.currentJobState == \ "auto\ " ) { currentJobModeName =
783  \ "ACO\"; }",
784      "if ( oic.r.operational.state.currentJobState == \ "aroma\ " ) { currentJobModeName =
785  \ "aroma\"; }",
786      "else { currentJobModeName = \ "\"; }"
787  ]
788  },
789  },
790  "jobModes": {
791      "type": "array",
792      "description": "List of possible job states the device supports",
793      "x-ocf-conversion": {
794      "x-ocf-alias": "oic.r.operational.state",
795      "x-to-ocf": [
796      "This does not exist in OCF as all possible operational states are available."
797  ],
798      "x-from-ocf": [
799      "This is an array of integers in oneM2M defined by the current version of the
800  specification as follows:",

```

```

801         "jobModes[1] = 1",
802         "jobModes[2] = 2",
803         "jobModes[3] = 3",
804         "jobModes[4] = 4",
805         "jobModes[5] = 5",
806         "jobModes[6] = 6",
807         "jobModes[7] = 7",
808         "jobModes[8] = 8"
809     ]
810 }
811 }
812 }
813 },
814 },
815 "type": "object",
816 "allOf": [
817     {"$ref": "#/definitions/onem2m.m.airconjobmode"}
818 ],
819 "required": [ "currentJobMode", "jobModes" ]
820 }

```

## 821 9.5 Airflow

### 822 9.5.1 Derived model

823 The derived model: "onem2m.m.airflow".

### 824 9.5.2 Property definition

825 Table 9 provides the detailed per Property mapping for "onem2m.m.airflow".

826 **Table 9 – The property mapping for "onem2m.m.airflow".**

oneM2M Property name	OCF Resource	To OCF	From OCF
minSpeed	oic.r.airflow	range[0] = minSpeed	minSpeed = range[0] otherwise: minSpeed = 0
supportedVerticalDirection	oic.r.airflow	supporteddirections = supportedVerticalDirection	supportedVerticalDirection = supporteddirections
maxSpeed	oic.r.airflow	range[1] = maxSpeed	maxSpeed = range[1] otherwise: maxSpeed = 100
horizontalDirection	oic.r.airflow	direction = horizontalDirection	horizontalDirection = direction
autoMode	oic.r.airflow	if autoMode = true, ocf.automode = On if autoMode = false, ocf.automode = Off comment: is is correct way to map boolean to enum?	if ocf.automode = On, autoMode = true if ocf.automode = Off, autoMode = false

speed	oic.r.airflow	ocf.speed = speed	speed = ocf.speed
verticalDirection	oic.r.airflow	direction = verticalDirection	verticalDirection = direction comment: Is 1-to-1 mapping possible from string to enum? what if enum doesn't contain the converted string from OCF?
supportedhorizontalDirection	oic.r.airflow	supporteddirections = supportedhorizontalDirection	supportedhorizontalDirection = supporteddirections

827 Table 10 provides the details of the Properties that are part of "onem2m.m.airflow".

828

**Table 10 – The properties of "onem2m.airflow".**

oneM2M Property name	Type	Required	Description
minSpeed	integer	no	Min value for the speed level. If not present, the default is 0.
supportedVerticalDirection	array	no	List of supported vertical direction.
maxSpeed	integer	no	Max value for the speed level. If not present, the default is 100.
horizontalDirection		no	The horizontal directionality of the air flow.
autoMode	boolean	no	Status of the automode feature. If on speed is set by the device.
speed	integer	yes	current speed level in the range of [minSpeed, maxSpeed]
verticalDirection		no	The vertical directionality of the air flow.

supportedhorizontalDirection	array	no	List of supported horizontal direction.
------------------------------	-------	----	---

### 829 9.5.3 Derived model definition

```

830 {
831   "id": "http://openinterconnect.org/onem2mmapping/schemas/onem2m.m.airflow.json#",
832   "$schema": "http://json-schema.org/draft-04/schema#",
833   "description": "Copyright (c) 2019 Open Connectivity Foundation, Inc. All rights reserved.",
834   "title": "Airflow",
835   "definitions": {
836     "onem2m.m.airflow": {
837       "type": "object",
838       "properties": {
839         "speed": {
840           "type": "integer",
841           "description": "current speed level in the range of [minSpeed, maxSpeed]",
842           "x-ocf-conversion": {
843             "x-ocf-alias": "oic.r.airflow",
844             "x-to-ocf": [
845               "ocf.speed = speed"
846             ],
847             "x-from-ocf": [
848               "speed = ocf.speed"
849             ]
850           }
851         },
852         "minSpeed": {
853           "type": "integer",
854           "description": "Min value for the speed level. If not present, the default is 0.",
855           "x-ocf-conversion": {
856             "x-ocf-alias": "oic.r.airflow",
857             "x-to-ocf": [
858               "range[0] = minSpeed"
859             ],
860             "x-from-ocf": [
861               "minSpeed = range[0]",
862               "otherwise: minSpeed = 0"
863             ]
864           }
865         },
866         "maxSpeed": {
867           "type": "integer",
868           "description": "Max value for the speed level. If not present, the default is 100.",
869           "x-ocf-conversion": {
870             "x-ocf-alias": "oic.r.airflow",
871             "x-to-ocf": [
872               "range[1] = maxSpeed"
873             ],
874             "x-from-ocf": [
875               "maxSpeed = range[1]",
876               "otherwise: maxSpeed = 100"
877             ]
878           }
879         },
880         "verticalDirection": {
881           "enum": ["auto", "center", "up", "down"],
882           "description": "The vertical directionality of the air flow.",
883           "x-ocf-conversion": {
884             "x-ocf-alias": "oic.r.airflow",
885             "x-to-ocf": [
886               "direction = verticalDirection"
887             ],
888             "x-from-ocf": [
889               "verticalDirection = direction",
890               "_comment: Is 1-to-1 mapping possible from string to enum? what if
891 enum doesn't contain the converted string from OCF?"
892             ]
893           }
894         }
895       }
896     }

```

```

894     },
895     "supportedVerticalDirection": {
896     "type": "array",
897     "items": {
898         "enum": ["auto", "center", "up", "down"]
899     },
900     "description": "List of supported vertical direction.",
901     "readOnly": true,
902     "x-ocf-conversion": {
903         "x-ocf-alias": "oic.r.airflow",
904         "x-to-ocf": [
905             "supporteddirections = supportedVerticalDirection"
906         ],
907         "x-from-ocf": [
908             "supportedVerticalDirection = supporteddirections"
909         ]
910     }
911 },
912     "horizontalDirection": {
913     "enum": ["auto", "center", "left", "right"],
914     "description": "The horizontal directionality of the air flow.",
915     "x-ocf-conversion": {
916         "x-ocf-alias": "oic.r.airflow",
917         "x-to-ocf": [
918             "direction = horizontalDirection"
919         ],
920         "x-from-ocf": [
921             "horizontalDirection = direction"
922         ]
923     }
924 },
925     "supportedhorizontalDirection": {
926     "type": "array",
927     "items": {
928         "enum": ["auto", "center", "left", "right"]
929     },
930     "description": "List of supported horizontal direction.",
931     "readOnly": true,
932     "x-ocf-conversion": {
933         "x-ocf-alias": "oic.r.airflow",
934         "x-to-ocf": [
935             "supporteddirections = supportedhorizontalDirection"
936         ],
937         "x-from-ocf": [
938             "supportedhorizontalDirection = supporteddirections"
939         ]
940     }
941 },
942     "autoMode": {
943     "type": "boolean",
944     "description": "Status of the automode feature. If on speed is set by the device.",
945     "x-ocf-conversion": {
946         "x-ocf-alias": "oic.r.airflow",
947         "x-to-ocf": [
948             "if autoMode = true, ocf.automode = On",
949             "if autoMode = fals, ocf.automode = Off",
950             "_comment: is is correct way to map boolean to enum?"
951         ],
952         "x-from-ocf": [
953             "if ocf.automode = On, autoMode = true",
954             "if ocf.automode = Off, autoMode = false"
955         ]
956     }
957 }
958 }
959 }
960 },
961 "type": "object",
962 "allOf": [
963     {"$ref": "#/definitions/onem2m.m.airflow"}
964 ],

```



```

965     "required": [ "speed" ]
966 }
967

```

## 968 9.6 Air Purifier Job Mode

### 969 9.6.1 Derived model

970 The derived model: "onem2m.m.airpurifierjobmode".

### 971 9.6.2 Property definition

972 Table 11 provides the detailed per Property mapping for "onem2m.m.airpurifierjobmode".

973 **Table 11 – The property mapping for "onem2m.airpurifierjobmode".**

oneM2M Property name	OCF Resource	To OCF	From OCF
currentJobMode	oic.r.operational.state	Need to translate between the oneM2M integer value and the OCF operational state enumerated string <pre> if ( currentJobMode == 1 ) { oic.r.operational.state.currentJobState == "normal"; } if ( currentJobMode == 2 ) { oic.r.operational.state.currentJobState == "sleeping"; } if ( currentJobMode == 3 ) { oic.r.operational.state.currentJobState == "silent"; } if ( currentJobMode == 4 ) { oic.r.operational.state.currentJobState == "wet"; } if ( currentJobMode == 5 ) { oic.r.operational.state.currentJobState == "circulating"; } if ( currentJobMode == 6 ) { oic.r.operational.state.currentJobState == "dual"; } if ( currentJobMode == 7 ) { oic.r.operational.state.currentJobState == "auto"; } else { oic.r.operational.state.currentJobState == "unknown"; } </pre>	Need to translate between the OCF operational state enumerated string and the oneM2M integer value <pre> if ( oic.r.operational.state.currentJobState == "normal" ) { currentJobMode = 1; } if ( oic.r.operational.state.currentJobState == "sleeping" ) { currentJobMode = 2; } if ( oic.r.operational.state.currentJobState == "silent" ) { currentJobMode = 3; } if ( oic.r.operational.state.currentJobState == "wet" ) { currentJobMode = 4; } if ( oic.r.operational.state.currentJobState == "circulating" ) { currentJobMode = 5; } if ( oic.r.operational.state.currentJobState == "dual" ) { currentJobMode = 6; } if ( oic.r.operational.state.currentJobState == "auto" ) { currentJobMode = 7; } else { currentJobMode = 0; } </pre>
jobModes	oic.r.operational.state	This does not exist in OCF as all possible operational states are available.	This is an array of integers in oneM2M defined by the current version of the specification as follows: <pre> jobModes[1] = 1 jobModes[2] = 2 jobModes[3] = 3 jobModes[4] = 4 jobModes[5] = 5 </pre>

			5jobModes[6] = 6jobModes[7] = 7
currentJobModeName	oic.r.operational.state	This value does not exist in OCF as it is already accommodated in the currentJobMode property.	Need to translate between the OCF operational state enumerated string and the oneM2M string value <pre> if (oic.r.operational.state.currentJobState == "normal" ) { currentJobModeName = "normalClean"; } if (oic.r.operational.state.currentJobState == "sleeping" ) { currentJobModeName = "sleep"; } if (oic.r.operational.state.currentJobState == "silent" ) { currentJobModeName = "silent"; } if (oic.r.operational.state.currentJobState == "wet" ) { currentJobModeName = "wet"; } if (oic.r.operational.state.currentJobState == "circulating" ) { currentJobModeName = "circulate"; } if (oic.r.operational.state.currentJobState == "dual" ) { currentJobModeName = "dual"; } if (oic.r.operational.state.currentJobState == "auto" ) { currentJobModeName = "auto"; } else { currentJobModeName = ""; } </pre>

974 Table 12 provides the details of the Properties that are part of "onem2m.m.airpurifierjobmode".

975

**Table 12 – The properties of "onem2m.m.airpurifierjobmode".**

oneM2M name	Property	Type	Required	Description
currentJobMode		integer	yes	Currently active job mode.
jobModes		array	yes	List of possible job states the device supports

currentJobModeName	string	no	Name of current job mode in string. This can be used when currentJobMode is vendor-specific.
--------------------	--------	----	--

976 **9.6.3 Derived model definition**

```

977 {
978   "id": "http://openinterconnect.org/oneM2Mmapping/schemas/oneM2M.m.airpurifierjobmode.json#",
979   "$schema": "http://json-schema.org/draft-04/schema#",
980   "description": "Copyright (c) 2019 Open Connectivity Foundation, Inc. All rights reserved.",
981   "title": "Air Purifier Job Mode",
982   "definitions": {
983     "oneM2M.m.airpurifierjobmode": {
984       "type": "object",
985       "properties": {
986         "currentJobMode": {
987           "type": "integer",
988           "description": "Currently active job mode.",
989           "x-ocf-conversion": {
990             "x-ocf-alias": "oic.r.operational.state",
991             "x-to-ocf": [
992               "Need to translate between the oneM2M integer value and the OCF operational state
993 enumerated string",
994               "if ( currentJobMode == 1 ) { oic.r.operational.state.currentJobState ==
995 \"normal\"; }",
996               "if ( currentJobMode == 2 ) { oic.r.operational.state.currentJobState ==
997 \"sleeping\"; }",
998               "if ( currentJobMode == 3 ) { oic.r.operational.state.currentJobState ==
999 \"silent\"; }",
1000              "if ( currentJobMode == 4 ) { oic.r.operational.state.currentJobState == \"wet\"; }",
1001              "if ( currentJobMode == 5 ) { oic.r.operational.state.currentJobState ==
1002 \"circulating\"; }",
1003              "if ( currentJobMode == 6 ) { oic.r.operational.state.currentJobState ==
1004 \"dual\"; }",
1005              "if ( currentJobMode == 7 ) { oic.r.operational.state.currentJobState ==
1006 \"auto\"; }",
1007              "else { oic.r.operational.state.currentJobState == \"unknown\"; }"
1008            ],
1009             "x-from-ocf": [
1010               "Need to translate between the OCF operational state enumerated string and the oneM2M
1011 integer value",
1012               "if ( oic.r.operational.state.currentJobState == \"normal\" ) { currentJobMode =
1013 1; }",
1014               "if ( oic.r.operational.state.currentJobState == \"sleeping\" ) { currentJobMode =
1015 2; }",
1016               "if ( oic.r.operational.state.currentJobState == \"silent\" { currentJobMode = 3; }",
1017               "if ( oic.r.operational.state.currentJobState == \"wet\" ) { currentJobMode = 4; }",
1018               "if ( oic.r.operational.state.currentJobState == \"circulating\" ) { currentJobMode =
1019 5; }",
1020               "if ( oic.r.operational.state.currentJobState == \"dual\" ) { currentJobMode = 6; }",
1021               "if ( oic.r.operational.state.currentJobState == \"auto\" ) { currentJobMode = 7; }",
1022               "else { currentJobMode = 0; }"
1023             ]
1024           }
1025         },
1026         "currentJobModeName": {
1027           "type": "string",
1028           "description": "Name of current job mode in string. This can be used when currentJobMode
1029 is vendor-specific.",
1030           "x-ocf-conversion": {
1031             "x-ocf-alias": "oic.r.operational.state",
1032             "x-to-ocf": [
1033               "This value does not exist in OCF as it is already accommodated in the currentJobMode
1034 property."
1035             ],
1036             "x-from-ocf": [
1037               "Need to translate between the OCF operational state enumerated string and the oneM2M

```

```

1038 string value",
1039     "if (oic.r.operational.state.currentJobState == \"normal\" ) { currentJobModeName =
1040     \"normalClean\"; }",
1041     "if (oic.r.operational.state.currentJobState == \"sleeping\" ) { currentJobModeName =
1042     \"sleep\"; }",
1043     "if (oic.r.operational.state.currentJobState == \"silent\" { currentJobModeName =
1044     \"silent\"; }",
1045     "if (oic.r.operational.state.currentJobState == \"wet\" ) { currentJobModeName =
1046     \"wet\"; }",
1047     "if (oic.r.operational.state.currentJobState == \"circulating\" )
1048     { currentJobModeName = \"circulate\"; }",
1049     "if (oic.r.operational.state.currentJobState == \"dual\" ) { currentJobModeName =
1050     \"dual\"; }",
1051     "if (oic.r.operational.state.currentJobState == \"auto\" ) { currentJobModeName =
1052     \"auto\"; }",
1053     "else { currentJobModeName = \"\"; }"
1054     ]
1055     },
1056     "jobModes": {
1057     "type": "array",
1058     "description": "List of possible job states the device supports",
1059     "x-ocf-conversion": {
1060     "x-ocf-alias": "oic.r.operational.state",
1061     "x-to-ocf": [
1062     "This does not exist in OCF as all possible operational states are available."
1063     ],
1064     "x-from-ocf": [
1065     "This is an array of integers in oneM2M defined by the current version of the
1066     specification as follows:",
1067     "jobModes[1] = 1",
1068     "jobModes[2] = 2",
1069     "jobModes[3] = 3",
1070     "jobModes[4] = 4",
1071     "jobModes[5] = 5",
1072     "jobModes[6] = 6",
1073     "jobModes[7] = 7"
1074     ]
1075     ]
1076     }
1077     }
1078     }
1079     },
1080     "type": "object",
1081     "allOf": [
1082     {"$ref": "#/definitions/onem2m.m.airconjobmode"}
1083     ],
1084     "required": [ "currentJobMode", "jobModes" ]
1085     }
1086 }

```

1087 **9.7 Air Quality Sensor**

1088 **9.7.1 Derived model**

1089 The derived model: "onem2m.m.airqualitysensor".

1090 **9.7.2 Property definition**

1091 Table 13 provides the detailed per Property mapping for "onem2m.m.airqualitysensor".

1092 **Table 13 – The property mapping for "onem2m.m.airqualitysensor".**

oneM2M Property name	OCF Resource	To OCF	From OCF

sensorOdor	oic.r.airquality	oic.r.airquality.contaminantvalue = sensorOdor oic.r.airquality.contaminanttype = "Odor" oic.r.airquality.valuetype = "Measured"	sensorOdor = oic.r.airquality.contaminantvalue
VOC	oic.r.airquality	oic.r.airquality.contaminantvalue = VOC oic.r.airquality.contaminanttype = "VOC" oic.r.airquality.valuetype = "Measured"	VOC = oic.r.airquality.contaminantvalue
monitoringEnabled	oic.r.switch.binary	if monitoringEnabled == 0 oic.r.switch.binary.value = false if monitoringEnabled == 1 oic.r.switch.binary.value = true	if oic.r.switch.binary.value == false monitoringEnabled = 0 if oic.r.switch.binary.value == true monitoringEnabled = 1
sensorHumidity	oic.r.humidity	oic.r.humidity.humidity = sensorHumidity	sensorHumidity = oic.r.humidity.humidity
sensorPM2	oic.r.airquality	oic.r.airquality.contaminantvalue = sensorPM2 oic.r.airquality.contaminanttype = "PM2.5" oic.r.airquality.valuetype = "Measured"	sensorPM2 = oic.r.airquality.contaminantvalue
sensorPM10	oic.r.airquality	oic.r.airquality.contaminantvalue = sensorPM10 oic.r.airquality.contaminanttype = "PM10" oic.r.airquality.valuetype = "Measured"	sensorPM10 = oic.r.airquality.contaminantvalue
CO	oic.r.airquality	oic.r.airquality.contaminantvalue = CO oic.r.airquality.contaminanttype = "CO" oic.r.airquality.valuetype = "Measured"	CO = oic.r.airquality.contaminantvalue
CH2O	oic.r.airquality	oic.r.airquality.contaminantvalue = CH2O oic.r.airquality.contaminanttype =	CH2O = oic.r.airquality.contaminantvalue

		"CH2O"oic.r.airquality.valuetype = "Measured"	
CO2	oic.r.airquality	oic.r.airquality.contaminantvalue = CO2oic.r.airquality.contaminanttype = "CO2"oic.r.airquality.valuetype = "Measured"	CO2 = oic.r.airquality.contaminantvalue
sensorPM1	oic.r.airquality	oic.r.airquality.contaminantvalue = sensorPM1oic.r.airquality.contaminanttype = "PM1"oic.r.airquality.valuetype = "Measured"	sensorPM1 = oic.r.airquality.contaminantvalue

1093 Table 14 provides the details of the Properties that are part of "onem2m.m.airqualitysensor".

1094 **Table 14 – The properties of "onem2m.airqualitysensor".**

oneM2M name	Property	Type	Required	Description
sensorOdor		integer	no	Concentration of odor that reflects air pollution. Minimum value is 0, and maximum is 1000.
VOC		integer	no	This value indicates VOC (Volatile Organic Compounds) in ppm (parts per million)
monitoringEnabled		boolean	no	1 allows monitoring this resource whereas 0 does not.
sensorHumidity		integer	no	Measured humidity. Minimum value is 0, and maximum is 100.
sensorPM2		integer	no	Concentration of Particle Matter under 2.5um. Minimum value is 0, and maximum is 1000.
sensorPM10		integer	no	Concentration of Particle Matter under 10um. Minimum value

			is 0, and maximum is 1000.
CO	integer	no	This value indicates CO in ppm (parts per million)
CH2O	integer	no	This value indicates CH2O in ppm (parts per million)
CO2	integer	no	This value indicates CO2 in ppm (parts per million)
sensorPM1	integer	no	Concentration of Particle Matter under 1um. Minimum value is 0, and maximum is 1000.

1095 **9.7.3 Derived model definition**

```

1096 {
1097   "id": "http://openinterconnect.org/onem2mmapping/schemas/onem2m.m.airqualitysensor.json#",
1098   "$schema": "http://json-schema.org/draft-04/schema#",
1099   "description": "Copyright (c) 2019 Open Connectivity Foundation, Inc. All rights reserved.",
1100   "title": "Air Quality Sensor",
1101   "definitions": {
1102     "onem2m.m.airqualitysensor": {
1103       "type": "object",
1104       "properties": {
1105         "sensorPM1": {
1106           "type": "integer",
1107           "description": "Concentration of Particle Matter under 1um. Minimum value is 0, and
1108 maximum is 1000.",
1109           "x-ocf-conversion": {
1110             "x-ocf-alias": "oic.r.airquality",
1111             "x-to-ocf": [
1112               "oic.r.airquality.contaminantvalue = sensorPM1",
1113               "oic.r.airquality.contaminanttype = \"PM1\"",
1114               "oic.r.airquality.valuetype = \"Measured\""
1115             ],
1116             "x-from-ocf": [
1117               "sensorPM1 = oic.r.airquality.contaminantvalue"
1118             ]
1119           }
1120         },
1121         "sensorPM2": {
1122           "type": "integer",
1123           "description": "Concentration of Particle Matter under 2.5um. Minimum value is 0, and
1124 maximum is 1000.",
1125           "x-ocf-conversion": {
1126             "x-ocf-alias": "oic.r.airquality",
1127             "x-to-ocf": [
1128               "oic.r.airquality.contaminantvalue = sensorPM2",
1129               "oic.r.airquality.contaminanttype = \"PM2.5\"",
1130               "oic.r.airquality.valuetype = \"Measured\""
1131             ],
1132             "x-from-ocf": [
1133               "sensorPM2 = oic.r.airquality.contaminantvalue"
1134             ]
1135           }
1136         }
1137       }
1138     }
1139   }

```

```

1136     },
1137     "sensorPM10": {
1138         "type": "integer",
1139         "description": "Concentration of Particle Matter under 10um. Minimum value is 0, and
1140 maximum is 1000.",
1141         "x-ocf-conversion": {
1142             "x-ocf-alias": "oic.r.airquality",
1143             "x-to-ocf": [
1144                 "oic.r.airquality.contaminantvalue = sensorPM10",
1145                 "oic.r.airquality.contaminanttype = \"PM10\"",
1146                 "oic.r.airquality.valuetype = \"Measured\""
1147             ],
1148             "x-from-ocf": [
1149                 "sensorPM10 = oic.r.airquality.contaminantvalue"
1150             ]
1151         }
1152     },
1153     "sensorOdor": {
1154         "type": "integer",
1155         "description": "Concentration of odor that reflects air pollution. Minimum value is 0,
1156 and maximum is 1000.",
1157         "x-ocf-conversion": {
1158             "x-ocf-alias": "oic.r.airquality",
1159             "x-to-ocf": [
1160                 "oic.r.airquality.contaminantvalue = sensorOdor",
1161                 "oic.r.airquality.contaminanttype = \"Odor\"",
1162                 "oic.r.airquality.valuetype = \"Measured\""
1163             ],
1164             "x-from-ocf": [
1165                 "sensorOdor = oic.r.airquality.contaminantvalue"
1166             ]
1167         }
1168     },
1169     "sensorHumidity": {
1170         "type": "integer",
1171         "description": "Measured humidity. Minimum value is 0, and maximum is 100.",
1172         "x-ocf-conversion": {
1173             "x-ocf-alias": "oic.r.humidity",
1174             "x-to-ocf": [
1175                 "oic.r.humidity.humidity = sensorHumidity"
1176             ],
1177             "x-from-ocf": [
1178                 "sensorHumidity = oic.r.humidity.humidity"
1179             ]
1180         }
1181     },
1182     "monitoringEnabled": {
1183         "type": "boolean",
1184         "description": "1 allows monitoring this resource whereas 0 does not.",
1185         "x-ocf-conversion": {
1186             "x-ocf-alias": "oic.r.switch.binary",
1187             "x-to-ocf": [
1188                 "if monitoringEnabled == 0",
1189                 "oic.r.switch.binary.value = false",
1190                 "if monitoringEnabled == 1",
1191                 "oic.r.switch.binary.value = true"
1192             ],
1193             "x-from-ocf": [
1194                 "if oic.r.switch.binary.value == false",
1195                 "monitoringEnabled = 0",
1196                 "if oic.r.switch.binary.value == true",
1197                 "monitoringEnabled = 1"
1198             ]
1199         }
1200     },
1201     "CO2": {
1202         "type": "integer",
1203         "description": "This value indicates CO2 in ppm (parts per million)",
1204         "x-ocf-conversion": {
1205             "x-ocf-alias": "oic.r.airquality",
1206             "x-to-ocf": [

```



```

1207         "oic.r.airquality.contaminantvalue = CO2",
1208         "oic.r.airquality.contaminanttype = \"CO2\"",
1209         "oic.r.airquality.valuetype = \"Measured\""
1210     ],
1211     "x-from-ocf": [
1212         "CO2 = oic.r.airquality.contaminantvalue"
1213     ]
1214 },
1215 },
1216 "CO": {
1217     "type": "integer",
1218     "description": "This value indicates CO in ppm (parts per million)",
1219     "x-ocf-conversion": {
1220         "x-ocf-alias": "oic.r.airquality",
1221         "x-to-ocf": [
1222             "oic.r.airquality.contaminantvalue = CO",
1223             "oic.r.airquality.contaminanttype = \"CO\"",
1224             "oic.r.airquality.valuetype = \"Measured\""
1225         ],
1226         "x-from-ocf": [
1227             "CO = oic.r.airquality.contaminantvalue"
1228         ]
1229     }
1230 },
1231 "CH2O": {
1232     "type": "integer",
1233     "description": "This value indicates CH2O in ppm (parts per million)",
1234     "x-ocf-conversion": {
1235         "x-ocf-alias": "oic.r.airquality",
1236         "x-to-ocf": [
1237             "oic.r.airquality.contaminantvalue = CH2O",
1238             "oic.r.airquality.contaminanttype = \"CH2O\"",
1239             "oic.r.airquality.valuetype = \"Measured\""
1240         ],
1241         "x-from-ocf": [
1242             "CH2O = oic.r.airquality.contaminantvalue"
1243         ]
1244     }
1245 },
1246 "VOC": {
1247     "type": "integer",
1248     "description": "This value indicates VOC (Volatile Organic Compounds) in ppm (parts per
1249 million)",
1250     "x-ocf-conversion": {
1251         "x-ocf-alias": "oic.r.airquality",
1252         "x-to-ocf": [
1253             "oic.r.airquality.contaminantvalue = VOC",
1254             "oic.r.airquality.contaminanttype = \"VOC\"",
1255             "oic.r.airquality.valuetype = \"Measured\""
1256         ],
1257         "x-from-ocf": [
1258             "VOC = oic.r.airquality.contaminantvalue"
1259         ]
1260     }
1261 }
1262 }
1263 }
1264 },
1265 "type": "object",
1266 "allOf": [
1267     {"$ref": "#/definitions/onem2m.m.airqualitysensor"}
1268 ],
1269 "required": [ ]
1270 }
1271

```

## 1272 9.8 Alarm Speaker

### 1273 9.8.1 Derived model

1274 The derived model: "onem2m.m.alarmspeaker".

1275 **9.8.2 Property definition**

1276 Table 15 provides the detailed per Property mapping for "onem2m.m.alarmspeaker".

1277 **Table 15 – The property mapping for "onem2m.m.alarmspeaker".**

oneM2M Property name	OCF Resource	To OCF	From OCF
alarmStatus	oic.r.switch.binary	oic.r.switch.binary.value = alarmStatus	alarmStatus = oic.r.switch.binary.value
tone	oic.r.audiovolume	oic.r.audio.volume = tone * 20	tone = oic.r.audio.volume / 20
Light	oic.r.light.dimming	oic.r.light.dimming = Light	Light = oic.r.light.dimming

1278 Table 16 provides the details of the Properties that are part of "onem2m.m.alarmspeaker".

1279 **Table 16 – The properties of "onem2m.m.alarmspeaker".**

oneM2M Property name	Type	Required	Description
alarmStatus	boolean	yes	true indicates the alarm start while false indicates the alarm stop.
tone	integer	no	Representing the tones of the alarm
Light	integer	no	Representing the lighting mode of the alarm.

1280 **9.8.3 Derived model definition**

```

1281 {
1282   "id": "http://openinterconnect.org/onem2mmapping/schemas/onem2m.m.alarmspeaker.json#",
1283   "$schema": "http://json-schema.org/draft-04/schema#",
1284   "description": "Copyright (c) 2019 Open Connectivity Foundation, Inc. All rights reserved.",
1285   "title": "Alarm Speaker",
1286   "definitions": {
1287     "onem2m.m.alarmspeaker": {
1288       "type": "object",
1289       "properties": {
1290         "tone": {
1291           "type": "integer",
1292           "description": "Representing the tones of the alarm",
1293           "x-ocf-conversion": {
1294             "x-ocf-alias": "oic.r.audiovolume",
1295             "x-to-ocf": [
1296               "oic.r.audio.volume = tone * 20"
1297             ],
1298             "x-from-ocf": [
1299               "tone = oic.r.audio.volume / 20"

```

```

1300     ]
1301   }
1302 },
1303 "Light": {
1304   "type": "integer",
1305   "description": "Representing the lighting mode of the alarm.",
1306   "x-ocf-conversion": {
1307     "x-ocf-alias": "oic.r.light.dimming",
1308     "x-to-ocf": [
1309       "oic.r.light.dimming = Light"
1310     ],
1311     "x-from-ocf": [
1312       "Light = oic.r.light.dimming"
1313     ]
1314   }
1315 },
1316 "alarmStatus": {
1317   "type": "boolean",
1318   "description": "true indicates the alarm start while false indicates the alarm stop.",
1319   "x-ocf-conversion": {
1320     "x-ocf-alias": "oic.r.switch.binary",
1321     "x-to-ocf": [
1322       "oic.r.switch.binary.value = alarmStatus"
1323     ],
1324     "x-from-ocf": [
1325       "alarmStatus = oic.r.switch.binary.value"
1326     ]
1327   }
1328 }
1329 }
1330 }
1331 },
1332 "type": "object",
1333 "allOf": [
1334   {"$ref": "#/definitions/onem2m.m.airqualitysensor"}
1335 ],
1336 "required": [ "alarmStatus" ]
1337 }
1338

```

## 1339 9.9 Audio Volume

### 1340 9.9.1 Derived model

1341 The derived model: "onem2m.m.audioVolume".

### 1342 9.9.2 Property definition

1343 Table 17 provides the detailed per Property mapping for "onem2m.m.audioVolume".

1344 **Table 17 – The property mapping for "onem2m.audioVolume".**

oneM2M Property name	OCF Resource	To OCF	From OCF
muteEnabled	oic.r.audio	oic.r.audio.mute = muteEnabled	muteEnabled = oic.r.audio.mute
stepValue	oic.r.audio	oic.r.audio.step = stepValue	stepValue = oic.r.audio.step
maxValue	oic.r.audio	oic.r.audio.range[0] = 0oic.r.audio.range[1] = maxValue	maxValue = oic.r.audio.range[1]otherwise: maxvalue = 100

volumePercentage	oic.r.audio	oic.r.audio.volume = volumePercentage	volumePercentage = oic.r.audio.volume
------------------	-------------	--	--

1345 Table 18 provides the details of the Properties that are part of "onem2m.m.audioVolume".

1346 **Table 18 – The properties of "onem2m.audioVolume".**

oneM2M name	Property	Type	Required	Description
	muteEnabled	boolean	yes	The current status of the mute enablement
	stepValue	integer	no	Step value used by the 'UpVolume' and 'DownVolume' actions
	maxValue	integer	no	Maximum value allowed for Volume. maxValue is 100 by default if 'maxValue' is not provided
	volumePercentage	number	yes	The rounded percentage of the current volume

1347 **9.9.3 Derived model definition**

```

1348 {
1349   "id": "http://openinterconnect.org/onem2mmapping/schemas/onem2m.m.audioVolume.json#",
1350   "$schema": "http://json-schema.org/draft-04/schema#",
1351   "description": "Copyright (c) 2019 Open Connectivity Foundation, Inc. All rights reserved.",
1352   "title": "Audio Volume",
1353   "definitions": {
1354     "onem2m.m.audioVolume": {
1355       "type": "object",
1356       "properties": {
1357         "volumePercentage": {
1358           "type": "number",
1359           "description": "The rounded percentage of the current volume",
1360           "x-ocf-conversion": {
1361             "x-ocf-alias": "oic.r.audio",
1362             "x-to-ocf": [
1363               "oic.r.audio.volume = volumePercentage"
1364             ],
1365             "x-from-ocf": [
1366               "volumePercentage = oic.r.audio.volume"
1367             ]
1368           }
1369         },
1370         "muteEnabled": {
1371           "type": "boolean",
1372           "description": "The current status of the mute enablement",
1373           "x-ocf-conversion": {
1374             "x-ocf-alias": "oic.r.audio",
1375             "x-to-ocf": [
1376               "oic.r.audio.mute = muteEnabled"
1377             ],
1378             "x-from-ocf": [

```

```

1379         "muteEnabled = oic.r.audio.mute"
1380     ]
1381 }
1382 },
1383 "stepValue": {
1384     "type": "integer",
1385     "description": "Step value used by the 'UpVolume' and 'DownVolume' actions",
1386     "x-ocf-conversion": {
1387         "x-ocf-alias": "oic.r.audio",
1388         "x-to-ocf": [
1389             "oic.r.audio.step = stepValue"
1390         ],
1391         "x-from-ocf": [
1392             "stepValue = oic.r.audio.step"
1393         ]
1394     }
1395 },
1396 "maxValue": {
1397     "type": "integer",
1398     "description": "Maximum value allowed for Volume. maxValue is 100 by default if
1399 'maxValue' is not provided",
1400     "x-ocf-conversion": {
1401         "x-ocf-alias": "oic.r.audio",
1402         "x-to-ocf": [
1403             "oic.r.audio.range[0] = 0",
1404             "oic.r.audio.range[1] = maxValue"
1405         ],
1406         "x-from-ocf": [
1407             "maxValue = oic.r.audio.range[1]",
1408             "otherwise: maxvalue = 100"
1409         ]
1410     }
1411 }
1412 }
1413 },
1414 },
1415 "type": "object",
1416 "allOf": [
1417     {"$ref": "#/definitions/onem2m.m.audioVolume"}
1418 ],
1419 "required": [ "volumePercentage", "muteEnabled" ]
1420 }

```

## 1421 9.10 Auto Document Feeder

### 1422 9.10.1 Derived model

1423 The derived model: "onem2m.m.autodocumentfeeder".

### 1424 9.10.2 Property definition

1425 Table 19 provides the detailed per Property mapping for "onem2m.m.autodocumentfeeder".

1426 **Table 19 – The property mapping for "onem2m.m.autodocumentfeeder".**

oneM2M Property name	OCF Resource	To OCF	From OCF
adfStates	oic.r.operational.state	This is an array of strings in OCF and an array of integers in oneM2M. For each element in the source array, do the assignment into the same position in the destination	This is an array of strings in OCF and an array of integers in oneM2M. For each element in the source array, do the assignment into the same position in the destination array.adfStates[i] =

		array.oic.r.operational.state.jobStates[i] = adfStates[i]	oic.r.operational.state.jobStates[i]
currentAdfState	oic.r.operational.state	oic.r.operational.state.jobState = currentAdfState	currentAdfState = oic.r.operational.state.jobState

1427 Table 20 provides the details of the Properties that are part of "onem2m.m.autodocumentfeeder".

1428 **Table 20 – The properties of "onem2m.m.autodocumentfeeder".**

oneM2M name	Property	Type	Required	Description
adfStates		array	yes	List of possible adf states the device supports
currentAdfState		integer	yes	Currently active adf(auto document feeder) state.

1429 **9.10.3 Derived model definition**

```

1430 {
1431   "id": "http://openinterconnect.org/onem2mmapping/schemas/onem2m.m.autodocumentfeeder.json#",
1432   "$schema": "http://json-schema.org/draft-04/schema#",
1433   "description": "Copyright (c) 2019 Open Connectivity Foundation, Inc. All rights reserved.",
1434   "title": "Auto Document Feeder",
1435   "definitions": {
1436     "onem2m.m.autodocumentfeeder": {
1437       "type": "object",
1438       "properties": {
1439         "currentAdfState": {
1440           "type": "integer",
1441           "description": "Currently active adf(auto document feeder) state.",
1442           "x-ocf-conversion": {
1443             "x-ocf-alias": "oic.r.operational.state",
1444             "x-to-ocf": [
1445               "oic.r.operational.state.jobState = currentAdfState"
1446             ],
1447             "x-from-ocf": [
1448               "currentAdfState = oic.r.operational.state.jobState"
1449             ]
1450           }
1451         },
1452         "adfStates": {
1453           "type": "array",
1454           "description": "List of possible adf states the device supports",
1455           "x-ocf-conversion": {
1456             "x-ocf-alias": "oic.r.operational.state",
1457             "x-to-ocf": [
1458               "This is an array of strings in OCF and an array of integers in oneM2M. For each
1459 element in the source array, do the assignment into the same position in the destination array.",
1460               "oic.r.operational.state.jobStates[i] = adfStates[i]"
1461             ],
1462             "x-from-ocf": [
1463               "This is an array of strings in OCF and an array of integers in oneM2M. For each
1464 element in the source array, do the assignment into the same position in the destination array.",
1465               "adfStates[i] = oic.r.operational.state.jobStates[i]"
1466             ]
1467           }
1468         }
1469       }
1470     }
1471   }

```

```

1469     }
1470   }
1471 },
1472 "type": "object",
1473 "allOf": [
1474   {"$ref": "#/definitions/onem2m.m.autodocumentfeeder"}
1475 ],
1476 "required": [ "currentAdfState", "adfStates" ]
1477 }
1478

```

1479 **9.11 Battery**

1480 **9.11.1 Derived model**

1481 The derived model: "onem2m.m.battery".

1482 **9.11.2 Property definition**

1483 Table 21 provides the detailed per Property mapping for "onem2m.m.battery".

1484 **Table 21 – The property mapping for "onem2m.m.battery".**

oneM2M Property name	OCF Resource	To OCF	From OCF
material	oic.r.energy.battery	oic.r.batterymaterial.material = material Direct translation is difficult as OCF has declared an enumeration of strings where oneM2M has a free-form string. Translation code will need to determine which oneM2M strings can be mapped to the OCF enumerated values in oic.r.batterymaterial	material = oic.r.batterymaterial.material[INDEX]
electricEnergy	oic.r.energy.battery	oic.r.energy.electrical.current = electricEnergy	electricEnergy = oic.r.energy.electrical.current
charging	oic.r.energy.battery	oic.r.energy.battery.charging = charging	charging = oic.r.energy.battery.charging
discharging	oic.r.energy.battery	oic.r.energy.battery.discharging = discharging	discharging = oic.r.energy.battery.discharging
capacity	oic.r.energy.battery	oic.r.energy.battery.capacity = capacity / 1000	capacity = oic.r.energy.battery.capacity * 1000
level	oic.r.energy.battery	oic.r.energy.battery.charge = level	level = oic.r.energy.battery.charge

batteryThreshold	oic.r.energy.battery	oic.r.energy.battery.batterythreshold = batteryThreshold	batteryThreshold = oic.r.energy.battery.batterythreshold
voltage	oic.r.energy.battery	oic.r.energy.electrical.voltage = voltage	voltage = oic.r.energy.electrical.voltage
lowBattery	oic.r.energy.battery	oic.r.energy.battery.lowbattery = lowBattery	lowBattery = oic.r.energy.battery.lowbattery

1485 Table 22 provides the details of the Properties that are part of "onem2m.m.battery".

1486 **Table 22 – The properties of "onem2m.m.battery".**

oneM2M name	Property	Type	Required	Description
material		string	no	The material of the cell (for example lithium ion, nickel and lead)
electricEnergy		integer	no	Rated electric energy. The unit of measure is ampere (A)
charging		boolean	no	The status of charging. 'True' indicates enabled, and 'False' indicates not enabled
discharging		boolean	no	The status of discharging. 'True' indicates charging, and 'False' indicates not charging
capacity		integer	no	The total capacity of battery in mAh
level		integer	yes	The rounded percentage of the current charging level of a battery in the range of [0, 100]
batteryThreshold		integer	no	When a battery's 'level' is less than 'batteryThreshold' then 'lowBattery' is set



			to 'True'. This datapoint can be used to raise an alarm, depending on the implementation
voltage	integer	no	Rated voltage. The unit of measure is volts (V)
lowBattery	boolean	no	To indicate that the battery is on a low charge level

1487 **9.11.3 Derived model definition**

```

1488 {
1489   "id": "http://openinterconnect.org/onem2mmapping/schemas/onem2m.m.battery.json#",
1490   "$schema": "http://json-schema.org/draft-04/schema#",
1491   "description": "Copyright (c) 2019 Open Connectivity Foundation, Inc. All rights reserved.",
1492   "title": "Battery",
1493   "definitions": {
1494     "onem2m.m.battery": {
1495       "type": "object",
1496       "properties": {
1497         "level": {
1498           "type": "integer",
1499           "description": "The rounded percentage of the current charging level of a battery in the
1500 range of [0, 100]",
1501           "x-ocf-conversion": {
1502             "x-ocf-alias": "oic.r.energy.battery",
1503             "x-to-ocf": [
1504               "oic.r.energy.battery.charge = level"
1505             ],
1506             "x-from-ocf": [
1507               "level = oic.r.energy.battery.charge"
1508             ]
1509           }
1510         },
1511         "capacity": {
1512           "type": "integer",
1513           "description": "The total capacity of battery in mAh",
1514           "x-ocf-conversion": {
1515             "x-ocf-alias": "oic.r.energy.battery",
1516             "x-to-ocf": [
1517               "oic.r.energy.battery.capacity = capacity / 1000"
1518             ],
1519             "x-from-ocf": [
1520               "capacity = oic.r.energy.battery.capacity * 1000"
1521             ]
1522           }
1523         },
1524         "charging": {
1525           "type": "boolean",
1526           "description": "The status of charging. 'True' indicates enabled, and 'False' indicates
1527 not enabled",
1528           "x-ocf-conversion": {
1529             "x-ocf-alias": "oic.r.energy.battery",
1530             "x-to-ocf": [
1531               "oic.r.energy.battery.charging = charging"
1532             ],
1533             "x-from-ocf": [
1534               "charging = oic.r.energy.battery.charging"
1535             ]
1536           }
1537         }
1538       }
1539     }
1540   }

```

```

1538     "discharging": {
1539       "type": "boolean",
1540       "description": "The status of discharging. 'True' indicates charging, and 'False'
1541 indicates not charging",
1542       "x-ocf-conversion": {
1543         "x-ocf-alias": "oic.r.energy.battery",
1544         "x-to-ocf": [
1545           "oic.r.energy.battery.discharging = discharging"
1546         ],
1547         "x-from-ocf": [
1548           "discharging = oic.r.energy.battery.discharging"
1549         ]
1550       }
1551     },
1552     "lowBattery": {
1553       "type": "boolean",
1554       "description": "To indicate that the battery is on a low charge level",
1555       "x-ocf-conversion": {
1556         "x-ocf-alias": "oic.r.energy.battery",
1557         "x-to-ocf": [
1558           "oic.r.energy.battery.lowbattery = lowBattery"
1559         ],
1560         "x-from-ocf": [
1561           "lowBattery = oic.r.energy.battery.lowbattery"
1562         ]
1563       }
1564     },
1565     "batteryThreshold": {
1566       "type": "integer",
1567       "description": "When a battery's 'level' is less than 'batteryThreshold' then
1568 'lowBattery' is set to 'True'. This datapoint can be used to raise an alarm, depending on the
1569 implementation",
1570       "x-ocf-conversion": {
1571         "x-ocf-alias": "oic.r.energy.battery",
1572         "x-to-ocf": [
1573           "oic.r.energy.battery.batterythreshold = batteryThreshold"
1574         ],
1575         "x-from-ocf": [
1576           "batteryThreshold = oic.r.energy.battery.batterythreshold"
1577         ]
1578       }
1579     },
1580     "electricEnergy": {
1581       "type": "integer",
1582       "description": "Rated electric energy. The unit of measure is ampere (A)",
1583       "x-ocf-conversion": {
1584         "x-ocf-alias": "oic.r.energy.battery",
1585         "x-to-ocf": [
1586           "oic.r.energy.electrical.current = electricEnergy"
1587         ],
1588         "x-from-ocf": [
1589           "electricEnergy = oic.r.energy.electrical.current"
1590         ]
1591       }
1592     },
1593     "voltage": {
1594       "type": "integer",
1595       "description": "Rated voltage. The unit of measure is volts (V)",
1596       "x-ocf-conversion": {
1597         "x-ocf-alias": "oic.r.energy.battery",
1598         "x-to-ocf": [
1599           "oic.r.energy.electrical.voltage = voltage"
1600         ],
1601         "x-from-ocf": [
1602           "voltage = oic.r.energy.electrical.voltage"
1603         ]
1604       }
1605     },
1606     "material": {
1607       "type": "string",
1608       "description": "The material of the cell (for example lithium ion, nickel and lead",

```

```

1609         "x-ocf-conversion": {
1610             "x-ocf-alias": "oic.r.energy.battery",
1611             "x-to-ocf": [
1612                 "oic.r.batterymaterial.material = material",
1613                 "Direct translation is difficult as OCF has declared an enumeration of strings where
1614 oneM2M has a free-form string. Translation code will need to determine which oneM2M strings can be
1615 mapped to the OCF enumerated values in oic.r.batterymaterial"
1616             ],
1617             "x-from-ocf": [
1618                 "material = oic.r.batterymaterial.material[INDEX]"
1619             ]
1620         }
1621     }
1622 }
1623 }
1624 },
1625 "type": "object",
1626 "allOf": [
1627     {"$ref": "#/definitions/onem2m.m.battery"}
1628 ],
1629 "required": [ "level" ]
1630 }

```

1631 **9.12 Binary Object**

1632 **9.12.1 Derived model**

1633 The derived model: "onem2m.m.binaryobject".

1634 **9.12.2 Property definition**

1635 Table 23 provides the detailed per Property mapping for "onem2m.m.binaryobject".

1636 **Table 23 – The property mapping for "onem2m.m.binaryobject".**

oneM2M Property name	OCF Resource	To OCF	From OCF
objectType	oic.r.opaquedata	oic.r.opaquedata.payloadtype = objectType	objectType = oic.r.opaquedata.payloadtype
object	oic.r.opaquedata	oic.r.opaquedata.payload = object oic.r.opaquedata.encoding = "base64" oic.r.opaquedata.system = "oneM2M"	If the OCF encoding is not base64, then the payload would need to be converted to base64 object = oic.r.opaquedata.payload
size	oic.r.opaquedata	oic.r.opaquedata.size = size	size = oic.r.opaquedata.size
hash	oic.r.opaquedata	oic.r.opaquedata.hash = hash	hash = oic.r.opaquedata.hash

1637 Table 24 provides the details of the Properties that are part of "onem2m.m.binaryobject".

Table 24 – The properties of "onem2m.m.binaryobject".

oneM2M name	Property	Type	Required	Description
objectType		string	yes	This data point contains the type and subtype of the binary object as a MIME type.
object		string	yes	This data point contains the base64 encoded binary object.
size		integer	no	The size of the decoded binary object.
hash		string	no	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.

### 1639 9.12.3 Derived model definition

```

1640 {
1641   "id": "http://openinterconnect.org/onem2mmapping/schemas/onem2m.m.binaryobject.json#",
1642   "$schema": "http://json-schema.org/draft-04/schema#",
1643   "description": "Copyright (c) 2019 Open Connectivity Foundation, Inc. All rights reserved.",
1644   "title": "Binary Object",
1645   "definitions": {
1646     "onem2m.m.binaryobject": {
1647       "type": "object",
1648       "properties": {
1649         "object": {
1650           "type": "string",
1651           "description": "This data point contains the base64 encoded binary object.",
1652           "x-ocf-conversion": {
1653             "x-ocf-alias": "oic.r.opaquedata",
1654             "x-to-ocf": [
1655               "oic.r.opaquedata.payload = object",
1656               "oic.r.opaquedata.encoding = \"base64\"",
1657               "oic.r.opaquedata.system = \"oneM2M\""
1658             ],
1659             "x-from-ocf": [
1660               "If the OCF encoding is not base64, then the payload would need to be converted to
1661               base64",
1662               "object = oic.r.opaquedata.payload"
1663             ]
1664           }
1665         }
1666       }
1667     }
1668   }

```

```

1665     },
1666     "objectType": {
1667         "type": "string",
1668         "description": "This data point contains the type and subtype of the binary object as a
1669 MIME type.",
1670         "x-ocf-conversion": {
1671             "x-ocf-alias": "oic.r.opaquedata",
1672             "x-to-ocf": [
1673                 "oic.r.opaquedata.payloadtype = objectType"
1674             ],
1675             "x-from-ocf": [
1676                 "objectType = oic.r.opaquedata.payloadtype"
1677             ]
1678         }
1679     },
1680     "size": {
1681         "type": "integer",
1682         "description": "The size of the decoded binary object.",
1683         "x-ocf-conversion": {
1684             "x-ocf-alias": "oic.r.opaquedata",
1685             "x-to-ocf": [
1686                 "oic.r.opaquedata.size = size"
1687             ],
1688             "x-from-ocf": [
1689                 "size = oic.r.opaquedata.size"
1690             ]
1691         }
1692     },
1693     "hash": {
1694         "type": "string",
1695         "description": "The hash code of the blob. If present, it is used to check the decoded
1696 content of the \"object\" data point for integrity. The algorithm used for generating the hash
1697 value is SHA-2 [15]. The data point contains the hash as a hex encoded value.",
1698         "x-ocf-conversion": {
1699             "x-ocf-alias": "oic.r.opaquedata",
1700             "x-to-ocf": [
1701                 "oic.r.opaquedata.hash = hash"
1702             ],
1703             "x-from-ocf": [
1704                 "hash = oic.r.opaquedata.hash"
1705             ]
1706         }
1707     }
1708 }
1709 }
1710 },
1711 "type": "object",
1712 "allOf": [
1713     {"$ref": "#/definitions/onem2m.m.opaquedata"}
1714 ],
1715 "required": [ "object", "objectType" ]
1716 }
1717

```

## 1718 9.13 Binary Switch

### 1719 9.13.1 Derived model

1720 The derived model: "onem2m.m.binaryswitch".

### 1721 9.13.2 Property definition

1722 Table 25 provides the detailed per Property mapping for "onem2m.m.binaryswitch".

1723 **Table 25 – The property mapping for "onem2m.m.binaryswitch".**

oneM2M Property name	OCF Resource	To OCF	From OCF

powerState	oic.r.swtich.binary	oic.r.switch.binary.value = powerState	powerState = oic.r.switch.binary.value
------------	---------------------	---	---

1724 Table 26 provides the details of the Properties that are part of "onem2m.m.binaryswitch".

1725 **Table 26 – The properties of "onem2m.m.binaryswitch."**

oneM2M name	Property	Type	Required	Description
powerState		boolean	yes	Status of the switch

1726 **9.13.3 Derived model definition**

```

1727 {
1728   "id": "http://openinterconnect.org/onem2mmapping/schemas/onem2m.m.binaryswitch.json#",
1729   "$schema": "http://json-schema.org/draft-04/schema#",
1730   "description": "Copyright (c) 2019 Open Connectivity Foundation, Inc. All rights reserved.",
1731   "title": "Binary Switch",
1732   "definitions": {
1733     "onem2m.m.binaryswitch": {
1734       "type": "object",
1735       "properties": {
1736         "powerState": {
1737           "type": "boolean",
1738           "description": "Status of the switch",
1739           "x-ocf-conversion": {
1740             "x-ocf-alias": "oic.r.swtich.binary",
1741             "x-to-ocf": [
1742               "oic.r.switch.binary.value = powerState"
1743             ],
1744             "x-from-ocf": [
1745               "powerState = oic.r.switch.binary.value"
1746             ]
1747           }
1748         }
1749       }
1750     }
1751   },
1752   "type": "object",
1753   "allOf": [
1754     {"$ref": "#/definitions/onem2m.m.binaryswitch"}
1755   ],
1756   "required": [ "powerState" ]
1757 }

```

1758 **9.14 Boiler**

1759 **9.14.1 Derived model**

1760 The derived model: "onem2m.m.boiler".

1761 **9.14.2 Property definition**

1762 Table 27 provides the detailed per Property mapping for "onem2m.m.boiler".

1763 **Table 27 – The property mapping for "onem2m.m.boiler".**

oneM2M name	Property	OCF Resource	To OCF	From OCF
-------------	----------	--------------	--------	----------

status	oic.r.sensor	oic.r.sensor.value = status	status = oic.r.sensor.value
--------	--------------	-----------------------------	-----------------------------

1764 Table 28 provides the details of the Properties that are part of "onem2m.m.boiler".

1765 **Table 28 – The properties of "onem2m.m.boiler".**

oneM2M name	Property	Type	Required	Description
status		boolean	yes	The status of boiling.

1766 **9.14.3 Derived model definition**

```

1767 {
1768   "id": "http://openinterconnect.org/onem2mmapping/schemas/onem2m.m.boiler.json#",
1769   "$schema": "http://json-schema.org/draft-04/schema#",
1770   "description": "Copyright (c) 2019 Open Connectivity Foundation, Inc. All rights reserved.",
1771   "title": "Boiler",
1772   "definitions": {
1773     "onem2m.m.boiler": {
1774       "type": "object",
1775       "properties": {
1776         "status": {
1777           "type": "boolean",
1778           "description": "The status of boiling.",
1779           "x-ocf-conversion": {
1780             "x-ocf-alias": "oic.r.sensor",
1781             "x-to-ocf": [
1782               "oic.r.sensor.value = status"
1783             ],
1784             "x-from-ocf": [
1785               "status = oic.r.sensor.value"
1786             ]
1787           }
1788         }
1789       }
1790     },
1791     "type": "object",
1792     "allOf": [
1793       { "$ref": "#/definitions/onem2m.m.boiler" }
1794     ],
1795     "required": [ "status" ]
1796   }
1797 }
1798

```

1799 **9.15 Brewing**

1800 **9.15.1 Derived model**

1801 The derived model: "onem2m.m.brewing".

1802 **9.15.2 Property definition**

1803 Table 29 provides the detailed per Property mapping for "onem2m.m.brewing".

1804 **Table 29 – The property mapping for "onem2m.m.brewing".**

oneM2M Property name	OCF Resource	To OCF	From OCF
----------------------	--------------	--------	----------

cupsNumber	oic.r.brewing	oic.r.brewing.amountrequested = cupsNumber * 150	cupsNumber = floor(oic.r.brewing.amountrequested / 150)
strength	oic.r.brewing	oic.r.brewing.strengthrange[0] = 1 oic.r.brewing.strengthrange[1] = 5 oic.r.brewing.strength = strength	oic.r.brewing.strengthrange[0] = 1 oic.r.brewing.strengthrange[1] = 5 strength = oic.r.brewing.strength

1805 Table 30 provides the details of the Properties that are part of "onem2m.m.brewing".

1806 **Table 30 – The properties of "onem2m.m.brewing".**

oneM2M name	Property	Type	Required	Description
cupsNumber		integer	yes	The current number of the cups requested to brew
strength		integer	no	The current strength of the drink taste. A higher value indicates a stronger taste

1807 **9.15.3 Derived model definition**

```

1808 {
1809   "id": "http://openinterconnect.org/onem2mmapping/schemas/onem2m.m.brewing.json#",
1810   "$schema": "http://json-schema.org/draft-04/schema#",
1811   "description": "Copyright (c) 2019 Open Connectivity Foundation, Inc. All rights reserved.",
1812   "title": "Brewing",
1813   "definitions": {
1814     "onem2m.m.brewing": {
1815       "type": "object",
1816       "properties": {
1817         "cupsNumber": {
1818           "type": "integer",
1819           "description": "The current number of the cups requested to brew",
1820           "x-ocf-conversion": {
1821             "x-ocf-alias": "oic.r.brewing",
1822             "x-to-ocf": [
1823               "oic.r.brewing.amountrequested = cupsNumber * 150"
1824             ],
1825             "x-from-ocf": [
1826               "cupsNumber = floor(oic.r.brewing.amountrequested / 150)"
1827             ]
1828           }
1829         },
1830         "strength": {
1831           "type": "integer",
1832           "description": "The current strength of the drink taste. A higher value indicates a
1833 stronger taste",
1834           "x-ocf-conversion": {
1835             "x-ocf-alias": "oic.r.brewing",
1836             "x-to-ocf": [
1837               "oic.r.brewing.strengthrange[0] = 1",
1838               "oic.r.brewing.strengthrange[1] = 5",
1839               "oic.r.brewing.strength = strength"
1840             ],

```



```

1841         "x-from-ocf": [
1842             "oic.r.brewing.strengthrange[0] = 1",
1843             "oic.r.brewing.strengthrange[1] = 5",
1844             "strength = oic.r.brewing.strength"
1845         ]
1846     }
1847 }
1848 }
1849 }
1850 },
1851 "type": "object",
1852 "allOf": [
1853     {"$ref": "#/definitions/onem2m.m.brewing"}
1854 ],
1855 "required": [ "cupsNumber" ]
1856 }

```

1857 **9.16 Brightness**

1858 **9.16.1 Derived model**

1859 The derived model: "onem2m.m.brightness".

1860 **9.16.2 Property definition**

1861 Table 31 provides the detailed per Property mapping for "onem2m.m.brightness".

1862 **Table 31 – The property mapping for "onem2m.m.brightness".**

oneM2M Property name	OCF Resource	To OCF	From OCF
brightness	oic.r.light.brightness	oic.r.light.brightness.brightness = brightness	brightness = oic.r.light.brightness.brightness

1863 Table 32 provides the details of the Properties that are part of "onem2m.m.brightness".

1864 **Table 32 – The properties of "onem2m.m.brightness".**

oneM2M Property name	Type	Required	Description
brightness	integer	yes	The status of brightness level in percentage

1865 **9.16.3 Derived model definition**

```

1866 {
1867     "id": "http://openinterconnect.org/onem2mmapping/schemas/onem2m.m.brightness.json#",
1868     "$schema": "http://json-schema.org/draft-04/schema#",
1869     "description": "Copyright (c) 2019 Open Connectivity Foundation, Inc. All rights reserved.",
1870     "title": "Brightness",
1871     "definitions": {
1872         "onem2m.m.brightness": {
1873             "type": "object",
1874             "properties": {
1875                 "brightness": {
1876                     "type": "integer",
1877                     "description": "The status of brightness level in percentage",
1878                     "x-ocf-conversion": {

```

```

1879         "x-ocf-alias": "oic.r.light.brightness",
1880         "x-to-ocf": [
1881             "oic.r.light.brightness.brightness = brightness"
1882         ],
1883         "x-from-ocf": [
1884             "brightness = oic.r.light.brightness.brightness"
1885         ]
1886     }
1887 }
1888 }
1889 }
1890 },
1891 "type": "object",
1892 "allOf": [
1893     { "$ref": "#/definitions/onem2m.m.brightness" }
1894 ],
1895 "required": [ "brightness" ]
1896 }

```

1897 **9.17 Clock**

1898 **9.17.1 Derived model**

1899 The derived model: "onem2m.m.clock".

1900 **9.17.2 Property definition**

1901 Table 33 provides the detailed per Property mapping for "onem2m.m.clock".

1902 **Table 33 – The property mapping for "onem2m.m.clock".**

oneM2M name	Property	OCF Resource	To OCF	From OCF
currentTime		oic.r.clock	bytecpy ( oic.r.clock.datetime + "timepos", currentTime, "timelen" );	bytecpy ( currentTime, oic.r.clock.datetime + "timepos", "timelen" );
currentDate		oic.r.clock	bytecpy ( oic.r.clock.datetime + "datepos", currentDate, "datelen" );	bytecpy ( currentDate, oic.r.clock.datetime + "datepos", "datelen" );
currentTimeZone		oic.r.clock	Convert IANA formatted currentTimeZone to oic.r.clock.datetime timezone offset location using library calltx_convert ( oic.r.clock.datetime + "tzpos", currentTimeZone );	Convert oic.r.clock.datetime timezone offset location in IANA formatted currentTimeZone using library calltz_convert ( currentTimeZone, oic.r.clock.datetime + "tzpos" );

1903 Table 34 provides the details of the Properties that are part of "onem2m.m.clock".

Table 34 – The properties of "onem2m.m.clock".

oneM2M Property name	Type	Required	Description
currentTime	string	yes	Information of the current time.
currentDate	string	yes	Information of the current time.
currentTimeZone	string	no	Name of current time zone according to the IANA Timezone data format (TZ) ( <a href="https://www.iana.org/time-zones">https://www.iana.org/time-zones</a> ).

### 1905 9.17.3 Derived model definition

```

1906 {
1907   "id": "http://openinterconnect.org/onem2mmapping/schemas/onem2m.m.clock.json#",
1908   "$schema": "http://json-schema.org/draft-04/schema#",
1909   "description": "Copyright (c) 2019 Open Connectivity Foundation, Inc. All rights reserved.",
1910   "title": "Clock",
1911   "definitions": {
1912     "onem2m.m.clock": {
1913       "type": "object",
1914       "properties": {
1915         "currentTime": {
1916           "type": "string",
1917           "description": "Information of the current time.",
1918           "x-ocf-conversion": {
1919             "x-ocf-alias": "oic.r.clock",
1920             "x-to-ocf": [
1921               "bytecpy ( oic.r.clock.datetime + \"timepos\", currentTime, \"timelen\" );"
1922             ],
1923             "x-from-ocf": [
1924               "bytecpy ( currentTime, oic.r.clock.datetime + \"timepos\", \"timelen\" );"
1925             ]
1926           }
1927         },
1928         "currentDate": {
1929           "type": "string",
1930           "description": "Information of the current time.",
1931           "x-ocf-conversion": {
1932             "x-ocf-alias": "oic.r.clock",
1933             "x-to-ocf": [
1934               "bytecpy ( oic.r.clock.datetime + \"datepos\", currentDate, \"datelen\" );"
1935             ],
1936             "x-from-ocf": [
1937               "bytecpy ( currentDate, oic.r.clock.datetime + \"datepos\", \"datelen\" );"
1938             ]
1939           }
1940         },
1941         "currentTimeZone": {
1942           "type": "string",
1943           "description": "Name of current time zone according to the IANA Timezone data format (TZ)
1944 (https://www.iana.org/time-zones).",
1945           "x-ocf-conversion": {
1946             "x-ocf-alias": "oic.r.clock",
1947             "x-to-ocf": [
1948               "Convert IANA formatted currentTimeZone to oic.r.clock.datetime timezone offset
1949 location using library call",
1950               "tx_convert ( oic.r.clock.datetime + \"tzpos\", currentTimeZone );"

```

```

1951     ],
1952     "x-from-ocf": [
1953       "Convert oic.r.clock.datetime timezone offset location in IANA formatted
1954       currentTimeZone using library call",
1955       "tz_convert ( currentTimeZone, oic.r.clock.datetime + \"tzpos\" );"
1956     ]
1957   }
1958 }
1959 }
1960 }
1961 },
1962 "type": "object",
1963 "allOf": [
1964   {"$ref": "#/definitions/onem2m.m.clock"}
1965 ],
1966 "required": [ "currentTime", "currentDate" ]
1967 }
1968

```

1969 **9.18 Clothes Dryer Job Mode**

1970 **9.18.1 Derived model**

1971 The derived model: "onem2m.m.clothesdryerjobmode".

1972 **9.18.2 Property definition**

1973 Table 35 provides the detailed per Property mapping for "onem2m.m.clothesdryerjobmode".

1974 **Table 35 – The property mapping for "onem2m.m.clothesdryerjobmode".**

oneM2M Property name	OCF Resource	To OCF	From OCF
currentJobModeName	oic.r.operational.state	This value does not exist in OCF as it is already accommodated in the currentJobMode property.	Need to translate between the OCF operational state enumerated string and the oneM2M string value if (oic.r.operational.state.currentJobState == "normal" ) { currentJobModeName = "normal"; }if (oic.r.operational.state.currentJobState == "quick" ) { currentJobModeName = "quickDry"; }if (oic.r.operational.state.currentJobState == "permapress" { currentJobModeName = "permanentPress"; }if (oic.r.operational.state.currentJobState == "heavy" ) { currentJobModeName = "heavyDuty"; }if (oic.r.operational.state.currentJobState == "delicate" ) { currentJobModeName = "delicates"; }if (oic.r.operational.state.currentJobState == "airDry" )

			<pre> { currentJobModeName = "airDry";           }if (oic.r.operational.state.curr entJobState == "extended" ) { currentJobModeName = "extendedTumble";   }else { currentJobModeName = ""; } </pre>
jobModes	oic.r.operational.state	This does not exist in OCF as all possible operational states are available.	This is an array of integers in oneM2M defined by the current version of the specification as follows: <pre> jobModes[1] = 1jobModes[2] = 2jobModes[3] = 3jobModes[4] = 4jobModes[5] = 5jobModes[6] = 6jobModes[7] = 7 </pre>
currentJobMode	oic.r.operational.state	Need to translate between the oneM2M integer value and the OCF operational state enumerated string <pre> if ( currentJobMode == 1 ) { oic.r.operational.state.curr entJobState == "normal"; }if ( currentJobMode == 2 ) { oic.r.operational.state.curr entJobState == "quick"; }if ( currentJobMode == 3 ) { oic.r.operational.state.curr entJobState == "permapress";           }if ( currentJobMode == 4 ) { oic.r.operational.state.curr entJobState == "heavy"; }if ( currentJobMode == 5 ) { oic.r.operational.state.curr entJobState == "delicate"; }if ( currentJobMode == 6 ) { oic.r.operational.state.curr entJobState == "airDry"; }if ( currentJobMode == 7 ) { oic.r.operational.state.curr entJobState == "extended";           }else { oic.r.operational.state.curr entJobState == "unknown"; } </pre>	Need to translate between the OCF operational state enumerated string and the oneM2M integer value <pre> if (oic.r.operational.state.curr entJobState == "normal" ) { currentJobMode = 1; }if (oic.r.operational.state.curr entJobState == "quick" ) { currentJobMode = 2; }if (oic.r.operational.state.curr entJobState == "permapress"           == "permapress" ) { currentJobMode = 3; }if (oic.r.operational.state.curr entJobState == "heavy" ) { currentJobMode = 4; }if (oic.r.operational.state.curr entJobState == "delicate" ) { currentJobMode = 5; }if (oic.r.operational.state.curr entJobState == "airDry" ) { currentJobMode = 6; }if (oic.r.operational.state.curr entJobState == "extended" ) { currentJobMode = 7; }else { currentJobMode = 0; } </pre>

1975 Table 36 provides the details of the Properties that are part of "onem2m.m.clothesdryerjobmode".

**Table 36 – The properties of "onem2m.m.clothesdryerjobmode".**

oneM2M name	Property	Type	Required	Description
currentJobModeName		string	no	Name of current job mode in string. This can be used when currentJobMode is vendor-specific.
jobModes		array	yes	List of possible job states the device supports
currentJobMode		integer	yes	Currently active job mode.

1977

**9.18.3 Derived model definition**

1978

```

1979 {
1980   "id": "http://openinterconnect.org/onem2mmapping/schemas/onem2m.m.clothesdryerjobmode.json#",
1981   "$schema": "http://json-schema.org/draft-04/schema#",
1982   "description": "Copyright (c) 2019 Open Connectivity Foundation, Inc. All rights reserved.",
1983   "title": "Clothes Dryer Job Mode",
1984   "definitions": {
1985     "onem2m.m.clothesdryerjobmode": {
1986       "type": "object",
1987       "properties": {
1988         "currentJobMode": {
1989           "type": "integer",
1990           "description": "Currently active job mode.",
1991           "x-ocf-conversion": {
1992             "x-ocf-alias": "oic.r.operational.state",
1993             "x-to-ocf": [
1994               "Need to translate between the oneM2M integer value and the OCF operational state
1995               enumerated string",
1996               "if ( currentJobMode == 1 ) { oic.r.operational.state.currentJobState ==
1997               \"normal\"; }",
1998               "if ( currentJobMode == 2 ) { oic.r.operational.state.currentJobState ==
1999               \"quick\"; }",
2000               "if ( currentJobMode == 3 ) { oic.r.operational.state.currentJobState ==
2001               \"permapress\"; }",
2002               "if ( currentJobMode == 4 ) { oic.r.operational.state.currentJobState ==
2003               \"heavy\"; }",
2004               "if ( currentJobMode == 5 ) { oic.r.operational.state.currentJobState ==
2005               \"delicate\"; }",
2006               "if ( currentJobMode == 6 ) { oic.r.operational.state.currentJobState ==
2007               \"airDry\"; }",
2008               "if ( currentJobMode == 7 ) { oic.r.operational.state.currentJobState ==
2009               \"extended\"; }",
2010               "else { oic.r.operational.state.currentJobState == \"unknown\"; }"
2011             ],
2012             "x-from-ocf": [
2013               "Need to translate between the OCF operational state enumerated string and the oneM2M
2014               integer value",
2015               "if ( oic.r.operational.state.currentJobState == \"normal\" ) { currentJobMode =
2016               1; }",
2017               "if ( oic.r.operational.state.currentJobState == \"quick\" ) { currentJobMode = 2; }",
2018               "if ( oic.r.operational.state.currentJobState == \"permapress\" ) { currentJobMode =
2019               3; }",
2020               "if ( oic.r.operational.state.currentJobState == \"heavy\" ) { currentJobMode = 4; }",
2021               "if ( oic.r.operational.state.currentJobState == \"delicate\" ) { currentJobMode =

```

```

2022         "if (oic.r.operational.state.currentJobState == \"airDry\" ) { currentJobMode =
2023 6; }",
2024         "if (oic.r.operational.state.currentJobState == \"extended\" ) { currentJobMode =
2025 7; }",
2026         "else { currentJobMode = 0; }"
2027     ]
2028     },
2029     },
2030     "currentJobModeName": {
2031         "type": "string",
2032         "description": "Name of current job mode in string. This can be used when currentJobMode
2033 is vendor-specific.",
2034         "x-ocf-conversion": {
2035             "x-ocf-alias": "oic.r.operational.state",
2036             "x-to-ocf": [
2037                 "This value does not exist in OCF as it is already accommodated in the currentJobMode
2038 property."
2039             ],
2040             "x-from-ocf": [
2041                 "Need to translate between the OCF operational state enumerated string and the oneM2M
2042 string value",
2043                 "if (oic.r.operational.state.currentJobState == \"normal\" ) { currentJobModeName =
2044 \"normal\"; }",
2045                 "if (oic.r.operational.state.currentJobState == \"quick\" ) { currentJobModeName =
2046 \"quickDry\"; }",
2047                 "if (oic.r.operational.state.currentJobState == \"permapress\" ) { currentJobModeName =
2048 \"permanentPress\"; }",
2049                 "if (oic.r.operational.state.currentJobState == \"heavy\" ) { currentJobModeName =
2050 \"heavyDuty\"; }",
2051                 "if (oic.r.operational.state.currentJobState == \"delicate\" ) { currentJobModeName =
2052 \"delicates\"; }",
2053                 "if (oic.r.operational.state.currentJobState == \"airDry\" ) { currentJobModeName =
2054 \"airDry\"; }",
2055                 "if (oic.r.operational.state.currentJobState == \"extended\" ) { currentJobModeName =
2056 \"extendedTumble\"; }",
2057                 "else { currentJobModeName = \"\"; }"
2058             ]
2059         },
2060     },
2061     "jobModes": {
2062         "type": "array",
2063         "description": "List of possible job states the device supports",
2064         "x-ocf-conversion": {
2065             "x-ocf-alias": "oic.r.operational.state",
2066             "x-to-ocf": [
2067                 "This does not exist in OCF as all possible operational states are available."
2068             ],
2069             "x-from-ocf": [
2070                 "This is an array of integers in oneM2M defined by the current version of the
2071 specification as follows:",
2072                 "jobModes[1] = 1",
2073                 "jobModes[2] = 2",
2074                 "jobModes[3] = 3",
2075                 "jobModes[4] = 4",
2076                 "jobModes[5] = 5",
2077                 "jobModes[6] = 6",
2078                 "jobModes[7] = 7"
2079             ]
2080         },
2081     },
2082     },
2083     },
2084     },
2085     "type": "object",
2086     "allOf": [
2087         {"$ref": "#/definitions/oneM2M.airconjobmode"}
2088     ],
2089     "required": [ "currentJobMode", "jobModes" ]
2090 }

```

2091 **9.19 Colour**

2092 **9.19.1 Derived model**

2093 The derived model: "onem2m.m.colour".

2094 **9.19.2 Property definition**

2095 Table 37 provides the detailed per Property mapping for "onem2m.m.colour".

2096 **Table 37 – The property mapping for "onem2m.m.colour".**

oneM2M Property name	OCF Resource	To OCF	From OCF
red	oic.r.colour	oic.r.colour.rgb.rgbValue[0] = red	red = oic.r.colour.rgb.rgbValue[0]
blue	oic.r.colour	oic.r.colour.rgb.rgbValue[2] = blue	blue = oic.r.colour.rgb.rgbValue[2]
green	oic.r.colour	oic.r.colour.rgb.rgbValue[1] = green	green = oic.r.colour.rgb.rgbValue[1]

2097 Table 38 provides the details of the Properties that are part of "onem2m.m.colour".

2098 **Table 38 – The properties of "onem2m.m.colour".**

oneM2M name	Property	Type	Required	Description
red		integer	yes	The value of the Red colour channel of RGB. The range is [0,255]
blue		integer	yes	The value of the Blue colour channel of RGB. The range is [0,255]
green		integer	yes	The value of the Green colour channel of RGB. The range is [0,255]

2099 **9.19.3 Derived model definition**

```

2100 {
2101   "id": "http://openinterconnect.org/onem2mmapping/schemas/onem2m.m.colour.json#",
2102   "$schema": "http://json-schema.org/draft-04/schema#",
2103   "description": "Copyright (c) 2019 Open Connectivity Foundation, Inc. All rights reserved.",
2104   "title": "Colour",
2105   "definitions": {
2106     "onem2m.m.colour": {
2107       "type": "object",
2108       "properties": {

```



```

2109     "red": {
2110         "type": "integer",
2111         "description": "The value of the Red colour channel of RGB. The range is [0,255]",
2112         "x-ocf-conversion": {
2113             "x-ocf-alias": "oic.r.colour",
2114             "x-to-ocf": [
2115                 "oic.r.colour.rgb.rgbValue[0] = red"
2116             ],
2117             "x-from-ocf": [
2118                 "red = oic.r.colour.rgb.rgbValue[0]"
2119             ]
2120         }
2121     },
2122     "green": {
2123         "type": "integer",
2124         "description": "The value of the Green colour channel of RGB. The range is [0,255]",
2125         "x-ocf-conversion": {
2126             "x-ocf-alias": "oic.r.colour",
2127             "x-to-ocf": [
2128                 "oic.r.colour.rgb.rgbValue[1] = green"
2129             ],
2130             "x-from-ocf": [
2131                 "green = oic.r.colour.rgb.rgbValue[1]"
2132             ]
2133         }
2134     },
2135     "blue": {
2136         "type": "integer",
2137         "description": "The value of the Blue colour channel of RGB. The range is [0,255]",
2138         "x-ocf-conversion": {
2139             "x-ocf-alias": "oic.r.colour",
2140             "x-to-ocf": [
2141                 "oic.r.colour.rgb.rgbValue[2] = blue"
2142             ],
2143             "x-from-ocf": [
2144                 "blue = oic.r.colour.rgb.rgbValue[2]"
2145             ]
2146         }
2147     }
2148 }
2149 }
2150 },
2151 "type": "object",
2152 "allOf": [
2153     {"$ref": "#/definitions/onem2m.m.colour.json"}
2154 ],
2155 "required": [ "red", "green", "blue" ]
2156 }
2157

```

2158 **9.20 Colour Saturation**

2159 **9.20.1 Derived model**

2160 The derived model: "onem2m.m.coloursaturation".

2161 **9.20.2 Property definition**

2162 Table 39 provides the detailed per Property mapping for "onem2m.m.coloursaturation".

2163 **Table 39 – The property mapping for "onem2m.m.coloursaturation".**

oneM2M Property name	OCF Resource	To OCF	From OCF

colourSaturation	oic.r.colour.saturation	oic.r.colour.saturation.colourSaturation = colourSaturation	colourSaturation = oic.r.colour.saturation.colourSaturation
------------------	-------------------------	---	---

2164 Table 40 provides the details of the Properties that are part of "onem2m.m.coloursaturation".

2165 **Table 40 – The properties of "onem2m.m.coloursaturation".**

oneM2M name	Property	Type	Required	Description
colourSaturation		integer	yes	The status of colour saturation level. 'colourSaturation' has a range of [0,100].

2166 **9.20.3 Derived model definition**

```

2167 {
2168   "id": "http://openinterconnect.org/onem2mmapping/schemas/onem2m.m.coloursaturation.json#",
2169   "$schema": "http://json-schema.org/draft-04/schema#",
2170   "description": "Copyright (c) 2019 Open Connectivity Foundation, Inc. All rights reserved.",
2171   "title": "Colour Saturation",
2172   "definitions": {
2173     "onem2m.m.coloursaturation": {
2174       "type": "object",
2175       "properties": {
2176         "colourSaturation": {
2177           "type": "integer",
2178           "description": "The status of colour saturation level. 'colourSaturation' has a range of
2179 [0,100].",
2180           "x-ocf-conversion": {
2181             "x-ocf-alias": "oic.r.colour.saturation",
2182             "x-to-ocf": [
2183               "oic.r.colour.saturation.colourSaturation = colourSaturation"
2184             ],
2185             "x-from-ocf": [
2186               "colourSaturation = oic.r.colour.saturation.colourSaturation"
2187             ]
2188           }
2189         }
2190       }
2191     }
2192   },
2193   "type": "object",
2194   "allOf": [
2195     {"$ref": "#/definitions/onem2m.m.coloursaturation"}
2196   ],
2197   "required": [ "colourSaturation" ]
2198 }
2199

```

2200 **9.21 Credentials**

2201 **9.21.1 Derived model**

2202 The derived model: "onem2m.m.credentials".

2203 **9.21.2 Property definition**

2204 Table 41 provides the detailed per Property mapping for "onem2m.m.credentials".

**Table 41 – The property mapping for "onem2m.m.credentials".**

oneM2M Property name	OCF Resource	To OCF	From OCF
loginName	oic.r.userinfo	oic.r.userinfo.username = loginName	loginName = oic.r.userinfo.username
token	oic.r.userinfo	oic.r.userinfo.token = token	token = oic.r.userinfo.token
password	oic.r.userinfo	oic.r.userinfo.password = password	password = oic.r.userinfo.password

2206 Table 42 provides the details of the Properties that are part of "onem2m.m.credentials".

**Table 42 – The properties of "onem2m.m.credentials".**

oneM2M Property name	Type	Required	Description
loginName	string	no	User's login name.
token	string	no	Authentication token e.g. OAuth token.
password	string	no	User's password.

**9.21.3 Derived model definition**

```

2210 {
2211   "id": "http://openinterconnect.org/onem2mmapping/schemas/onem2m.m.credentials.json#",
2212   "$schema": "http://json-schema.org/draft-04/schema#",
2213   "description": "Copyright (c) 2019 Open Connectivity Foundation, Inc. All rights reserved.",
2214   "title": "Credentials",
2215   "definitions": {
2216     "onem2m.m.credentials": {
2217       "type": "object",
2218       "properties": {
2219         "loginName": {
2220           "type": "string",
2221           "description": "User's login name.",
2222           "x-ocf-conversion": {
2223             "x-ocf-alias": "oic.r.userinfo",
2224             "x-to-ocf": [
2225               "oic.r.userinfo.username = loginName"
2226             ],
2227             "x-from-ocf": [
2228               "loginName = oic.r.userinfo.username"
2229             ]
2230           }
2231         },
2232         "password": {
2233           "type": "string",
2234           "description": "User's password.",
2235           "x-ocf-conversion": {
2236             "x-ocf-alias": "oic.r.userinfo",
2237             "x-to-ocf": [
2238               "oic.r.userinfo.password = password"

```

```

2238     ],
2239     "x-from-ocf": [
2240       "password = oic.r.userinfo.password"
2241     ]
2242   },
2243 },
2244 "token": {
2245   "type": "string",
2246   "description": "Authentication token e.g. OAuth token.",
2247   "x-ocf-conversion": {
2248     "x-ocf-alias": "oic.r.userinfo",
2249     "x-to-ocf": [
2250       "oic.r.userinfo.token = token"
2251     ],
2252     "x-from-ocf": [
2253       "token = oic.r.userinfo.token"
2254     ]
2255   }
2256 }
2257 }
2258 }
2259 },
2260 "type": "object",
2261 "allOf": [
2262   { "$ref": "#/definitions/onem2m.m.credentials" }
2263 ],
2264 "required": [ ]
2265 }
2266

```

2267 **9.22 Dehumidifer Job Mode**

2268 **9.22.1 Derived model**

2269 The derived model: "onem2m.m.dehumidiiferjobmode".

2270 **9.22.2 Property definition**

2271 Table 43 provides the detailed per Property mapping for "onem2m.m.dehumidiiferjobmode".

2272 **Table 43 – The property mapping for "onem2m.m.dehumidiiferjobmode".**

oneM2M Property name	OCF Resource	To OCF	From OCF
currentJobMode	oic.r.operational.state	Need to translate between the oneM2M integer value and the OCF operational state enumerated stringif ( currentJobMode == 1 ) { oic.r.operational.state.currentJobState == "smart"; }if ( currentJobMode == 2 ) { oic.r.operational.state.currentJobState == "fast"; }if ( currentJobMode == 3 ) { oic.r.operational.state.currentJobState == "silent"; }if ( currentJobMode == 4 ) { oic.r.operational.state.currentJobState == "focused"; }if ( currentJobMode == 5 ) { oic.r.operational.state.currentJobState ==	Need to translate between the OCF operational state enumerated string and the oneM2M integer valueif (oic.r.operational.state.currentJobState == "smart" ) { currentJobMode = 1; }if (oic.r.operational.state.currentJobState == "fast" ) { currentJobMode = 2; }if (oic.r.operational.state.currentJobState == "silent" ) { currentJobMode = 3; }if (oic.r.operational.state.currentJobState == "focused" ) { currentJobMode = 4; }if (oic.r.operational.state.currentJobState == "clothes" )

		<code>"clothes"; }else { oic.r.operational.state.currentJobState == "unknown"; }</code>	<code>{ currentJobMode = 5; }else { currentJobMode = 0; }</code>
currentJobModeName	oic.r.operational.state	This value does not exist in OCF as it is already accommodated in the currentJobMode property.	Need to translate between the OCF operational state enumerated string and the oneM2M string valueif (oic.r.operational.state.currentJobState == "smart" ) { currentJobModeName = "smart"; }if (oic.r.operational.state.currentJobState == "fast" ) { currentJobModeName = "fast"; }if (oic.r.operational.state.currentJobState == "silent" ) { currentJobModeName = "silent"; }if (oic.r.operational.state.currentJobState == "focused" ) { currentJobModeName = "focus"; }if (oic.r.operational.state.currentJobState == "clothes" ) { currentJobModeName = "clothes"; }else { currentJobModeName = ""; }
jobModes	oic.r.operational.state	This does not exist in OCF as all possible operational states are available.	This is an array of integers in oneM2M defined by the current version of the specification as follows: jobModes[1] = 1 jobModes[2] = 2 jobModes[3] = 3 jobModes[4] = 4 jobModes[5] = 5

2273 Table 44 provides the details of the Properties that are part of "onem2m.m.dehumidiiferjobmode".

2274

**Table 44 – The properties of "onem2m.m.dehumidiiferjobmode".**

oneM2M name	Property	Type	Required	Description
currentJobMode		integer	yes	Currently active job mode.
currentJobModeName		string	no	Name of current job mode in string. This can be used when

			currentJobMode is vendor-specific.
jobModes	array	yes	List of possible job states the device supports

### 2275 9.22.3 Derived model definition

```

2276 {
2277   "id": "http://openinterconnect.org/onem2mmapping/schemas/onem2m.m.dehumidifierjobmode.json#",
2278   "$schema": "http://json-schema.org/draft-04/schema#",
2279   "description": "Copyright (c) 2019 Open Connectivity Foundation, Inc. All rights reserved.",
2280   "title": "Dehumidifier Job Mode",
2281   "definitions": {
2282     "onem2m.m.dehumidifierjobmode": {
2283       "type": "object",
2284       "properties": {
2285         "currentJobMode": {
2286           "type": "integer",
2287           "description": "Currently active job mode.",
2288           "x-ocf-conversion": {
2289             "x-ocf-alias": "oic.r.operational.state",
2290             "x-to-ocf": [
2291               "Need to translate between the oneM2M integer value and the OCF operational state
2292 enumerated string",
2293               "if ( currentJobMode == 1 ) { oic.r.operational.state.currentJobState ==
2294 \"smart\"; }",
2295               "if ( currentJobMode == 2 ) { oic.r.operational.state.currentJobState ==
2296 \"fast\"; }",
2297               "if ( currentJobMode == 3 ) { oic.r.operational.state.currentJobState ==
2298 \"silent\"; }",
2299               "if ( currentJobMode == 4 ) { oic.r.operational.state.currentJobState ==
2300 \"focused\"; }",
2301               "if ( currentJobMode == 5 ) { oic.r.operational.state.currentJobState ==
2302 \"clothes\"; }",
2303               "else { oic.r.operational.state.currentJobState == \"unknown\"; }"
2304             ],
2305             "x-from-ocf": [
2306               "Need to translate between the OCF operational state enumerated string and the oneM2M
2307 integer value",
2308               "if ( oic.r.operational.state.currentJobState == \"smart\" ) { currentJobMode = 1; }",
2309               "if ( oic.r.operational.state.currentJobState == \"fast\" ) { currentJobMode = 2; }",
2310               "if ( oic.r.operational.state.currentJobState == \"silent\" ) { currentJobMode = 3; }",
2311               "if ( oic.r.operational.state.currentJobState == \"focused\" ) { currentJobMode =
2312 4; }",
2313               "if ( oic.r.operational.state.currentJobState == \"clothes\" ) { currentJobMode =
2314 5; }",
2315               "else { currentJobMode = 0; }"
2316             ]
2317           }
2318         },
2319         "currentJobModeName": {
2320           "type": "string",
2321           "description": "Name of current job mode in string. This can be used when currentJobMode
2322 is vendor-specific.",
2323           "x-ocf-conversion": {
2324             "x-ocf-alias": "oic.r.operational.state",
2325             "x-to-ocf": [
2326               "This value does not exist in OCF as it is already accommodated in the currentJobMode
2327 property."
2328             ],
2329             "x-from-ocf": [
2330               "Need to translate between the OCF operational state enumerated string and the oneM2M
2331 string value",
2332               "if ( oic.r.operational.state.currentJobState == \"smart\" ) { currentJobModeName =
2333 \"smart\"; }",
2334               "if ( oic.r.operational.state.currentJobState == \"fast\" ) { currentJobModeName =

```

```

2335   \"fast\"; }\",
2336   \"if (oic.r.operational.state.currentJobState == \"silent\" { currentJobModeName =
2337   \"silent\"; }\",
2338   \"if (oic.r.operational.state.currentJobState == \"focused\" ) { currentJobModeName =
2339   \"focus\"; }\",
2340   \"if (oic.r.operational.state.currentJobState == \"clothes\" ) { currentJobModeName =
2341   \"clothes\"; }\",
2342   \"else { currentJobModeName = \\\"\\\"; }\"
2343   }
2344   },
2345   },
2346   \"jobModes\": {
2347     \"type\": \"array\",
2348     \"description\": \"List of possible job states the device supports\",
2349     \"x-ocf-conversion\": {
2350       \"x-ocf-alias\": \"oic.r.operational.state\",
2351       \"x-to-ocf\": [
2352         \"This does not exist in OCF as all possible operational states are available.\"
2353       ],
2354       \"x-from-ocf\": [
2355         \"This is an array of integers in oneM2M defined by the current version of the
2356 specification as follows:\",
2357         \"jobModes[1] = 1\",
2358         \"jobModes[2] = 2\",
2359         \"jobModes[3] = 3\",
2360         \"jobModes[4] = 4\",
2361         \"jobModes[5] = 5\"
2362       ]
2363     }
2364   }
2365 }
2366 },
2367 },
2368 \"type\": \"object\",
2369 \"allof\": [
2370   { \"$ref\": \"#/definitions/onem2m.m.airconjobmode\" }
2371 ],
2372 \"required\": [ \"currentJobMode\", \"jobModes\" ]
2373 }

```

## 2374 9.23 Door Status

### 2375 9.23.1 Derived model

2376 The derived model: \"onem2m.m.doorStatus\".

### 2377 9.23.2 Property definition

2378 Table 45 provides the detailed per Property mapping for \"onem2m.m.doorStatus\".

2379 **Table 45 – The property mapping for \"onem2m.m.doorStatus\".**

oneM2M Property name	OCF Resource	To OCF	From OCF
openDuration	oic.r.door	Conversion from oneM2M timestamp is not yet defined oic.r.door.openDuration = openDuration	Conversion from oneM2M timestamp is not yet defined openDuration = oic.r.door.openDuration
doorState	oic.r.door	if doorState == 1 oic.r.door.openState = \"Closed\" if doorState == 2 oic.r.door.openState = \"Open\"	if oic.r.door.openState = \"Closed\" doorState == 1 if oic.r.door.openState = \"Open\" doorState == 2

openAlarm	oic.r.door	oic.r.door.openAlarm openAlarm	=	openAlarm oic.r.door.openAlarm	=
-----------	------------	-----------------------------------	---	-----------------------------------	---

2380 Table 46 provides the details of the Properties that are part of "onem2m.m.doorStatus".

2381 **Table 46 – The properties of "onem2m.m.doorStatus".**

oneM2M name	Property	Type	Required	Description
openDuration		string	no	The time duration the door has been open.
doorState		integer	yes	Current state of the door.
openAlarm		boolean	no	The state of the door open alarm. 'True' indicates that the open alarm is active. 'False' indicates that the open alarm is not active.

2382 **9.23.3 Derived model definition**

```

2383 {
2384   "id": "http://openinterconnect.org/onem2mmapping/schemas/onem2m.m.doorStatus.json#",
2385   "$schema": "http://json-schema.org/draft-04/schema#",
2386   "description": "Copyright (c) 2019 Open Connectivity Foundation, Inc. All rights reserved.",
2387   "title": "Door Status",
2388   "definitions": {
2389     "onem2m.m.doorStatus": {
2390       "type": "object",
2391       "properties": {
2392         "doorState": {
2393           "type": "integer",
2394           "description": "Current state of the door.",
2395           "x-ocf-conversion": {
2396             "x-ocf-alias": "oic.r.door",
2397             "x-to-ocf": [
2398               "if doorState == 1",
2399               "oic.r.door.openState = \"Closed\"",
2400               "if doorState == 2",
2401               "oic.r.door.openState = \"Open\""
2402             ],
2403             "x-from-ocf": [
2404               "if oic.r.door.openState = \"Closed\"",
2405               "doorState == 1",
2406               "if oic.r.door.openState = \"Open\"",
2407               "doorState == 2"
2408             ]
2409           }
2410         },
2411         "openDuration": {
2412           "type": "string",
2413           "description": "The time duration the door has been open.",
2414           "x-ocf-conversion": {
2415             "x-ocf-alias": "oic.r.door",
2416             "x-to-ocf": [
2417               "Conversion from oneM2M timestamp is not yet defined",
2418               "oic.r.door.openDuration = openDuration"

```



```

2419     ],
2420     "x-from-ocf": [
2421       "Conversion from oneM2M timestamp is not yet defined",
2422       "openDuration = oic.r.door.openDuration"
2423     ]
2424   },
2425 },
2426 "openAlarm": {
2427   "type": "boolean",
2428   "description": "The state of the door open alarm. 'True' indicates that the open alarm is
2429 active. 'False' indicates that the open alarm is not active.",
2430   "x-ocf-conversion": {
2431     "x-ocf-alias": "oic.r.door",
2432     "x-to-ocf": [
2433       "oic.r.door.openAlarm = openAlarm"
2434     ],
2435     "x-from-ocf": [
2436       "openAlarm = oic.r.door.openAlarm"
2437     ]
2438   }
2439 }
2440 }
2441 }
2442 },
2443 "type": "object",
2444 "allOf": [
2445   {"$ref": "#/definitions/onem2m.m.doorStatus"}
2446 ],
2447 "required": [ "doorState" ]
2448 }
2449

```

2450 **9.24 Electric Vehicle Connector**

2451 **9.24.1 Derived model**

2452 The derived model: "onem2m.m.electricvehicleconnector".

2453 **9.24.2 Property definition**

2454 Table 47 provides the detailed per Property mapping for "onem2m.m.electricvehicleconnector".

2455 **Table 47 – The property mapping for "onem2m.m.electricvehicleconnector".**

oneM2M Property name	OCF Resource	To OCF	From OCF
propDischargingCapacity	oic.r.vehicle.connector	oic.r.vehicle.connector.rateddischargingcapacity = propDischargingCapacity * 1000	propDischargingCapacity = oic.r.vehicle.connector.rateddischargingcapacity / 1000
propChargingCapacity	oic.r.vehicle.connector	oic.r.vehicle.connector.ratedchargingcapacity = propChargingCapacity * 1000	propChargingCapacity = oic.r.vehicle.connector.ratedchargingcapacity / 1000
status	oic.r.vehicle.connector	oic.r.vehicle.connector.status = status;	status = oic.r.vehicle.connector.status

2456 Table 48 provides the details of the Properties that are part of  
2457 "onem2m.m.electricvehicleconnector".

Table 48 – The properties of "onem2m.m.electricvehicleconnector".

oneM2M Property name	Type	Required	Description
propDischargingCapacity	integer	no	Rated discharging capacity in milli-Amps.
propChargingCapacity	integer	no	Rated charging capacity in milli-Amps.
status	boolean	yes	The status of connection.

### 2459 9.24.3 Derived model definition

```

2460 {
2461   "id": "http://openinterconnect.org/onem2mmapping/schemas/onem2m.m.electricvehicleconnector#",
2462   "$schema": "http://json-schema.org/draft-04/schema#",
2463   "description": "Copyright (c) 2019 Open Connectivity Foundation, Inc. All rights reserved.",
2464   "title": "Electric Vehicle Connector",
2465   "definitions": {
2466     "onem2m.m.electricvehicleconnector": {
2467       "type": "object",
2468       "properties": {
2469         "status": {
2470           "type": "boolean",
2471           "description": "The status of connection.",
2472           "x-ocf-conversion": {
2473             "x-ocf-alias": "oic.r.vehicle.connector",
2474             "x-to-ocf": [
2475               "oic.r.vehicle.connector.status = status;"
2476             ],
2477             "x-from-ocf": [
2478               "status = oic.r.vehicle.connector.status"
2479             ]
2480           }
2481         },
2482         "propChargingCapacity": {
2483           "type": "integer",
2484           "description": "Rated charging capacity in milli-Amps.",
2485           "x-ocf-conversion": {
2486             "x-ocf-alias": "oic.r.vehicle.connector",
2487             "x-to-ocf": [
2488               "oic.r.vehicle.connector.ratedchargingcapacity = propChargingCapacity * 1000"
2489             ],
2490             "x-from-ocf": [
2491               "propChargingCapacity = oic.r.vehicle.connector.ratedchargingcapacity / 1000"
2492             ]
2493           }
2494         },
2495         "propDischargingCapacity": {
2496           "type": "integer",
2497           "description": "Rated discharging capacity in milli-Amps.",
2498           "x-ocf-conversion": {
2499             "x-ocf-alias": "oic.r.vehicle.connector",
2500             "x-to-ocf": [
2501               "oic.r.vehicle.connector.rateddischargingcapacity = propDischargingCapacity * 1000"
2502             ],
2503             "x-from-ocf": [
2504               "propDischargingCapacity = oic.r.vehicle.connector.rateddischargingcapacity / 1000"
2505             ]
2506           }
2507         }
2508       }
2509     }
2510   }

```

```

2508     }
2509   }
2510 },
2511 "type": "object",
2512 "allOf": [
2513   { "$ref": "#/definitions/onem2m.m.electricvehicleconnector" }
2514 ],
2515 "required": [ "status" ]
2516 }
2517

```

2518 **9.25 Energy Consumption**

2519 **9.25.1 Derived model**

2520 The derived model: "onem2m.m.energyconsumption".

2521 **9.25.2 Property definition**

2522 Table 49 provides the detailed per Property mapping for "onem2m.m.energyconsumption".

2523 **Table 49 – The property mapping for "onem2m.m.energyconsumption".**

oneM2M name	Property	OCF Resource	To OCF	From OCF
significantDigits		oic.r.energy.consumption	This is not needed in OCF as only the absolute energy consumption is tracked.	significantDigits = 0
roundingEnergyConsumption		oic.r.energy.consumption	This is not needed in OCF as only the absolute energy consumption is tracked.	roundingEnergyConsumption = oic.r.energy.consumption.energy
voltage		oic.r.energy.electrical	oic.r.energy.electrical.voltage = voltage	voltage = oic.r.energy.electrical.voltage
frequency		oic.r.energy.electrical	oic.r.energy.electrical.frequency = frequency	frequency = oic.r.energy.electrical.frequency
multiplyingFactors		oic.r.energy.consumption	This is not needed in OCF as only the absolute energy consumption is tracked.	multiplyingFactors = 1
absoluteEnergyConsumption		oic.r.energy.consumption	oic.r.energy.consumption.energy = absoluteEnergyConsumption	absoluteEnergyConsumption = oic.r.energy.consumption.energy
current		oic.r.energy.electrical	oic.r.energy.electrical.current = current	current = oic.r.energy.electrical.current

Power	oic.r.energy.consumption	oic.r.energy.consumption.power = Power;	Power = oic.r.energy.consumption.power
-------	--------------------------	---	--

2524 Table 50 provides the details of the Properties that are part of "onem2m.m.energyconsumption".

2525

**Table 50 – The properties of "onem2m.m.energyconsumption".**

oneM2M Property name	Type	Required	Description
significantDigits	integer	no	The number of effective digits for data.
roundingEnergyConsumption	number	no	This energy consumption data can be calculated by using significantDigits and multiplyingFactors.
voltage	number	no	The voltage of the device. The common unit is volts (V).
frequency	number	no	The frequency of the device. The common unit is hertz (H).
multiplyingFactors	integer	no	The unit for data (multiplying factors)., e.g. 1 kWh, 0,1 kWh, 0,01 kWh etc.
absoluteEnergyConsumption	number	no	The absolute energy consumption, reflecting the real measurement of accumulative energy. The common unit is Watt-hour (Wh).
current	number	no	The current of the device. The common unit is ampere (A).
Power	number	yes	The power of the device. The common unit is Watt (W).

### 2526 9.25.3 Derived model definition

```
2527 {
2528   "id": "http://openinterconnect.org/onem2mmapping/schemas/onem2m.m.energyconsumption#",
2529   "$schema": "http://json-schema.org/draft-04/schema#",
2530   "description": "Copyright (c) 2019 Open Connectivity Foundation, Inc. All rights reserved.",
2531   "title": "Energy Consumption",
2532   "definitions": {
2533     "onem2m.m.energyconsumption": {
2534       "type": "object",
2535       "properties": {
2536         "Power": {
2537           "type": "number",
2538           "description": "The power of the device. The common unit is Watt (W).",
2539           "x-ocf-conversion": {
2540             "x-ocf-alias": "oic.r.energy.consumption",
2541             "x-to-ocf": [
2542               "oic.r.energy.consumption.power = Power;"
2543             ],
2544             "x-from-ocf": [
2545               "Power = oic.r.energy.consumption.power"
2546             ]
2547           }
2548         },
2549         "absoluteEnergyConsumption": {
2550           "type": "number",
2551           "description": "The absolute energy consumption, reflecting the real measurement of
2552 accumulative energy. The common unit is Watt-hour (Wh).",
2553           "x-ocf-conversion": {
2554             "x-ocf-alias": "oic.r.energy.consumption",
2555             "x-to-ocf": [
2556               "oic.r.energy.consumption.energy = absoluteEnergyConsumption"
2557             ],
2558             "x-from-ocf": [
2559               "absoluteEnergyConsumption = oic.r.energy.consumption.energy"
2560             ]
2561           }
2562         },
2563         "roundingEnergyConsumption": {
2564           "type": "number",
2565           "description": "This energy consumption data can be calculated by using significantDigits
2566 and multiplyingFactors.",
2567           "x-ocf-conversion": {
2568             "x-ocf-alias": "oic.r.energy.consumption",
2569             "x-to-ocf": [
2570               "This is not needed in OCF as only the absolute energy consumption is tracked."
2571             ],
2572             "x-from-ocf": [
2573               "roundingEnergyConsumption = oic.r.energy.consumption.energy"
2574             ]
2575           }
2576         },
2577         "significantDigits": {
2578           "type": "integer",
2579           "description": "The number of effective digits for data.",
2580           "x-ocf-conversion": {
2581             "x-ocf-alias": "oic.r.energy.consumption",
2582             "x-to-ocf": [
2583               "This is not needed in OCF as only the absolute energy consumption is tracked."
2584             ],
2585             "x-from-ocf": [
2586               "significantDigits = 0"
2587             ]
2588           }
2589         },
2590         "multiplyingFactors": {
2591           "type": "integer",
2592           "description": "The unit for data (multiplying factors)., e.g. 1 kWh, 0,1 kWh, 0,01 kWh
2593 etc.",
2594           "x-ocf-conversion": {
2595             "x-ocf-alias": "oic.r.energy.consumption",
```

```

2596         "x-to-ocf": [
2597             "This is not needed in OCF as only the absolute energy consumption is tracked."
2598         ],
2599         "x-from-ocf": [
2600             "multiplyingFactors = 1"
2601         ]
2602     },
2603 },
2604 "voltage": {
2605     "type": "number",
2606     "description": "The voltage of the device. The common unit is volts (V).",
2607     "x-ocf-conversion": {
2608         "x-ocf-alias": "oic.r.energy.electrical",
2609         "x-to-ocf": [
2610             "oic.r.energy.electrical.voltage = voltage"
2611         ],
2612         "x-from-ocf": [
2613             "voltage = oic.r.energy.electrical.voltage"
2614         ]
2615     }
2616 },
2617 "current": {
2618     "type": "number",
2619     "description": "The current of the device. The common unit is ampere (A).",
2620     "x-ocf-conversion": {
2621         "x-ocf-alias": "oic.r.energy.electrical",
2622         "x-to-ocf": [
2623             "oic.r.energy.electrical.current = current"
2624         ],
2625         "x-from-ocf": [
2626             "current = oic.r.energy.electrical.current"
2627         ]
2628     }
2629 },
2630 "frequency": {
2631     "type": "number",
2632     "description": "The frequency of the device. The common unit is hertz (H).",
2633     "x-ocf-conversion": {
2634         "x-ocf-alias": "oic.r.energy.electrical",
2635         "x-to-ocf": [
2636             "oic.r.energy.electrical.frequency = frequency"
2637         ],
2638         "x-from-ocf": [
2639             "frequency = oic.r.energy.electrical.frequency"
2640         ]
2641     }
2642 }
2643 }
2644 }
2645 },
2646 "type": "object",
2647 "allOf": [
2648     {"$ref": "#/definitions/onem2m.m.energyconsumption"}
2649 ],
2650 "required": [ "Power" ]
2651 }
2652

```

## 2653 9.26 Energy Generation

### 2654 9.26.1 Derived model

2655 The derived model: "onem2m.m.energygeneration".

### 2656 9.26.2 Property definition

2657 Table 51 provides the detailed per Property mapping for "onem2m.m.energygeneration".

**Table 51 – The property mapping for "onem2m.m.energygeneration".**

oneM2M Property name	OCF Resource	To OCF	From OCF
multiplyingFactors	oic.r.energy.generation	This is not needed in OCF as only the absolute energy consumption is tracked.	multiplyingFactors = 1
roundingEnergyGeneration	oic.r.energy.generation	This is not needed in OCF as only the absolute energy consumption is tracked.	roundingEnergyConsumption = oic.r.energy.consumption.powerGenerationData
powerGenerationData	oic.r.energy.generation	oic.r.energy.generation.energygenerated = powerGenerationData;	powerGenerationData = oic.r.energy.generation.energygenerated
significantDigits	oic.r.energy.generation	This is not needed in OCF as only the absolute energy consumption is tracked.	significantDigits = 0

2659 Table 52 provides the details of the Properties that are part of "onem2m.m.energygeneration".

**Table 52 – The properties of "onem2m.m.energygeneration".**

oneM2M Property name	Type	Required	Description
multiplyingFactors	number	no	The unit for data (multiplying factors), e.g. 1 kWh, 0,1 kWh, 0,01 kWh etc.
roundingEnergyGeneration	integer	no	This energy generation data can be calculated by using significantFigures and multiplyingFactors.
powerGenerationData	number	no	Amount of instantaneous generation data.
significantDigits	integer	no	The number of effective digits for data.

2661 **9.26.3 Derived model definition**

```
2662 {
2663   "id": "http://openinterconnect.org/onem2mmapping/schemas/onem2m.m.energygeneration#",
2664   "$schema": "http://json-schema.org/draft-04/schema#",
2665   "description": "Copyright (c) 2019 Open Connectivity Foundation, Inc. All rights reserved.",
2666   "title": "Energy Generation",
2667   "definitions": {
2668     "onem2m.m.energygeneration": {
2669       "type": "object",
2670       "properties": {
2671         "powerGenerationData": {
2672           "type": "number",
2673           "description": "Amount of instantaneous generation data.",
2674           "x-ocf-conversion": {
2675             "x-ocf-alias": "oic.r.energy.generation",
2676             "x-to-ocf": [
2677               "oic.r.energy.generation.energygenerated = powerGenerationData;"
2678             ],
2679             "x-from-ocf": [
2680               "powerGenerationData = oic.r.energy.generation.energygenerated"
2681             ]
2682           }
2683         },
2684         "roundingEnergyGeneration": {
2685           "type": "integer",
2686           "description": "This energy generation data can be calculated by using significantFigures
2687 and multiplyingFactors.",
2688           "x-ocf-conversion": {
2689             "x-ocf-alias": "oic.r.energy.generation",
2690             "x-to-ocf": [
2691               "This is not needed in OCF as only the absolute energy consumption is tracked."
2692             ],
2693             "x-from-ocf": [
2694               "roundingEnergyConsumption = oic.r.energy.consumption.powerGenerationData"
2695             ]
2696           }
2697         },
2698         "significantDigits": {
2699           "type": "integer",
2700           "description": "The number of effective digits for data.",
2701           "x-ocf-conversion": {
2702             "x-ocf-alias": "oic.r.energy.generation",
2703             "x-to-ocf": [
2704               "This is not needed in OCF as only the absolute energy consumption is tracked."
2705             ],
2706             "x-from-ocf": [
2707               "significantDigits = 0"
2708             ]
2709           }
2710         },
2711         "multiplyingFactors": {
2712           "type": "number",
2713           "description": "The unit for data (multiplying factors)., e.g. 1 kWh, 0,1 kWh, 0,01 kWh
2714 etc.",
2715           "x-ocf-conversion": {
2716             "x-ocf-alias": "oic.r.energy.generation",
2717             "x-to-ocf": [
2718               "This is not needed in OCF as only the absolute energy consumption is tracked."
2719             ],
2720             "x-from-ocf": [
2721               "multiplyingFactors = 1"
2722             ]
2723           }
2724         }
2725       }
2726     },
2727     "type": "object",
2728     "allOf": [
2729       {"$ref": "#/definitions/onem2m.m.energygeneration"}
2730     ]
  }
}
```



```

2731     ],
2732     "required": [ ]
2733 }
2734

```

2735 **9.27 Filter Info**

2736 **9.27.1 Derived model**

2737 The derived model: "onem2m.m.filterinfo".

2738 **9.27.2 Property definition**

2739 Table 53 provides the detailed per Property mapping for "onem2m.m.filterinfo".

2740 **Table 53 – The property mapping for "onem2m.m.filterinfo".**

oneM2M Property name	OCF Resource	To OCF	From OCF
needsReplacement	oic.r.sensor	oic.r.sensor.value = needsReplacement	needsReplacement = oic.r.sensor.value
usedTime	oic.r.consumable	oic.r.consumable.typeofconsumable = "water filter"oic.r.consumable.usedtime = usedTime	usedTime = oic.r.consumable.usedtime
filterLifetime	oic.r.consumable	oic.r.consumable.remaining = filterLifetime	filterLifetime = oic.r.consumable.remaining

2741 Table 54 provides the details of the Properties that are part of "onem2m.m.filterinfo".

2742 **Table 54 – The properties of "onem2m.m.filterinfo".**

oneM2M name	Property	Type	Required	Description
needsReplacement		boolean	no	This value indicates that the filter needs to be replaced.
usedTime		integer	yes	Cumulative used time in second of a filter.
filterLifetime		integer	no	Percentage life time remaining for the water filter.

2743 **9.27.3 Derived model definition**

```

2744 {
2745   "id": "http://openinterconnect.org/onem2mmapping/schemas/onem2m.m.filterinfo.json#",
2746   "$schema": "http://json-schema.org/draft-04/schema#",
2747   "description": "Copyright (c) 2019 Open Connectivity Foundation, Inc. All rights reserved.",
2748   "title": "Filter Info",
2749   "definitions": {

```

```

2750 "onem2m.m.filterinfo": {
2751   "type": "object",
2752   "properties": {
2753     "usedTime": {
2754       "type": "integer",
2755       "description": "Cumulative used time in second of a filter.",
2756       "x-ocf-conversion": {
2757         "x-ocf-alias": "oic.r.consumable",
2758         "x-to-ocf": [
2759           "oic.r.consumable.typeofconsumable = \"water filter\"",
2760           "oic.r.consumable.usedtime = usedTime"
2761         ],
2762         "x-from-ocf": [
2763           "usedTime = oic.r.consumable.usedtime"
2764         ]
2765       }
2766     },
2767     "needsReplacement": {
2768       "type": "boolean",
2769       "description": "This value indicates that the filter needs to be replaced.",
2770       "x-ocf-conversion": {
2771         "x-ocf-alias": "oic.r.sensor",
2772         "x-to-ocf": [
2773           "oic.r.sensor.value = needsReplacement"
2774         ],
2775         "x-from-ocf": [
2776           "needsReplacement = oic.r.sensor.value"
2777         ]
2778       }
2779     },
2780     "filterLifetime": {
2781       "type": "integer",
2782       "description": "Percentage life time remaining for the water filter.",
2783       "x-ocf-conversion": {
2784         "x-ocf-alias": "oic.r.consumable",
2785         "x-to-ocf": [
2786           "oic.r.consumable.remaining = filterLifetime"
2787         ],
2788         "x-from-ocf": [
2789           "filterLifetime = oic.r.consumable.remaining"
2790         ]
2791       }
2792     }
2793   }
2794 }
2795 },
2796 "type": "object",
2797 "allOf": [
2798   {"$ref": "#/definitions/onem2m.m.filterinfo"}
2799 ],
2800 "required": [ "usedTime" ]
2801 }
2802

```

## 2803 9.28 Foaming

### 2804 9.28.1 Derived model

2805 The derived model: "onem2m.m.foaming".

### 2806 9.28.2 Property definition

2807 Table 55 provides the detailed per Property mapping for "onem2m.m.foaming".

2808 **Table 55 – The property mapping for "onem2m.m.foaming".**

oneM2M Property name	OCF Resource	To OCF	From OCF

foamingStrength	oic.r.foaming	oic.r.foaming.foamstrength = foamingStrength	foamingStrength = oic.r.foaming.foamstrength
-----------------	---------------	---	---

2809 Table 56 provides the details of the Properties that are part of "onem2m.m.foaming".

2810 **Table 56 – The properties of "onem2m.m.foaming".**

oneM2M name	Property	Type	Required	Description
foamingStrength		integer	yes	The current strength of foamed milk. A higher value indicates a milk which is more foamed.

2811 **9.28.3 Derived model definition**

```

2812 {
2813   "id": "http://openinterconnect.org/onem2mmapping/schemas/onem2m.m.foaming.json#",
2814   "$schema": "http://json-schema.org/draft-04/schema#",
2815   "description": "Copyright (c) 2019 Open Connectivity Foundation, Inc. All rights reserved.",
2816   "title": "Foaming",
2817   "definitions": {
2818     "onem2m.m.foaming": {
2819       "type": "object",
2820       "properties": {
2821         "foamingStrength": {
2822           "type": "integer",
2823           "description": "The current strength of foamed milk. A higher value indicates a milk
2824 which is more foamed.",
2825           "x-ocf-conversion": {
2826             "x-ocf-alias": "oic.r.foaming",
2827             "x-to-ocf": [
2828               "oic.r.foaming.foamstrength = foamingStrength"
2829             ],
2830             "x-from-ocf": [
2831               "foamingStrength = oic.r.foaming.foamstrength"
2832             ]
2833           }
2834         }
2835       }
2836     }
2837   },
2838   "type": "object",
2839   "allOf": [
2840     {"$ref": "#/definitions/onem2m.m.foaming"}
2841   ],
2842   "required": [ "foamingStrength" ]
2843 }
2844 
```

2845 **9.29 Grinder**

2846 **9.29.1 Derived model**

2847 The derived model: "onem2m.m.grinder".

2848 **9.29.2 Property definition**

2849 Table 57 provides the detailed per Property mapping for "onem2m.m.grinder".

2850

**Table 57 – The property mapping for "onem2m.m.grinder".**

oneM2M Property name	OCF Resource	To OCF	From OCF
useGrinder	oic.r.switch.binary	oic.r.switch.binary.value = foamingStrength	foamingStrength = oic.r.switch.binary.value
grainsRemaining	oic.r.grinder	oic.r.grinder.remaining = remaining / 20	remaining = oic.r.grinder.remaining * 20
coarseness	oic.r.grinder	oic.r.grinder.coarseness = coarseness	coarseness = oic.r.grinder.coarseness

2851 Table 58 provides the details of the Properties that are part of "onem2m.m.grinder".

2852

**Table 58 – The properties of "onem2m.m.grinder".**

oneM2M Property name	Type	Required	Description
useGrinder	boolean	yes	The current status of the grinder enablement. True indicates enabled, and False indicates not enabled.
grainsRemaining	integer	no	The level of remaining grains in a machine having a grinder e.g. remaining coffee beans in the coffee machine grinder.
coarseness	integer	no	The wished coarseness of the solid supplies e.g. coffee beans, after grinding.

**2853 9.29.3 Derived model definition**

```

2854 {
2855   "id": "http://openinterconnect.org/onem2mmapping/schemas/onem2m.m.grinder.json#",
2856   "$schema": "http://json-schema.org/draft-04/schema#",
2857   "description": "Copyright (c) 2019 Open Connectivity Foundation, Inc. All rights reserved.",
2858   "title": "Grinder",
2859   "definitions": {
2860     "onem2m.m.grinder": {
2861       "type": "object",
2862       "properties": {
2863         "useGrinder": {
2864           "type": "boolean",
2865           "description": "The current status of the grinder enablement. True indicates enabled, and

```

```

2866 False indicates not enabled.",
2867     "x-ocf-conversion": {
2868         "x-ocf-alias": "oic.r.switch.binary",
2869         "x-to-ocf": [
2870             "oic.r.switch.binary.value = foamingStrength"
2871         ],
2872         "x-from-ocf": [
2873             "foamingStrength = oic.r.switch.binary.value"
2874         ]
2875     },
2876 },
2877 "coarseness": {
2878     "type": "integer",
2879     "description": "The wished coarseness of the solid supplies e.g. coffee beans, after
2880 grinding.",
2881     "x-ocf-conversion": {
2882         "x-ocf-alias": "oic.r.grinder",
2883         "x-to-ocf": [
2884             "oic.r.grinder.coarseness = coarseness"
2885         ],
2886         "x-from-ocf": [
2887             "coarseness = oic.r.grinder.coarseness"
2888         ]
2889     },
2890 },
2891 "grainsRemaining": {
2892     "type": "integer",
2893     "description": "The level of remaining grains in a machine having a grinder e.g.
2894 remaining coffee beans in the coffee machine grinder.",
2895     "x-ocf-conversion": {
2896         "x-ocf-alias": "oic.r.grinder",
2897         "x-to-ocf": [
2898             "oic.r.grinder.remaining = remaining / 20"
2899         ],
2900         "x-from-ocf": [
2901             "remaining = oic.r.grinder.remaining * 20"
2902         ]
2903     },
2904 },
2905 },
2906 },
2907 },
2908 "type": "object",
2909 "allOf": [
2910     {"$ref": "#/definitions/onem2m.m.grinder"}
2911 ],
2912 "required": [ "useGrinder" ]
2913 }
2914

```

### 2915 9.30 Heating Zone

#### 2916 9.30.1 Derived model

2917 The derived model: "onem2m.m.heatingzone".

#### 2918 9.30.2 Property definition

2919 Table 59 provides the detailed per Property mapping for "onem2m.m.heatingzone".

2920 **Table 59 – The property mapping for "onem2m.m.heatingzone".**

oneM2M Property name	OCF Resource	To OCF	From OCF

maxHeatingLevel	oic.r.heatingzone	oic.r.heatingzone.maxheatinglevel = maxHeatingLevel	maxHeatingLevel = oic.r.heatingzone.maxheatinglevel
heatingLevel	oic.r.heatingzone	oic.r.heatingzone.heatinglevel = heatingLevel	heatingLevel = oic.r.heatingzone.heatinglevel

2921 Table 60 provides the details of the Properties that are part of "onem2m.m.heatingzone".

2922 **Table 60 – The properties of "onem2m.m.heatingzone".**

oneM2M name	Property	Type	Required	Description
maxHeatingLevel		integer	yes	The maximum value allowed for the heating level of the zone
heatingLevel		integer	yes	The current heating level of the zone. The value range is from 0 (indicating that the zone is not heating) up to the maxHeatingLevel

2923 **9.30.3 Derived model definition**

```

2924 {
2925   "id": "http://openinterconnect.org/onem2mmapping/schemas/onem2m.m.heatingzone.json#",
2926   "$schema": "http://json-schema.org/draft-04/schema#",
2927   "description": "Copyright (c) 2019 Open Connectivity Foundation, Inc. All rights reserved.",
2928   "title": "Heating Zone",
2929   "definitions": {
2930     "onem2m.m.heatingzone": {
2931       "type": "object",
2932       "properties": {
2933         "heatingLevel": {
2934           "type": "integer",
2935           "description": "The current heating level of the zone. The value range is from 0
2936 (indicating that the zone is not heating) up to the maxHeatingLevel",
2937           "x-ocf-conversion": {
2938             "x-ocf-alias": "oic.r.heatingzone",
2939             "x-to-ocf": [
2940               "oic.r.heatingzone.heatinglevel = heatingLevel"
2941             ],
2942             "x-from-ocf": [
2943               "heatingLevel = oic.r.heatingzone.heatinglevel"
2944             ]
2945           }
2946         },
2947         "maxHeatingLevel": {
2948           "type": "integer",
2949           "description": "The maximum value allowed for the heating level of the zone",
2950           "x-ocf-conversion": {
2951             "x-ocf-alias": "oic.r.heatingzone",
2952             "x-to-ocf": [
2953               "oic.r.heatingzone.maxheatinglevel = maxHeatingLevel"
2954             ]
2955           }
2956         }
2957       }
2958     }
2959   }

```

```

2955         "x-from-ocf": [
2956             "maxHeatingLevel = oic.r.heatingzone.maxheatinglevel"
2957         ]
2958     }
2959 }
2960 }
2961 }
2962 },
2963 "type": "object",
2964 "allOf": [
2965     { "$ref": "#/definitions/onem2m.m.heatingzone" }
2966 ],
2967 "required": [ "heatingLevel", "maxHeatingLevel" ]
2968 }
2969

```

2970 **9.31 Height**

2971 **9.31.1 Derived model**

2972 The derived model: "onem2m.m.height".

2973 **9.31.2 Property definition**

2974 Table 61 provides the detailed per Property mapping for "onem2m.m.height".

2975 **Table 61 – The property mapping for "onem2m.m.height".**

oneM2M name	Property	OCF Resource	To OCF	From OCF
height		oic.r.height	oic.r.height.height = height oic.r.height.units = cm	oneOf

2976 Table 62 provides the details of the Properties that are part of "onem2m.m.height".

2977 **Table 62 – The properties of "onem2m.m.height".**

oneM2M name	Property	Type	Required	Description
height		number	yes	Measurement of height

2978 **9.31.3 Derived model definition**

```

2979 {
2980     "id": "http://openinterconnect.org/onem2mmapping/schemas/onem2m.m.height.json#",
2981     "$schema": "http://json-schema.org/draft-04/schema#",
2982     "description": "Copyright (c) 2019 Open Connectivity Foundation, Inc. All rights reserved.",
2983     "title": "Height",
2984     "definitions": {
2985         "onem2m.m.height": {
2986             "type": "object",
2987             "properties": {
2988                 "height": {
2989                     "type": "number",
2990                     "description": "Measurement of height",
2991                     "x-ocf-conversion": {
2992                         "x-ocf-alias": "oic.r.height",
2993                         "x-to-ocf": [
2994                             "oic.r.height.height = height",
2995                             "oic.r.height.units = cm"

```

```

2996     ],
2997     "x-from-ocf": {
2998       "oneOf": [
2999         {
3000           "properties": {
3001             "oic.r.height.units": "string",
3002             "enum": ["cm"]
3003           },
3004           "x-from-ocf": [
3005             "height = oic.r.height.height"
3006           ]
3007         },
3008         {
3009           "properties": {
3010             "oic.r.height.units": "string",
3011             "enum": ["m"]
3012           },
3013           "x-from-ocf": [
3014             "height = oic.r.height.height*100"
3015           ]
3016         },
3017         {
3018           "properties": {
3019             "voic.r.height.units": "string",
3020             "enum": ["ft"]
3021           },
3022           "x-from-ocf": [
3023             "height = oic.r.height.height*30.48"
3024           ]
3025         },
3026         {
3027           "properties": {
3028             "oic.r.height.units": "string",
3029             "enum": ["in"]
3030           },
3031           "x-from-ocf": [
3032             "height = oic.r.height.height*2.54"
3033           ]
3034         }
3035       ]
3036     }
3037   }
3038 }
3039 }
3040 }
3041 },
3042 "type": "object",
3043 "allOf": [
3044   {"$ref": "#/definitions/onem2m.m.height"}
3045 ],
3046 "required": [ "height" ]
3047 }

```

## 3048 9.32 Hot Water Supply

### 3049 9.32.1 Derived model

3050 The derived model: "onem2m.m.hotwatersupply".

### 3051 9.32.2 Property definition

3052 Table 63 provides the detailed per Property mapping for "onem2m.m.hotwatersupply".

3053 **Table 63 – The property mapping for "onem2m.m.hotwatersupply".**

oneM2M Property name	OCF Resource	To OCF	From OCF



bath	oic.r.switch.binary	oic.r.switch.binary.value = bath	bath = oic.r.switch.binary.value
status	oic.r.sensor	oic.r.sensor.value = status	status = oic.r.sensor.value

3054 Table 64 provides the details of the Properties that are part of "onem2m.m.hotwatersupply".

3055 **Table 64 – The properties of "onem2m.m.hotwatersupply".**

oneM2M name	Property	Type	Required	Description
bath		boolean	no	The status of filling bath tub.
status		boolean	yes	The status of watering operation.

3056 **9.32.3 Derived model definition**

```

3057 {
3058   "id": "http://openinterconnect.org/onem2mmapping/schemas/onem2m.m.hotwatersupply.json#",
3059   "$schema": "http://json-schema.org/draft-04/schema#",
3060   "description": "Copyright (c) 2019 Open Connectivity Foundation, Inc. All rights reserved.",
3061   "title": "Hot Water Supply",
3062   "definitions": {
3063     "onem2m.m.hotwatersupply": {
3064       "type": "object",
3065       "properties": {
3066         "status": {
3067           "type": "boolean",
3068           "description": "The status of watering operation.",
3069           "x-ocf-conversion": {
3070             "x-ocf-alias": "oic.r.sensor",
3071             "x-to-ocf": [
3072               "oic.r.sensor.value = status"
3073             ],
3074             "x-from-ocf": [
3075               "status = oic.r.sensor.value"
3076             ]
3077           }
3078         },
3079         "bath": {
3080           "type": "boolean",
3081           "description": "The status of filling bath tub.",
3082           "x-ocf-conversion": {
3083             "x-ocf-alias": "oic.r.switch.binary",
3084             "x-to-ocf": [
3085               "oic.r.switch.binary.value = bath"
3086             ],
3087             "x-from-ocf": [
3088               "bath = oic.r.switch.binary.value"
3089             ]
3090           }
3091         }
3092       }
3093     }
3094   },
3095   "type": "object",
3096   "allOf": [
3097     {"$ref": "#/definitions/onem2m.m.hotwatersupply"}
3098   ],

```

```

3099     "required": [ "status" ]
3100 }
3101

```

### 3102 9.33 Impact Sensor

#### 3103 9.33.1 Derived model

3104 The derived model: "onem2m.m.impactsensor".

#### 3105 9.33.2 Property definition

3106 Table 65 provides the detailed per Property mapping for "onem2m.m.impactsensor".

3107 **Table 65 – The property mapping for "onem2m.m.impactsensor".**

oneM2M Property name	OCF Resource	To OCF	From OCF
impactStatus	oic.r.impact sensor	oic.r.impactsensor.impactstatus = impactStatus	impactStatus = oic.r.impactsensor.impactstatus
impactDirectionVertical	oic.r.impact sensor	oic.r.impactsensor.impactdirectionvertical = impactDirectionVertical	impactDirectionVertical = oic.r.impactsensor.impactdirectionvertical
impactDirectionHorizontal	oic.r.impact sensor	oic.r.impactsensor.impactdirectionhorizontal = impactDirectionHorizontal	impactDirectionHorizontal = oic.r.impactsensor.impactdirectionhorizontal
impactLevel	oic.r.impact sensor	oic.r.impactsensor.impactlevel = impactLevel	impactLevel = oic.r.impactsensor.impactlevel

3108 Table 66 provides the details of the Properties that are part of "onem2m.m.impactsensor".

3109 **Table 66 – The properties of "onem2m.m.impactsensor".**

oneM2M Property name	Type	Required	Description
impactStatus	boolean	no	The impactStatus indicates as follows: (True) A physical impact is detected / (False) Normal status, an impact is not detected
impactDirectionVertical	number	no	The impactDirectionVertical 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	The impactDirectionHorizontal 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.
impactLevel	number	no	The impactLevel provides the level of impact which unit is "G" (G-force).

3110 **9.33.3 Derived model definition**

```

3111 {
3112   "id": "http://openinterconnect.org/onem2mmapping/schemas/onem2m.m.impactsensor.json#",
3113   "$schema": "http://json-schema.org/draft-04/schema#",
3114   "description": "Copyright (c) 2019 Open Connectivity Foundation, Inc. All rights reserved.",
3115   "title": "Impact Sensor",
3116   "definitions": {
3117     "onem2m.m.impactsensor": {
3118       "type": "object",
3119       "properties": {
3120         "impactStatus": {
3121           "type": "boolean",
3122           "description": "The impactStatus indicates as follows: (True) A physical impact is
3123 detected / (False) Normal status, an impact is not detected",
3124           "x-ocf-conversion": {
3125             "x-ocf-alias": "oic.r.impactsensor",
3126             "x-to-ocf": [
3127               "oic.r.impactsensor.impactstatus = impactStatus"
3128             ],
3129             "x-from-ocf": [
3130               "impactStatus = oic.r.impactsensor.impactstatus"
3131             ]
3132           }
3133         },
3134         "impactLevel": {
3135           "type": "number",
3136           "description": "The impactLevel provides the level of impact which unit is \"G\" (G-
3137 force).",
3138           "x-ocf-conversion": {
3139             "x-ocf-alias": "oic.r.impactsensor",
3140             "x-to-ocf": [
3141               "oic.r.impactsensor.impactlevel = impactLevel"
3142             ],
3143             "x-from-ocf": [
3144               "impactLevel= oic.r.impactsensor.impactlevel"
3145             ]
3146           }
3147         },
3148         "impactDirectionHorizontal": {
3149           "type": "number",
3150           "description": "The impactDirectionHorizontal shows a horizontal direction where the
3151 impact comes from. The value is 0 to 360 degrees. 0 is the front of the sensor and clockwise
3152 increment.",
3153           "x-ocf-conversion": {
3154             "x-ocf-alias": "oic.r.impactsensor",
3155             "x-to-ocf": [
3156               "oic.r.impactsensor.impactdirectionhorizontal = impactDirectionHorizontal"
3157             ],
3158             "x-from-ocf": [

```

```

3159         "impactDirectionHorozintal = oic.r.impactsensor.impactdirectionhorizontal"
3160     }
3161 }
3162 },
3163 "impactDirectionVertical": {
3164     "type": "number",
3165     "description": "The impactDirectionVertical shows a vertical direction where the impact
3166 comes from. The value is 0 to 360 degrees. 0 is the front of the sensor and upward increment.",
3167     "x-ocf-conversion": {
3168         "x-ocf-alias": "oic.r.impactsensor",
3169         "x-to-ocf": [
3170             "oic.r.impactsensor.impactdirectionvertical = impactDirectionVertical"
3171         ],
3172         "x-from-ocf": [
3173             "impactDirectionVertical = oic.r.impactsensor.impactdirectionvertical"
3174         ]
3175     }
3176 }
3177 }
3178 }
3179 },
3180 "type": "object",
3181 "allOf": [
3182     {"$ref": "#/definitions/onem2m.m.impactsensor"}
3183 ],
3184 "required": [ "impactstatus" ]
3185 }
3186

```

### 3187 9.34 Keep Warm

#### 3188 9.34.1 Derived model

3189 The derived model: "onem2m.m.keepwarm".

#### 3190 9.34.2 Property definition

3191 Table 67 provides the detailed per Property mapping for "onem2m.m.keepwarm".

3192 **Table 67 – The property mapping for "onem2m.m.keepwarm".**

oneM2M Property name	OCF Resource	To OCF	From OCF
time	oic.r.time.period	oic.r.time.period.interval = timeoic.r.time.period.starttime = 0	time = oic.r.time.period.interval

3193 Table 68 provides the details of the Properties that are part of "onem2m.m.keepwarm".

3194 **Table 68 – The properties of "onem2m.m.keepwarm".**

oneM2M name	Property	Type	Required	Description
time		integer	no	The desired duration of 'keep water warm' function. It indicates how long water shall be kept warm e.g. after the boiling in the case of a kettle. The

			value indicates a time expressed in minutes.
--	--	--	--

3195 **9.34.3 Derived model definition**

```

3196 {
3197   "id": "http://openinterconnect.org/onem2mmapping/schemas/onem2m.m.keepwarm.json#",
3198   "$schema": "http://json-schema.org/draft-04/schema#",
3199   "description": "Copyright (c) 2019 Open Connectivity Foundation, Inc. All rights reserved.",
3200   "title": "Keep Warm",
3201   "definitions": {
3202     "onem2m.m.keepwarm": {
3203       "type": "object",
3204       "properties": {
3205         "time": {
3206           "type": "integer",
3207           "description": "The desired duration of 'keep water warm' function. It indicates how long
3208 water shall be kept warm e.g. after the boiling in the case of a kettle. The value indicates a time
3209 expressed in minutes.",
3210           "x-ocf-conversion": {
3211             "x-ocf-alias": "oic.r.time.period",
3212             "x-to-ocf": [
3213               "oic.r.time.period.interval = time",
3214               "oic.r.time.period.starttime = 0"
3215             ],
3216             "x-from-ocf": [
3217               "time = oic.r.time.period.interval"
3218             ]
3219           }
3220         }
3221       }
3222     },
3223   },
3224   "type": "object",
3225   "allOf": [
3226     { "$ref": "#/definitions/onem2m.m.keepwarm" }
3227   ],
3228   "required": [ ]
3229 }
3230

```

3231 **9.35 Keypad**

3232 **9.35.1 Derived model**

3233 The derived model: "onem2m.m.keypad".

3234 **9.35.2 Property definition**

3235 Table 69 provides the detailed per Property mapping for "onem2m.m.keypad".

3236 **Table 69 – The property mapping for "onem2m.m.keypad".**

oneM2M Property name	OCF Resource	To OCF	From OCF
keyNumber	oic.r.keypadchar	Need to translate between the oneM2M integer value and the OCF enumerated stringif ( keyNumber == 0 ) { oic.r.keypadchar.keyvalue == "0"; }if ( keyNumber == 1 ) { oic.r.keypadchar.keyvalue	Need to translate between the OCF enumerated string and the oneM2M integer valueif (oic.r.keypadchar.keyvalue == "0" ) { keyNumber = 0; }if (oic.r.keypadchar.keyvalue

	<pre> == "1"; }if ( keyNumber == 2 ) { oic.r.keypadchar.keyvalue == "2"; }if ( keyNumber == 3 ) { oic.r.keypadchar.keyvalue == "3"; }if ( keyNumber == 4 ) { oic.r.keypadchar.keyvalue == "4"; }if ( keyNumber == 5 ) { oic.r.keypadchar.keyvalue == "5"; }if ( keyNumber == 6 ) { oic.r.keypadchar.keyvalue == "6"; }if ( keyNumber == 7 ) { oic.r.keypadchar.keyvalue == "7"; }if ( keyNumber == 8 ) { oic.r.keypadchar.keyvalue == "8"; }if ( keyNumber == 9 ) { oic.r.keypadchar.keyvalue == "9"; } </pre>	<pre> == "1" ) { keyNumber = 1; }if (oic.r.keypadchar.keyvalue == "2" ) { keyNumber = 2; }if (oic.r.keypadchar.keyvalue == "3" ) { keyNumber = 3; }if (oic.r.keypadchar.keyvalue == "4" ) { keyNumber = 4; }if (oic.r.keypadchar.keyvalue == "5" ) { keyNumber = 5; }if (oic.r.keypadchar.keyvalue == "6" ) { keyNumber = 6; }if (oic.r.keypadchar.keyvalue == "7" ) { keyNumber = 7; }if (oic.r.keypadchar.keyvalue == "8" ) { keyNumber = 8; }if (oic.r.keypadchar.keyvalue == "9" ) { keyNumber = 9; } </pre>
--	--	--

3237 Table 70 provides the details of the Properties that are part of "onem2m.m.keypad".

3238 **Table 70 – The properties of "onem2m.m.keypad".**

oneM2M name	Property	Type	Required	Description
keyNumber		integer	yes	The number of key.

3239 **9.35.3 Derived model definition**

```

3240 {
3241   "id": "http://openinterconnect.org/onem2mmapping/schemas/onem2m.m.keypad.json#",
3242   "$schema": "http://json-schema.org/draft-04/schema#",
3243   "description": "Copyright (c) 2019 Open Connectivity Foundation, Inc. All rights reserved.",
3244   "title": "Keypad",
3245   "definitions": {
3246     "onem2m.m.keypad": {
3247       "type": "object",
3248       "properties": {
3249         "keyNumber": {
3250           "type": "integer",
3251           "description": "The number of key.",
3252           "x-ocf-conversion": {
3253             "x-ocf-alias": "oic.r.keypadchar",
3254             "x-to-ocf": [
3255               "Need to translate between the oneM2M integer value and the OCF enumerated string",
3256               "if ( keyNumber == 0 ) { oic.r.keypadchar.keyvalue == \"0\"; }",
3257               "if ( keyNumber == 1 ) { oic.r.keypadchar.keyvalue == \"1\"; }",
3258               "if ( keyNumber == 2 ) { oic.r.keypadchar.keyvalue == \"2\"; }",
3259               "if ( keyNumber == 3 ) { oic.r.keypadchar.keyvalue == \"3\"; }",
3260               "if ( keyNumber == 4 ) { oic.r.keypadchar.keyvalue == \"4\"; }",
3261               "if ( keyNumber == 5 ) { oic.r.keypadchar.keyvalue == \"5\"; }",
3262               "if ( keyNumber == 6 ) { oic.r.keypadchar.keyvalue == \"6\"; }",

```

```

3263         "if ( keyNumber == 7 ) { oic.r.keypadchar.keyvalue == \"7\"; }",
3264         "if ( keyNumber == 8 ) { oic.r.keypadchar.keyvalue == \"8\"; }",
3265         "if ( keyNumber == 9 ) { oic.r.keypadchar.keyvalue == \"9\"; }"
3266     ],
3267     "x-from-ocf": [
3268         "Need to translate between the OCF enumerated string and the oneM2M integer value",
3269         "if ( oic.r.keypadchar.keyvalue == \"0\" ) { keyNumber = 0; }",
3270         "if ( oic.r.keypadchar.keyvalue == \"1\" ) { keyNumber = 1; }",
3271         "if ( oic.r.keypadchar.keyvalue == \"2\" ) { keyNumber = 2; }",
3272         "if ( oic.r.keypadchar.keyvalue == \"3\" ) { keyNumber = 3; }",
3273         "if ( oic.r.keypadchar.keyvalue == \"4\" ) { keyNumber = 4; }",
3274         "if ( oic.r.keypadchar.keyvalue == \"5\" ) { keyNumber = 5; }",
3275         "if ( oic.r.keypadchar.keyvalue == \"6\" ) { keyNumber = 6; }",
3276         "if ( oic.r.keypadchar.keyvalue == \"7\" ) { keyNumber = 7; }",
3277         "if ( oic.r.keypadchar.keyvalue == \"8\" ) { keyNumber = 8; }",
3278         "if ( oic.r.keypadchar.keyvalue == \"9\" ) { keyNumber = 9; }"
3279     ]
3280 }
3281 }
3282 }
3283 }
3284 },
3285 "type": "object",
3286 "allOf": [
3287     { "$ref": "#/definitions/onem2m.m.keypad" }
3288 ],
3289 "required": [ "keyNumber" ]
3290 }

```

### 3291 9.36 Liquid Level

#### 3292 9.36.1 Derived model

3293 The derived model: "onem2m.m.liquidlevel".

#### 3294 9.36.2 Property definition

3295 Table 71 provides the detailed per Property mapping for "onem2m.m.liquidlevel".

3296 **Table 71 – The property mapping for "onem2m.m.liquidlevel".**

oneM2M Property name	OCF Resource	To OCF	From OCF
liquidLevel	oic.r.liquid.level	oic.r.liquid.level.desiredlevel = liquidLevel * 20	liquidLevel = oic.r.liquid.level.desiredlevel / 20

3297 Table 72 provides the details of the Properties that are part of "onem2m.m.liquidlevel".

3298 **Table 72 – The properties of "onem2m.m.liquidlevel".**

oneM2M Property name	Type	Required	Description
liquidLevel	integer	no	The desired level of liquid

#### 3299 9.36.3 Derived model definition

```

3300 {
3301     "id": "http://openinterconnect.org/onem2mmapping/schemas/onem2m.m.liquidlevel.json#",
3302     "$schema": "http://json-schema.org/draft-04/schema#",

```

```

3303 "description" : "Copyright (c) 2019 Open Connectivity Foundation, Inc. All rights reserved.",
3304 "title": "Liquid Level",
3305 "definitions": {
3306   "onem2m.m.liquidlevel": {
3307     "type": "object",
3308     "properties": {
3309       "liquidLevel": {
3310         "type": "integer",
3311         "description": "The desired level of liquid",
3312         "x-ocf-conversion": {
3313           "x-ocf-alias": "oic.r.liquid.level",
3314           "x-to-ocf": [
3315             "oic.r.liquid.level.desiredlevel = liquidLevel * 20"
3316           ],
3317           "x-from-ocf": [
3318             "liquidLevel = oic.r.liquid.level.desiredlevel / 20"
3319           ]
3320         }
3321       }
3322     }
3323   },
3324 },
3325 "type": "object",
3326 "allOf": [
3327   {"$ref": "#/definitions/onem2m.m.liquidlevel"}
3328 ],
3329 "required": [ "liquidlevel" ]
3330 }
3331

```

3332 **9.37 Liquid Remaining**

3333 **9.37.1 Derived model**

3334 The derived model: "onem2m.m.liquidremaining".

3335 **9.37.2 Property definition**

3336 Table 73 provides the detailed per Property mapping for "onem2m.m.liquidremaining".

3337 **Table 73 – The property mapping for "onem2m.m.liquidremaining".**

oneM2M Property name	OCF Resource	To OCF	From OCF
liquidRemaining	oic.r.liquid.level	This value is 0-5 in oneM2M and 0-100 in OCF, so do the arithmetic conversion $oic.r.liquid.level.current\ level = liquidRemaining * 20$	This value is 0-5 in oneM2M and 0-100 in OCF, so do the arithmetic conversion $liquidRemaining = oic.r.liquid.level.current\ level / 20$

3338 Table 74 provides the details of the Properties that are part of "onem2m.m.liquidremaining".

3339 **Table 74 – The properties of "onem2m.m.liquidremaining".**

oneM2M name	Property	Type	Required	Description
-------------	----------	------	----------	-------------



liquidRemaining	integer	yes	The remaining level of liquid
-----------------	---------	-----	-------------------------------

3340 **9.37.3 Derived model definition**

```

3341 {
3342   "id": "http://openinterconnect.org/onem2mmapping/schemas/onem2m.m.liquidremaining.json#",
3343   "$schema": "http://json-schema.org/draft-04/schema#",
3344   "description": "Copyright (c) 2019 Open Connectivity Foundation, Inc. All rights reserved.",
3345   "title": "Liquid Remaining",
3346   "definitions": {
3347     "onem2m.m.liquidremaining": {
3348       "type": "object",
3349       "properties": {
3350         "liquidRemaining": {
3351           "type": "integer",
3352           "description": "The remaining level of liquid",
3353           "x-ocf-conversion": {
3354             "x-ocf-alias": "oic.r.liquid.level",
3355             "x-to-ocf": [
3356               "This value is 0-5 in oneM2M and 0-100 in OCF, so do the arithmetic conversion",
3357               "oic.r.liquid.level.currentlevel = liquidRemaining * 20"
3358             ],
3359             "x-from-ocf": [
3360               "This value is 0-5 in oneM2M and 0-100 in OCF, so do the arithmetic conversion",
3361               "liquidRemaining = oic.r.liquid.level.currentlevel / 20"
3362             ]
3363           }
3364         }
3365       }
3366     },
3367     "type": "object",
3368     "allOf": [
3369       {"$ref": "#/definitions/onem2m.m.liquidremaining"}
3370     ],
3371     "required": [ "liquidRemaining" ]
3372   }
3373 }
3374

```

3375 **9.38 Lock**

3376 **9.38.1 Derived model**

3377 The derived model: "onem2m.m.lock".

3378 **9.38.2 Property definition**

3379 Table 75 provides the detailed per Property mapping for "onem2m.m.lock".

3380 **Table 75 – The property mapping for "onem2m.m.lock".**

oneM2M Property name	OCF Resource	To OCF	From OCF
lock	oic.r.lock	if lock oic.r.lock.status.lockState = "Locked"if !lock oic.r.lock.status.lockState = "Unlocked"	lock = (oic.r.lock.status.lockState == "Locked")

3381 Table 76 provides the details of the Properties that are part of "onem2m.m.lock".

**Table 76 – The properties of "onem2m.m.lock".**

oneM2M name	Property	Type	Required	Description
lock		boolean	yes	'True' indicates the object is locked, while 'False' indicates the object is not locked.

### 3383 9.38.3 Derived model definition

```

3384 {
3385   "id": "http://openinterconnect.org/onem2mmapping/schemas/onem2m.m.lock.json#",
3386   "$schema": "http://json-schema.org/draft-04/schema#",
3387   "description": "Copyright (c) 2019 Open Connectivity Foundation, Inc. All rights reserved.",
3388   "title": "Lock",
3389   "definitions": {
3390     "onem2m.m.lock": {
3391       "type": "object",
3392       "properties": {
3393         "lock": {
3394           "type": "boolean",
3395           "description": "'True' indicates the object is locked, while 'False' indicates the object
3396 is not locked.",
3397           "x-ocf-conversion": {
3398             "x-ocf-alias": "oic.r.lock",
3399             "x-to-ocf": [
3400               "if lock oic.r.lock.status.lockState = \"Locked\"",
3401               "if !lock oic.r.lock.status.lockState = \"Unlocked\"",
3402             ],
3403             "x-from-ocf": [
3404               "lock = (oic.r.lock.status.lockState == \"Locked\")"
3405             ]
3406           }
3407         }
3408       }
3409     }
3410   },
3411   "type": "object",
3412   "allOf": [{
3413     "$ref": "#/definitions/onem2m.m.lock"
3414   }],
3415   "required": ["lock"]
3416 }

```

### 3417 9.39 Motion Sensor

#### 3418 9.39.1 Derived model

3419 The derived model: "onem2m.m.motionSensor".

#### 3420 9.39.2 Property definition

3421 Table 77 provides the detailed per Property mapping for "onem2m.m.motionSensor".

3422 **Table 77 – The property mapping for "onem2m.m.motionSensor".**

oneM2M Property name	OCF Resource	To OCF	From OCF

motionSensor	oic.r.sensor.motion	oic.r.sensor.motion.value = alarm	alarm = oic.r.sensor.motion.value
silentTime	oic.r.sensor.props	oic.r.sensor.props.silenttime = silentTime	silentTime = oic.r.sensor.props.silenttime
sensitivity	oic.r.sensor.props	oic.r.sensor.props.sensitivity = sensitivityOCF sensitivity is a number and oneM2M sensitivity is an integer, so this arithmetic assignment works, but an arithmetic conversion may be necessary depending on how the value is interpreted	sensitivity = oic.r.sensor.props.sensitivityOCF sensitivity is a number and the oneM2M is an integer, so arithmetic conversion may be necessary depending on how the value is interpreted

3423 Table 78 provides the details of the Properties that are part of "onem2m.m.motionSensor".

3424 **Table 78 – The properties of "onem2m.m.motionSensor".**

oneM2M name	Property	Type	Required	Description
motionSensor		boolean	no	Alarm State
silentTime		integer	no	Silent Time
sensitivity		number	no	Sensitivity

3425 **9.39.3 Derived model definition**

```

3426 {
3427   "id": "http://openinterconnect.org/onem2mmapping/schemas/onem2m.m.motionsensor.json#",
3428   "$schema": "http://json-schema.org/draft-04/schema#",
3429   "description": "Copyright (c) 2019 Open Connectivity Foundation, Inc. All rights reserved.",
3430   "title": "Motion Sensor",
3431   "definitions": {
3432     "onem2m.m.motionSensor": {
3433       "type": "object",
3434       "properties": {
3435         "motionSensor": {
3436           "type": "boolean",
3437           "description": "Alarm State",
3438           "x-ocf-conversion": {
3439             "x-ocf-alias": "oic.r.sensor.motion",
3440             "x-to-ocf": [
3441               "oic.r.sensor.motion.value = alarm"
3442             ],
3443             "x-from-ocf": [
3444               "alarm = oic.r.sensor.motion.value"
3445             ]
3446           }
3447         },
3448         "silentTime": {
3449           "type": "integer",
3450           "description": "Silent Time",
3451           "x-ocf-conversion": {
3452             "x-ocf-alias": "oic.r.sensor.props",

```

```

3453         "x-to-ocf": [
3454             "oic.r.sensor.props.silenttime = silentTime"
3455         ],
3456         "x-from-ocf": [
3457             "silentTime = oic.r.sensor.props.silenttime"
3458         ]
3459     }
3460 },
3461 "sensitivity": {
3462     "type": "number",
3463     "description": "Sensitivity",
3464     "x-ocf-conversion": {
3465         "x-ocf-alias": "oic.r.sensor.props",
3466         "x-to-ocf": [
3467             "oic.r.sensor.props.sensitivity = sensitivity",
3468             "OCF sensitivity is a number and oneM2M sensitivity is an integer, so this arithmetic
3469 assignment works, but an arithmetic conversion may be necessary depending on how the value is
3470 interpreted"
3471         ],
3472         "x-from-ocf": [
3473             "sensitivity = oic.r.sensor.props.sensitivity",
3474             "OCF sensitivity is a number and the oneM2M is an integer, so arithmetic conversion
3475 may be necessary depending on how the value is interpreted"
3476         ]
3477     }
3478 }
3479 }
3480 }
3481 },
3482 "type": "object",
3483 "allof": [
3484     {"$ref": "#/definitions/onem2m.m.motionsensor"}
3485 ],
3486 "required": [ "alarm" ]
3487 }
3488

```

## 3489 9.40 Open Level

### 3490 9.40.1 Derived model

3491 The derived model: "onem2m.m.openlevel".

### 3492 9.40.2 Property definition

3493 Table 79 provides the detailed per Property mapping for "onem2m.m.openlevel".

3494 **Table 79 – The property mapping for "onem2m.m.openlevel".**

oneM2M Property name	OCF Resource	To OCF	From OCF
openLevel	oic.r.openlevel	oic.r.openlevel.openLevel = openLevel	openLevel = oic.r.openlevel.openLevel
maxLevel	oic.r.openlevel	oic.r.openlevel.range[1] = maxLevel	maxLevel = oic.r.openlevel.range[1]
stepValue	oic.r.openlevel	oic.r.openlevel.increment = stepValue	stepValue = oic.r.openlevel.increment
minLevel	oic.r.openlevel	oic.r.openlevel.range[0] = minLevel	minLevel = oic.r.openlevel.range[0]

3495 Table 80 provides the details of the Properties that are part of "onem2m.m.openlevel".

3496 **Table 80 – The properties of "onem2m.m.openlevel".**

oneM2M name	Property	Type	Required	Description
openLevel		integer	yes	The rounded percentage of the current open level of entity in the range of [0, 100]. 0 percentage shall mean the entity is closed.
maxLevel		integer	no	The maximum value allowed for the "openLevel" status. The default value is 100, which means fully opened.
stepValue		integer	no	The step value used by the "open" and "close" actions.
minLevel		integer	no	The minimum value allowed for the "openLevel" status. The default value is 0, which means fully closed.

3497 **9.40.3 Derived model definition**

```

3498 {
3499   "id": "http://openinterconnect.org/onem2mmapping/schemas/onem2m.m.openlevel.json#",
3500   "$schema": "http://json-schema.org/draft-04/schema#",
3501   "description": "Copyright (c) 2019 Open Connectivity Foundation, Inc. All rights reserved.",
3502   "title": "Open Level",
3503   "definitions": {
3504     "onem2m.m.openlevel": {
3505       "type": "object",
3506       "properties": {
3507         "openLevel": {
3508           "type": "integer",
3509           "description": "The rounded percentage of the current open level of entity in the range
3510 of [0, 100]. 0 percentage shall mean the entity is closed.",
3511           "x-ocf-conversion": {
3512             "x-ocf-alias": "oic.r.openlevel",
3513             "x-to-ocf": [
3514               "oic.r.openlevel.openLevel = openLevel"
3515             ],
3516             "x-from-ocf": [
3517               "openLevel = oic.r.openlevel.openLevel"
3518             ]
3519           }
3520         },
3521         "stepValue": {
3522           "type": "integer",

```

```

3523     "description": "The step value used by the \"open\" and \"close\" actions.",
3524     "x-ocf-conversion": {
3525       "x-ocf-alias": "oic.r.openlevel",
3526       "x-to-ocf": [
3527         "oic.r.openlevel.increment = stepValue"
3528       ],
3529       "x-from-ocf": [
3530         "stepValue = oic.r.openlevel.increment"
3531       ]
3532     },
3533   },
3534   "minLevel": {
3535     "type": "integer",
3536     "description": "The minimum value allowed for the \"openLevel\" status. The default value
3537 is 0, which means fully closed.",
3538     "x-ocf-conversion": {
3539       "x-ocf-alias": "oic.r.openlevel",
3540       "x-to-ocf": [
3541         "oic.r.openlevel.range[0] = minLevel"
3542       ],
3543       "x-from-ocf": [
3544         "minLevel = oic.r.openlevel.range[0]"
3545       ]
3546     },
3547   },
3548   "maxLevel": {
3549     "type": "integer",
3550     "description": "The maximum value allowed for the \"openLevel\" status. The default value
3551 is 100, which means fully opened.",
3552     "x-ocf-conversion": {
3553       "x-ocf-alias": "oic.r.openlevel",
3554       "x-to-ocf": [
3555         "oic.r.openlevel.range[1] = maxLevel"
3556       ],
3557       "x-from-ocf": [
3558         "maxLevel = oic.r.openlevel.range[1]"
3559       ]
3560     },
3561   }
3562 }
3563 }
3564 },
3565 "type": "object",
3566 "allOf": [
3567   {"$ref": "#/definitions/onem2m.m.openlevel"}
3568 ],
3569 "required": [ "openLevel" ]
3570 }
3571

```

## 3572 9.41 Operation Mode

### 3573 9.41.1 Derived model

3574 The derived model: "onem2m.m.operationmode".

### 3575 9.41.2 Property definition

3576 Table 81 provides the detailed per Property mapping for "onem2m.m.operationmode".

3577 **Table 81 – The property mapping for "onem2m.m.operationmode".**

oneM2M Property name	OCF Resource	To OCF	From OCF
startPause	oic.r.switch.binary	oic.r.switch.binary.value = startPause	startPause = oic.r.switch.binary.value

3578 Table 82 provides the details of the Properties that are part of "onem2m.m.operationmode".

3579 **Table 82 – The properties of "onem2m.m.operationmode".**

oneM2M name	Property	Type	Required	Description
startPause		boolean	yes	True triggers an operation, and False pauses the operation.

3580 **9.41.3 Derived model definition**

```

3581 {
3582   "id": "http://openinterconnect.org/onem2mmapping/schemas/onem2m.m.operationmode.json#",
3583   "$schema": "http://json-schema.org/draft-04/schema#",
3584   "description": "Copyright (c) 2019 Open Connectivity Foundation, Inc. All rights reserved.",
3585   "title": "Operation Mode",
3586   "definitions": {
3587     "onem2m.m.operationmode": {
3588       "type": "object",
3589       "properties": {
3590         "startPause": {
3591           "type": "boolean",
3592           "description": "True triggers an operation, and False pauses the operation.",
3593           "x-ocf-conversion": {
3594             "x-ocf-alias": "oic.r.switch.binary",
3595             "x-to-ocf": [
3596               "oic.r.switch.binary.value = startPause"
3597             ],
3598             "x-from-ocf": [
3599               "startPause = oic.r.switch.binary.value"
3600             ]
3601           }
3602         }
3603       }
3604     },
3605     "type": "object",
3606     "allOf": [
3607       { "$ref": "#/definitions/onem2m.m.operationmode" }
3608     ],
3609     "required": [ "startPause" ]
3610   }
3611 }
3612

```

3613 **9.42 Overcurrent Sensor**

3614 **9.42.1 Derived model**

3615 The derived model: "onem2m.m.overcurrentsensor".

3616 **9.42.2 Property definition**

3617 Table 83 provides the detailed per Property mapping for "onem2m.m.overcurrentsensor".

3618 **Table 83 – The property mapping for "onem2m.m.overcurrentsensor".**

oneM2M Property name	OCF Resource	To OCF	From OCF
overcurrentStatus	oic.r.sensor	oic.r.sensor.value overcurrentStatus	= overcurrentStatus oic.r.sensor.value =

duration	oic.r.time.period	oic.r.time.period.stoptime = oic.r.time.period.starttime + duration An arithmetic conversion will be necessary to go from string plus integer to string	duration = oic.r.time.period.stoptime - oic.r.time.period.starttime An arithmetic conversion will be necessary to go from string to integer
detectedTime	oic.r.time.period	oic.r.time.period.startTime = detectedTime	detectedTime = oic.r.time.period.startTime

3619 Table 84 provides the details of the Properties that are part of "onem2m.m.overcurrentsensor".

3620

**Table 84 – The properties of "onem2m.m.overcurrentsensor".**

oneM2M name	Property	Type	Required	Description
overcurrentStatus		boolean	yes	The overcurrentStatus indicates as follows: (True) An over-current is detected / (False) Normal status, an over-current is not detected
duration		integer	no	The duration the over-current is detected. The unit of duration is ms.
detectedTime		string	no	The time the over-current is detected.

3621 **9.42.3 Derived model definition**

```

3622 {
3623   "id": "http://openinterconnect.org/onem2mmapping/schemas/onem2m.m.overcurrentsensor.json#",
3624   "$schema": "http://json-schema.org/draft-04/schema#",
3625   "description": "Copyright (c) 2019 Open Connectivity Foundation, Inc. All rights reserved.",
3626   "title": "Overcurrent Sensor",
3627   "definitions": {
3628     "onem2m.m.overcurrentsensor": {
3629       "type": "object",
3630       "properties": {
3631         "overcurrentStatus": {
3632           "type": "boolean",
3633           "description": "The overcurrentStatus indicates as follows: (True) An over-current is
3634 detected / (False) Normal status, an over-current is not detected",
3635           "x-ocf-conversion": {
3636             "x-ocf-alias": "oic.r.sensor",
3637             "x-to-ocf": [
3638               "oic.r.sensor.value = overcurrentStatus"
3639             ],
3640             "x-from-ocf": [
3641               "overcurrentStatus = oic.r.sensor.value"
3642             ]
3643           }
3644         }
3645       }
3646     }
3647   }

```



```

3643     }
3644   },
3645   "detectedTime": {
3646     "type": "string",
3647     "description": "The time the over-current is detected.",
3648     "x-ocf-conversion": {
3649       "x-ocf-alias": "oic.r.time.period",
3650       "x-to-ocf": [
3651         "oic.r.time.period.startTime = detectedTime"
3652       ],
3653       "x-from-ocf": [
3654         "detectedTime = oic.r.time.period.startTime"
3655       ]
3656     }
3657   },
3658   "duration": {
3659     "type": "integer",
3660     "description": "The duration the over-current is detected. The unit of duration is ms.",
3661     "x-ocf-conversion": {
3662       "x-ocf-alias": "oic.r.time.period",
3663       "x-to-ocf": [
3664         "oic.r.time.period.stoptime = oic.r.time.period.starttime + duration",
3665         "An arithmetic conversion will be necessary to go from string plus integer to string"
3666       ],
3667       "x-from-ocf": [
3668         "duration = oic.r.time.period.stoptime - oic.r.time.period.starttime",
3669         "An arithmetic conversion will be necessary to go from string to integer"
3670       ]
3671     }
3672   }
3673 }
3674 }
3675 },
3676 "type": "object",
3677 "allof": [
3678   {"$ref": "#/definitions/onem2m.m.overcurrentsensor"}
3679 ],
3680 "required": [ "overcurrentStatus" ]
3681 }
3682

```

### 3683 9.43 Power Save

#### 3684 9.43.1 Derived model

3685 The derived model: "onem2m.m.powersave".

#### 3686 9.43.2 Property definition

3687 Table 85 provides the detailed per Property mapping for "onem2m.m.powersave".

3688 **Table 85 – The property mapping for "onem2m.m.powersave".**

oneM2M Property name	OCF Resource	To OCF	From OCF
powerSaveEnabled	oic.r.switch.binary	oic.r.switch.binary.value = powerSaveEnabled	powerSaveEnabled = oic.r.switch.binary.value

3689 Table 86 provides the details of the Properties that are part of "onem2m.m.powersave".

3690 **Table 86 – The properties of "onem2m.m.powersave".**

oneM2M name	Property	Type	Required	Description
-------------	----------	------	----------	-------------

powerSaveEnabled	boolean	yes	The current status of the Power Saving Mode. True indicates enabled, and false indicates not enabled.
------------------	---------	-----	---

3691 **9.43.3 Derived model definition**

```

3692 {
3693   "id": "http://openinterconnect.org/oneM2Mmapping/schemas/oneM2M.m.powersave.json#",
3694   "$schema": "http://json-schema.org/draft-04/schema#",
3695   "description": "Copyright (c) 2019 Open Connectivity Foundation, Inc. All rights reserved.",
3696   "title": "Power Save",
3697   "definitions": {
3698     "oneM2M.m.powersave": {
3699       "type": "object",
3700       "properties": {
3701         "powerSaveEnabled": {
3702           "type": "boolean",
3703           "description": "The current status of the Power Saving Mode. True indicates enabled, and
3704 false indicates not enabled.",
3705           "x-ocf-conversion": {
3706             "x-ocf-alias": "oic.r.switch.binary",
3707             "x-to-ocf": [
3708               "oic.r.switch.binary.value = powerSaveEnabled"
3709             ],
3710             "x-from-ocf": [
3711               "powerSaveEnabled = oic.r.switch.binary.value"
3712             ]
3713           }
3714         }
3715       }
3716     },
3717     "type": "object",
3718     "allOf": [
3719       { "$ref": "#/definitions/oneM2M.m.powersave" }
3720     ],
3721     "required": [ "powerSaveEnabled" ]
3722   }
3723 }
3724

```

3725 **9.44 Print Queue**

3726 **9.44.1 Derived model**

3727 The derived model: "oneM2M.m.printqueue".

3728 **9.44.2 Property definition**

3729 Table 87 provides the detailed per Property mapping for "oneM2M.m.printqueue".

3730 **Table 87 – The property mapping for "oneM2M.m.printqueue".**

oneM2M Property name	OCF Resource	To OCF	From OCF
uri	oic.r.printer.queue	For each item in the array of queue items from oneM2M.m.printqueue oic.r.print.queue item[i].uri = uri[i]	For each item in the array of queue items from oic.r.printer.queue uri[i] = oic.r.print.queueitem[i].uri

printingState	oic.r.printer.queue	For each item in the array of queue items from onem2m.m.printqueue oic.r.print.queue item[i].status = printingStatus[i]	For each item in the array of queue items from oic.r.printer.queue printingStatus[i] = oic.r.print.queueitem[i].status
---------------	---------------------	---	--

3731 Table 88 provides the details of the Properties that are part of "onem2m.m.printqueue".

3732 **Table 88 – The properties of "onem2m.m.printqueue".**

oneM2M name	Property	Type	Required	Description
uri		string	yes	The URI of the printing file.
printingState		string	yes	The printingState is indicating the status of the printing file.

3733 **9.44.3 Derived model definition**

```

3734 {
3735   "id": "http://openinterconnect.org/onem2mmapping/schemas/onem2m.m.printqueue.json#",
3736   "$schema": "http://json-schema.org/draft-04/schema#",
3737   "description": "Copyright (c) 2019 Open Connectivity Foundation, Inc. All rights reserved.",
3738   "title": "Print Queue",
3739   "definitions": {
3740     "onem2m.m.printqueue": {
3741       "type": "object",
3742       "properties": {
3743         "uri": {
3744           "type": "string",
3745           "description": "The URI of the printing file.",
3746           "x-ocf-conversion": {
3747             "x-ocf-alias": "oic.r.printer.queue",
3748             "x-to-ocf": [
3749               "For each item in the array of queue items from onem2m.m.printqueue",
3750               "oic.r.print.queueitem[i].uri = uri[i]"
3751             ],
3752             "x-from-ocf": [
3753               "For each item in the array of queue items from oic.r.printer.queue",
3754               "uri[i] = oic.r.print.queueitem[i].uri"
3755             ]
3756           }
3757         },
3758         "printingState": {
3759           "type": "string",
3760           "description": "The printingState is indicating the status of the printing file.",
3761           "x-ocf-conversion": {
3762             "x-ocf-alias": "oic.r.printer.queue",
3763             "x-to-ocf": [
3764               "For each item in the array of queue items from onem2m.m.printqueue",
3765               "oic.r.print.queueitem[i].status = printingStatus[i]"
3766             ],
3767             "x-from-ocf": [
3768               "For each item in the array of queue items from oic.r.printer.queue",
3769               "printingStatus[i] = oic.r.print.queueitem[i].status"
3770             ]
3771           }
3772         }
3773       }
3774     }
3775   }

```

```

3774     }
3775   },
3776   "type": "object",
3777   "allOf": [
3778     { "$ref": "#/definitions/onem2m.m.printqueue" }
3779   ],
3780   "required": [ "uri", "printingState" ]
3781 }

```

## 3782 9.45 Push Button

### 3783 9.45.1 Derived model

3784 The derived model: "onem2m.m.pushbutton".

### 3785 9.45.2 Property definition

3786 Table 89 provides the detailed per Property mapping for "onem2m.m.pushbutton".

3787 **Table 89 – The property mapping for "onem2m.m.pushbutton".**

oneM2M name	Property	OCF Resource	To OCF	From OCF
pushed		oic.r.button	oic.r.button.value = pushed	pushed = oic.r.button.value

3788 Table 90 provides the details of the Properties that are part of "onem2m.m.pushbutton".

3789 **Table 90 – The properties of "onem2m.m.pushbutton".**

oneM2M name	Property	Type	Required	Description
pushed		boolean	yes	This data point indicates the press of the button.

### 3790 9.45.3 Derived model definition

```

3791 {
3792   "id": "http://openinterconnect.org/onem2mmapping/schemas/onem2m.m.pushbutton.json#",
3793   "$schema": "http://json-schema.org/draft-04/schema#",
3794   "description": "Copyright (c) 2019 Open Connectivity Foundation, Inc. All rights reserved.",
3795   "title": "Push Button",
3796   "definitions": {
3797     "onem2m.m.pushbutton": {
3798       "type": "object",
3799       "properties": {
3800         "pushed": {
3801           "type": "boolean",
3802           "description": "This data point indicates the press of the button.",
3803           "x-ocf-conversion": {
3804             "x-ocf-alias": "oic.r.button",
3805             "x-to-ocf": [
3806               "oic.r.button.value = pushed"
3807             ],
3808             "x-from-ocf": [
3809               "pushed = oic.r.button.value"
3810             ]
3811           }
3812         }
3813       }
3814     }
3815   }

```

```

3815     },
3816     "type": "object",
3817     "allOf": [{
3818       "$ref": "#/definitions/onem2m.m.pushbutton"
3819     }],
3820     "required": ["pushed"]
3821   }
3822 }

```

3823 **9.46 Refrigeration**

3824 **9.46.1 Derived model**

3825 The derived model: "onem2m.m.refrigeration".

3826 **9.46.2 Property definition**

3827 Table 91 provides the detailed per Property mapping for "onem2m.m.refrigeration".

3828 **Table 91 – The property mapping for "onem2m.m.refrigeration".**

oneM2M Property name	OCF Resource	To OCF	From OCF
defrost	oic.r.refrigeration	oic.r.refrigeration.defrost = defrost	defrost = oic.r.refrigeration.defrost
rapidCool	oic.r.refrigeration	oic.r.refrigeration.rapidCool = rapidCool	rapidCool = oic.r.refrigeration.rapidCool
rapidFreeze	oic.r.refrigeration	oic.r.refrigeration.rapidFreeze = rapidFreeze	rapidFreeze = oic.r.refrigeration.rapidFreeze

3829 Table 92 provides the details of the Properties that are part of "onem2m.m.refrigeration".

3830 **Table 92 – The properties of "onem2m.m.refrigeration".**

oneM2M Property name	Property	Type	Required	Description
defrost		boolean	no	Controls the defrost cycle. "True" indicates active, "False" indicates inactive.
rapidCool		boolean	no	Controls the rapid cool capability. "True" indicates active, "False" indicates inactive.
rapidFreeze		boolean	no	Controls the rapid freeze capability. "True" indicates

			active, "False" indicates inactive.
--	--	--	-------------------------------------

3831 **9.46.3 Derived model definition**

```

3832 {
3833   "id": "http://openinterconnect.org/onem2mmapping/schemas/onem2m.m.refrigeration.json#",
3834   "$schema": "http://json-schema.org/draft-04/schema#",
3835   "description": "Copyright (c) 2019 Open Connectivity Foundation, Inc. All rights reserved.",
3836   "title": "Refrigeration",
3837   "definitions": {
3838     "onem2m.m.refrigeration": {
3839       "type": "object",
3840       "properties": {
3841         "rapidFreeze": {
3842           "type": "boolean",
3843           "description": "Controls the rapid freeze capability. \"True\" indicates active,
3844 \\\"False\\\" indicates inactive.",
3845           "x-ocf-conversion": {
3846             "x-ocf-alias": "oic.r.refrigeration",
3847             "x-to-ocf": [
3848               "oic.r.refrigeration.rapidFreeze = rapidFreeze"
3849             ],
3850             "x-from-ocf": [
3851               "rapidFreeze = oic.r.refrigeration.rapidFreeze"
3852             ]
3853           }
3854         },
3855         "rapidCool": {
3856           "type": "boolean",
3857           "description": "Controls the rapid cool capability. \"True\" indicates active, \\\"False\\\"
3858 indicates inactive.",
3859           "x-ocf-conversion": {
3860             "x-ocf-alias": "oic.r.refrigeration",
3861             "x-to-ocf": [
3862               "oic.r.refrigeration.rapidCool = rapidCool"
3863             ],
3864             "x-from-ocf": [
3865               "rapidCool = oic.r.refrigeration.rapidCool"
3866             ]
3867           }
3868         },
3869         "defrost": {
3870           "type": "boolean",
3871           "description": "Controls the defrost cycle. \"True\" indicates active, \\\"False\\\"
3872 indicates inactive.",
3873           "x-ocf-conversion": {
3874             "x-ocf-alias": "oic.r.refrigeration",
3875             "x-to-ocf": [
3876               "oic.r.refrigeration.defrost = defrost"
3877             ],
3878             "x-from-ocf": [
3879               "defrost = oic.r.refrigeration.defrost"
3880             ]
3881           }
3882         }
3883       }
3884     },
3885     "type": "object",
3886     "allOf": [
3887       {"$ref": "#/definitions/onem2m.m.refrigeration"}
3888     ],
3889     "required": [ ]
3890   }
3891 }
3892

```

3893 **9.47 Relative Humidity**

3894 **9.47.1 Derived model**

3895 The derived model: "onem2m.m.relativeHumidity".

3896 **9.47.2 Property definition**

3897 Table 93 provides the detailed per Property mapping for "onem2m.m.relativeHumidity".

3898 **Table 93 – The property mapping for "onem2m.m.relativeHumidity".**

oneM2M Property name	OCF Resource	To OCF	From OCF
relativeHumidity	oic.r.humidity	oic.r.humidity.humidity = int(relativeHumidity)	relativeHumidity = float(oic.r.humidity.humidity)
desiredHumidity	oic.r.humidity	oic.r.humidity.desiredhumidity = int(desiredHumidity)	desiredHumidity = float(oic.r.humidity.desiredhumidity)

3899 Table 94 provides the details of the Properties that are part of "onem2m.m.relativeHumidity".

3900 **Table 94 – The properties of "onem2m.m.relativeHumidity".**

oneM2M name	Property	Type	Required	Description
relativeHumidity		number	yes	The measurement of the relative humidity value; the unit of measure is percentage
desiredHumidity		number	no	Desired value for humidity. This data point indicates the desired humidity

3901 **9.47.3 Derived model definition**

```

3902 {
3903   "id": "http://openinterconnect.org/onem2mmapping/schemas/onem2m.m.relativeHumidity.json#",
3904   "$schema": "http://json-schema.org/draft-04/schema#",
3905   "description": "Copyright (c) 2019 Open Connectivity Foundation, Inc. All rights reserved.",
3906   "title": "Relative Humidity",
3907   "definitions": {
3908     "onem2m.m.relativeHumidity": {
3909       "type": "object",
3910       "properties": {
3911         "relativeHumidity": {
3912           "type": "number",
3913           "description": "The measurement of the relative humidity value; the unit of measure is
3914 percentage",
3915           "x-ocf-conversion": {
3916             "x-ocf-alias": "oic.r.humidity",
3917             "x-to-ocf": [

```

```

3918         "oic.r.humidity.humidity = int(relativeHumidity)"
3919     ],
3920     "x-from-ocf": [
3921         "relativeHumidity = float(oic.r.humidity.humidity)"
3922     ]
3923     },
3924     "desiredHumidity": {
3925         "type": "number",
3926         "description": "Desired value for humidity. This data point indicates the desired
3927 humidity",
3928         "x-ocf-conversion": {
3929             "x-ocf-alias": "oic.r.humidity",
3930             "x-to-ocf": [
3931                 "oic.r.humidity.desiredhumidity = int(desiredHumidity)"
3932             ],
3933             "x-from-ocf": [
3934                 "desiredHumidity = float(oic.r.humidity.desiredhumidity)"
3935             ]
3936         }
3937     }
3938     }
3939     }
3940     },
3941     "type": "object",
3942     "allOf": [
3943         { "$ref": "#/definitions/onem2m.m.relativeHumidity" }
3944     ],
3945     "required": [ "relativeHumidity" ]
3946 }
3947 }

```

## 3948 9.48 Robot Cleaner Job Mode

### 3949 9.48.1 Derived model

3950 The derived model: "onem2m.m.robotcleanerjobmode".

### 3951 9.48.2 Property definition

3952 Table 95 provides the detailed per Property mapping for "onem2m.m.robotcleanerjobmode".

3953 **Table 95 – The property mapping for "onem2m.m.robotcleanerjobmode".**

oneM2M Property name	OCF Resource	To OCF	From OCF
jobModes	oic.r.operational.state	This does not exist in OCF as all possible operational states are available.	This is an array of integers in oneM2M defined by the current version of the specification as follows: $jobModes[1] = 1$ $jobModes[2] = 2$ $jobModes[3] = 3$
currentJobMode	oic.r.operational.state	Need to translate between the oneM2M integer value and the OCF operational state enumerated string <pre> if ( currentJobMode == 1 ) { oic.r.operational.state.currentJobState == "zigzag"; } if ( currentJobMode == 2 ) { oic.r.operational.state.currentJobState == "sectored" } </pre>	Need to translate between the OCF operational state enumerated string and the oneM2M integer value <pre> if ( oic.r.operational.state.currentJobState == "zigzag" ) { currentJobMode = 1; } if ( oic.r.operational.state.currentJobState == "sectored" ) { currentJobMode = 2; } </pre>



		<pre>"sectored"; }if ( currentJobMode == 3 ) { oic.r.operational.state.curr entJobState == "spot"; }else { oic.r.operational.state.curr entJobState == "unknown"; }</pre>	<pre>(oic.r.operational.state.curr entJobState == "spot" { currentJobMode = 3; }else { currentJobMode = 0; }</pre>
currentJobModeName	oic.r.operational.state	This value does not exist in OCF as it is already accommodated in the currentJobMode property.	<pre>Need to translate between the OCF operational state enumerated string and the oneM2M string valueif (oic.r.operational.state.curr entJobState == "zigzag" ) { currentJobModeName = "zigzag"; }if (oic.r.operational.state.curr entJobState == "sectored" ) { currentJobModeName = "sectorBase"; }if (oic.r.operational.state.curr entJobState == "spot" { currentJobModeName = "spot"; }else { currentJobModeName = ""; }</pre>

3954 Table 96 provides the details of the Properties that are part of "onem2m.m.robotcleanerjobmode".

3955 **Table 96 – The properties of "onem2m.m.robotcleanerjobmode".**

oneM2M name	Property	Type	Required	Description
jobModes		array	yes	List of possible job states the device supports
currentJobMode		integer	yes	Currently active job mode.
currentJobModeName		string	no	Name of current job mode in string. This can be used when currentJobMode is vendor-specific.

3956 **9.48.3 Derived model definition**

```
3957 {
3958   "id": "http://openinterconnect.org/onem2mmapping/schemas/onem2m.m.robotcleanerjobmode.json#",
3959   "$schema": "http://json-schema.org/draft-04/schema#",
3960   "description": "Copyright (c) 2019 Open Connectivity Foundation, Inc. All rights reserved.",
3961   "title": "Robot Cleaner Job Mode",
3962   "definitions": {
3963     "onem2m.m.robotcleanerjobmode": {
3964       "type": "object",
```

```

3965     "properties": {
3966         "currentJobMode": {
3967             "type": "integer",
3968             "description": "Currently active job mode.",
3969             "x-ocf-conversion": {
3970                 "x-ocf-alias": "oic.r.operational.state",
3971                 "x-to-ocf": [
3972                     "Need to translate between the oneM2M integer value and the OCF operational state
3973 enumerated string",
3974                     "if ( currentJobMode == 1 ) { oic.r.operational.state.currentJobState ==
3975 \"zigzag\"; }",
3976                     "if ( currentJobMode == 2 ) { oic.r.operational.state.currentJobState ==
3977 \"sectored\"; }",
3978                     "if ( currentJobMode == 3 ) { oic.r.operational.state.currentJobState ==
3979 \"spot\"; }",
3980                     "else { oic.r.operational.state.currentJobState == \"unknown\"; }"
3981                 ],
3982                 "x-from-ocf": [
3983                     "Need to translate between the OCF operational state enumerated string and the oneM2M
3984 integer value",
3985                     "if ( oic.r.operational.state.currentJobState == \"zigzag\" ) { currentJobMode =
3986 1; }",
3987                     "if ( oic.r.operational.state.currentJobState == \"sectored\" ) { currentJobMode =
3988 2; }",
3989                     "if ( oic.r.operational.state.currentJobState == \"spot\" { currentJobMode = 3; }",
3990                     "else { currentJobMode = 0; }"
3991                 ]
3992             }
3993         },
3994         "currentJobModeName": {
3995             "type": "string",
3996             "description": "Name of current job mode in string. This can be used when currentJobMode
3997 is vendor-specific.",
3998             "x-ocf-conversion": {
3999                 "x-ocf-alias": "oic.r.operational.state",
4000                 "x-to-ocf": [
4001                     "This value does not exist in OCF as it is already accommodated in the currentJobMode
4002 property."
4003                 ],
4004                 "x-from-ocf": [
4005                     "Need to translate between the OCF operational state enumerated string and the oneM2M
4006 string value",
4007                     "if ( oic.r.operational.state.currentJobState == \"zigzag\" ) { currentJobModeName =
4008 \"zigzag\"; }",
4009                     "if ( oic.r.operational.state.currentJobState == \"sectored\" ) { currentJobModeName =
4010 \"sectorBase\"; }",
4011                     "if ( oic.r.operational.state.currentJobState == \"spot\" { currentJobModeName =
4012 \"spot\"; }",
4013                     "else { currentJobModeName = \"\"; }"
4014                 ]
4015             }
4016         },
4017         "jobModes": {
4018             "type": "array",
4019             "description": "List of possible job states the device supports",
4020             "x-ocf-conversion": {
4021                 "x-ocf-alias": "oic.r.operational.state",
4022                 "x-to-ocf": [
4023                     "This does not exist in OCF as all possible operational states are available."
4024                 ],
4025                 "x-from-ocf": [
4026                     "This is an array of integers in oneM2M defined by the current version of the
4027 specification as follows:",
4028                     "jobModes[1] = 1",
4029                     "jobModes[2] = 2",
4030                     "jobModes[3] = 3"
4031                 ]
4032             }
4033         }
4034     }
4035 }

```

```

4036     },
4037     "type": "object",
4038     "allOf": [
4039       { "$ref": "#/definitions/onem2m.m.airconjobmode" }
4040     ],
4041     "required": [ "currentJobMode", "jobModes" ]
4042   }

```

## 4043 9.49 Steam Closet Job Mode

### 4044 9.49.1 Derived model

4045 The derived model: "onem2m.m.steamclosetjobmode".

### 4046 9.49.2 Property definition

4047 Table 97 provides the detailed per Property mapping for "onem2m.m.steamclosetjobmode".

4048 **Table 97 – The property mapping for "onem2m.m.steamclosetjobmode".**

oneM2M Property name	OCF Resource	To OCF	From OCF
currentJobMode	oic.r.operational.state	Need to translate between the oneM2M integer value and the OCF operational state enumerated string <pre> if ( currentJobMode == 1 ) { oic.r.operational.state.currentJobState == "aroma" } if ( currentJobMode == 2 ) { oic.r.operational.state.currentJobState == "steam" } if ( currentJobMode == 3 ) { oic.r.operational.state.currentJobState == "pure" } if ( currentJobMode == 4 ) { oic.r.operational.state.currentJobState == "delicate" } else { oic.r.operational.state.currentJobState == "unknown" } </pre>	Need to translate between the OCF operational state enumerated string and the oneM2M integer value <pre> if ( oic.r.operational.state.currentJobState == "aroma" ) { currentJobMode = 1; } if ( oic.r.operational.state.currentJobState == "steam" ) { currentJobMode = 2; } if ( oic.r.operational.state.currentJobState == "pure" ) { currentJobMode = 3; } if ( oic.r.operational.state.currentJobState == "delicate" ) { currentJobMode = 4; } else { currentJobMode = 0; } </pre>
jobModes	oic.r.operational.state	This does not exist in OCF as all possible operational states are available.	This is an array of integers in oneM2M defined by the current version of the specification as follows: <pre> jobModes[1] = 1 jobModes[2] = 2 jobModes[3] = 3 jobModes[4] = 4 </pre>
currentJobModeName	oic.r.operational.state	This value does not exist in OCF as it is already accommodated in the currentJobMode property.	Need to translate between the OCF operational state enumerated string and the oneM2M string value <pre> if ( oic.r.operational.state.currentJobState == "aroma" ) </pre>

			<pre> { currentJobModeName = "reduceOdor";      }if (oic.r.operational.state.curr entJobState == "steam" ) { currentJobModeName = "steamWrinkle";    }if (oic.r.operational.state.curr entJobState == "pure" { currentJobModeName = "helpClean";       }if (oic.r.operational.state.curr entJobState == "delicate" ) { currentJobModeName = "gentleDry";       }else { currentJobModeName = ""; } </pre>
--	--	--	--

4049 Table 98 provides the details of the Properties that are part of "onem2m.m.steamclosetjobmode".

4050 **Table 98 – The properties of "onem2m.m.steamclosetjobmode".**

oneM2M name	Property	Type	Required	Description
	currentJobMode	integer	yes	Currently active job mode.
	jobModes	array	yes	List of possible job states the device supports
	currentJobModeName	string	no	Name of current job mode in string. This can be used when currentJobMode is vendor-specific.

4051 **9.49.3 Derived model definition**

```

4052 {
4053   "id": "http://openinterconnect.org/onem2mmapping/schemas/onem2m.m.steamclosetjobmode.json#",
4054   "$schema": "http://json-schema.org/draft-04/schema#",
4055   "description": "Copyright (c) 2019 Open Connectivity Foundation, Inc. All rights reserved.",
4056   "title": "Steam Closet Job Mode",
4057   "definitions": {
4058     "onem2m.m.steamclosetjobmode": {
4059       "type": "object",
4060       "properties": {
4061         "currentJobMode": {
4062           "type": "integer",
4063           "description": "Currently active job mode.",
4064           "x-ocf-conversion": {
4065             "x-ocf-alias": "oic.r.operational.state",
4066             "x-to-ocf": [
4067               "Need to translate between the oneM2M integer value and the OCF operational state
4068               enumerated string",
4069               "if ( currentJobMode == 1 ) { oic.r.operational.state.currentJobState ==
4070               \"aroma\"; }",
4071               "if ( currentJobMode == 2 ) { oic.r.operational.state.currentJobState ==

```

```

4072  \ "steam\"; }",
4073      "if ( currentJobMode == 3 ) { oic.r.operational.state.currentJobState ==
4074  \ "pure\"; }",
4075      "if ( currentJobMode == 4 ) { oic.r.operational.state.currentJobState ==
4076  \ "delicate\"; }",
4077      "else { oic.r.operational.state.currentJobState == \ "unknown\"; }"
4078  ],
4079      "x-from-ocf": [
4080  "Need to translate between the OCF operational state enumerated string and the oneM2M
4081  integer value",
4082      "if ( oic.r.operational.state.currentJobState == \ "aroma\ " ) { currentJobMode = 1; }",
4083      "if ( oic.r.operational.state.currentJobState == \ "steam\ " ) { currentJobMode = 2; }",
4084      "if ( oic.r.operational.state.currentJobState == \ "pure\ " { currentJobMode = 3; }",
4085      "if ( oic.r.operational.state.currentJobState == \ "delicate\ " ) { currentJobMode =
4086  4; }",
4087      "else { currentJobMode = 0; }"
4088  ]
4089  },
4090  },
4091  "currentJobModeName": {
4092    "type": "string",
4093    "description": "Name of current job mode in string. This can be used when currentJobMode
4094  is vendor-specific.",
4095    "x-ocf-conversion": {
4096      "x-ocf-alias": "oic.r.operational.state",
4097      "x-to-ocf": [
4098        "This value does not exist in OCF as it is already accommodated in the currentJobMode
4099  property."
4100      ],
4101      "x-from-ocf": [
4102        "Need to translate between the OCF operational state enumerated string and the oneM2M
4103  string value",
4104          "if ( oic.r.operational.state.currentJobState == \ "aroma\ " ) { currentJobModeName =
4105  \ "reduceOdor\"; }",
4106          "if ( oic.r.operational.state.currentJobState == \ "steam\ " ) { currentJobModeName =
4107  \ "steamWrinkle\"; }",
4108          "if ( oic.r.operational.state.currentJobState == \ "pure\ " { currentJobModeName =
4109  \ "helpClean\"; }",
4110          "if ( oic.r.operational.state.currentJobState == \ "delicate\ " ) { currentJobModeName =
4111  \ "gentleDry\"; }",
4112          "else { currentJobModeName = \ "\"; }"
4113      ]
4114    }
4115  },
4116  "jobModes": {
4117    "type": "array",
4118    "description": "List of possible job states the device supports",
4119    "x-ocf-conversion": {
4120      "x-ocf-alias": "oic.r.operational.state",
4121      "x-to-ocf": [
4122        "This does not exist in OCF as all possible operational states are available."
4123      ],
4124      "x-from-ocf": [
4125        "This is an array of integers in oneM2M defined by the current version of the
4126  specification as follows:",
4127        "jobModes[1] = 1",
4128        "jobModes[2] = 2",
4129        "jobModes[3] = 3",
4130        "jobModes[4] = 4"
4131      ]
4132    }
4133  }
4134  }
4135  },
4136  },
4137  "type": "object",
4138  "allOf": [
4139    { "$ref": "#/definitions/oneM2M.airconjobmode" }
4140  ],
4141  "required": [ "currentJobMode", "jobModes" ]
4142  }

```

4143 **9.50 Temperature**

4144 **9.50.1 Derived model**

4145 The derived model: "onem2m.m.temperature".

4146 **9.50.2 Property definition**

4147 Table 99 provides the detailed per Property mapping for "onem2m.m.temperature".

4148 **Table 99 – The property mapping for "onem2m.m.temperature".**

oneM2M Property name	OCF Resource	To OCF	From OCF
stepValue	oic.r.temperature	oic.r.temperature.step = stepValue	stepValue = oic.r.temperature.step otherwise : stepValue = 1
minValue	oic.r.temperature	oic.r.temperature.range[0] = minValue	minValue = oic.r.temperature.range[0] otherwise: minValue = -MAXINT
maxValue	oic.r.temperature	oic.r.temperature.range[1] = maxValue	maxValue = oic.r.temperature.range[1] otherwise: maxValue = MAXINT
targetTemperature	oic.r.temperature	oic.r.temperature.temperature = targetTemperatureunits = CDuring translation, need to set the description of the multi-instance temperature resource to indicate whether this is the current or target temperature being translated	oneOf
currentTemperature	oic.r.temperature	oic.r.temperature.temperature = currentTemperatureunits = CDuring translation, need to set the description of the multi-instance temperature resource to indicate whether this is the current or target temperature being translated	oneOf

4149 Table 100 provides the details of the Properties that are part of "onem2m.m.temperature".

Table 100 – The properties of "onem2m.m.temperature".

oneM2M name	Property	Type	Required	Description
stepValue		number	no	Step value allowed for 'targetTemperature'
minValue		number	no	Minimum value of 'targetTemperature'
maxValue		number	no	Maximum value of 'targetTemperature'
targetTemperature		number	no	The desired temperature to reach
currentTemperature		number	yes	The current temperature

4151 **9.50.3 Derived model definition**

```

4152 {
4153   "id": "http://openinterconnect.org/onem2mmapping/schemas/onem2m.m.temperature.json#",
4154   "$schema": "http://json-schema.org/draft-04/schema#",
4155   "description": "Copyright (c) 2019 Open Connectivity Foundation, Inc. All rights reserved.",
4156   "title": "Temperature",
4157   "definitions": {
4158     "onem2m.m.temperature": {
4159       "type": "object",
4160       "properties": {
4161         "currentTemperature": {
4162           "type": "number",
4163           "description": "The current temperature",
4164           "x-ocf-conversion": {
4165             "x-ocf-alias": "oic.r.temperature",
4166             "x-to-ocf": [
4167               "oic.r.temperature.temperature = currentTemperature",
4168               "units = C",
4169               "During translation, need to set the description of the multi-instance temperature
4170 resource to indicate whether this is the current or target temperature being translated"
4171             ],
4172             "x-from-ocf": {
4173               "oneOf": [
4174                 {
4175                   "properties": {
4176                     "units": "string",
4177                     "enum": ["C"]
4178                   },
4179                   "x-from-ocf": [
4180                     "currentTemperature = oic.r.temperature.temperature"
4181                   ]
4182                 },
4183                 {
4184                   "properties": {
4185                     "units": "string",
4186                     "enum": ["F"]
4187                   },
4188                   "x-from-ocf": [
4189                     "currentTemperature = (oic.r.temperature.temperature-32)*5/9"
4190                   ]
4191                 }
4192               ]
4193             }
4194           }
4195         }
4196       }
4197     }
4198   }

```

```

4193         "properties": {
4194             "units": "string",
4195             "enum": ["K"]
4196         },
4197         "x-from-ocf": [
4198             "currentTemperature = oic.r.temperature.temperature-273.15"
4199         ]
4200     }
4201 ]
4202 }
4203 },
4204 },
4205 "targetTemperature": {
4206     "type": "number",
4207     "description": "The desired temperature to reach",
4208     "x-ocf-conversion": {
4209         "x-ocf-alias": "oic.r.temperature",
4210         "x-to-ocf": [
4211             "oic.r.temperature.temperature = targetTemperature",
4212             "units = C",
4213             "During translation, need to set the description of the multi-instance temperature
4214 resource to indicate whether this is the current or target temperature being translated"
4215         ],
4216         "x-from-ocf": {
4217             "oneOf": [
4218                 {
4219                     "properties": {
4220                         "units": "string",
4221                         "enum": ["C"]
4222                     },
4223                     "x-from-ocf": [
4224                         "targetTemperature = oic.r.temperature.temperature"
4225                     ]
4226                 },
4227                 {
4228                     "properties": {
4229                         "units": "string",
4230                         "enum": ["F"]
4231                     },
4232                     "x-from-ocf": [
4233                         "targetTemperature = (oic.r.temperature.temperature-32)*5/9"
4234                     ]
4235                 },
4236                 {
4237                     "properties": {
4238                         "units": "string",
4239                         "enum": ["K"]
4240                     },
4241                     "x-from-ocf": [
4242                         "targetTemperature = oic.r.temperature.temperature-273.15"
4243                     ]
4244                 }
4245             ]
4246         }
4247     },
4248 },
4249 "minValue": {
4250     "type": "number",
4251     "description": "Minimum value of 'targetTemperature'",
4252     "x-ocf-conversion": {
4253         "x-ocf-alias": "oic.r.temperature",
4254         "x-to-ocf": [
4255             "oic.r.temperature.range[0] = minValue"
4256         ],
4257         "x-from-ocf": [
4258             "minValue = oic.r.temperature.range[0]",
4259             "otherwise: minValue = -MAXINT"
4260         ]
4261     }
4262 },
4263 "maxValue": {

```



```

4264         "type": "number",
4265         "description": "Maximum value of 'targetTemperature'",
4266         "x-ocf-conversion": {
4267             "x-ocf-alias": "oic.r.temperature",
4268             "x-to-ocf": [
4269                 "oic.r.temperature.range[1] = maxValue"
4270             ],
4271             "x-from-ocf": [
4272                 "maxValue =oic.r.temperature.range[1]",
4273                 "otherwise: maxValue = MAXINT"
4274             ]
4275         }
4276     },
4277     "stepValue": {
4278         "type": "number",
4279         "description": "Step value allowed for 'targetTemperature'",
4280         "x-ocf-conversion": {
4281             "x-ocf-alias": "oic.r.temperature",
4282             "x-to-ocf": [
4283                 "oic.r.temperature.step = stepValue"
4284             ],
4285             "x-from-ocf": [
4286                 "stepValue = oic.r.temperature.step",
4287                 "otherwise: stepValue = 1"
4288             ]
4289         }
4290     }
4291 }
4292 },
4293 },
4294 "type": "object",
4295 "allOf": [
4296     {"$ref": "#/definitions/onem2m.m.temperature"}
4297 ],
4298 "required": [ "currentTemperature" ]
4299 }

```

4300 **9.51 UV Sensor**

4301 **9.51.1 Derived model**

4302 The derived model: "onem2m.m.uvsensor".

4303 **9.51.2 Property definition**

4304 Table 101 provides the detailed per Property mapping for "onem2m.m.uvsensor".

4305 **Table 101 – The property mapping for "onem2m.m.uvsensor".**

oneM2M Property name	OCF Resource	To OCF	From OCF
uvstatus	oic.r.sensor.radiation.uv	oic.r.sensor.radiation.uv.step = uvstatus	uvstatus = oic.r.sensor.radiation.uv.step
uvvalue	oic.r.sensor.radiation.uv	oic.r.sensor.radiation.uv.measurement = uvvalue	uvvalue = oic.r.sensor.radiation.uv.measurement

4306 Table 102 provides the details of the Properties that are part of "onem2m.m.uvsensor".

Table 102 – The properties of "onem2m.m.uvsensor".

oneM2M name	Property	Type	Required	Description
uvstatus		integer	no	The "uvStatus" indicates the level of the UV radiation status.
uvvalue		number	yes	The unit of measure of the UV intensity of radiation is "mW/cm2".

4308 **9.51.3 Derived model definition**

```

4309 {
4310   "id": "http://openinterconnect.org/onem2mmapping/schemas/onem2m.m.uvsensor.json#",
4311   "$schema": "http://json-schema.org/draft-04/schema#",
4312   "description": "Copyright (c) 2019 Open Connectivity Foundation, Inc. All rights reserved.",
4313   "title": "UV Sensor",
4314   "definitions": {
4315     "onem2m.m.uvsensor": {
4316       "type": "object",
4317       "properties": {
4318         "uvvalue": {
4319           "type": "number",
4320           "description": "The unit of measure of the UV intensity of radiation is \"mW/cm2\".",
4321           "x-ocf-conversion": {
4322             "x-ocf-alias": "oic.r.sensor.radiation.uv",
4323             "x-to-ocf": [
4324               "oic.r.sensor.radiation.uv.measurement = uvvalue"
4325             ],
4326             "x-from-ocf": [
4327               "uvvalue = oic.r.sensor.radiation.uv.measurement"
4328             ]
4329           }
4330         },
4331         "uvstatus": {
4332           "type": "integer",
4333           "description": "The \"uvStatus\" indicates the level of the UV radiation status.",
4334           "x-ocf-conversion": {
4335             "x-ocf-alias": "oic.r.sensor.radiation.uv",
4336             "x-to-ocf": [
4337               "oic.r.sensor.radiation.uv.step = uvstatus"
4338             ],
4339             "x-from-ocf": [
4340               "uvstatus = oic.r.sensor.radiation.uv.step"
4341             ]
4342           }
4343         }
4344       }
4345     }
4346   },
4347   "type": "object",
4348   "allOf": [
4349     { "$ref": "#/definitions/onem2m.m.uvsensor" }
4350   ],
4351   "required": [ "uvvalue" ]
4352 }
4353

```

4354 **9.52 Water Sensor**

4355 **9.52.1 Derived model**

4356 The derived model: "onem2m.m.watersensor".

4357 **9.52.2 Property definition**

4358 Table 103 provides the detailed per Property mapping for "onem2m.m.watersensor".

4359 **Table 103 – The property mapping for "onem2m.m.watersensor".**

oneM2M Property name	OCF Resource	To OCF	From OCF
alarm	oic.r.sensor.water	oic.r.sensor.water.value = alarm	alarm = oic.r.sensor.water.value

4360 Table 104 provides the details of the Properties that are part of "onem2m.m.watersensor".

4361 **Table 104 – The properties of "onem2m.m.watersensor".**

oneM2M Property name	Type	Required	Description
alarm	boolean	yes	The detection of water. The alarm is indicated as follows: "True" indicates that water has been detected, "False" indicates a normal status, that means that water is not detected.

4362 **9.52.3 Derived model definition**

```

4363 {
4364   "id": "http://openinterconnect.org/onem2mmapping/schemas/onem2m.m.watersensor.json#",
4365   "$schema": "http://json-schema.org/draft-04/schema#",
4366   "description": "Copyright (c) 2019 Open Connectivity Foundation, Inc. All rights reserved.",
4367   "title": "Water Sensor",
4368   "definitions": {
4369     "onem2m.m.watersensor": {
4370       "type": "object",
4371       "properties": {
4372         "alarm": {
4373           "type": "boolean",
4374           "description": "The detection of water. The alarm is indicated as follows: \"True\"
4375 indicates that water has been detected, \"False\" indicates a normal status, that means that water
4376 is not detected.",
4377           "x-ocf-conversion": {
4378             "x-ocf-alias": "oic.r.sensor.water",
4379             "x-to-ocf": [
4380               "oic.r.sensor.water.value = alarm"
4381             ],
4382             "x-from-ocf": [
4383               "alarm = oic.r.sensor.water.value"
4384             ]
4385           }
4386         }
4387       }
4388     }
4389   }

```

```

4387     }
4388   }
4389 },
4390 "type": "object",
4391 "allOf": [
4392   {"$ref": "#/definitions/onem2m.m.watersensor"}
4393 ],
4394 "required": [ "alarm" ]
4395 }
4396

```

## 4397 9.53 Weight

### 4398 9.53.1 Derived model

4399 The derived model: "onem2m.m.weight".

### 4400 9.53.2 Property definition

4401 Table 105 provides the detailed per Property mapping for "onem2m.m.weight".

4402 **Table 105 – The property mapping for "onem2m.m.weight".**

oneM2M name	Property	OCF Resource	To OCF	From OCF
weight		oic.r.weight	oic.r.weight.weight = weightoic.r.weight.units = kg	oneOf

4403 Table 106 provides the details of the Properties that are part of "onem2m.m.weight".

4404 **Table 106 – The properties of "onem2m.m.weight".**

oneM2M name	Property	Type	Required	Description
weight		number	yes	Measurement of weight

### 4405 9.53.3 Derived model definition

```

4406 {
4407   "id": "http://openinterconnect.org/onem2mmapping/schemas/onem2m.m.weight.json#",
4408   "$schema": "http://json-schema.org/draft-04/schema#",
4409   "description": "Copyright (c) 2019 Open Connectivity Foundation, Inc. All rights reserved.",
4410   "title": "Weight",
4411   "definitions": {
4412     "onem2m.m.weight": {
4413       "type": "object",
4414       "properties": {
4415         "weight": {
4416           "type": "number",
4417           "description": "Measurement of weight",
4418           "x-ocf-conversion": {
4419             "x-ocf-alias": "oic.r.weight",
4420             "x-to-ocf": [
4421               "oic.r.weight.weight = weight",
4422               "oic.r.weight.units = kg"
4423             ],
4424             "x-from-ocf": {
4425               "oneOf": [
4426                 {
4427                   "properties": {

```

```

4428         "oic.r.weight.units": "string",
4429         "enum": ["kg"]
4430     },
4431     "x-from-ocf": [
4432         "weight = oic.r.weight.weight"
4433     ]
4434 },
4435 {
4436     "properties": {
4437         "oic.r.weight.units": "string",
4438         "enum": ["g"]
4439     },
4440     "x-from-ocf": [
4441         "weight = oic.r.weight.weight/1000"
4442     ]
4443 },
4444 {
4445     "properties": {
4446         "oic.r.weight.units": "string",
4447         "enum": ["lb"]
4448     },
4449     "x-from-ocf": [
4450         "weight = oic.r.weight.weight*0.45"
4451     ]
4452 },
4453 {
4454     "properties": {
4455         "oic.r.weight.units": "string",
4456         "enum": ["oz"]
4457     },
4458     "x-from-ocf": [
4459         "weight = oic.r.weight.weight*0.028"
4460     ]
4461 }
4462 ]
4463 }
4464 }
4465 }
4466 }
4467 }
4468 },
4469 "type": "object",
4470 "allof": [
4471     {"$ref": "#/definitions/onem2m.m.weight"}
4472 ],
4473 "required": [ "weight" ]
4474 }

```

4475