

OCF Resource Type Specification

VERSION 2.0.1 | February 11, 2019



OPEN CONNECTIVITY
FOUNDATION®

CONTACT admin@openconnectivity.org
Copyright OCF © 2019. All Rights Reserved.

Legal Disclaimer

3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
19
20

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

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

Copyright © 2016-19 Open Connectivity Foundation, Inc. All rights reserved.

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

CONTENTS

27			
28			
29	1	Scope	1
30	2	Normative references	1
31	3	Terms, definitions, and abbreviated terms	1
32	3.1	Terms and definitions.....	1
33	3.2	Abbreviated terms.....	1
34	4	Document conventions and organization.....	2
35	4.1	Conventions.....	2
36	4.2	Notation.....	2
37	4.3	Data types	3
38	5	Baseline Model Constructs	3
39	5.1	URI.....	3
40	5.2	Interfaces.....	3
41	5.2.1	Introduction	3
42	5.2.2	Restricting Interface Functionality.....	3
43	5.3	OpenAPI Specification 2.0 definition	4
44	5.4	Property definition.....	4
45	5.4.1	Common Properties	4
46	5.4.2	Resource Properties	5
47	5.4.3	Basic Resource Schema.....	6
48	5.4.4	CRUDN Operation Response Codes.....	6
49	5.5	Example Resource Definitions	6
50	5.6	Observable Resource Types	7
51	5.6.1	Introduction	7
52	5.6.2	Conditional Notification.....	7
53	5.7	Composite Resource Types	9
54	5.8	Document Version	10
55	6	Resource Type definitions	10
56	6.1	Introduction.....	10
57	6.2	Air Flow	14
58	6.2.1	Introduction	14
59	6.2.2	Example URI	14
60	6.2.3	Resource type	14
61	6.2.4	OpenAPI 2.0 definition.....	14
62	6.2.5	Property definition	17
63	6.2.6	CRUDN behaviour	18
64	6.3	Air Flow Control	18
65	6.3.1	Introduction	18
66	6.3.2	Example URI	18
67	6.3.3	Resource type	18
68	6.3.4	OpenAPI 2.0 definition.....	18
69	6.3.5	Property definition	27
70	6.3.6	CRUDN behaviour	28

71	6.4	Battery	28
72	6.4.1	Introduction	28
73	6.4.2	Example URI	28
74	6.4.3	Resource type	28
75	6.4.4	OpenAPI 2.0 definition.....	28
76	6.4.5	Property definition	32
77	6.4.6	CRUDN behaviour	33
78	6.5	Binary Switch.....	33
79	6.5.1	Introduction	33
80	6.5.2	Example URI	33
81	6.5.3	Resource type	33
82	6.5.4	OpenAPI 2.0 definition.....	33
83	6.5.5	Property definition	35
84	6.5.6	CRUDN behaviour	36
85	6.6	Brightness	36
86	6.6.1	Introduction	36
87	6.6.2	Example URI	36
88	6.6.3	Resource type	36
89	6.6.4	OpenAPI 2.0 definition.....	36
90	6.6.5	Property definition	39
91	6.6.6	CRUDN behaviour	39
92	6.7	Colour Chroma	39
93	6.7.1	Introduction	39
94	6.7.2	Example URI	40
95	6.7.3	Resource type	40
96	6.7.4	OpenAPI 2.0 definition.....	40
97	6.7.5	Property definition	43
98	6.7.6	CRUDN behaviour	44
99	6.8	Colour RGB	44
100	6.8.1	Introduction	44
101	6.8.2	Example URI	44
102	6.8.3	Resource type	44
103	6.8.4	OpenAPI 2.0 definition.....	44
104	6.8.5	Property definition	47
105	6.8.6	CRUDN behaviour	48
106	6.9	Dimming	48
107	6.9.1	Introduction	48
108	6.9.2	Example URI	48
109	6.9.3	Resource type	48
110	6.9.4	OpenAPI 2.0 definition.....	48
111	6.9.5	Property definition	51
112	6.9.6	CRUDN behaviour	51
113	6.10	Door	52
114	6.10.1	Introduction	52
115	6.10.2	Example URI	52

116	6.10.3	Resource type	52
117	6.10.4	OpenAPI 2.0 definition.....	52
118	6.10.5	Property definition	54
119	6.10.6	CRUDN behaviour	55
120	6.11	Energy Consumption.....	55
121	6.11.1	Introduction	55
122	6.11.2	Example URI	55
123	6.11.3	Resource type	55
124	6.11.4	OpenAPI 2.0 definition.....	55
125	6.11.5	Property definition	58
126	6.11.6	CRUDN behaviour	58
127	6.12	Energy Usage	58
128	6.12.1	Introduction	58
129	6.12.2	Example URI	59
130	6.12.3	Resource type	59
131	6.12.4	OpenAPI 2.0 definition.....	59
132	6.12.5	Property definition	63
133	6.12.6	CRUDN behaviour	63
134	6.13	Humidity	63
135	6.13.1	Introduction	63
136	6.13.2	Example URI	63
137	6.13.3	Resource type	63
138	6.13.4	OpenAPI 2.0 definition.....	64
139	6.13.5	Property definition	66
140	6.13.6	CRUDN behaviour	67
141	6.14	Ice Maker.....	67
142	6.14.1	Introduction	67
143	6.14.2	Example URI	67
144	6.14.3	Resource type	67
145	6.14.4	OpenAPI 2.0 definition.....	67
146	6.14.5	Property definition	70
147	6.14.6	CRUDN behaviour	70
148	6.15	Lock.....	71
149	6.15.1	Introduction	71
150	6.15.2	Example URI	71
151	6.15.3	Resource type	71
152	6.15.4	OpenAPI 2.0 definition.....	71
153	6.15.5	Property definition	73
154	6.15.6	CRUDN behaviour	73
155	6.16	Lock Code	74
156	6.16.1	Introduction	74
157	6.16.2	Example URI	74
158	6.16.3	Resource type	74
159	6.16.4	OpenAPI 2.0 definition.....	74
160	6.16.5	Property definition	76

161	6.16.6	CRUDN behaviour	77
162	6.17	Mode	77
163	6.17.1	Introduction	77
164	6.17.2	Example URI	77
165	6.17.3	Resource type	77
166	6.17.4	OpenAPI 2.0 definition.....	77
167	6.17.5	Property definition	80
168	6.17.6	CRUDN behaviour	81
169	6.18	Open Level	81
170	6.18.1	Introduction	81
171	6.18.2	Example URI	81
172	6.18.3	Resource type	81
173	6.18.4	OpenAPI 2.0 definition.....	81
174	6.18.5	Property definition	84
175	6.18.6	CRUDN behaviour	85
176	6.19	Operational State.....	85
177	6.19.1	Introduction	85
178	6.19.2	Example URI	85
179	6.19.3	Resource type	85
180	6.19.4	OpenAPI 2.0 definition.....	85
181	6.19.5	Property definition	89
182	6.19.6	CRUDN behaviour	90
183	6.20	Ramp Time	90
184	6.20.1	Introduction	90
185	6.20.2	Example URI	91
186	6.20.3	Resource type	91
187	6.20.4	OpenAPI 2.0 definition.....	91
188	6.20.5	Property definition	93
189	6.20.6	CRUDN behaviour	94
190	6.21	Refrigeration.....	94
191	6.21.1	Introduction	94
192	6.21.2	Example URI	94
193	6.21.3	Resource type	94
194	6.21.4	OpenAPI 2.0 definition.....	94
195	6.21.5	Property definition	98
196	6.21.6	CRUDN behaviour	99
197	6.22	Temperature	99
198	6.22.1	Introduction	99
199	6.22.2	Example URI	100
200	6.22.3	Resource type	100
201	6.22.4	OpenAPI 2.0 definition.....	100
202	6.22.5	Property definition	103
203	6.22.6	CRUDN behaviour	104
204	6.23	Time Period	104
205	6.23.1	Introduction	104

206	6.23.2	Example URI	104
207	6.23.3	Resource type	104
208	6.23.4	OpenAPI 2.0 definition.....	104
209	6.23.5	Property definition	107
210	6.23.6	CRUDN behaviour	108
211	6.24	Activity Count	108
212	6.24.1	Introduction	108
213	6.24.2	Example URI	108
214	6.24.3	Resource type	108
215	6.24.4	OpenAPI 2.0 definition.....	108
216	6.24.5	Property definition	111
217	6.24.6	CRUDN behaviour	111
218	6.25	Atmospheric Pressure Sensor.....	112
219	6.25.1	Introduction	112
220	6.25.2	Example URI	112
221	6.25.3	Resource type	112
222	6.25.4	OpenAPI 2.0 definition.....	112
223	6.25.5	Property definition	114
224	6.25.6	CRUDN behaviour	115
225	6.26	Audio Controls	115
226	6.26.1	Introduction	115
227	6.26.2	Example URI	115
228	6.26.3	Resource type	115
229	6.26.4	OpenAPI 2.0 definition.....	115
230	6.26.5	Property definition	118
231	6.26.6	CRUDN behaviour	118
232	6.27	Auto Focus	119
233	6.27.1	Introduction	119
234	6.27.2	Example URI	119
235	6.27.3	Resource type	119
236	6.27.4	OpenAPI 2.0 definition.....	119
237	6.27.5	Property definition	121
238	6.27.6	CRUDN behaviour	121
239	6.28	Automatic Document Feeder.....	121
240	6.28.1	Introduction	121
241	6.28.2	Example URI	122
242	6.28.3	Resource type	122
243	6.28.4	OpenAPI 2.0 definition.....	122
244	6.28.5	Property definition	124
245	6.28.6	CRUDN behaviour	124
246	6.29	Button Switch.....	124
247	6.29.1	Introduction	124
248	6.29.2	Example URI	124
249	6.29.3	Resource type	124
250	6.29.4	OpenAPI 2.0 definition.....	124

251	6.29.5	Property definition	126
252	6.29.6	CRUDN behaviour	126
253	6.30	Carbon Dioxide Sensor	127
254	6.30.1	Introduction	127
255	6.30.2	Example URI	127
256	6.30.3	Resource type	127
257	6.30.4	OpenAPI 2.0 definition.....	127
258	6.30.5	Property definition	129
259	6.30.6	CRUDN behaviour	129
260	6.31	Carbon Monoxide Sensor.....	129
261	6.31.1	Introduction	129
262	6.31.2	Example URI	129
263	6.31.3	Resource type	129
264	6.31.4	OpenAPI 2.0 definition.....	129
265	6.31.5	Property definition	131
266	6.31.6	CRUDN behaviour	131
267	6.32	Auto White Balance	132
268	6.32.1	Introduction	132
269	6.32.2	Example URI	132
270	6.32.3	Resource type	132
271	6.32.4	OpenAPI 2.0 definition.....	132
272	6.32.5	Property definition	134
273	6.32.6	CRUDN behaviour	134
274	6.33	Colour Saturation.....	135
275	6.33.1	Introduction	135
276	6.33.2	Example URI	135
277	6.33.3	Resource type	135
278	6.33.4	OpenAPI 2.0 definition.....	135
279	6.33.5	Property definition	137
280	6.33.6	CRUDN behaviour	138
281	6.34	Contact Sensor.....	138
282	6.34.1	Introduction	138
283	6.34.2	Example URI	138
284	6.34.3	Resource type	138
285	6.34.4	OpenAPI 2.0 definition.....	138
286	6.34.5	Property definition	140
287	6.34.6	CRUDN behaviour	140
288	6.35	Demand Response Load Control (DRLC).....	141
289	6.35.1	Introduction	141
290	6.35.2	Example URI	141
291	6.35.3	Resource type	141
292	6.35.4	OpenAPI 2.0 definition.....	141
293	6.35.5	Property definition	145
294	6.35.6	CRUDN behaviour	145
295	6.36	Energy Overload/Circuit Breaker.....	146

296	6.36.1	Introduction	146
297	6.36.2	Example URI	146
298	6.36.3	Resource type	146
299	6.36.4	OpenAPI 2.0 definition.....	146
300	6.36.5	Property definition	148
301	6.36.6	CRUDN behaviour	148
302	6.37	Generic Sensor.....	148
303	6.37.1	Introduction	148
304	6.37.2	Example URI	148
305	6.37.3	Resource type	148
306	6.37.4	OpenAPI 2.0 definition.....	148
307	6.37.5	Property definition	150
308	6.37.6	CRUDN behaviour	150
309	6.38	Glass Break Sensor	151
310	6.38.1	Introduction	151
311	6.38.2	Example URI	151
312	6.38.3	Resource type	151
313	6.38.4	OpenAPI 2.0 definition.....	151
314	6.38.5	Property definition	152
315	6.38.6	CRUDN behaviour	153
316	6.39	Heart Rate Zone	153
317	6.39.1	Introduction	153
318	6.39.2	Example URI	153
319	6.39.3	Resource type	153
320	6.39.4	OpenAPI 2.0 definition.....	153
321	6.39.5	Property definition	156
322	6.39.6	CRUDN behaviour	157
323	6.40	Illuminance Sensor	157
324	6.40.1	Introduction	157
325	6.40.2	Example URI	157
326	6.40.3	Resource type	157
327	6.40.4	OpenAPI 2.0 definition.....	157
328	6.40.5	Property definition	159
329	6.40.6	CRUDN behaviour	160
330	6.41	Magnetic Field Direction Sensor	160
331	6.41.1	Introduction	160
332	6.41.2	Example URI	160
333	6.41.3	Resource type	160
334	6.41.4	OpenAPI 2.0 definition.....	160
335	6.41.5	Property definition	163
336	6.41.6	CRUDN behaviour	163
337	6.42	Media	163
338	6.42.1	Introduction	163
339	6.42.2	Example URI	163
340	6.42.3	Resource type	163

341	6.42.4	OpenAPI 2.0 definition.....	164
342	6.42.5	Property definition	166
343	6.42.6	CRUDN behaviour	166
344	6.43	Media Source.....	166
345	6.43.1	Introduction	166
346	6.43.2	Example URI	167
347	6.43.3	Resource type	167
348	6.43.4	OpenAPI 2.0 definition.....	167
349	6.43.5	Property definition	170
350	6.43.6	CRUDN behaviour	170
351	6.44	Media Source List	171
352	6.44.1	Introduction	171
353	6.44.2	Example URI	171
354	6.44.3	Resource type	171
355	6.44.4	OpenAPI 2.0 definition.....	171
356	6.44.5	Property definition	174
357	6.44.6	CRUDN behaviour	175
358	6.45	Media Source Input.....	175
359	6.45.1	Introduction	175
360	6.45.2	Example URI	175
361	6.45.3	Resource type	175
362	6.45.4	OpenAPI 2.0 definition.....	175
363	6.45.5	Property definition	179
364	6.45.6	CRUDN behaviour	179
365	6.46	Media Source Output	179
366	6.46.1	Introduction	179
367	6.46.2	Example URI	179
368	6.46.3	Resource type	179
369	6.46.4	OpenAPI 2.0 definition.....	179
370	6.46.5	Property definition	183
371	6.46.6	CRUDN behaviour	183
372	6.47	Motion Sensor.....	184
373	6.47.1	Introduction	184
374	6.47.2	Example URI	184
375	6.47.3	Resource type	184
376	6.47.4	OpenAPI 2.0 definition.....	184
377	6.47.5	Property definition	185
378	6.47.6	CRUDN behaviour	186
379	6.48	Night Mode	186
380	6.48.1	Introduction	186
381	6.48.2	Example URI	186
382	6.48.3	Resource type	186
383	6.48.4	OpenAPI 2.0 definition.....	186
384	6.48.5	Property definition	188
385	6.48.6	CRUDN behaviour	189

386	6.49	Presence Sensor	189
387	6.49.1	Introduction	189
388	6.49.2	Example URI	189
389	6.49.3	Resource type	189
390	6.49.4	OpenAPI 2.0 definition.....	189
391	6.49.5	Property definition	191
392	6.49.6	CRUDN behaviour	191
393	6.50	Pan Tilt Zoom Movement	191
394	6.50.1	Introduction	191
395	6.50.2	Example URI	192
396	6.50.3	Resource type	192
397	6.50.4	OpenAPI 2.0 definition.....	192
398	6.50.5	Property definition	195
399	6.50.6	CRUDN behaviour	196
400	6.51	Signal Strength	196
401	6.51.1	Introduction	196
402	6.51.2	Example URI	196
403	6.51.3	Resource type	196
404	6.51.4	OpenAPI 2.0 definition.....	196
405	6.51.5	Property definition	199
406	6.51.6	CRUDN behaviour	199
407	6.52	Speech Synthesis-TTS.....	199
408	6.52.1	Introduction	199
409	6.52.2	Example URI	200
410	6.52.3	Resource type	200
411	6.52.4	OpenAPI 2.0 definition.....	200
412	6.52.5	Property definition	203
413	6.52.6	CRUDN behaviour	203
414	6.53	Touch Sensor	203
415	6.53.1	Introduction	203
416	6.53.2	Example URI	204
417	6.53.3	Resource type	204
418	6.53.4	OpenAPI 2.0 definition.....	204
419	6.53.5	Property definition	205
420	6.53.6	CRUDN behaviour	206
421	6.54	UV Radiation	206
422	6.54.1	Introduction	206
423	6.54.2	Example URI	206
424	6.54.3	Resource type	206
425	6.54.4	OpenAPI 2.0 definition.....	206
426	6.54.5	Property definition	208
427	6.54.6	CRUDN behaviour	209
428	6.55	Water Sensor.....	209
429	6.55.1	Introduction	209
430	6.55.2	Example URI	209

431	6.55.3	Resource type	209
432	6.55.4	OpenAPI 2.0 definition.....	209
433	6.55.5	Property definition	211
434	6.55.6	CRUDN behaviour	211
435	6.56	Acceleration Sensor.....	212
436	6.56.1	Introduction	212
437	6.56.2	Example URI	212
438	6.56.3	Resource type	212
439	6.56.4	OpenAPI 2.0 definition.....	212
440	6.56.5	Property definition	214
441	6.56.6	CRUDN behaviour	215
442	6.57	Movement.....	215
443	6.57.1	Introduction	215
444	6.57.2	Example URI	215
445	6.57.3	Resource type	215
446	6.57.4	OpenAPI 2.0 definition.....	215
447	6.57.5	Property definition	217
448	6.57.6	CRUDN behaviour	218
449	6.58	Sleep Sensor	218
450	6.58.1	Introduction	218
451	6.58.2	Example URI	218
452	6.58.3	Resource type	218
453	6.58.4	OpenAPI 2.0 definition.....	218
454	6.58.5	Property definition	220
455	6.58.6	CRUDN behaviour	220
456	6.59	Smoke Sensor	221
457	6.59.1	Introduction	221
458	6.59.2	Example URI	221
459	6.59.3	Resource type	221
460	6.59.4	OpenAPI 2.0 definition.....	221
461	6.59.5	Property definition	222
462	6.59.6	CRUDN behaviour	223
463	6.60	Three Axis Sensor	223
464	6.60.1	Introduction	223
465	6.60.2	Example URI	223
466	6.60.3	Resource type	223
467	6.60.4	OpenAPI 2.0 definition.....	223
468	6.60.5	Property definition	225
469	6.60.6	CRUDN behaviour	226
470	6.61	Altimeter	226
471	6.61.1	Introduction	226
472	6.61.2	Example URI	226
473	6.61.3	Resource type	226
474	6.61.4	OpenAPI 2.0 definition.....	226
475	6.61.5	Property definition	229

476	6.61.6	CRUDN behaviour	229
477	6.62	Clock	229
478	6.62.1	Introduction	229
479	6.62.2	Example URI	229
480	6.62.3	Resource type	230
481	6.62.4	OpenAPI 2.0 definition.....	230
482	6.62.5	Property definition	233
483	6.62.6	CRUDN behaviour	233
484	6.63	Geolocation	233
485	6.63.1	Introduction	233
486	6.63.2	Example URI	234
487	6.63.3	Resource type	234
488	6.63.4	OpenAPI 2.0 definition.....	234
489	6.63.5	Property definition	237
490	6.63.6	CRUDN behaviour	238
491	6.64	Height.....	238
492	6.64.1	Introduction	238
493	6.64.2	Example URI	238
494	6.64.3	Resource type	238
495	6.64.4	OpenAPI 2.0 definition.....	238
496	6.64.5	Property definition	241
497	6.64.6	CRUDN behaviour	242
498	6.65	Weight	242
499	6.65.1	Introduction	242
500	6.65.2	Example URI	242
501	6.65.3	Resource type	242
502	6.65.4	OpenAPI 2.0 definition.....	242
503	6.65.5	Property definition	244
504	6.65.6	CRUDN behaviour	245
505	6.66	Air Quality.....	245
506	6.66.1	Introduction	245
507	6.66.2	Example URI	245
508	6.66.3	Resource type	245
509	6.66.4	OpenAPI 2.0 definition.....	246
510	6.66.5	Property definition	248
511	6.66.6	CRUDN behaviour	249
512	6.67	Air Quality Collection	249
513	6.67.1	Introduction	249
514	6.67.2	Example URI	249
515	6.67.3	Resource type	249
516	6.67.4	OpenAPI 2.0 definition.....	249
517	6.67.5	Property definition	260
518	6.67.6	CRUDN behaviour	262
519	6.68	Consumable.....	262
520	6.68.1	Introduction	262

521	6.68.2	Example URI	262
522	6.68.3	Resource type	262
523	6.68.4	OpenAPI 2.0 definition.....	262
524	6.68.5	Property definition	265
525	6.68.6	CRUDN behaviour	265
526	6.69	Consumables	266
527	6.69.1	Introduction	266
528	6.69.2	Example URI	266
529	6.69.3	Resource type	266
530	6.69.4	OpenAPI 2.0 definition.....	266
531	6.69.5	Property definition	276
532	6.69.6	CRUDN behaviour	279
533	6.70	Delay Defrost.....	279
534	6.70.1	Introduction	279
535	6.70.2	Example URI	279
536	6.70.3	Resource type	279
537	6.70.4	OpenAPI 2.0 definition.....	279
538	6.70.5	Property definition	282
539	6.70.6	CRUDN behaviour	283
540	6.71	Eco Mode	283
541	6.71.1	Introduction	283
542	6.71.2	Example URI	283
543	6.71.3	Resource type	284
544	6.71.4	OpenAPI 2.0 definition.....	284
545	6.71.5	Property definition	286
546	6.71.6	CRUDN behaviour	287
547	6.72	Heating Zone	287
548	6.72.1	Introduction	287
549	6.72.2	Example URI	287
550	6.72.3	Resource type	287
551	6.72.4	OpenAPI 2.0 definition.....	287
552	6.72.5	Property definition	290
553	6.72.6	CRUDN behaviour	290
554	6.73	Heating Zone Collection.....	290
555	6.73.1	Introduction	290
556	6.73.2	Example URI	290
557	6.73.3	Resource type	291
558	6.73.4	OpenAPI 2.0 definition.....	291
559	6.73.5	Property definition	301
560	6.73.6	CRUDN behaviour	303
561	6.74	Selectable Levels.....	303
562	6.74.1	Introduction	303
563	6.74.2	Example URI	303
564	6.74.3	Resource type	303
565	6.74.4	OpenAPI 2.0 definition.....	303

566	6.74.5	Property definition	306
567	6.74.6	CRUDN behaviour	307
568	6.75	Value Conditional.....	307
569	6.75.1	Introduction	307
570	6.75.2	Example URI	307
571	6.75.3	Resource type	307
572	6.75.4	OpenAPI 2.0 definition.....	307
573	6.75.5	Property definition	310
574	6.75.6	CRUDN behaviour	311
575	6.76	Colour Space Coordinates	311
576	6.76.1	Introduction	311
577	6.76.2	Example URI	311
578	6.76.3	Resource type	311
579	6.76.4	OpenAPI 2.0 definition.....	311
580	6.76.5	Property definition	314
581	6.76.6	CRUDN behaviour	314
582	6.77	Colour Temperature	315
583	6.77.1	Introduction	315
584	6.77.2	Example URI	315
585	6.77.3	Resource type	315
586	6.77.4	OpenAPI 2.0 definition.....	315
587	6.77.5	Property definition	317
588	6.77.6	CRUDN behaviour	318
589	6.78	Colour Hue and Saturation.....	318
590	6.78.1	Introduction	318
591	6.78.2	Example URI	318
592	6.78.3	Resource type	318
593	6.78.4	OpenAPI 2.0 definition.....	319
594	6.78.5	Property definition	322
595	6.78.6	CRUDN behaviour	322
596	6.79	Battery Material	322
597	6.79.1	Introduction	322
598	6.79.2	Example URI	323
599	6.79.3	Resource type	323
600	6.79.4	OpenAPI 2.0 definition.....	323
601	6.79.5	Property definition	325
602	6.79.6	CRUDN behaviour	326
603	6.80	Brewing	326
604	6.80.1	Introduction	326
605	6.80.2	Example URI	326
606	6.80.3	Resource type	326
607	6.80.4	OpenAPI 2.0 definition.....	326
608	6.80.5	Property definition	329
609	6.80.6	CRUDN behaviour	330
610	6.81	Energy.....	330

611	6.81.1	Introduction	330
612	6.81.2	Example URI	330
613	6.81.3	Resource type	330
614	6.81.4	OpenAPI 2.0 definition.....	330
615	6.81.5	Property definition	334
616	6.81.6	CRUDN behaviour	335
617	6.82	Energy Generation.....	335
618	6.82.1	Introduction	335
619	6.82.2	Example URI	335
620	6.82.3	Resource type	335
621	6.82.4	OpenAPI 2.0 definition.....	335
622	6.82.5	Property definition	337
623	6.82.6	CRUDN behaviour	338
624	6.83	Foaming	338
625	6.83.1	Introduction	338
626	6.83.2	Example URI	338
627	6.83.3	Resource type	338
628	6.83.4	OpenAPI 2.0 definition.....	338
629	6.83.5	Property definition	341
630	6.83.6	CRUDN behaviour	342
631	6.84	Grinder	342
632	6.84.1	Introduction	342
633	6.84.2	Example URI	342
634	6.84.3	Resource type	342
635	6.84.4	OpenAPI 2.0 definition.....	342
636	6.84.5	Property definition	345
637	6.84.6	CRUDN behaviour	345
638	6.85	Liquid Level	346
639	6.85.1	Introduction	346
640	6.85.2	Example URI	346
641	6.85.3	Resource type	346
642	6.85.4	OpenAPI 2.0 definition.....	346
643	6.85.5	Property definition	349
644	6.85.6	CRUDN behaviour	349
645	6.86	Vehicle Connector	350
646	6.86.1	Introduction	350
647	6.86.2	Example URI	350
648	6.86.3	Resource type	350
649	6.86.4	OpenAPI 2.0 definition.....	350
650	6.86.5	Property definition	352
651	6.86.6	CRUDN behaviour	353
652	6.87	Time Stamp	353
653	6.87.1	Introduction	353
654	6.87.2	Example URI	353
655	6.87.3	Resource type	353

656	6.87.4	OpenAPI 2.0 definition.....	353
657	6.87.5	Property definition	356
658	6.87.6	CRUDN behaviour	356
659	6.88	3D Printer	356
660	6.88.1	Introduction	356
661	6.88.2	Example URI	357
662	6.88.3	Resource type	357
663	6.88.4	OpenAPI 2.0 definition.....	357
664	6.88.5	Property definition	360
665	6.88.6	CRUDN behaviour	361
666	6.89	Blood Pressure	361
667	6.89.1	Introduction	361
668	6.89.2	Example URI	361
669	6.89.3	Resource type	361
670	6.89.4	OpenAPI 2.0 definition.....	361
671	6.89.5	Property definition	364
672	6.89.6	CRUDN behaviour	365
673	6.90	Blood Pressure Monitor Atomic Measurement Batch Representation.....	365
674	6.90.1	Introduction	365
675	6.90.2	Example URI	365
676	6.90.3	Resource type	365
677	6.90.4	OpenAPI 2.0 definition.....	365
678	6.90.5	Property definition	373
679	6.90.6	CRUDN behaviour	375
680	6.91	BMI.....	375
681	6.91.1	Introduction	375
682	6.91.2	Example URI	375
683	6.91.3	Resource type	375
684	6.91.4	OpenAPI 2.0 definition.....	375
685	6.91.5	Property definition	378
686	6.91.6	CRUDN behaviour	378
687	6.92	Body Fat	378
688	6.92.1	Introduction	378
689	6.92.2	Example URI	378
690	6.92.3	Resource type	378
691	6.92.4	OpenAPI 2.0 definition.....	379
692	6.92.5	Property definition	381
693	6.92.6	CRUDN behaviour	382
694	6.93	Body Fat Free Mass.....	382
695	6.93.1	Introduction	382
696	6.93.2	Example URI	382
697	6.93.3	Resource type	382
698	6.93.4	OpenAPI 2.0 definition.....	382
699	6.93.5	Property definition	385
700	6.93.6	CRUDN behaviour	386

701	6.94	Body Location	386
702	6.94.1	Introduction	386
703	6.94.2	Example URI	386
704	6.94.3	Resource type	386
705	6.94.4	OpenAPI 2.0 definition.....	386
706	6.94.5	Property definition	389
707	6.94.6	CRUDN behaviour	390
708	6.95	Body Location Temperature	390
709	6.95.1	Introduction	390
710	6.95.2	Example URI	390
711	6.95.3	Resource type	390
712	6.95.4	OpenAPI 2.0 definition.....	390
713	6.95.5	Property definition	393
714	6.95.6	CRUDN behaviour	394
715	6.96	Body Scale Atomic Measurement.....	394
716	6.96.1	Introduction	394
717	6.96.2	Example URI	394
718	6.96.3	Resource type	394
719	6.96.4	OpenAPI 2.0 definition.....	394
720	6.96.5	Property definition	402
721	6.96.6	CRUDN behaviour	404
722	6.97	Body Soft Lean Mass	404
723	6.97.1	Introduction	404
724	6.97.2	Example URI	404
725	6.97.3	Resource type	404
726	6.97.4	OpenAPI 2.0 definition.....	404
727	6.97.5	Property definition	407
728	6.97.6	CRUDN behaviour	407
729	6.98	Body Thermometer Atomic Measurement.....	407
730	6.98.1	Introduction	407
731	6.98.2	Example URI	408
732	6.98.3	Resource type	408
733	6.98.4	OpenAPI 2.0 definition.....	408
734	6.98.5	Property definition	416
735	6.98.6	CRUDN behaviour	417
736	6.99	Body Water.....	418
737	6.99.1	Introduction	418
738	6.99.2	Example URI	418
739	6.99.3	Resource type	418
740	6.99.4	OpenAPI 2.0 definition.....	418
741	6.99.5	Property definition	420
742	6.99.6	CRUDN behaviour	421
743	6.100	Glucose	421
744	6.100.1	Introduction	421
745	6.100.2	Example URI	421

746	6.100.3	Resource type	421
747	6.100.4	OpenAPI 2.0 definition.....	421
748	6.100.5	Property definition	424
749	6.100.6	CRUDN behaviour	425
750	6.101	Context Carbohydrates for Glucose Meter.....	425
751	6.101.1	Introduction	425
752	6.101.2	Example URI	425
753	6.101.3	Resource type	425
754	6.101.4	OpenAPI 2.0 definition.....	425
755	6.101.5	Property definition	428
756	6.101.6	CRUDN behaviour	428
757	6.102	Exercise for Glucose Meter.....	428
758	6.102.1	Introduction	428
759	6.102.2	Example URI	429
760	6.102.3	Resource type	429
761	6.102.4	OpenAPI 2.0 definition.....	429
762	6.102.5	Property definition	431
763	6.102.6	CRUDN behaviour	431
764	6.103	Hemoglobin Bound to Glucose A1c Form (HbA1c) for Glucose Meter.....	432
765	6.103.1	Introduction	432
766	6.103.2	Example URI	432
767	6.103.3	Resource type	432
768	6.103.4	OpenAPI 2.0 definition.....	432
769	6.103.5	Property definition	435
770	6.103.6	CRUDN behaviour	435
771	6.104	Context Health for Glucose Meter	435
772	6.104.1	Introduction	435
773	6.104.2	Example URI	435
774	6.104.3	Resource type	436
775	6.104.4	OpenAPI 2.0 definition.....	436
776	6.104.5	Property definition	438
777	6.104.6	CRUDN behaviour	439
778	6.105	Context Meal for Glucose Meter.....	439
779	6.105.1	Introduction	439
780	6.105.2	Example URI	439
781	6.105.3	Resource type	439
782	6.105.4	OpenAPI 2.0 definition.....	439
783	6.105.5	Property definition	442
784	6.105.6	CRUDN behaviour	443
785	6.106	Context Medication for Glucose Meter	443
786	6.106.1	Introduction	443
787	6.106.2	Example URI	443
788	6.106.3	Resource type	443
789	6.106.4	OpenAPI 2.0 definition.....	443
790	6.106.5	Property definition	446

791	6.106.6	CRUDN behaviour	447
792	6.107	Glucose Meter Atomic Measurement Linked List Representation	447
793	6.107.1	Introduction	447
794	6.107.2	Example URI	447
795	6.107.3	Resource type	448
796	6.107.4	OpenAPI 2.0 definition.....	448
797	6.107.5	Property definition	456
798	6.107.6	CRUDN behaviour	458
799	6.108	Context Sample Location for Glucose Meter	458
800	6.108.1	Introduction	458
801	6.108.2	Example URI	458
802	6.108.3	Resource type	458
803	6.108.4	OpenAPI 2.0 definition.....	458
804	6.108.5	Property definition	461
805	6.108.6	CRUDN behaviour	461
806	6.109	Context Tester for Glucose Meter	462
807	6.109.1	Introduction	462
808	6.109.2	Example URI	462
809	6.109.3	Resource type	462
810	6.109.4	OpenAPI 2.0 definition.....	462
811	6.109.5	Property definition	465
812	6.109.6	CRUDN behaviour	465
813	6.110	Optical RFID Station	465
814	6.110.1	Introduction	465
815	6.110.2	Example URI	466
816	6.110.3	Resource type	466
817	6.110.4	OpenAPI 2.0 definition.....	466
818	6.110.5	Property definition	469
819	6.110.6	CRUDN behaviour	469
820	6.111	Optical RFID Tag	469
821	6.111.1	Introduction	469
822	6.111.2	Example URI	470
823	6.111.3	Resource type	470
824	6.111.4	OpenAPI 2.0 definition.....	470
825	6.111.5	Property definition	472
826	6.111.6	CRUDN behaviour	473
827	6.112	Power Source	473
828	6.112.1	Introduction	473
829	6.112.2	Example URI	473
830	6.112.3	Resource type	473
831	6.112.4	OpenAPI 2.0 definition.....	473
832	6.112.5	Property definition	475
833	6.112.6	CRUDN behaviour	475
834	6.113	Print Queue	475
835	6.113.1	Introduction	475

836	6.113.2	Example URI	476
837	6.113.3	Resource type	476
838	6.113.4	OpenAPI 2.0 definition.....	476
839	6.113.5	Property definition	478
840	6.113.6	CRUDN behaviour	478
841	6.114	Pulse Rate	478
842	6.114.1	Introduction	478
843	6.114.2	Example URI	479
844	6.114.3	Resource type	479
845	6.114.4	OpenAPI 2.0 definition.....	479
846	6.114.5	Property definition	481
847	6.114.6	CRUDN behaviour	482
848	6.115	Sensor Properties	482
849	6.115.1	Introduction	482
850	6.115.2	Example URI	482
851	6.115.3	Resource type	482
852	6.115.4	OpenAPI 2.0 definition.....	482
853	6.115.5	Property definition	485
854	6.115.6	CRUDN behaviour	486
855	6.116	User ID	486
856	6.116.1	Introduction	486
857	6.116.2	Example URI	486
858	6.116.3	Resource type	486
859	6.116.4	OpenAPI 2.0 definition.....	486
860	6.116.5	Property definition	488
861	6.116.6	CRUDN behaviour	488
862	6.117	Base Resource Schema.....	489
863	6.117.1	Introduction	489
864	6.117.2	Example URI	489
865	6.117.3	Resource type	489
866	6.117.4	OpenAPI 2.0 definition.....	489
867	6.117.5	Property definition	492
868	6.117.6	CRUDN behaviour	492
869			
870			

Figures

871		
872		
873	Figure 1 – Overall conditional notification logic	8
874	Figure 2 – Conditional Notification Example Flow	9
875	Figure 3 – Composite Resource Example	10
876		
877		
878		

Tables

879	
880	
881	Table 1 – Conversion between OCF CRUDN and OpenAPI Specification 2.0 definitions4
882	Table 2 – Common Properties for OCF Resources.....4
883	Table 3 – Property definitions of a Resource Type in the OpenAPI Specification 2.0 file5
884	Table 4 – Return codes behaviour in OpenAPI Specification 2.06
885	Table 5 – Conditional Notification Properties7
886	Table 6 – Alphabetical list of Resource Types..... 11
887	Table 7 – The Property definitions of the Resource with type 'rt' = ['oic.r.airflow']..... 17
888	Table 8 – The CRUDN operations of the Resource with type 'rt' = ['oic.r.airflow'] 18
889	Table 9 – The Property definitions of the Resource with type 'rt' = ['oic.r.airflowcontrol']27
890	Table 10 – The CRUDN operations of the Resource with type 'rt' = ['oic.r.airflowcontrol'].....28
891	Table 11 – The Property definitions of the Resource with type 'rt' = ['oic.r.energy.battery'].... 32
892	Table 12 – The CRUDN operations of the Resource with type 'rt' = ['oic.r.energy.battery']33
893	Table 13 – The Property definitions of the Resource with type 'rt' = ['oic.r.switch.binary'].....35
894	Table 14 – The CRUDN operations of the Resource with type 'rt' = ['oic.r.switch.binary']36
895	Table 15 – The Property definitions of the Resource with type 'rt' = ['oic.r.light.brightness'] ..39
896	Table 16 – The CRUDN operations of the Resource with type 'rt' = ['oic.r.light.brightness']...39
897	Table 17 – The Property definitions of the Resource with type 'rt' = ['oic.r.colour.chroma']43
898	Table 18 – The CRUDN operations of the Resource with type 'rt' = ['oic.r.colour.chroma']..... 44
899	Table 19 – The Property definitions of the Resource with type 'rt' = ['oic.r.colour.rgb']47
900	Table 20 – The CRUDN operations of the Resource with type 'rt' = ['oic.r.colour.rgb']48
901	Table 21 – The Property definitions of the Resource with type 'rt' = ['oic.r.light.dimming']51
902	Table 22 – The CRUDN operations of the Resource with type 'rt' = ['oic.r.light.dimming']..... 51
903	Table 23 – The Property definitions of the Resource with type 'rt' = ['oic.r.door'] 55
904	Table 24 – The CRUDN operations of the Resource with type 'rt' = ['oic.r.door'].....55
905	Table 25 – The Property definitions of the Resource with type 'rt' =
906	['oic.r.energy.consumption'] 58
907	Table 26 – The CRUDN operations of the Resource with type 'rt' =
908	['oic.r.energy.consumption'] 58
909	Table 27 – The Property definitions of the Resource with type 'rt' = ['oic.r.energy.usage']63
910	Table 28 – The CRUDN operations of the Resource with type 'rt' = ['oic.r.energy.usage'].....63
911	Table 29 – The Property definitions of the Resource with type 'rt' = ['oic.r.humidity'] 67
912	Table 30 – The CRUDN operations of the Resource with type 'rt' = ['oic.r.humidity']..... 67
913	Table 31 – The Property definitions of the Resource with type 'rt' = ['oic.r.icemaker']70
914	Table 32 – The CRUDN operations of the Resource with type 'rt' = ['oic.r.icemaker'] 71
915	Table 33 – The Property definitions of the Resource with type 'rt' = ['oic.r.lock.status']73
916	Table 34 – The CRUDN operations of the Resource with type 'rt' = ['oic.r.lock.status'] 74
917	Table 35 – The Property definitions of the Resource with type 'rt' = ['oic.r.lock.code']77
918	Table 36 – The CRUDN operations of the Resource with type 'rt' = ['oic.r.lock.code']77
919	Table 37 – The Property definitions of the Resource with type 'rt' = ['oic.r.mode']80

920	Table 38 – The CRUDN operations of the Resource with type 'rt' = ['oic.r.mode']	81
921	Table 39 – The Property definitions of the Resource with type 'rt' = ['oic.r.openlevel']	84
922	Table 40 – The CRUDN operations of the Resource with type 'rt' = ['oic.r.openlevel']	85
923	Table 41 – The Property definitions of the Resource with type 'rt' =	
924	['oic.r.operational.state']	89
925	Table 42 – The CRUDN operations of the Resource with type 'rt' =	
926	['oic.r.operational.state']	90
927	Table 43 – The Property definitions of the Resource with type 'rt' = ['oic.r.light.ramptime']	94
928	Table 44 – The CRUDN operations of the Resource with type 'rt' = ['oic.r.light.ramptime']	94
929	Table 45 – The Property definitions of the Resource with type 'rt' = ['oic.r.refrigeration']	98
930	Table 46 – The CRUDN operations of the Resource with type 'rt' = ['oic.r.refrigeration']	99
931	Table 47 – The Property definitions of the Resource with type 'rt' = ['oic.r.temperature']	103
932	Table 48 – The CRUDN operations of the Resource with type 'rt' = ['oic.r.temperature']	104
933	Table 49 – The Property definitions of the Resource with type 'rt' = ['oic.r.time.period']	107
934	Table 50 – The CRUDN operations of the Resource with type 'rt' = ['oic.r.time.period']	108
935	Table 51 – The Property definitions of the Resource with type 'rt' =	
936	['oic.r.sensor.activity.count']	111
937	Table 52 – The CRUDN operations of the Resource with type 'rt' =	
938	['oic.r.sensor.activity.count']	111
939	Table 53 – The Property definitions of the Resource with type 'rt' =	
940	['oic.r.sensor.atmosphericpressure']	114
941	Table 54 – The CRUDN operations of the Resource with type 'rt' =	
942	['oic.r.sensor.atmosphericpressure']	115
943	Table 55 – The Property definitions of the Resource with type 'rt' = ['oic.r.audio']	118
944	Table 56 – The CRUDN operations of the Resource with type 'rt' = ['oic.r.audio']	118
945	Table 57 – The Property definitions of the Resource with type 'rt' = ['oic.r.autofocus']	121
946	Table 58 – The CRUDN operations of the Resource with type 'rt' = ['oic.r.autofocus']	121
947	Table 59 – The Property definitions of the Resource with type 'rt' =	
948	['oic.r.automaticdocumentfeeder']	124
949	Table 60 – The CRUDN operations of the Resource with type 'rt' =	
950	['oic.r.automaticdocumentfeeder']	124
951	Table 61 – The Property definitions of the Resource with type 'rt' = ['oic.r.button']	126
952	Table 62 – The CRUDN operations of the Resource with type 'rt' = ['oic.r.button']	127
953	Table 63 – The Property definitions of the Resource with type 'rt' =	
954	['oic.r.sensor.carbondioxide']	129
955	Table 64 – The CRUDN operations of the Resource with type 'rt' =	
956	['oic.r.sensor.carbondioxide']	129
957	Table 65 – The Property definitions of the Resource with type 'rt' =	
958	['oic.r.sensor.carbonmonoxide']	131
959	Table 66 – The CRUDN operations of the Resource with type 'rt' =	
960	['oic.r.sensor.carbonmonoxide']	132
961	Table 67 – The Property definitions of the Resource with type 'rt' =	
962	['oic.r.colour.autowhitebalance']	134

963	Table 68 – The CRUDN operations of the Resource with type 'rt' =	
964	['oic.r.colour.autowhitebalance']	134
965	Table 69 – The Property definitions of the Resource with type 'rt' =	
966	['oic.r.colour.saturation']	138
967	Table 70 – The CRUDN operations of the Resource with type 'rt' =	
968	['oic.r.colour.saturation']	138
969	Table 71 – The Property definitions of the Resource with type 'rt' = ['oic.r.sensor.contact'] .	140
970	Table 72 – The CRUDN operations of the Resource with type 'rt' = ['oic.r.sensor.contact'] ..	141
971	Table 73 – The Property definitions of the Resource with type 'rt' = ['oic.r.energy.dr1c']	145
972	Table 74 – The CRUDN operations of the Resource with type 'rt' = ['oic.r.energy.dr1c']	146
973	Table 75 – The Property definitions of the Resource with type 'rt' = ['oic.r.energy.overload']	148
974	Table 76 – The CRUDN operations of the Resource with type 'rt' = ['oic.r.energy.overload']	148
975	Table 77 – The Property definitions of the Resource with type 'rt' = ['oic.r.sensor']	150
976	Table 78 – The CRUDN operations of the Resource with type 'rt' = ['oic.r.sensor']	150
977	Table 79 – The Property definitions of the Resource with type 'rt' =	
978	['oic.r.sensor.glassbreak']	153
979	Table 80 – The CRUDN operations of the Resource with type 'rt' =	
980	['oic.r.sensor.glassbreak']	153
981	Table 81 – The Property definitions of the Resource with type 'rt' =	
982	['oic.r.sensor.heart.zone']	156
983	Table 82 – The CRUDN operations of the Resource with type 'rt' =	
984	['oic.r.sensor.heart.zone']	157
985	Table 83 – The Property definitions of the Resource with type 'rt' =	
986	['oic.r.sensor.illuminance']	159
987	Table 84 – The CRUDN operations of the Resource with type 'rt' =	
988	['oic.r.sensor.illuminance']	160
989	Table 85 – The Property definitions of the Resource with type 'rt' =	
990	['oic.r.sensor.magneticfielddirection']	163
991	Table 86 – The CRUDN operations of the Resource with type 'rt' =	
992	['oic.r.sensor.magneticfielddirection']	163
993	Table 87 – The Property definitions of the Resource with type 'rt' = ['oic.r.media']	166
994	Table 88 – The CRUDN operations of the Resource with type 'rt' = ['oic.r.media']	166
995	Table 89 – The Property definitions of the Resource with type 'rt' = ['oic.r.mediasource']	170
996	Table 90 – The CRUDN operations of the Resource with type 'rt' = ['oic.r.mediasource']	171
997	Table 91 – The Property definitions of the Resource with type 'rt' = ['oic.r.mediasourcelist']	175
998	Table 92 – The CRUDN operations of the Resource with type 'rt' = ['oic.r.mediasourcelist']	175
999	Table 93 – The Property definitions of the Resource with type 'rt' = ['oic.r.media.input']	179
1000	Table 94 – The CRUDN operations of the Resource with type 'rt' = ['oic.r.media.input']	179
1001	Table 95 – The Property definitions of the Resource with type 'rt' = ['oic.r.media.output']	183
1002	Table 96 – The CRUDN operations of the Resource with type 'rt' = ['oic.r.media.output']	183
1003	Table 97 – The Property definitions of the Resource with type 'rt' = ['oic.r.sensor.motion'] ..	186
1004	Table 98 – The CRUDN operations of the Resource with type 'rt' = ['oic.r.sensor.motion'] ..	186
1005	Table 99 – The Property definitions of the Resource with type 'rt' = ['oic.r.nightmode']	188

1006	Table 100 – The CRUDN operations of the Resource with type 'rt' = ['oic.r.nightmode'].....	189
1007	Table 101 – The Property definitions of the Resource with type 'rt' =	
1008	['oic.r.sensor.presence'].....	191
1009	Table 102 – The CRUDN operations of the Resource with type 'rt' =	
1010	['oic.r.sensor.presence'].....	191
1011	Table 103 – The Property definitions of the Resource with type 'rt' = ['oic.r.ptz']	195
1012	Table 104 – The CRUDN operations of the Resource with type 'rt' = ['oic.r.ptz']	196
1013	Table 105 – The Property definitions of the Resource with type 'rt' = ['oic.r.signalstrength']	199
1014	Table 106 – The CRUDN operations of the Resource with type 'rt' = ['oic.r.signalstrength'].	199
1015	Table 107 – The Property definitions of the Resource with type 'rt' = ['oic.r.speech.tts']	203
1016	Table 108 – The CRUDN operations of the Resource with type 'rt' = ['oic.r.speech.tts'].....	203
1017	Table 109 – The Property definitions of the Resource with type 'rt' = ['oic.r.sensor.touch'] ..	205
1018	Table 110 – The CRUDN operations of the Resource with type 'rt' = ['oic.r.sensor.touch']...	206
1019	Table 111 – The Property definitions of the Resource with type 'rt' =	
1020	['oic.r.sensor.radiation.uv']	208
1021	Table 112 – The CRUDN operations of the Resource with type 'rt' =	
1022	['oic.r.sensor.radiation.uv']	209
1023	Table 113 – The Property definitions of the Resource with type 'rt' = ['oic.r.sensor.water'] ..	211
1024	Table 114 – The CRUDN operations of the Resource with type 'rt' = ['oic.r.sensor.water']...	211
1025	Table 115 – The Property definitions of the Resource with type 'rt' =	
1026	['oic.r.sensor.acceleration']	214
1027	Table 116 – The CRUDN operations of the Resource with type 'rt' =	
1028	['oic.r.sensor.acceleration']	215
1029	Table 117 – The Property definitions of the Resource with type 'rt' =	
1030	['oic.r.movement.linear'].....	217
1031	Table 118 – The CRUDN operations of the Resource with type 'rt' =	
1032	['oic.r.movement.linear'].....	218
1033	Table 119 – The Property definitions of the Resource with type 'rt' = ['oic.r.sensor.sleep'] ..	220
1034	Table 120 – The CRUDN operations of the Resource with type 'rt' = ['oic.r.sensor.sleep']...	220
1035	Table 121 – The Property definitions of the Resource with type 'rt' = ['oic.r.sensor.smoke'].	223
1036	Table 122 – The CRUDN operations of the Resource with type 'rt' = ['oic.r.sensor.smoke'] .	223
1037	Table 123 – The Property definitions of the Resource with type 'rt' =	
1038	['oic.r.sensor.threeaxis']	226
1039	Table 124 – The CRUDN operations of the Resource with type 'rt' =	
1040	['oic.r.sensor.threeaxis'].....	226
1041	Table 125 – The Property definitions of the Resource with type 'rt' = ['oic.r.altimeter'].....	229
1042	Table 126 – The CRUDN operations of the Resource with type 'rt' = ['oic.r.altimeter']	229
1043	Table 127 – The Property definitions of the Resource with type 'rt' = ['oic.r.clock']	233
1044	Table 128 – The CRUDN operations of the Resource with type 'rt' = ['oic.r.clock'].....	233
1045	Table 129 – The Property definitions of the Resource with type 'rt' =	
1046	['oic.r.sensor.geolocation']	237
1047	Table 130 – The CRUDN operations of the Resource with type 'rt' =	
1048	['oic.r.sensor.geolocation']	238

1049	Table 131 – The Property definitions of the Resource with type 'rt' = ['oic.r.height'].....	241
1050	Table 132 – The CRUDN operations of the Resource with type 'rt' = ['oic.r.height']	242
1051	Table 133 – The Property definitions of the Resource with type 'rt' = ['oic.r.weight']	244
1052	Table 134 – The CRUDN operations of the Resource with type 'rt' = ['oic.r.weight'].....	245
1053	Table 135 – The Property definitions of the Resource with type 'rt' = ['oic.r.airquality']	248
1054	Table 136 – The CRUDN operations of the Resource with type 'rt' = ['oic.r.airquality'].....	249
1055	Table 137 – The Property definitions of the Resource with type 'rt' =	
1056	['oic.r.airqualitycollection', 'oic.wk.col']	260
1057	Table 138 – The CRUDN operations of the Resource with type 'rt' =	
1058	['oic.r.airqualitycollection', 'oic.wk.col']	262
1059	Table 139 – The Property definitions of the Resource with type 'rt' = ['oic.r.consumable']....	265
1060	Table 140 – The CRUDN operations of the Resource with type 'rt' = ['oic.r.consumable']	265
1061	Table 141 – The Property definitions of the Resource with type 'rt' =	
1062	['oic.r.consumablecollection', 'oic.wk.col'].....	277
1063	Table 142 – The CRUDN operations of the Resource with type 'rt' =	
1064	['oic.r.consumablecollection', 'oic.wk.col'].....	279
1065	Table 143 – The Property definitions of the Resource with type 'rt' = ['oic.r.delaydefrost'] ...	282
1066	Table 144 – The CRUDN operations of the Resource with type 'rt' = ['oic.r.delaydefrost']....	283
1067	Table 145 – The Property definitions of the Resource with type 'rt' = ['oic.r.ecomode']	286
1068	Table 146 – The CRUDN operations of the Resource with type 'rt' = ['oic.r.ecomode'].....	287
1069	Table 147 – The Property definitions of the Resource with type 'rt' = ['oic.r.heatingzone'] ...	290
1070	Table 148 – The CRUDN operations of the Resource with type 'rt' = ['oic.r.heatingzone']....	290
1071	Table 149 – The Property definitions of the Resource with type 'rt' =	
1072	['oic.r.heatingzonecollection', 'oic.wk.col']	301
1073	Table 150 – The CRUDN operations of the Resource with type 'rt' =	
1074	['oic.r.heatingzonecollection', 'oic.wk.col']	303
1075	Table 151 – The Property definitions of the Resource with type 'rt' =	
1076	['oic.r.selectablelevels']	306
1077	Table 152 – The CRUDN operations of the Resource with type 'rt' =	
1078	['oic.r.selectablelevels']	307
1079	Table 153 – The Property definitions of the Resource with type 'rt' =	
1080	['oic.r.value.conditional']	310
1081	Table 154 – The CRUDN operations of the Resource with type 'rt' =	
1082	['oic.r.value.conditional']	311
1083	Table 155 – The Property definitions of the Resource with type 'rt' = ['oic.r.colour.csc']	314
1084	Table 156 – The CRUDN operations of the Resource with type 'rt' = ['oic.r.colour.csc']	314
1085	Table 157 – The Property definitions of the Resource with type 'rt' =	
1086	['oic.r.colour.colourtemperature']	318
1087	Table 158 – The CRUDN operations of the Resource with type 'rt' =	
1088	['oic.r.colour.colourtemperature']	318
1089	Table 159 – The Property definitions of the Resource with type 'rt' = ['oic.r.colour.hs']	322
1090	Table 160 – The CRUDN operations of the Resource with type 'rt' = ['oic.r.colour.hs']	322
1091	Table 161 – The Property definitions of the Resource with type 'rt' = ['oic.r.batterymaterial']	326

1092	Table 162 – The CRUDN operations of the Resource with type 'rt' = ['oic.r.batterymaterial']	326
1093	Table 163 – The Property definitions of the Resource with type 'rt' = ['oic.r.brewing']	329
1094	Table 164 – The CRUDN operations of the Resource with type 'rt' = ['oic.r.brewing']	330
1095	Table 165 – The Property definitions of the Resource with type 'rt' =	
1096	['oic.r.energy.electrical']	334
1097	Table 166 – The CRUDN operations of the Resource with type 'rt' =	
1098	['oic.r.energy.electrical']	335
1099	Table 167 – The Property definitions of the Resource with type 'rt' =	
1100	['oic.r.energy.generation']	338
1101	Table 168 – The CRUDN operations of the Resource with type 'rt' =	
1102	['oic.r.energy.generation']	338
1103	Table 169 – The Property definitions of the Resource with type 'rt' = ['oic.r.foaming']	341
1104	Table 170 – The CRUDN operations of the Resource with type 'rt' = ['oic.r.foaming']	342
1105	Table 171 – The Property definitions of the Resource with type 'rt' = ['oic.r.grinder']	345
1106	Table 172 – The CRUDN operations of the Resource with type 'rt' = ['oic.r.grinder']	346
1107	Table 173 – The Property definitions of the Resource with type 'rt' = ['oic.r.liquid.level']	349
1108	Table 174 – The CRUDN operations of the Resource with type 'rt' = ['oic.r.liquid.level']	350
1109	Table 175 – The Property definitions of the Resource with type 'rt' =	
1110	['oic.r.vehicle.connector']	352
1111	Table 176 – The CRUDN operations of the Resource with type 'rt' =	
1112	['oic.r.vehicle.connector']	353
1113	Table 177 – The Property definitions of the Resource with type 'rt' = ['oic.r.time.stamp']	356
1114	Table 178 – The CRUDN operations of the Resource with type 'rt' = ['oic.r.time.stamp']	356
1115	Table 179 – The Property definitions of the Resource with type 'rt' = ['oic.r.printer.3d']	360
1116	Table 180 – The CRUDN operations of the Resource with type 'rt' = ['oic.r.printer.3d']	361
1117	Table 181 – The Property definitions of the Resource with type 'rt' = ['oic.r.blood.pressure']	364
1118	Table 182 – The CRUDN operations of the Resource with type 'rt' = ['oic.r.blood.pressure']	365
1119	Table 183 – The Property definitions of the Resource with type 'rt' =	
1120	['oic.r.bloodpressuremonitor-am', 'oic.wk.atomicmeasurement']	373
1121	Table 184 – The CRUDN operations of the Resource with type 'rt' =	
1122	['oic.r.bloodpressuremonitor-am', 'oic.wk.atomicmeasurement']	375
1123	Table 185 – The Property definitions of the Resource with type 'rt' = ['oic.r.bmi']	378
1124	Table 186 – The CRUDN operations of the Resource with type 'rt' = ['oic.r.bmi']	378
1125	Table 187 – The Property definitions of the Resource with type 'rt' = ['oic.r.body.fat']	382
1126	Table 188 – The CRUDN operations of the Resource with type 'rt' = ['oic.r.body.fat']	382
1127	Table 189 – The Property definitions of the Resource with type 'rt' = ['oic.r.body.ffmpeg']	385
1128	Table 190 – The CRUDN operations of the Resource with type 'rt' = ['oic.r.body.ffmpeg']	386
1129	Table 191 – The Property definitions of the Resource with type 'rt' = ['oic.r.body.location']	389
1130	Table 192 – The CRUDN operations of the Resource with type 'rt' = ['oic.r.body.location']	390
1131	Table 193 – The Property definitions of the Resource with type 'rt' =	
1132	['oic.r.body.location.temperature']	393
1133	Table 194 – The CRUDN operations of the Resource with type 'rt' =	
1134	['oic.r.body.location.temperature']	394

1135	Table 195 – The Property definitions of the Resource with type 'rt' = ['oic.r.bodyscale-am',	
1136	'oic.wk.atomicmeasurement']	402
1137	Table 196 – The CRUDN operations of the Resource with type 'rt' = ['oic.r.bodyscale-am',	
1138	'oic.wk.atomicmeasurement']	404
1139	Table 197 – The Property definitions of the Resource with type 'rt' = ['oic.r.body.slm']	407
1140	Table 198 – The CRUDN operations of the Resource with type 'rt' = ['oic.r.body.slm']	407
1141	Table 199 – The Property definitions of the Resource with type 'rt' =	
1142	['oic.r.bodythermometer-am', 'oic.wk.atomicmeasurement']	416
1143	Table 200 – The CRUDN operations of the Resource with type 'rt' =	
1144	['oic.r.bodythermometer-am', 'oic.wk.atomicmeasurement']	418
1145	Table 201 – The Property definitions of the Resource with type 'rt' = ['oic.r.body.water']	420
1146	Table 202 – The CRUDN operations of the Resource with type 'rt' = ['oic.r.body.water']	421
1147	Table 203 – The Property definitions of the Resource with type 'rt' = ['oic.r.glucose']	424
1148	Table 204 – The CRUDN operations of the Resource with type 'rt' = ['oic.r.glucose']	425
1149	Table 205 – The Property definitions of the Resource with type 'rt' = ['oic.r.glucose.carb'] ..	428
1150	Table 206 – The CRUDN operations of the Resource with type 'rt' = ['oic.r.glucose.carb'] ..	428
1151	Table 207 – The Property definitions of the Resource with type 'rt' =	
1152	['oic.r.glucose.exercise']	431
1153	Table 208 – The CRUDN operations of the Resource with type 'rt' =	
1154	['oic.r.glucose.exercise']	432
1155	Table 209 – The Property definitions of the Resource with type 'rt' = ['oic.r.glucose.hba1c']	435
1156	Table 210 – The CRUDN operations of the Resource with type 'rt' = ['oic.r.glucose.hba1c']	435
1157	Table 211 – The Property definitions of the Resource with type 'rt' = ['oic.r.glucose.health']	438
1158	Table 212 – The CRUDN operations of the Resource with type 'rt' = ['oic.r.glucose.health']	439
1159	Table 213 – The Property definitions of the Resource with type 'rt' = ['oic.r.glucose.meal'] ..	442
1160	Table 214 – The CRUDN operations of the Resource with type 'rt' = ['oic.r.glucose.meal'] ..	443
1161	Table 215 – The Property definitions of the Resource with type 'rt' =	
1162	['oic.r.glucose.medication']	446
1163	Table 216 – The CRUDN operations of the Resource with type 'rt' =	
1164	['oic.r.glucose.medication']	447
1165	Table 217 – The Property definitions of the Resource with type 'rt' = ['oic.r.glucosemeter-	
1166	am', 'oic.wk.atomicmeasurement']	456
1167	Table 218 – The CRUDN operations of the Resource with type 'rt' = ['oic.r.glucosemeter-	
1168	am', 'oic.wk.atomicmeasurement']	458
1169	Table 219 – The Property definitions of the Resource with type 'rt' =	
1170	['oic.r.glucose.samplelocation']	461
1171	Table 220 – The CRUDN operations of the Resource with type 'rt' =	
1172	['oic.r.glucose.samplelocation']	462
1173	Table 221 – The Property definitions of the Resource with type 'rt' = ['oic.r.glucose.Tester']	465
1174	Table 222 – The CRUDN operations of the Resource with type 'rt' = ['oic.r.glucose.Tester']	465
1175	Table 223 – The Property definitions of the Resource with type 'rt' = ['oic.r.orfid.station']	469
1176	Table 224 – The CRUDN operations of the Resource with type 'rt' = ['oic.r.orfid.station']	469
1177	Table 225 – The Property definitions of the Resource with type 'rt' = ['oic.r.orfid.tag']	472

1178	Table 226 – The CRUDN operations of the Resource with type 'rt' = ['oic.r.orfid.tag'].....	473
1179	Table 227 – The Property definitions of the Resource with type 'rt' = ['oic.r.powersource'] ..	475
1180	Table 228 – The CRUDN operations of the Resource with type 'rt' = ['oic.r.powersource']...	475
1181	Table 229 – The Property definitions of the Resource with type 'rt' = ['oic.r.printer.queue']..	478
1182	Table 230 – The CRUDN operations of the Resource with type 'rt' = ['oic.r.printer.queue'] ..	478
1183	Table 231 – The Property definitions of the Resource with type 'rt' = ['oic.r.pulserate'].....	481
1184	Table 232 – The CRUDN operations of the Resource with type 'rt' = ['oic.r.pulserate']	482
1185	Table 233 – The Property definitions of the Resource with type 'rt' = ['oic.r.sensor.props'] ..	485
1186	Table 234 – The CRUDN operations of the Resource with type 'rt' = ['oic.r.sensor.props']...	486
1187	Table 235 – The Property definitions of the Resource with type 'rt' = ['oic.r.userid'].....	488
1188	Table 236 – The CRUDN operations of the Resource with type 'rt' = ['oic.r.userid']	489
1189	Table 237 – The Property definitions of the Resource with type 'rt' = ['oic.baseresource'] ...	492
1190	Table 238 – The CRUDN operations of the Resource with type 'rt' = ['oic.baseresource']....	492
1191		

1192 **1 Scope**

1193 This document specifies the Resources that have been defined by OCF that may be exposed by
1194 an OCF Device.

1195 Application profile device specifications (for example those created for Smart Home or Healthcare)
1196 specify device types appropriate to the profile; such specifications use Resource Type definitions
1197 from this document.

1198 This document is built on top of ISO/IEC 30118-1:2018. ISO/IEC 30118-1:2018 specifies the OCF
1199 Framework that enables the implementation of profiles for IoT usages and ecosystems. The OCF
1200 Core Framework is scalable to support simple devices (constrained device) and more capable
1201 devices (smart device).

1202 **2 Normative references**

1203 The following documents are referred to in the text in such a way that some or all of their content
1204 constitutes requirements of this document. For dated references, only the edition cited applies. For
1205 undated references, the latest edition of the referenced document (including any amendments)
1206 applies.

1207 ISO/IEC 30118-1:2018 Information technology -- Open Connectivity Foundation (OCF)
1208 Specification -- Part 1: Core specification
1209 <https://www.iso.org/standard/53238.html>
1210 Latest version available at: https://openconnectivity.org/specs/OCF_Core_Specification.pdf

1211 OpenAPI specification, fka *Swagger RESTful API Documentation Specification*, Version 2.0
1212 <https://github.com/OAI/OpenAPI-Specification/blob/master/versions/2.0.md>

1213 **3 Terms, definitions, and abbreviated terms**

1214 For the purposes of this document, the terms and definitions given in ISO/IEC 30118-1:2018 and
1215 the following apply.

1216 ISO and IEC maintain terminological databases for use in standardization at the following
1217 addresses:

- 1218 – ISO Online browsing platform: available at <https://www.iso.org/obp>
- 1219 – IEC Electropedia: available at <http://www.electropedia.org/>

1220 **3.1 Terms and definitions**

1221 **3.1.1**

1222 **actuator**

1223 resource with support of the UPDATE operation

1224 **3.1.2**

1225 **Composite Resource Type**

1226 a Resource Type defined as an OCF Collection of other Resource Types

1227 **3.1.3**

1228 **sensor**

1229 resource without support of the UPDATE operation

1230 **3.2 Abbreviated terms**

1231 **3.2.1**

1232 **CRUDN**

1233 Create Retrieve Update Delete Notify

1234 This is an acronym indicating which operations are possible on the Resource.

1235 **4 Document conventions and organization**

1236 **4.1 Conventions**

1237 In this document a number of terms, conditions, mechanisms, sequences, parameters, events,
1238 states, or similar terms are printed with the first letter of each word in uppercase and the rest
1239 lowercase (e.g., Resource Type). Any lowercase uses of these words have the normal technical
1240 English meaning.

1241 **4.2 Notation**

1242 In this document, features are described as required, recommended, allowed or DEPRECATED as
1243 follows:

1244 Required (or shall or mandatory).

1245 These basic features shall be implemented to comply with OCF Resource Type Specification.
1246 The phrases “shall not”, and “PROHIBITED” indicate behaviour that is prohibited, i.e. that if
1247 performed means the implementation is not in compliance.

1248 Recommended (or should).

1249 These features add functionality supported by the OCF Resource Type Specification and should
1250 be implemented. Recommended features take advantage of the capabilities of the OCF
1251 Resource Type Specification, usually without imposing major increase of complexity. Notice
1252 that for compliance testing, if a recommended feature is implemented, it shall meet the specified
1253 requirements to be in compliance with these guidelines. Some recommended features could
1254 become requirements in the future. The phrase “should not” indicates behaviour that is
1255 permitted but not recommended.

1256 Allowed (or allowed).

1257 These features are neither required nor recommended by OCF Resource Type Specification,
1258 but if the feature is implemented, it shall meet the specified requirements to be in compliance
1259 with these guidelines.

1260 DEPRECATED

1261 Although these features are still described in this document, they should not be implemented
1262 except for backward compatibility. The occurrence of a deprecated feature during operation of
1263 an implementation compliant with the current document has no effect on the implementation's
1264 operation and does not produce any error conditions. Backward compatibility may require that
1265 a feature is implemented and functions as specified but it shall never be used by
1266 implementations compliant with this document.

1267 Conditionally allowed (CA)

1268 The definition or behaviour depends on a condition. If the specified condition is met, then the
1269 definition or behaviour is allowed, otherwise it is not allowed.

1270 Conditionally required (CR)

1271 The definition or behaviour depends on a condition. If the specified condition is met, then the
1272 definition or behaviour is required. Otherwise the definition or behaviour is allowed as default
1273 unless specifically defined as not allowed.

1274 Strings that are to be taken literally are enclosed in “double quotes”.

1275 Words that are emphasized are printed in *italic*.

1276 **4.3 Data types**

1277 This document adopts the types defined in ISO/IEC 30118-1:2018 with the exceptions defined in
1278 this clause

1279 All Properties in this document that are defined as JSON number type shall be transmitted encoded
1280 as floating point values and not integer values. Reception of Properties defined as JSON number
1281 type shall be as defined in ISO/IEC 30118-1:2018. See ISO/IEC 30118-1:2018 clause 12.4 for
1282 specifics.

1283 **5 Baseline Model Constructs**

1284 **5.1 URI**

1285 The URIs mentioned in this document are non-normative, they may be vendor defined.

1286 An Instance of a Resource is indicated by the URI. When more than one instance of the same
1287 Resource Type is used in an OCF Device, different URIs for the different Resource instances shall
1288 be used.

1289 An implementation shall follow the requirements defined in ISO/IEC 30118-1:2018 with respect to
1290 population of the URI. Please refer to the ISO/IEC 30118-1:2018 clauses 6.2 and 6.3 for specific
1291 details.

1292 **5.2 Interfaces**

1293 **5.2.1 Introduction**

1294 ISO/IEC 30118-1:2018 specifies that all Resource Types have associated with them at least one
1295 Interface; this Interface is advertised during Resource discovery. In addition ISO/IEC 30118-
1296 1:2018 defines a number of Interfaces that can be applied to an instance of a Resource Type.

1297 The Default Interface associated with all Resource Types defined in this document shall be the
1298 supported interface listed first within the applicable enumeration in the definition of the Resource
1299 Type (see Clause 6 Resource Type definitions); with an exception being when a Resource Type
1300 definition has either Sensor or Actuator interfaces as the Default Interface, in this instance an
1301 implementation shall select one of them as the default. Thus a Server hosting such a Resource
1302 Type shall enable either oic.if.s (if a Sensor) or oic.if.a (if an Actuator) as the Interface that is
1303 exposed via "/oic/res" in addition to the mandated baseline interface ("oic.if.baseline"). A Server
1304 may also support other Interfaces in addition to the one specified as the default.

1305 The difference between using sensor/actuator and read/write interfaces is due to the fact that a
1306 sensor/actuator interface describes an action that has immediate effect on the device, either by
1307 reading the sensed value and putting the value on the wire, or as an UPDATE action that something
1308 needs to happen (e.g. actuate) on the device. The read/write interface is typically used to set a
1309 settings value on the device that might be used later when an action occurs. A typical example is
1310 setting the coffee strength that will be used when the coffee is brewed.

1311 **5.2.2 Restricting Interface Functionality**

1312 Note that the functionality associated with, or visibility of, an instance of any Resource exposed by
1313 a Device may be restricted depending upon local (per country or legislative region) regulatory
1314 requirements or other restrictions (e.g. with respect to Binary Switch in some jurisdictions the ability
1315 to remotely power on a connected device is restricted; a lock status could be read-only depending
1316 on the context).

1317 The actual implementation of a resource can be limited by:

- 1318 – Not implementing the optional properties defined in the payload of a CRUDN operation.
- 1319 – Removing CRUDN operations

1320 If an UPDATE operation of a resource that can be actuated is not implemented, this change in
 1321 behaviour is indicated by changing the interfaces accordingly.

1322 When the resource is defined with the interface "oic.if.a", and the UPDATE operation is removed
 1323 then the interface listed is "oic.if.s".

1324 When the resource is defined with the interface "oic.if.rw", and the UPDATE operation is removed
 1325 then the interface listed is "oic.if.r".

1326 **5.3 OpenAPI Specification 2.0 definition**

1327 The OpenAPI Specification 2.0 definitions provided in clause 6 in this document are normative.

1328 The OpenAPI Specification 2.0 definitions are used to describe the payloads of the CRUDN
 1329 operations on the specified Resource Type. The CRUDN operations are defined in ISO/IEC 30118-
 1330 1:2018. ISO/IEC 30118-1:2018 also specifies additional Properties in the payloads of the CRUDN
 1331 operations. The OpenAPI Specification 2.0 definitions in this document are not of themselves
 1332 sufficient to create an implementation, additional Properties defined in ISO/IEC 30118-1:2018 need
 1333 to be added to create a compliant implementation. This document makes use of a subset of the
 1334 responses supported by OpenAPI Specification 2.0, specifics on the use of these responses are
 1335 defined in Table 4. Note that the actual values of success and error conditions are defined in
 1336 ISO/IEC 30118-1:2018.

1337 The OpenAPI Specification 2.0 definitions map the OCF CRUDN behaviour to the OpenAPI
 1338 Specification 2.0 as defined in Table 1.

1339 **Table 1 – Conversion between OCF CRUDN and OpenAPI Specification 2.0 definitions¹**

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

1340 Notify is not part of an OpenAPI Specification 2.0 definition but is defined in ISO/IEC 30118-1:2018.
 1341 All Resource Types defined in this document support notification via the use of observe as defined
 1342 in ISO/IEC 30118-1:2018 clause 11.4.2.

1343 **5.4 Property definition**

1344 **5.4.1 Common Properties**

1345 ISO/IEC 30118-1:2018 specifies a number of Properties that may be defined for OCF Resources.
 1346 The Common Properties "if" and "rt" shall be specified for all Resource Types defined in this
 1347 document; they are exposed within the ISO/IEC 30118-1:2018 defined "/oic/res/" Resource Type
 1348 through which the OCF Server and its available Resources are discovered. The Common
 1349 Properties "id" and "n" may be specified for all Resource Types defined in this document. Table 2
 1350 lists all of the noted Common Properties.

1351 If an OCF Client requires that these Properties be included in a Resource representation that is
 1352 provided in response to a RETRIEVE operation then the client shall select the ISO/IEC 30118-
 1353 1:2018 defined baseline interface (oic.if.baseline) by specifying this in a query parameter.

1354 **Table 2 – Common Properties for OCF Resources**

Property Name	Property Title	Property Value	Value Type	Access Modes	Description
if	Interface	See ISO/IEC 30118-1:2018 clause 7.6.2	Array of string	Readonly	Core defined; Interface(s)

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

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

1355

1356 5.4.2 Resource Properties

1357 The Properties against which the CRUDN operations are specified are defined as part of an
1358 OpenAPI Specification 2.0 definition.

1359 A basic Resource Type is formulated around one single value denoting a physical property.

1360 Such a Resource Type is specified with the Properties as defined Table 3. Mandatory in the table
1361 means that the Property shall be defined as part of the overall Resource Type schema; actual
1362 inclusion of the Property as part of a returned or generated payload is dependent upon the schema
1363 that applies to the operation being invoked.

1364 **Table 3 – Property definitions of a Resource Type in the OpenAPI Specification 2.0 file**

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

1365

1366 For Resources, which by their nature have more than one physical parameter, the value Property
1367 can be replaced with multiple Properties specifying the different physical parameters. The type of
1368 the value shall be indicated in the OpenAPI Specification 2.0 definition of the Resource Type and
1369 should be suitable for the conveyed value. All Property Names and Property Values defined in this
1370 document are case sensitive.

1371 5.4.3 Basic Resource Schema

1372 All Resource Types defined herein are represented as previously noted by OpenAPI Specification
1373 2.0 files.

1374 5.4.4 CRUDN Operation Response Codes

1375 A Resource can be created or updated depending on the Resource Type definition and the allowed
1376 CRUDN operations. The operation may have different response codes with different meanings.
1377 This is explained in Table 4.

1378

Table 4 – Return codes behaviour in OpenAPI Specification 2.0

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

1379

1380 5.5 Example Resource Definitions

1381 Please see the OCF Resource Types in Clause 6 for examples of Resource Definitions. For an
1382 example Resource Type that models an actuator refer to the definition of Dimming; for an example
1383 Resource Type that models a sensor refer to the definition of an Illuminance Sensor.

1384 **5.6 Observable Resource Types**

1385 **5.6.1 Introduction**

1386 ISO/IEC 30118-1:2018 defines a mechanism by which Resources can advertise themselves as
1387 "Observable" to an OCF Client. All Resource Types defined in this document may be observed.
1388 Whether or not a Resource Type is made observable via use of the Policy Link Parameter is entirely
1389 implementation dependent.

1390 **5.6.2 Conditional Notification**

1391 **5.6.2.1 General**

1392 All observable Resources may apply conditions to the generation of notifications that result from
1393 the observe action, these conditions can be time based or value based or time and value based.
1394 This is achieved by composing the Conditional Notification (oic.r.value.conditional) Resource Type
1395 with an instance of an observable Resource; that is the Resource that is exposed by the Server
1396 has an "rt" of "[oic.r.<resource>","oic.r.value.conditional"]".

1397 **5.6.2.2 Conditional Notification Property Summary**

1398 Table 5 summarizes the Properties provided by the Conditional Notification Resource Type. At
1399 least one Property from the table shall be present in an instance of the Resource Type.

1400 **Table 5 – Conditional Notification Properties**

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

1401
1402 All Properties if exposed shall be set with initial values. All Properties may be exposed with a value
1403 of "0" (zero); this indicates that the functionality associated with the Property is not active. Any
1404 Client may update the exposed values subject to any ACL restrictions; such changes are global
1405 and apply to all notifications that are sent to all observers. A notifier may reject an update to the
1406 Property values; in such cases a diagnostic payload should be included in the rejection response
1407 indicating the valid ranges for the Properties.

1408 **5.6.2.3 Property Definition: threshold**

1409 Minimum value change between two notifications. A notification shall be sent (within the constraints
1410 of "minnotifyperiod") when the change since the last notification is greater than or equal to this
1411 value. The measurement is done against the value in the last notification that was sent; thus all
1412 notifications (within any "maxnotifyperiod" constraints that may be present) will carry values that
1413 differ by at least "threshold". A "threshold" value of "0" means that no "threshold" is applied.

1414 **5.6.2.4 Property Definition: minnotifyperiod**

1415 Minimum time (in ms) that shall occur between notifications. If a value change condition is met
1416 ("threshold" equalled or exceeded or any change in value if threshold is not present) before
1417 expiration the notification shall not be sent till the period expires. If the Property is present and set
1418 to "0" then no minimum notify period timer is run; if the Property is present and with a value greater
1419 than "0" then a minimum notify period timer shall be run equal to the value. The Property value
1420 itself is initially populated by the notifier. If the Property is not present, the minimum notify period
1421 is up to the notifier. The timer shall be reset each time a notification is sent.

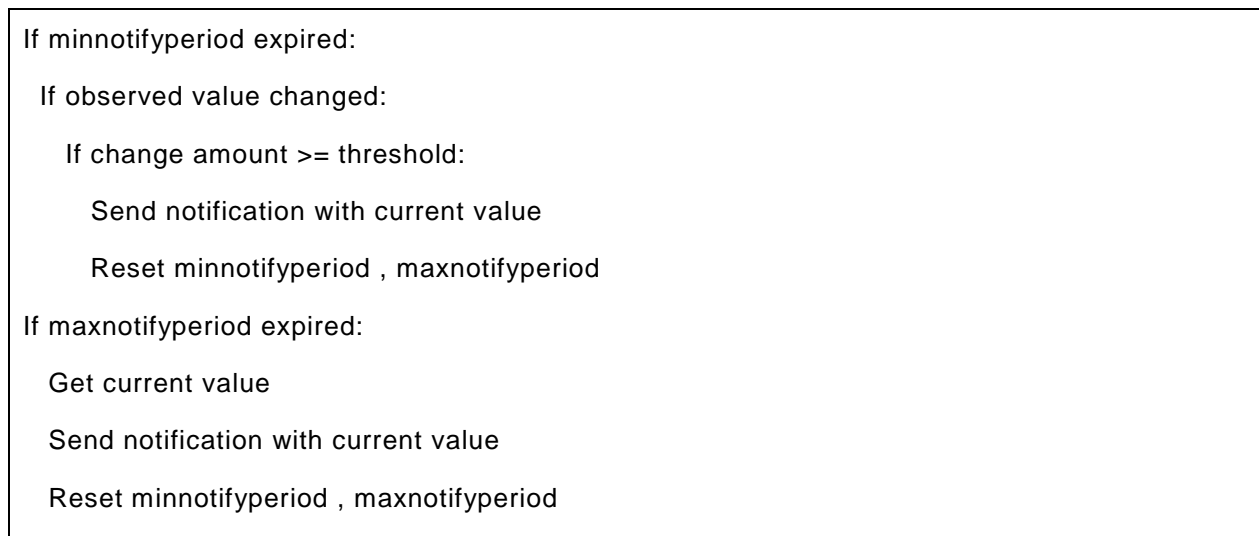
1422 **5.6.2.5 Property Definition: maxnotifyperiod**

1423 Maximum time (in ms) that the notifier shall not exceed between notifications. When the timer
1424 expires a notification shall be sent. If present and set to "0" then no maximum notify period timer
1425 is run; if present and with a value greater than 0 then a maximum notify period timer shall be run
1426 equal to the value. The Property value itself shall be initially populated by the notifier. When both
1427 "minnotifyperiod" and "maxnotifyperiod" are present and both are non-zero the value of
1428 "maxnotifyperiod" shall be larger than the "minnotifyperiod". If not present, the value shall be set
1429 by the notifier. The timer shall be reset each time a notification is sent.

1430 **5.6.2.6 Governing State Machine**

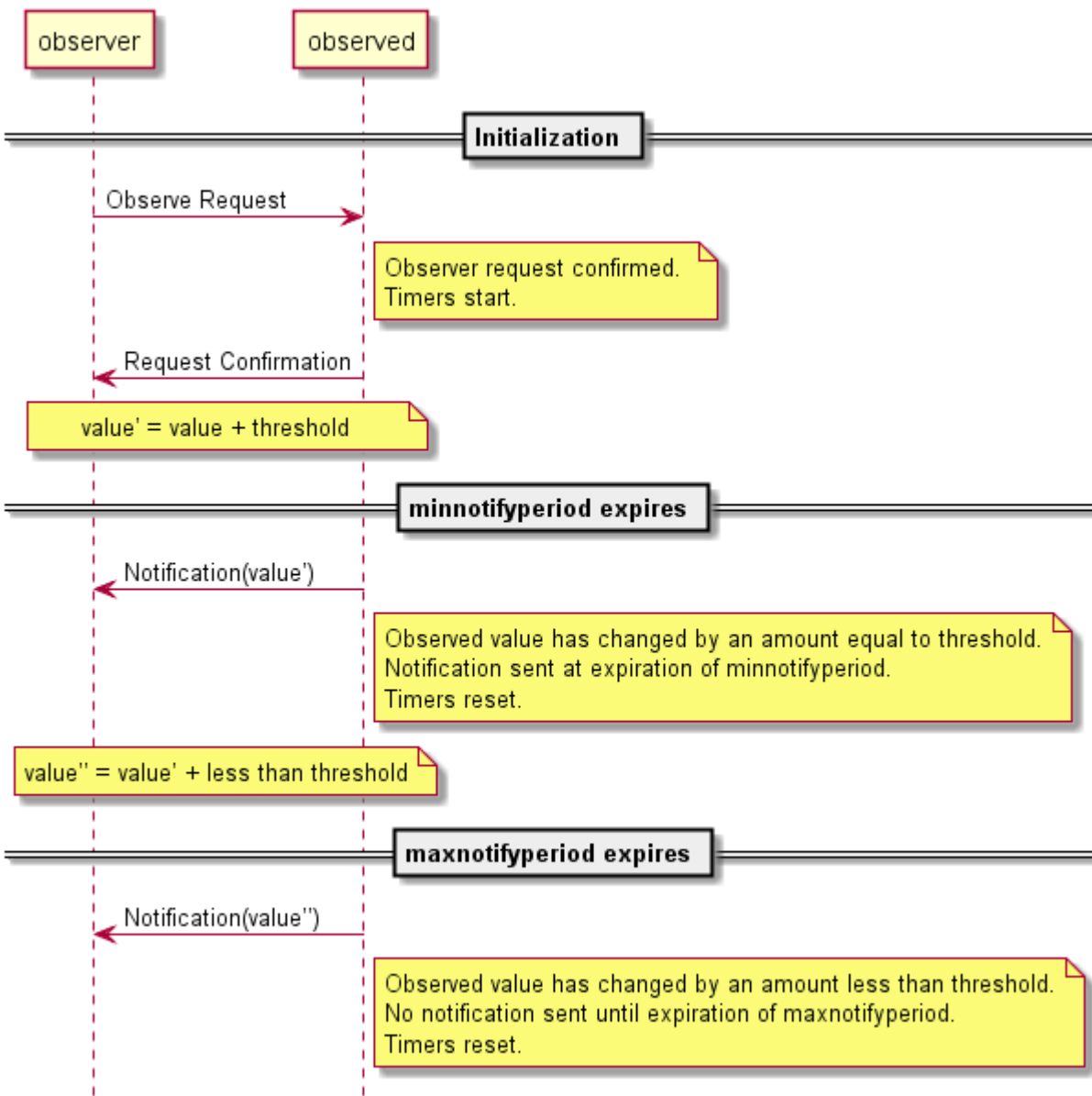
1431 The "minnotifyperiod" and "maxnotifyperiod" timers are restarted each time a notification is sent
1432 (response to the Observe). A notification is sent when value change condition (threshold) and
1433 "minnotifyperiod" are both met if both are present. If the observed Property value subsequently
1434 drops beneath threshold before the expiration of "minnotifyperiod" the notifier may take no action
1435 or a notification may be sent on expiration of "minnotifyperiod" containing the current observed
1436 Property value (at the time of the notification). If there are no timer constraints; then notifications
1437 are sent whenever the observed Property value has changed by an amount greater than or equal
1438 to "threshold".

1439 Overall logic is defined in Figure 1. Figure 2 provides an illustrative sequence.



1440 **Figure 1 – Overall conditional notification logic**

1441



1442

1443

Figure 2 – Conditional Notification Example Flow

1444

1445 **5.7 Composite Resource Types**

1446 Composite Resource Types are Resources that comprises of one or more single or other composite
 1447 Resource Types, an example of which is shown in Figure 3. The Composite Resource Type can be
 1448 viewed upon as a new single Resource Type. The Composite Resource Type mechanism is a
 1449 powerful concept since it uses existing Resource Types in a new combination to express more
 1450 contexts to a Resource without specifying new single unit Resource Types.

1451 Composite Resource Types are defined by linking the referenced existing Resource values in to a
 1452 Collection.

1453 The linking is done by using an array of Links; refer to ISO/IEC 30118-1:2018 clause 7.8.2 for more
1454 details. Note that the example in Figure 3 contains a partial schema of this definition as it is for
1455 descriptive purpose only. The Property name of the array in the example is “resources”.

1456 The contents of the listed Resources can be achieved in a single operation by using the ISO/IEC
1457 30118-1:2018 defined oic.if.b interface.

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

Figure 3 – Composite Resource Example

1458
1459 **5.8 Document Version**

1460 Devices conformant to this document version shall add the string “ocf.res.1.3.0” to the dmv Property
1461 in “oic.wk.d”. This Property is for legacy Device support only and will no longer be revised in
1462 alignment with document versions.

1463 **6 Resource Type definitions**

1464 **6.1 Introduction**

1465 This clause contains definitions for all Resource Types; the complete set is listed in Table 6 –
1466 Alphabetical list of Resource Types.

1467 All Resource Types shall be created in accordance with ISO/IEC 30118-1:2018 clause 7.4. All
 1468 comparisons against a Resource Type shall be case insensitive.

1469 All Resource Types in this document are prefixed with “oic.r” denoting that it is an OCF defined
 1470 Resource Type.

1471

Table 6 – Alphabetical list of Resource Types

Friendly Name (informative)	Resource Type (rt)	Clause
3D Printer	oic.r.printer.3d	6.88
Acceleration Sensor	oic.r.sensor.acceleration	6.56
Activity Count	oic.r.sensor.activity.count	6.24
Air Flow	oic.r.airflow	6.2
Air Flow Control	oic.r.airflowcontrol	6.3
Air Quality	oic.r.airquality	6.66
Air Quality Collection	oic.r.airqualitycollection	6.67
Altimeter	oic.r.altimeter	6.61
Atmospheric Pressure	oic.r.sensor.atmosphericpressure	6.25
Audio Controls	oic.r.audio	6.26
Auto Focus	oic.r.autofocus	6.27
Automatic Document Feeder	oic.r.automaticdocumentfeeder	6.28
Auto White Balance	oic.r.colour.autowhitebalance	6.32
Basic Resource Schema	Not Applicable	6.117
Battery	oic.r.energy.battery	6.4
Battery Material	oic.r.batterymaterial	6.79
Binary switch	oic.r.switch.binary	6.5
Blood Pressure	oic.r.blood.pressure	6.89
Blood Pressure Monitor Atomic Measurement	oic.r.bloodpressuremonitor-am	6.90
BMI	oic.r.bmi	6.91
Body Fat	oic.r.body.fat	6.92
Body Fat Free Mass	oic.r.body.ffm	6.93
Body Location	oic.r.body.location	6.94
Body Location Temperature	oic.r.body.location.temperature	6.95
Body Scale Atomic Measurement	oic.r.body.scale-am	6.96
Body Soft Lean Mass	oic.r.body.slm	6.97
Body Thermometer Atomic Measurement	oic.r.bodythermometer-am	6.98
Body Water	oic.r.body.water	6.99
Brewing	oic.r.brewing	6.80
Brightness	oic.r.light.brightness	6.6
Button Switch	oic.r.button	6.29
Carbon Dioxide Sensor	oic.r.sensor.carbondioxide	6.30
Carbon Monoxide Sensor	oic.r.sensor.carbonmonoxide	6.31
Clock	oic.r.clock	6.62

Colour Chroma	oic.r.colour.chroma	6.7
Colour Hue Saturation	oic.r.colour.hs	6.78
Colour RGB	oic.r.colour.rgb	6.8
Colour Saturation	oic.r.colour.saturation	6.33
Colour Space Coordinates	oic.r.colour.csc	6.76
Colour Temperature	oic.r.colour.colourtemperature	6.77
Consumable	oic.r.consumable	6.68
Consumable Collection	oic.r.consumablecollection	6.69
Contact Sensor	oic.r.sensor.contact	6.34
Delay Defrost	oic.r.delaydefrost	6.70
Demand Response Load Control (DRLC)	oic.r.energy.drlc	6.35
Dimming	oic.r.light.dimming	6.9
Door	oic.r.door	6.10
Ecomode	oic.r.ecomode	6.71
Electric Vehicle Connector	oic.r.vehicle.connector	6.86
Electrical Energy	oic.r.energy.electrical	6.81
Energy Consumption	oic.r.energy.consumption	6.11
Energy Generation	oic.r.energy.generation	6.82
Energy Overload/Circuit Breaker	oic.r.energy.overload	6.36
Energy Usage	oic.r.energy.usage	6.12
Foaming	oic.r.foaming	6.83
Generic Sensor	oic.r.sensor	6.37
Geolocation Sensor	oic.r.sensor.geolocation	6.63
Glass Break Sensor	oic.r.sensor.glassbreak	6.38
Glucose	oic.r.glucose	6.100
Glucose Meter Complex Carbohydrates	oic.r.glucose.carb	6.101
Glucose Meter Exercise	oic.r.glucose.exercise	6.102
Glucose Meter HbA1c	oic.r.glucose.hba1c	6.103
Glucose Meter Context Health	oic.r.glucose.health	6.104
Glucose Meter Context Meal	oic.r.glucose.meal	6.105
Glucose Meter Context Medication	oic.r.glucose.medication	6.106
Glucose Meter Atomic Measurement	oic.r.glucosemeter-am	6.107
Glucose Meter Context Sample Location	oic.r.glucose.samplelocation	6.108
Glucose Meter Context Tester	oic.r.glucose.testter	6.109
Grinder	oic.r.grinder	6.84
Heart Rate Zone Sensor	oic.r.sensor.heart.zone	6.39
Heating Zone	oic.r.heatingzone	6.72
Heating Zone Collection	oic.r.heatingzonecollection	6.73
Height	oic.r.height	6.64

Humidity	oic.r.humidity	6.13
Icemaker	oic.r.icemaker	6.14
Illuminance Sensor	oic.r.sensor.illuminance	6.40
Liquid Level	oic.r.liquid.level	6.85
Lock	oic.r.lock.status	6.15
Lock Code	oic.r.lock.code	6.16
Magnetic Field Direction	oic.r.sensor.magneticfielddirection	6.41
Media	oic.r.media	6.42
Media Source	oic.r.mediasource	6.43
Media Source List	oic.r.mediasourcelist	6.44
Media Source Input	oic.r.media.input	6.45
Media Source Output	oic.r.media.output	6.46
Mode	oic.r.mode	6.17
Movement	oic.r.movement.linear	6.57
Motion Sensor	oic.r.sensor.motion	6.47
Night Mode	oic.r.nightmode	6.48
Open Level	oic.r.openlevel	6.18
Operational State	oic.r.operational.state	6.19
Optical RFID Station	oic.r.orfid.station	6.110
Optical RFID Tag	oic.r.orfid.tag	6.111
Pan Tilt Zoom Movement	oic.r.ptz	6.50
Power Source	oic.r.powersource	6.112
Presence Sensor	oic.r.sensor.presence	6.49
Print Queue	oic.r.printer.queue	6.113
Pulse Rate	oic.r.pulserate	6.114
Ramp Time	oic.r.light.ramptime	6.20
Refrigeration	oic.r.refrigeration	6.21
Selectable Levels	oic.r.selectablelevels	6.74
Sensor Properties	oic.r.sensor.props	6.115
Signal Strength	oic.r.signalstrength	6.51
Sleep Sensor	oic.r.sensor.sleep	6.58
Smoke Sensor	oic.r.sensor.smoke	6.59
Speech Synthesis	oic.r.speech.tts	6.52
Temperature	oic.r.temperature	6.22
Three Axis Sensor	oic.r.sensor.threeaxis	6.60
Time Period	oic.r.time.period	6.23
Time Stamp	oic.r.time.stamp	6.87
Touch Sensor	oic.r.sensor.touch	6.53
UV Radiation	oic.r.sensor.radiation.uv	6.54
User ID	oic.r.userid	6.116
Value Conditional	oic.r.value.conditional	6.75

Water Sensor	oic.r.sensor.water	6.55
Weight	oic.r.weight	6.117

1472

1473 6.2 Air Flow

1474 6.2.1 Introduction

1475 This resource describes the properties associated with air flow.

1476 The supporteddirections is the set of valid values for the direction property for a particular
1477 instance of this resource type.

1478 The direction is the directionality of the air flow if applicable, if supporteddirections is also
1479 present it must be a value from that set.

1480 Direction values are dependent on the capabilities of the unit.

1481 The speed is an integer representing the current speed level for the unit.

1482 The range (from oic.r.baseresource) is an array of the min,max values for the speed level. If not
1483 present the range defaults to [0,100].

1484 automode is the status of the automode feature; Off means automode is not enabled, On means
1485 automode is active and the speed is automatically controlled by the device.

1486 Retrieves the current air flow values.

1487

1488 6.2.2 Example URI

1489 /AirFlowResURI

1490 6.2.3 Resource type

1491 The resource type (rt) is defined as: ['oic.r.airflow'].

1492 6.2.4 OpenAPI 2.0 definition

```

1493 {
1494   "swagger": "2.0",
1495   "info": {
1496     "title": "Air Flow",
1497     "version": "v1.1.0-20160519",
1498     "license": {
1499       "name": "copyright 2016-2017 Open Connectivity Foundation, Inc. All rights reserved.",
1500       "x-description": "Redistribution and use in source and binary forms, with or without
1501 modification, are permitted provided that the following conditions are met:\n      1.
1502 Redistributions of source code must retain the above copyright notice, this list of conditions and
1503 the following disclaimer.\n      2. Redistributions in binary form must reproduce the above
1504 copyright notice, this list of conditions and the following disclaimer in the documentation and/or
1505 other materials provided with the distribution.\n\n      THIS SOFTWARE IS PROVIDED BY THE Open
1506 Connectivity Foundation, INC. \AS IS\ AND ANY EXPRESS OR IMPLIED WARRANTIES, INCLUDING, BUT NOT
1507 LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE OR
1508 WARRANTIES OF NON-INFRINGEMENT, ARE DISCLAIMED.\n\n      IN NO EVENT SHALL THE Open Connectivity
1509 Foundation, INC. OR CONTRIBUTORS BE LIABLE FOR ANY DIRECT, INDIRECT, INCIDENTAL, SPECIAL, EXEMPLARY,
1510 OR CONSEQUENTIAL DAMAGES (INCLUDING, BUT NOT LIMITED TO, PROCUREMENT OF SUBSTITUTE GOODS OR
1511 SERVICES; LOSS OF USE, DATA, OR PROFITS; OR BUSINESS INTERRUPTION)\n\n      HOWEVER CAUSED AND ON
1512 ANY THEORY OF LIABILITY, WHETHER IN CONTRACT, STRICT LIABILITY, OR TORT (INCLUDING NEGLIGENCE OR
1513 OTHERWISE) ARISING IN ANY WAY OUT OF THE USE OF THIS SOFTWARE, EVEN IF ADVISED OF THE POSSIBILITY OF
1514 SUCH DAMAGE.\n"
1515     }
1516   },
1517   "schemes": ["http"],
1518   "consumes": ["application/json"],
1519   "produces": ["application/json"],
1520   "paths": {
1521     "/AirFlowResURI" : {
1522       "get": {
1523         "description": "This resource describes the properties associated with air flow.\n\nThe
1524 supporteddirections is the set of valid values for the direction property for a particular instance
1525 of this resource type.\n\nThe direction is the directionality of the air flow if applicable, if
1526 supporteddirections is also present it must be a value from that set.\n\nDirection values are
1527 dependent on the capabilities of the unit.\n\nThe speed is an integer representing the current speed
1528 level for the unit.\n\nThe range (from oic.r.baseresource) is an array of the min,max values for the
1529 speed level. If not present the range defaults to [0,100].\n\nautomode is the status of the automode

```

```

1530 feature; Off means automode is not enabled, On means automode is active and the speed is
1531 automatically controlled by the device.\nRetrieves the current air flow values.\n",
1532     "parameters": [
1533         {"$ref": "#/parameters/interface"}
1534     ],
1535     "responses": {
1536         "200": {
1537             "description": "",
1538             "x-example":
1539                 {
1540                     "rt": ["oic.r.airflow"],
1541                     "id": "unique_example_id",
1542                     "supporteddirections": ["left","right","centre"],
1543                     "direction": "left",
1544                     "speed": 5,
1545                     "range": [1,7],
1546                     "automode": "Off"
1547                 }
1548             ,
1549             "schema": { "$ref": "#/definitions/AirFlow" }
1550         }
1551     },
1552 },
1553 "post": {
1554     "description": "Sets the current air flow values.\nOnly direction and speed may be set by an
1555 update operation.\n",
1556     "parameters": [
1557         {"$ref": "#/parameters/interface"},
1558         {
1559             "name": "body",
1560             "in": "body",
1561             "required": true,
1562             "schema": { "$ref": "#/definitions/AirFlow" },
1563             "x-example":
1564                 {
1565                     "direction": "right",
1566                     "speed": 3
1567                 }
1568         }
1569     ],
1570     "responses": {
1571         "200": {
1572             "description": "",
1573             "x-example":
1574                 {
1575                     "id": "unique_example_id",
1576                     "direction": "right",
1577                     "speed": 3
1578                 }
1579             ,
1580             "schema": { "$ref": "#/definitions/AirFlow" }
1581         },
1582         "403": {
1583             "description": "This response is generated by the OCF Server when the client sends:\n
1584 An update with an invalid property value for direction.\n An update with an out of range property
1585 value for speed.\nThe server may respond with the current resource representation.\n",
1586             "x-example":
1587                 {
1588                     "id": "unique_example_id",
1589                     "supporteddirections": ["left","right","centre"],
1590                     "direction": "right",
1591                     "speed": 3
1592                 }
1593             ,
1594             "schema": { "$ref": "#/definitions/AirFlow" }
1595         }
1596     }
1597 }
1598 }
1599 },
1600 "parameters": {
1601     "interface" : {

```

```

1602     "in" : "query",
1603     "name" : "if",
1604     "type" : "string",
1605     "enum" : ["oic.if.a", "oic.if.baseline"]
1606   }
1607 },
1608 "definitions": {
1609   "AirFlow" : {
1610     "properties": {
1611       "rt" :
1612         {
1613           "description": "Resource Type",
1614           "items": {
1615             "maxLength": 64,
1616             "type": "string"
1617           },
1618           "minItems": 1,
1619           "readOnly": true,
1620           "type": "array"
1621         },
1622       "direction" :
1623         {
1624           "description": "Directionality of the air flow",
1625           "type": "string"
1626         },
1627       "automode" :
1628         {
1629           "description": "Status of the automode feature, if on speed is set by the device",
1630           "enum": [
1631             "On",
1632             "Off"
1633           ],
1634           "type": "string"
1635         },
1636       "precision" :
1637         {
1638           "description": "Accuracy granularity of the exposed value",
1639           "readOnly": true,
1640           "type": "number"
1641         },
1642       "n" :
1643         {
1644           "description": "Friendly name of the resource",
1645           "maxLength": 64,
1646           "readOnly": true,
1647           "type": "string"
1648         },
1649       "range" :
1650         {
1651           "description": "The valid range for the value Property",
1652           "items": {
1653             "anyOf": [
1654               {
1655                 "type": "number"
1656               },
1657               {
1658                 "type": "integer"
1659               }
1660             ]
1661           },
1662           "maxItems": 2,
1663           "minItems": 2,
1664           "readOnly": true,
1665           "type": "array"
1666         },
1667       "step" :
1668         {
1669           "anyOf": [
1670             {
1671               "type": "integer"
1672             },
1673             {

```

```

1674         "type": "number"
1675     }
1676 ],
1677 "description": "Step value across the defined range",
1678 "readOnly": true
1679 },
1680 "supporteddirections" :
1681 {
1682     "description": "Array of possible direction settings for this instance of the Resource
1683 Type",
1684     "items": {
1685         "minItems": 1,
1686         "type": "string",
1687         "uniqueItems": true
1688     },
1689     "readOnly": true,
1690     "type": "array"
1691 },
1692 "speed" :
1693 {
1694     "description": "Current speed level",
1695     "type": "integer"
1696 },
1697 "id" :
1698 {
1699     "description": "Instance ID of this specific resource",
1700     "maxLength": 64,
1701     "readOnly": true,
1702     "type": "string"
1703 },
1704 "if" :
1705 {
1706     "description": "The interface set supported by this resource",
1707     "items": {
1708         "enum": [
1709             "oic.if.baseline",
1710             "oic.if.ll",
1711             "oic.if.b",
1712             "oic.if.lb",
1713             "oic.if.rw",
1714             "oic.if.r",
1715             "oic.if.a",
1716             "oic.if.s"
1717         ],
1718         "type": "string"
1719     },
1720     "minItems": 1,
1721     "readOnly": true,
1722     "type": "array"
1723 }
1724 },
1725 "type" : "object"
1726 , "required": ["speed"]
1727 }
1728 }
1729 }
1730

```

1731 **6.2.5 Property definition**

1732 Table 7 defines the Properties that are part of the ['oic.r.airflow'] Resource Type

1733 **Table 7 – The Property definitions of the Resource with type 'rt' = ['oic.r.airflow']**

Property name	Value type	Mandatory	Access mode	Description
supporteddirections	array: see schema	No	Read Only	Array of possible direction settings for this instance of the Resource Type

rt	array: see schema	No	Read Only	Resource Type
automode	string	No	Read Write	Status of the automode feature, if on speed is set by the device
n	string	No	Read Only	Friendly name of the resource
id	string	No	Read Only	Instance ID of this specific resource
step	multiple types: see schema	No	Read Only	Step value across the defined range
if	array: see schema	No	Read Only	The interface set supported by this resource
range	array: see schema	No	Read Only	The valid range for the value Property
speed	integer	Yes	Read Write	Current speed level
precision	number	No	Read Only	Accuracy granularity of the exposed value
direction	string	No	Read Write	Directionality of the air flow

1734 **6.2.6 CRUDN behaviour**

1735 Table 8 defines the CRUDN operations that are supported on the ['oic.r.airflow'] Resource Type

1736 **Table 8 – The CRUDN operations of the Resource with type 'rt' = ['oic.r.airflow']**

Create	Read	Update	Delete	Notify
	get	post		observe

1737 **6.3 Air Flow Control**

1738 **6.3.1 Introduction**

1739 This resource describes the attributes associated with control of air flow,
1740 for example as modelled by a Thermostat (fan), Room A/C or other device.

1741 The resource is a composite resource being made up as a collection of:

1742 AirFlow Resource

1743 BinarySwitch Resource

1744 Retrieves the current air flow control values.

1745

1746 **6.3.2 Example URI**

1747 /AirFlowControlResURI

1748 **6.3.3 Resource type**

1749 The resource type (rt) is defined as: ['oic.r.airflowcontrol'].

1750 **6.3.4 OpenAPI 2.0 definition**

```
1751 {
1752   "swagger": "2.0",
1753   "info": {
1754     "title": "Air Flow Control",
```



```

1755     "version": "v1.1.0-20160519",
1756     "license": {
1757         "name": "copyright 2016-2017 Open Connectivity Foundation, Inc. All rights reserved.",
1758         "x-description": "Redistribution and use in source and binary forms, with or without
1759 modification, are permitted provided that the following conditions are met:\n      1.
1760 Redistributions of source code must retain the above copyright notice, this list of conditions and
1761 the following disclaimer.\n      2. Redistributions in binary form must reproduce the above
1762 copyright notice, this list of conditions and the following disclaimer in the documentation and/or
1763 other materials provided with the distribution.\n\n      THIS SOFTWARE IS PROVIDED BY THE Open
1764 Connectivity Foundation, INC. \"AS IS\" AND ANY EXPRESS OR IMPLIED WARRANTIES, INCLUDING, BUT NOT
1765 LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE OR
1766 WARRANTIES OF NON-INFRINGEMENT, ARE DISCLAIMED.\n      IN NO EVENT SHALL THE Open Connectivity
1767 Foundation, INC. OR CONTRIBUTORS BE LIABLE FOR ANY DIRECT, INDIRECT, INCIDENTAL, SPECIAL, EXEMPLARY,
1768 OR CONSEQUENTIAL DAMAGES (INCLUDING, BUT NOT LIMITED TO, PROCUREMENT OF SUBSTITUTE GOODS OR
1769 SERVICES; LOSS OF USE, DATA, OR PROFITS; OR BUSINESS INTERRUPTION)\n      HOWEVER CAUSED AND ON
1770 ANY THEORY OF LIABILITY, WHETHER IN CONTRACT, STRICT LIABILITY, OR TORT (INCLUDING NEGLIGENCE OR
1771 OTHERWISE) ARISING IN ANY WAY OUT OF THE USE OF THIS SOFTWARE, EVEN IF ADVISED OF THE POSSIBILITY OF
1772 SUCH DAMAGE.\n"
1773     },
1774 },
1775 "schemes": ["http"],
1776 "consumes": ["application/json"],
1777 "produces": ["application/json"],
1778 "paths": {
1779     "/AirFlowControlResURI": {
1780         "get": {
1781             "description": "This resource describes the attributes associated with control of air
1782 flow,\nfor example as modelled by a Thermostat (fan), Room A/C or other device.\nThe resource is a
1783 composite resource being made up as a collection of:\n AirFlow Resource\n BinarySwitch
1784 Resource\nRetrieves the current air flow control values.\n",
1785             "parameters": [
1786                 { "$ref": "#/parameters/interface-all" }
1787             ],
1788             "responses": {
1789                 "200": {
1790                     "description": "",
1791                     "x-example":
1792                     {
1793                         "rt": ["oic.r.airflowcontrol"],
1794                         "id": "unique_example_id",
1795                         "airFlowControl": [
1796                             {
1797                                 "href": "/BinarySwitchResURI",
1798                                 "rel": "contains",
1799                                 "rt": ["oic.r.switch.binary"],
1800                                 "if": ["oic.if.a"],
1801                                 "eps": [{"ep": "coaps://[fe80::b1d6]:1122"}]
1802                             },
1803                             {
1804                                 "href": "/AirFlowResURI",
1805                                 "rel": "contains",
1806                                 "rt": ["oic.r.airflow"],
1807                                 "if": ["oic.if.a"],
1808                                 "eps": [{"ep": "coaps://[fe80::b1d6]:1122"}]
1809                             }
1810                         ]
1811                     }
1812                 },
1813                 "schema": { "$ref": "#/definitions/AirFlowControl" }
1814             }
1815         }
1816     },
1817     "post": {
1818         "description": "Sets the current air flow control values using the batch interface\n",
1819         "parameters": [
1820             { "$ref": "#/parameters/interface-b" },
1821             {
1822                 "name": "body",
1823                 "in": "body",
1824                 "required": true,
1825                 "schema": { "$ref": "#/definitions/AirFlowControlBatch" },
1826                 "x-example":

```

```

1827     {
1828         "id": "unique_example_id",
1829         "airFlowControl": [
1830             {
1831                 "id": "unique_example_id",
1832                 "value": true
1833             },
1834             {
1835                 "id": "unique_example_id",
1836                 "direction": "right",
1837                 "speed": 3
1838             }
1839         ]
1840     }
1841 },
1842 "responses": {
1843     "200": {
1844         "description": "",
1845         "x-example":
1846         {
1847             "id": "unique_example_id",
1848             "airFlowControl": [
1849                 {
1850                     "id": "unique_example_id",
1851                     "value": true
1852                 },
1853                 {
1854                     "id": "unique_example_id",
1855                     "direction": "right",
1856                     "speed": 3
1857                 }
1858             ]
1859         }
1860     },
1861     "403": {
1862         "description": { "$ref": "#/definitions/AirFlowControlBatch" }
1863     },
1864     "403": {
1865         "description": "This response is generated by the OIC Server when the client sends:\n
1866 An update with an invalid property value for direction.\n An update with an out of range property
1867 value for speed.\nThe server responds with the current resource representation.\n",
1868         "x-example":
1869         {
1870             "id": "unique_example_id",
1871             "airFlowControl": [
1872                 {
1873                     "id": "unique_example_id",
1874                     "value": true
1875                 },
1876                 {
1877                     "id": "unique_example_id",
1878                     "direction": "right",
1879                     "speed": 3
1880                 }
1881             ]
1882         }
1883     },
1884     "403": {
1885         "description": { "$ref": "#/definitions/AirFlowControlBatch" }
1886     }
1887 },
1888 },
1889 },
1890 "parameters": {
1891     "interface-b" : {
1892         "in" : "query",
1893         "name" : "if",
1894         "type" : "string",
1895         "enum" : ["oic.if.b"]
1896     },
1897     "interface-all" : {
1898         "in" : "query",

```

```

1899     "name" : "if",
1900     "type" : "string",
1901     "enum" : ["oic.if.ll", "oic.if.b", "oic.if.baseline"]
1902   }
1903 },
1904 "definitions": {
1905   "AirFlowControl" : {
1906     "properties": {
1907       "rt" :
1908         {
1909           "description": "Resource Type",
1910           "items": {
1911             "maxLength": 64,
1912             "type": "string"
1913           },
1914           "minItems": 1,
1915           "readOnly": true,
1916           "type": "array"
1917         },
1918
1919     "airFlowControl" :
1920       {
1921         "items": {
1922           "properties": {
1923             "anchor": {
1924               "description": "This is used to override the context URI e.g. override the URI of
1925 the containing collection",
1926               "format": "uri",
1927               "maxLength": 256,
1928               "type": "string"
1929             },
1930             "di": {
1931               "description": "An identifier formatted according to IETF RFC 4122.",
1932               "pattern": "^[a-fA-F0-9]{8}-[a-fA-F0-9]{4}-[a-fA-F0-9]{4}-[a-fA-F0-9]{4}-[a-fA-F0-
1933 9]{12}$",
1934               "type": "string"
1935             },
1936             "eps": {
1937               "description": "the Endpoint information of the target Resource",
1938               "items": {
1939                 "properties": {
1940                   "ep": {
1941                     "description": "URI with Transport Protocol Suites + Endpoint Locator as
1942 specified in 10.2.1",
1943                     "format": "uri",
1944                     "type": "string"
1945                   },
1946                   "pri": {
1947                     "description": "The priority among multiple Endpoints as specified in 10.2.3",
1948                     "minimum": 1,
1949                     "type": "integer"
1950                   }
1951                 }
1952               },
1953               "type": "object"
1954             },
1955             "type": "array"
1956           },
1957           "href": {
1958             "description": "This is the target URI, it can be specified as a Relative Reference
1959 or fully-qualified URI. Relative Reference should be used along with the di parameter to make it
1960 unique.",
1961             "format": "uri",
1962             "maxLength": 256,
1963             "type": "string"
1964           },
1965           "if": {
1966             "description": "The interface set supported by this resource",
1967             "items": {
1968               "enum": [
1969                 "oic.if.baseline",
1970                 "oic.if.ll",
1971                 "oic.if.b",

```

```

1971         "oic.if.rw",
1972         "oic.if.x",
1973         "oic.if.a",
1974         "oic.if.s"
1975     ],
1976     "type": "string"
1977 },
1978     "minItems": 1,
1979     "type": "array"
1980 },
1981     "ins": {
1982         "description": "The instance identifier for this web link in an array of web links -
1983 used in collections",
1984         "oneOf": [
1985             {
1986                 "description": "An ordinal number that is not repeated - must be unique in the
1987 collection context",
1988                 "type": "integer"
1989             },
1990             {
1991                 "description": "Any unique string including a URI",
1992                 "format": "uri",
1993                 "maxLength": 256,
1994                 "type": "string"
1995             },
1996             {
1997                 "description": "An identifier formatted according to IETF RFC 4122.",
1998                 "pattern": "^[a-fA-F0-9]{8}-[a-fA-F0-9]{4}-[a-fA-F0-9]{4}-[a-fA-F0-9]{4}-[a-fA-
1999 F0-9]{12}$",
2000                 "type": "string"
2001             }
2002         ]
2003     },
2004     "p": {
2005         "description": "Specifies the framework policies on the Resource referenced by the
2006 target URI",
2007         "properties": {
2008             "bm": {
2009                 "description": "Specifies the framework policies on the Resource referenced by
2010 the target URI for e.g. observable and discoverable",
2011                 "type": "integer"
2012             }
2013         },
2014         "required": [
2015             "bm"
2016         ],
2017         "type": "object"
2018     },
2019     "rel": {
2020         "description": "The relation of the target URI referenced by the link to the context
2021 URI",
2022         "oneOf": [
2023             {
2024                 "default": [
2025                     "hosts"
2026                 ],
2027                 "items": {
2028                     "maxLength": 64,
2029                     "type": "string"
2030                 },
2031                 "minItems": 1,
2032                 "type": "array"
2033             },
2034             {
2035                 "default": "hosts",
2036                 "maxLength": 64,
2037                 "type": "string"
2038             }
2039         ]
2040     },
2041     "rt": {
2042         "description": "Resource Type",

```

```

2043         "items": {
2044             "maxLength": 64,
2045             "type": "string"
2046         },
2047         "minItems": 1,
2048         "type": "array"
2049     },
2050     "title": {
2051         "description": "A title for the link relation. Can be used by the UI to provide a
context",
2052         "maxLength": 64,
2053         "type": "string"
2054     },
2055     "type": {
2056         "default": "application/cbor",
2057         "description": "A hint at the representation of the resource referenced by the
target URI. This represents the media types that are used for both accepting and emitting",
2058         "items": {
2059             "maxLength": 64,
2060             "type": "string"
2061         },
2062         "minItems": 1,
2063         "type": "array"
2064     }
2065 },
2066 ],
2067 "required": [
2068     "href",
2069     "rt",
2070     "if"
2071 ],
2072 "type": "object"
2073 },
2074 "maxItems": 2,
2075 "minItems": 2,
2076 "type": "array"
2077 },
2078 "precision" :
2079 {
2080     "description": "Accuracy granularity of the exposed value",
2081     "readOnly": true,
2082     "type": "number"
2083 },
2084 "value" :
2085 {
2086     "anyOf": [
2087         {
2088             "type": "array"
2089         },
2090         {
2091             "type": "string"
2092         },
2093         {
2094             "type": "boolean"
2095         },
2096         {
2097             "type": "integer"
2098         },
2099         {
2100             "type": "number"
2101         },
2102         {
2103             "type": "object"
2104         }
2105     ],
2106     "description": "The value sensed or actuated by this Resource"
2107 },
2108 "n" :
2109 {
2110     "description": "Friendly name of the resource",
2111 }
2112 }
2113 }
2114 }

```

```

2115         "maxLength": 64,
2116         "readOnly": true,
2117         "type": "string"
2118     },
2119     "range" :
2120     {
2121         "description": "The valid range for the value Property",
2122         "items": {
2123             "anyOf": [
2124                 {
2125                     "type": "number"
2126                 },
2127                 {
2128                     "type": "integer"
2129                 }
2130             ]
2131         },
2132         "maxItems": 2,
2133         "minItems": 2,
2134         "readOnly": true,
2135         "type": "array"
2136     },
2137     "step" :
2138     {
2139         "anyOf": [
2140             {
2141                 "type": "integer"
2142             },
2143             {
2144                 "type": "number"
2145             }
2146         ],
2147         "description": "Step value across the defined range",
2148         "readOnly": true
2149     },
2150     "id" :
2151     {
2152         "description": "Instance ID of this specific resource",
2153         "maxLength": 64,
2154         "readOnly": true,
2155         "type": "string"
2156     },
2157     "if" :
2158     {
2159         "description": "The interface set supported by this resource",
2160         "items": {
2161             "enum": [
2162                 "oic.if.baseline",
2163                 "oic.if.ll",
2164                 "oic.if.b",
2165                 "oic.if.lb",
2166                 "oic.if.rw",
2167                 "oic.if.r",
2168                 "oic.if.a",
2169                 "oic.if.s"
2170             ],
2171             "type": "string"
2172         },
2173         "minItems": 1,
2174         "readOnly": true,
2175         "type": "array"
2176     }
2177     },
2178     "type" : "object"
2179     , "required": ["airFlowControl"]
2180 }
2181 }
2182 }
2183 }
2184 }
2185 }
2186 }

```

```

2187 "AirFlowControlBatch" : {
2188   "properties": {
2189     "rt" :
2190       {
2191         "description": "Resource Type",
2192         "items": {
2193           "maxLength": 64,
2194           "type": "string"
2195         },
2196         "minItems": 1,
2197         "readOnly": true,
2198         "type": "array"
2199       },
2200
2201   "airFlowControl" :
2202     {
2203       "items": {
2204         "anyOf": [
2205           {
2206             "properties": {
2207               "value": {
2208                 "description": "Status of the switch",
2209                 "type": "boolean"
2210               }
2211             },
2212             "type": "object"
2213           },
2214           {
2215             "properties": {
2216               "automode": {
2217                 "description": "Status of the automode feature, if on speed is set by the
2218 device",
2219                 "enum": [
2220                   "On",
2221                   "Off"
2222                 ],
2223                 "type": "string"
2224               },
2225               "direction": {
2226                 "description": "Directionality of the air flow",
2227                 "type": "string"
2228               },
2229               "speed": {
2230                 "description": "Current speed level",
2231                 "type": "integer"
2232               },
2233               "supporteddirections": {
2234                 "description": "Array of possible direction settings for this instance of the
2235 Resource Type",
2236                 "items": {
2237                   "minItems": 1,
2238                   "type": "string",
2239                   "uniqueItems": true
2240                 },
2241                 "readOnly": true,
2242                 "type": "array"
2243               }
2244             },
2245             "type": "object"
2246           }
2247         ]
2248       },
2249       "type": "array"
2250     },
2251
2252   "precision" :
2253     {
2254       "description": "Accuracy granularity of the exposed value",
2255       "readOnly": true,
2256       "type": "number"
2257     },
2258

```

```

2259     "value" :
2260         {
2261             "anyOf": [
2262                 {
2263                     "type": "array"
2264                 },
2265                 {
2266                     "type": "string"
2267                 },
2268                 {
2269                     "type": "boolean"
2270                 },
2271                 {
2272                     "type": "integer"
2273                 },
2274                 {
2275                     "type": "number"
2276                 },
2277                 {
2278                     "type": "object"
2279                 }
2280             ],
2281             "description": "The value sensed or actuated by this Resource"
2282         },
2283     "n" :
2284         {
2285             "description": "Friendly name of the resource",
2286             "maxLength": 64,
2287             "readOnly": true,
2288             "type": "string"
2289         },
2290     "range" :
2291         {
2292             "description": "The valid range for the value Property",
2293             "items": {
2294                 "anyOf": [
2295                     {
2296                         "type": "number"
2297                     },
2298                     {
2299                         "type": "integer"
2300                     }
2301                 ]
2302             }
2303         },
2304     "maxItems": 2,
2305     "minItems": 2,
2306     "readOnly": true,
2307     "type": "array"
2308 },
2309 "step" :
2310     {
2311         "anyOf": [
2312             {
2313                 "type": "integer"
2314             },
2315             {
2316                 "type": "number"
2317             }
2318         ],
2319         "description": "Step value across the defined range",
2320         "readOnly": true
2321     },
2322 "id" :
2323     {
2324         "description": "Instance ID of this specific resource",
2325         "maxLength": 64,
2326         "readOnly": true,
2327         "type": "string"
2328     }
2329
2330

```



```

2331     },
2332
2333     "if" :
2334     {
2335         "description": "The interface set supported by this resource",
2336         "items": {
2337             "enum": [
2338                 "oic.if.baseline",
2339                 "oic.if.ll",
2340                 "oic.if.b",
2341                 "oic.if.lb",
2342                 "oic.if.rw",
2343                 "oic.if.r",
2344                 "oic.if.a",
2345                 "oic.if.s"
2346             ],
2347             "type": "string"
2348         },
2349         "minItems": 1,
2350         "readOnly": true,
2351         "type": "array"
2352     }
2353
2354     },
2355     "type" : "object"
2356     , "required": ["airFlowControl"]
2357 }
2358 }
2359 }
2360

```

2361 6.3.5 Property definition

2362 Table 9 defines the Properties that are part of the ['oic.r.airflowcontrol'] Resource Type

2363 **Table 9 – The Property definitions of the Resource with type 'rt' = ['oic.r.airflowcontrol']**

Property name	Value type	Mandatory	Access mode	Description
range	array: see schema	No	Read Only	The valid range for the value Property
id	string	No	Read Only	Instance ID of this specific resource
precision	number	No	Read Only	Accuracy granularity of the exposed value
rt	array: see schema	No	Read Only	Resource Type
step	multiple types: see schema	No	Read Only	Step value across the defined range
value	multiple types: see schema	No	Read Write	The value sensed or actuated by this Resource
airFlowControl	array: see schema	Yes	Read Write	
if	array: see schema	No	Read Only	The interface set supported by this resource
n	string	No	Read Only	Friendly name of the resource

range	array: see schema	No	Read Only	The valid range for the value Property
id	string	No	Read Only	Instance ID of this specific resource
precision	number	No	Read Only	Accuracy granularity of the exposed value
rt	array: see schema	No	Read Only	Resource Type
step	multiple types: see schema	No	Read Only	Step value across the defined range
value	multiple types: see schema	No	Read Write	The value sensed or actuated by this Resource
airFlowControl	array: see schema	Yes	Read Write	
if	array: see schema	No	Read Only	The interface set supported by this resource
n	string	No	Read Only	Friendly name of the resource

2364 **6.3.6 CRUDN behaviour**

2365 Table 10 defines the CRUDN operations that are supported on the ['oic.r.airflowcontrol'] Resource
2366 Type

2367 **Table 10 – The CRUDN operations of the Resource with type 'rt' = ['oic.r.airflowcontrol']**

Create	Read	Update	Delete	Notify
	get	post		observe

2368 **6.4 Battery**

2369 **6.4.1 Introduction**

2370 This resource describes the attributes associated with a battery. The charge is an integer
2371 showing the current battery charge level as a percentage in the range 0 (fully discharged) to 100
2372 (fully charged). The capacity represents the total capacity of battery in Amp Hours (Ah). The
2373 charging status and discharging status are represented by boolean values set to "True" indicating
2374 enabled and "False" indicating disabled. Low battery status is represented by a boolean value set
2375 to "True" indicating low charge level and "False" indicating otherwise, based upon the battery
2376 threshold represented as a percentage.

2377 Retrieves the state of the battery.

2378

2379 **6.4.2 Example URI**

2380 /BatteryResURI

2381 **6.4.3 Resource type**

2382 The resource type (rt) is defined as: ['oic.r.energy.battery'].

2383 **6.4.4 OpenAPI 2.0 definition**

2384 {
2385 "swagger": "2.0",
2386 "info": {
2387 "title": "Battery",

```

2388     "version": "v1.2.0-20170814",
2389     "license": {
2390         "name": "copyright 2016-2017 Open Connectivity Foundation, Inc. All rights reserved.",
2391         "x-description": "Redistribution and use in source and binary forms, with or without
2392 modification, are permitted provided that the following conditions are met:\n      1.
2393 Redistributions of source code must retain the above copyright notice, this list of conditions and
2394 the following disclaimer.\n      2. Redistributions in binary form must reproduce the above
2395 copyright notice, this list of conditions and the following disclaimer in the documentation and/or
2396 other materials provided with the distribution.\n\n      THIS SOFTWARE IS PROVIDED BY THE Open
2397 Connectivity Foundation, INC. \\"AS IS\\" AND ANY EXPRESS OR IMPLIED WARRANTIES, INCLUDING, BUT NOT
2398 LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE OR
2399 WARRANTIES OF NON-INFRINGEMENT, ARE DISCLAIMED.\n      IN NO EVENT SHALL THE Open Connectivity
2400 Foundation, INC. OR CONTRIBUTORS BE LIABLE FOR ANY DIRECT, INDIRECT, INCIDENTAL, SPECIAL, EXEMPLARY,
2401 OR CONSEQUENTIAL DAMAGES (INCLUDING, BUT NOT LIMITED TO, PROCUREMENT OF SUBSTITUTE GOODS OR
2402 SERVICES; LOSS OF USE, DATA, OR PROFITS; OR BUSINESS INTERRUPTION)\n      HOWEVER CAUSED AND ON
2403 ANY THEORY OF LIABILITY, WHETHER IN CONTRACT, STRICT LIABILITY, OR TORT (INCLUDING NEGLIGENCE OR
2404 OTHERWISE) ARISING IN ANY WAY OUT OF THE USE OF THIS SOFTWARE, EVEN IF ADVISED OF THE POSSIBILITY OF
2405 SUCH DAMAGE.\n"
2406     }
2407 },
2408 "schemes": ["http"],
2409 "consumes": ["application/json"],
2410 "produces": ["application/json"],
2411 "paths": {
2412     "/BatteryResURI" : {
2413         "get": {
2414             "description": "This resource describes the attributes associated with a battery. The charge
2415 is an integer showing the current battery charge level as a percentage in the range 0 (fully
2416 discharged) to 100 (fully charged). The capacity represents the total capacity of battery in Amp
2417 Hours (Ah). The charging status and discharging status are represented by boolean values set to
2418 \\"True\\" indicating enabled and \\"False\\" indicating disabled. Low battery status is represented by
2419 a boolean value set to \\"True\\" indicating low charge level and \\"False\\" indicating otherwise,
2420 based upon the battery threshold represented as a percentage.\nRetrieves the state of the
2421 battery.\n",
2422             "parameters": [
2423                 { "$ref": "#/parameters/interface" }
2424             ],
2425             "responses": {
2426                 "200": {
2427                     "description": "",
2428                     "x-example":
2429                     {
2430                         "rt": ["oic.r.energy.battery"],
2431                         "id": "unique_example_id",
2432                         "charge": 50,
2433                         "capacity": 3000,
2434                         "charging": true,
2435                         "discharging": false,
2436                         "lowbattery": false,
2437                         "batterythreshold": 20
2438                     }
2439                 },
2440                 "schema": { "$ref": "#/definitions/Battery" }
2441             }
2442         }
2443     },
2444     "post": {
2445         "description": "Sets current battery values\n",
2446         "parameters": [
2447             { "$ref": "#/parameters/interface" },
2448             {
2449                 "name": "body",
2450                 "in": "body",
2451                 "required": true,
2452                 "schema": { "$ref": "#/definitions/BatteryUpdate" },
2453                 "x-example":
2454                 {
2455                     "batterythreshold": 20
2456                 }
2457             }
2458         ],
2459         "responses": {

```

```

2460         "200": {
2461             "description": "",
2462             "x-example":
2463                 {
2464                     "id": "unique_example_id",
2465                     "batterythreshold": 20
2466                 },
2467             ,
2468             "schema": { "$ref": "#/definitions/BatteryUpdate" }
2469         }
2470     }
2471 }
2472 },
2473 },
2474 "parameters": {
2475     "interface": {
2476         "in": "query",
2477         "name": "if",
2478         "type": "string",
2479         "enum": ["oic.if.rw", "oic.if.baseline"]
2480     }
2481 },
2482 "definitions": {
2483     "Battery": {
2484         "properties": {
2485             "rt":
2486                 {
2487                     "description": "Resource Type",
2488                     "items": {
2489                         "maxLength": 64,
2490                         "type": "string"
2491                     },
2492                     "minItems": 1,
2493                     "readOnly": true,
2494                     "type": "array"
2495                 },
2496             "discharging":
2497                 {
2498                     "description": "The status of discharging.",
2499                     "readOnly": true,
2500                     "type": "boolean"
2501                 },
2502             "lowbattery":
2503                 {
2504                     "description": "The status of the low battery warning based upon the defined threshold.",
2505                     "readOnly": true,
2506                     "type": "boolean"
2507                 },
2508             "capacity":
2509                 {
2510                     "description": "The total capacity in Amp-hours (Ah).",
2511                     "readOnly": true,
2512                     "type": "number"
2513                 },
2514             "precision":
2515                 {
2516                     "description": "Accuracy granularity of the exposed value",
2517                     "readOnly": true,
2518                     "type": "number"
2519                 },
2520             "id":
2521                 {
2522                     "description": "Instance ID of this specific resource",
2523                     "maxLength": 64,
2524                     "readOnly": true,
2525                     "type": "string"
2526                 },
2527             "batterythreshold":
2528                 {
2529                     "description": "The threshold percentage for the low battery warning.",
2530                     "maximum": 100,
2531                     "minimum": 0,

```

```

2532     "type": "integer"
2533   },
2534   "charge" :
2535     {
2536       "description": "The current charge percentage.",
2537       "maximum": 100,
2538       "minimum": 0,
2539       "readOnly": true,
2540       "type": "integer"
2541     },
2542   "step" :
2543     {
2544       "anyOf": [
2545         {
2546           "type": "integer"
2547         },
2548         {
2549           "type": "number"
2550         }
2551       ],
2552       "description": "Step value across the defined range",
2553       "readOnly": true
2554     },
2555   "range" :
2556     {
2557       "description": "The valid range for the value Property",
2558       "items": {
2559         "anyOf": [
2560           {
2561             "type": "number"
2562           },
2563           {
2564             "type": "integer"
2565           }
2566         ]
2567       },
2568       "maxItems": 2,
2569       "minItems": 2,
2570       "readOnly": true,
2571       "type": "array"
2572     },
2573   "n" :
2574     {
2575       "description": "Friendly name of the resource",
2576       "maxLength": 64,
2577       "readOnly": true,
2578       "type": "string"
2579     },
2580   "charging" :
2581     {
2582       "description": "The status of charging.",
2583       "readOnly": true,
2584       "type": "boolean"
2585     },
2586   "if" :
2587     {
2588       "description": "The interface set supported by this resource",
2589       "items": {
2590         "enum": [
2591           "oic.if.baseline",
2592           "oic.if.ll",
2593           "oic.if.b",
2594           "oic.if.lb",
2595           "oic.if.rw",
2596           "oic.if.r",
2597           "oic.if.a",
2598           "oic.if.s"
2599         ],
2600         "type": "string"
2601       },
2602       "minItems": 1,
2603       "readOnly": true,

```

```

2604         "type": "array"
2605     }
2606     }
2607     }, "type" : "object"
2608     , "required": [ "charge" ]
2609 }
2610 /
2611 "BatteryUpdate" : {
2612     "properties": {
2613         "batterythreshold" : {
2614             "description": "The threshold percentage for the low battery warning.",
2615             "maximum": 100,
2616             "minimum": 0,
2617             "type": "integer"
2618         }
2619     }
2620     }, "type" : "object"
2621     , "required": [ "batterythreshold" ]
2622 }
2623 }
2624 }
2625 }
2626 }
2627

```

6.4.5 Property definition

Table 11 defines the Properties that are part of the ['oic.r.energy.battery'] Resource Type

Table 11 – The Property definitions of the Resource with type 'rt' = ['oic.r.energy.battery']

Property name	Value type	Mandatory	Access mode	Description
batterythreshold	integer	Yes	Read Write	The threshold percentage for the low battery warning.
precision	number	No	Read Only	Accuracy granularity of the exposed value
batterythreshold	integer	No	Read Write	The threshold percentage for the low battery warning.
lowbattery	boolean	No	Read Only	The status of the low battery warning based upon the defined threshold.
step	multiple types: see schema	No	Read Only	Step value across the defined range
range	array: see schema	No	Read Only	The valid range for the value Property
if	array: see schema	No	Read Only	The interface set supported by this resource
n	string	No	Read Only	Friendly name of the resource
discharging	boolean	No	Read Only	The status of discharging.

id	string	No	Read Only	Instance ID of this specific resource
capacity	number	No	Read Only	The total capacity in Amp-hours (Ah).
charge	integer	Yes	Read Only	The current charge percentage.
charging	boolean	No	Read Only	The status of charging.
rt	array: see schema	No	Read Only	Resource Type

2631 **6.4.6 CRUDN behaviour**

2632 Table 12 defines the CRUDN operations that are supported on the ['oic.r.energy.battery'] Resource
2633 Type

2634 **Table 12 – The CRUDN operations of the Resource with type 'rt' = ['oic.r.energy.battery']**

Create	Read	Update	Delete	Notify
	get	post		observe

2635 **6.5 Binary Switch**

2636 **6.5.1 Introduction**

2637 This resource describes a binary switch (on/off).

2638 The value is a boolean.

2639 A value of 'true' means that the switch is on.

2640 A value of 'false' means that the switch is off.

2641

2642 **6.5.2 Example URI**

2643 /BinarySwitchResURI

2644 **6.5.3 Resource type**

2645 The resource type (rt) is defined as: ['oic.r.switch.binary'].

2646 **6.5.4 OpenAPI 2.0 definition**

```

2647 {
2648   "swagger": "2.0",
2649   "info": {
2650     "title": "Binary Switch",
2651     "version": "v1.1.0-20160519",
2652     "license": {
2653       "name": "copyright 2016-2017 Open Connectivity Foundation, Inc. All rights reserved.",
2654       "x-description": "Redistribution and use in source and binary forms, with or without
2655 modification, are permitted provided that the following conditions are met:\n      1.
2656 Redistributions of source code must retain the above copyright notice, this list of conditions and
2657 the following disclaimer.\n      2. Redistributions in binary form must reproduce the above
2658 copyright notice, this list of conditions and the following disclaimer in the documentation and/or
2659 other materials provided with the distribution.\n\n      THIS SOFTWARE IS PROVIDED BY THE Open
2660 Connectivity Foundation, INC. \ "AS IS\ " AND ANY EXPRESS OR IMPLIED WARRANTIES, INCLUDING, BUT NOT
2661 LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE OR
2662 WARRANTIES OF NON-INFRINGEMENT, ARE DISCLAIMED.\n\n      IN NO EVENT SHALL THE Open Connectivity
2663 Foundation, INC. OR CONTRIBUTORS BE LIABLE FOR ANY DIRECT, INDIRECT, INCIDENTAL, SPECIAL, EXEMPLARY,
2664 OR CONSEQUENTIAL DAMAGES (INCLUDING, BUT NOT LIMITED TO, PROCUREMENT OF SUBSTITUTE GOODS OR
2665 SERVICES; LOSS OF USE, DATA, OR PROFITS; OR BUSINESS INTERRUPTION)\n\n      HOWEVER CAUSED AND ON
2666 ANY THEORY OF LIABILITY, WHETHER IN CONTRACT, STRICT LIABILITY, OR TORT (INCLUDING NEGLIGENCE OR
2667 OTHERWISE) ARISING IN ANY WAY OUT OF THE USE OF THIS SOFTWARE, EVEN IF ADVISED OF THE POSSIBILITY OF
2668 SUCH DAMAGE.\n"
2669     }
2670   },
2671   "schemes": ["http"],

```

```

2672     "consumes": ["application/json"],
2673     "produces": ["application/json"],
2674     "paths": {
2675         "/BinarySwitchResURI" : {
2676             "get": {
2677                 "description": "This resource describes a binary switch (on/off).\n\nThe value is a
2678 boolean.\n\nA value of 'true' means that the switch is on.\n\nA value of 'false' means that the switch
2679 is off.\n\n",
2680                 "parameters": [
2681                     { "$ref": "#/parameters/interface" }
2682                 ],
2683                 "responses": {
2684                     "200": {
2685                         "description": "",
2686                         "x-example":
2687                             {
2688                                 "rt": ["oic.r.switch.binary"],
2689                                 "id": "unique_example_id",
2690                                 "value": false
2691                             }
2692                     },
2693                     "schema": { "$ref": "#/definitions/BinarySwitch" }
2694                 }
2695             },
2696             "post": {
2697                 "description": "",
2698                 "parameters": [
2699                     { "$ref": "#/parameters/interface" },
2700                     {
2701                         "name": "body",
2702                         "in": "body",
2703                         "required": true,
2704                         "schema": { "$ref": "#/definitions/BinarySwitch" },
2705                         "x-example":
2706                             {
2707                                 "value": true
2708                             }
2709                     }
2710                 ],
2711                 "responses": {
2712                     "200": {
2713                         "description": "",
2714                         "x-example":
2715                             {
2716                                 "id": "unique_example_id",
2717                                 "value": true
2718                             }
2719                     },
2720                     "schema": { "$ref": "#/definitions/BinarySwitch" }
2721                 }
2722             }
2723         }
2724     }
2725 },
2726 "parameters": {
2727     "interface" : {
2728         "in" : "query",
2729         "name" : "if",
2730         "type" : "string",
2731         "enum" : ["oic.if.a", "oic.if.baseline"]
2732     }
2733 },
2734 "definitions": {
2735     "BinarySwitch" : {
2736         "properties": {
2737             "rt" :
2738                 {
2739                     "description": "Resource Type",
2740                     "items": {
2741                         "maxLength": 64,
2742                         "type": "string"
2743                     }

```



```

2744     },
2745     "minItems": 1,
2746     "readOnly": true,
2747     "type": "array"
2748   },
2749   "value" :
2750   {
2751     "description": "Status of the switch",
2752     "type": "boolean"
2753   },
2754   "n" :
2755   {
2756     "description": "Friendly name of the resource",
2757     "maxLength": 64,
2758     "readOnly": true,
2759     "type": "string"
2760   },
2761   "id" :
2762   {
2763     "description": "Instance ID of this specific resource",
2764     "maxLength": 64,
2765     "readOnly": true,
2766     "type": "string"
2767   },
2768   "if" :
2769   {
2770     "description": "The interface set supported by this resource",
2771     "items": {
2772       "enum": [
2773         "oic.if.baseline",
2774         "oic.if.ll",
2775         "oic.if.b",
2776         "oic.if.lb",
2777         "oic.if.rw",
2778         "oic.if.r",
2779         "oic.if.a",
2780         "oic.if.s"
2781       ],
2782       "type": "string"
2783     },
2784     "minItems": 1,
2785     "readOnly": true,
2786     "type": "array"
2787   }
2788   , "type" : "object"
2789   , "required": ["value"]
2790 }
2791 }
2792 }
2793 }
2794

```

2795 6.5.5 Property definition

2796 Table 13 defines the Properties that are part of the ['oic.r.switch.binary'] Resource Type

2797 **Table 13 – The Property definitions of the Resource with type 'rt' = ['oic.r.switch.binary']**

Property name	Value type	Mandatory	Access mode	Description
value	boolean	Yes	Read Write	Status of the switch
n	string	No	Read Only	Friendly name of the resource
rt	array: see schema	No	Read Only	Resource Type
if	array: see schema	No	Read Only	The interface set supported by this resource

id	string	No	Read Only	Instance ID of this specific resource
----	--------	----	-----------	---------------------------------------

2798 **6.5.6 CRUDN behaviour**

2799 Table 14 defines the CRUDN operations that are supported on the ['oic.r.switch.binary'] Resource
2800 Type

2801 **Table 14 – The CRUDN operations of the Resource with type 'rt' = ['oic.r.switch.binary']**

Create	Read	Update	Delete	Notify
	get	post		observe

2802 **6.6 Brightness**

2803 **6.6.1 Introduction**

2804 This resource describes the brightness of a light or lamp.
2805 brightness is an integer showing the current brightness level as a quantized representation in the
2806 range 0-100.
2807 A brightness of 0 is the minimum for the resource.
2808 A brightness of 100 is the maximum for the resource.
2809 Retrieves the current brightness level.
2810

2811 **6.6.2 Example URI**

2812 /BrightnessResURI

2813 **6.6.3 Resource type**

2814 The resource type (rt) is defined as: ['oic.r.light.brightness'].

2815 **6.6.4 OpenAPI 2.0 definition**

```

2816 {
2817   "swagger": "2.0",
2818   "info": {
2819     "title": "Brightness",
2820     "version": "v1.1.0-20160519",
2821     "license": {
2822       "name": "copyright 2016-2017 Open Connectivity Foundation, Inc. All rights reserved.",
2823       "x-description": "Redistribution and use in source and binary forms, with or without
2824 modification, are permitted provided that the following conditions are met:\n      1.
2825 Redistributions of source code must retain the above copyright notice, this list of conditions and
2826 the following disclaimer.\n      2. Redistributions in binary form must reproduce the above
2827 copyright notice, this list of conditions and the following disclaimer in the documentation and/or
2828 other materials provided with the distribution.\n\n      THIS SOFTWARE IS PROVIDED BY THE Open
2829 Connectivity Foundation, INC. \AS IS\ AND ANY EXPRESS OR IMPLIED WARRANTIES, INCLUDING, BUT NOT
2830 LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE OR
2831 WARRANTIES OF NON-INFRINGEMENT, ARE DISCLAIMED.\n      IN NO EVENT SHALL THE Open Connectivity
2832 Foundation, INC. OR CONTRIBUTORS BE LIABLE FOR ANY DIRECT, INDIRECT, INCIDENTAL, SPECIAL, EXEMPLARY,
2833 OR CONSEQUENTIAL DAMAGES (INCLUDING, BUT NOT LIMITED TO, PROCUREMENT OF SUBSTITUTE GOODS OR
2834 SERVICES; LOSS OF USE, DATA, OR PROFITS; OR BUSINESS INTERRUPTION)\n\n      HOWEVER CAUSED AND ON
2835 ANY THEORY OF LIABILITY, WHETHER IN CONTRACT, STRICT LIABILITY, OR TORT (INCLUDING NEGLIGENCE OR
2836 OTHERWISE) ARISING IN ANY WAY OUT OF THE USE OF THIS SOFTWARE, EVEN IF ADVISED OF THE POSSIBILITY OF
2837 SUCH DAMAGE.\n"
2838     }
2839   },
2840   "schemes": ["http"],
2841   "consumes": ["application/json"],
2842   "produces": ["application/json"],
2843   "paths": {
2844     "/BrightnessResURI" : {
2845       "get": {
2846         "description": "This resource describes the brightness of a light or lamp.\nbrightness is an
2847 integer showing the current brightness level as a quantized representation in the range 0-100.\nA
2848 brightness of 0 is the minimum for the resource.\nA brightness of 100 is the maximum for the
2849 resource.\nRetrieves the current brightness level.\n",
2850         "parameters": [

```

```

2851     {"$ref": "#/parameters/interface"}
2852   ],
2853   "responses": {
2854     "200": {
2855       "description": "",
2856       "x-example":
2857         {
2858           "rt": ["oic.r.light.brightness"],
2859           "id": "unique_example_id",
2860           "brightness": 50
2861         }
2862       ,
2863       "schema": { "$ref": "#/definitions/Brightness" }
2864     }
2865   },
2866   "post": {
2867     "description": "Sets the desired brightness level.\n",
2868     "parameters": [
2869       {"$ref": "#/parameters/interface"},
2870       {
2871         "name": "body",
2872         "in": "body",
2873         "required": true,
2874         "schema": { "$ref": "#/definitions/Brightness" },
2875         "x-example":
2876           {
2877             "brightness": 10
2878           }
2879       }
2880     ],
2881     "responses": {
2882       "200": {
2883         "description": "Indicates that the brightness was changed.\nThe new brightness level
2884 is provided in the response.\n",
2885         "x-example":
2886           {
2887             "id": "unique_example_id",
2888             "brightness": 10
2889           }
2890         ,
2891         "schema": { "$ref": "#/definitions/Brightness" }
2892       }
2893     }
2894   }
2895 },
2896 },
2897 },
2898 "parameters": {
2899   "interface": {
2900     "in": "query",
2901     "name": "if",
2902     "type": "string",
2903     "enum": ["oic.if.a", "oic.if.baseline"]
2904   }
2905 },
2906 "definitions": {
2907   "Brightness": {
2908     "properties": {
2909       "rt": {
2910         "description": "Resource Type",
2911         "items": {
2912           "maxLength": 64,
2913           "type": "string"
2914         },
2915         "minItems": 1,
2916         "readOnly": true,
2917         "type": "array"
2918       },
2919       "brightness": {
2920         "description": "Quantized representation in the range 0-100 of the current sensed or set

```

```

2923 value for Brightness",
2924     "maximum": 100,
2925     "minimum": 0,
2926     "type": "integer"
2927 },
2928 "precision" :
2929 {
2930     "description": "Accuracy granularity of the exposed value",
2931     "readOnly": true,
2932     "type": "number"
2933 },
2934 "n" :
2935 {
2936     "description": "Friendly name of the resource",
2937     "maxLength": 64,
2938     "readOnly": true,
2939     "type": "string"
2940 },
2941 "range" :
2942 {
2943     "description": "The valid range for the value Property",
2944     "items": {
2945         "anyOf": [
2946             {
2947                 "type": "number"
2948             },
2949             {
2950                 "type": "integer"
2951             }
2952         ]
2953     },
2954     "maxItems": 2,
2955     "minItems": 2,
2956     "readOnly": true,
2957     "type": "array"
2958 },
2959 "step" :
2960 {
2961     "anyOf": [
2962         {
2963             "type": "integer"
2964         },
2965         {
2966             "type": "number"
2967         }
2968     ],
2969     "description": "Step value across the defined range",
2970     "readOnly": true
2971 },
2972 "id" :
2973 {
2974     "description": "Instance ID of this specific resource",
2975     "maxLength": 64,
2976     "readOnly": true,
2977     "type": "string"
2978 },
2979 "if" :
2980 {
2981     "description": "The interface set supported by this resource",
2982     "items": {
2983         "enum": [
2984             "oic.if.baseline",
2985             "oic.if.ll",
2986             "oic.if.b",
2987             "oic.if.lb",
2988             "oic.if.rw",
2989             "oic.if.r",
2990             "oic.if.a",
2991             "oic.if.s"
2992         ],
2993         "type": "string"
2994     },

```

```

2995         "minItems": 1,
2996         "readOnly": true,
2997         "type": "array"
2998     }
2999     },
3000     "type": "object"
3001     , "required": ["brightness"]
3002 }
3003 }
3004 }
3005

```

3006 **6.6.5 Property definition**

3007 Table 15 defines the Properties that are part of the ['oic.r.light.brightness'] Resource Type

3008 **Table 15 – The Property definitions of the Resource with type 'rt' = ['oic.r.light.brightness']**

Property name	Value type	Mandatory	Access mode	Description
precision	number	No	Read Only	Accuracy granularity of the exposed value
id	string	No	Read Only	Instance ID of this specific resource
n	string	No	Read Only	Friendly name of the resource
if	array: see schema	No	Read Only	The interface set supported by this resource
brightness	integer	Yes	Read Write	Quantized representation in the range 0-100 of the current sensed or set value for Brightness
rt	array: see schema	No	Read Only	Resource Type
range	array: see schema	No	Read Only	The valid range for the value Property
step	multiple types: see schema	No	Read Only	Step value across the defined range

3009 **6.6.6 CRUDN behaviour**

3010 Table 16 defines the CRUDN operations that are supported on the ['oic.r.light.brightness'] Resource Type

3012 **Table 16 – The CRUDN operations of the Resource with type 'rt' = ['oic.r.light.brightness']**

Create	Read	Update	Delete	Notify
	get	post		observe

3013 **6.7 Colour Chroma**

3014 **6.7.1 Introduction**

3015 This resource describes the colour using chroma conventions.

3016 Properties are hue, saturation, csc, and ct.

3017 hue is the hue angle, it is an integer value as defined by the CIECAM02 model definition (see reference [CIE CIE159:2004]).

3019 saturation is an integer value as defined by the CIECAM02 model definition (see reference [CIE
3020 CIE159:2004]).
3021 maximumsaturation is the upper bound on the saturation supported by the Device.
3022 If not present the maximum value for saturation is 32767.
3023 csc is the colour space coordinates in CIE colour space.
3024 The first item in the array is the X coordinate.
3025 The second item in the array is the Y coordinate.
3026 ct is the Mired colour temperature.
3027 Provides the colour using chroma conventions.
3028

3029 6.7.2 Example URI

3030 /example/ColourChromaResURI

3031 6.7.3 Resource type

3032 The resource type (rt) is defined as: ['oic.r.colour.chroma'].

3033 6.7.4 OpenAPI 2.0 definition

```

3034 {
3035   "swagger": "2.0",
3036   "info": {
3037     "title": "Colour Chroma",
3038     "version": "v1.1.0-20160519",
3039     "license": {
3040       "name": "copyright 2016-2017 Open Connectivity Foundation, Inc. All rights reserved.",
3041       "x-description": "Redistribution and use in source and binary forms, with or without
3042 modification, are permitted provided that the following conditions are met:\n      1.
3043 Redistributions of source code must retain the above copyright notice, this list of conditions and
3044 the following disclaimer.\n      2. Redistributions in binary form must reproduce the above
3045 copyright notice, this list of conditions and the following disclaimer in the documentation and/or
3046 other materials provided with the distribution.\n\n      THIS SOFTWARE IS PROVIDED BY THE Open
3047 Connectivity Foundation, INC. \AS IS\ AND ANY EXPRESS OR IMPLIED WARRANTIES, INCLUDING, BUT NOT
3048 LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE OR
3049 WARRANTIES OF NON-INFRINGEMENT, ARE DISCLAIMED.\n      IN NO EVENT SHALL THE Open Connectivity
3050 Foundation, INC. OR CONTRIBUTORS BE LIABLE FOR ANY DIRECT, INDIRECT, INCIDENTAL, SPECIAL, EXEMPLARY,
3051 OR CONSEQUENTIAL DAMAGES (INCLUDING, BUT NOT LIMITED TO, PROCUREMENT OF SUBSTITUTE GOODS OR
3052 SERVICES; LOSS OF USE, DATA, OR PROFITS; OR BUSINESS INTERRUPTION)\n      HOWEVER CAUSED AND ON
3053 ANY THEORY OF LIABILITY, WHETHER IN CONTRACT, STRICT LIABILITY, OR TORT (INCLUDING NEGLIGENCE OR
3054 OTHERWISE) ARISING IN ANY WAY OUT OF THE USE OF THIS SOFTWARE, EVEN IF ADVISED OF THE POSSIBILITY OF
3055 SUCH DAMAGE.\n"
3056     }
3057   },
3058   "schemes": ["http"],
3059   "consumes": ["application/json"],
3060   "produces": ["application/json"],
3061   "paths": {
3062     "/example/ColourChromaResURI" : {
3063       "get": {
3064         "description": "This resource describes the colour using chroma conventions.\nProperties are
3065 hue, saturation, csc, and ct.\nhue is the hue angle, it is an integer value as defined by the
3066 CIECAM02 model definition (see reference [CIE CIE159:2004]).\nsaturation is an integer value as
3067 defined by the CIECAM02 model definition (see reference [CIE CIE159:2004]).\nmaximumsaturation is
3068 the upper bound on the saturation supported by the Device.\n If not present the maximum value for
3069 saturation is 32767.\ncsc is the colour space coordinates in CIE colour space.\n The first item in
3070 the array is the X coordinate.\n The second item in the array is the Y coordinate.\nct is the Mired
3071 colour temperature.\nProvides the colour using chroma conventions.\n",
3072         "parameters": [
3073           {"$ref": "#/parameters/interface"}
3074         ],
3075         "responses": {
3076           "200": {
3077             "description": "",
3078             "x-example":
3079             {
3080               "rt": ["oic.r.colour.chroma"],
3081               "id": "unique_example_id",
3082               "hue": 256.0,
3083               "saturation": 212,

```

```

3084         "maximumsaturation": 1000,
3085         "csc": [0.41,0.51],
3086         "ct": 457
3087     }
3088     ,
3089     "schema": { "$ref": "#/definitions/ColourChroma" }
3090 }
3091 },
3092 },
3093 "post": {
3094     "description": "Sets current colour chroma values\n",
3095     "parameters": [
3096         { "$ref": "#/parameters/interface",
3097         {
3098             "name": "body",
3099             "in": "body",
3100             "required": true,
3101             "schema": { "$ref": "#/definitions/ColourChroma" },
3102             "x-example":
3103             {
3104                 "hue": 300.0,
3105                 "saturation": 212,
3106                 "csc": [0.41,0.51],
3107                 "ct": 457
3108             }
3109         }
3110     ],
3111     "responses": {
3112         "200": {
3113             "description": "",
3114             "x-example":
3115             {
3116                 "id": "unique_example_id",
3117                 "hue": 300.0,
3118                 "saturation": 212,
3119                 "csc": [0.41,0.51],
3120                 "ct": 467
3121             }
3122         },
3123         "schema": { "$ref": "#/definitions/ColourChroma" }
3124     }
3125 }
3126 }
3127 },
3128 },
3129 "parameters": {
3130     "interface": {
3131         "in": "query",
3132         "name": "if",
3133         "type": "string",
3134         "enum": ["oic.if.a", "oic.if.baseline"]
3135     }
3136 },
3137 "definitions": {
3138     "ColourChroma": {
3139         "properties": {
3140             "rt":
3141             {
3142                 "description": "Resource Type",
3143                 "items": {
3144                     "maxLength": 64,
3145                     "type": "string"
3146                 },
3147                 "minItems": 1,
3148                 "readOnly": true,
3149                 "type": "array"
3150             },
3151             "hue":
3152             {
3153                 "description": "Hue angle as defined by the CIECAM02 model definition",
3154                 "maximum": 360.0,
3155                 "minimum": 0.0,

```

```

3156         "type": "number"
3157     },
3158     "saturation" :
3159     {
3160         "description": "Saturation as defined by the CIECAM02 model definition",
3161         "maximum": 32767,
3162         "minimum": 0,
3163         "type": "integer"
3164     },
3165     "maximumsaturation" :
3166     {
3167         "description": "Maximum supported value of Saturation for this Device",
3168         "maximum": 32767,
3169         "minimum": 0,
3170         "readOnly": true,
3171         "type": "integer"
3172     },
3173     "precision" :
3174     {
3175         "description": "Accuracy granularity of the exposed value",
3176         "readOnly": true,
3177         "type": "number"
3178     },
3179     "csc" :
3180     {
3181         "description": "X and Y coordinates of the colour in CIE colour space",
3182         "items": {
3183             "maximum": 1,
3184             "minimum": 0,
3185             "type": "number"
3186         },
3187         "maxItems": 2,
3188         "minItems": 2,
3189         "type": "array"
3190     },
3191     "n" :
3192     {
3193         "description": "Friendly name of the resource",
3194         "maxLength": 64,
3195         "readOnly": true,
3196         "type": "string"
3197     },
3198     "range" :
3199     {
3200         "description": "The valid range for the value Property",
3201         "items": {
3202             "anyOf": [
3203                 {
3204                     "type": "number"
3205                 },
3206                 {
3207                     "type": "integer"
3208                 }
3209             ]
3210         },
3211         "maxItems": 2,
3212         "minItems": 2,
3213         "readOnly": true,
3214         "type": "array"
3215     },
3216     "step" :
3217     {
3218         "anyOf": [
3219             {
3220                 "type": "integer"
3221             },
3222             {
3223                 "type": "number"
3224             }
3225         ],
3226         "description": "Step value across the defined range",
3227         "readOnly": true

```



```

3228 },
3229 "ct" :
3230 {
3231   "description": "Mired colour temperature",
3232   "minimum": 0,
3233   "type": "integer"
3234 },
3235 "id" :
3236 {
3237   "description": "Instance ID of this specific resource",
3238   "maxLength": 64,
3239   "readOnly": true,
3240   "type": "string"
3241 },
3242 "if" :
3243 {
3244   "description": "The interface set supported by this resource",
3245   "items": {
3246     "enum": [
3247       "oic.if.baseline",
3248       "oic.if.ll",
3249       "oic.if.b",
3250       "oic.if.lb",
3251       "oic.if.rw",
3252       "oic.if.r",
3253       "oic.if.a",
3254       "oic.if.s"
3255     ],
3256     "type": "string"
3257   },
3258   "minItems": 1,
3259   "readOnly": true,
3260   "type": "array"
3261 }
3262 },
3263 "type" : "object"
3264 , "required": ["hue", "saturation", "csc"]
3265 }
3266 }
3267 }
3268

```

3269 6.7.5 Property definition

3270 Table 17 defines the Properties that are part of the ['oic.r.colour.chroma'] Resource Type

3271 **Table 17 – The Property definitions of the Resource with type 'rt' = ['oic.r.colour.chroma']**

Property name	Value type	Mandatory	Access mode	Description
n	string	No	Read Only	Friendly name of the resource
range	array: see schema	No	Read Only	The valid range for the value Property
csc	array: see schema	Yes	Read Write	X and Y coordinates of the colour in CIE colour space
rt	array: see schema	No	Read Only	Resource Type
saturation	integer	Yes	Read Write	Saturation as defined by the CIECAM02 model definition
step	multiple types: see schema	No	Read Only	Step value across the defined range

ct	integer	No	Read Write	Mired colour temperature
maximumsaturation	integer	No	Read Only	Maximum supported value of Saturation for this Device
id	string	No	Read Only	Instance ID of this specific resource
precision	number	No	Read Only	Accuracy granularity of the exposed value
if	array: see schema	No	Read Only	The interface set supported by this resource
hue	number	Yes	Read Write	Hue angle as defined by the CIECAM02 model definition

3272 **6.7.6 CRUDN behaviour**

3273 Table 18 defines the CRUDN operations that are supported on the ['oic.r.colour.chroma'] Resource
3274 Type

3275 **Table 18 – The CRUDN operations of the Resource with type 'rt' = ['oic.r.colour.chroma']**

Create	Read	Update	Delete	Notify
	get	post		observe

3276 **6.8 Colour RGB**

3277 **6.8.1 Introduction**

3278 This resource specifies the actual colour in the RGB space represented as an array of integers.

3279 Each colour value is described with a Red, Green, Blue component.

3280 These colour values are encoded as an array of integer values ([R,G,B]).

3281 The minimum and maximum colour value per component may be described by range (from
3282 oic.r.baseresource).

3283 When range (from oic.r.baseresource) is omitted, then the range is [0,255].

3284 Retrieves the current colour in RGB.

3285 Value is an array of integer values in the order R,G,B.

3286

3287 **6.8.2 Example URI**

3288 /ColourRGBResURI

3289 **6.8.3 Resource type**

3290 The resource type (rt) is defined as: ['oic.r.colour.rgb'].

3291 **6.8.4 OpenAPI 2.0 definition**

```
3292 {
3293   "swagger": "2.0",
3294   "info": {
3295     "title": "Colour RGB",
3296     "version": "v1.1.0-20160519",
3297     "license": {
3298       "name": "copyright 2016-2017 Open Connectivity Foundation, Inc. All rights reserved.",
3299       "x-description": "Redistribution and use in source and binary forms, with or without
3300 modification, are permitted provided that the following conditions are met:\n      1.
3301 Redistributions of source code must retain the above copyright notice, this list of conditions and
3302 the following disclaimer.\n      2. Redistributions in binary form must reproduce the above
3303 copyright notice, this list of conditions and the following disclaimer in the documentation and/or
```

```

3304 other materials provided with the distribution.\n\n          THIS SOFTWARE IS PROVIDED BY THE Open
3305 Connectivity Foundation, INC. \ "AS IS\ " AND ANY EXPRESS OR IMPLIED WARRANTIES, INCLUDING, BUT NOT
3306 LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE OR
3307 WARRANTIES OF NON-INFRINGEMENT, ARE DISCLAIMED.\n          IN NO EVENT SHALL THE Open Connectivity
3308 Foundation, INC. OR CONTRIBUTORS BE LIABLE FOR ANY DIRECT, INDIRECT, INCIDENTAL, SPECIAL, EXEMPLARY,
3309 OR CONSEQUENTIAL DAMAGES (INCLUDING, BUT NOT LIMITED TO, PROCUREMENT OF SUBSTITUTE GOODS OR
3310 SERVICES; LOSS OF USE, DATA, OR PROFITS; OR BUSINESS INTERRUPTION)\n          HOWEVER CAUSED AND ON
3311 ANY THEORY OF LIABILITY, WHETHER IN CONTRACT, STRICT LIABILITY, OR TORT (INCLUDING NEGLIGENCE OR
3312 OTHERWISE) ARISING IN ANY WAY OUT OF THE USE OF THIS SOFTWARE, EVEN IF ADVISED OF THE POSSIBILITY OF
3313 SUCH DAMAGE.\n"
3314     }
3315   },
3316   "schemes": ["http"],
3317   "consumes": ["application/json"],
3318   "produces": ["application/json"],
3319   "paths": {
3320     "/ColourRGBResURI" : {
3321       "get": {
3322         "description": "This resource specifies the actual colour in the RGB space represented as an
3323 array of integers.\nEach colour value is described with a Red, Green, Blue component.\nThese colour
3324 values are encoded as an array of integer values ([R,G,B]).\nThe minimum and maximum colour value
3325 per component may be described by range (from oic.r.baseresource).\nWhen range (from
3326 oic.r.baseresource) is omitted, then the range is [0,255].\nRetrieves the current colour in
3327 RGB.\nValue is an array of integer values in the order R,G,B.\n",
3328         "parameters": [
3329           { "$ref": "#/parameters/interface" }
3330         ],
3331         "responses": {
3332           "200": {
3333             "description": "",
3334             "x-example":
3335               {
3336                 "rt": ["oic.r.colour.rgb"],
3337                 "id": "unique_example_id",
3338                 "rgbValue": [255,255,255],
3339                 "range": [0,255]
3340               }
3341             ,
3342             "schema": { "$ref": "#/definitions/ColourRGB" }
3343           }
3344         }
3345       },
3346       "post": {
3347         "description": "Sets the current colourRGB value\n",
3348         "parameters": [
3349           { "$ref": "#/parameters/interface" },
3350           {
3351             "name": "body",
3352             "in": "body",
3353             "required": true,
3354             "schema": { "$ref": "#/definitions/ColourRGB" },
3355             "x-example":
3356               {
3357                 "rgbValue": [255,0,0]
3358               }
3359           }
3360         ],
3361         "responses": {
3362           "200": {
3363             "description": "",
3364             "x-example":
3365               {
3366                 "id": "unique_example_id",
3367                 "rgbValue": [255,0,0]
3368               }
3369             ,
3370             "schema": { "$ref": "#/definitions/ColourRGB" }
3371           }
3372         }
3373       }
3374     }
3375   },

```

```

3376 "parameters": {
3377   "interface" : {
3378     "in" : "query",
3379     "name" : "if",
3380     "type" : "string",
3381     "enum" : ["oic.if.a", "oic.if.baseline"]
3382   }
3383 },
3384 "definitions": {
3385   "ColourRGB" : {
3386     "properties": {
3387       "rt" :
3388         {
3389           "description": "Resource Type",
3390           "items": {
3391             "maxLength": 64,
3392             "type": "string"
3393           },
3394           "minItems": 1,
3395           "readOnly": true,
3396           "type": "array"
3397         },
3398     "step" :
3399       {
3400         "anyOf": [
3401           {
3402             "type": "integer"
3403           },
3404           {
3405             "type": "number"
3406           }
3407         ],
3408         "description": "Step value across the defined range",
3409         "readOnly": true
3410       },
3411     "precision" :
3412       {
3413         "description": "Accuracy granularity of the exposed value",
3414         "readOnly": true,
3415         "type": "number"
3416       },
3417     "n" :
3418       {
3419         "description": "Friendly name of the resource",
3420         "maxLength": 64,
3421         "readOnly": true,
3422         "type": "string"
3423       },
3424     "range" :
3425       {
3426         "description": "The valid range for the value Property",
3427         "items": {
3428           "anyOf": [
3429             {
3430               "type": "number"
3431             },
3432             {
3433               "type": "integer"
3434             }
3435           ]
3436         },
3437         "maxItems": 2,
3438         "minItems": 2,
3439         "readOnly": true,
3440         "type": "array"
3441       },
3442     "rgbValue" :
3443       {
3444         "description": "RGB value; the first item is the R, second the G, third the B.",
3445         "items": {
3446           "type": "integer"
3447         },

```

```

3448         "maxItems": 3,
3449         "minItems": 3,
3450         "type": "array"
3451     },
3452     "id" :
3453     {
3454         "description": "Instance ID of this specific resource",
3455         "maxLength": 64,
3456         "readOnly": true,
3457         "type": "string"
3458     },
3459     "if" :
3460     {
3461         "description": "The interface set supported by this resource",
3462         "items": {
3463             "enum": [
3464                 "oic.if.baseline",
3465                 "oic.if.ll",
3466                 "oic.if.b",
3467                 "oic.if.lb",
3468                 "oic.if.rw",
3469                 "oic.if.r",
3470                 "oic.if.a",
3471                 "oic.if.s"
3472             ],
3473             "type": "string"
3474         },
3475         "minItems": 1,
3476         "readOnly": true,
3477         "type": "array"
3478     }
3479 },
3480 "type" : "object"
3481 , "required": ["rgbValue"]
3482 }
3483 }
3484 }
3485

```

3486 6.8.5 Property definition

3487 Table 19 defines the Properties that are part of the ['oic.r.colour.rgb'] Resource Type

3488 **Table 19 – The Property definitions of the Resource with type 'rt' = ['oic.r.colour.rgb']**

Property name	Value type	Mandatory	Access mode	Description
if	array: see schema	No	Read Only	The interface set supported by this resource
step	multiple types: see schema	No	Read Only	Step value across the defined range
rt	array: see schema	No	Read Only	Resource Type
precision	number	No	Read Only	Accuracy granularity of the exposed value
range	array: see schema	No	Read Only	The valid range for the value Property
rgbValue	array: see schema	Yes	Read Write	RGB value; the first item is the R, second the G, third the B.
n	string	No	Read Only	Friendly name of the resource

id	string	No	Read Only	Instance ID of this specific resource
----	--------	----	-----------	---------------------------------------

3489 **6.8.6 CRUDN behaviour**

3490 Table 20 defines the CRUDN operations that are supported on the ['oic.r.colour.rgb'] Resource
3491 Type

3492 **Table 20 – The CRUDN operations of the Resource with type 'rt' = ['oic.r.colour.rgb']**

Create	Read	Update	Delete	Notify
	get	post		observe

3493 **6.9 Dimming**

3494 **6.9.1 Introduction**

3495 This resource describes a dimming function.
3496 The value is an integer showing the current dimming level.
3497 If step (from oic.r.baseresource) is present then it represents the increment between dimmer
3498 values.
3499 When range (from oic.r.baseresource) is omitted, then the range is [0,100].
3500 A value of 0 means total dimming; a value of 100 means no dimming.
3501 Retrieves the current dimming level.
3502

3503 **6.9.2 Example URI**

3504 /DimmingResURI

3505 **6.9.3 Resource type**

3506 The resource type (rt) is defined as: ['oic.r.light.dimming'].

3507 **6.9.4 OpenAPI 2.0 definition**

```
3508 {
3509   "swagger": "2.0",
3510   "info": {
3511     "title": "Dimming",
3512     "version": "v1.1.0-20160519",
3513     "license": {
3514       "name": "copyright 2016-2017 Open Connectivity Foundation, Inc. All rights reserved.",
3515       "x-description": "Redistribution and use in source and binary forms, with or without
3516 modification, are permitted provided that the following conditions are met:\n      1.
3517 Redistributions of source code must retain the above copyright notice, this list of conditions and
3518 the following disclaimer.\n      2. Redistributions in binary form must reproduce the above
3519 copyright notice, this list of conditions and the following disclaimer in the documentation and/or
3520 other materials provided with the distribution.\n\n      THIS SOFTWARE IS PROVIDED BY THE Open
3521 Connectivity Foundation, INC. \\"AS IS\\" AND ANY EXPRESS OR IMPLIED WARRANTIES, INCLUDING, BUT NOT
3522 LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE OR
3523 WARRANTIES OF NON-INFRINGEMENT, ARE DISCLAIMED.\n      IN NO EVENT SHALL THE Open Connectivity
3524 Foundation, INC. OR CONTRIBUTORS BE LIABLE FOR ANY DIRECT, INDIRECT, INCIDENTAL, SPECIAL, EXEMPLARY,
3525 OR CONSEQUENTIAL DAMAGES (INCLUDING, BUT NOT LIMITED TO, PROCUREMENT OF SUBSTITUTE GOODS OR
3526 SERVICES; LOSS OF USE, DATA, OR PROFITS; OR BUSINESS INTERRUPTION)\n      HOWEVER CAUSED AND ON
3527 ANY THEORY OF LIABILITY, WHETHER IN CONTRACT, STRICT LIABILITY, OR TORT (INCLUDING NEGLIGENCE OR
3528 OTHERWISE) ARISING IN ANY WAY OUT OF THE USE OF THIS SOFTWARE, EVEN IF ADVISED OF THE POSSIBILITY OF
3529 SUCH DAMAGE.\n"
3530     }
3531   },
3532   "schemes": ["http"],
3533   "consumes": ["application/json"],
3534   "produces": ["application/json"],
3535   "paths": {
3536     "/DimmingResURI" : {
3537       "get": {
3538         "description": "This resource describes a dimming function.\nThe value is an integer showing
3539 the current dimming level.\nIf step (from oic.r.baseresource) is present then it represents the
3540 increment between dimmer values.\nWhen range (from oic.r.baseresource) is omitted, then the range is
3541 [0,100].\nA value of 0 means total dimming; a value of 100 means no dimming.\nRetrieves the current
```

```

3542 dimming level.\n",
3543     "parameters": [
3544         {"$ref": "#/parameters/interface"}
3545     ],
3546     "responses": {
3547         "200": {
3548             "description": "",
3549             "x-example":
3550                 {
3551                     "rt": ["oic.r.light.dimming"],
3552                     "id": "unique_example_id",
3553                     "dimmingSetting": 30,
3554                     "step": 5,
3555                     "range": [0,100]
3556                 }
3557         },
3558         "schema": { "$ref": "#/definitions/Dimming" }
3559     }
3560 },
3561 },
3562 "post": {
3563     "description": "Sets the desired dimming level.\n",
3564     "parameters": [
3565         {"$ref": "#/parameters/interface"},
3566         {
3567             "name": "body",
3568             "in": "body",
3569             "required": true,
3570             "schema": { "$ref": "#/definitions/Dimming" },
3571             "x-example":
3572                 {
3573                     "dimmingSetting": 40
3574                 }
3575         }
3576     ],
3577     "responses": {
3578         "200": {
3579             "description": "Indicates that the dimming was changed.\nThe new dimming level is
3580 provided in the response.\n",
3581             "x-example":
3582                 {
3583                     "id": "unique_example_id",
3584                     "dimmingSetting": 40
3585                 }
3586         },
3587         "schema": { "$ref": "#/definitions/Dimming" }
3588     },
3589     "403": {
3590         "description": "This response is generated by the OIC Server when the client sends:\n
3591 An update with an out of range property value for dimmingSetting.\nThe server responds with the
3592 current resource representation.\n",
3593         "x-example":
3594             {
3595                 "id": "unique_example_id",
3596                 "dimmingSetting": 40
3597             }
3598         },
3599         "schema": { "$ref": "#/definitions/Dimming" }
3600     }
3601 }
3602 }
3603 }
3604 },
3605 "parameters": {
3606     "interface": {
3607         "in": "query",
3608         "name": "if",
3609         "type": "string",
3610         "enum": ["oic.if.a", "oic.if.baseline"]
3611     }
3612 },
3613 "definitions": {

```

```

3614 "Dimming" : {
3615   "properties": {
3616     "rt" :
3617       {
3618         "description": "Resource Type",
3619         "items": {
3620           "maxLength": 64,
3621           "type": "string"
3622         },
3623         "minItems": 1,
3624         "readOnly": true,
3625         "type": "array"
3626       },
3627     "precision" :
3628       {
3629         "description": "Accuracy granularity of the exposed value",
3630         "readOnly": true,
3631         "type": "number"
3632       },
3633     "n" :
3634       {
3635         "description": "Friendly name of the resource",
3636         "maxLength": 64,
3637         "readOnly": true,
3638         "type": "string"
3639       },
3640     "range" :
3641       {
3642         "description": "The valid range for the value Property",
3643         "items": {
3644           "anyOf": [
3645             {
3646               "type": "number"
3647             },
3648             {
3649               "type": "integer"
3650             }
3651           ]
3652         },
3653         "maxItems": 2,
3654         "minItems": 2,
3655         "readOnly": true,
3656         "type": "array"
3657       },
3658     "step" :
3659       {
3660         "anyOf": [
3661           {
3662             "type": "integer"
3663           },
3664           {
3665             "type": "number"
3666           }
3667         ],
3668         "description": "Step value across the defined range",
3669         "readOnly": true
3670       },
3671     "dimmingSetting" :
3672       {
3673         "description": "Current dimming value",
3674         "type": "integer"
3675       },
3676     "id" :
3677       {
3678         "description": "Instance ID of this specific resource",
3679         "maxLength": 64,
3680         "readOnly": true,
3681         "type": "string"
3682       },
3683     "if" :
3684       {
3685         "description": "The interface set supported by this resource",

```



```

3686     "items": {
3687         "enum": [
3688             "oic.if.baseline",
3689             "oic.if.ll",
3690             "oic.if.b",
3691             "oic.if.lb",
3692             "oic.if.rw",
3693             "oic.if.r",
3694             "oic.if.a",
3695             "oic.if.s"
3696         ],
3697         "type": "string"
3698     },
3699     "minItems": 1,
3700     "readOnly": true,
3701     "type": "array"
3702 }
3703 }
3704 , "type" : "object"
3705 , "required": ["dimmingSetting"]
3706 }
3707 }
3708 }
3709

```

6.9.5 Property definition

Table 21 defines the Properties that are part of the ['oic.r.light.dimming'] Resource Type

Table 21 – The Property definitions of the Resource with type 'rt' = ['oic.r.light.dimming']

Property name	Value type	Mandatory	Access mode	Description
dimmingSetting	integer	Yes	Read Write	Current dimming value
rt	array: see schema	No	Read Only	Resource Type
id	string	No	Read Only	Instance ID of this specific resource
n	string	No	Read Only	Friendly name of the resource
step	multiple types: see schema	No	Read Only	Step value across the defined range
range	array: see schema	No	Read Only	The valid range for the value Property
precision	number	No	Read Only	Accuracy granularity of the exposed value
if	array: see schema	No	Read Only	The interface set supported by this resource

6.9.6 CRUDN behaviour

Table 22 defines the CRUDN operations that are supported on the ['oic.r.light.dimming'] Resource Type

Table 22 – The CRUDN operations of the Resource with type 'rt' = ['oic.r.light.dimming']

Create	Read	Update	Delete	Notify
	get	post		observe

3717 **6.10 Door**

3718 **6.10.1 Introduction**

3719 This resource describes the open state of the door.
3720 A door is modelled by means of openState (Open/Closed), openDuration (ISO 8601 Time), and
3721 openAlarm (boolean).
3722 For openState, the value 'Open' indicates the door is open.
3723 The value 'Closed' indicates the door is closed.
3724 The type of openDuration is an ISO 8601 Time encoded string.
3725 The openAlarm value 'true' indicates that the open alarm is active.
3726 The openAlarm value 'false' indicates that open alarm is not active.
3727 retrieves the state of the Door.

3728 **6.10.2 Example URI**

3729 /DoorResURI

3730 **6.10.3 Resource type**

3731 The resource type (rt) is defined as: ['oic.r.door'].

3732 **6.10.4 OpenAPI 2.0 definition**

```
3733 {
3734   "swagger": "2.0",
3735   "info": {
3736     "title": "Door",
3737     "version": "v1.1.0-20160519",
3738     "license": {
3739       "name": "copyright 2016-2017 Open Connectivity Foundation, Inc. All rights reserved.",
3740       "x-description": "Redistribution and use in source and binary forms, with or without
3741 modification, are permitted provided that the following conditions are met:\n      1.
3742 Redistributions of source code must retain the above copyright notice, this list of conditions and
3743 the following disclaimer.\n      2. Redistributions in binary form must reproduce the above
3744 copyright notice, this list of conditions and the following disclaimer in the documentation and/or
3745 other materials provided with the distribution.\n\n      THIS SOFTWARE IS PROVIDED BY THE Open
3746 Connectivity Foundation, INC. \\"AS IS\\" AND ANY EXPRESS OR IMPLIED WARRANTIES, INCLUDING, BUT NOT
3747 LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE OR
3748 WARRANTIES OF NON-INFRINGEMENT, ARE DISCLAIMED.\n\n      IN NO EVENT SHALL THE Open Connectivity
3749 Foundation, INC. OR CONTRIBUTORS BE LIABLE FOR ANY DIRECT, INDIRECT, INCIDENTAL, SPECIAL, EXEMPLARY,
3750 OR CONSEQUENTIAL DAMAGES (INCLUDING, BUT NOT LIMITED TO, PROCUREMENT OF SUBSTITUTE GOODS OR
3751 SERVICES; LOSS OF USE, DATA, OR PROFITS; OR BUSINESS INTERRUPTION)\n\n      HOWEVER CAUSED AND ON
3752 ANY THEORY OF LIABILITY, WHETHER IN CONTRACT, STRICT LIABILITY, OR TORT (INCLUDING NEGLIGENCE OR
3753 OTHERWISE) ARISING IN ANY WAY OUT OF THE USE OF THIS SOFTWARE, EVEN IF ADVISED OF THE POSSIBILITY OF
3754 SUCH DAMAGE.\n"
3755   }
3756 },
3757 "schemes": ["http"],
3758 "consumes": ["application/json"],
3759 "produces": ["application/json"],
3760 "paths": {
3761   "/DoorResURI" : {
3762     "get": {
3763       "description": "This resource describes the open state of the door.\nA door is modelled by
3764 means of openState (Open/Closed), openDuration (ISO 8601 Time), and openAlarm (boolean).\nFor
3765 openState, the value 'Open' indicates the door is open.\nThe value 'Closed' indicates the door is
3766 closed.\nThe type of openDuration is an ISO 8601 Time encoded string.\nThe openAlarm value 'true'
3767 indicates that the open alarm is active.\nThe openAlarm value 'false' indicates that open alarm is
3768 not active.\nretrieves the state of the Door.",
3769       "parameters": [
3770         {"$ref": "#/parameters/interface-all"}
3771       ],
3772       "responses": {
3773         "200": {
3774           "description": "",
3775           "x-example":
3776             {
3777               "rt" : ["oic.r.door"],
3778               "id": "unique_example_id",
3779               "openState": "Open",
3780               "openDuration": "P0Y0M0DT2H25M5S",
```

```

3781         "openAlarm": true
3782     }
3783     ,
3784     "schema": { "$ref": "#/definitions/Door" }
3785 }
3786 },
3787 "post": {
3788     "description": "Sets the current Door properties.\n\nThe only property that can be set as part
3789 of an update operation is\n\n the openAlarm.\n\nThis can be made active (true) or inactive (false)\n",
3790     "parameters": [
3791         { "$ref": "#/parameters/interface-actuator" },
3792         {
3793             "name": "body",
3794             "in": "body",
3795             "required": true,
3796             "schema": { "$ref": "#/definitions/DoorUpdate" },
3797             "x-example":
3798                 {
3799                     "openAlarm": false
3800                 }
3801         }
3802     ],
3803     "responses": {
3804         "200": {
3805             "description": "",
3806             "x-example":
3807                 {
3808                     "id": "unique_example_id",
3809                     "openAlarm": false
3810                 }
3811             ,
3812             "schema": { "$ref": "#/definitions/DoorUpdate" }
3813         }
3814     }
3815 }
3816 },
3817 },
3818 },
3819 "parameters": {
3820     "interface-actuator" : {
3821         "in" : "query",
3822         "name" : "if",
3823         "type" : "string",
3824         "enum" : ["oic.if.a", "oic.if.baseline"]
3825     },
3826     "interface-all" : {
3827         "in" : "query",
3828         "name" : "if",
3829         "type" : "string",
3830         "enum" : ["oic.if.a", "oic.if.s", "oic.if.baseline"]
3831     }
3832 },
3833 "definitions": {
3834     "Door" : {
3835         "properties": {
3836             "rt" :
3837                 {
3838                     "description": "Resource Type",
3839                     "items": {
3840                         "maxLength": 64,
3841                         "type": "string"
3842                     },
3843                     "minItems": 1,
3844                     "readOnly": true,
3845                     "type": "array"
3846                 },
3847             "n" :
3848                 {
3849                     "description": "Friendly name of the resource",
3850                     "maxLength": 64,
3851                     "readOnly": true,
3852                     "type": "string"

```

```

3853     },
3854     "openDuration" :
3855     {
3856         "description": "The time duration the door has been open",
3857         "readOnly": true,
3858         "type": "string"
3859     },
3860     "openState" :
3861     {
3862         "description": "The state of the door (open or closed)",
3863         "enum": [
3864             "Open",
3865             "Closed"
3866         ],
3867         "readOnly": true,
3868         "type": "string"
3869     },
3870     "id" :
3871     {
3872         "description": "Instance ID of this specific resource",
3873         "maxLength": 64,
3874         "readOnly": true,
3875         "type": "string"
3876     },
3877     "openAlarm" :
3878     {
3879         "description": "The state of the door open alarm",
3880         "type": "boolean"
3881     },
3882     "if" :
3883     {
3884         "description": "The interface set supported by this resource",
3885         "items": {
3886             "enum": [
3887                 "oic.if.baseline",
3888                 "oic.if.ll",
3889                 "oic.if.b",
3890                 "oic.if.lb",
3891                 "oic.if.rw",
3892                 "oic.if.r",
3893                 "oic.if.a",
3894                 "oic.if.s"
3895             ],
3896             "type": "string"
3897         },
3898         "minItems": 1,
3899         "readOnly": true,
3900         "type": "array"
3901     }
3902 },
3903 "type" : "object"
3904 , "required": ["openState"]
3905 }
3906 ,
3907 "DoorUpdate" : {
3908     "properties": {
3909         "openAlarm" :
3910         {
3911             "description": "The state of the door open alarm",
3912             "type": "boolean"
3913         }
3914     }
3915     , "type" : "object"
3916 }
3917 }
3918 }
3919

```

3920 6.10.5 Property definition

3921 Table 23 defines the Properties that are part of the ['oic.r.door'] Resource Type

Table 23 – The Property definitions of the Resource with type 'rt' = ['oic.r.door']

Property name	Value type	Mandatory	Access mode	Description
openState	string	Yes	Read Only	The state of the door (open or closed)
n	string	No	Read Only	Friendly name of the resource
id	string	No	Read Only	Instance ID of this specific resource
openDuration	string	No	Read Only	The time duration the door has been open
if	array: see schema	No	Read Only	The interface set supported by this resource
openAlarm	boolean	No	Read Write	The state of the door open alarm
rt	array: see schema	No	Read Only	Resource Type
openAlarm	boolean		Read Write	The state of the door open alarm

3923 **6.10.6 CRUDN behaviour**

3924 Table 24 defines the CRUDN operations that are supported on the ['oic.r.door'] Resource Type

3925 **Table 24 – The CRUDN operations of the Resource with type 'rt' = ['oic.r.door']**

Create	Read	Update	Delete	Notify
	get	post		observe

3926 **6.11 Energy Consumption**3927 **6.11.1 Introduction**

3928 This resource describes the energy consumed by the device since power up (the energy value is
 3929 in Watt Hours [Wh])
 3930 and the instantaneous power draw of the device (the power value is in Watts [W]) at the time the
 3931 resource was queried.

3932 The power value is in Watts [W].

3933 The energy value is in Watt Hours [Wh].

3934 Provides the current power draw and cumulative energy usage.

3935

3936 **6.11.2 Example URI**

3937 /EnergyConsumptionResURI

3938 **6.11.3 Resource type**

3939 The resource type (rt) is defined as: ['oic.r.energy.consumption'].

3940 **6.11.4 OpenAPI 2.0 definition**

```

3941 {
3942   "swagger": "2.0",
3943   "info": {
3944     "title": "Energy Consumption",
3945     "version": "v1.1.0-20160519",
3946     "license": {
3947       "name": "copyright 2016-2017 Open Connectivity Foundation, Inc. All rights reserved.",
3948       "x-description": "Redistribution and use in source and binary forms, with or without
3949 modification, are permitted provided that the following conditions are met:\n      1.
```

```

3950 Redistributions of source code must retain the above copyright notice, this list of conditions and
3951 the following disclaimer.\n      2. Redistributions in binary form must reproduce the above
3952 copyright notice, this list of conditions and the following disclaimer in the documentation and/or
3953 other materials provided with the distribution.\n\n      THIS SOFTWARE IS PROVIDED BY THE Open
3954 Connectivity Foundation, INC. \\"AS IS\" AND ANY EXPRESS OR IMPLIED WARRANTIES, INCLUDING, BUT NOT
3955 LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE OR
3956 WARRANTIES OF NON-INFRINGEMENT, ARE DISCLAIMED.\n      IN NO EVENT SHALL THE Open Connectivity
3957 Foundation, INC. OR CONTRIBUTORS BE LIABLE FOR ANY DIRECT, INDIRECT, INCIDENTAL, SPECIAL, EXEMPLARY,
3958 OR CONSEQUENTIAL DAMAGES (INCLUDING, BUT NOT LIMITED TO, PROCUREMENT OF SUBSTITUTE GOODS OR
3959 SERVICES; LOSS OF USE, DATA, OR PROFITS; OR BUSINESS INTERRUPTION)\n      HOWEVER CAUSED AND ON
3960 ANY THEORY OF LIABILITY, WHETHER IN CONTRACT, STRICT LIABILITY, OR TORT (INCLUDING NEGLIGENCE OR
3961 OTHERWISE) ARISING IN ANY WAY OUT OF THE USE OF THIS SOFTWARE, EVEN IF ADVISED OF THE POSSIBILITY OF
3962 SUCH DAMAGE.\n"
3963 }
3964 },
3965 "schemes": ["http"],
3966 "consumes": ["application/json"],
3967 "produces": ["application/json"],
3968 "paths": {
3969     "/EnergyConsumptionResURI" : {
3970         "get": {
3971             "description": "This resource describes the energy consumed by the device since power up
3972 (the energy value is in Watt Hours [Wh]) \nand the instantaneous power draw of the device (the power
3973 value is in Watts [W]) at the time the resource was queried.\nThe power value is in Watts [W].\nThe
3974 energy value is in Watt Hours [Wh].\nProvides the current power draw and cumulative energy
3975 usage.\n",
3976             "parameters": [
3977                 {"$ref": "#/parameters/interface"}
3978             ],
3979             "responses": {
3980                 "200": {
3981                     "description": "",
3982                     "x-example":
3983                     {
3984                         "rt": ["oic.r.energy.consumption"],
3985                         "id": "unique_example_id",
3986                         "power": 2000.1,
3987                         "energy": 3500.4
3988                     }
3989                 },
3990                 "schema": { "$ref": "#/definitions/Consumption" }
3991             }
3992         }
3993     }
3994 },
3995 },
3996 "parameters": {
3997     "interface" : {
3998         "in" : "query",
3999         "name" : "if",
4000         "type" : "string",
4001         "enum" : ["oic.if.s", "oic.if.baseline"]
4002     }
4003 },
4004 "definitions": {
4005     "Consumption" : {
4006         "properties": {
4007             "rt" :
4008             {
4009                 "description": "Resource Type",
4010                 "items": {
4011                     "maxLength": 64,
4012                     "type": "string"
4013                 },
4014                 "minItems": 1,
4015                 "readOnly": true,
4016                 "type": "array"
4017             },
4018             "power" :
4019             {
4020                 "description": "Instantaneous Power",
4021                 "readOnly": true,

```

```

4022     "type": "number"
4023   },
4024   "energy" :
4025     {
4026       "description": "Energy consumed",
4027       "readOnly": true,
4028       "type": "number"
4029     },
4030   "precision" :
4031     {
4032       "description": "Accuracy granularity of the exposed value",
4033       "readOnly": true,
4034       "type": "number"
4035     },
4036   "n" :
4037     {
4038       "description": "Friendly name of the resource",
4039       "maxLength": 64,
4040       "readOnly": true,
4041       "type": "string"
4042     },
4043   "range" :
4044     {
4045       "description": "The valid range for the value Property",
4046       "items": {
4047         "anyOf": [
4048           {
4049             "type": "number"
4050           },
4051           {
4052             "type": "integer"
4053           }
4054         ]
4055       },
4056       "maxItems": 2,
4057       "minItems": 2,
4058       "readOnly": true,
4059       "type": "array"
4060     },
4061   "step" :
4062     {
4063       "anyOf": [
4064         {
4065           "type": "integer"
4066         },
4067         {
4068           "type": "number"
4069         }
4070       ],
4071       "description": "Step value across the defined range",
4072       "readOnly": true
4073     },
4074   "id" :
4075     {
4076       "description": "Instance ID of this specific resource",
4077       "maxLength": 64,
4078       "readOnly": true,
4079       "type": "string"
4080     },
4081   "if" :
4082     {
4083       "description": "The interface set supported by this resource",
4084       "items": {
4085         "enum": [
4086           "oic.if.baseline",
4087           "oic.if.ll",
4088           "oic.if.b",
4089           "oic.if.lb",
4090           "oic.if.rw",
4091           "oic.if.r",
4092           "oic.if.a",
4093           "oic.if.s"

```

```

4094     ],
4095     "type": "string"
4096   },
4097   "minItems": 1,
4098   "readOnly": true,
4099   "type": "array"
4100 }
4101 },
4102 "type" : "object"
4103 , "required": ["power", "energy"]
4104 }
4105 }
4106 }
4107

```

4108 6.11.5 Property definition

4109 Table 25 defines the Properties that are part of the ['oic.r.energy.consumption'] Resource Type

4110 **Table 25 – The Property definitions of the Resource with type 'rt' =**
4111 **['oic.r.energy.consumption']**

Property name	Value type	Mandatory	Access mode	Description
range	array: see schema	No	Read Only	The valid range for the value Property
power	number	Yes	Read Only	Instantaneous Power
rt	array: see schema	No	Read Only	Resource Type
id	string	No	Read Only	Instance ID of this specific resource
if	array: see schema	No	Read Only	The interface set supported by this resource
n	string	No	Read Only	Friendly name of the resource
precision	number	No	Read Only	Accuracy granularity of the exposed value
energy	number	Yes	Read Only	Energy consumed
step	multiple types: see schema	No	Read Only	Step value across the defined range

4112 6.11.6 CRUDN behaviour

4113 Table 26 defines the CRUDN operations that are supported on the ['oic.r.energy.consumption']
4114 Resource Type

4115 **Table 26 – The CRUDN operations of the Resource with type 'rt' =**
4116 **['oic.r.energy.consumption']**

Create	Read	Update	Delete	Notify
	get			observe

4117 6.12 Energy Usage

4118 6.12.1 Introduction

4119 This resource describes a cumulative time-based energy usage query..

4120 The resource is a composite resource being made up as a collection of:

4121 TimePeriod Resource

4122 EnergyConsumption Resource
4123 Retrieves the energy usage information as a composite of consumption over time.
4124

4125 6.12.2 Example URI

4126 /EnergyUsageResURI

4127 6.12.3 Resource type

4128 The resource type (rt) is defined as: ['oic.r.energy.usage'].

4129 6.12.4 OpenAPI 2.0 definition

```
4130 {  
4131   "swagger": "2.0",  
4132   "info": {  
4133     "title": "Energy Usage",  
4134     "version": "v1.1.0-20160519",  
4135     "license": {  
4136       "name": "copyright 2016-2017 Open Connectivity Foundation, Inc. All rights reserved.",  
4137       "x-description": "Redistribution and use in source and binary forms, with or without  
4138 modification, are permitted provided that the following conditions are met:\n      1.  
4139 Redistributions of source code must retain the above copyright notice, this list of conditions and  
4140 the following disclaimer.\n      2. Redistributions in binary form must reproduce the above  
4141 copyright notice, this list of conditions and the following disclaimer in the documentation and/or  
4142 other materials provided with the distribution.\n      THIS SOFTWARE IS PROVIDED BY THE Open  
4143 Connectivity Foundation, INC. \\"AS IS\\" AND ANY EXPRESS OR IMPLIED WARRANTIES, INCLUDING, BUT NOT  
4144 LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE OR  
4145 WARRANTIES OF NON-INFRINGEMENT, ARE DISCLAIMED.\n      IN NO EVENT SHALL THE Open Connectivity  
4146 Foundation, INC. OR CONTRIBUTORS BE LIABLE FOR ANY DIRECT, INDIRECT, INCIDENTAL, SPECIAL, EXEMPLARY,  
4147 OR CONSEQUENTIAL DAMAGES (INCLUDING, BUT NOT LIMITED TO, PROCUREMENT OF SUBSTITUTE GOODS OR  
4148 SERVICES; LOSS OF USE, DATA, OR PROFITS; OR BUSINESS INTERRUPTION)\n      HOWEVER CAUSED AND ON  
4149 ANY THEORY OF LIABILITY, WHETHER IN CONTRACT, STRICT LIABILITY, OR TORT (INCLUDING NEGLIGENCE OR  
4150 OTHERWISE) ARISING IN ANY WAY OUT OF THE USE OF THIS SOFTWARE, EVEN IF ADVISED OF THE POSSIBILITY OF  
4151 SUCH DAMAGE.\n    }  
4152   },  
4153   "schemes": ["http"],  
4154   "consumes": ["application/json"],  
4155   "produces": ["application/json"],  
4156   "paths": {  
4157     "/EnergyUsageResURI" : {  
4158       "get": {  
4159         "description": "This resource describes a cumulative time-based energy usage query..\nThe  
4160 resource is a composite resource being made up as a collection of:\n      TimePeriod Resource\n4161 EnergyConsumption Resource\nRetrieves the energy usage information as a composite of consumption  
4162 over time.\n",  
4163         "parameters": [  
4164           {"$ref": "#/parameters/interface"}  
4165         ],  
4166         "responses": {  
4167           "200": {  
4168             "description": "",  
4169             "x-example":  
4170               {  
4171                 "rt": ["oic.r.energy.usage"],  
4172                 "id": "unique_example_id",  
4173                 "resources": [  
4174                   {  
4175                     "href": "/TimeIntervalResURI",  
4176                     "rel": "contains",  
4177                     "rt": ["oic.r.time.period"],  
4178                     "if": ["oic.if.a"],  
4179                     "eps": [{"ep": "coaps://[fe80::b1d6]:1122"}]  
4180                   },  
4181                   {  
4182                     "href": "/EnergyConsumptionResURI",  
4183                     "rel": "contains",  
4184                     "rt": ["oic.r.energy.consumption"],  
4185                     "if": ["oic.if.s"],  
4186                     "eps": [{"ep": "coaps://[fe80::b1d6]:1122"}]  
4187                   }  
4188                 ]  
4189               }  
4190             }  
4191           }  
4192         }  
4193       }  
4194     }  
4195   }  
4196 }
```

```

4189         ]
4190     }
4191     ,
4192     "schema": { "$ref": "#/definitions/Usage" }
4193 }
4194 }
4195 }
4196 }
4197 },
4198 "parameters": {
4199     "interface" : {
4200         "in" : "query",
4201         "name" : "if",
4202         "type" : "string",
4203         "enum" : ["oic.if.ll", "oic.if.b", "oic.if.baseline"]
4204     }
4205 },
4206 "definitions": {
4207     "Usage" : {
4208         "properties": {
4209             "rt" :
4210                 {
4211                     "description": "Resource Type",
4212                     "items": {
4213                         "maxLength": 64,
4214                         "type": "string"
4215                     },
4216                     "minItems": 1,
4217                     "readOnly": true,
4218                     "type": "array"
4219                 },
4220             "n" :
4221                 {
4222                     "description": "Friendly name of the resource",
4223                     "maxLength": 64,
4224                     "readOnly": true,
4225                     "type": "string"
4226                 },
4227             "id" :
4228                 {
4229                     "description": "Instance ID of this specific resource",
4230                     "maxLength": 64,
4231                     "readOnly": true,
4232                     "type": "string"
4233                 },
4234             "resources" :
4235                 {
4236                     "items": {
4237                         "properties": {
4238                             "anchor": {
4239                                 "description": "This is used to override the context URI e.g. override the URI of
4240 the containing collection",
4241                                 "format": "uri",
4242                                 "maxLength": 256,
4243                                 "type": "string"
4244                             },
4245                             "di": {
4246                                 "description": "An identifier formatted according to IETF RFC 4122.",
4247                                 "pattern": "^[a-fA-F0-9]{8}-[a-fA-F0-9]{4}-[a-fA-F0-9]{4}-[a-fA-F0-9]{4}-[a-fA-F0-
4248 9]{12}$",
4249                                 "type": "string"
4250                             },
4251                             "eps": {
4252                                 "description": "the Endpoint information of the target Resource",
4253                                 "items": {
4254                                     "properties": {
4255                                         "ep": {
4256                                             "description": "URI with Transport Protocol Suites + Endpoint Locator as
4257 specified in 10.2.1",
4258                                             "format": "uri",
4259                                             "type": "string"

```

```

4261         },
4262         "pri": {
4263             "description": "The priority among multiple Endpoints as specified in 10.2.3",
4264             "minimum": 1,
4265             "type": "integer"
4266         }
4267     },
4268     "type": "object"
4269 },
4270 "type": "array"
4271 },
4272 "href": {
4273     "description": "This is the target URI, it can be specified as a Relative Reference
4274 or fully-qualified URI. Relative Reference should be used along with the di parameter to make it
4275 unique.",
4276     "format": "uri",
4277     "maxLength": 256,
4278     "type": "string"
4279 },
4280 "if": {
4281     "description": "The interface set supported by this resource",
4282     "items": {
4283         "enum": [
4284             "oic.if.baseline",
4285             "oic.if.ll",
4286             "oic.if.b",
4287             "oic.if.rw",
4288             "oic.if.r",
4289             "oic.if.a",
4290             "oic.if.s"
4291         ],
4292         "type": "string"
4293     },
4294     "minItems": 1,
4295     "type": "array"
4296 },
4297 "ins": {
4298     "description": "The instance identifier for this web link in an array of web links -
4299 used in collections",
4300     "oneOf": [
4301         {
4302             "description": "An ordinal number that is not repeated - must be unique in the
4303 collection context",
4304             "type": "integer"
4305         },
4306         {
4307             "description": "Any unique string including a URI",
4308             "format": "uri",
4309             "maxLength": 256,
4310             "type": "string"
4311         },
4312         {
4313             "description": "An identifier formatted according to IETF RFC 4122.",
4314             "pattern": "^[a-fA-F0-9]{8}-[a-fA-F0-9]{4}-[a-fA-F0-9]{4}-[a-fA-F0-9]{4}-[a-fA-
4315 F0-9]{12}$",
4316             "type": "string"
4317         }
4318     ]
4319 },
4320 "p": {
4321     "description": "Specifies the framework policies on the Resource referenced by the
4322 target URI",
4323     "properties": {
4324         "bm": {
4325             "description": "Specifies the framework policies on the Resource referenced by
4326 the target URI for e.g. observable and discoverable",
4327             "type": "integer"
4328         }
4329     },
4330     "required": [
4331         "bm"
4332     ],

```

```

4333         "type": "object"
4334     },
4335     "rel": {
4336         "description": "The relation of the target URI referenced by the link to the context
4337 URI",
4338         "oneOf": [
4339             {
4340                 "default": [
4341                     "hosts"
4342                 ],
4343                 "items": {
4344                     "maxLength": 64,
4345                     "type": "string"
4346                 },
4347                 "minItems": 1,
4348                 "type": "array"
4349             },
4350             {
4351                 "default": "hosts",
4352                 "maxLength": 64,
4353                 "type": "string"
4354             }
4355         ]
4356     },
4357     "rt": {
4358         "description": "Resource Type",
4359         "items": {
4360             "maxLength": 64,
4361             "type": "string"
4362         },
4363         "minItems": 1,
4364         "type": "array"
4365     },
4366     "title": {
4367         "description": "A title for the link relation. Can be used by the UI to provide a
4368 context",
4369         "maxLength": 64,
4370         "type": "string"
4371     },
4372     "type": {
4373         "default": "application/cbor",
4374         "description": "A hint at the representation of the resource referenced by the
4375 target URI. This represents the media types that are used for both accepting and emitting",
4376         "items": {
4377             "maxLength": 64,
4378             "type": "string"
4379         },
4380         "minItems": 1,
4381         "type": "array"
4382     }
4383 },
4384 "required": [
4385     "href",
4386     "rt",
4387     "if"
4388 ],
4389 "type": "object"
4390 },
4391 "maxItems": 2,
4392 "minItems": 2,
4393 "type": "array"
4394 },
4395 "if" :
4396 {
4397     "description": "The interface set supported by this resource",
4398     "items": {
4399         "enum": [
4400             "oic.if.baseline",
4401             "oic.if.ll",
4402             "oic.if.b",
4403             "oic.if.lb",
4404             "oic.if.rw",

```

```

4405         "oic.if.r",
4406         "oic.if.a",
4407         "oic.if.s"
4408     ],
4409     "type": "string"
4410 },
4411 "minItems": 1,
4412 "readOnly": true,
4413 "type": "array"
4414 }
4415 },
4416 "type" : "object"
4417 , "required": ["resources"]
4418 }
4419 }
4420 }
4421

```

4422 6.12.5 Property definition

4423 Table 27 defines the Properties that are part of the ['oic.r.energy.usage'] Resource Type

4424 **Table 27 – The Property definitions of the Resource with type 'rt' = ['oic.r.energy.usage']**

Property name	Value type	Mandatory	Access mode	Description
rt	array: see schema	No	Read Only	Resource Type
if	array: see schema	No	Read Only	The interface set supported by this resource
resources	array: see schema	Yes	Read Write	
id	string	No	Read Only	Instance ID of this specific resource
n	string	No	Read Only	Friendly name of the resource

4425 6.12.6 CRUDN behaviour

4426 Table 28 defines the CRUDN operations that are supported on the ['oic.r.energy.usage'] Resource
4427 Type

4428 **Table 28 – The CRUDN operations of the Resource with type 'rt' = ['oic.r.energy.usage']**

Create	Read	Update	Delete	Notify
	get			observe

4429 6.13 Humidity

4430 6.13.1 Introduction

4431 This resource describes a sensed or desired humidity.

4432 The value humidity is an integer describing the percentage measured relative humidity.

4433 The value desiredHumidity is an integer showing the desired target relative humidity.

4434 Retrieves the current (relative) humidity level.

4435

4436 6.13.2 Example URI

4437 /HumidityResURI

4438 6.13.3 Resource type

4439 The resource type (rt) is defined as: ['oic.r.humidity'].

4440 6.13.4 OpenAPI 2.0 definition

```
4441 {
4442   "swagger": "2.0",
4443   "info": {
4444     "title": "Humidity",
4445     "version": "v1.1.0-20160519",
4446     "license": {
4447       "name": "copyright 2016-2017 Open Connectivity Foundation, Inc. All rights reserved.",
4448       "x-description": "Redistribution and use in source and binary forms, with or without
4449 modification, are permitted provided that the following conditions are met:\n      1.
4450 Redistributions of source code must retain the above copyright notice, this list of conditions and
4451 the following disclaimer.\n      2. Redistributions in binary form must reproduce the above
4452 copyright notice, this list of conditions and the following disclaimer in the documentation and/or
4453 other materials provided with the distribution.\n\n      THIS SOFTWARE IS PROVIDED BY THE Open
4454 Connectivity Foundation, INC. \AS IS\ AND ANY EXPRESS OR IMPLIED WARRANTIES, INCLUDING, BUT NOT
4455 LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE OR
4456 WARRANTIES OF NON-INFRINGEMENT, ARE DISCLAIMED.\n\n      IN NO EVENT SHALL THE Open Connectivity
4457 Foundation, INC. OR CONTRIBUTORS BE LIABLE FOR ANY DIRECT, INDIRECT, INCIDENTAL, SPECIAL, EXEMPLARY,
4458 OR CONSEQUENTIAL DAMAGES (INCLUDING, BUT NOT LIMITED TO, PROCUREMENT OF SUBSTITUTE GOODS OR
4459 SERVICES; LOSS OF USE, DATA, OR PROFITS; OR BUSINESS INTERRUPTION)\n\n      HOWEVER CAUSED AND ON
4460 ANY THEORY OF LIABILITY, WHETHER IN CONTRACT, STRICT LIABILITY, OR TORT (INCLUDING NEGLIGENCE OR
4461 OTHERWISE) ARISING IN ANY WAY OUT OF THE USE OF THIS SOFTWARE, EVEN IF ADVISED OF THE POSSIBILITY OF
4462 SUCH DAMAGE.\n"
4463     }
4464   },
4465   "schemes": ["http"],
4466   "consumes": ["application/json"],
4467   "produces": ["application/json"],
4468   "paths": {
4469     "/HumidityResURI" : {
4470       "get": {
4471         "description": "This resource describes a sensed or desired humidity.\nThe value humidity is
4472 an integer describing the percentage measured relative humidity.\nThe value desiredHumidity is an
4473 integer showing the desired target relative humidity.\nRetrieves the current (relative) humidity
4474 level.\n",
4475         "parameters": [
4476           { "$ref": "#/parameters/interface" }
4477         ],
4478         "responses": {
4479           "200": {
4480             "description": "",
4481             "x-example":
4482               {
4483                 "rt": ["oic.r.humidity"],
4484                 "id": "unique_example_id",
4485                 "humidity": 40,
4486                 "desiredHumidity": 40
4487               }
4488             ,
4489             "schema": { "$ref": "#/definitions/Humidity" }
4490           }
4491         }
4492       },
4493       "post": {
4494         "description": "Sets the desired relative humidity level.\n",
4495         "parameters": [
4496           { "$ref": "#/parameters/interface" },
4497           {
4498             "name": "body",
4499             "in": "body",
4500             "required": true,
4501             "schema": { "$ref": "#/definitions/HumidityUpdate" },
4502             "x-example":
4503               {
4504                 "desiredHumidity" : 45
4505               }
4506           }
4507         ],
4508         "responses": {
4509           "200": {
4510             "description": "Indicates that the relative humidity level was changed.\nThe new
```

```

4511 relative humidity level is provided in the response.\n",
4512     "x-example":
4513     {
4514         "id": "unique_example_id",
4515         "desiredHumidity": 45
4516     },
4517     "schema": { "$ref": "#/definitions/HumidityUpdate" }
4518 }
4519 }
4520 }
4521 }
4522 },
4523 },
4524 "parameters": {
4525     "interface": {
4526         "in": "query",
4527         "name": "if",
4528         "type": "string",
4529         "enum": ["oic.if.a", "oic.if.s", "oic.if.baseline"]
4530     }
4531 },
4532 "definitions": {
4533     "Humidity": {
4534         "properties": {
4535             "rt": {
4536                 {
4537                     "description": "Resource Type",
4538                     "items": {
4539                         "maxLength": 64,
4540                         "type": "string"
4541                     },
4542                     "minItems": 1,
4543                     "readOnly": true,
4544                     "type": "array"
4545                 },
4546                 "desiredHumidity": {
4547                     {
4548                         "description": "Desired value for Humidity",
4549                         "maximum": 100,
4550                         "minimum": 0,
4551                         "type": "integer"
4552                     },
4553                     "precision": {
4554                         {
4555                             "description": "Accuracy granularity of the exposed value",
4556                             "readOnly": true,
4557                             "type": "number"
4558                         },
4559                     "n": {
4560                         {
4561                             "description": "Friendly name of the resource",
4562                             "maxLength": 64,
4563                             "readOnly": true,
4564                             "type": "string"
4565                         },
4566                     "range": {
4567                         {
4568                             "description": "The valid range for the value Property",
4569                             "items": {
4570                                 "anyOf": [
4571                                     {
4572                                         "type": "number"
4573                                     },
4574                                     {
4575                                         "type": "integer"
4576                                     }
4577                                 ]
4578                             },
4579                             "maxItems": 2,
4580                             "minItems": 2,
4581                             "readOnly": true,
4582                             "type": "array"

```

```

4583     },
4584     "step" :
4585     {
4586         "anyOf": [
4587             {
4588                 "type": "integer"
4589             },
4590             {
4591                 "type": "number"
4592             }
4593         ],
4594         "description": "Step value across the defined range",
4595         "readOnly": true
4596     },
4597     "humidity" :
4598     {
4599         "description": "Current sensed value for Humidity",
4600         "maximum": 100,
4601         "minimum": 0,
4602         "readOnly": true,
4603         "type": "integer"
4604     },
4605     "id" :
4606     {
4607         "description": "Instance ID of this specific resource",
4608         "maxLength": 64,
4609         "readOnly": true,
4610         "type": "string"
4611     },
4612     "if" :
4613     {
4614         "description": "The interface set supported by this resource",
4615         "items": {
4616             "enum": [
4617                 "oic.if.baseline",
4618                 "oic.if.ll",
4619                 "oic.if.b",
4620                 "oic.if.lb",
4621                 "oic.if.rw",
4622                 "oic.if.r",
4623                 "oic.if.a",
4624                 "oic.if.s"
4625             ],
4626             "type": "string"
4627         },
4628         "minItems": 1,
4629         "readOnly": true,
4630         "type": "array"
4631     }
4632 },
4633 "type" : "object"
4634 , "required": ["humidity"]
4635 }
4636 ,
4637 "HumidityUpdate" : {
4638     "properties": {
4639         "desiredHumidity" :
4640         {
4641             "description": "Desired value for Humidity",
4642             "maximum": 100,
4643             "minimum": 0,
4644             "type": "integer"
4645         }
4646     }
4647     , "type" : "object"
4648 }
4649 }
4650 }
4651

```

6.13.5 Property definition

Table 29 defines the Properties that are part of the ['oic.r.humidity'] Resource Type
 Copyright Open Connectivity Foundation, Inc. © 2016-19. All rights Reserved

Table 29 – The Property definitions of the Resource with type 'rt' = ['oic.r.humidity']

Property name	Value type	Mandatory	Access mode	Description
desiredHumidity	integer		Read Write	Desired value for Humidity
range	array: see schema	No	Read Only	The valid range for the value Property
humidity	integer	Yes	Read Only	Current sensed value for Humidity
id	string	No	Read Only	Instance ID of this specific resource
desiredHumidity	integer	No	Read Write	Desired value for Humidity
rt	array: see schema	No	Read Only	Resource Type
if	array: see schema	No	Read Only	The interface set supported by this resource
step	multiple types: see schema	No	Read Only	Step value across the defined range
precision	number	No	Read Only	Accuracy granularity of the exposed value
n	string	No	Read Only	Friendly name of the resource

4655 6.13.6 CRUDN behaviour

4656 Table 30 defines the CRUDN operations that are supported on the ['oic.r.humidity'] Resource Type

4657 Table 30 – The CRUDN operations of the Resource with type 'rt' = ['oic.r.humidity']

Create	Read	Update	Delete	Notify
	get	post		observe

4658 6.14 Ice Maker**4659 6.14.1 Introduction**

4660 This resource describes an the operational state of an Ice Maker.

4661 The status is a string containing a value from the set of possible ice maker statuses.

4662 The possible statuses are defined by the enumeration [on, off, full]

4663 A status of 'on' means that the Ice Maker is operating.

4664 A status of 'off' means that the Ice Maker is not operating.

4665 A status of 'full' means that the ice collection bin is full (Ice Maker is operating).

4666 Retrieves the current Ice Maker status.

4667

4668 6.14.2 Example URI

4669 /IceMakerResURI

4670 6.14.3 Resource type

4671 The resource type (rt) is defined as: ['oic.r.icemaker'].

4672 6.14.4 OpenAPI 2.0 definition

4673 {
4674 "swagger": "2.0",

```

4675     "info": {
4676         "title": "Ice Maker",
4677         "version": "v1.1.0-20160519",
4678         "license": {
4679             "name": "copyright 2016-2017 Open Connectivity Foundation, Inc. All rights reserved.",
4680             "x-description": "Redistribution and use in source and binary forms, with or without
4681 modification, are permitted provided that the following conditions are met:\n      1.
4682 Redistributions of source code must retain the above copyright notice, this list of conditions and
4683 the following disclaimer.\n      2. Redistributions in binary form must reproduce the above
4684 copyright notice, this list of conditions and the following disclaimer in the documentation and/or
4685 other materials provided with the distribution.\n\n      THIS SOFTWARE IS PROVIDED BY THE Open
4686 Connectivity Foundation, INC. \\"AS IS\\" AND ANY EXPRESS OR IMPLIED WARRANTIES, INCLUDING, BUT NOT
4687 LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE OR
4688 WARRANTIES OF NON-INFRINGEMENT, ARE DISCLAIMED.\n      IN NO EVENT SHALL THE Open Connectivity
4689 Foundation, INC. OR CONTRIBUTORS BE LIABLE FOR ANY DIRECT, INDIRECT, INCIDENTAL, SPECIAL, EXEMPLARY,
4690 OR CONSEQUENTIAL DAMAGES (INCLUDING, BUT NOT LIMITED TO, PROCUREMENT OF SUBSTITUTE GOODS OR
4691 SERVICES; LOSS OF USE, DATA, OR PROFITS; OR BUSINESS INTERRUPTION)\n      HOWEVER CAUSED AND ON
4692 ANY THEORY OF LIABILITY, WHETHER IN CONTRACT, STRICT LIABILITY, OR TORT (INCLUDING NEGLIGENCE OR
4693 OTHERWISE) ARISING IN ANY WAY OUT OF THE USE OF THIS SOFTWARE, EVEN IF ADVISED OF THE POSSIBILITY OF
4694 SUCH DAMAGE.\n"
4695         }
4696     },
4697     "schemes": ["http"],
4698     "consumes": ["application/json"],
4699     "produces": ["application/json"],
4700     "paths": {
4701         "/IceMakerResURI" : {
4702             "get": {
4703                 "description": "This resource describes an the operational state of an Ice Maker.\nThe
4704 status is a string containing a value from the set of possible ice maker statuses.\nThe possible
4705 statuses are defined by the enumeration [on, off, full]\nA status of 'on' means that the Ice Maker
4706 is operating.\nA status of 'off' means that the Ice Maker is not operating.\nA status of 'full'
4707 means that the ice collection bin is full (Ice Maker is operating).\nRetrieves the current Ice Maker
4708 status.\n",
4709                 "parameters": [
4710                     { "$ref": "#/parameters/interface" }
4711                 ],
4712                 "responses": {
4713                     "200": {
4714                         "description": "",
4715                         "x-example":
4716                             {
4717                                 "rt": ["oic.r.icemaker"],
4718                                 "id": "unique_example_id",
4719                                 "status": "on"
4720                             }
4721                         ,
4722                         "schema": { "$ref": "#/definitions/IceMaker" }
4723                     }
4724                 }
4725             },
4726             "post": {
4727                 "description": "Sets the desired Ice Maker status.\nOnly valid settings for status in a Post
4728 shall be [on,off].\n",
4729                 "parameters": [
4730                     { "$ref": "#/parameters/interface" },
4731                     {
4732                         "name": "body",
4733                         "in": "body",
4734                         "required": true,
4735                         "schema": { "$ref": "#/definitions/IceMakerUpdate" },
4736                         "x-example":
4737                             {
4738                                 "status": "off"
4739                             }
4740                     }
4741                 ],
4742                 "responses": {
4743                     "200": {
4744                         "description": "Indicates that the Ice Maker status was changed.\nThe new status is
4745 provided in the response.\n",
4746                         "x-example":

```

```

4747         {
4748             "id": "unique_example_id",
4749             "status": "off"
4750         }
4751     },
4752     "schema": { "$ref": "#/definitions/IceMakerUpdate" }
4753 },
4754 "403": {
4755     "description": "This response is generated by the OIC Server when the client sends:\n
4756 An update with an invalid property value for status.\nThe server responds with the current resource
4757 representation.\n",
4758     "x-example":
4759     {
4760         "id": "unique_example_id",
4761         "status": "off"
4762     }
4763 },
4764     "schema": { "$ref": "#/definitions/IceMakerUpdate" }
4765 }
4766 }
4767 }
4768 },
4769 },
4770 "parameters": {
4771     "interface" : {
4772         "in" : "query",
4773         "name" : "if",
4774         "type" : "string",
4775         "enum" : ["oic.if.a", "oic.if.baseline"]
4776     }
4777 },
4778 "definitions": {
4779     "IceMaker" : {
4780         "properties": {
4781             "rt" :
4782             {
4783                 "description": "Resource Type",
4784                 "items": {
4785                     "maxLength": 64,
4786                     "type": "string"
4787                 },
4788                 "minItems": 1,
4789                 "readOnly": true,
4790                 "type": "array"
4791             },
4792             "status" :
4793             {
4794                 "description": "Status of the Ice Maker",
4795                 "enum": [
4796                     "on",
4797                     "off",
4798                     "full"
4799                 ],
4800                 "type": "string"
4801             },
4802             "n" :
4803             {
4804                 "description": "Friendly name of the resource",
4805                 "maxLength": 64,
4806                 "readOnly": true,
4807                 "type": "string"
4808             },
4809             "id" :
4810             {
4811                 "description": "Instance ID of this specific resource",
4812                 "maxLength": 64,
4813                 "readOnly": true,
4814                 "type": "string"
4815             },
4816             "if" :
4817             {
4818                 "description": "The interface set supported by this resource",

```

```

4819         "items": {
4820             "enum": [
4821                 "oic.if.baseline",
4822                 "oic.if.ll",
4823                 "oic.if.b",
4824                 "oic.if.lb",
4825                 "oic.if.rw",
4826                 "oic.if.r",
4827                 "oic.if.a",
4828                 "oic.if.s"
4829             ],
4830             "type": "string"
4831         },
4832         "minItems": 1,
4833         "readOnly": true,
4834         "type": "array"
4835     }
4836
4837     },
4838     "type" : "object"
4839 }, "required": ["status"]
4840 }
4841
4842 "IceMakerUpdate" : {
4843     "properties": {
4844
4845         "status" :
4846         {
4847             "description": "Set the status of the Ice Maker",
4848             "enum": [
4849                 "on",
4850                 "off"
4851             ]
4852         }
4853     },
4854     "type" : "object"
4855 }, "required": ["status"]
4856 }
4857 }
4858 }
4859

```

4860 6.14.5 Property definition

4861 Table 31 defines the Properties that are part of the ['oic.r.icemaker'] Resource Type

4862 **Table 31 – The Property definitions of the Resource with type 'rt' = ['oic.r.icemaker']**

Property name	Value type	Mandatory	Access mode	Description
status	multiple types: see schema	Yes	Read Write	Set the status of the Ice Maker
n	string	No	Read Only	Friendly name of the resource
status	string	Yes	Read Write	Status of the Ice Maker
if	array: see schema	No	Read Only	The interface set supported by this resource
rt	array: see schema	No	Read Only	Resource Type
id	string	No	Read Only	Instance ID of this specific resource

4863 6.14.6 CRUDN behaviour

4864 Table 32 defines the CRUDN operations that are supported on the ['oic.r.icemaker'] Resource Type

4865

Table 32 – The CRUDN operations of the Resource with type 'rt' = ['oic.r.icemaker']

Create	Read	Update	Delete	Notify
	get	post		observe

4866 **6.15 Lock**4867 **6.15.1 Introduction**

4868 Resource describing a lock.

4869 For the type of lockState, the value 'Locked' indicates that the door is Locked.

4870 The value 'Unlocked' indicates that the door is Unlocked.

4871 Retrieves the state of the lock.

4872

4873 **6.15.2 Example URI**

4874 /LockStatusResURI

4875 **6.15.3 Resource type**

4876 The resource type (rt) is defined as: ['oic.r.lock.status'].

4877 **6.15.4 OpenAPI 2.0 definition**

```

4878 {
4879   "swagger": "2.0",
4880   "info": {
4881     "title": "Lock",
4882     "version": "v1.1.0-20160519",
4883     "license": {
4884       "name": "copyright 2016-2017 Open Connectivity Foundation, Inc. All rights reserved.",
4885       "x-description": "Redistribution and use in source and binary forms, with or without
4886 modification, are permitted provided that the following conditions are met:\n      1.
4887 Redistributions of source code must retain the above copyright notice, this list of conditions and
4888 the following disclaimer.\n      2. Redistributions in binary form must reproduce the above
4889 copyright notice, this list of conditions and the following disclaimer in the documentation and/or
4890 other materials provided with the distribution.\n\n      THIS SOFTWARE IS PROVIDED BY THE Open
4891 Connectivity Foundation, INC. \AS IS\ AND ANY EXPRESS OR IMPLIED WARRANTIES, INCLUDING, BUT NOT
4892 LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE OR
4893 WARRANTIES OF NON-INFRINGEMENT, ARE DISCLAIMED.\n      IN NO EVENT SHALL THE Open Connectivity
4894 Foundation, INC. OR CONTRIBUTORS BE LIABLE FOR ANY DIRECT, INDIRECT, INCIDENTAL, SPECIAL, EXEMPLARY,
4895 OR CONSEQUENTIAL DAMAGES (INCLUDING, BUT NOT LIMITED TO, PROCUREMENT OF SUBSTITUTE GOODS OR
4896 SERVICES; LOSS OF USE, DATA, OR PROFITS; OR BUSINESS INTERRUPTION)\n      HOWEVER CAUSED AND ON
4897 ANY THEORY OF LIABILITY, WHETHER IN CONTRACT, STRICT LIABILITY, OR TORT (INCLUDING NEGLIGENCE OR
4898 OTHERWISE) ARISING IN ANY WAY OUT OF THE USE OF THIS SOFTWARE, EVEN IF ADVISED OF THE POSSIBILITY OF
4899 SUCH DAMAGE.\n"
4900     }
4901   },
4902   "schemes": ["http"],
4903   "consumes": ["application/json"],
4904   "produces": ["application/json"],
4905   "paths": {
4906     "/LockStatusResURI" : {
4907       "get": {
4908         "description": "Resource describing a lock.\nFor the type of lockState, the value 'Locked'
4909 indicates that the door is Locked.\nThe value 'Unlocked' indicates that the door is
4910 Unlocked.\nRetrieves the state of the lock.\n",
4911         "parameters": [
4912           {"$ref": "#/parameters/interface"}
4913         ],
4914         "responses": {
4915           "200": {
4916             "description": "",
4917             "x-example":
4918               {
4919                 "rt": ["oic.r.lock.status"],
4920                 "id": "unique_example_id",
4921                 "lockState": "Locked"
4922               }
4923           },
4924           "schema": { "$ref": "#/definitions/Lock" }

```

```

4925     }
4926   },
4927 },
4928 "post": {
4929   "description": "Sets the current lock state.\n",
4930   "parameters": [
4931     { "$ref": "#/parameters/interface" },
4932     {
4933       "name": "body",
4934       "in": "body",
4935       "required": true,
4936       "schema": { "$ref": "#/definitions/Lock" },
4937       "x-example":
4938         {
4939           "lockState": "Unlocked"
4940         }
4941     }
4942   ],
4943   "responses": {
4944     "200": {
4945       "description": "",
4946       "x-example":
4947         {
4948           "id": "unique_example_id",
4949           "lockState": "Unlocked"
4950         },
4951       "schema": { "$ref": "#/definitions/Lock" }
4952     },
4953     "403": {
4954       "description": "This response is generated by the OIC Server when the client sends:\n
4955 An update with an invalid property value for lockState.\nThe server responds with the current
4956 resource representation.\n",
4957       "x-example":
4958         {
4959           "lockState": "Unlocked"
4960         },
4961       "schema": { "$ref": "#/definitions/Lock" }
4962     }
4963   }
4964 },
4965 },
4966 },
4967 },
4968 },
4969 "parameters": {
4970   "interface": {
4971     "in": "query",
4972     "name": "if",
4973     "type": "string",
4974     "enum": ["oic.if.a", "oic.if.baseline"]
4975   }
4976 },
4977 "definitions": {
4978   "Lock": {
4979     "properties": {
4980       "rt": {
4981         {
4982           "description": "Resource Type",
4983           "items": {
4984             "maxLength": 64,
4985             "type": "string"
4986           },
4987           "minItems": 1,
4988           "readOnly": true,
4989           "type": "array"
4990         },
4991       "n": {
4992         {
4993           "description": "Friendly name of the resource",
4994           "maxLength": 64,
4995           "readOnly": true,
4996           "type": "string"

```

```

4997     },
4998     "lockState" :
4999     {
5000         "description": "State of the lock.",
5001         "enum": [
5002             "Locked",
5003             "Unlocked"
5004         ],
5005         "type": "string"
5006     },
5007     "id" :
5008     {
5009         "description": "Instance ID of this specific resource",
5010         "maxLength": 64,
5011         "readOnly": true,
5012         "type": "string"
5013     },
5014     "if" :
5015     {
5016         "description": "The interface set supported by this resource",
5017         "items": {
5018             "enum": [
5019                 "oic.if.baseline",
5020                 "oic.if.ll",
5021                 "oic.if.b",
5022                 "oic.if.lb",
5023                 "oic.if.rw",
5024                 "oic.if.r",
5025                 "oic.if.a",
5026                 "oic.if.s"
5027             ],
5028             "type": "string"
5029         },
5030         "minItems": 1,
5031         "readOnly": true,
5032         "type": "array"
5033     }
5034     },
5035     "type" : "object"
5036     , "required": ["lockState"]
5037 }
5038 }
5039 }
5040

```

5041 6.15.5 Property definition

5042 Table 33 defines the Properties that are part of the ['oic.r.lock.status'] Resource Type

5043 **Table 33 – The Property definitions of the Resource with type 'rt' = ['oic.r.lock.status']**

Property name	Value type	Mandatory	Access mode	Description
rt	array: see schema	No	Read Only	Resource Type
n	string	No	Read Only	Friendly name of the resource
id	string	No	Read Only	Instance ID of this specific resource
if	array: see schema	No	Read Only	The interface set supported by this resource
lockState	string	Yes	Read Write	State of the lock.

5044 6.15.6 CRUDN behaviour

5045 Table 34 defines the CRUDN operations that are supported on the ['oic.r.lock.status'] Resource
5046 Type

5047 **Table 34 – The CRUDN operations of the Resource with type 'rt' = ['oic.r.lock.status']**

Create	Read	Update	Delete	Notify
	get	post		observe

5048 **6.16 Lock Code**

5049 **6.16.1 Introduction**

5050 Resource describing a lock code.
 5051 The lockCodeList is an array of possible codes that may be associated with a lock.
 5052 These are all presented as strings.
 5053 Retrieves the current lock code values.
 5054

5055 **6.16.2 Example URI**

5056 /LockCodeResURI

5057 **6.16.3 Resource type**

5058 The resource type (rt) is defined as: ['oic.r.lock.code'].

5059 **6.16.4 OpenAPI 2.0 definition**

```

5060 {
5061   "swagger": "2.0",
5062   "info": {
5063     "title": "Lock Code",
5064     "version": "v1.1.0-20160519",
5065     "license": {
5066       "name": "copyright 2016-2017 Open Connectivity Foundation, Inc. All rights reserved.",
5067       "x-description": "Redistribution and use in source and binary forms, with or without
5068 modification, are permitted provided that the following conditions are met:\n      1.
5069 Redistributions of source code must retain the above copyright notice, this list of conditions and
5070 the following disclaimer.\n      2. Redistributions in binary form must reproduce the above
5071 copyright notice, this list of conditions and the following disclaimer in the documentation and/or
5072 other materials provided with the distribution.\n\n      THIS SOFTWARE IS PROVIDED BY THE Open
5073 Connectivity Foundation, INC. \AS IS\ AND ANY EXPRESS OR IMPLIED WARRANTIES, INCLUDING, BUT NOT
5074 LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE OR
5075 WARRANTIES OF NON-INFRINGEMENT, ARE DISCLAIMED.\n      IN NO EVENT SHALL THE Open Connectivity
5076 Foundation, INC. OR CONTRIBUTORS BE LIABLE FOR ANY DIRECT, INDIRECT, INCIDENTAL, SPECIAL, EXEMPLARY,
5077 OR CONSEQUENTIAL DAMAGES (INCLUDING, BUT NOT LIMITED TO, PROCUREMENT OF SUBSTITUTE GOODS OR
5078 SERVICES; LOSS OF USE, DATA, OR PROFITS; OR BUSINESS INTERRUPTION)\n      HOWEVER CAUSED AND ON
5079 ANY THEORY OF LIABILITY, WHETHER IN CONTRACT, STRICT LIABILITY, OR TORT (INCLUDING NEGLIGENCE OR
5080 OTHERWISE) ARISING IN ANY WAY OUT OF THE USE OF THIS SOFTWARE, EVEN IF ADVISED OF THE POSSIBILITY OF
5081 SUCH DAMAGE.\n"
5082   }
5083 },
5084 "schemes": ["http"],
5085 "consumes": ["application/json"],
5086 "produces": ["application/json"],
5087 "paths": {
5088   "/LockCodeResURI" : {
5089     "get": {
5090       "description": "Resource describing a lock code.\nThe lockCodeList is an array of possible
5091 codes that may be associated with a lock.\nThese are all presented as strings.\nRetrieves the
5092 current lock code values.\n",
5093       "parameters": [
5094         {"$ref": "#/parameters/interface"}
5095       ],
5096       "responses": {
5097         "200": {
5098           "description": "",
5099           "x-example":
5100             {
5101               "rt": ["oic.r.lock.code"],
5102               "id": "unique_example_id",
5103               "lockCodeList": ["012345","112233"]
5104             }
5105         },
5106         "schema": { "$ref": "#/definitions/LockCode" }
5107       }
5108     }
5109   }
5110 }

```



```

5107     }
5108   },
5109 },
5110 "post": {
5111   "description": "Updates the current lock code values.\n",
5112   "parameters": [
5113     { "$ref": "#/parameters/interface" },
5114     {
5115       "name": "body",
5116       "in": "body",
5117       "required": true,
5118       "schema": { "$ref": "#/definitions/LockCode" },
5119       "x-example":
5120         {
5121           "lockCodeList": ["543210", "332211"]
5122         }
5123     }
5124   ],
5125   "responses": {
5126     "200": {
5127       "description": "",
5128       "x-example":
5129         {
5130           "id": "unique_example_id",
5131           "lockCodeList": ["543210", "332211"]
5132         }
5133     },
5134     "schema": { "$ref": "#/definitions/LockCode" }
5135   }
5136 }
5137 },
5138 },
5139 },
5140 "parameters": {
5141   "interface": {
5142     "in": "query",
5143     "name": "if",
5144     "type": "string",
5145     "enum": ["oic.if.a", "oic.if.baseline"]
5146   }
5147 },
5148 "definitions": {
5149   "LockCode": {
5150     "properties": {
5151       "rt": {
5152         {
5153           "description": "Resource Type",
5154           "items": {
5155             "maxLength": 64,
5156             "type": "string"
5157           },
5158           "minItems": 1,
5159           "readOnly": true,
5160           "type": "array"
5161         },
5162       "precision": {
5163         {
5164           "description": "Accuracy granularity of the exposed value",
5165           "readOnly": true,
5166           "type": "number"
5167         },
5168       "n": {
5169         {
5170           "description": "Friendly name of the resource",
5171           "maxLength": 64,
5172           "readOnly": true,
5173           "type": "string"
5174         },
5175       "range": {
5176         {
5177           "description": "The valid range for the value Property",
5178           "items": {

```

```

5179         "anyOf": [
5180             {
5181                 "type": "number"
5182             },
5183             {
5184                 "type": "integer"
5185             }
5186         ],
5187     },
5188     "maxItems": 2,
5189     "minItems": 2,
5190     "readOnly": true,
5191     "type": "array"
5192 },
5193 "step" :
5194     {
5195         "anyOf": [
5196             {
5197                 "type": "integer"
5198             },
5199             {
5200                 "type": "number"
5201             }
5202         ],
5203         "description": "Step value across the defined range",
5204         "readOnly": true
5205     },
5206 "lockCodeList" :
5207     {
5208         "items": {
5209             "description": "Value for the lock code",
5210             "type": "string"
5211         },
5212         "type": "array"
5213     },
5214 "id" :
5215     {
5216         "description": "Instance ID of this specific resource",
5217         "maxLength": 64,
5218         "readOnly": true,
5219         "type": "string"
5220     },
5221 "if" :
5222     {
5223         "description": "The interface set supported by this resource",
5224         "items": {
5225             "enum": [
5226                 "oic.if.baseline",
5227                 "oic.if.ll",
5228                 "oic.if.b",
5229                 "oic.if.lb",
5230                 "oic.if.rw",
5231                 "oic.if.r",
5232                 "oic.if.a",
5233                 "oic.if.s"
5234             ],
5235             "type": "string"
5236         },
5237         "minItems": 1,
5238         "readOnly": true,
5239         "type": "array"
5240     }
5241 },
5242 "type" : "object"
5243 , "required": ["lockCodeList"]
5244 }
5245 }
5246 }
5247

```

5248 6.16.5 Property definition

5249 Table 35 defines the Properties that are part of the ['oic.r.lock.code'] Resource Type
 Copyright Open Connectivity Foundation, Inc. © 2016-19. All rights Reserved

5250

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

Property name	Value type	Mandatory	Access mode	Description
step	multiple types: see schema	No	Read Only	Step value across the defined range
n	string	No	Read Only	Friendly name of the resource
precision	number	No	Read Only	Accuracy granularity of the exposed value
if	array: see schema	No	Read Only	The interface set supported by this resource
rt	array: see schema	No	Read Only	Resource Type
range	array: see schema	No	Read Only	The valid range for the value Property
lockCodeList	array: see schema	Yes	Read Write	
id	string	No	Read Only	Instance ID of this specific resource

5251 **6.16.6 CRUDN behaviour**

5252 Table 36 defines the CRUDN operations that are supported on the ['oic.r.lock.code'] Resource Type

5253 **Table 36 – The CRUDN operations of the Resource with type 'rt' = ['oic.r.lock.code']**

Create	Read	Update	Delete	Notify
	get	post		observe

5254 **6.17 Mode**

5255 **6.17.1 Introduction**

5256 This resource describes the modes of operation that a device can provide.
 5257 The mode can be read or set.
 5258 The supportedModes is an array of possible modes the device supports.
 5259 The modes are an array of the currently active mode(s).
 5260 Retrieves the current mode.
 5261

5262 **6.17.2 Example URI**

5263 /ModeResURI

5264 **6.17.3 Resource type**

5265 The resource type (rt) is defined as: ['oic.r.mode'].

5266 **6.17.4 OpenAPI 2.0 definition**

```

5267 {
5268   "swagger": "2.0",
5269   "info": {
5270     "title": "Mode",
5271     "version": "v1.1.0-20160519",
5272     "license": {
5273       "name": "copyright 2016-2017 Open Connectivity Foundation, Inc. All rights reserved.",
5274       "x-description": "Redistribution and use in source and binary forms, with or without
5275 modification, are permitted provided that the following conditions are met:\n
5276 1. Redistributions of source code must retain the above copyright notice, this list of conditions and
5277 the following disclaimer.\n
5278 2. Redistributions in binary form must reproduce the above
  
```

```

5278 copyright notice, this list of conditions and the following disclaimer in the documentation and/or
5279 other materials provided with the distribution.\n\n THIS SOFTWARE IS PROVIDED BY THE Open
5280 Connectivity Foundation, INC. \ "AS IS\ " AND ANY EXPRESS OR IMPLIED WARRANTIES, INCLUDING, BUT NOT
5281 LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE OR
5282 WARRANTIES OF NON-INFRINGEMENT, ARE DISCLAIMED.\n IN NO EVENT SHALL THE Open Connectivity
5283 Foundation, INC. OR CONTRIBUTORS BE LIABLE FOR ANY DIRECT, INDIRECT, INCIDENTAL, SPECIAL, EXEMPLARY,
5284 OR CONSEQUENTIAL DAMAGES (INCLUDING, BUT NOT LIMITED TO, PROCUREMENT OF SUBSTITUTE GOODS OR
5285 SERVICES; LOSS OF USE, DATA, OR PROFITS; OR BUSINESS INTERRUPTION)\n HOWEVER CAUSED AND ON
5286 ANY THEORY OF LIABILITY, WHETHER IN CONTRACT, STRICT LIABILITY, OR TORT (INCLUDING NEGLIGENCE OR
5287 OTHERWISE) ARISING IN ANY WAY OUT OF THE USE OF THIS SOFTWARE, EVEN IF ADVISED OF THE POSSIBILITY OF
5288 SUCH DAMAGE.\n"
5289 }
5290 },
5291 "schemes": ["http"],
5292 "consumes": ["application/json"],
5293 "produces": ["application/json"],
5294 "paths": {
5295 "/ModeResURI" : {
5296 "get": {
5297 "description": "This resource describes the modes of operation that a device can
5298 provide.\nThe mode can be read or set.\nThe supportedModes is an array of possible modes the device
5299 supports.\nThe modes are an array of the currently active mode(s).\nRetrieves the current mode.\n",
5300 "parameters": [
5301 {"$ref": "#/parameters/interface"}
5302 ],
5303 "responses": {
5304 "200": {
5305 "description": "",
5306 "x-example":
5307 {
5308 "rt": ["oic.r.mode"],
5309 "id": "unique_example_id",
5310 "supportedModes": ["active", "armedAway", "armedStay", "armedInstant"],
5311 "modes": ["active"]
5312 }
5313 ,
5314 "schema": { "$ref": "#/definitions/Mode" }
5315 }
5316 },
5317 },
5318 "post": {
5319 "description": "Sets the desired mode.\n",
5320 "parameters": [
5321 {"$ref": "#/parameters/interface"},
5322 {
5323 "name": "body",
5324 "in": "body",
5325 "required": true,
5326 "schema": { "$ref": "#/definitions/ModeUpdate" },
5327 "x-example":
5328 {
5329 "modes": ["armedAway"]
5330 }
5331 }
5332 ],
5333 "responses": {
5334 "200": {
5335 "description": "",
5336 "x-example":
5337 {
5338 "id": "unique_example_id",
5339 "modes": ["armedAway"]
5340 }
5341 ,
5342 "schema": { "$ref": "#/definitions/ModeUpdate" }
5343 },
5344 "403": {
5345 "description": "This response is generated by the OIC Server when the client sends:\n
5346 An update with an value for mode that is not found in supportedModes.\nThe server responds with the
5347 current resource representation.\n",
5348 "x-example":
5349 {

```

```

5350         "id": "unique_example_id",
5351         "supportedModes": ["active", "armedAway", "armedStay", "armedInstant"],
5352         "modes": ["active"]
5353     }
5354     ,
5355     "schema": { "$ref": "#/definitions/Mode" }
5356 }
5357 }
5358 }
5359 }
5360 },
5361 "parameters": {
5362     "interface" : {
5363         "in" : "query",
5364         "name" : "if",
5365         "type" : "string",
5366         "enum" : ["oic.if.a", "oic.if.baseline"]
5367     }
5368 },
5369 "definitions": {
5370     "Mode" : {
5371         "properties": {
5372             "rt" :
5373                 {
5374                     "description": "Resource Type",
5375                     "items": {
5376                         "maxLength": 64,
5377                         "type": "string"
5378                     },
5379                     "minItems": 1,
5380                     "readOnly": true,
5381                     "type": "array"
5382                 },
5383             "modes" :
5384                 {
5385                     "description": "Array of the currently active mode(s)",
5386                     "items": {
5387                         "type": "string"
5388                     },
5389                     "type": "array"
5390                 },
5391             "precision" :
5392                 {
5393                     "description": "Accuracy granularity of the exposed value",
5394                     "readOnly": true,
5395                     "type": "number"
5396                 },
5397             "n" :
5398                 {
5399                     "description": "Friendly name of the resource",
5400                     "maxLength": 64,
5401                     "readOnly": true,
5402                     "type": "string"
5403                 },
5404             "supportedModes" :
5405                 {
5406                     "description": "Array of possible modes the device supports.",
5407                     "items": {
5408                         "type": "string"
5409                     },
5410                     "readOnly": true,
5411                     "type": "array"
5412                 },
5413             "id" :
5414                 {
5415                     "description": "Instance ID of this specific resource",
5416                     "maxLength": 64,
5417                     "readOnly": true,
5418                     "type": "string"
5419                 },
5420             "if" :
5421                 {

```

```

5422     "description": "The interface set supported by this resource",
5423     "items": {
5424         "enum": [
5425             "oic.if.baseline",
5426             "oic.if.ll",
5427             "oic.if.b",
5428             "oic.if.lb",
5429             "oic.if.rw",
5430             "oic.if.r",
5431             "oic.if.a",
5432             "oic.if.s"
5433         ],
5434         "type": "string"
5435     },
5436     "minItems": 1,
5437     "readOnly": true,
5438     "type": "array"
5439 }
5440
5441 }
5442 , "type" : "object"
5443 , "required": ["supportedModes", "modes"]
5444 }
5445 ,
5446 "ModeUpdate" : {
5447     "properties": {
5448         "rt" :
5449             {
5450                 "description": "Resource Type",
5451                 "items": {
5452                     "maxLength": 64,
5453                     "type": "string"
5454                 },
5455                 "minItems": 1,
5456                 "readOnly": true,
5457                 "type": "array"
5458             },
5459         "modes" :
5460             {
5461                 "description": "Desired mode",
5462                 "items": {
5463                     "type": "string"
5464                 },
5465                 "type": "array"
5466             },
5467         "precision" :
5468             {
5469                 "description": "Accuracy granularity of the exposed value",
5470                 "readOnly": true,
5471                 "type": "number"
5472             }
5473     },
5474     "type" : "object"
5475 , "required": ["modes"]
5476 }
5477 }
5478 }
5479

```

5480 6.17.5 Property definition

5481 Table 37 defines the Properties that are part of the ['oic.r.mode'] Resource Type

5482 **Table 37 – The Property definitions of the Resource with type 'rt' = ['oic.r.mode']**

Property name	Value type	Mandatory	Access mode	Description
rt	array: see schema	No	Read Only	Resource Type
precision	number	No	Read Only	Accuracy granularity of the exposed value

modes	array: schema	see	Yes	Read Write	Desired mode
n	string		No	Read Only	Friendly name of the resource
supportedModes	array: schema	see	Yes	Read Only	Array of possible modes the device supports.
modes	array: schema	see	Yes	Read Write	Array of the currently active mode(s)
rt	array: schema	see	No	Read Only	Resource Type
id	string		No	Read Only	Instance ID of this specific resource
if	array: schema	see	No	Read Only	The interface set supported by this resource
precision	number		No	Read Only	Accuracy granularity of the exposed value

5483 **6.17.6 CRUDN behaviour**

5484 Table 38 defines the CRUDN operations that are supported on the ['oic.r.mode'] Resource Type

5485 **Table 38 – The CRUDN operations of the Resource with type 'rt' = ['oic.r.mode']**

Create	Read	Update	Delete	Notify
	get	post		observe

5486 **6.18 Open Level**

5487 **6.18.1 Introduction**

5488 This resource describes how open or ajar an entity such as a window, door, blind or shutter is.

5489 The openLevel can be read (acting as a sensor).

5490 The openLevel can also be set (acting as an actuator).

5491 The openLevel is device dependent across the range provided.

5492 When range (from oic.r.baseresource) is omitted then 0 to 100 is assumed where 0 means closed, 100 means fully open.

5494 If a range is provided then the lower bound=closed, upper bound=open.

5495 If step (from oic.r.baseresource) is present then it represents the increment between possible values; if not provided 1 is assumed.

5497 Retrieves the current openLevel.

5498

5499 **6.18.2 Example URI**

5500 /OpenLevelResURI

5501 **6.18.3 Resource type**

5502 The resource type (rt) is defined as: ['oic.r.openlevel'].

5503 **6.18.4 OpenAPI 2.0 definition**

```
5504 {
5505   "swagger": "2.0",
5506   "info": {
5507     "title": "Open Level",
5508     "version": "v1.1.0-20160519",
5509     "license": {
5510       "name": "copyright 2016-2017 Open Connectivity Foundation, Inc. All rights reserved.",
5511       "x-description": "Redistribution and use in source and binary forms, with or without
```

```

5512 modification, are permitted provided that the following conditions are met:\n      1.
5513 Redistributions of source code must retain the above copyright notice, this list of conditions and
5514 the following disclaimer.\n      2. Redistributions in binary form must reproduce the above
5515 copyright notice, this list of conditions and the following disclaimer in the documentation and/or
5516 other materials provided with the distribution.\n\n      THIS SOFTWARE IS PROVIDED BY THE Open
5517 Connectivity Foundation, INC. \ "AS IS\ " AND ANY EXPRESS OR IMPLIED WARRANTIES, INCLUDING, BUT NOT
5518 LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE OR
5519 WARRANTIES OF NON-INFRINGEMENT, ARE DISCLAIMED.\n      IN NO EVENT SHALL THE Open Connectivity
5520 Foundation, INC. OR CONTRIBUTORS BE LIABLE FOR ANY DIRECT, INDIRECT, INCIDENTAL, SPECIAL, EXEMPLARY,
5521 OR CONSEQUENTIAL DAMAGES (INCLUDING, BUT NOT LIMITED TO, PROCUREMENT OF SUBSTITUTE GOODS OR
5522 SERVICES; LOSS OF USE, DATA, OR PROFITS; OR BUSINESS INTERRUPTION)\n      HOWEVER CAUSED AND ON
5523 ANY THEORY OF LIABILITY, WHETHER IN CONTRACT, STRICT LIABILITY, OR TORT (INCLUDING NEGLIGENCE OR
5524 OTHERWISE) ARISING IN ANY WAY OUT OF THE USE OF THIS SOFTWARE, EVEN IF ADVISED OF THE POSSIBILITY OF
5525 SUCH DAMAGE.\n"
5526 }
5527 },
5528 "schemes": ["http"],
5529 "consumes": ["application/json"],
5530 "produces": ["application/json"],
5531 "paths": {
5532   "/OpenLevelResURI" : {
5533     "get": {
5534       "description": "This resource describes how open or ajar an entity such as a window, door,
5535 blind or shutter is.\nThe openLevel can be read (acting as a sensor).\nThe openLevel can also be set
5536 (acting as an actuator).\nThe openLevel is device dependent across the range provided.\nWhen range
5537 (from oic.r.baseresource) is omitted then 0 to 100 is assumed where 0 means closed, 100 means fully
5538 open.\nIf a range is provided then the lower bound=closed, upper bound=open.\nIf step (from
5539 oic.r.baseresource) is present then it represents the increment between possible values; if not
5540 provided 1 is assumed.\nRetrieves the current openLevel.\n",
5541     "parameters": [
5542       { "$ref": "#/parameters/interface" }
5543     ],
5544     "responses": {
5545       "200": {
5546         "description": "",
5547         "x-example":
5548           {
5549             "rt": ["oic.r.openlevel"],
5550             "id": "unique_example_id",
5551             "openLevel": 50,
5552             "step": 2,
5553             "range": [0,100]
5554           }
5555       },
5556       "schema": { "$ref": "#/definitions/OpenLevel" }
5557     }
5558   }
5559 },
5560 "post": {
5561   "description": "Sets the desired openLevel.\n",
5562   "parameters": [
5563     { "$ref": "#/parameters/interface" },
5564     {
5565       "name": "body",
5566       "in": "body",
5567       "required": true,
5568       "schema": { "$ref": "#/definitions/OpenLevel" },
5569       "x-example":
5570         {
5571           "id": "unique_example_id",
5572           "openLevel": 0
5573         }
5574     ]
5575   },
5576   "responses": {
5577     "200": {
5578       "description": "",
5579       "x-example":
5580         {
5581           "openLevel": 0
5582         }
5583     }
5584   }
5585 }

```



```

5584         "schema": { "$ref": "#/definitions/OpenLevel" }
5585     },
5586     "403": {
5587         "description": "This response is generated by the OIC Server when the client sends:\n
5588 An update with an out of range property value for openLevel.\nThe server responds with the current
5589 resource representation.\n",
5590         "x-example":
5591             {
5592                 "id": "unique_example_id",
5593                 "openLevel": 50,
5594                 "step": 2,
5595                 "range": [0,100]
5596             }
5597         ,
5598         "schema": { "$ref": "#/definitions/OpenLevel" }
5599     }
5600 }
5601 }
5602 },
5603 },
5604 "parameters": {
5605     "interface": {
5606         "in": "query",
5607         "name": "if",
5608         "type": "string",
5609         "enum": ["oic.if.a", "oic.if.baseline"]
5610     }
5611 },
5612 "definitions": {
5613     "OpenLevel": {
5614         "properties": {
5615             "rt":
5616                 {
5617                     "description": "Resource Type",
5618                     "items": {
5619                         "maxLength": 64,
5620                         "type": "string"
5621                     },
5622                     "minItems": 1,
5623                     "readOnly": true,
5624                     "type": "array"
5625                 },
5626             "openLevel":
5627                 {
5628                     "description": "How open or ajar the entity is",
5629                     "type": "integer"
5630                 },
5631             "precision":
5632                 {
5633                     "description": "Accuracy granularity of the exposed value",
5634                     "readOnly": true,
5635                     "type": "number"
5636                 },
5637             "n":
5638                 {
5639                     "description": "Friendly name of the resource",
5640                     "maxLength": 64,
5641                     "readOnly": true,
5642                     "type": "string"
5643                 },
5644             "range":
5645                 {
5646                     "description": "The valid range for the value Property",
5647                     "items": {
5648                         "anyOf": [
5649                             {
5650                                 "type": "number"
5651                             },
5652                             {
5653                                 "type": "integer"
5654                             }
5655                         ]

```

```

5656     },
5657     "maxItems": 2,
5658     "minItems": 2,
5659     "readOnly": true,
5660     "type": "array"
5661   },
5662   "increment" :
5663     {
5664       "description": "Deprecated, use 'step' instead.",
5665       "readOnly": true,
5666       "type": "integer"
5667     },
5668   "step" :
5669     {
5670       "anyOf": [
5671         {
5672           "type": "integer"
5673         },
5674         {
5675           "type": "number"
5676         }
5677       ],
5678       "description": "Step value across the defined range",
5679       "readOnly": true
5680     },
5681   "id" :
5682     {
5683       "description": "Instance ID of this specific resource",
5684       "maxLength": 64,
5685       "readOnly": true,
5686       "type": "string"
5687     },
5688   "if" :
5689     {
5690       "description": "The interface set supported by this resource",
5691       "items": {
5692         "enum": [
5693           "oic.if.baseline",
5694           "oic.if.ll",
5695           "oic.if.b",
5696           "oic.if.lb",
5697           "oic.if.rw",
5698           "oic.if.r",
5699           "oic.if.a",
5700           "oic.if.s"
5701         ],
5702         "type": "string"
5703       },
5704       "minItems": 1,
5705       "readOnly": true,
5706       "type": "array"
5707     }
5708   }
5709 }
5710 , "type" : "object"
5711 , "required": ["openLevel"]
5712 }
5713 }
5714 }
5715

```

5716 6.18.5 Property definition

5717 Table 39 defines the Properties that are part of the ['oic.r.openlevel'] Resource Type

5718 **Table 39 – The Property definitions of the Resource with type 'rt' = ['oic.r.openlevel']**

Property name	Value type	Mandatory	Access mode	Description
step	multiple types: see schema	No	Read Only	Step value across the defined range

id	string	No	Read Only	Instance ID of this specific resource
range	array: see schema	No	Read Only	The valid range for the value Property
n	string	No	Read Only	Friendly name of the resource
rt	array: see schema	No	Read Only	Resource Type
precision	number	No	Read Only	Accuracy granularity of the exposed value
openLevel	integer	Yes	Read Write	How open or ajar the entity is
increment	integer	No	Read Only	Deprecated, use 'step' instead.
if	array: see schema	No	Read Only	The interface set supported by this resource

5719 **6.18.6 CRUDN behaviour**

5720 Table 40 defines the CRUDN operations that are supported on the ['oic.r.openlevel'] Resource Type

5721 **Table 40 – The CRUDN operations of the Resource with type 'rt' = ['oic.r.openlevel']**

Create	Read	Update	Delete	Notify
	get	post		observe

5722 **6.19 Operational State**

5723 **6.19.1 Introduction**

5724 This resource describes the operational and job states on a device.

5725 The states can be read or set, setting indicates a desired state.

5726 A device may reject an attempt to set a state that would result in adverse operational characteristics.

5727 The machineStates is an array of the possible operational states.

5728 The currentMachineState is the current state of operation of the device.

5729 The jobStates is an array of the possible job states.

5730 The currentJobState is the currently active jobState.

5731 The runningTime is the ISO8601 encoded elapsed time in the current operational state.

5732 The remainingTime is the ISO8601 encoded time till completion of the current operational state.

5733 The progressPercentage is the percentage completeness of the current jobState.

5734 Retrieves the current operational and job states.

5735

5736 **6.19.2 Example URI**

5737 /OperationalStateResURI

5738 **6.19.3 Resource type**

5739 The resource type (rt) is defined as: ['oic.r.operational.state'].

5740 **6.19.4 OpenAPI 2.0 definition**

5741 {

5742 "swagger": "2.0",

5743 "info": {

5744 "title": "Operational State",

5745 "version": "v1.1.0-20160519",

5746 "license": {

5747 "name": "copyright 2016-2017 Open Connectivity Foundation, Inc. All rights reserved.",

5748

```

5749     "x-description": "Redistribution and use in source and binary forms, with or without
5750 modification, are permitted provided that the following conditions are met:\n      1.
5751 Redistributions of source code must retain the above copyright notice, this list of conditions and
5752 the following disclaimer.\n      2. Redistributions in binary form must reproduce the above
5753 copyright notice, this list of conditions and the following disclaimer in the documentation and/or
5754 other materials provided with the distribution.\n\n      THIS SOFTWARE IS PROVIDED BY THE Open
5755 Connectivity Foundation, INC. \\"AS IS\\" AND ANY EXPRESS OR IMPLIED WARRANTIES, INCLUDING, BUT NOT
5756 LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE OR
5757 WARRANTIES OF NON-INFRINGEMENT, ARE DISCLAIMED.\n      IN NO EVENT SHALL THE Open Connectivity
5758 Foundation, INC. OR CONTRIBUTORS BE LIABLE FOR ANY DIRECT, INDIRECT, INCIDENTAL, SPECIAL, EXEMPLARY,
5759 OR CONSEQUENTIAL DAMAGES (INCLUDING, BUT NOT LIMITED TO, PROCUREMENT OF SUBSTITUTE GOODS OR
5760 SERVICES; LOSS OF USE, DATA, OR PROFITS; OR BUSINESS INTERRUPTION)\n      HOWEVER CAUSED AND ON
5761 ANY THEORY OF LIABILITY, WHETHER IN CONTRACT, STRICT LIABILITY, OR TORT (INCLUDING NEGLIGENCE OR
5762 OTHERWISE) ARISING IN ANY WAY OUT OF THE USE OF THIS SOFTWARE, EVEN IF ADVISED OF THE POSSIBILITY OF
5763 SUCH DAMAGE.\n"
5764     }
5765 },
5766 "schemes": ["http"],
5767 "consumes": ["application/json"],
5768 "produces": ["application/json"],
5769 "paths": {
5770   "/OperationalStateResURI" : {
5771     "get": {
5772       "description": "This resource describes the operational and job states on a device.\nThe
5773 states can be read or set, setting indicates a desired state.\nA device may reject an attempt to set
5774 a state that would result\n\nin adverse operational characteristics.\n\nThe machineStates is an array of
5775 the possible operational states.\n\nThe currentMachineState is the current state of operation of the
5776 device.\n\nThe jobStates is an array of the possible job states.\n\nThe currentJobState is the currently
5777 active jobState.\n\nThe runningTime is the ISO8601 encoded elapsed time in the current operational
5778 state.\n\nThe remainingTime is the ISO8601 encoded time till completion of the current operational
5779 state.\n\nThe progressPercentage is the percentage completeness of the current jobState.\n\nRetrieves
5780 the current operational and job states.\n",
5781     "parameters": [
5782       { "$ref": "#/parameters/interface" }
5783     ],
5784     "responses": {
5785       "200": {
5786         "description": "",
5787         "x-example":
5788           {
5789             "rt": ["oic.r.operational.state"],
5790             "id": "unique_example_id",
5791             "machineStates": ["pause", "stopped", "idle", "active"],
5792             "currentMachineState": "active",
5793             "jobStates": ["preWash", "wash", "rinse", "spin", "dry", "airDry",
5794 "wrinklePrevent"],
5795             "currentJobState": "rinse",
5796             "runningTime": "PT15M20S",
5797             "remainingTime": "PT10M40S",
5798             "progressPercentage": 75
5799           }
5800     },
5801     "schema": { "$ref": "#/definitions/Operation" }
5802   }
5803 },
5804 },
5805 "post": {
5806   "description": "Sets the desired operational or job state.\n",
5807   "parameters": [
5808     { "$ref": "#/parameters/interface" },
5809     {
5810       "name": "body",
5811       "in": "body",
5812       "required": true,
5813       "schema": { "$ref": "#/definitions/OperationUpdate" },
5814       "x-example":
5815         {
5816           "id": "unique_example_id",
5817           "currentMachineState": "pause",
5818           "currentJobState": "wash"
5819         }
5820     }
5821   ]
5822 }

```

```

5821     ],
5822     "responses": {
5823         "200": {
5824             "description": "",
5825             "x-example":
5826                 {
5827                     "currentMachineState": "pause",
5828                     "currentJobState": "wash"
5829                 }
5830             ,
5831             "schema": { "$ref": "#/definitions/OperationUpdate" }
5832         },
5833         "403": {
5834             "description": "This response is generated by the OIC Server when the client sends:\n
5835 An update with an value for currentMachineState that is not found in machineStates.\n An update
5836 with an value for currentJobState that is not found in jobStates.\nThe server responds with the
5837 current resource representation.\n",
5838             "x-example":
5839                 {
5840                     "id": "unique_example_id",
5841                     "machineStates": ["pause", "stopped", "idle", "active"],
5842                     "currentMachineState": "active",
5843                     "jobStates": ["preWash", "wash", "rinse", "spin", "dry", "airDry",
5844 "wrinklePrevent"],
5845                     "currentJobState": "rinse",
5846                     "runningTime": "PT15M20S",
5847                     "remainingTime": "PT10M40S",
5848                     "progressPercentage": 75
5849                 }
5850             ,
5851             "schema": { "$ref": "#/definitions/Operation" }
5852         }
5853     }
5854 }
5855 },
5856 "parameters": {
5857     "interface": {
5858         "in": "query",
5859         "name": "if",
5860         "type": "string",
5861         "enum": ["oic.if.a", "oic.if.baseline"]
5862     }
5863 },
5864 "definitions": {
5865     "Operation": {
5866         "properties": {
5867             "rt":
5868                 {
5869                     "description": "Resource Type",
5870                     "items": {
5871                         "maxLength": 64,
5872                         "type": "string"
5873                     },
5874                     "minItems": 1,
5875                     "readOnly": true,
5876                     "type": "array"
5877                 },
5878             "currentMachineState":
5879                 {
5880                     "description": "Current state of operation of the device.",
5881                     "type": "string"
5882                 },
5883             "currentJobState":
5884                 {
5885                     "description": "Currently active jobState",
5886                     "type": "string"
5887                 },
5888             "machineStates":
5889                 {
5890                     "description": "array of the possible operational states.",
5891                     "items": {

```

```

5893         "type": "string"
5894     },
5895     "readOnly": true,
5896     "type": "array"
5897 },
5898 "precision" :
5899 {
5900     "description": "Accuracy granularity of the exposed value",
5901     "readOnly": true,
5902     "type": "number"
5903 },
5904 "n" :
5905 {
5906     "description": "Friendly name of the resource",
5907     "maxLength": 64,
5908     "readOnly": true,
5909     "type": "string"
5910 },
5911 "runningTime" :
5912 {
5913     "description": "Elapsed time in the current operational state",
5914     "readOnly": true,
5915     "type": "string"
5916 },
5917 "range" :
5918 {
5919     "description": "The valid range for the value Property",
5920     "items": {
5921         "anyOf": [
5922             {
5923                 "type": "number"
5924             },
5925             {
5926                 "type": "integer"
5927             }
5928         ]
5929     },
5930     "maxItems": 2,
5931     "minItems": 2,
5932     "readOnly": true,
5933     "type": "array"
5934 },
5935 "remainingTime" :
5936 {
5937     "description": "Time till completion of the current operational state",
5938     "readOnly": true,
5939     "type": "string"
5940 },
5941 "step" :
5942 {
5943     "anyOf": [
5944         {
5945             "type": "integer"
5946         },
5947         {
5948             "type": "number"
5949         }
5950     ],
5951     "description": "Step value across the defined range",
5952     "readOnly": true
5953 },
5954 "progressPercentage" :
5955 {
5956     "description": "Percentage completeness of the current jobState",
5957     "maximum": 100,
5958     "minimum": 0,
5959     "readOnly": true,
5960     "type": "integer"
5961 },
5962 "id" :
5963 {
5964     "description": "Instance ID of this specific resource",

```

```

5965         "maxLength": 64,
5966         "readOnly": true,
5967         "type": "string"
5968     },
5969     "jobStates" :
5970     {
5971         "description": "array of the possible job states.",
5972         "items": {
5973             "type": "string"
5974         },
5975         "readOnly": true,
5976         "type": "array"
5977     },
5978     "if" :
5979     {
5980         "description": "The interface set supported by this resource",
5981         "items": {
5982             "enum": [
5983                 "oic.if.baseline",
5984                 "oic.if.ll",
5985                 "oic.if.b",
5986                 "oic.if.lb",
5987                 "oic.if.rw",
5988                 "oic.if.r",
5989                 "oic.if.a",
5990                 "oic.if.s"
5991             ],
5992             "type": "string"
5993         },
5994         "minItems": 1,
5995         "readOnly": true,
5996         "type": "array"
5997     }
5998 },
5999 "type" : "object"
6000 , "required": ["machineStates", "currentMachineState"]
6001 }
6002 ,
6003 "OperationUpdate" : {
6004     "properties": {
6005         "currentMachineState" :
6006         {
6007             "description": "Current state of operation of the device.",
6008             "type": "string"
6009         },
6010         "currentJobState" :
6011         {
6012             "description": "Currently active jobState",
6013             "type": "string"
6014         }
6015     }
6016 }, "type" : "object"
6017 }
6018 }
6019 }
6020

```

6021 6.19.5 Property definition

6022 Table 41 defines the Properties that are part of the ['oic.r.operational.state'] Resource Type

6023 **Table 41 – The Property definitions of the Resource with type 'rt' =**
6024 **['oic.r.operational.state']**

Property name	Value type	Mandatory	Access mode	Description
currentJobState	string	No	Read Write	Currently active jobState
range	array: see schema	No	Read Only	The valid range for the value Property

rt	array: see schema	No	Read Only	Resource Type
id	string	No	Read Only	Instance ID of this specific resource
if	array: see schema	No	Read Only	The interface set supported by this resource
progressPercentage	integer	No	Read Only	Percentage completeness of the current jobState
remainingTime	string	No	Read Only	Time till completion of the current operational state
precision	number	No	Read Only	Accuracy granularity of the exposed value
n	string	No	Read Only	Friendly name of the resource
jobStates	array: see schema	No	Read Only	array of the possible job states.
currentMachineState	string	Yes	Read Write	Current state of operation of the device.
step	multiple types: see schema	No	Read Only	Step value across the defined range
runningTime	string	No	Read Only	Elapsed time in the current operational state
machineStates	array: see schema	Yes	Read Only	array of the possible operational states.
currentJobState	string		Read Write	Currently active jobState
currentMachineState	string		Read Write	Current state of operation of the device.

6025 **6.19.6 CRUDN behaviour**

6026 Table 42 defines the CRUDN operations that are supported on the ['oic.r.operational.state']
6027 Resource Type

6028 **Table 42 – The CRUDN operations of the Resource with type 'rt' = ['oic.r.operational.state']**

Create	Read	Update	Delete	Notify
	get	post		observe

6029 **6.20 Ramp Time**

6030 **6.20.1 Introduction**

6031 This resource that describes the Ramp Time of a dimming function.

6032 This specifies the actual speed of changing between 2 dimming values.

6033 Time is specified in milliseconds [ms].

6034 When range (from oic.r.baseresource) is omitted the maximum value is 100 ms.
6035 The RampTime of 0ms indicates the minimal delay possible by the implementation.
6036 Retrieves the current RampTime.
6037

6038 6.20.2 Example URI

6039 /RampTimeResURI

6040 6.20.3 Resource type

6041 The resource type (rt) is defined as: ['oic.r.light.ramptime'].

6042 6.20.4 OpenAPI 2.0 definition

```
6043 {
6044   "swagger": "2.0",
6045   "info": {
6046     "title": "Ramp Time",
6047     "version": "v1.1.0-20160519",
6048     "license": {
6049       "name": "copyright 2016-2017 Open Connectivity Foundation, Inc. All rights reserved.",
6050       "x-description": "Redistribution and use in source and binary forms, with or without
6051 modification, are permitted provided that the following conditions are met:\n      1.
6052 Redistributions of source code must retain the above copyright notice, this list of conditions and
6053 the following disclaimer.\n      2. Redistributions in binary form must reproduce the above
6054 copyright notice, this list of conditions and the following disclaimer in the documentation and/or
6055 other materials provided with the distribution.\n\n      THIS SOFTWARE IS PROVIDED BY THE Open
6056 Connectivity Foundation, INC. \AS IS\ AND ANY EXPRESS OR IMPLIED WARRANTIES, INCLUDING, BUT NOT
6057 LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE OR
6058 WARRANTIES OF NON-INFRINGEMENT, ARE DISCLAIMED.\n\n      IN NO EVENT SHALL THE Open Connectivity
6059 Foundation, INC. OR CONTRIBUTORS BE LIABLE FOR ANY DIRECT, INDIRECT, INCIDENTAL, SPECIAL, EXEMPLARY,
6060 OR CONSEQUENTIAL DAMAGES (INCLUDING, BUT NOT LIMITED TO, PROCUREMENT OF SUBSTITUTE GOODS OR
6061 SERVICES; LOSS OF USE, DATA, OR PROFITS; OR BUSINESS INTERRUPTION)\n\n      HOWEVER CAUSED AND ON
6062 ANY THEORY OF LIABILITY, WHETHER IN CONTRACT, STRICT LIABILITY, OR TORT (INCLUDING NEGLIGENCE OR
6063 OTHERWISE) ARISING IN ANY WAY OUT OF THE USE OF THIS SOFTWARE, EVEN IF ADVISED OF THE POSSIBILITY OF
6064 SUCH DAMAGE.\n"
6065     },
6066   },
6067   "schemes": ["http"],
6068   "consumes": ["application/json"],
6069   "produces": ["application/json"],
6070   "paths": {
6071     "/RampTimeResURI" : {
6072       "get": {
6073         "description": "This resource that describes the Ramp Time of a dimming function.\nThis
6074 specifies the actual speed of changing between 2 dimming values.\nTime is specified in milliseconds
6075 [ms].\nWhen range (from oic.r.baseresource) is omitted the maximum value is 100 ms.\nThe RampTime of
6076 0ms indicates the minimal delay possible by the implementation.\nRetrieves the current RampTime.\n",
6077         "parameters": [
6078           {"$ref": "#/parameters/interface"}
6079         ],
6080         "responses": {
6081           "200": {
6082             "description": "",
6083             "x-example":
6084               {
6085                 "rt": ["oic.r.light.ramptime"],
6086                 "id": "unique_example_id",
6087                 "rampTime": 0,
6088                 "range": [0,100]
6089               }
6090           },
6091           "schema": { "$ref": "#/definitions/RampTime" }
6092         }
6093       }
6094     },
6095     "post": {
6096       "description": "Sets the current RampTime.\n",
6097       "parameters": [
6098         {"$ref": "#/parameters/interface"},
6099         {
6100           "name": "body",
```

```

6101         "in": "body",
6102         "required": true,
6103         "schema": { "$ref": "#/definitions/RampTime" },
6104         "x-example":
6105             {
6106                 "rampTime": 50
6107             }
6108     }
6109 ],
6110 "responses": {
6111     "200": {
6112         "description": "",
6113         "x-example":
6114             {
6115                 "id": "unique_example_id",
6116                 "rampTime": 50
6117             }
6118         ,
6119         "schema": { "$ref": "#/definitions/RampTime" }
6120     },
6121     "403": {
6122         "description": "This response is generated by the OIC Server when the client sends:\n
6123 An update with an out of range property value for rampTime.\nThe server responds with the current
6124 resource representation.\n",
6125         "x-example":
6126             {
6127                 "id": "unique_example_id",
6128                 "rampTime": 40
6129             }
6130         ,
6131         "schema": { "$ref": "#/definitions/RampTime" }
6132     }
6133 }
6134 }
6135 }
6136 },
6137 "parameters": {
6138     "interface": {
6139         "in": "query",
6140         "name": "if",
6141         "type": "string",
6142         "enum": ["oic.if.a", "oic.if.baseline"]
6143     }
6144 },
6145 "definitions": {
6146     "RampTime": {
6147         "properties": {
6148             "rt":
6149                 {
6150                     "description": "Resource Type",
6151                     "items": {
6152                         "maxLength": 64,
6153                         "type": "string"
6154                     },
6155                     "minItems": 1,
6156                     "readOnly": true,
6157                     "type": "array"
6158                 },
6159             "precision":
6160                 {
6161                     "description": "Accuracy granularity of the exposed value",
6162                     "readOnly": true,
6163                     "type": "number"
6164                 },
6165             "n":
6166                 {
6167                     "description": "Friendly name of the resource",
6168                     "maxLength": 64,
6169                     "readOnly": true,
6170                     "type": "string"
6171                 },
6172             "range":

```

```

6173         {
6174         "description": "The valid range for the value Property",
6175         "items": {
6176             "anyOf": [
6177                 {
6178                     "type": "number"
6179                 },
6180                 {
6181                     "type": "integer"
6182                 }
6183             ]
6184         },
6185         "maxItems": 2,
6186         "minItems": 2,
6187         "readOnly": true,
6188         "type": "array"
6189     },
6190     "rampTime" :
6191     {
6192         "description": "Actual speed of changing between 2 dimming values",
6193         "type": "integer"
6194     },
6195     "step" :
6196     {
6197         "anyOf": [
6198             {
6199                 "type": "integer"
6200             },
6201             {
6202                 "type": "number"
6203             }
6204         ],
6205         "description": "Step value across the defined range",
6206         "readOnly": true
6207     },
6208     "id" :
6209     {
6210         "description": "Instance ID of this specific resource",
6211         "maxLength": 64,
6212         "readOnly": true,
6213         "type": "string"
6214     },
6215     "if" :
6216     {
6217         "description": "The interface set supported by this resource",
6218         "items": {
6219             "enum": [
6220                 "oic.if.baseline",
6221                 "oic.if.ll",
6222                 "oic.if.b",
6223                 "oic.if.lb",
6224                 "oic.if.rw",
6225                 "oic.if.r",
6226                 "oic.if.a",
6227                 "oic.if.s"
6228             ],
6229             "type": "string"
6230         },
6231         "minItems": 1,
6232         "readOnly": true,
6233         "type": "array"
6234     }
6235     },
6236     "type" : "object"
6237     , "required": ["rampTime"]
6238 }
6239 }
6240 }
6241

```

6.20.5 Property definition

Table 43 defines the Properties that are part of the ['oic.r.light.ramptime'] Resource Type
 Copyright Open Connectivity Foundation, Inc. © 2016-19. All rights Reserved

6244 **Table 43 – The Property definitions of the Resource with type 'rt' = ['oic.r.light.ramptime']**

Property name	Value type	Mandatory	Access mode	Description
if	array: see schema	No	Read Only	The interface set supported by this resource
id	string	No	Read Only	Instance ID of this specific resource
range	array: see schema	No	Read Only	The valid range for the value Property
rt	array: see schema	No	Read Only	Resource Type
n	string	No	Read Only	Friendly name of the resource
precision	number	No	Read Only	Accuracy granularity of the exposed value
rampTime	integer	Yes	Read Write	Actual speed of changing between 2 dimming values
step	multiple types: see schema	No	Read Only	Step value across the defined range

6245 **6.20.6 CRUDN behaviour**

6246 Table 44 defines the CRUDN operations that are supported on the ['oic.r.light.ramptime'] Resource
6247 Type

6248 **Table 44 – The CRUDN operations of the Resource with type 'rt' = ['oic.r.light.ramptime']**

Create	Read	Update	Delete	Notify
	get	post		observe

6249 **6.21 Refrigeration**

6250 **6.21.1 Introduction**

6251 This resource describes a refrigeration function.
6252 The filter state is a read-only value providing the percentage life time remaining for the water
6253 filter.

6254 RapidFreeze is a boolean that controls the rapid freeze capability if present.

6255 RapidCool is a boolean that controls the rapid cool capability if present.

6256 Defrost is a boolean that controls the defrost cycle if present.

6257 At least one of the listed Properties shall be present in a Resource Instance.

6258 Retrieves the current Refrigeration function status; all Properties supported by the Device are
6259 returned.

6260

6261 **6.21.2 Example URI**

6262 /RefrigerationResURI

6263 **6.21.3 Resource type**

6264 The resource type (rt) is defined as: ['oic.r.refrigeration'].

6265 **6.21.4 OpenAPI 2.0 definition**

6266 {
6267 "swagger": "2.0",

```

6268     "info": {
6269         "title": "Refrigeration",
6270         "version": "v1.1.0-20160519",
6271         "license": {
6272             "name": "copyright 2016-2017 Open Connectivity Foundation, Inc. All rights reserved.",
6273             "x-description": "Redistribution and use in source and binary forms, with or without
6274 modification, are permitted provided that the following conditions are met:\n      1.
6275 Redistributions of source code must retain the above copyright notice, this list of conditions and
6276 the following disclaimer.\n      2. Redistributions in binary form must reproduce the above
6277 copyright notice, this list of conditions and the following disclaimer in the documentation and/or
6278 other materials provided with the distribution.\n\n      THIS SOFTWARE IS PROVIDED BY THE Open
6279 Connectivity Foundation, INC. \\"AS IS\\" AND ANY EXPRESS OR IMPLIED WARRANTIES, INCLUDING, BUT NOT
6280 LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE OR
6281 WARRANTIES OF NON-INFRINGEMENT, ARE DISCLAIMED.\n      IN NO EVENT SHALL THE Open Connectivity
6282 Foundation, INC. OR CONTRIBUTORS BE LIABLE FOR ANY DIRECT, INDIRECT, INCIDENTAL, SPECIAL, EXEMPLARY,
6283 OR CONSEQUENTIAL DAMAGES (INCLUDING, BUT NOT LIMITED TO, PROCUREMENT OF SUBSTITUTE GOODS OR
6284 SERVICES; LOSS OF USE, DATA, OR PROFITS; OR BUSINESS INTERRUPTION)\n      HOWEVER CAUSED AND ON
6285 ANY THEORY OF LIABILITY, WHETHER IN CONTRACT, STRICT LIABILITY, OR TORT (INCLUDING NEGLIGENCE OR
6286 OTHERWISE) ARISING IN ANY WAY OUT OF THE USE OF THIS SOFTWARE, EVEN IF ADVISED OF THE POSSIBILITY OF
6287 SUCH DAMAGE.\n"
6288         },
6289     },
6290     "schemes": ["http"],
6291     "consumes": ["application/json"],
6292     "produces": ["application/json"],
6293     "paths": {
6294         "/RefrigerationResURI" : {
6295             "get": {
6296                 "description": "This resource describes a refrigeration function.\nThe filter state is a
6297 read-only value providing the percentage life time remaining for the water filter.\nRapidFreeze is a
6298 boolean that controls the rapid freeze capability if present.\nRapidCool is a boolean that controls
6299 the rapid cool capability if present.\nDefrost is a boolean that controls the defrost cycle if
6300 present.\nAt least one of the listed Properties shall be present in a Resource Instance.\nRetrieves
6301 the current Refrigeration function status; all Properties supported by the Device are returned.\n",
6302                 "parameters": [
6303                     { "$ref": "#/parameters/interface" }
6304                 ],
6305                 "responses": {
6306                     "200": {
6307                         "description": "",
6308                         "x-example":
6309                             {
6310                                 "rt": ["oic.r.refrigeration"],
6311                                 "id": "unique_example_id",
6312                                 "filter": 75,
6313                                 "rapidFreeze": false,
6314                                 "rapidCool": false,
6315                                 "defrost": true
6316                             }
6317                         ,
6318                         "schema": { "$ref": "#/definitions/Refrigeration" }
6319                     }
6320                 }
6321             },
6322             "post": {
6323                 "description": "Activates the desired Refrigeration functions.\nSupported values are
6324 rapidFreeze, rapidCool and defrost.\nAt least on of the supported values shall be provided.\n",
6325                 "parameters": [
6326                     { "$ref": "#/parameters/interface" },
6327                     {
6328                         "name": "body",
6329                         "in": "body",
6330                         "required": true,
6331                         "schema": { "$ref": "#/definitions/RefrigerationUpdate" },
6332                         "x-example":
6333                             {
6334                                 "rapidFreeze": true
6335                             }
6336                     }
6337                 ],
6338                 "responses": {
6339                     "200": {

```

```

6340         "description" : "Indicates that the Refrigeration function was changed.\nThe new
6341 status can be provided in the response.\n",
6342         "x-example":
6343         {
6344             "id":          "unique_example_id",
6345             "rapidFreeze": true
6346         }
6347         ,
6348         "schema": { "$ref": "#/definitions/RefrigerationUpdate" }
6349     }
6350 }
6351 }
6352 }
6353 },
6354 "parameters": {
6355     "interface" : {
6356         "in" : "query",
6357         "name" : "if",
6358         "type" : "string",
6359         "enum" : ["oic.if.a", "oic.if.baseline"]
6360     }
6361 },
6362 "definitions": {
6363     "Refrigeration" : {
6364         "properties": {
6365             "rt" :
6366             {
6367                 "description": "Resource Type",
6368                 "items": {
6369                     "maxLength": 64,
6370                     "type": "string"
6371                 },
6372                 "minItems": 1,
6373                 "readOnly": true,
6374                 "type": "array"
6375             },
6376             "rapidFreeze" :
6377             {
6378                 "description": "Indicates whether the unit has a rapid freeze capability active.",
6379                 "type": "boolean"
6380             },
6381             "defrost" :
6382             {
6383                 "description": "Indicates whether a defrost cycle is currently active",
6384                 "type": "boolean"
6385             },
6386             "precision" :
6387             {
6388                 "description": "Accuracy granularity of the exposed value",
6389                 "readOnly": true,
6390                 "type": "number"
6391             },
6392             "n" :
6393             {
6394                 "description": "Friendly name of the resource",
6395                 "maxLength": 64,
6396                 "readOnly": true,
6397                 "type": "string"
6398             },
6399             "filter" :
6400             {
6401                 "description": "Percentage life time remaining for the water filter",
6402                 "maximum": 100,
6403                 "minimum": 0,
6404                 "readOnly": true,
6405                 "type": "integer"
6406             },
6407             "range" :
6408             {
6409                 "description": "The valid range for the value Property",
6410                 "items": {
6411                     "anyOf": [

```

```

6412         {
6413             "type": "number"
6414         },
6415         {
6416             "type": "integer"
6417         }
6418     ]
6419 },
6420 "maxItems": 2,
6421 "minItems": 2,
6422 "readOnly": true,
6423 "type": "array"
6424 },
6425 "rapidCool" :
6426 {
6427     "description": "Indicates whether the unit has a rapid cool capability active",
6428     "type": "boolean"
6429 },
6430 "step" :
6431 {
6432     "anyOf": [
6433         {
6434             "type": "integer"
6435         },
6436         {
6437             "type": "number"
6438         }
6439     ],
6440     "description": "Step value across the defined range",
6441     "readOnly": true
6442 },
6443 "id" :
6444 {
6445     "description": "Instance ID of this specific resource",
6446     "maxLength": 64,
6447     "readOnly": true,
6448     "type": "string"
6449 },
6450 "if" :
6451 {
6452     "description": "The interface set supported by this resource",
6453     "items": {
6454         "enum": [
6455             "oic.if.baseline",
6456             "oic.if.ll",
6457             "oic.if.b",
6458             "oic.if.lb",
6459             "oic.if.rw",
6460             "oic.if.r",
6461             "oic.if.a",
6462             "oic.if.s"
6463         ],
6464         "type": "string"
6465     },
6466     "minItems": 1,
6467     "readOnly": true,
6468     "type": "array"
6469 }
6470 },
6471 "anyOf" :
6472 [
6473     {
6474         "required": [
6475             "filter"
6476         ]
6477     },
6478     {
6479         "required": [
6480             "rapidFreeze"
6481         ]
6482     },
6483     {

```

```

6484         "required": [
6485             "rapidCool"
6486         ],
6487     },
6488     {
6489         "required": [
6490             "defrost"
6491         ]
6492     }
6493 ]
6494 , "type" : "object"
6495 }
6496 ,
6497 "RefrigerationUpdate" : {
6498     "properties": {
6499         "rapidFreeze" :
6500         {
6501             "description": "Indicates whether the unit has a rapid freeze capability active.",
6502             "type": "boolean"
6503         },
6504         "defrost" :
6505         {
6506             "description": "Indicates whether a defrost cycle is currently active",
6507             "type": "boolean"
6508         },
6509         "rapidCool" :
6510         {
6511             "description": "Indicates whether the unit has a rapid cool capability active",
6512             "type": "boolean"
6513         }
6514     },
6515     "anyOf" :
6516     [
6517         {
6518             "required": [
6519                 "rapidFreeze"
6520             ]
6521         },
6522         {
6523             "required": [
6524                 "rapidCool"
6525             ]
6526         },
6527         {
6528             "required": [
6529                 "defrost"
6530             ]
6531         }
6532     ]
6533     , "type" : "object"
6534 }
6535 }
6536 }
6537

```

6538 **6.21.5 Property definition**

6539 Table 45 defines the Properties that are part of the ['oic.r.refrigeration'] Resource Type

6540 **Table 45 – The Property definitions of the Resource with type 'rt' = ['oic.r.refrigeration']**

Property name	Value type	Mandatory	Access mode	Description
defrost	boolean	Yes	Read Write	Indicates whether a defrost cycle is currently active
rapidFreeze	boolean	No	Read Write	Indicates whether the unit has a rapid

				freeze capability active.
rapidCool	boolean	No	Read Write	Indicates whether the unit has a rapid cool capability active
precision	number	No	Read Only	Accuracy granularity of the exposed value
step	multiple types: see schema	No	Read Only	Step value across the defined range
n	string	No	Read Only	Friendly name of the resource
defrost	boolean	Yes	Read Write	Indicates whether a defrost cycle is currently active
if	array: see schema	No	Read Only	The interface set supported by this resource
rapidCool	boolean	No	Read Write	Indicates whether the unit has a rapid cool capability active
filter	integer	No	Read Only	Percentage life time remaining for the water filter
range	array: see schema	No	Read Only	The valid range for the value Property
rt	array: see schema	No	Read Only	Resource Type
rapidFreeze	boolean	No	Read Write	Indicates whether the unit has a rapid freeze capability active.
id	string	No	Read Only	Instance ID of this specific resource

6541 **6.21.6 CRUDN behaviour**

6542 Table 46 defines the CRUDN operations that are supported on the ['oic.r.refrigeration'] Resource
6543 Type

6544 **Table 46 – The CRUDN operations of the Resource with type 'rt' = ['oic.r.refrigeration']**

Create	Read	Update	Delete	Notify
	get	post		observe

6545 **6.22 Temperature**

6546 **6.22.1 Introduction**

6547 This resource describes a sensed or actuated Temperature value.

6548 The temperature describes the current value measured.

6549 The units is a single value that is one of C, F or K.

6550 It provides the unit of measurement for the temperature value.
6551 It is a read-only value that is provided by the server.
6552 If the units Property is missing the default is Celsius [C].
6553 When range (from oic.r.baseresource) is omitted the default is +/- MAXINT.
6554 Retrieves the current temperature value.
6555 A client can specify the units for the requested temperature by use of a query parameter.
6556 If no query parameter is provided the server provides its default measure or set value.
6557 It is recommended to return always the units Property in the result.
6558

6559 6.22.2 Example URI

6560 /TemperatureResURI

6561 6.22.3 Resource type

6562 The resource type (rt) is defined as: ['oic.r.temperature'].

6563 6.22.4 OpenAPI 2.0 definition

```
6564 {  
6565   "swagger": "2.0",  
6566   "info": {  
6567     "title": "Temperature",  
6568     "version": "v1.1.0-20160519",  
6569     "license": {  
6570       "name": "copyright 2016-2017 Open Connectivity Foundation, Inc. All rights reserved.",  
6571       "x-description": "Redistribution and use in source and binary forms, with or without  
6572 modification, are permitted provided that the following conditions are met:\n      1.  
6573 Redistributions of source code must retain the above copyright notice, this list of conditions and  
6574 the following disclaimer.\n      2. Redistributions in binary form must reproduce the above  
6575 copyright notice, this list of conditions and the following disclaimer in the documentation and/or  
6576 other materials provided with the distribution.\n\n      THIS SOFTWARE IS PROVIDED BY THE Open  
6577 Connectivity Foundation, INC. \AS IS\ AND ANY EXPRESS OR IMPLIED WARRANTIES, INCLUDING, BUT NOT  
6578 LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE OR  
6579 WARRANTIES OF NON-INFRINGEMENT, ARE DISCLAIMED.\n\n      IN NO EVENT SHALL THE Open Connectivity  
6580 Foundation, INC. OR CONTRIBUTORS BE LIABLE FOR ANY DIRECT, INDIRECT, INCIDENTAL, SPECIAL, EXEMPLARY,  
6581 OR CONSEQUENTIAL DAMAGES (INCLUDING, BUT NOT LIMITED TO, PROCUREMENT OF SUBSTITUTE GOODS OR  
6582 SERVICES; LOSS OF USE, DATA, OR PROFITS; OR BUSINESS INTERRUPTION)\n\n      HOWEVER CAUSED AND ON  
6583 ANY THEORY OF LIABILITY, WHETHER IN CONTRACT, STRICT LIABILITY, OR TORT (INCLUDING NEGLIGENCE OR  
6584 OTHERWISE) ARISING IN ANY WAY OUT OF THE USE OF THIS SOFTWARE, EVEN IF ADVISED OF THE POSSIBILITY OF  
6585 SUCH DAMAGE.\n\n    }  
6586   },  
6587 },  
6588 "schemes": ["http"],  
6589 "consumes": ["application/json"],  
6590 "produces": ["application/json"],  
6591 "paths": {  
6592   "/TemperatureResURI" : {  
6593     "get": {  
6594       "description": "This resource describes a sensed or actuated Temperature value.\nThe  
6595 temperature describes the current value measured.\nThe units is a single value that is one of C, F  
6596 or K.\nIt provides the unit of measurement for the temperature value.\nIt is a read-only value that  
6597 is provided by the server.\nIf the units Property is missing the default is Celsius [C].\nWhen range  
6598 (from oic.r.baseresource) is omitted the default is +/- MAXINT.\nRetrieves the current temperature  
6599 value.\nA client can specify the units for the requested temperature by use of a query  
6600 parameter.\nIf no query parameter is provided the server provides its default measure or set  
6601 value.\nIt is recommended to return always the units Property in the result.\n",  
6602       "parameters": [  
6603         {"$ref": "#/parameters/interface"},  
6604         {  
6605           "in": "query",  
6606           "description": "Units",  
6607           "type": "string",  
6608           "enum": ["C", "F", "K"],  
6609           "name": "units"  
6610         }  
6611       ],  
6612       "responses": {  
6613         "200": {  
6614           "description": "",
```

```

6615         "x-example":
6616             {
6617                 "rt":          ["oic.r.temperature"],
6618                 "id":          "unique_example_id",
6619                 "temperature": 20.0,
6620                 "units":       "C",
6621                 "range":       [0.0,100.0]
6622             }
6623         ,
6624         "schema": { "$ref": "#/definitions/Temperature" }
6625     },
6626     "403": {
6627         "description": "This response is generated by the OIC Server when the client sends:\n
6628 A retrieve with q queryParameter indicating a unit that the server does not support.\nThe server
6629 responds with the current resource representation including the\nunits property illustrating the
6630 supported units and the error.\n",
6631         "x-example":
6632             {
6633                 "id":          "unique_example_id",
6634                 "temperature": 20.0,
6635                 "units":       "C"
6636             }
6637         ,
6638         "schema": { "$ref": "#/definitions/Temperature" }
6639     }
6640 },
6641 },
6642 "post": {
6643     "description": "Sets the desired temperature value.\nIf a unit is included and the server
6644 does not support the unit indicated the request will fail.\nIf the units are omitted value is taken
6645 to be in C.\n",
6646     "parameters": [
6647         { "$ref": "#/parameters/interface" },
6648         {
6649             "name": "body",
6650             "in": "body",
6651             "required": true,
6652             "schema": { "$ref": "#/definitions/Temperature" },
6653             "x-example":
6654                 {
6655                     "temperature": 18.0
6656                 }
6657         }
6658     ],
6659     "responses": {
6660         "200": {
6661             "description": "",
6662             "x-example":
6663                 {
6664                     "id":          "unique_example_id",
6665                     "temperature": 18.0
6666                 }
6667             ,
6668             "schema": { "$ref": "#/definitions/Temperature" }
6669         },
6670         "403": {
6671             "description": "This response is generated by the OIC Server when the client sends:\n
6672 An update with an out of range property value for temperature.\n An update with an unsupported unit
6673 for this server.\nThe server responds with the current resource representation including\nthe range
6674 property illustrating the supported range and the error.\n",
6675             "x-example":
6676                 {
6677                     "id":          "unique_example_id",
6678                     "temperature": 20.0,
6679                     "units":       "C",
6680                     "range":       [0.0,100.0]
6681                 }
6682             ,
6683             "schema": { "$ref": "#/definitions/Temperature" }
6684         }
6685     }
6686 }

```

```

6687     }
6688   },
6689   "parameters": {
6690     "interface" : {
6691       "in" : "query",
6692       "name" : "if",
6693       "type" : "string",
6694       "enum" : ["oic.if.a", "oic.if.s", "oic.if.baseline"]
6695     }
6696   },
6697   "definitions": {
6698     "Temperature" : {
6699       "properties": {
6700         "rt" :
6701           {
6702             "description": "Resource Type",
6703             "items": {
6704               "maxLength": 64,
6705               "type": "string"
6706             },
6707             "minItems": 1,
6708             "readOnly": true,
6709             "type": "array"
6710           },
6711       "temperature" :
6712         {
6713           "description": "Current temperature setting or measurement",
6714           "type": "number"
6715         },
6716       "precision" :
6717         {
6718           "description": "Accuracy granularity of the exposed value",
6719           "readOnly": true,
6720           "type": "number"
6721         },
6722       "n" :
6723         {
6724           "description": "Friendly name of the resource",
6725           "maxLength": 64,
6726           "readOnly": true,
6727           "type": "string"
6728         },
6729       "units" :
6730         {
6731           "description": "Units for the temperature value",
6732           "enum": [
6733             "C",
6734             "F",
6735             "K"
6736           ],
6737           "readOnly": true,
6738           "type": "string"
6739         },
6740       "range" :
6741         {
6742           "description": "The valid range for the value Property",
6743           "items": {
6744             "anyOf": [
6745               {
6746                 "type": "number"
6747               },
6748               {
6749                 "type": "integer"
6750               }
6751             ]
6752           },
6753           "maxItems": 2,
6754           "minItems": 2,
6755           "readOnly": true,
6756           "type": "array"
6757         },
6758       "step" :

```

```

6759     {
6760     "anyOf": [
6761     {
6762     "type": "integer"
6763     },
6764     {
6765     "type": "number"
6766     }
6767     ],
6768     "description": "Step value across the defined range",
6769     "readOnly": true
6770   },
6771   "id" :
6772   {
6773     "description": "Instance ID of this specific resource",
6774     "maxLength": 64,
6775     "readOnly": true,
6776     "type": "string"
6777   },
6778   "if" :
6779   {
6780     "description": "The interface set supported by this resource",
6781     "items": {
6782       "enum": [
6783         "oic.if.baseline",
6784         "oic.if.ll",
6785         "oic.if.b",
6786         "oic.if.lb",
6787         "oic.if.rw",
6788         "oic.if.r",
6789         "oic.if.a",
6790         "oic.if.s"
6791       ],
6792       "type": "string"
6793     },
6794     "minItems": 1,
6795     "readOnly": true,
6796     "type": "array"
6797   }
6798   },
6799   "type" : "object"
6800   , "required": ["temperature"]
6801 }
6802 }
6803 }
6804

```

6805 6.22.5 Property definition

6806 Table 47 defines the Properties that are part of the ['oic.r.temperature'] Resource Type

6807 **Table 47 – The Property definitions of the Resource with type 'rt' = ['oic.r.temperature']**

Property name	Value type	Mandatory	Access mode	Description
rt	array: see schema	No	Read Only	Resource Type
precision	number	No	Read Only	Accuracy granularity of the exposed value
n	string	No	Read Only	Friendly name of the resource
id	string	No	Read Only	Instance ID of this specific resource
units	string	No	Read Only	Units for the temperature value

step	multiple types: see schema	No	Read Only	Step value across the defined range
temperature	number	Yes	Read Write	Current temperature setting or measurement
range	array: see schema	No	Read Only	The valid range for the value Property
if	array: see schema	No	Read Only	The interface set supported by this resource

6808 **6.22.6 CRUDN behaviour**

6809 Table 48 defines the CRUDN operations that are supported on the ['oic.r.temperature'] Resource
6810 Type

6811 **Table 48 – The CRUDN operations of the Resource with type 'rt' = ['oic.r.temperature']**

Create	Read	Update	Delete	Notify
	get	post		observe

6812 **6.23 Time Period**

6813 **6.23.1 Introduction**

6814 This resource describes the time period over which any additionally provided
6815 information is derived or bounded.

6816 The startTime and stopTime are ISO8601 encoded strings. startTime must be present.

6817 The interval is the interval of the time period in minutes, if present this value must be no less than
6818 1 minute.

6819 stopTime and interval are mutually exclusive; both Properties cannot be present in a Resource
6820 instance.

6821 Defines a time period for information retrieval, action or other behaviour.

6822

6823 **6.23.2 Example URI**

6824 /TimePeriodResURI

6825 **6.23.3 Resource type**

6826 The resource type (rt) is defined as: ['oic.r.time.period'].

6827 **6.23.4 OpenAPI 2.0 definition**

```
6828 {
6829   "swagger": "2.0",
6830   "info": {
6831     "title": "Time Period",
6832     "version": "v1.1.0-20160519",
6833     "license": {
6834       "name": "copyright 2016-2017 Open Connectivity Foundation, Inc. All rights reserved.",
6835       "x-description": "Redistribution and use in source and binary forms, with or without
6836 modification, are permitted provided that the following conditions are met:\n      1.
6837 Redistributions of source code must retain the above copyright notice, this list of conditions and
6838 the following disclaimer.\n      2. Redistributions in binary form must reproduce the above
6839 copyright notice, this list of conditions and the following disclaimer in the documentation and/or
6840 other materials provided with the distribution.\n\n      THIS SOFTWARE IS PROVIDED BY THE Open
6841 Connectivity Foundation, INC. \\"AS IS\\" AND ANY EXPRESS OR IMPLIED WARRANTIES, INCLUDING, BUT NOT
6842 LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE OR
6843 WARRANTIES OF NON-INFRINGEMENT, ARE DISCLAIMED.\n      IN NO EVENT SHALL THE Open Connectivity
6844 Foundation, INC. OR CONTRIBUTORS BE LIABLE FOR ANY DIRECT, INDIRECT, INCIDENTAL, SPECIAL, EXEMPLARY,
6845 OR CONSEQUENTIAL DAMAGES (INCLUDING, BUT NOT LIMITED TO, PROCUREMENT OF SUBSTITUTE GOODS OR
6846 SERVICES; LOSS OF USE, DATA, OR PROFITS; OR BUSINESS INTERRUPTION)\n      HOWEVER CAUSED AND ON
6847 ANY THEORY OF LIABILITY, WHETHER IN CONTRACT, STRICT LIABILITY, OR TORT (INCLUDING NEGLIGENCE OR
```

```

6848 OTHERWISE) ARISING IN ANY WAY OUT OF THE USE OF THIS SOFTWARE, EVEN IF ADVISED OF THE POSSIBILITY OF
6849 SUCH DAMAGE.\n"
6850     }
6851   },
6852   "schemes": ["http"],
6853   "consumes": ["application/json"],
6854   "produces": ["application/json"],
6855   "paths": {
6856     "/TimePeriodResURI" : {
6857       "get": {
6858         "description": "This resource describes the time period over which any additionally
6859 provided\ninformation is derived or bounded.\nThe startTime and stopTime are ISO8601 encoded
6860 strings.  startTime must be present.\nThe interval is the interval of the time period in minutes, if
6861 present this value must be no less than 1 minute.\nstopTime and interval are mutually exclusive;
6862 both Properties cannot be present in a Resource instance.\nDefines a time period for information
6863 retrieval, action or other behaviour.\n",
6864         "parameters": [
6865           { "$ref": "#/parameters/interface" }
6866         ],
6867         "responses": {
6868           "200": {
6869             "description": "",
6870             "x-example":
6871               {
6872                 "rt": ["oic.r.time.period"],
6873                 "id": "unique_example_id",
6874                 "startTime": "2015-01-09T14:30Z",
6875                 "stopTime": "2015-01-09T14:45Z"
6876               }
6877             ,
6878             "schema": { "$ref": "#/definitions/TimePeriod" }
6879           }
6880         }
6881       },
6882       "post": {
6883         "description": "Sets or updates a time period for information retrieval, action or other
6884 behavior.\n",
6885         "parameters": [
6886           { "$ref": "#/parameters/interface" },
6887           {
6888             "name": "body",
6889             "in": "body",
6890             "required": true,
6891             "schema": { "$ref": "#/definitions/TimePeriod" },
6892             "x-example":
6893               {
6894                 "startTime": "2015-01-09T14:30Z",
6895                 "stopTime": "2015-01-09T14:45Z"
6896               }
6897           }
6898         ],
6899         "responses": {
6900           "200": {
6901             "description": "",
6902             "x-example":
6903               {
6904                 "id": "unique_example_id",
6905                 "startTime": "2015-01-09T14:30Z",
6906                 "stopTime": "2015-01-09T14:45Z"
6907               }
6908             ,
6909             "schema": { "$ref": "#/definitions/TimePeriod" }
6910           }
6911         }
6912       }
6913     }
6914   },
6915   "parameters": {
6916     "interface" : {
6917       "in" : "query",
6918       "name" : "if",
6919       "type" : "string",

```

```

6920     "enum" : ["oic.if.a", "oic.if.baseline"]
6921   }
6922 },
6923 "definitions": {
6924   "TimePeriod" : {
6925     "properties": {
6926       "rt" :
6927         {
6928           "description": "Resource Type",
6929           "items": {
6930             "maxLength": 64,
6931             "type": "string"
6932           },
6933           "minItems": 1,
6934           "readOnly": true,
6935           "type": "array"
6936         },
6937     "interval" :
6938       {
6939         "description": "Time interval in minutes after the startTime, if present stopTime cannot
6940 be present",
6941         "type": "integer"
6942       },
6943     "precision" :
6944       {
6945         "description": "Accuracy granularity of the exposed value",
6946         "readOnly": true,
6947         "type": "number"
6948       },
6949     "n" :
6950       {
6951         "description": "Friendly name of the resource",
6952         "maxLength": 64,
6953         "readOnly": true,
6954         "type": "string"
6955       },
6956     "range" :
6957       {
6958         "description": "The valid range for the value Property",
6959         "items": {
6960           "anyOf": [
6961             {
6962               "type": "number"
6963             },
6964             {
6965               "type": "integer"
6966             }
6967           ]
6968         },
6969         "maxItems": 2,
6970         "minItems": 2,
6971         "readOnly": true,
6972         "type": "array"
6973       },
6974     "stopTime" :
6975       {
6976         "description": "Stop time for the time period, if present interval cannot be present",
6977         "type": "string"
6978       },
6979     "startTime" :
6980       {
6981         "description": "Start time for the time period",
6982         "type": "string"
6983       },
6984     "step" :
6985       {
6986         "anyOf": [
6987           {
6988             "type": "integer"
6989           },
6990           {
6991             "type": "number"

```



```

6992     }
6993   ],
6994   "description": "Step value across the defined range",
6995   "readOnly": true
6996 },
6997 "id" :
6998   {
6999     "description": "Instance ID of this specific resource",
7000     "maxLength": 64,
7001     "readOnly": true,
7002     "type": "string"
7003   },
7004 "if" :
7005   {
7006     "description": "The interface set supported by this resource",
7007     "items": {
7008       "enum": [
7009         "oic.if.baseline",
7010         "oic.if.ll",
7011         "oic.if.b",
7012         "oic.if.lb",
7013         "oic.if.rw",
7014         "oic.if.r",
7015         "oic.if.a",
7016         "oic.if.s"
7017       ],
7018       "type": "string"
7019     },
7020     "minItems": 1,
7021     "readOnly": true,
7022     "type": "array"
7023   }
7024 },
7025 "type" : "object"
7026 }
7027 }
7028 }
7029

```

7030 6.23.5 Property definition

7031 Table 49 defines the Properties that are part of the ['oic.r.time.period'] Resource Type

7032 **Table 49 – The Property definitions of the Resource with type 'rt' = ['oic.r.time.period']**

Property name	Value type	Mandatory	Access mode	Description
rt	array: see schema		Read Only	Resource Type
n	string		Read Only	Friendly name of the resource
stopTime	string		Read Write	Stop time for the time period, if present interval cannot be present
precision	number		Read Only	Accuracy granularity of the exposed value
step	multiple types: see schema		Read Only	Step value across the defined range
startTime	string		Read Write	Start time for the time period
id	string		Read Only	Instance ID of this specific resource

if	array: see schema		Read Only	The interface set supported by this resource
interval	integer		Read Write	Time interval in minutes after the startTime, if present stopTime cannot be present
range	array: see schema		Read Only	The valid range for the value Property

7033 **6.23.6 CRUDN behaviour**

7034 Table 50 defines the CRUDN operations that are supported on the ['oic.r.time.period'] Resource
7035 Type

7036 **Table 50 – The CRUDN operations of the Resource with type 'rt' = ['oic.r.time.period']**

Create	Read	Update	Delete	Notify
	get	post		observe

7037 **6.24 Activity Count**

7038 **6.24.1 Introduction**

7039 This resource specifies an activity count.

7040 The resource can be readonly (oic.if.s interface) in which instance it represents a count.

7041 The resource can be readwrite (oic.if.a interface) in which instance it represents a goal or target
7042 for a count.

7043 The count property is an integer representing either the current count or goal value.

7044 Retrieves the current activity count.

7045

7046 **6.24.2 Example URI**

7047 /ActivityCountResURI

7048 **6.24.3 Resource type**

7049 The resource type (rt) is defined as: ['oic.r.sensor.activity.count'].

7050 **6.24.4 OpenAPI 2.0 definition**

```
7051 {
7052   "swagger": "2.0",
7053   "info": {
7054     "title": "Activity Count",
7055     "version": "v1.1.0-20160519",
7056     "license": {
7057       "name": "copyright 2016-2017 Open Connectivity Foundation, Inc. All rights reserved.",
7058       "x-description": "Redistribution and use in source and binary forms, with or without
7059 modification, are permitted provided that the following conditions are met:\n      1.
7060 Redistributions of source code must retain the above copyright notice, this list of conditions and
7061 the following disclaimer.\n      2. Redistributions in binary form must reproduce the above
7062 copyright notice, this list of conditions and the following disclaimer in the documentation and/or
7063 other materials provided with the distribution.\n\n      THIS SOFTWARE IS PROVIDED BY THE Open
7064 Connectivity Foundation, INC. \AS IS\ AND ANY EXPRESS OR IMPLIED WARRANTIES, INCLUDING, BUT NOT
7065 LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE OR
7066 WARRANTIES OF NON-INFRINGEMENT, ARE DISCLAIMED.\n\n      IN NO EVENT SHALL THE Open Connectivity
7067 Foundation, INC. OR CONTRIBUTORS BE LIABLE FOR ANY DIRECT, INDIRECT, INCIDENTAL, SPECIAL, EXEMPLARY,
7068 OR CONSEQUENTIAL DAMAGES (INCLUDING, BUT NOT LIMITED TO, PROCUREMENT OF SUBSTITUTE GOODS OR
7069 SERVICES; LOSS OF USE, DATA, OR PROFITS; OR BUSINESS INTERRUPTION)\n\n      HOWEVER CAUSED AND ON
7070 ANY THEORY OF LIABILITY, WHETHER IN CONTRACT, STRICT LIABILITY, OR TORT (INCLUDING NEGLIGENCE OR
7071 OTHERWISE) ARISING IN ANY WAY OUT OF THE USE OF THIS SOFTWARE, EVEN IF ADVISED OF THE POSSIBILITY OF
7072 SUCH DAMAGE.\n"
7073   }
7074 },
```

```

7075     "schemes": ["http"],
7076     "consumes": ["application/json"],
7077     "produces": ["application/json"],
7078     "paths": {
7079         "/ActivityCountResURI" : {
7080             "get": {
7081                 "description": "This resource specifies an activity count.\n\nThe resource can be readonly
7082 (oic.if.s interface) in which instance it represents a count.\n\nThe resource can be readwrite
7083 (oic.if.a interface) in which instance it represents a goal or target for a count.\n\nThe count
7084 property is an integer representing either the current count or goal value.\n\nRetrieves the current
7085 activity count.\n",
7086                 "parameters": [
7087                     {"$ref": "#/parameters/interface"}
7088                 ],
7089                 "responses": {
7090                     "200": {
7091                         "description": "",
7092                         "x-example":
7093                             {
7094                                 "xt": ["oic.r.sensor.activity.count"],
7095                                 "id": "unique_example_id",
7096                                 "count": 2500
7097                             }
7098                     },
7099                     "schema": { "$ref": "#/definitions/Count" }
7100                 }
7101             }
7102         },
7103         "post": {
7104             "description": "Sets the count target\n",
7105             "parameters": [
7106                 {"$ref": "#/parameters/interface"},
7107                 {
7108                     "name": "body",
7109                     "in": "body",
7110                     "required": true,
7111                     "schema": { "$ref": "#/definitions/Count" },
7112                     "x-example":
7113                         {
7114                             "count": 5000
7115                         }
7116                 }
7117             ],
7118             "responses": {
7119                 "200": {
7120                     "description": "",
7121                     "x-example":
7122                         {
7123                             "id": "unique_example_id",
7124                             "count": 5000
7125                         }
7126                 },
7127                 "schema": { "$ref": "#/definitions/Count" }
7128             }
7129         }
7130     }
7131 },
7132 },
7133 "parameters": {
7134     "interface" : {
7135         "in" : "query",
7136         "name" : "if",
7137         "type" : "string",
7138         "enum" : ["oic.if.s", "oic.if.a", "oic.if.baseline"]
7139     }
7140 },
7141 "definitions": {
7142     "Count" : {
7143         "properties": {
7144             "count" :
7145                 {
7146                     "description": "Current or Target count.",

```

```

7147     "type": "integer"
7148   },
7149   "rt" :
7150     {
7151       "description": "Resource Type",
7152       "items": {
7153         "maxLength": 64,
7154         "type": "string"
7155       },
7156       "minItems": 1,
7157       "readOnly": true,
7158       "type": "array"
7159     },
7160   "precision" :
7161     {
7162       "description": "Accuracy granularity of the exposed value",
7163       "readOnly": true,
7164       "type": "number"
7165     },
7166   "n" :
7167     {
7168       "description": "Friendly name of the resource",
7169       "maxLength": 64,
7170       "readOnly": true,
7171       "type": "string"
7172     },
7173   "range" :
7174     {
7175       "description": "The valid range for the value Property",
7176       "items": {
7177         "anyOf": [
7178           {
7179             "type": "number"
7180           },
7181           {
7182             "type": "integer"
7183           }
7184         ]
7185       },
7186       "maxItems": 2,
7187       "minItems": 2,
7188       "readOnly": true,
7189       "type": "array"
7190     },
7191   "step" :
7192     {
7193       "anyOf": [
7194         {
7195           "type": "integer"
7196         },
7197         {
7198           "type": "number"
7199         }
7200       ],
7201       "description": "Step value across the defined range",
7202       "readOnly": true
7203     },
7204   "id" :
7205     {
7206       "description": "Instance ID of this specific resource",
7207       "maxLength": 64,
7208       "readOnly": true,
7209       "type": "string"
7210     },
7211   "if" :
7212     {
7213       "description": "The interface set supported by this resource",
7214       "items": {
7215         "enum": [
7216           "oic.if.baseline",
7217           "oic.if.ll",
7218           "oic.if.b",

```

```

7219         "oic.if.lb",
7220         "oic.if.rw",
7221         "oic.if.r",
7222         "oic.if.a",
7223         "oic.if.s"
7224     ],
7225     "type": "string"
7226 },
7227 "minItems": 1,
7228 "readOnly": true,
7229 "type": "array"
7230 }
7231 }
7232 , "type" : "object"
7233 , "required": ["count"]
7234 }
7235 }
7236 }
7237

```

7238 **6.24.5 Property definition**

7239 Table 51 defines the Properties that are part of the ['oic.r.sensor.activity.count'] Resource Type

7240 **Table 51 – The Property definitions of the Resource with type 'rt' =**
7241 **['oic.r.sensor.activity.count']**

Property name	Value type	Mandatory	Access mode	Description
step	multiple types: see schema	No	Read Only	Step value across the defined range
count	integer	Yes	Read Write	Current or Target count.
precision	number	No	Read Only	Accuracy granularity of the exposed value
n	string	No	Read Only	Friendly name of the resource
rt	array: see schema	No	Read Only	Resource Type
if	array: see schema	No	Read Only	The interface set supported by this resource
range	array: see schema	No	Read Only	The valid range for the value Property
id	string	No	Read Only	Instance ID of this specific resource

7242 **6.24.6 CRUDN behaviour**

7243 Table 52 defines the CRUDN operations that are supported on the ['oic.r.sensor.activity.count']
7244 Resource Type

7245 **Table 52 – The CRUDN operations of the Resource with type 'rt' =**
7246 **['oic.r.sensor.activity.count']**

Create	Read	Update	Delete	Notify
	get	post		observe

7247 **6.25 Atmospheric Pressure Sensor**

7248 **6.25.1 Introduction**

7249 This resource provides a measurement of Mean Sea Level Pressure experienced at the
7250 measuring point expressed in millibars.
7251 The value is float which describes the atmospheric pressure in hPa (hectoPascals).
7252 Note that hPa and the also commonly used unit of millibars (mbar) are numerically equivalent.
7253

7254 **6.25.2 Example URI**

7255 /AtmosphericPressureResURI

7256 **6.25.3 Resource type**

7257 The resource type (rt) is defined as: ['oic.r.sensor.atmosphericpressure'].

7258 **6.25.4 OpenAPI 2.0 definition**

```
7259 {  
7260   "swagger": "2.0",  
7261   "info": {  
7262     "title": "Atmospheric Pressure Sensor",  
7263     "version": "v1.1.0-20160519",  
7264     "license": {  
7265       "name": "copyright 2016-2017 Open Connectivity Foundation, Inc. All rights reserved.",  
7266       "x-description": "Redistribution and use in source and binary forms, with or without  
7267 modification, are permitted provided that the following conditions are met:\n      1.  
7268 Redistributions of source code must retain the above copyright notice, this list of conditions and  
7269 the following disclaimer.\n      2. Redistributions in binary form must reproduce the above  
7270 copyright notice, this list of conditions and the following disclaimer in the documentation and/or  
7271 other materials provided with the distribution.\n\n      THIS SOFTWARE IS PROVIDED BY THE Open  
7272 Connectivity Foundation, INC. \n      \"AS IS\" AND ANY EXPRESS OR IMPLIED WARRANTIES, INCLUDING, BUT NOT  
7273 LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE OR  
7274 WARRANTIES OF NON-INFRINGEMENT, ARE DISCLAIMED.\n\n      IN NO EVENT SHALL THE Open Connectivity  
7275 Foundation, INC. OR CONTRIBUTORS BE LIABLE FOR ANY DIRECT, INDIRECT, INCIDENTAL, SPECIAL, EXEMPLARY,  
7276 OR CONSEQUENTIAL DAMAGES (INCLUDING, BUT NOT LIMITED TO, PROCUREMENT OF SUBSTITUTE GOODS OR  
7277 SERVICES; LOSS OF USE, DATA, OR PROFITS; OR BUSINESS INTERRUPTION)\n\n      HOWEVER CAUSED AND ON  
7278 ANY THEORY OF LIABILITY, WHETHER IN CONTRACT, STRICT LIABILITY, OR TORT (INCLUDING NEGLIGENCE OR  
7279 OTHERWISE) ARISING IN ANY WAY OUT OF THE USE OF THIS SOFTWARE, EVEN IF ADVISED OF THE POSSIBILITY OF  
7280 SUCH DAMAGE.\n\n    }  
7281   },  
7282   "schemes": ["http"],  
7283   "consumes": ["application/json"],  
7284   "produces": ["application/json"],  
7285   "paths": {  
7286     "/AtmosphericPressureResURI": {  
7287       "get": {  
7288         "description": "This resource provides a measurement of Mean Sea Level Pressure experienced  
7289 at the measuring point expressed in millibars.\nThe value is float which describes the atmospheric  
7290 pressure in hPa (hectoPascals).\nNote that hPa and the also commonly used unit of millibars (mbar)  
7291 are numerically equivalent.\n",  
7292         "parameters": [  
7293           {  
7294             "$ref": "#/parameters/interface"  
7295           }  
7296         ],  
7297         "responses": {  
7298           "200": {  
7299             "description": "",  
7300             "x-example":  
7301               {  
7302                 "rt": ["oic.r.sensor.atmosphericpressure"],  
7303                 "id": "unique_example_id",  
7304                 "atmosphericPressure": 1000.4  
7305               }  
7306             ,  
7307             "schema": {  
7308               "$ref": "#/definitions/atmosphericPressure"  
7309             }  
7310           }  
7311         }  
7312       }  
7313     }  
7314   }  
7315 }
```

```

7312 "parameters": {
7313   "interface" : {
7314     "in" : "query",
7315     "name" : "if",
7316     "type" : "string",
7317     "enum" : ["oic.if.s", "oic.if.baseline"]
7318   }
7319 },
7320 "definitions": {
7321   "atmosphericPressure" : {
7322     "properties": {
7323       "rt" :
7324         {
7325           "description": "Resource Type",
7326           "items": {
7327             "maxLength": 64,
7328             "type": "string"
7329           },
7330           "minItems": 1,
7331           "readOnly": true,
7332           "type": "array"
7333         },
7334     "atmosphericPressure" :
7335       {
7336         "description": "Current atmospheric pressure in hPa.",
7337         "readOnly": true,
7338         "type": "number"
7339       },
7340     "n" :
7341       {
7342         "description": "Friendly name of the resource",
7343         "maxLength": 64,
7344         "readOnly": true,
7345         "type": "string"
7346       },
7347     "range" :
7348       {
7349         "description": "The valid range for the value Property",
7350         "items": {
7351           "anyOf": [
7352             {
7353               "type": "number"
7354             },
7355             {
7356               "type": "integer"
7357             }
7358           ]
7359         },
7360         "maxItems": 2,
7361         "minItems": 2,
7362         "readOnly": true,
7363         "type": "array"
7364       },
7365     "precision" :
7366       {
7367         "description": "Accuracy granularity of the exposed value",
7368         "readOnly": true,
7369         "type": "number"
7370       },
7371     "step" :
7372       {
7373         "anyOf": [
7374           {
7375             "type": "integer"
7376           },
7377           {
7378             "type": "number"
7379           }
7380         ],
7381         "description": "Step value across the defined range",
7382         "readOnly": true
7383       },

```

```

7384     "id" :
7385         {
7386             "description": "Instance ID of this specific resource",
7387             "maxLength": 64,
7388             "readOnly": true,
7389             "type": "string"
7390         },
7391     "if" :
7392         {
7393             "description": "The interface set supported by this resource",
7394             "items": {
7395                 "enum": [
7396                     "oic.if.baseline",
7397                     "oic.if.ll",
7398                     "oic.if.b",
7399                     "oic.if.lb",
7400                     "oic.if.rw",
7401                     "oic.if.r",
7402                     "oic.if.a",
7403                     "oic.if.s"
7404                 ],
7405                 "type": "string"
7406             },
7407             "minItems": 1,
7408             "readOnly": true,
7409             "type": "array"
7410         }
7411     },
7412     "type" : "object"
7413 }, "required": ["atmosphericPressure"]
7414 }
7415 }
7416 }
7417

```

7418 **6.25.5 Property definition**

7419 Table 53 defines the Properties that are part of the ['oic.r.sensor.atmosphericpressure'] Resource
7420 Type

7421 **Table 53 – The Property definitions of the Resource with type 'rt' =**
7422 **['oic.r.sensor.atmosphericpressure']**

Property name	Value type	Mandatory	Access mode	Description
precision	number	No	Read Only	Accuracy granularity of the exposed value
step	multiple types: see schema	No	Read Only	Step value across the defined range
id	string	No	Read Only	Instance ID of this specific resource
n	string	No	Read Only	Friendly name of the resource
range	array: see schema	No	Read Only	The valid range for the value Property
if	array: see schema	No	Read Only	The interface set supported by this resource
rt	array: see schema	No	Read Only	Resource Type

atmosphericPressure	number	Yes	Read Only	Current atmospheric pressure in hPa.
---------------------	--------	-----	-----------	--------------------------------------

7423 **6.25.6 CRUDN behaviour**

7424 Table 54 defines the CRUDN operations that are supported on the
7425 ['oic.r.sensor.atmosphericpressure'] Resource Type

7426 **Table 54 – The CRUDN operations of the Resource with type 'rt' =**
7427 **['oic.r.sensor.atmosphericpressure']**

Create	Read	Update	Delete	Notify
	get			observe

7428 **6.26 Audio Controls**

7429 **6.26.1 Introduction**

7430 This resource defines basic audio control functions.
7431 The volume is an integer containing a percentage [0,100].
7432 A volume of 0 (zero) means no sound produced.
7433 A volume of 100 means maximum sound production.
7434 The mute control is implemented as a boolean.
7435 A mute value of true means that the device is muted (no audio).
7436 A mute value of false means that the device is not muted (audio).
7437

7438 **6.26.2 Example URI**

7439 /AudioResURI

7440 **6.26.3 Resource type**

7441 The resource type (rt) is defined as: ['oic.r.audio'].

7442 **6.26.4 OpenAPI 2.0 definition**

```
7443 {
7444   "swagger": "2.0",
7445   "info": {
7446     "title": "Audio Controls",
7447     "version": "v1.1.0-20160519",
7448     "license": {
7449       "name": "copyright 2016-2017 Open Connectivity Foundation, Inc. All rights reserved.",
7450       "x-description": "Redistribution and use in source and binary forms, with or without
7451 modification, are permitted provided that the following conditions are met:\n      1.
7452 Redistributions of source code must retain the above copyright notice, this list of conditions and
7453 the following disclaimer.\n      2. Redistributions in binary form must reproduce the above
7454 copyright notice, this list of conditions and the following disclaimer in the documentation and/or
7455 other materials provided with the distribution.\n\n      THIS SOFTWARE IS PROVIDED BY THE Open
7456 Connectivity Foundation, INC. \\"AS IS\\" AND ANY EXPRESS OR IMPLIED WARRANTIES, INCLUDING, BUT NOT
7457 LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE OR
7458 WARRANTIES OF NON-INFRINGEMENT, ARE DISCLAIMED.\n\n      IN NO EVENT SHALL THE Open Connectivity
7459 Foundation, INC. OR CONTRIBUTORS BE LIABLE FOR ANY DIRECT, INDIRECT, INCIDENTAL, SPECIAL, EXEMPLARY,
7460 OR CONSEQUENTIAL DAMAGES (INCLUDING, BUT NOT LIMITED TO, PROCUREMENT OF SUBSTITUTE GOODS OR
7461 SERVICES; LOSS OF USE, DATA, OR PROFITS; OR BUSINESS INTERRUPTION)\n\n      HOWEVER CAUSED AND ON
7462 ANY THEORY OF LIABILITY, WHETHER IN CONTRACT, STRICT LIABILITY, OR TORT (INCLUDING NEGLIGENCE OR
7463 OTHERWISE) ARISING IN ANY WAY OUT OF THE USE OF THIS SOFTWARE, EVEN IF ADVISED OF THE POSSIBILITY OF
7464 SUCH DAMAGE.\n"
7465     }
7466   },
7467   "schemes": ["http"],
7468   "consumes": ["application/json"],
7469   "produces": ["application/json"],
7470   "paths": {
7471     "/AudioResURI" : {
7472       "get": {
7473         "description": "This resource defines basic audio control functions.\nThe volume is an
7474 integer containing a percentage [0,100].\nA volume of 0 (zero) means no sound produced.\nA volume of
7475 100 means maximum sound production.\nThe mute control is implemented as a boolean.\nA mute value of
```

```

7476 true means that the device is muted (no audio).\nA mute value of false means that the device is not
7477 muted (audio).\n",
7478     "parameters": [
7479       {"$ref": "#/parameters/interface"}
7480     ],
7481     "responses": {
7482       "200": {
7483         "description": "",
7484         "x-example":
7485           {
7486             "rt": ["oic.r.audio"],
7487             "id": "unique_example_id",
7488             "volume": 50,
7489             "mute": false
7490           }
7491       },
7492       "schema": { "$ref": "#/definitions/Audio" }
7493     }
7494   },
7495 },
7496 "post": {
7497   "description": "",
7498   "parameters": [
7499     {"$ref": "#/parameters/interface"},
7500     {
7501       "name": "body",
7502       "in": "body",
7503       "required": true,
7504       "schema": { "$ref": "#/definitions/Audio" },
7505       "x-example":
7506         {
7507           "volume": 75,
7508           "mute": false
7509         }
7510     }
7511   ],
7512   "responses": {
7513     "200": {
7514       "description": "",
7515       "x-example":
7516         {
7517           "id": "unique_example_id",
7518           "volume": 75,
7519           "mute": false
7520         }
7521     },
7522     "schema": { "$ref": "#/definitions/Audio" }
7523   }
7524 }
7525 }
7526 },
7527 },
7528 "parameters": {
7529   "interface": {
7530     "in": "query",
7531     "name": "if",
7532     "type": "string",
7533     "enum": ["oic.if.a", "oic.if.baseline"]
7534   }
7535 },
7536 "definitions": {
7537   "Audio": {
7538     "properties": {
7539       "rt":
7540         {
7541           "description": "Resource Type",
7542           "items": {
7543             "maxLength": 64,
7544             "type": "string"
7545           },
7546           "minItems": 1,
7547           "readOnly": true,

```

```

7548     "type": "array"
7549   },
7550   "mute" :
7551     {
7552       "description": "Mute setting of an audio rendering device",
7553       "type": "boolean"
7554     },
7555   "precision" :
7556     {
7557       "description": "Accuracy granularity of the exposed value",
7558       "readOnly": true,
7559       "type": "number"
7560     },
7561   "n" :
7562     {
7563       "description": "Friendly name of the resource",
7564       "maxLength": 64,
7565       "readOnly": true,
7566       "type": "string"
7567     },
7568   "volume" :
7569     {
7570       "description": "Volume setting of an audio rendering device.",
7571       "maximum": 100,
7572       "minimum": 0,
7573       "type": "integer"
7574     },
7575   "range" :
7576     {
7577       "description": "The valid range for the value Property",
7578       "items": {
7579         "anyOf": [
7580           {
7581             "type": "number"
7582           },
7583           {
7584             "type": "integer"
7585           }
7586         ]
7587       },
7588       "maxItems": 2,
7589       "minItems": 2,
7590       "readOnly": true,
7591       "type": "array"
7592     },
7593   "step" :
7594     {
7595       "anyOf": [
7596         {
7597           "type": "integer"
7598         },
7599         {
7600           "type": "number"
7601         }
7602       ],
7603       "description": "Step value across the defined range",
7604       "readOnly": true
7605     },
7606   "id" :
7607     {
7608       "description": "Instance ID of this specific resource",
7609       "maxLength": 64,
7610       "readOnly": true,
7611       "type": "string"
7612     },
7613   "if" :
7614     {
7615       "description": "The interface set supported by this resource",
7616       "items": {
7617         "enum": [
7618           "oic.if.baseline",
7619           "oic.if.ll",

```

```

7620         "oic.if.b",
7621         "oic.if.lb",
7622         "oic.if.rw",
7623         "oic.if.r",
7624         "oic.if.a",
7625         "oic.if.s"
7626     ],
7627     "type": "string"
7628 },
7629     "minItems": 1,
7630     "readOnly": true,
7631     "type": "array"
7632 }
7633 }
7634 , "type" : "object"
7635 , "required": ["volume", "mute"]
7636 }
7637 }
7638 }
7639

```

7640 6.26.5 Property definition

7641 Table 55 defines the Properties that are part of the ['oic.r.audio'] Resource Type

7642 **Table 55 – The Property definitions of the Resource with type 'rt' = ['oic.r.audio']**

Property name	Value type	Mandatory	Access mode	Description
if	array: see schema	No	Read Only	The interface set supported by this resource
rt	array: see schema	No	Read Only	Resource Type
id	string	No	Read Only	Instance ID of this specific resource
mute	boolean	Yes	Read Write	Mute setting of an audio rendering device
n	string	No	Read Only	Friendly name of the resource
step	multiple types: see schema	No	Read Only	Step value across the defined range
range	array: see schema	No	Read Only	The valid range for the value Property
precision	number	No	Read Only	Accuracy granularity of the exposed value
volume	integer	Yes	Read Write	Volume setting of an audio rendering device.

7643 6.26.6 CRUDN behaviour

7644 Table 56 defines the CRUDN operations that are supported on the ['oic.r.audio'] Resource Type

7645 **Table 56 – The CRUDN operations of the Resource with type 'rt' = ['oic.r.audio']**

Create	Read	Update	Delete	Notify
	get	post		observe

7646 **6.27 Auto Focus**

7647 **6.27.1 Introduction**

7648 This resource describes an auto focus on/off feature.

7649 The value is a boolean.

7650 An AutoFocus value of 'true' means that the switch is on.

7651 An AutoFocus value of 'false' means that the switch is off.

7652 Note that when Pan Tilt Zoom (see 'Pan Tilt Zoom' Resource definition) is used the autofocus works only in the selected area.

7653

7654

7655 **6.27.2 Example URI**

7656 /AutoFocusResURI

7657 **6.27.3 Resource type**

7658 The resource type (rt) is defined as: ['oic.r.autofocus'].

7659 **6.27.4 OpenAPI 2.0 definition**

```
7660 {
7661   "swagger": "2.0",
7662   "info": {
7663     "title": "Auto Focus",
7664     "version": "v1.1.0-20160519",
7665     "license": {
7666       "name": "copyright 2016-2017 Open Connectivity Foundation, Inc. All rights reserved.",
7667       "x-description": "Redistribution and use in source and binary forms, with or without
7668 modification, are permitted provided that the following conditions are met:\n      1.
7669 Redistributions of source code must retain the above copyright notice, this list of conditions and
7670 the following disclaimer.\n      2. Redistributions in binary form must reproduce the above
7671 copyright notice, this list of conditions and the following disclaimer in the documentation and/or
7672 other materials provided with the distribution.\n\n      THIS SOFTWARE IS PROVIDED BY THE Open
7673 Connectivity Foundation, INC. \\"AS IS\\" AND ANY EXPRESS OR IMPLIED WARRANTIES, INCLUDING, BUT NOT
7674 LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE OR
7675 WARRANTIES OF NON-INFRINGEMENT, ARE DISCLAIMED.\n\n      IN NO EVENT SHALL THE Open Connectivity
7676 Foundation, INC. OR CONTRIBUTORS BE LIABLE FOR ANY DIRECT, INDIRECT, INCIDENTAL, SPECIAL, EXEMPLARY,
7677 OR CONSEQUENTIAL DAMAGES (INCLUDING, BUT NOT LIMITED TO, PROCUREMENT OF SUBSTITUTE GOODS OR
7678 SERVICES; LOSS OF USE, DATA, OR PROFITS; OR BUSINESS INTERRUPTION)\n\n      HOWEVER CAUSED AND ON
7679 ANY THEORY OF LIABILITY, WHETHER IN CONTRACT, STRICT LIABILITY, OR TORT (INCLUDING NEGLIGENCE OR
7680 OTHERWISE) ARISING IN ANY WAY OUT OF THE USE OF THIS SOFTWARE, EVEN IF ADVISED OF THE POSSIBILITY OF
7681 SUCH DAMAGE.\n"
7682   }
7683 },
7684 "schemes": ["http"],
7685 "consumes": ["application/json"],
7686 "produces": ["application/json"],
7687 "paths": {
7688   "/AutoFocusResURI" : {
7689     "get": {
7690       "description": "This resource describes an auto focus on/off feature.\nThe value is a
7691 boolean.\nAn AutoFocus value of 'true' means that the switch is on.\nAn AutoFocus value of 'false'
7692 means that the switch is off.\nNote that when Pan Tilt Zoom (see 'Pan Tilt Zoom' Resource
7693 definition) is used the autofocus works only in the selected area.\n",
7694       "parameters": [
7695         { "$ref": "#/parameters/interface" }
7696       ],
7697       "responses": {
7698         "200": {
7699           "description": "",
7700           "x-example":
7701             {
7702               "rt": ["oic.r.autofocus"],
7703               "id": "unique_example_id",
7704               "autoFocus": false
7705             }
7706         },
7707         "schema": { "$ref": "#/definitions/AutoFocus" }
7708       }
7709     }
7710   }
7711 }
```

```

7710     },
7711     "post": {
7712         "description": "",
7713         "parameters": [
7714             { "$ref": "#/parameters/interface" },
7715             {
7716                 "name": "body",
7717                 "in": "body",
7718                 "required": true,
7719                 "schema": { "$ref": "#/definitions/AutoFocus" },
7720                 "x-example":
7721                     {
7722                         "autoFocus": true
7723                     }
7724             }
7725         ],
7726         "responses": {
7727             "200": {
7728                 "description": "",
7729                 "x-example":
7730                     {
7731                         "id": "unique_example_id",
7732                         "autoFocus": true
7733                     }
7734                 ,
7735                 "schema": { "$ref": "#/definitions/AutoFocus" }
7736             }
7737         }
7738     }
7739 },
7740 "parameters": {
7741     "interface": {
7742         "in": "query",
7743         "name": "if",
7744         "type": "string",
7745         "enum": ["oic.if.a", "oic.if.baseline"]
7746     }
7747 },
7748 "definitions": {
7749     "AutoFocus": {
7750         "properties": {
7751             "rt": {
7752                 {
7753                     "description": "Resource Type",
7754                     "items": {
7755                         "maxLength": 64,
7756                         "type": "string"
7757                     },
7758                     "minItems": 1,
7759                     "readOnly": true,
7760                     "type": "array"
7761                 },
7762             },
7763             "n": {
7764                 {
7765                     "description": "Friendly name of the resource",
7766                     "maxLength": 64,
7767                     "readOnly": true,
7768                     "type": "string"
7769                 },
7770             "autoFocus": {
7771                 {
7772                     "description": "Status of the Auto Focus",
7773                     "type": "boolean"
7774                 },
7775             "id": {
7776                 {
7777                     "description": "Instance ID of this specific resource",
7778                     "maxLength": 64,
7779                     "readOnly": true,
7780                     "type": "string"
7781                 }

```

```

7782     "if" :
7783         {
7784             "description": "The interface set supported by this resource",
7785             "items": {
7786                 "enum": [
7787                     "oic.if.baseline",
7788                     "oic.if.ll",
7789                     "oic.if.b",
7790                     "oic.if.lb",
7791                     "oic.if.rw",
7792                     "oic.if.r",
7793                     "oic.if.a",
7794                     "oic.if.s"
7795                 ],
7796                 "type": "string"
7797             },
7798             "minItems": 1,
7799             "readOnly": true,
7800             "type": "array"
7801         }
7802     },
7803     "type" : "object"
7804 }, "required": ["autoFocus"]
7805 }
7806 }
7807 }
7808

```

7809 **6.27.5 Property definition**

7810 Table 57 defines the Properties that are part of the ['oic.r.autofocus'] Resource Type

7811 **Table 57 – The Property definitions of the Resource with type 'rt' = ['oic.r.autofocus']**

Property name	Value type	Mandatory	Access mode	Description
id	string	No	Read Only	Instance ID of this specific resource
n	string	No	Read Only	Friendly name of the resource
autoFocus	boolean	Yes	Read Write	Status of the Auto Focus
if	array: see schema	No	Read Only	The interface set supported by this resource
rt	array: see schema	No	Read Only	Resource Type

7812 **6.27.6 CRUDN behaviour**

7813 Table 58 defines the CRUDN operations that are supported on the ['oic.r.autofocus'] Resource
7814 Type

7815 **Table 58 – The CRUDN operations of the Resource with type 'rt' = ['oic.r.autofocus']**

Create	Read	Update	Delete	Notify
	get	post		observe

7816 **6.28 Automatic Document Feeder**

7817 **6.28.1 Introduction**

7818 This resource describes the state of an automatic document feeder, typically used with a
7819 scanner.

7820 The states are read only.

7821 The adfStates is an array of the possible operational states.

7822 adfProcessing is the OK state, other states are errors or require 'user attention'.

7823 The currentAdfState is the current value of the ADF state on the device.
7824 Retrieves the current automatic document feeder state.
7825

7826 6.28.2 Example URI

7827 /AutomaticDocumentFeederResURI

7828 6.28.3 Resource type

7829 The resource type (rt) is defined as: ['oic.r.automaticdocumentfeeder'].

7830 6.28.4 OpenAPI 2.0 definition

```
7831 {  
7832   "swagger": "2.0",  
7833   "info": {  
7834     "title": "Automatic Document Feeder",  
7835     "version": "v1.1.0-20160519",  
7836     "license": {  
7837       "name": "copyright 2016-2017 Open Connectivity Foundation, Inc. All rights reserved.",  
7838       "x-description": "Redistribution and use in source and binary forms, with or without  
7839 modification, are permitted provided that the following conditions are met:\n      1.  
7840 Redistributions of source code must retain the above copyright notice, this list of conditions and  
7841 the following disclaimer.\n      2. Redistributions in binary form must reproduce the above  
7842 copyright notice, this list of conditions and the following disclaimer in the documentation and/or  
7843 other materials provided with the distribution.\n      THIS SOFTWARE IS PROVIDED BY THE Open  
7844 Connectivity Foundation, INC. \\"AS IS\\" AND ANY EXPRESS OR IMPLIED WARRANTIES, INCLUDING, BUT NOT  
7845 LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE OR  
7846 WARRANTIES OF NON-INFRINGEMENT, ARE DISCLAIMED.\n      IN NO EVENT SHALL THE Open Connectivity  
7847 Foundation, INC. OR CONTRIBUTORS BE LIABLE FOR ANY DIRECT, INDIRECT, INCIDENTAL, SPECIAL, EXEMPLARY,  
7848 OR CONSEQUENTIAL DAMAGES (INCLUDING, BUT NOT LIMITED TO, PROCUREMENT OF SUBSTITUTE GOODS OR  
7849 SERVICES; LOSS OF USE, DATA, OR PROFITS; OR BUSINESS INTERRUPTION)\n      HOWEVER CAUSED AND ON  
7850 ANY THEORY OF LIABILITY, WHETHER IN CONTRACT, STRICT LIABILITY, OR TORT (INCLUDING NEGLIGENCE OR  
7851 OTHERWISE) ARISING IN ANY WAY OUT OF THE USE OF THIS SOFTWARE, EVEN IF ADVISED OF THE POSSIBILITY OF  
7852 SUCH DAMAGE.\n    }  
7853   },  
7854   "schemes": ["http"],  
7855   "consumes": ["application/json"],  
7856   "produces": ["application/json"],  
7857   "paths": {  
7858     "/AutomaticDocumentFeederResURI" : {  
7859       "get": {  
7860         "description": "This resource describes the state of an automatic document feeder, typically  
7861 used with a scanner.\nThe states are read only.\nThe adfStates is an array of the possible  
7862 operational states.\nadfProcessing is the OK state, other states are errors or require 'user  
7863 attention'.7864 current automatic document feeder state.\n",  
7865         "parameters": [  
7866           { "$ref": "#/parameters/interface" }  
7867         ],  
7868         "responses": {  
7869           "200": {  
7870             "description": "",  
7871             "x-example":  
7872               {  
7873                 "rt": ["oic.r.automaticdocumentfeeder"],  
7874                 "id": "unique_example_id",  
7875                 "adfStates": ["adfProcessing", "adfEmpty", "adfJam", "adfLoaded",  
7876 "adfMispick", "adfHatchOpen", "adfDuplexPageTooShort", "adfDuplexPageTooLong",  
7877 "adfMultipickDetected", "adfInputTrayFailed", "adfInputTrayOverloaded"],  
7878                 "currentAdfState": "adfProcessing"  
7879               }  
7880             },  
7881             "schema": { "$ref": "#/definitions/AutomaticDocumentFeeder" }  
7882           }  
7883         }  
7884       }  
7885     }  
7886   },  
7887   "parameters": {  
7888     "interface" : {  
7889
```



```

7890     "in" : "query",
7891     "name" : "if",
7892     "type" : "string",
7893     "enum" : ["oic.if.s", "oic.if.baseline"]
7894   }
7895 },
7896 "definitions": {
7897   "AutomaticDocumentFeeder" : {
7898     "properties": {
7899       "adfStates" :
7900         {
7901           "description": "array of the possible adf states.",
7902           "items": {
7903             "type": "string"
7904           },
7905           "readOnly": true,
7906           "type": "array"
7907         },
7908     "rt" :
7909       {
7910         "description": "Resource Type",
7911         "items": {
7912           "maxLength": 64,
7913           "type": "string"
7914         },
7915         "minItems": 1,
7916         "readOnly": true,
7917         "type": "array"
7918       },
7919     "n" :
7920       {
7921         "description": "Friendly name of the resource",
7922         "maxLength": 64,
7923         "readOnly": true,
7924         "type": "string"
7925       },
7926     "currentAdfState" :
7927       {
7928         "description": "Current adf state.",
7929         "readOnly": true,
7930         "type": "string"
7931       },
7932     "id" :
7933       {
7934         "description": "Instance ID of this specific resource",
7935         "maxLength": 64,
7936         "readOnly": true,
7937         "type": "string"
7938       },
7939     "if" :
7940       {
7941         "description": "The interface set supported by this resource",
7942         "items": {
7943           "enum": [
7944             "oic.if.baseline",
7945             "oic.if.ll",
7946             "oic.if.b",
7947             "oic.if.lb",
7948             "oic.if.rw",
7949             "oic.if.r",
7950             "oic.if.a",
7951             "oic.if.s"
7952           ],
7953           "type": "string"
7954         },
7955         "minItems": 1,
7956         "readOnly": true,
7957         "type": "array"
7958       }
7959     },
7960     "type" : "object"
7961   }, "required": ["adfStates", "currentAdfState"]

```

7962 }
 7963 }
 7964 }
 7965 }

7966 **6.28.5 Property definition**

7967 Table 59 defines the Properties that are part of the ['oic.r.automaticdocumentfeeder'] Resource
 7968 Type

7969 **Table 59 – The Property definitions of the Resource with type 'rt' =**
 7970 **['oic.r.automaticdocumentfeeder']**

Property name	Value type	Mandatory	Access mode	Description
n	string	No	Read Only	Friendly name of the resource
id	string	No	Read Only	Instance ID of this specific resource
rt	array: see schema	No	Read Only	Resource Type
if	array: see schema	No	Read Only	The interface set supported by this resource
adfStates	array: see schema	Yes	Read Only	array of the possible adf states.
currentAdfState	string	Yes	Read Only	Current adf state.

7971 **6.28.6 CRUDN behaviour**

7972 Table 60 defines the CRUDN operations that are supported on the ['oic.r.automaticdocumentfeeder']
 7973 Resource Type

7974 **Table 60 – The CRUDN operations of the Resource with type 'rt' =**
 7975 **['oic.r.automaticdocumentfeeder']**

Create	Read	Update	Delete	Notify
	get			observe

7976 **6.29 Button Switch**

7977 **6.29.1 Introduction**

7978 This resource describes the operation of a button style switch.

7979 The value is a boolean.

7980 A value of 'true' means that the button is being pushed/pressed.

7981 A value of 'false' means that the button is not being pushed/pressed.

7982

7983 **6.29.2 Example URI**

7984 /ButtonResURI

7985 **6.29.3 Resource type**

7986 The resource type (rt) is defined as: ['oic.r.button'].

7987 **6.29.4 OpenAPI 2.0 definition**

7988 {
 7989 "swagger": "2.0",
 7990 "info": {
 7991 "title": "Button Switch",
 7992 "version": "v1.1.0-20160519",
 7993 "license": {

```

7994     "name": "copyright 2016-2017 Open Connectivity Foundation, Inc. All rights reserved.",
7995     "x-description": "Redistribution and use in source and binary forms, with or without
7996 modification, are permitted provided that the following conditions are met:\n      1.
7997 Redistributions of source code must retain the above copyright notice, this list of conditions and
7998 the following disclaimer.\n      2. Redistributions in binary form must reproduce the above
7999 copyright notice, this list of conditions and the following disclaimer in the documentation and/or
8000 other materials provided with the distribution.\n\n      THIS SOFTWARE IS PROVIDED BY THE Open
8001 Connectivity Foundation, INC. \ "AS IS\ " AND ANY EXPRESS OR IMPLIED WARRANTIES, INCLUDING, BUT NOT
8002 LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE OR
8003 WARRANTIES OF NON-INFRINGEMENT, ARE DISCLAIMED.\n      IN NO EVENT SHALL THE Open Connectivity
8004 Foundation, INC. OR CONTRIBUTORS BE LIABLE FOR ANY DIRECT, INDIRECT, INCIDENTAL, SPECIAL, EXEMPLARY,
8005 OR CONSEQUENTIAL DAMAGES (INCLUDING, BUT NOT LIMITED TO, PROCUREMENT OF SUBSTITUTE GOODS OR
8006 SERVICES; LOSS OF USE, DATA, OR PROFITS; OR BUSINESS INTERRUPTION)\n      HOWEVER CAUSED AND ON
8007 ANY THEORY OF LIABILITY, WHETHER IN CONTRACT, STRICT LIABILITY, OR TORT (INCLUDING NEGLIGENCE OR
8008 OTHERWISE) ARISING IN ANY WAY OUT OF THE USE OF THIS SOFTWARE, EVEN IF ADVISED OF THE POSSIBILITY OF
8009 SUCH DAMAGE.\n"
8010   }
8011 },
8012   "schemes": ["http"],
8013   "consumes": ["application/json"],
8014   "produces": ["application/json"],
8015   "paths": {
8016     "/ButtonResURI" : {
8017       "get": {
8018         "description": "This resource describes the operation of a button style switch.\n\nThe value
8019 is a boolean.\n\nA value of 'true' means that the button is being pushed/pressed.\n\nA value of 'false'
8020 means that the button is not being pushed/pressed.\n",
8021         "parameters": [
8022           { "$ref": "#/parameters/interface" }
8023         ],
8024         "responses": {
8025           "200": {
8026             "description": "",
8027             "x-example":
8028               {
8029                 "rt": ["oic.r.button"],
8030                 "id": "unique_example_id",
8031                 "value": true
8032               }
8033           },
8034           "schema": { "$ref": "#/definitions/Button" }
8035         }
8036       }
8037     }
8038   }
8039 },
8040 "parameters": {
8041   "interface" : {
8042     "in" : "query",
8043     "name" : "if",
8044     "type" : "string",
8045     "enum" : ["oic.if.s", "oic.if.baseline"]
8046   }
8047 },
8048 "definitions": {
8049   "Button" : {
8050     "properties": {
8051       "rt" :
8052         {
8053           "description": "Resource Type",
8054           "items": {
8055             "maxLength": 64,
8056             "type": "string"
8057           },
8058           "minItems": 1,
8059           "readOnly": true,
8060           "type": "array"
8061         },
8062       "value" :
8063         {
8064           "description": "Status of the button",
8065           "readOnly": true,

```

```

8066     "type": "boolean"
8067   },
8068   "n" :
8069     {
8070     "description": "Friendly name of the resource",
8071     "maxLength": 64,
8072     "readOnly": true,
8073     "type": "string"
8074   },
8075   "id" :
8076     {
8077     "description": "Instance ID of this specific resource",
8078     "maxLength": 64,
8079     "readOnly": true,
8080     "type": "string"
8081   },
8082   "if" :
8083     {
8084     "description": "The interface set supported by this resource",
8085     "items": {
8086       "enum": [
8087         "oic.if.baseline",
8088         "oic.if.ll",
8089         "oic.if.b",
8090         "oic.if.lb",
8091         "oic.if.rw",
8092         "oic.if.r",
8093         "oic.if.a",
8094         "oic.if.s"
8095       ],
8096       "type": "string"
8097     },
8098     "minItems": 1,
8099     "readOnly": true,
8100     "type": "array"
8101   }
8102 },
8103 "type" : "object"
8104 , "required": ["value"]
8105 }
8106 }
8107 }
8108

```

8109 6.29.5 Property definition

8110 Table 61 defines the Properties that are part of the ['oic.r.button'] Resource Type

8111 **Table 61 – The Property definitions of the Resource with type 'rt' = ['oic.r.button']**

Property name	Value type	Mandatory	Access mode	Description
rt	array: see schema	No	Read Only	Resource Type
id	string	No	Read Only	Instance ID of this specific resource
if	array: see schema	No	Read Only	The interface set supported by this resource
n	string	No	Read Only	Friendly name of the resource
value	boolean	Yes	Read Only	Status of the button

8112 6.29.6 CRUDN behaviour

8113 Table 62 defines the CRUDN operations that are supported on the ['oic.r.button'] Resource Type

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

Create	Read	Update	Delete	Notify
	get			observe

8115 **6.30 Carbon Dioxide Sensor**8116 **6.30.1 Introduction**

8117 This resource describes whether carbon dioxide has been sensed or not.

8118 The value is a boolean.

8119 A value of 'true' means that carbon dioxide has been detected.

8120 A value of 'false' means that carbon dioxide has not been detected.

8121

8122 **6.30.2 Example URI**

8123 /CarbonDioxideResURI

8124 **6.30.3 Resource type**

8125 The resource type (rt) is defined as: ['oic.r.sensor.carbondioxide'].

8126 **6.30.4 OpenAPI 2.0 definition**

```

8127 {
8128   "swagger": "2.0",
8129   "info": {
8130     "title": "Carbon Dioxide Sensor",
8131     "version": "v1.1.0-20160519",
8132     "license": {
8133       "name": "copyright 2016-2017 Open Connectivity Foundation, Inc. All rights reserved.",
8134       "x-description": "Redistribution and use in source and binary forms, with or without
8135 modification, are permitted provided that the following conditions are met:\n      1.
8136 Redistributions of source code must retain the above copyright notice, this list of conditions and
8137 the following disclaimer.\n      2. Redistributions in binary form must reproduce the above
8138 copyright notice, this list of conditions and the following disclaimer in the documentation and/or
8139 other materials provided with the distribution.\n\n      THIS SOFTWARE IS PROVIDED BY THE Open
8140 Connectivity Foundation, INC. \AS IS\ AND ANY EXPRESS OR IMPLIED WARRANTIES, INCLUDING, BUT NOT
8141 LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE OR
8142 WARRANTIES OF NON-INFRINGEMENT, ARE DISCLAIMED.\n      IN NO EVENT SHALL THE Open Connectivity
8143 Foundation, INC. OR CONTRIBUTORS BE LIABLE FOR ANY DIRECT, INDIRECT, INCIDENTAL, SPECIAL, EXEMPLARY,
8144 OR CONSEQUENTIAL DAMAGES (INCLUDING, BUT NOT LIMITED TO, PROCUREMENT OF SUBSTITUTE GOODS OR
8145 SERVICES; LOSS OF USE, DATA, OR PROFITS; OR BUSINESS INTERRUPTION)\n      HOWEVER CAUSED AND ON
8146 ANY THEORY OF LIABILITY, WHETHER IN CONTRACT, STRICT LIABILITY, OR TORT (INCLUDING NEGLIGENCE OR
8147 OTHERWISE) ARISING IN ANY WAY OUT OF THE USE OF THIS SOFTWARE, EVEN IF ADVISED OF THE POSSIBILITY OF
8148 SUCH DAMAGE.\n"
8149     }
8150   },
8151   "schemes": ["http"],
8152   "consumes": ["application/json"],
8153   "produces": ["application/json"],
8154   "paths": {
8155     "/CarbonDioxideResURI" : {
8156       "get": {
8157         "description": "This resource describes whether carbon dioxide has been sensed or not.\nThe
8158 value is a boolean.\nA value of 'true' means that carbon dioxide has been detected.\nA value of
8159 'false' means that carbon dioxide has not been detected.\n",
8160         "parameters": [
8161           {"$ref": "#/parameters/interface"}
8162         ],
8163         "responses": {
8164           "200": {
8165             "description": "",
8166             "x-example":
8167               {
8168                 "rt": ["oic.r.sensor.carbondioxide"],
8169                 "id": "unique_example_id",
8170                 "value": true
8171               }
8172           },
8173           "schema": { "$ref": "#/definitions/CO2" }
8174         }
8175       }
8176     }
8177   }

```

```

8174     }
8175   }
8176 }
8177 }
8178 },
8179 "parameters": {
8180   "interface": {
8181     "in": "query",
8182     "name": "if",
8183     "type": "string",
8184     "enum": ["oic.if.s", "oic.if.baseline"]
8185   }
8186 },
8187 "definitions": {
8188   "CO2": {
8189     "properties": {
8190       "rt": {
8191         {
8192           "description": "Resource Type",
8193           "items": {
8194             "maxLength": 64,
8195             "type": "string"
8196           },
8197           "minItems": 1,
8198           "readOnly": true,
8199           "type": "array"
8200         },
8201         "value": {
8202           {
8203             "description": "true = sensed, false = not sensed.",
8204             "readOnly": true,
8205             "type": "boolean"
8206           },
8207         "n": {
8208           {
8209             "description": "Friendly name of the resource",
8210             "maxLength": 64,
8211             "readOnly": true,
8212             "type": "string"
8213           },
8214         "id": {
8215           {
8216             "description": "Instance ID of this specific resource",
8217             "maxLength": 64,
8218             "readOnly": true,
8219             "type": "string"
8220           },
8221         "if": {
8222           {
8223             "description": "The interface set supported by this resource",
8224             "items": {
8225               "enum": [
8226                 "oic.if.baseline",
8227                 "oic.if.ll",
8228                 "oic.if.b",
8229                 "oic.if.lb",
8230                 "oic.if.rw",
8231                 "oic.if.r",
8232                 "oic.if.a",
8233                 "oic.if.s"
8234               ],
8235               "type": "string"
8236             },
8237             "minItems": 1,
8238             "readOnly": true,
8239             "type": "array"
8240           }
8241         },
8242         "type": "object"
8243       }, "required": ["value"]
8244     }
8245 }

```

8246 }
8247

8248 6.30.5 Property definition

8249 Table 63 defines the Properties that are part of the ['oic.r.sensor.carbondioxide'] Resource Type

8250 **Table 63 – The Property definitions of the Resource with type 'rt' =**
8251 **['oic.r.sensor.carbondioxide']**

Property name	Value type	Mandatory	Access mode	Description
if	array: see schema	No	Read Only	The interface set supported by this resource
rt	array: see schema	No	Read Only	Resource Type
id	string	No	Read Only	Instance ID of this specific resource
n	string	No	Read Only	Friendly name of the resource
value	boolean	Yes	Read Only	true = sensed, false = not sensed.

8252 6.30.6 CRUDN behaviour

8253 Table 64 defines the CRUDN operations that are supported on the ['oic.r.sensor.carbondioxide']
8254 Resource Type

8255 **Table 64 – The CRUDN operations of the Resource with type 'rt' =**
8256 **['oic.r.sensor.carbondioxide']**

Create	Read	Update	Delete	Notify
	get			observe

8257 6.31 Carbon Monoxide Sensor

8258 6.31.1 Introduction

8259 This resource describes whether carbon monoxide has been sensed or not.

8260 The value is a boolean.

8261 A value of 'true' means that carbon monoxide has been detected.

8262 A value of 'false' means that carbon monoxide has not been detected.

8263

8264 6.31.2 Example URI

8265 /CarbonMonoxideResURI

8266 6.31.3 Resource type

8267 The resource type (rt) is defined as: ['oic.r.sensor.carbonmonoxide'].

8268 6.31.4 OpenAPI 2.0 definition

```
8269 {  
8270   "swagger": "2.0",  
8271   "info": {  
8272     "title": "Carbon Monoxide Sensor",  
8273     "version": "v1.1.0-20160519",  
8274     "license": {  
8275       "name": "copyright 2016-2017 Open Connectivity Foundation, Inc. All rights reserved.",  
8276       "x-description": "Redistribution and use in source and binary forms, with or without  
8277 modification, are permitted provided that the following conditions are met:\n      1.  
8278 Redistributions of source code must retain the above copyright notice, this list of conditions and  
8279 the following disclaimer.\n      2. Redistributions in binary form must reproduce the above  
8280 copyright notice, this list of conditions and the following disclaimer in the documentation and/or
```

```

8281 other materials provided with the distribution.\n\n          THIS SOFTWARE IS PROVIDED BY THE Open
8282 Connectivity Foundation, INC. \ "AS IS\ " AND ANY EXPRESS OR IMPLIED WARRANTIES, INCLUDING, BUT NOT
8283 LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE OR
8284 WARRANTIES OF NON-INFRINGEMENT, ARE DISCLAIMED.\n          IN NO EVENT SHALL THE Open Connectivity
8285 Foundation, INC. OR CONTRIBUTORS BE LIABLE FOR ANY DIRECT, INDIRECT, INCIDENTAL, SPECIAL, EXEMPLARY,
8286 OR CONSEQUENTIAL DAMAGES (INCLUDING, BUT NOT LIMITED TO, PROCUREMENT OF SUBSTITUTE GOODS OR
8287 SERVICES; LOSS OF USE, DATA, OR PROFITS; OR BUSINESS INTERRUPTION)\n          HOWEVER CAUSED AND ON
8288 ANY THEORY OF LIABILITY, WHETHER IN CONTRACT, STRICT LIABILITY, OR TORT (INCLUDING NEGLIGENCE OR
8289 OTHERWISE) ARISING IN ANY WAY OUT OF THE USE OF THIS SOFTWARE, EVEN IF ADVISED OF THE POSSIBILITY OF
8290 SUCH DAMAGE.\n"
8291     }
8292   },
8293   "schemes": ["http"],
8294   "consumes": ["application/json"],
8295   "produces": ["application/json"],
8296   "paths": {
8297     "/CarbonMonoxideResURI" : {
8298       "get": {
8299         "description": "This resource describes whether carbon monoxide has been sensed or not.\nThe
8300 value is a boolean.\nA value of 'true' means that carbon monoxide has been detected.\nA value of
8301 'false' means that carbon monoxide has not been detected.\n",
8302         "parameters": [
8303           {"$ref": "#/parameters/interface"}
8304         ],
8305         "responses": {
8306           "200": {
8307             "description": "",
8308             "x-example":
8309             {
8310               "rt": ["oic.r.sensor.carbonmonoxide"],
8311               "id": "unique_example_id",
8312               "value": true
8313             }
8314           },
8315           "schema": { "$ref": "#/definitions/CO" }
8316         }
8317       }
8318     }
8319   }
8320 },
8321 "parameters": {
8322   "interface" : {
8323     "in" : "query",
8324     "name" : "if",
8325     "type" : "string",
8326     "enum" : ["oic.if.s", "oic.if.baseline"]
8327   }
8328 },
8329 "definitions": {
8330   "CO" : {
8331     "properties": {
8332       "rt" :
8333       {
8334         "description": "Resource Type",
8335         "items": {
8336           "maxLength": 64,
8337           "type": "string"
8338         },
8339         "minItems": 1,
8340         "readOnly": true,
8341         "type": "array"
8342       },
8343       "value" :
8344       {
8345         "description": "true = sensed, false = not sensed.",
8346         "readOnly": true,
8347         "type": "boolean"
8348       },
8349       "n" :
8350       {
8351         "description": "Friendly name of the resource",
8352         "maxLength": 64,

```



```

8353         "readOnly": true,
8354         "type": "string"
8355     },
8356     "id" :
8357     {
8358         "description": "Instance ID of this specific resource",
8359         "maxLength": 64,
8360         "readOnly": true,
8361         "type": "string"
8362     },
8363     "if" :
8364     {
8365         "description": "The interface set supported by this resource",
8366         "items": {
8367             "enum": [
8368                 "oic.if.baseline",
8369                 "oic.if.ll",
8370                 "oic.if.b",
8371                 "oic.if.lb",
8372                 "oic.if.rw",
8373                 "oic.if.r",
8374                 "oic.if.a",
8375                 "oic.if.s"
8376             ],
8377             "type": "string"
8378         },
8379         "minItems": 1,
8380         "readOnly": true,
8381         "type": "array"
8382     }
8383     , "type" : "object"
8384     , "required": ["value"]
8385 }
8386 }
8387 }
8388 }
8389

```

8390 6.31.5 Property definition

8391 Table 65 defines the Properties that are part of the ['oic.r.sensor.carbonmonoxide'] Resource Type

8392 **Table 65 – The Property definitions of the Resource with type 'rt' =**
8393 **['oic.r.sensor.carbonmonoxide']**

Property name	Value type	Mandatory	Access mode	Description
if	array: see schema	No	Read Only	The interface set supported by this resource
rt	array: see schema	No	Read Only	Resource Type
n	string	No	Read Only	Friendly name of the resource
value	boolean	Yes	Read Only	true = sensed, false = not sensed.
id	string	No	Read Only	Instance ID of this specific resource

8394 6.31.6 CRUDN behaviour

8395 Table 66 defines the CRUDN operations that are supported on the ['oic.r.sensor.carbonmonoxide']
8396 Resource Type

8397
8398

**Table 66 – The CRUDN operations of the Resource with type 'rt' =
['oic.r.sensor.carbonmonoxide']**

Create	Read	Update	Delete	Notify
	get			observe

8399 **6.32 Auto White Balance**

8400 **6.32.1 Introduction**

8401 This resource describes an auto balance on/off feature.
8402 The value is a boolean.
8403 An AutoWhiteBalance value of 'true' means that the switch is on.
8404 An AutoWhiteBalance value of 'false' means that the switch is off.
8405

8406 **6.32.2 Example URI**

8407 /AutoWhiteBalanceResURI

8408 **6.32.3 Resource type**

8409 The resource type (rt) is defined as: ['oic.r.colour.autowhitebalance'].

8410 **6.32.4 OpenAPI 2.0 definition**

```
8411 {  
8412   "swagger": "2.0",  
8413   "info": {  
8414     "title": "Auto White Balance",  
8415     "version": "v1.1.0-20160519",  
8416     "license": {  
8417       "name": "copyright 2016-2017 Open Connectivity Foundation, Inc. All rights reserved.",  
8418       "x-description": "Redistribution and use in source and binary forms, with or without  
8419 modification, are permitted provided that the following conditions are met:\n      1.  
8420 Redistributions of source code must retain the above copyright notice, this list of conditions and  
8421 the following disclaimer.\n      2. Redistributions in binary form must reproduce the above  
8422 copyright notice, this list of conditions and the following disclaimer in the documentation and/or  
8423 other materials provided with the distribution.\n\n      THIS SOFTWARE IS PROVIDED BY THE Open  
8424 Connectivity Foundation, INC. \\\nAS IS\\n AND ANY EXPRESS OR IMPLIED WARRANTIES, INCLUDING, BUT NOT  
8425 LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE OR  
8426 WARRANTIES OF NON-INFRINGEMENT, ARE DISCLAIMED.\n      IN NO EVENT SHALL THE Open Connectivity  
8427 Foundation, INC. OR CONTRIBUTORS BE LIABLE FOR ANY DIRECT, INDIRECT, INCIDENTAL, SPECIAL, EXEMPLARY,  
8428 OR CONSEQUENTIAL DAMAGES (INCLUDING, BUT NOT LIMITED TO, PROCUREMENT OF SUBSTITUTE GOODS OR  
8429 SERVICES; LOSS OF USE, DATA, OR PROFITS; OR BUSINESS INTERRUPTION)\n\n      HOWEVER CAUSED AND ON  
8430 ANY THEORY OF LIABILITY, WHETHER IN CONTRACT, STRICT LIABILITY, OR TORT (INCLUDING NEGLIGENCE OR  
8431 OTHERWISE) ARISING IN ANY WAY OUT OF THE USE OF THIS SOFTWARE, EVEN IF ADVISED OF THE POSSIBILITY OF  
8432 SUCH DAMAGE.\n\n"}  
8433   },  
8434   "schemes": ["http"],  
8435   "consumes": ["application/json"],  
8436   "produces": ["application/json"],  
8437   "paths": {  
8438     "/AutoWhiteBalanceResURI" : {  
8439       "get": {  
8440         "description": "This resource describes an auto balance on/off feature.\n\nThe value is a  
8441 boolean.\n\nAn AutoWhiteBalance value of 'true' means that the switch is on.\n\nAn AutoWhiteBalance  
8442 value of 'false' means that the switch is off.\n\n",  
8443         "parameters": [  
8444           {"$ref": "#/parameters/interface"}  
8445         ],  
8446         "responses": {  
8447           "200": {  
8448             "description": "",  
8449             "x-example":  
8450               {  
8451                 "rt": ["oic.r.colour.autowhitebalance"],  
8452                 "id": "unique_example_id",  
8453                 "autoWhiteBalance": false  
8454               }  
8455             }  
8456           }  
8457         }  
8458       }  
8459     }  
8460   }
```

```

8457         "schema": { "$ref": "#/definitions/AutoWhiteBalance" }
8458     }
8459 },
8460 },
8461 "post": {
8462     "description": "",
8463     "parameters": [
8464         {"$ref": "#/parameters/interface"},
8465         {
8466             "name": "body",
8467             "in": "body",
8468             "required": true,
8469             "schema": { "$ref": "#/definitions/AutoWhiteBalance" },
8470             "x-example":
8471                 {
8472                     "autoWhiteBalance": true
8473                 }
8474         }
8475     ],
8476     "responses": {
8477         "200": {
8478             "description": "",
8479             "x-example":
8480                 {
8481                     "id": "unique_example_id",
8482                     "autoWhiteBalance": true
8483                 }
8484             ,
8485             "schema": { "$ref": "#/definitions/AutoWhiteBalance" }
8486         }
8487     }
8488 }
8489 },
8490 },
8491 "parameters": {
8492     "interface" : {
8493         "in" : "query",
8494         "name" : "if",
8495         "type" : "string",
8496         "enum" : ["oic.if.a", "oic.if.baseline"]
8497     }
8498 },
8499 "definitions": {
8500     "AutoWhiteBalance" : {
8501         "properties": {
8502             "rt" :
8503                 {
8504                     "description": "Resource Type",
8505                     "items": {
8506                         "maxLength": 64,
8507                         "type": "string"
8508                     },
8509                     "minItems": 1,
8510                     "readOnly": true,
8511                     "type": "array"
8512                 },
8513             "autoWhiteBalance" :
8514                 {
8515                     "description": "Status of the Auto White balance",
8516                     "type": "boolean"
8517                 },
8518             "n" :
8519                 {
8520                     "description": "Friendly name of the resource",
8521                     "maxLength": 64,
8522                     "readOnly": true,
8523                     "type": "string"
8524                 },
8525             "id" :
8526                 {
8527                     "description": "Instance ID of this specific resource",
8528                     "maxLength": 64,

```

```

8529     "readOnly": true,
8530     "type": "string"
8531   },
8532   "if" :
8533     {
8534       "description": "The interface set supported by this resource",
8535       "items": {
8536         "enum": [
8537           "oic.if.baseline",
8538           "oic.if.ll",
8539           "oic.if.b",
8540           "oic.if.lb",
8541           "oic.if.rw",
8542           "oic.if.r",
8543           "oic.if.a",
8544           "oic.if.s"
8545         ],
8546         "type": "string"
8547       },
8548       "minItems": 1,
8549       "readOnly": true,
8550       "type": "array"
8551     }
8552   },
8553   "type" : "object"
8554 , "required": ["autoWhiteBalance"]
8555 }
8556 }
8557 }
8558

```

8559 6.32.5 Property definition

8560 Table 67 defines the Properties that are part of the ['oic.r.colour.autowhitebalance'] Resource Type

8561 **Table 67 – The Property definitions of the Resource with type 'rt' =**
8562 **['oic.r.colour.autowhitebalance']**

Property name	Value type	Mandatory	Access mode	Description
rt	array: see schema	No	Read Only	Resource Type
autoWhiteBalance	boolean	Yes	Read Write	Status of the Auto White balance
if	array: see schema	No	Read Only	The interface set supported by this resource
n	string	No	Read Only	Friendly name of the resource
id	string	No	Read Only	Instance ID of this specific resource

8563 6.32.6 CRUDN behaviour

8564 Table 68 defines the CRUDN operations that are supported on the ['oic.r.colour.autowhitebalance']
8565 Resource Type

8566 **Table 68 – The CRUDN operations of the Resource with type 'rt' =**
8567 **['oic.r.colour.autowhitebalance']**

Create	Read	Update	Delete	Notify
	get	post		observe

8568 **6.33 Colour Saturation**

8569 **6.33.1 Introduction**

8570 This resource describes a Colour saturation value.

8571 The value is an integer.

8572 A coloursaturation has a range of [0,100].

8573 A coloursaturation value of 0 means producing black and white images.

8574 A coloursaturation value of 50 means producing device specific normal colour images.

8575 A coloursaturation value of 100 means producing device very full colour images.

8576

8577 **6.33.2 Example URI**

8578 /ColourSaturationResURI

8579 **6.33.3 Resource type**

8580 The resource type (rt) is defined as: ['oic.r.colour.saturation'].

8581 **6.33.4 OpenAPI 2.0 definition**

```
8582 {
8583   "swagger": "2.0",
8584   "info": {
8585     "title": "Colour Saturation",
8586     "version": "v1.1.0-20160519",
8587     "license": {
8588       "name": "copyright 2016-2017 Open Connectivity Foundation, Inc. All rights reserved.",
8589       "x-description": "Redistribution and use in source and binary forms, with or without
8590 modification, are permitted provided that the following conditions are met:\n      1.
8591 Redistributions of source code must retain the above copyright notice, this list of conditions and
8592 the following disclaimer.\n      2. Redistributions in binary form must reproduce the above
8593 copyright notice, this list of conditions and the following disclaimer in the documentation and/or
8594 other materials provided with the distribution.\n\n      THIS SOFTWARE IS PROVIDED BY THE Open
8595 Connectivity Foundation, INC. \\"AS IS\\" AND ANY EXPRESS OR IMPLIED WARRANTIES, INCLUDING, BUT NOT
8596 LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE OR
8597 WARRANTIES OF NON-INFRINGEMENT, ARE DISCLAIMED.\n\n      IN NO EVENT SHALL THE Open Connectivity
8598 Foundation, INC. OR CONTRIBUTORS BE LIABLE FOR ANY DIRECT, INDIRECT, INCIDENTAL, SPECIAL, EXEMPLARY,
8599 OR CONSEQUENTIAL DAMAGES (INCLUDING, BUT NOT LIMITED TO, PROCUREMENT OF SUBSTITUTE GOODS OR
8600 SERVICES; LOSS OF USE, DATA, OR PROFITS; OR BUSINESS INTERRUPTION)\n\n      HOWEVER CAUSED AND ON
8601 ANY THEORY OF LIABILITY, WHETHER IN CONTRACT, STRICT LIABILITY, OR TORT (INCLUDING NEGLIGENCE OR
8602 OTHERWISE) ARISING IN ANY WAY OUT OF THE USE OF THIS SOFTWARE, EVEN IF ADVISED OF THE POSSIBILITY OF
8603 SUCH DAMAGE.\n"
8604   }
8605 },
8606 "schemes": ["http"],
8607 "consumes": ["application/json"],
8608 "produces": ["application/json"],
8609 "paths": {
8610   "/ColourSaturationResURI" : {
8611     "get": {
8612       "description": "This resource describes a Colour saturation value.\nThe value is an
8613 integer.\nA coloursaturation has a range of [0,100].\nA coloursaturation value of 0 means producing
8614 black and white images.\nA coloursaturation value of 50 means producing device specific normal
8615 colour images.\nA coloursaturation value of 100 means producing device very full colour images.\n",
8616       "parameters": [
8617         { "$ref": "#/parameters/interface" }
8618       ],
8619       "responses": {
8620         "200": {
8621           "description": "",
8622           "x-example":
8623             {
8624               "rt": ["oic.r.colour.saturation"],
8625               "id": "unique_example_id",
8626               "colourSaturation": 50
8627             }
8628         },
8629         "schema": { "$ref": "#/definitions/Saturation" }
8630       }
8631     }
8632   }
8633 }
```

```

8632     },
8633     "post": {
8634         "description": "",
8635         "parameters": [
8636             { "$ref": "#/parameters/interface" },
8637             {
8638                 "name": "body",
8639                 "in": "body",
8640                 "required": true,
8641                 "schema": { "$ref": "#/definitions/Saturation" },
8642                 "x-example":
8643                     {
8644                         "colourSaturation": 60
8645                     }
8646             }
8647         ],
8648         "responses": {
8649             "200": {
8650                 "description": "",
8651                 "x-example":
8652                     {
8653                         "id": "unique_example_id",
8654                         "colourSaturation": 60
8655                     },
8656                 "schema": { "$ref": "#/definitions/Saturation" }
8657             }
8658         }
8659     }
8660 },
8661 },
8662 },
8663 "parameters": {
8664     "interface": {
8665         "in": "query",
8666         "name": "if",
8667         "type": "string",
8668         "enum": ["oic.if.a", "oic.if.baseline"]
8669     }
8670 },
8671 "definitions": {
8672     "Saturation": {
8673         "properties": {
8674             "rt": {
8675                 {
8676                     "description": "Resource Type",
8677                     "items": {
8678                         "maxLength": 64,
8679                         "type": "string"
8680                     },
8681                     "minItems": 1,
8682                     "readOnly": true,
8683                     "type": "array"
8684                 },
8685                 "precision": {
8686                     {
8687                         "description": "Accuracy granularity of the exposed value",
8688                         "readOnly": true,
8689                         "type": "number"
8690                     },
8691                 "n": {
8692                     {
8693                         "description": "Friendly name of the resource",
8694                         "maxLength": 64,
8695                         "readOnly": true,
8696                         "type": "string"
8697                     },
8698                 "range": {
8699                     {
8700                         "description": "The valid range for the value Property",
8701                         "items": {
8702                             "anyOf": [
8703

```

```

8704         "type": "number"
8705     },
8706     {
8707         "type": "integer"
8708     }
8709 ]
8710 },
8711 "maxItems": 2,
8712 "minItems": 2,
8713 "readOnly": true,
8714 "type": "array"
8715 },
8716 "step" :
8717 {
8718     "anyOf": [
8719         {
8720             "type": "integer"
8721         },
8722         {
8723             "type": "number"
8724         }
8725     ],
8726     "description": "Step value across the defined range",
8727     "readOnly": true
8728 },
8729 "colourSaturation" :
8730 {
8731     "description": "The colour saturation value",
8732     "maximum": 100,
8733     "minimum": 0,
8734     "type": "integer"
8735 },
8736 "id" :
8737 {
8738     "description": "Instance ID of this specific resource",
8739     "maxLength": 64,
8740     "readOnly": true,
8741     "type": "string"
8742 },
8743 "if" :
8744 {
8745     "description": "The interface set supported by this resource",
8746     "items": {
8747         "enum": [
8748             "oic.if.baseline",
8749             "oic.if.ll",
8750             "oic.if.b",
8751             "oic.if.lb",
8752             "oic.if.rw",
8753             "oic.if.r",
8754             "oic.if.a",
8755             "oic.if.s"
8756         ],
8757         "type": "string"
8758     },
8759     "minItems": 1,
8760     "readOnly": true,
8761     "type": "array"
8762 }
8763 },
8764 "type" : "object"
8765 , "required": ["colourSaturation"]
8766 }
8767 }
8768 }
8769

```

8770 6.33.5 Property definition

8771 Table 69 defines the Properties that are part of the ['oic.r.colour.saturation'] Resource Type

8772
8773

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

Property name	Value type	Mandatory	Access mode	Description
if	array: see schema	No	Read Only	The interface set supported by this resource
rt	array: see schema	No	Read Only	Resource Type
n	string	No	Read Only	Friendly name of the resource
colourSaturation	integer	Yes	Read Write	The colour saturation value
precision	number	No	Read Only	Accuracy granularity of the exposed value
range	array: see schema	No	Read Only	The valid range for the value Property
id	string	No	Read Only	Instance ID of this specific resource
step	multiple types: see schema	No	Read Only	Step value across the defined range

8774 **6.33.6 CRUDN behaviour**

8775 Table 70 defines the CRUDN operations that are supported on the ['oic.r.colour.saturation']
8776 Resource Type

8777 **Table 70 – The CRUDN operations of the Resource with type 'rt' = ['oic.r.colour.saturation']**

Create	Read	Update	Delete	Notify
	get	post		observe

8778 **6.34 Contact Sensor**

8779 **6.34.1 Introduction**

8780 This resource describes whether a contact sensor has been tripped or not.
8781 Typical use case is in Security Systems detecting window or door open.
8782 The value is a boolean.

8783 A value of 'true' means that contact has been broken (open).

8784 A value of 'false' means that contact is in place (closed).

8785

8786 **6.34.2 Example URI**

8787 /ContactResURI

8788 **6.34.3 Resource type**

8789 The resource type (rt) is defined as: ['oic.r.sensor.contact'].

8790 **6.34.4 OpenAPI 2.0 definition**

```
8791 {
8792   "swagger": "2.0",
8793   "info": {
8794     "title": "Contact Sensor",
8795     "version": "v1.1.0-20160519",
8796     "license": {
8797       "name": "copyright 2016-2017 Open Connectivity Foundation, Inc. All rights reserved.",
8798       "x-description": "Redistribution and use in source and binary forms, with or without
```



```

8799 modification, are permitted provided that the following conditions are met:\n      1.
8800 Redistributions of source code must retain the above copyright notice, this list of conditions and
8801 the following disclaimer.\n      2. Redistributions in binary form must reproduce the above
8802 copyright notice, this list of conditions and the following disclaimer in the documentation and/or
8803 other materials provided with the distribution.\n\n      THIS SOFTWARE IS PROVIDED BY THE Open
8804 Connectivity Foundation, INC. \ "AS IS\ " AND ANY EXPRESS OR IMPLIED WARRANTIES, INCLUDING, BUT NOT
8805 LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE OR
8806 WARRANTIES OF NON-INFRINGEMENT, ARE DISCLAIMED.\n      IN NO EVENT SHALL THE Open Connectivity
8807 Foundation, INC. OR CONTRIBUTORS BE LIABLE FOR ANY DIRECT, INDIRECT, INCIDENTAL, SPECIAL, EXEMPLARY,
8808 OR CONSEQUENTIAL DAMAGES (INCLUDING, BUT NOT LIMITED TO, PROCUREMENT OF SUBSTITUTE GOODS OR
8809 SERVICES; LOSS OF USE, DATA, OR PROFITS; OR BUSINESS INTERRUPTION)\n      HOWEVER CAUSED AND ON
8810 ANY THEORY OF LIABILITY, WHETHER IN CONTRACT, STRICT LIABILITY, OR TORT (INCLUDING NEGLIGENCE OR
8811 OTHERWISE) ARISING IN ANY WAY OUT OF THE USE OF THIS SOFTWARE, EVEN IF ADVISED OF THE POSSIBILITY OF
8812 SUCH DAMAGE.\n"
8813 }
8814 },
8815 "schemes": ["http"],
8816 "consumes": ["application/json"],
8817 "produces": ["application/json"],
8818 "paths": {
8819   "/ContactResURI" : {
8820     "get": {
8821       "description": "This resource describes whether a contact sensor has been tripped or
8822 not.\nTypical use case is in Security Systems detecting window or door open.\nThe value is a
8823 boolean.\nA value of 'true' means that contact has been broken (open).\nA value of 'false' means
8824 that contact is in place (closed).\n",
8825       "parameters": [
8826         { "$ref": "#/parameters/interface" }
8827       ],
8828       "responses": {
8829         "200": {
8830           "description": "",
8831           "x-example":
8832             {
8833               "rt": ["oic.r.sensor.contact"],
8834               "id": "unique_example_id",
8835               "value": true
8836             }
8837           ,
8838           "schema": { "$ref": "#/definitions/Contact" }
8839         }
8840       }
8841     }
8842   }
8843 },
8844 "parameters": {
8845   "interface" : {
8846     "in": "query",
8847     "name": "if",
8848     "type": "string",
8849     "enum": ["oic.if.s", "oic.if.baseline"]
8850   }
8851 },
8852 "definitions": {
8853   "Contact" : {
8854     "properties": {
8855       "rt" :
8856         {
8857           "description": "Resource Type",
8858           "items": {
8859             "maxLength": 64,
8860             "type": "string"
8861           },
8862           "minItems": 1,
8863           "readOnly": true,
8864           "type": "array"
8865         },
8866       "value" :
8867         {
8868           "description": "true = sensed, false = not sensed.",
8869           "readOnly": true,
8870           "type": "boolean"

```

```

8871     },
8872     "n" :
8873     {
8874         "description": "Friendly name of the resource",
8875         "maxLength": 64,
8876         "readOnly": true,
8877         "type": "string"
8878     },
8879     "id" :
8880     {
8881         "description": "Instance ID of this specific resource",
8882         "maxLength": 64,
8883         "readOnly": true,
8884         "type": "string"
8885     },
8886     "if" :
8887     {
8888         "description": "The interface set supported by this resource",
8889         "items": {
8890             "enum": [
8891                 "oic.if.baseline",
8892                 "oic.if.ll",
8893                 "oic.if.b",
8894                 "oic.if.lb",
8895                 "oic.if.rw",
8896                 "oic.if.r",
8897                 "oic.if.a",
8898                 "oic.if.s"
8899             ],
8900             "type": "string"
8901         },
8902         "minItems": 1,
8903         "readOnly": true,
8904         "type": "array"
8905     }
8906 }
8907 }
8908 , "type" : "object"
8909 , "required": ["value"]
8910 }
8911 }
8912 }
8913

```

8914 6.34.5 Property definition

8915 Table 71 defines the Properties that are part of the ['oic.r.sensor.contact'] Resource Type

8916 **Table 71 – The Property definitions of the Resource with type 'rt' = ['oic.r.sensor.contact']**

Property name	Value type	Mandatory	Access mode	Description
id	string	No	Read Only	Instance ID of this specific resource
value	boolean	Yes	Read Only	true = sensed, false = not sensed.
n	string	No	Read Only	Friendly name of the resource
if	array: see schema	No	Read Only	The interface set supported by this resource
rt	array: see schema	No	Read Only	Resource Type

8917 6.34.6 CRUDN behaviour

8918 Table 72 defines the CRUDN operations that are supported on the ['oic.r.sensor.contact'] Resource Type
8919

8920 **Table 72 – The CRUDN operations of the Resource with type 'rt' = ['oic.r.sensor.contact']**

Create	Read	Update	Delete	Notify
	get			observe

8921 **6.35 Demand Response Load Control (DRLC).**

8922 **6.35.1 Introduction**

8923 This resource describes any to be applied or currently being applied DRLC signal.
 8924 The DRType is the ApplianceLoadReductionType defined in Zigbee/HA Smart Energy Profile 2.0.
 8925 Start is a string containing an ISO8601 encoded start time.
 8926 The duration value is in minutes.
 8927 Override indicates whether the consumer has overridden the request (true) or not (false).
 8928 Provides the current DRLC action that is being applied.
 8929

8930 **6.35.2 Example URI**

8931 /DRLCResURI

8932 **6.35.3 Resource type**

8933 The resource type (rt) is defined as: ['oic.r.energy.drlc'].

8934 **6.35.4 OpenAPI 2.0 definition**

```

8935 {
8936   "swagger": "2.0",
8937   "info": {
8938     "title": "Demand Response Load Control (DRLC).",
8939     "version": "v1.1.0-20160519",
8940     "license": {
8941       "name": "copyright 2016-2017 Open Connectivity Foundation, Inc. All rights reserved.",
8942       "x-description": "Redistribution and use in source and binary forms, with or without
8943 modification, are permitted provided that the following conditions are met:\n
8944 1.
8945 Redistributions of source code must retain the above copyright notice, this list of conditions and
8946 the following disclaimer.\n
8947 2. Redistributions in binary form must reproduce the above
8948 copyright notice, this list of conditions and the following disclaimer in the documentation and/or
8949 other materials provided with the distribution.\n\n
8950 THIS SOFTWARE IS PROVIDED BY THE Open
8951 Connectivity Foundation, INC. \\"AS IS\\" AND ANY EXPRESS OR IMPLIED WARRANTIES, INCLUDING, BUT NOT
8952 LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE OR
8953 WARRANTIES OF NON-INFRINGEMENT, ARE DISCLAIMED.\n
8954 IN NO EVENT SHALL THE Open Connectivity
8955 Foundation, INC. OR CONTRIBUTORS BE LIABLE FOR ANY DIRECT, INDIRECT, INCIDENTAL, SPECIAL, EXEMPLARY,
8956 OR CONSEQUENTIAL DAMAGES (INCLUDING, BUT NOT LIMITED TO, PROCUREMENT OF SUBSTITUTE GOODS OR
8957 SERVICES; LOSS OF USE, DATA, OR PROFITS; OR BUSINESS INTERRUPTION)\n\n
8958 HOWEVER CAUSED AND ON
8959 ANY THEORY OF LIABILITY, WHETHER IN CONTRACT, STRICT LIABILITY, OR TORT (INCLUDING NEGLIGENCE OR
8960 OTHERWISE) ARISING IN ANY WAY OUT OF THE USE OF THIS SOFTWARE, EVEN IF ADVISED OF THE POSSIBILITY OF
8961 SUCH DAMAGE.\n"
8962     }
8963   },
8964   "schemes": ["http"],
8965   "consumes": ["application/json"],
8966   "produces": ["application/json"],
8967   "paths": {
8968     "/DRLCResURI" : {
8969       "get": {
8970         "description": "This resource describes any to be applied or currently being applied DRLC
8971 signal.\n
8972 The DRType is the ApplianceLoadReductionType defined in Zigbee/HA Smart Energy Profile
8973 2.0.\n
8974 Start is a string containing an ISO8601 encoded start time.\n
8975 The duration value is in
8976 minutes.\n
8977 Override indicates whether the consumer has overridden the request (true) or not
8978 (false).\n
8979 Provides the current DRLC action that is being applied.\n",
8979         "parameters": [
8980           {
8981             "$ref": "#/parameters/interface"
8982           }
8983         ],
8984         "responses": {
8985           "200": {
8986             "description": "",
8987             "x-example":
8988               {
8989                 "rt": ["oic.r.energy.drlc"],

```

```

8979         "id": "unique_example_id",
8980         "DRType": 1,
8981         "start": "2015-01-09T16:45Z",
8982         "duration": 10,
8983         "override": false
8984     }
8985 },
8986     "schema": { "$ref": "#/definitions/DRLC" }
8987 }
8988 },
8989 },
8990 "put": {
8991     "description": "Provides the DRLC action to be applied to the device or updates an existing
8992 action.\n",
8993     "parameters": [
8994         {"$ref": "#/parameters/interface"},
8995         {
8996             "name": "body",
8997             "in": "body",
8998             "required": true,
8999             "schema": { "$ref": "#/definitions/DRLC" },
9000             "x-example":
9001             {
9002                 "rt": ["oic.r.energy.drlc"],
9003                 "id": "unique_example_id",
9004                 "DRType": 1,
9005                 "start": "2015-01-09T16:45Z",
9006                 "duration": 10
9007             }
9008         }
9009     ],
9010     "responses": {
9011         "200": {
9012             "description": "Indicates that the target DRLC resource was changed.\nThe new
9013 resource attributes are provided in the response.\n",
9014             "x-example":
9015             {
9016                 "DRType": 1,
9017                 "id": "unique_example_id",
9018                 "start": "2015-01-09T17:00Z",
9019                 "duration": 15,
9020                 "override": false
9021             }
9022         },
9023         "schema": { "$ref": "#/definitions/DRLC" }
9024     },
9025     "201": {
9026         "description": "Indicates successful creation of the DRLC resource with the
9027 attributes provided.\nThe response includes the URI of the created resource.\n",
9028         "x-example":
9029         {
9030             "ResURI": "/MyDevice/MyDRLCURI"
9031         }
9032     },
9033     "schema": { "$ref": "#/definitions/CreateResponse" }
9034 }
9035 }
9036 }
9037 },
9038 },
9039 "parameters": {
9040     "interface": {
9041         "in": "query",
9042         "name": "if",
9043         "type": "string",
9044         "enum": ["oic.if.b", "oic.if.baseline"]
9045     }
9046 },
9047 "definitions": {
9048     "DRLC": {
9049         "properties": {
9050             "rt":

```

```

9051         {
9052         "description": "Resource Type",
9053         "items": {
9054             "maxLength": 64,
9055             "type": "string"
9056         },
9057         "minItems": 1,
9058         "readOnly": true,
9059         "type": "array"
9060     },
9061     "step" :
9062     {
9063         "anyOf": [
9064             {
9065                 "type": "integer"
9066             },
9067             {
9068                 "type": "number"
9069             }
9070         ],
9071         "description": "Step value across the defined range",
9072         "readOnly": true
9073     },
9074     "start" :
9075     {
9076         "description": "The start time for the application of DR",
9077         "type": "string"
9078     },
9079     "precision" :
9080     {
9081         "description": "Accuracy granularity of the exposed value",
9082         "readOnly": true,
9083         "type": "number"
9084     },
9085     "value" :
9086     {
9087         "anyOf": [
9088             {
9089                 "type": "array"
9090             },
9091             {
9092                 "type": "string"
9093             },
9094             {
9095                 "type": "boolean"
9096             },
9097             {
9098                 "type": "integer"
9099             },
9100             {
9101                 "type": "number"
9102             },
9103             {
9104                 "type": "object"
9105             }
9106         ],
9107         "description": "The value sensed or actuated by this Resource"
9108     },
9109     "n" :
9110     {
9111         "description": "Friendly name of the resource",
9112         "maxLength": 64,
9113         "readOnly": true,
9114         "type": "string"
9115     },
9116     "duration" :

```

```

9123         {
9124             "description": "The duration of the to be applied DR type",
9125             "type": "integer"
9126         },
9127
9128         "range" :
9129         {
9130             "description": "The valid range for the value Property",
9131             "items": {
9132                 "anyOf": [
9133                     {
9134                         "type": "number"
9135                     },
9136                     {
9137                         "type": "integer"
9138                     }
9139                 ]
9140             },
9141             "maxItems": 2,
9142             "minItems": 2,
9143             "readOnly": true,
9144             "type": "array"
9145         },
9146
9147         "override" :
9148         {
9149             "description": "Whether the consumer has overridden the application of DR",
9150             "type": "boolean"
9151         },
9152
9153         "DRType" :
9154         {
9155             "description": "The to be applied demand-response type",
9156             "type": "integer"
9157         },
9158
9159         "id" :
9160         {
9161             "description": "Instance ID of this specific resource",
9162             "maxLength": 64,
9163             "readOnly": true,
9164             "type": "string"
9165         },
9166
9167         "if" :
9168         {
9169             "description": "The interface set supported by this resource",
9170             "items": {
9171                 "enum": [
9172                     "oic.if.baseline",
9173                     "oic.if.ll",
9174                     "oic.if.b",
9175                     "oic.if.lb",
9176                     "oic.if.rw",
9177                     "oic.if.r",
9178                     "oic.if.a",
9179                     "oic.if.s"
9180                 ],
9181                 "type": "string"
9182             },
9183             "minItems": 1,
9184             "readOnly": true,
9185             "type": "array"
9186         }
9187     }
9188 }, "type" : "object"
9189 , "required": ["DRType"]
9190 }
9191 ,
9192 "CreateResponse" : {
9193     "properties": {
9194

```

```

9195     "ResURI" :
9196         {
9197             "type": "string"
9198         }
9199     },
9200     "type" : "object"
9201 }
9202 }
9203 }
9204 }
9205 }

```

9206 **6.35.5 Property definition**

9207 Table 73 defines the Properties that are part of the ['oic.r.energy.drlc'] Resource Type

9208 **Table 73 – The Property definitions of the Resource with type 'rt' = ['oic.r.energy.drlc']**

Property name	Value type	Mandatory	Access mode	Description
ResURI	string		Read Write	
rt	array: see schema	No	Read Only	Resource Type
if	array: see schema	No	Read Only	The interface set supported by this resource
value	multiple types: see schema	No	Read Write	The value sensed or actuated by this Resource
override	boolean	No	Read Write	Whether the consumer has overridden the application of DR
duration	integer	No	Read Write	The duration of the to be applied DR type
range	array: see schema	No	Read Only	The valid range for the value Property
start	string	No	Read Write	The start time for the application of DR
n	string	No	Read Only	Friendly name of the resource
id	string	No	Read Only	Instance ID of this specific resource
precision	number	No	Read Only	Accuracy granularity of the exposed value
DRType	integer	Yes	Read Write	The to be applied demand-response type
step	multiple types: see schema	No	Read Only	Step value across the defined range

9209 **6.35.6 CRUDN behaviour**

9210 Table 74 defines the CRUDN operations that are supported on the ['oic.r.energy.drlc'] Resource Type
9211

9212 **Table 74 – The CRUDN operations of the Resource with type 'rt' = ['oic.r.energy.drlc']**

Create	Read	Update	Delete	Notify
post	get			observe

9213 **6.36 Energy Overload/Circuit Breaker**

9214 **6.36.1 Introduction**

9215 This resource describes whether an energy overload detector/circuit breaker
 9216 is currently tripped.
 9217 The value is a boolean.
 9218 A value of 'true' means that energy overload has been tripped.
 9219 A value of 'false' means that energy overload has not been tripped.
 9220

9221 **6.36.2 Example URI**

9222 /EnergyOverloadResURI

9223 **6.36.3 Resource type**

9224 The resource type (rt) is defined as: ['oic.r.energy.overload'].

9225 **6.36.4 OpenAPI 2.0 definition**

```

9226 {
9227   "swagger": "2.0",
9228   "info": {
9229     "title": "Energy Overload/Circuit Breaker",
9230     "version": "v1.1.0-20160519",
9231     "license": {
9232       "name": "copyright 2016-2017 Open Connectivity Foundation, Inc. All rights reserved.",
9233       "x-description": "Redistribution and use in source and binary forms, with or without
9234 modification, are permitted provided that the following conditions are met:\n      1.
9235 Redistributions of source code must retain the above copyright notice, this list of conditions and
9236 the following disclaimer.\n      2. Redistributions in binary form must reproduce the above
9237 copyright notice, this list of conditions and the following disclaimer in the documentation and/or
9238 other materials provided with the distribution.\n\n      THIS SOFTWARE IS PROVIDED BY THE Open
9239 Connectivity Foundation, INC. \\"AS IS\\" AND ANY EXPRESS OR IMPLIED WARRANTIES, INCLUDING, BUT NOT
9240 LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE OR
9241 WARRANTIES OF NON-INFRINGEMENT, ARE DISCLAIMED.\n      IN NO EVENT SHALL THE Open Connectivity
9242 Foundation, INC. OR CONTRIBUTORS BE LIABLE FOR ANY DIRECT, INDIRECT, INCIDENTAL, SPECIAL, EXEMPLARY,
9243 OR CONSEQUENTIAL DAMAGES (INCLUDING, BUT NOT LIMITED TO, PROCUREMENT OF SUBSTITUTE GOODS OR
9244 SERVICES; LOSS OF USE, DATA, OR PROFITS; OR BUSINESS INTERRUPTION)\n      HOWEVER CAUSED AND ON
9245 ANY THEORY OF LIABILITY, WHETHER IN CONTRACT, STRICT LIABILITY, OR TORT (INCLUDING NEGLIGENCE OR
9246 OTHERWISE) ARISING IN ANY WAY OUT OF THE USE OF THIS SOFTWARE, EVEN IF ADVISED OF THE POSSIBILITY OF
9247 SUCH DAMAGE.\n"
9248   }
9249 },
9250 "schemes": ["http"],
9251 "consumes": ["application/json"],
9252 "produces": ["application/json"],
9253 "paths": {
9254   "/EnergyOverloadResURI" : {
9255     "get": {
9256       "description": "This resource describes whether an energy overload detector/circuit
9257 breaker\n is currently tripped.\nThe value is a boolean.\nA value of 'true' means that energy
9258 overload has been tripped.\nA value of 'false' means that energy overload has not been tripped.\n",
9259       "parameters": [
9260         {"$ref": "#/parameters/interface"}
9261       ],
9262       "responses": {
9263         "200": {
9264           "description": "",
9265           "x-example":
9266             {
9267               "rt": ["oic.r.energy.overload"],
9268               "id": "unique_example_id",
9269               "value": true
9270             }
9271         }
9272       }
9273     }
9274   }
9275 }
    
```



```

9272         "schema": { "$ref": "#/definitions/EnergyOverload" }
9273     }
9274 }
9275 }
9276 }
9277 },
9278 "parameters": {
9279     "interface" : {
9280         "in" : "query",
9281         "name" : "if",
9282         "type" : "string",
9283         "enum" : ["oic.if.s", "oic.if.baseline"]
9284     }
9285 },
9286 "definitions": {
9287     "EnergyOverload" : {
9288         "properties": {
9289             "rt" :
9290                 {
9291                     "description": "Resource Type",
9292                     "items": {
9293                         "maxLength": 64,
9294                         "type": "string"
9295                     },
9296                     "minItems": 1,
9297                     "readOnly": true,
9298                     "type": "array"
9299                 },
9300             "value" :
9301                 {
9302                     "description": "true = sensed, false = not sensed.",
9303                     "readOnly": true,
9304                     "type": "boolean"
9305                 },
9306             "n" :
9307                 {
9308                     "description": "Friendly name of the resource",
9309                     "maxLength": 64,
9310                     "readOnly": true,
9311                     "type": "string"
9312                 },
9313             "id" :
9314                 {
9315                     "description": "Instance ID of this specific resource",
9316                     "maxLength": 64,
9317                     "readOnly": true,
9318                     "type": "string"
9319                 },
9320             "if" :
9321                 {
9322                     "description": "The interface set supported by this resource",
9323                     "items": {
9324                         "enum": [
9325                             "oic.if.baseline",
9326                             "oic.if.ll",
9327                             "oic.if.b",
9328                             "oic.if.lb",
9329                             "oic.if.rw",
9330                             "oic.if.r",
9331                             "oic.if.a",
9332                             "oic.if.s"
9333                         ],
9334                         "type": "string"
9335                     },
9336                     "minItems": 1,
9337                     "readOnly": true,
9338                     "type": "array"
9339                 }
9340             },
9341             "type" : "object"
9342         }, "required": ["value"]
9343     }

```

9344 }
 9345 }
 9346

9347 **6.36.5 Property definition**

9348 Table 75 defines the Properties that are part of the ['oic.r.energy.overload'] Resource Type

9349 **Table 75 – The Property definitions of the Resource with type 'rt' = ['oic.r.energy.overload']**

Property name	Value type	Mandatory	Access mode	Description
rt	array: see schema	No	Read Only	Resource Type
n	string	No	Read Only	Friendly name of the resource
if	array: see schema	No	Read Only	The interface set supported by this resource
value	boolean	Yes	Read Only	true = sensed, false = not sensed.
id	string	No	Read Only	Instance ID of this specific resource

9350 **6.36.6 CRUDN behaviour**

9351 Table 76 defines the CRUDN operations that are supported on the ['oic.r.energy.overload']
 9352 Resource Type

9353 **Table 76 – The CRUDN operations of the Resource with type 'rt' = ['oic.r.energy.overload']**

Create	Read	Update	Delete	Notify
	get			observe

9354 **6.37 Generic Sensor**

9355 **6.37.1 Introduction**

9356 This resource describes whether some value or property or entity has been sensed or not.

9357 The value is a boolean.

9358 A value of 'true' means that the target has been sensed.

9359 A value of 'false' means that the target has not been sensed.

9360

9361 **6.37.2 Example URI**

9362 /GenericSensorResURI

9363 **6.37.3 Resource type**

9364 The resource type (rt) is defined as: ['oic.r.sensor'].

9365 **6.37.4 OpenAPI 2.0 definition**

```

9366 {
9367   "swagger": "2.0",
9368   "info": {
9369     "title": "Generic Sensor",
9370     "version": "v1.1.0-20160519",
9371     "license": {
9372       "name": "copyright 2016-2017 Open Connectivity Foundation, Inc. All rights reserved.",
9373       "x-description": "Redistribution and use in source and binary forms, with or without
9374 modification, are permitted provided that the following conditions are met:\n      1.
9375 Redistributions of source code must retain the above copyright notice, this list of conditions and
9376 the following disclaimer.\n      2. Redistributions in binary form must reproduce the above
9377 copyright notice, this list of conditions and the following disclaimer in the documentation and/or
9378 other materials provided with the distribution.\n\n      THIS SOFTWARE IS PROVIDED BY THE Open
9379 Connectivity Foundation, INC. \\"AS IS\\" AND ANY EXPRESS OR IMPLIED WARRANTIES, INCLUDING, BUT NOT
  
```

```

9380 LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE OR
9381 WARRANTIES OF NON-INFRINGEMENT, ARE DISCLAIMED.\n          IN NO EVENT SHALL THE Open Connectivity
9382 Foundation, INC. OR CONTRIBUTORS BE LIABLE FOR ANY DIRECT, INDIRECT, INCIDENTAL, SPECIAL, EXEMPLARY,
9383 OR CONSEQUENTIAL DAMAGES (INCLUDING, BUT NOT LIMITED TO, PROCUREMENT OF SUBSTITUTE GOODS OR
9384 SERVICES; LOSS OF USE, DATA, OR PROFITS; OR BUSINESS INTERRUPTION)\n          HOWEVER CAUSED AND ON
9385 ANY THEORY OF LIABILITY, WHETHER IN CONTRACT, STRICT LIABILITY, OR TORT (INCLUDING NEGLIGENCE OR
9386 OTHERWISE) ARISING IN ANY WAY OUT OF THE USE OF THIS SOFTWARE, EVEN IF ADVISED OF THE POSSIBILITY OF
9387 SUCH DAMAGE.\n"
9388 }
9389 },
9390 "schemes": ["http"],
9391 "consumes": ["application/json"],
9392 "produces": ["application/json"],
9393 "paths": {
9394   "/GenericSensorResURI" : {
9395     "get": {
9396       "description": "This resource describes whether some value or property or entity has been
9397 sensed or not.\nThe value is a boolean.\nA value of 'true' means that the target has been sensed.\nA
9398 value of 'false' means that the target has not been sensed.\n",
9399 "parameters": [
9400   {"$ref": "#/parameters/interface"}
9401 ],
9402 "responses": {
9403   "200": {
9404     "description": "",
9405     "x-example":
9406       {
9407         "rt": ["oic.r.sensor"],
9408         "id": "unique_example_id",
9409         "value": true
9410       }
9411     ,
9412     "schema": { "$ref": "#/definitions/Sensor" }
9413   }
9414 }
9415 }
9416 },
9417 },
9418 "parameters": {
9419   "interface" : {
9420     "in" : "query",
9421     "name" : "if",
9422     "type" : "string",
9423     "enum" : ["oic.if.s", "oic.if.baseline"]
9424   }
9425 },
9426 "definitions": {
9427   "Sensor" : {
9428     "properties": {
9429       "rt" :
9430         {
9431           "description": "Resource Type",
9432           "items": {
9433             "maxLength": 64,
9434             "type": "string"
9435           },
9436           "minItems": 1,
9437           "readOnly": true,
9438           "type": "array"
9439         },
9440       "value" :
9441         {
9442           "description": "true = sensed, false = not sensed.",
9443           "readOnly": true,
9444           "type": "boolean"
9445         },
9446       "n" :
9447         {
9448           "description": "Friendly name of the resource",
9449           "maxLength": 64,
9450           "readOnly": true,
9451           "type": "string"

```

```

9452     },
9453     "id" :
9454         {
9455             "description": "Instance ID of this specific resource",
9456             "maxLength": 64,
9457             "readOnly": true,
9458             "type": "string"
9459         },
9460     "if" :
9461         {
9462             "description": "The interface set supported by this resource",
9463             "items": {
9464                 "enum": [
9465                     "oic.if.baseline",
9466                     "oic.if.ll",
9467                     "oic.if.b",
9468                     "oic.if.lb",
9469                     "oic.if.rw",
9470                     "oic.if.r",
9471                     "oic.if.a",
9472                     "oic.if.s"
9473                 ],
9474                 "type": "string"
9475             },
9476             "minItems": 1,
9477             "readOnly": true,
9478             "type": "array"
9479         }
9480     },
9481     "type" : "object"
9482 }
9483 }
9484 }
9485

```

9486 **6.37.5 Property definition**

9487 Table 77 defines the Properties that are part of the ['oic.r.sensor'] Resource Type

9488 **Table 77 – The Property definitions of the Resource with type 'rt' = ['oic.r.sensor']**

Property name	Value type	Mandatory	Access mode	Description
id	string		Read Only	Instance ID of this specific resource
value	boolean		Read Only	true = sensed, false = not sensed.
n	string		Read Only	Friendly name of the resource
if	array: see schema		Read Only	The interface set supported by this resource
rt	array: see schema		Read Only	Resource Type

9489 **6.37.6 CRUDN behaviour**

9490 Table 78 defines the CRUDN operations that are supported on the ['oic.r.sensor'] Resource Type

9491 **Table 78 – The CRUDN operations of the Resource with type 'rt' = ['oic.r.sensor']**

Create	Read	Update	Delete	Notify
	get			observe

9492 6.38 Glass Break Sensor

9493 6.38.1 Introduction

9494 This resource describes a glass break sensor.

9495 The value is a boolean.

9496 A value of 'true' means that glass break has been sensed.

9497 A value of 'false' means that glass break not been sensed.

9498

9499 6.38.2 Example URI

9500 /GlassBreakResURI

9501 6.38.3 Resource type

9502 The resource type (rt) is defined as: ['oic.r.sensor.glassbreak'].

9503 6.38.4 OpenAPI 2.0 definition

```
9504 {
9505   "swagger": "2.0",
9506   "info": {
9507     "title": "Glass Break Sensor",
9508     "version": "v1.1.0-20160519",
9509     "license": {
9510       "name": "copyright 2016-2017 Open Connectivity Foundation, Inc. All rights reserved.",
9511       "x-description": "Redistribution and use in source and binary forms, with or without
9512 modification, are permitted provided that the following conditions are met:\n      1.
9513 Redistributions of source code must retain the above copyright notice, this list of conditions and
9514 the following disclaimer.\n      2. Redistributions in binary form must reproduce the above
9515 copyright notice, this list of conditions and the following disclaimer in the documentation and/or
9516 other materials provided with the distribution.\n\n      THIS SOFTWARE IS PROVIDED BY THE Open
9517 Connectivity Foundation, INC. \AS IS\ AND ANY EXPRESS OR IMPLIED WARRANTIES, INCLUDING, BUT NOT
9518 LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE OR
9519 WARRANTIES OF NON-INFRINGEMENT, ARE DISCLAIMED.\n      IN NO EVENT SHALL THE Open Connectivity
9520 Foundation, INC. OR CONTRIBUTORS BE LIABLE FOR ANY DIRECT, INDIRECT, INCIDENTAL, SPECIAL, EXEMPLARY,
9521 OR CONSEQUENTIAL DAMAGES (INCLUDING, BUT NOT LIMITED TO, PROCUREMENT OF SUBSTITUTE GOODS OR
9522 SERVICES; LOSS OF USE, DATA, OR PROFITS; OR BUSINESS INTERRUPTION)\n      HOWEVER CAUSED AND ON
9523 ANY THEORY OF LIABILITY, WHETHER IN CONTRACT, STRICT LIABILITY, OR TORT (INCLUDING NEGLIGENCE OR
9524 OTHERWISE) ARISING IN ANY WAY OUT OF THE USE OF THIS SOFTWARE, EVEN IF ADVISED OF THE POSSIBILITY OF
9525 SUCH DAMAGE.\n"
9526     }
9527   },
9528   "schemes": ["http"],
9529   "consumes": ["application/json"],
9530   "produces": ["application/json"],
9531   "paths": {
9532     "/GlassBreakResURI" : {
9533       "get": {
9534         "description": "This resource describes a glass break sensor.\n\nThe value is a boolean.\n\nA
9535 value of 'true' means that glass break has been sensed.\n\nA value of 'false' means that glass break
9536 not been sensed.\n",
9537         "parameters": [
9538           {"$ref": "#/parameters/interface"}
9539         ],
9540         "responses": {
9541           "200": {
9542             "description": "",
9543             "x-example":
9544               {
9545                 "rt": ["oic.r.sensor.glassbreak"],
9546                 "id": "unique_example_id",
9547                 "value": true
9548               }
9549           },
9550           "schema": { "$ref": "#/definitions/GlassBreak" }
9551         }
9552       }
9553     }
9554   },
9555   "parameters": {
```

```

9557     "interface" : {
9558         "in" : "query",
9559         "name" : "if",
9560         "type" : "string",
9561         "enum" : ["oic.if.s", "oic.if.baseline"]
9562     }
9563 },
9564 "definitions": {
9565     "GlassBreak" : {
9566         "properties": {
9567             "rt" :
9568                 {
9569                     "description": "Resource Type",
9570                     "items": {
9571                         "maxLength": 64,
9572                         "type": "string"
9573                     },
9574                     "minItems": 1,
9575                     "readOnly": true,
9576                     "type": "array"
9577                 },
9578             "value" :
9579                 {
9580                     "description": "true = sensed, false = not sensed.",
9581                     "readOnly": true,
9582                     "type": "boolean"
9583                 },
9584             "n" :
9585                 {
9586                     "description": "Friendly name of the resource",
9587                     "maxLength": 64,
9588                     "readOnly": true,
9589                     "type": "string"
9590                 },
9591             "id" :
9592                 {
9593                     "description": "Instance ID of this specific resource",
9594                     "maxLength": 64,
9595                     "readOnly": true,
9596                     "type": "string"
9597                 },
9598             "if" :
9599                 {
9600                     "description": "The interface set supported by this resource",
9601                     "items": {
9602                         "enum": [
9603                             "oic.if.baseline",
9604                             "oic.if.ll",
9605                             "oic.if.b",
9606                             "oic.if.lb",
9607                             "oic.if.rw",
9608                             "oic.if.r",
9609                             "oic.if.a",
9610                             "oic.if.s"
9611                         ],
9612                         "type": "string"
9613                     },
9614                     "minItems": 1,
9615                     "readOnly": true,
9616                     "type": "array"
9617                 }
9618             },
9619             "type" : "object"
9620         }, "required": ["value"]
9621     }
9622 }
9623 }
9624

```

9625 6.38.5 Property definition

9626 Table 79 defines the Properties that are part of the ['oic.r.sensor.glassbreak'] Resource Type

9627
9628

Table 79 – The Property definitions of the Resource with type 'rt' = ['oic.r.sensor.glassbreak']

Property name	Value type	Mandatory	Access mode	Description
rt	array: see schema	No	Read Only	Resource Type
if	array: see schema	No	Read Only	The interface set supported by this resource
n	string	No	Read Only	Friendly name of the resource
id	string	No	Read Only	Instance ID of this specific resource
value	boolean	Yes	Read Only	true = sensed, false = not sensed.

9629 **6.38.6 CRUDN behaviour**

9630 Table 80 defines the CRUDN operations that are supported on the ['oic.r.sensor.glassbreak']
9631 Resource Type

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

Create	Read	Update	Delete	Notify
	get			observe

9634 **6.39 Heart Rate Zone**

9635 **6.39.1 Introduction**

9636 This resource describes a measured heart rate by the current Zone using the Zoladz method
9637 The Zoladz method defines Zones based on maximum heart rate; Zone 1 is the lowest, Zone 5 is
9638 the highest.

9639 The heartRateZone is an enumeration containing one of: "Zone1", "Zone2", "Zone3", "Zone4",
9640 "Zone5".

9641

9642 **6.39.2 Example URI**

9643 /HeartRateZoneResURI

9644 **6.39.3 Resource type**

9645 The resource type (rt) is defined as: ['oic.r.sensor.heart.zone'].

9646 **6.39.4 OpenAPI 2.0 definition**

```

9647 {
9648   "swagger": "2.0",
9649   "info": {
9650     "title": "Heart Rate Zone",
9651     "version": "v1.1.0-20160519",
9652     "license": {
9653       "name": "copyright 2016-2017 Open Connectivity Foundation, Inc. All rights reserved.",
9654       "x-description": "Redistribution and use in source and binary forms, with or without
9655 modification, are permitted provided that the following conditions are met:\n      1.
9656 Redistributions of source code must retain the above copyright notice, this list of conditions and
9657 the following disclaimer.\n      2. Redistributions in binary form must reproduce the above
9658 copyright notice, this list of conditions and the following disclaimer in the documentation and/or
9659 other materials provided with the distribution.\n\n      THIS SOFTWARE IS PROVIDED BY THE Open
9660 Connectivity Foundation, INC. \\"AS IS\\" AND ANY EXPRESS OR IMPLIED WARRANTIES, INCLUDING, BUT NOT
9661 LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE OR
9662 WARRANTIES OF NON-INFRINGEMENT, ARE DISCLAIMED.\n      IN NO EVENT SHALL THE Open Connectivity
9663 Foundation, INC. OR CONTRIBUTORS BE LIABLE FOR ANY DIRECT, INDIRECT, INCIDENTAL, SPECIAL, EXEMPLARY,

```

```

9664 OR CONSEQUENTIAL DAMAGES (INCLUDING, BUT NOT LIMITED TO, PROCUREMENT OF SUBSTITUTE GOODS OR
9665 SERVICES; LOSS OF USE, DATA, OR PROFITS; OR BUSINESS INTERRUPTION)\n          HOWEVER CAUSED AND ON
9666 ANY THEORY OF LIABILITY, WHETHER IN CONTRACT, STRICT LIABILITY, OR TORT (INCLUDING NEGLIGENCE OR
9667 OTHERWISE) ARISING IN ANY WAY OUT OF THE USE OF THIS SOFTWARE, EVEN IF ADVISED OF THE POSSIBILITY OF
9668 SUCH DAMAGE.\n"
9669 }
9670 },
9671 "schemes": ["http"],
9672 "consumes": ["application/json"],
9673 "produces": ["application/json"],
9674 "paths": {
9675     "/HeartRateZoneResURI" : {
9676         "get": {
9677             "description": "This resource describes a measured heart rate by the current Zone using the
9678 Zoladz method\nThe Zoladz method defines Zones based on maximum heart rate; Zone 1 is the lowest,
9679 Zone 5 is the highest.\nThe heartRateZone is an enumeration containing one of: \"Zone1\", \"Zone2\",
9680 \"Zone3\", \"Zone4\", \"Zone5\".\n",
9681             "parameters": [
9682                 {"$ref": "#/parameters/interface"}
9683             ],
9684             "responses": {
9685                 "200": {
9686                     "description": "",
9687                     "x-example":
9688                         {
9689                             "rt": ["oic.r.sensor.heart.zone"],
9690                             "id": "unique_example_id",
9691                             "heartRateZone": "Zone3"
9692                         }
9693                 },
9694                 "schema": { "$ref": "#/definitions/heartRateZone" }
9695             }
9696         }
9697     }
9698 },
9699 },
9700 "parameters": {
9701     "interface" : {
9702         "in" : "query",
9703         "name" : "if",
9704         "type" : "string",
9705         "enum" : ["oic.if.s", "oic.if.baseline"]
9706     }
9707 },
9708 "definitions": {
9709     "heartRateZone" : {
9710         "properties": {
9711             "rt" :
9712                 {
9713                     "description": "Resource Type",
9714                     "items": {
9715                         "maxLength": 64,
9716                         "type": "string"
9717                     },
9718                     "minItems": 1,
9719                     "readOnly": true,
9720                     "type": "array"
9721                 },
9722         },
9723         "step" :
9724             {
9725                 "anyOf": [
9726                     {
9727                         "type": "integer"
9728                     },
9729                     {
9730                         "type": "number"
9731                     }
9732                 ],
9733                 "description": "Step value across the defined range",
9734                 "readOnly": true
9735             }

```



```

9736
9737     "precision" :
9738         {
9739             "description": "Accuracy granularity of the exposed value",
9740             "readOnly": true,
9741             "type": "number"
9742         },
9743
9744     "value" :
9745         {
9746             "anyOf": [
9747                 {
9748                     "type": "array"
9749                 },
9750                 {
9751                     "type": "string"
9752                 },
9753                 {
9754                     "type": "boolean"
9755                 },
9756                 {
9757                     "type": "integer"
9758                 },
9759                 {
9760                     "type": "number"
9761                 },
9762                 {
9763                     "type": "object"
9764                 }
9765             ],
9766             "description": "The value sensed or actuated by this Resource"
9767         },
9768
9769     "n" :
9770         {
9771             "description": "Friendly name of the resource",
9772             "maxLength": 64,
9773             "readOnly": true,
9774             "type": "string"
9775         },
9776
9777     "range" :
9778         {
9779             "description": "The valid range for the value Property",
9780             "items": {
9781                 "anyOf": [
9782                     {
9783                         "type": "number"
9784                     },
9785                     {
9786                         "type": "integer"
9787                     }
9788                 ]
9789             },
9790             "maxItems": 2,
9791             "minItems": 2,
9792             "readOnly": true,
9793             "type": "array"
9794         },
9795
9796     "id" :
9797         {
9798             "description": "Instance ID of this specific resource",
9799             "maxLength": 64,
9800             "readOnly": true,
9801             "type": "string"
9802         },
9803
9804     "heartRateZone" :
9805         {
9806             "description": "Current heart rate zone based on the Zoladz system.",
9807             "enum": [

```

```

9808         "Zone1",
9809         "Zone2",
9810         "Zone3",
9811         "Zone4",
9812         "Zone5"
9813     ],
9814     "readOnly": true,
9815     "type": "string"
9816 },
9817
9818 "if" :
9819     {
9820     "description": "The interface set supported by this resource",
9821     "items": {
9822         "enum": [
9823             "oic.if.baseline",
9824             "oic.if.ll",
9825             "oic.if.b",
9826             "oic.if.lb",
9827             "oic.if.rw",
9828             "oic.if.r",
9829             "oic.if.a",
9830             "oic.if.s"
9831         ],
9832         "type": "string"
9833     },
9834     "minItems": 1,
9835     "readOnly": true,
9836     "type": "array"
9837 }
9838
9839 }
9840 , "type" : "object"
9841 , "required": ["heartRateZone"]
9842 }
9843 }
9844 }
9845

```

9846 **6.39.5 Property definition**

9847 Table 81 defines the Properties that are part of the ['oic.r.sensor.heart.zone'] Resource Type

9848 **Table 81 – The Property definitions of the Resource with type 'rt' =**
9849 **['oic.r.sensor.heart.zone']**

Property name	Value type	Mandatory	Access mode	Description
step	multiple types: see schema	No	Read Only	Step value across the defined range
id	string	No	Read Only	Instance ID of this specific resource
heartRateZone	string	Yes	Read Only	Current heart rate zone based on the Zoladz system.
rt	array: see schema	No	Read Only	Resource Type
if	array: see schema	No	Read Only	The interface set supported by this resource
n	string	No	Read Only	Friendly name of the resource
value	multiple types: see schema	No	Read Write	The value sensed or

				actuated by this Resource
range	array: schema	see	No	Read Only
precision	number		No	Read Only
				The valid range for the value Property
				Accuracy granularity of the exposed value

9850 **6.39.6 CRUDN behaviour**

9851 Table 82 defines the CRUDN operations that are supported on the ['oic.r.sensor.heart.zone']
9852 Resource Type

9853 **Table 82 – The CRUDN operations of the Resource with type 'rt' = ['oic.r.sensor.heart.zone']**

Create	Read	Update	Delete	Notify
	get			observe

9854 **6.40 Illuminance Sensor**

9855 **6.40.1 Introduction**

9856 This resource describes an illuminance sensor.
9857 Illuminance is a float and represents the sensed luminous flux per unit area in lux.
9858

9859 **6.40.2 Example URI**

9860 /IlluminanceSensorResURI

9861 **6.40.3 Resource type**

9862 The resource type (rt) is defined as: ['oic.r.sensor.illuminance'].

9863 **6.40.4 OpenAPI 2.0 definition**

```

9864 {
9865   "swagger": "2.0",
9866   "info": {
9867     "title": "Illuminance Sensor",
9868     "version": "v1.1.0-20160519",
9869     "license": {
9870       "name": "copyright 2016-2017 Open Connectivity Foundation, Inc. All rights reserved.",
9871       "x-description": "Redistribution and use in source and binary forms, with or without
9872 modification, are permitted provided that the following conditions are met:\n      1.
9873 Redistributions of source code must retain the above copyright notice, this list of conditions and
9874 the following disclaimer.\n      2. Redistributions in binary form must reproduce the above
9875 copyright notice, this list of conditions and the following disclaimer in the documentation and/or
9876 other materials provided with the distribution.\n\n      THIS SOFTWARE IS PROVIDED BY THE Open
9877 Connectivity Foundation, INC. \\"AS IS\\" AND ANY EXPRESS OR IMPLIED WARRANTIES, INCLUDING, BUT NOT
9878 LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE OR
9879 WARRANTIES OF NON-INFRINGEMENT, ARE DISCLAIMED.\n      IN NO EVENT SHALL THE Open Connectivity
9880 Foundation, INC. OR CONTRIBUTORS BE LIABLE FOR ANY DIRECT, INDIRECT, INCIDENTAL, SPECIAL, EXEMPLARY,
9881 OR CONSEQUENTIAL DAMAGES (INCLUDING, BUT NOT LIMITED TO, PROCUREMENT OF SUBSTITUTE GOODS OR
9882 SERVICES; LOSS OF USE, DATA, OR PROFITS; OR BUSINESS INTERRUPTION)\n      HOWEVER CAUSED AND ON
9883 ANY THEORY OF LIABILITY, WHETHER IN CONTRACT, STRICT LIABILITY, OR TORT (INCLUDING NEGLIGENCE OR
9884 OTHERWISE) ARISING IN ANY WAY OUT OF THE USE OF THIS SOFTWARE, EVEN IF ADVISED OF THE POSSIBILITY OF
9885 SUCH DAMAGE.\n"
9886     }
9887   },
9888   "schemes": ["http"],
9889   "consumes": ["application/json"],
9890   "produces": ["application/json"],
9891   "paths": {
9892     "/IlluminanceSensorResURI" : {
9893       "get": {
9894         "description": "This resource describes an illuminance sensor.\nIlluminance is a float and
9895 represents the sensed luminous flux per unit area in lux.\n",
9896         "parameters": [
9897           {"$ref": "#/parameters/interface"}

```

```

9898     ],
9899     "responses": {
9900         "200": {
9901             "description": "",
9902             "x-example":
9903                 {
9904                     "rt": ["oic.r.sensor.illuminance"],
9905                     "id": "unique_example_id",
9906                     "illuminance": 450.0
9907                 }
9908             ,
9909             "schema": { "$ref": "#/definitions/Illuminance" }
9910         }
9911     }
9912 },
9913 },
9914 },
9915 "parameters": {
9916     "interface": {
9917         "in": "query",
9918         "name": "if",
9919         "type": "string",
9920         "enum": ["oic.if.s", "oic.if.baseline"]
9921     }
9922 },
9923 "definitions": {
9924     "Illuminance": {
9925         "properties": {
9926             "rt":
9927                 {
9928                     "description": "Resource Type",
9929                     "items": {
9930                         "maxLength": 64,
9931                         "type": "string"
9932                     },
9933                     "minItems": 1,
9934                     "readOnly": true,
9935                     "type": "array"
9936                 },
9937             "precision":
9938                 {
9939                     "description": "Accuracy granularity of the exposed value",
9940                     "readOnly": true,
9941                     "type": "number"
9942                 },
9943             "n":
9944                 {
9945                     "description": "Friendly name of the resource",
9946                     "maxLength": 64,
9947                     "readOnly": true,
9948                     "type": "string"
9949                 },
9950             "illuminance":
9951                 {
9952                     "description": "Sensed luminous flux per unit area in lux.",
9953                     "readOnly": true,
9954                     "type": "number"
9955                 },
9956             "range":
9957                 {
9958                     "description": "The valid range for the value Property",
9959                     "items": {
9960                         "anyOf": [
9961                             {
9962                                 "type": "number"
9963                             },
9964                             {
9965                                 "type": "integer"
9966                             }
9967                         ]
9968                     },
9969                     "maxItems": 2,

```

```

9970         "minItems": 2,
9971         "readOnly": true,
9972         "type": "array"
9973     },
9974     "step" :
9975     {
9976         "anyOf": [
9977             {
9978                 "type": "integer"
9979             },
9980             {
9981                 "type": "number"
9982             }
9983         ],
9984         "description": "Step value across the defined range",
9985         "readOnly": true
9986     },
9987     "id" :
9988     {
9989         "description": "Instance ID of this specific resource",
9990         "maxLength": 64,
9991         "readOnly": true,
9992         "type": "string"
9993     },
9994     "if" :
9995     {
9996         "description": "The interface set supported by this resource",
9997         "items": {
9998             "enum": [
9999                 "oic.if.baseline",
10000                 "oic.if.ll",
10001                 "oic.if.b",
10002                 "oic.if.lb",
10003                 "oic.if.rw",
10004                 "oic.if.r",
10005                 "oic.if.a",
10006                 "oic.if.s"
10007             ],
10008             "type": "string"
10009         },
10010         "minItems": 1,
10011         "readOnly": true,
10012         "type": "array"
10013     }
10014 },
10015     "type" : "object"
10016 }, "required": ["illuminance"]
10017 }
10018 }
10019 }
10020

```

6.40.5 Property definition

Table 83 defines the Properties that are part of the ['oic.r.sensor.illuminance'] Resource Type

Table 83 – The Property definitions of the Resource with type 'rt' = ['oic.r.sensor.illuminance']

Property name	Value type	Mandatory	Access mode	Description
range	array: see schema	No	Read Only	The valid range for the value Property
rt	array: see schema	No	Read Only	Resource Type
id	string	No	Read Only	Instance ID of this specific resource

if	array: see schema	No	Read Only	The interface set supported by this resource
step	multiple types: see schema	No	Read Only	Step value across the defined range
illuminance	number	Yes	Read Only	Sensed luminous flux per unit area in lux.
n	string	No	Read Only	Friendly name of the resource
precision	number	No	Read Only	Accuracy granularity of the exposed value

10025 **6.40.6 CRUDN behaviour**

10026 Table 84 defines the CRUDN operations that are supported on the ['oic.r.sensor.illuminance']
 10027 Resource Type

10028 **Table 84 – The CRUDN operations of the Resource with type 'rt' =**
 10029 **['oic.r.sensor.illuminance']**

Create	Read	Update	Delete	Notify
	get			observe

10030 **6.41 Magnetic Field Direction Sensor**

10031 **6.41.1 Introduction**

10032 This resource describes the direction of the Earth's magnetic field at the observer's current point
 10033 in space.

10034 Typical use case includes measurement of compass readings on a personal device.

10035 The value is an array containing Hx, Hy, Hz (in that order) each of which are floats.

10036 Each of Hx, Hy and Hz are expressed in A/m (Amperes per metre)

10037

10038 **6.41.2 Example URI**

10039 /MagneticFieldDirectionResURI

10040 **6.41.3 Resource type**

10041 The resource type (rt) is defined as: ['oic.r.sensor.magneticfielddirection'].

10042 **6.41.4 OpenAPI 2.0 definition**

```

10043 {
10044   "swagger": "2.0",
10045   "info": {
10046     "title": "Magnetic Field Direction Sensor",
10047     "version": "v1.1.0-20160519",
10048     "license": {
10049       "name": "copyright 2016-2017 Open Connectivity Foundation, Inc. All rights reserved.",
10050       "x-description": "Redistribution and use in source and binary forms, with or without
10051 modification, are permitted provided that the following conditions are met:\n      1.
10052 Redistributions of source code must retain the above copyright notice, this list of conditions and
10053 the following disclaimer.\n      2. Redistributions in binary form must reproduce the above
10054 copyright notice, this list of conditions and the following disclaimer in the documentation and/or
10055 other materials provided with the distribution.\n\n      THIS SOFTWARE IS PROVIDED BY THE Open
10056 Connectivity Foundation, INC. \AS IS\ AND ANY EXPRESS OR IMPLIED WARRANTIES, INCLUDING, BUT NOT
10057 LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE OR
10058 WARRANTIES OF NON-INFRINGEMENT, ARE DISCLAIMED.\n\n      IN NO EVENT SHALL THE Open Connectivity
10059 Foundation, INC. OR CONTRIBUTORS BE LIABLE FOR ANY DIRECT, INDIRECT, INCIDENTAL, SPECIAL, EXEMPLARY,
10060 OR CONSEQUENTIAL DAMAGES (INCLUDING, BUT NOT LIMITED TO, PROCUREMENT OF SUBSTITUTE GOODS OR
10061 SERVICES; LOSS OF USE, DATA, OR PROFITS; OR BUSINESS INTERRUPTION)\n\n      HOWEVER CAUSED AND ON
10062 ANY THEORY OF LIABILITY, WHETHER IN CONTRACT, STRICT LIABILITY, OR TORT (INCLUDING NEGLIGENCE OR
10063 OTHERWISE) ARISING IN ANY WAY OUT OF THE USE OF THIS SOFTWARE, EVEN IF ADVISED OF THE POSSIBILITY OF
  
```

```

10064 SUCH DAMAGE.\n"
10065 }
10066 },
10067 "schemes": ["http"],
10068 "consumes": ["application/json"],
10069 "produces": ["application/json"],
10070 "paths": {
10071   "/MagneticFieldDirectionResURI" : {
10072     "get": {
10073       "description": "This resource describes the direction of the Earth's magnetic field at the
10074 observer's current point in space.\nTypical use case includes measurement of compass readings on a
10075 personal device.\nThe value is an array containing Hx, Hy, Hz (in that order) each of which are
10076 floats.\nEach of Hx, Hy and Hz are expressed in A/m (Amperes per metre)\n",
10077       "parameters": [
10078         {"$ref": "#/parameters/interface"}
10079       ],
10080       "responses": {
10081         "200": {
10082           "description": "",
10083           "x-example":
10084             {
10085               "rt": ["oic.r.sensor.magneticfielddirection"],
10086               "id": "unique_example_id",
10087               "value": [100.0,15.0,90.0]
10088             }
10089           ,
10090           "schema": {"$ref": "#/definitions/magneticFieldDirection" }
10091         }
10092       }
10093     }
10094   }
10095 },
10096 "parameters": {
10097   "interface" : {
10098     "in" : "query",
10099     "name" : "if",
10100     "type" : "string",
10101     "enum" : ["oic.if.s", "oic.if.baseline"]
10102   }
10103 },
10104 "definitions": {
10105   "magneticFieldDirection" : {
10106     "properties": {
10107       "rt" :
10108         {
10109           "description": "Resource Type",
10110           "items": {
10111             "maxLength": 64,
10112             "type": "string"
10113           },
10114           "minItems": 1,
10115           "readOnly": true,
10116           "type": "array"
10117         },
10118       "precision" :
10119         {
10120           "description": "Accuracy granularity of the exposed value",
10121           "readOnly": true,
10122           "type": "number"
10123         },
10124       "value" :
10125         {
10126           "description": "Array containing Hx, Hy, Hz.",
10127           "items": {
10128             "type": "number"
10129           },
10130           "maxItems": 3,
10131           "minItems": 3,
10132           "readOnly": true,
10133           "type": "array"
10134         },
10135       "n" :

```

```

10136         {
10137         "description": "Friendly name of the resource",
10138         "maxLength": 64,
10139         "readOnly": true,
10140         "type": "string"
10141     },
10142     "range" :
10143     {
10144         "description": "The valid range for the value Property",
10145         "items": {
10146             "anyOf": [
10147                 {
10148                     "type": "number"
10149                 },
10150                 {
10151                     "type": "integer"
10152                 }
10153             ]
10154         },
10155         "maxItems": 2,
10156         "minItems": 2,
10157         "readOnly": true,
10158         "type": "array"
10159     },
10160     "step" :
10161     {
10162         "anyOf": [
10163             {
10164                 "type": "integer"
10165             },
10166             {
10167                 "type": "number"
10168             }
10169         ],
10170         "description": "Step value across the defined range",
10171         "readOnly": true
10172     },
10173     "id" :
10174     {
10175         "description": "Instance ID of this specific resource",
10176         "maxLength": 64,
10177         "readOnly": true,
10178         "type": "string"
10179     },
10180     "if" :
10181     {
10182         "description": "The interface set supported by this resource",
10183         "items": {
10184             "enum": [
10185                 "oic.if.baseline",
10186                 "oic.if.ll",
10187                 "oic.if.b",
10188                 "oic.if.lb",
10189                 "oic.if.rw",
10190                 "oic.if.r",
10191                 "oic.if.a",
10192                 "oic.if.s"
10193             ],
10194             "type": "string"
10195         },
10196         "minItems": 1,
10197         "readOnly": true,
10198         "type": "array"
10199     }
10200 },
10201 "type" : "object"
10202 , "required": ["value"]
10203 }
10204 }
10205 }
10206

```


10207 **6.41.5 Property definition**

10208 Table 85 defines the Properties that are part of the ['oic.r.sensor.magneticfielddirection'] Resource
 10209 Type

10210 **Table 85 – The Property definitions of the Resource with type 'rt' =**
 10211 **['oic.r.sensor.magneticfielddirection']**

Property name	Value type	Mandatory	Access mode	Description
value	array: see schema	Yes	Read Only	Array containing Hx, Hy, Hz.
if	array: see schema	No	Read Only	The interface set supported by this resource
id	string	No	Read Only	Instance ID of this specific resource
range	array: see schema	No	Read Only	The valid range for the value Property
n	string	No	Read Only	Friendly name of the resource
precision	number	No	Read Only	Accuracy granularity of the exposed value
rt	array: see schema	No	Read Only	Resource Type
step	multiple types: see schema	No	Read Only	Step value across the defined range

10212 **6.41.6 CRUDN behaviour**

10213 Table 86 defines the CRUDN operations that are supported on the
 10214 ['oic.r.sensor.magneticfielddirection'] Resource Type

10215 **Table 86 – The CRUDN operations of the Resource with type 'rt' =**
 10216 **['oic.r.sensor.magneticfielddirection']**

Create	Read	Update	Delete	Notify
	get			observe

10217 **6.42 Media**

10218 **6.42.1 Introduction**

10219 This resource specifies the media types that an OCF Server supports.

10220 The resource is an array of media elements. Each element contains:

10221 A URL at which the specified media type can be accessed.

10222 A string array containing the definition of the media using SDP.

10223 Each entry in the sdp array is an SDP line.

10224 Each line shall follow the SDP description syntax as defined in the SDP specification.

10225 The SDP specification can be found at <http://tools.ietf.org/html/rfc4566>.

10226 Retrieves the current media resource.

10227

10228 **6.42.2 Example URI**

10229 /MediaResURI

10230 **6.42.3 Resource type**

10231 The resource type (rt) is defined as: ['oic.r.media'].

10232 **6.42.4 OpenAPI 2.0 definition**

```
10233 {
10234   "swagger": "2.0",
10235   "info": {
10236     "title": "Media",
10237     "version": "v1.1.0-20160519",
10238     "license": {
10239       "name": "copyright 2016-2017 Open Connectivity Foundation, Inc. All rights reserved.",
10240       "x-description": "Redistribution and use in source and binary forms, with or without
10241 modification, are permitted provided that the following conditions are met:\n      1.
10242 Redistributions of source code must retain the above copyright notice, this list of conditions and
10243 the following disclaimer.\n      2. Redistributions in binary form must reproduce the above
10244 copyright notice, this list of conditions and the following disclaimer in the documentation and/or
10245 other materials provided with the distribution.\n\n      THIS SOFTWARE IS PROVIDED BY THE Open
10246 Connectivity Foundation, INC. \AS IS\ AND ANY EXPRESS OR IMPLIED WARRANTIES, INCLUDING, BUT NOT
10247 LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE OR
10248 WARRANTIES OF NON-INFRINGEMENT, ARE DISCLAIMED.\n\n      IN NO EVENT SHALL THE Open Connectivity
10249 Foundation, INC. OR CONTRIBUTORS BE LIABLE FOR ANY DIRECT, INDIRECT, INCIDENTAL, SPECIAL, EXEMPLARY,
10250 OR CONSEQUENTIAL DAMAGES (INCLUDING, BUT NOT LIMITED TO, PROCUREMENT OF SUBSTITUTE GOODS OR
10251 SERVICES; LOSS OF USE, DATA, OR PROFITS; OR BUSINESS INTERRUPTION)\n\n      HOWEVER CAUSED AND ON
10252 ANY THEORY OF LIABILITY, WHETHER IN CONTRACT, STRICT LIABILITY, OR TORT (INCLUDING NEGLIGENCE OR
10253 OTHERWISE) ARISING IN ANY WAY OUT OF THE USE OF THIS SOFTWARE, EVEN IF ADVISED OF THE POSSIBILITY OF
10254 SUCH DAMAGE.\n"
10255     }
10256   },
10257   "schemes": ["http"],
10258   "consumes": ["application/json"],
10259   "produces": ["application/json"],
10260   "paths": {
10261     "/MediaResURI" : {
10262       "get": {
10263         "description": "This resource specifies the media types that an OCF Server supports.\nThe
10264 resource is an array of media elements. Each element contains:\n      A URL at which the specified
10265 media type can be accessed.\n      A string array containing the definition of the media using SDP.\n
10266 Each entry in the sdp array is an SDP line.\n      Each line shall follow the SDP description syntax
10267 as defined in the SDP specification.\nThe SDP specification can be found at
10268 http://tools.ietf.org/html/rfc4566.\nRetrieves the current media resource.\n",
10269         "parameters": [
10270           {"$ref": "#/parameters/interface"}
10271         ],
10272         "responses": {
10273           "200": {
10274             "description": "",
10275             "x-example":
10276               {
10277                 "rt": ["oic.r.media"],
10278                 "id": "unique_example_id",
10279                 "media": [
10280                   {
10281                     "url": "some example url",
10282                     "sdp": [
10283                       "m=video 1 RTP/AVP 96",
10284                       "a=rtpmap:96 H264/9000",
10285                       "a=fmtp:96 profile-level-id=42A028;packetization-mode=1"
10286                     ]
10287                   },
10288                   {
10289                     "url": "some other example1 url",
10290                     "sdp": [
10291                       "m=audio 2 RTP/AVP 97",
10292                       "a=rtpmap:97 MP4A-LATM/90000"
10293                     ]
10294                   },
10295                   {
10296                     "url": "some other example2 url",
10297                     "sdp": [
10298                       "m=video 3 RTP/AVP 98",
10299                       "a=rtpmap:98 jpeg/90000",
10300                       "a=fmtp:98 sampling=YCbCr-4:2:0;width=256;height=256"
10301                     ]
10302                   }
10303                 ]
10304               }
10305         }
10306       }
10307     }
10308   }
10309 }
```

```

10303         ]
10304     }
10305     ,
10306     "schema": { "$ref": "#/definitions/Media" }
10307 }
10308 }
10309 }
10310 }
10311 },
10312 "parameters": {
10313     "interface" : {
10314         "in" : "query",
10315         "name" : "if",
10316         "type" : "string",
10317         "enum" : ["oic.if.s", "oic.if.baseline"]
10318     }
10319 },
10320 "definitions": {
10321     "Media" : {
10322         "properties": {
10323             "rt" :
10324                 {
10325                     "description": "Resource Type",
10326                     "items": {
10327                         "maxLength": 64,
10328                         "type": "string"
10329                     },
10330                     "minItems": 1,
10331                     "readOnly": true,
10332                     "type": "array"
10333                 },
10334             "media" :
10335                 {
10336                     "items": {
10337                         "properties": {
10338                             "sdp": {
10339                                 "description": "Array of strings, one per SDP line",
10340                                 "items": {
10341                                     "description": "SDP media or attribute line",
10342                                     "type": "string"
10343                                 },
10344                                 "type": "array"
10345                             },
10346                             "url": {
10347                                 "description": "url for the media instance",
10348                                 "type": "string"
10349                             }
10350                         },
10351                         "type": "object"
10352                     },
10353                     "type": "array"
10354                 },
10355             "n" :
10356                 {
10357                     "description": "Friendly name of the resource",
10358                     "maxLength": 64,
10359                     "readOnly": true,
10360                     "type": "string"
10361                 },
10362             "id" :
10363                 {
10364                     "description": "Instance ID of this specific resource",
10365                     "maxLength": 64,
10366                     "readOnly": true,
10367                     "type": "string"
10368                 },
10369             "if" :
10370                 {
10371                     "description": "The interface set supported by this resource",
10372                     "items": {
10373                         "enum": [
10374                             "oic.if.baseline",

```

```

10375         "oic.if.ll",
10376         "oic.if.b",
10377         "oic.if.lb",
10378         "oic.if.rw",
10379         "oic.if.r",
10380         "oic.if.a",
10381         "oic.if.s"
10382     ],
10383     "type": "string"
10384 },
10385     "minItems": 1,
10386     "readOnly": true,
10387     "type": "array"
10388 }
10389 },
10390     "type" : "object"
10391     , "required": ["media"]
10392 }
10393 }
10394 }
10395

```

10396 6.42.5 Property definition

10397 Table 87 defines the Properties that are part of the ['oic.r.media'] Resource Type

10398 **Table 87 – The Property definitions of the Resource with type 'rt' = ['oic.r.media']**

Property name	Value type	Mandatory	Access mode	Description
if	array: see schema	No	Read Only	The interface set supported by this resource
n	string	No	Read Only	Friendly name of the resource
media	array: see schema	Yes	Read Write	
rt	array: see schema	No	Read Only	Resource Type
id	string	No	Read Only	Instance ID of this specific resource

10399 6.42.6 CRUDN behaviour

10400 Table 88 defines the CRUDN operations that are supported on the ['oic.r.media'] Resource Type

10401 **Table 88 – The CRUDN operations of the Resource with type 'rt' = ['oic.r.media']**

Create	Read	Update	Delete	Notify
	get			observe

10402 6.43 Media Source

10403 6.43.1 Introduction

10404 This resource defines a media source that exists on a device.

10405 The source can be an input source or output source, this resource is agnostic of that.

10406 The sourceName specifies a pre-defined media input or output (e.g. "HDMI", "DVI")

10407 The sourceNumber is a numeric identifier to specify the instance (e.g. "PC", 1)

10408 The sourceType is an enumeration defining whether the source is audio, video or both.

10409 The status is a boolean that determines if the specific source instance is selected or not.

10410 A status of true means that the source instance is selected.

10411 A status of false means that the source instance is not selected.

10412

10413 **6.43.2 Example URI**

10414 /mediaSourceResURI

10415 **6.43.3 Resource type**

10416 The resource type (rt) is defined as: ['oic.r.mediasource'].

10417 **6.43.4 OpenAPI 2.0 definition**

```
10418 {
10419   "swagger": "2.0",
10420   "info": {
10421     "title": "Media Source",
10422     "version": "v1.1.0-20160519",
10423     "license": {
10424       "name": "copyright 2016-2017 Open Connectivity Foundation, Inc. All rights reserved.",
10425       "x-description": "Redistribution and use in source and binary forms, with or without
10426 modification, are permitted provided that the following conditions are met:\n      1.
10427 Redistributions of source code must retain the above copyright notice, this list of conditions and
10428 the following disclaimer.\n      2. Redistributions in binary form must reproduce the above
10429 copyright notice, this list of conditions and the following disclaimer in the documentation and/or
10430 other materials provided with the distribution.\n\n      THIS SOFTWARE IS PROVIDED BY THE Open
10431 Connectivity Foundation, INC. \AS IS\ AND ANY EXPRESS OR IMPLIED WARRANTIES, INCLUDING, BUT NOT
10432 LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE OR
10433 WARRANTIES OF NON-INFRINGEMENT, ARE DISCLAIMED.\n      IN NO EVENT SHALL THE Open Connectivity
10434 Foundation, INC. OR CONTRIBUTORS BE LIABLE FOR ANY DIRECT, INDIRECT, INCIDENTAL, SPECIAL, EXEMPLARY,
10435 OR CONSEQUENTIAL DAMAGES (INCLUDING, BUT NOT LIMITED TO, PROCUREMENT OF SUBSTITUTE GOODS OR
10436 SERVICES; LOSS OF USE, DATA, OR PROFITS; OR BUSINESS INTERRUPTION)\n      HOWEVER CAUSED AND ON
10437 ANY THEORY OF LIABILITY, WHETHER IN CONTRACT, STRICT LIABILITY, OR TORT (INCLUDING NEGLIGENCE OR
10438 OTHERWISE) ARISING IN ANY WAY OUT OF THE USE OF THIS SOFTWARE, EVEN IF ADVISED OF THE POSSIBILITY OF
10439 SUCH DAMAGE.\n"
10440     }
10441   },
10442   "schemes": ["http"],
10443   "consumes": ["application/json"],
10444   "produces": ["application/json"],
10445   "paths": {
10446     "/mediaSourceResURI" : {
10447       "get": {
10448         "description": "This resource defines a media source that exists on a device.\nThe source
10449 can be an input source or output source, this resource is agnostic of that.\nThe sourceName
10450 specifies a pre-defined media input or output (e.g.\HDMI\", \DVI\")\nThe sourceNumber is a numeric
10451 identifier to specify the instance (e.g. PC\", 1)\nThe sourceType is an enumeration defining
10452 whether the source is audio, video or both.\nThe status is a boolean that determines if the specific
10453 source instance is selected or not.\n A status of true means that the source instance is
10454 selected.\n A status of false means that the source instance is not selected.\n",
10455         "parameters": [
10456           {"$ref": "#/parameters/interface"}
10457         ],
10458         "responses": {
10459           "200": {
10460             "description": "",
10461             "x-example":
10462               {
10463                 "rt": ["oic.r.mediasource"],
10464                 "id": "unique_example_id",
10465                 "sourceName": "HDMI-CEC",
10466                 "sourceNumber": "1",
10467                 "sourceType": "audioPlusVideo",
10468                 "status": true
10469               }
10470           },
10471           "schema": { "$ref": "#/definitions/mediaSource" }
10472         }
10473       }
10474     },
10475     "post": {
10476       "description": "Changes the status of the source.\nAllows changes of the sourceName and the
10477 status.\n",
10478       "parameters": [
10479         {"$ref": "#/parameters/interface"},
10480         {
```

```

10481         "name": "body",
10482         "in": "body",
10483         "required": true,
10484         "schema": { "$ref": "#/definitions/mediaSource" },
10485         "x-example":
10486             {
10487                 "sourceName": "my new name",
10488                 "sourceNumber": "1",
10489                 "status": true
10490             }
10491     },
10492     "responses": {
10493         "200": {
10494             "description": "",
10495             "x-example":
10496                 {
10497                     "id": "unique_example_id",
10498                     "sourceName": "my new name",
10499                     "sourceNumber": "1",
10500                     "status": true
10501                 }
10502             },
10503             "schema": { "$ref": "#/definitions/mediaSource" }
10504         }
10505     }
10506 },
10507 },
10508 },
10509 },
10510 "parameters": {
10511     "interface": {
10512         "in": "query",
10513         "name": "if",
10514         "type": "string",
10515         "enum": ["oic.if.a", "oic.if.baseline"]
10516     }
10517 },
10518 "definitions": {
10519     "mediaSource": {
10520         "properties": {
10521             "rt":
10522                 {
10523                     "description": "Resource Type",
10524                     "items": {
10525                         "maxLength": 64,
10526                         "type": "string"
10527                     },
10528                     "minItems": 1,
10529                     "readOnly": true,
10530                     "type": "array"
10531                 },
10532             "status":
10533                 {
10534                     "description": "Specifies if the specific source instance is selected or not",
10535                     "type": "boolean"
10536                 },
10537             "sourceType":
10538                 {
10539                     "description": "Specifies the type of the source",
10540                     "enum": [
10541                         "audioOnly",
10542                         "videoOnly",
10543                         "audioPlusVideo"
10544                     ],
10545                     "readOnly": true,
10546                     "type": "string"
10547                 },
10548             "sourceName":
10549                 {
10550                     "description": "Specifies a pre-defined media input or output",
10551                     "type": "string"
10552                 }
10553         }
10554     }
10555 }

```

```

10553     "precision" :
10554         {
10555             "description": "Accuracy granularity of the exposed value",
10556             "readOnly": true,
10557             "type": "number"
10558         },
10559     "n" :
10560         {
10561             "description": "Friendly name of the resource",
10562             "maxLength": 64,
10563             "readOnly": true,
10564             "type": "string"
10565         },
10566     "range" :
10567         {
10568             "description": "The valid range for the value Property",
10569             "items": {
10570                 "anyOf": [
10571                     {
10572                         "type": "number"
10573                     },
10574                     {
10575                         "type": "integer"
10576                     }
10577                 ]
10578             },
10579             "maxItems": 2,
10580             "minItems": 2,
10581             "readOnly": true,
10582             "type": "array"
10583         },
10584     "step" :
10585         {
10586             "anyOf": [
10587                 {
10588                     "type": "integer"
10589                 },
10590                 {
10591                     "type": "number"
10592                 }
10593             ],
10594             "description": "Step value across the defined range",
10595             "readOnly": true
10596         },
10597     "sourceNumber" :
10598         {
10599             "description": "Numeric identifier to specify the instance",
10600             "readOnly": true,
10601             "type": [
10602                 "integer",
10603                 "string"
10604             ]
10605         },
10606     "id" :
10607         {
10608             "description": "Instance ID of this specific resource",
10609             "maxLength": 64,
10610             "readOnly": true,
10611             "type": "string"
10612         },
10613     "if" :
10614         {
10615             "description": "The interface set supported by this resource",
10616             "items": {
10617                 "enum": [
10618                     "oic.if.baseline",
10619                     "oic.if.ll",
10620                     "oic.if.b",
10621                     "oic.if.lb",
10622                     "oic.if.rw",
10623                     "oic.if.r",
10624                     "oic.if.a",

```

```

10625         "oic.if.s"
10626     ],
10627     "type": "string"
10628 },
10629     "minItems": 1,
10630     "readOnly": true,
10631     "type": "array"
10632 }
10633 },
10634     "type" : "object"
10635     , "required": ["sourceName", "status"]
10636 }
10637 }
10638 }
10639

```

10640 **6.43.5 Property definition**

10641 Table 89 defines the Properties that are part of the ['oic.r.mediasource'] Resource Type

10642 **Table 89 – The Property definitions of the Resource with type 'rt' = ['oic.r.mediasource']**

Property name	Value type	Mandatory	Access mode	Description
if	array: see schema	No	Read Only	The interface set supported by this resource
sourceNumber	['integer', 'string']	No	Read Only	Numeric identifier to specify the instance
precision	number	No	Read Only	Accuracy granularity of the exposed value
sourceType	string	No	Read Only	Specifies the type of the source
range	array: see schema	No	Read Only	The valid range for the value Property
sourceName	string	Yes	Read Write	Specifies a pre-defined media input or output
step	multiple types: see schema	No	Read Only	Step value across the defined range
n	string	No	Read Only	Friendly name of the resource
rt	array: see schema	No	Read Only	Resource Type
status	boolean	Yes	Read Write	Specifies if the specific source instance is selected or not
id	string	No	Read Only	Instance ID of this specific resource

10643 **6.43.6 CRUDN behaviour**

10644 Table 90 defines the CRUDN operations that are supported on the ['oic.r.mediasource'] Resource
 10645 Type

10646 **Table 90 – The CRUDN operations of the Resource with type 'rt' = ['oic.r.mediasource']**

Create	Read	Update	Delete	Notify
	get	post		observe

10647 **6.44 Media Source List**

10648 **6.44.1 Introduction**

10649 This resource provides the list of media sources available on the device.
 10650 The sources are an array of mediaSource(s) as separately defined.
 10651 The basic resource type oic.r.mediaSourceList does not provide any indications whether the
 10652 source is input or output.
 10653 Hence, two specializations of this resource exist.
 10654 When a device exposes input sources then an instance of this resource with a resource type of
 10655 oic.r.media.input is exposed.
 10656 When a device exposes output sources then an instance of this resource with a resource type of
 10657 oic.r.media.output is exposed.
 10658 A device that exposes both input and output media sources then exposes two instances of this
 10659 resource,
 10660 one with a resource type of oic.r.media.input and one with a resource type of oic.r.media.output
 10661

10662 **6.44.2 Example URI**

10663 /mediaSourceListResURI

10664 **6.44.3 Resource type**

10665 The resource type (rt) is defined as: ['oic.r.mediasourcelist'].

10666 **6.44.4 OpenAPI 2.0 definition**

```

10667 {
10668   "swagger": "2.0",
10669   "info": {
10670     "title": "Media Source List",
10671     "version": "v1.1.0-20160519",
10672     "license": {
10673       "name": "copyright 2016-2017 Open Connectivity Foundation, Inc. All rights reserved.",
10674       "x-description": "Redistribution and use in source and binary forms, with or without
10675 modification, are permitted provided that the following conditions are met:\n      1.
10676 Redistributions of source code must retain the above copyright notice, this list of conditions and
10677 the following disclaimer.\n      2. Redistributions in binary form must reproduce the above
10678 copyright notice, this list of conditions and the following disclaimer in the documentation and/or
10679 other materials provided with the distribution.\n\n      THIS SOFTWARE IS PROVIDED BY THE Open
10680 Connectivity Foundation, INC. \AS IS\ AND ANY EXPRESS OR IMPLIED WARRANTIES, INCLUDING, BUT NOT
10681 LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE OR
10682 WARRANTIES OF NON-INFRINGEMENT, ARE DISCLAIMED.\n\n      IN NO EVENT SHALL THE Open Connectivity
10683 Foundation, INC. OR CONTRIBUTORS BE LIABLE FOR ANY DIRECT, INDIRECT, INCIDENTAL, SPECIAL, EXEMPLARY,
10684 OR CONSEQUENTIAL DAMAGES (INCLUDING, BUT NOT LIMITED TO, PROCUREMENT OF SUBSTITUTE GOODS OR
10685 SERVICES; LOSS OF USE, DATA, OR PROFITS; OR BUSINESS INTERRUPTION)\n\n      HOWEVER CAUSED AND ON
10686 ANY THEORY OF LIABILITY, WHETHER IN CONTRACT, STRICT LIABILITY, OR TORT (INCLUDING NEGLIGENCE OR
10687 OTHERWISE) ARISING IN ANY WAY OUT OF THE USE OF THIS SOFTWARE, EVEN IF ADVISED OF THE POSSIBILITY OF
10688 SUCH DAMAGE.\n"
10689   }
10690 },
10691 "schemes": ["http"],
10692 "consumes": ["application/json"],
10693 "produces": ["application/json"],
10694 "paths": {
10695   "/mediaSourceListResURI" : {
10696     "get": {
10697       "description": "This resource provides the list of media sources available on the
10698 device.\nThe sources are an array of mediaSource(s) as separately defined.\nThe basic resource type
10699 oic.r.mediaSourceList does not provide any indications whether the source is input or
10700 output.\nHence, two specializations of this resource exist.\nWhen a device exposes input sources
10701 then an instance of this resource with a resource type of oic.r.media.input is exposed.\nWhen a
10702 device exposes output sources then an instance of this resource with a resource type of
10703 oic.r.media.output is exposed.\nA device that exposes both input and output media sources then
    
```

```

10704 exposes two instances of this resource,\none with a resource type or oic.r.media.input and one with
10705 a resource type of oic.r.media.output\n",
10706     "parameters": [
10707         {"$ref": "#/parameters/interface"}
10708     ],
10709     "responses": {
10710         "200": {
10711             "description": "",
10712             "x-example":
10713                 {
10714                     "rt": ["oic.r.mediasourcelist"],
10715                     "id": "unique_example_id",
10716                     "sources": [
10717                         {
10718                             "sourceName": "HDMI-CEC",
10719                             "sourceNumber": "1",
10720                             "sourceType": "audioPlusVideo",
10721                             "status": true
10722                         },
10723                         {
10724                             "sourceName": "dualRCA",
10725                             "sourceNumber": "1",
10726                             "sourceType": "audioOnly",
10727                             "status": false
10728                         }
10729                     ]
10730                 }
10731             ,
10732             "schema": { "$ref": "#/definitions/mediaSourceList" }
10733         }
10734     }
10735 },
10736 "post": {
10737     "description": "Changes the status of the source(s).\nAllows changes of the sourceName and
10738 the status.\n",
10739     "parameters": [
10740         {"$ref": "#/parameters/interface"},
10741         {
10742             "name": "body",
10743             "in": "body",
10744             "required": true,
10745             "schema": { "$ref": "#/definitions/mediaSourceList" },
10746             "x-example":
10747                 {
10748                     "sources": [
10749                         {
10750                             "sourceName": "my new name",
10751                             "sourceNumber": "1",
10752                             "status": true
10753                         }
10754                     ]
10755                 }
10756             }
10757     ],
10758     "responses": {
10759         "200": {
10760             "description": "",
10761             "x-example":
10762                 {
10763                     "id": "unique_example_id",
10764                     "sources": [
10765                         {
10766                             "sourceName": "my new name",
10767                             "sourceNumber": "1",
10768                             "status": true
10769                         }
10770                     ]
10771                 }
10772             ,
10773             "schema": { "$ref": "#/definitions/mediaSourceList" }
10774         }
10775     }
}

```

```

10776     }
10777   }
10778 },
10779 "parameters": {
10780   "interface" : {
10781     "in" : "query",
10782     "name" : "if",
10783     "type" : "string",
10784     "enum" : ["oic.if.a", "oic.if.baseline"]
10785   }
10786 },
10787 "definitions": {
10788   "mediaSourceList" : {
10789     "properties": {
10790       "rt" :
10791         {
10792           "description": "Resource Type",
10793           "items": {
10794             "maxLength": 64,
10795             "type": "string"
10796           },
10797           "minItems": 1,
10798           "readOnly": true,
10799           "type": "array"
10800         },
10801     "precision" :
10802       {
10803         "description": "Accuracy granularity of the exposed value",
10804         "readOnly": true,
10805         "type": "number"
10806       },
10807     "n" :
10808       {
10809         "description": "Friendly name of the resource",
10810         "maxLength": 64,
10811         "readOnly": true,
10812         "type": "string"
10813       },
10814     "sources" :
10815       {
10816         "items": {
10817           "oneOf": [
10818             {
10819               "properties": {
10820                 "sourceName": {
10821                   "description": "Specifies a pre-defined media input or output",
10822                   "type": "string"
10823                 },
10824                 "sourceNumber": {
10825                   "description": "Numeric identifier to specify the instance",
10826                   "readOnly": true,
10827                   "type": [
10828                     "integer",
10829                     "string"
10830                   ]
10831                 },
10832                 "sourceType": {
10833                   "description": "Specifies the type of the source",
10834                   "enum": [
10835                     "audioOnly",
10836                     "videoOnly",
10837                     "audioPlusVideo"
10838                   ],
10839                   "readOnly": true,
10840                   "type": "string"
10841                 },
10842                 "status": {
10843                   "description": "Specifies if the specific source instance is selected or not",
10844                   "type": "boolean"
10845                 }
10846               }
10847             }
10848           ]
10849         }
10850       }
10851     }
10852   }

```

```

10848     ]
10849     },
10850     "type": "array"
10851   },
10852   "range" :
10853     {
10854       "description": "The valid range for the value Property",
10855       "items": {
10856         "anyOf": [
10857           {
10858             "type": "number"
10859           },
10860           {
10861             "type": "integer"
10862           }
10863         ]
10864       },
10865       "maxItems": 2,
10866       "minItems": 2,
10867       "readOnly": true,
10868       "type": "array"
10869     },
10870   "step" :
10871     {
10872       "anyOf": [
10873         {
10874           "type": "integer"
10875         },
10876         {
10877           "type": "number"
10878         }
10879       ],
10880       "description": "Step value across the defined range",
10881       "readOnly": true
10882     },
10883   "id" :
10884     {
10885       "description": "Instance ID of this specific resource",
10886       "maxLength": 64,
10887       "readOnly": true,
10888       "type": "string"
10889     },
10890   "if" :
10891     {
10892       "description": "The interface set supported by this resource",
10893       "items": {
10894         "enum": [
10895           "oic.if.baseline",
10896           "oic.if.ll",
10897           "oic.if.b",
10898           "oic.if.lb",
10899           "oic.if.rw",
10900           "oic.if.r",
10901           "oic.if.a",
10902           "oic.if.s"
10903         ],
10904         "type": "string"
10905       },
10906       "minItems": 1,
10907       "readOnly": true,
10908       "type": "array"
10909     }
10910   },
10911   "type" : "object"
10912 , "required": ["sources"]
10913 }
10914 }
10915 }
10916

```

10917 6.44.5 Property definition

10918 Table 91 defines the Properties that are part of the ['oic.r.mediasourcelist'] Resource Type
 Copyright Open Connectivity Foundation, Inc. © 2016-19. All rights Reserved

10919 **Table 91 – The Property definitions of the Resource with type 'rt' = ['oic.r.mediasourcelist']**

Property name	Value type	Mandatory	Access mode	Description
rt	array: see schema	No	Read Only	Resource Type
if	array: see schema	No	Read Only	The interface set supported by this resource
range	array: see schema	No	Read Only	The valid range for the value Property
precision	number	No	Read Only	Accuracy granularity of the exposed value
id	string	No	Read Only	Instance ID of this specific resource
sources	array: see schema	Yes	Read Write	
step	multiple types: see schema	No	Read Only	Step value across the defined range
n	string	No	Read Only	Friendly name of the resource

10920 **6.44.6 CRUDN behaviour**

10921 Table 92 defines the CRUDN operations that are supported on the ['oic.r.mediasourcelist']
10922 Resource Type

10923 **Table 92 – The CRUDN operations of the Resource with type 'rt' = ['oic.r.mediasourcelist']**

Create	Read	Update	Delete	Notify
	get	post		observe

10924 **6.45 Media Source Input**

10925 **6.45.1 Introduction**

10926 This resource provides the list of input media sources available on the device.
10927 The sources are an array of mediaSource(s) as separately defined.
10928

10929 **6.45.2 Example URI**

10930 /mediaSourceInputResURI

10931 **6.45.3 Resource type**

10932 The resource type (rt) is defined as: ['oic.r.media.input'].

10933 **6.45.4 OpenAPI 2.0 definition**

```

10934 {
10935   "swagger": "2.0",
10936   "info": {
10937     "title": "Media Source Input",
10938     "version": "v1.1.0-20160519",
10939     "license": {
10940       "name": "copyright 2016-2017 Open Connectivity Foundation, Inc. All rights reserved.",
10941       "x-description": "Redistribution and use in source and binary forms, with or without
10942 modification, are permitted provided that the following conditions are met:\n      1.
10943 Redistributions of source code must retain the above copyright notice, this list of conditions and
10944 the following disclaimer.\n      2. Redistributions in binary form must reproduce the above
10945 copyright notice, this list of conditions and the following disclaimer in the documentation and/or
10946 other materials provided with the distribution.\n\n      THIS SOFTWARE IS PROVIDED BY THE Open
  
```

```

10947 Connectivity Foundation, INC. \ "AS IS\ " AND ANY EXPRESS OR IMPLIED WARRANTIES, INCLUDING, BUT NOT
10948 LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE OR
10949 WARRANTIES OF NON-INFRINGEMENT, ARE DISCLAIMED.\n          IN NO EVENT SHALL THE Open Connectivity
10950 Foundation, INC. OR CONTRIBUTORS BE LIABLE FOR ANY DIRECT, INDIRECT, INCIDENTAL, SPECIAL, EXEMPLARY,
10951 OR CONSEQUENTIAL DAMAGES (INCLUDING, BUT NOT LIMITED TO, PROCUREMENT OF SUBSTITUTE GOODS OR
10952 SERVICES; LOSS OF USE, DATA, OR PROFITS; OR BUSINESS INTERRUPTION)\n          HOWEVER CAUSED AND ON
10953 ANY THEORY OF LIABILITY, WHETHER IN CONTRACT, STRICT LIABILITY, OR TORT (INCLUDING NEGLIGENCE OR
10954 OTHERWISE) ARISING IN ANY WAY OUT OF THE USE OF THIS SOFTWARE, EVEN IF ADVISED OF THE POSSIBILITY OF
10955 SUCH DAMAGE.\n"
10956 }
10957 },
10958 "schemes": ["http"],
10959 "consumes": ["application/json"],
10960 "produces": ["application/json"],
10961 "paths": {
10962   "/mediaSourceInputResURI" : {
10963     "get": {
10964       "description": "This resource provides the list of input media sources available on the
10965 device.\nThe sources are an array of mediaSource(s) as separately defined.\n",
10966       "parameters": [
10967         { "$ref": "#/parameters/interface" }
10968       ],
10969       "responses": {
10970         "200": {
10971           "description": "",
10972           "x-example":
10973             {
10974               "rt": ["oic.r.media.input"],
10975               "id": "unique_example_id",
10976               "sources": [
10977                 {
10978                   "sourceName": "HDMI-CEC",
10979                   "sourceNumber": "1",
10980                   "sourceType": "audioPlusVideo",
10981                   "status": true
10982                 },
10983                 {
10984                   "sourceName": "dualRCA",
10985                   "sourceNumber": "1",
10986                   "sourceType": "audioOnly",
10987                   "status": false
10988                 }
10989               ]
10990             }
10991           ,
10992           "schema": { "$ref": "#/definitions/mediaSourceList" }
10993         }
10994       }
10995     },
10996     "post": {
10997       "description": "Changes the status of the source(s).\nAllows changes of the sourceName and
10998 the status.\n",
10999       "parameters": [
11000         { "$ref": "#/parameters/interface" },
11001         {
11002           "name": "body",
11003           "in": "body",
11004           "required": true,
11005           "schema": { "$ref": "#/definitions/mediaSourceList" },
11006           "x-example":
11007             {
11008               "sources": [
11009                 {
11010                   "sourceName": "my new name",
11011                   "sourceNumber": "1",
11012                   "status": true
11013                 }
11014               ]
11015             }
11016         }
11017       ],
11018       "responses": {

```

```

11019         "200": {
11020             "description": "",
11021             "x-example":
11022                 {
11023                     "id": "unique_example_id",
11024                     "sources": [
11025                         {
11026                             "sourceName": "my new name",
11027                             "sourceNumber": "1",
11028                             "status": true
11029                         }
11030                     ]
11031                 }
11032             ,
11033             "schema": { "$ref": "#/definitions/mediaSourceList" }
11034         }
11035     }
11036 }
11037 },
11038 },
11039 "parameters": {
11040     "interface": {
11041         "in": "query",
11042         "name": "if",
11043         "type": "string",
11044         "enum": ["oic.if.a", "oic.if.baseline"]
11045     }
11046 },
11047 "definitions": {
11048     "mediaSourceList": {
11049         "properties": {
11050             "rt":
11051                 {
11052                     "description": "Resource Type",
11053                     "items": {
11054                         "maxLength": 64,
11055                         "type": "string"
11056                     },
11057                     "minItems": 1,
11058                     "readOnly": true,
11059                     "type": "array"
11060                 },
11061             "n":
11062                 {
11063                     "description": "Friendly name of the resource",
11064                     "maxLength": 64,
11065                     "readOnly": true,
11066                     "type": "string"
11067                 },
11068             "sources":
11069                 {
11070                     "items": {
11071                         "oneOf": [
11072                             {
11073                                 "properties": {
11074                                     "sourceName": {
11075                                         "description": "Specifies a pre-defined media input or output",
11076                                         "type": "string"
11077                                     },
11078                                     "sourceNumber": {
11079                                         "description": "Numeric identifier to specify the instance",
11080                                         "readOnly": true,
11081                                         "type": [
11082                                             "integer",
11083                                             "string"
11084                                         ]
11085                                     },
11086                                     "sourceType": {
11087                                         "description": "Specifies the type of the source",
11088                                         "enum": [
11089                                             "audioOnly",
11090                                             "videoOnly",

```

```

11091         "audioPlusVideo"
11092     ],
11093     "readOnly": true,
11094     "type": "string"
11095 },
11096 "status": {
11097     "description": "Specifies if the specific source instance is selected or not",
11098     "type": "boolean"
11099 }
11100 }
11101 }
11102 ]
11103 },
11104 "type": "array"
11105 },
11106 "range" :
11107 {
11108     "description": "The valid range for the value Property",
11109     "items": {
11110         "anyOf": [
11111             {
11112                 "type": "number"
11113             },
11114             {
11115                 "type": "integer"
11116             }
11117         ]
11118     },
11119     "maxItems": 2,
11120     "minItems": 2,
11121     "readOnly": true,
11122     "type": "array"
11123 },
11124 "step" :
11125 {
11126     "anyOf": [
11127         {
11128             "type": "integer"
11129         },
11130         {
11131             "type": "number"
11132         }
11133     ],
11134     "description": "Step value across the defined range",
11135     "readOnly": true
11136 },
11137 "id" :
11138 {
11139     "description": "Instance ID of this specific resource",
11140     "maxLength": 64,
11141     "readOnly": true,
11142     "type": "string"
11143 },
11144 "if" :
11145 {
11146     "description": "The interface set supported by this resource",
11147     "items": {
11148         "enum": [
11149             "oic.if.baseline",
11150             "oic.if.ll",
11151             "oic.if.b",
11152             "oic.if.lb",
11153             "oic.if.rw",
11154             "oic.if.r",
11155             "oic.if.a",
11156             "oic.if.s"
11157         ],
11158         "type": "string"
11159     },
11160     "minItems": 1,
11161     "readOnly": true,
11162     "type": "array"

```



```

11163     }
11164     },
11165     "type" : "object"
11166     , "required": ["sources"]
11167   }
11168 }
11169 }
11170

```

11171 **6.45.5 Property definition**

11172 Table 93 defines the Properties that are part of the ['oic.r.media.input'] Resource Type

11173 **Table 93 – The Property definitions of the Resource with type 'rt' = ['oic.r.media.input']**

Property name	Value type	Mandatory	Access mode	Description
step	multiple types: see schema	No	Read Only	Step value across the defined range
if	array: see schema	No	Read Only	The interface set supported by this resource
range	array: see schema	No	Read Only	The valid range for the value Property
rt	array: see schema	No	Read Only	Resource Type
n	string	No	Read Only	Friendly name of the resource
id	string	No	Read Only	Instance ID of this specific resource
sources	array: see schema	Yes	Read Write	

11174 **6.45.6 CRUDN behaviour**

11175 Table 94 defines the CRUDN operations that are supported on the ['oic.r.media.input'] Resource
 11176 Type

11177 **Table 94 – The CRUDN operations of the Resource with type 'rt' = ['oic.r.media.input']**

Create	Read	Update	Delete	Notify
	get	post		observe

11178 **6.46 Media Source Output**

11179 **6.46.1 Introduction**

11180 This resource provides the list of output media sources available on the device.
 11181 The sources are an array of mediaSource(s) as separately defined.
 11182

11183 **6.46.2 Example URI**

11184 /mediaSourceOutputResURI

11185 **6.46.3 Resource type**

11186 The resource type (rt) is defined as: ['oic.r.media.output'].

11187 **6.46.4 OpenAPI 2.0 definition**

```

11188 {
11189   "swagger": "2.0",
11190   "info": {
11191     "title": "Media Source Output",
11192     "version": "v1.1.0-20160519",

```

```

11193     "license": {
11194         "name": "copyright 2016-2017 Open Connectivity Foundation, Inc. All rights reserved.",
11195         "x-description": "Redistribution and use in source and binary forms, with or without
11196 modification, are permitted provided that the following conditions are met:\n      1.
11197 Redistributions of source code must retain the above copyright notice, this list of conditions and
11198 the following disclaimer.\n      2. Redistributions in binary form must reproduce the above
11199 copyright notice, this list of conditions and the following disclaimer in the documentation and/or
11200 other materials provided with the distribution.\n\n      THIS SOFTWARE IS PROVIDED BY THE Open
11201 Connectivity Foundation, INC. \\"AS IS\\" AND ANY EXPRESS OR IMPLIED WARRANTIES, INCLUDING, BUT NOT
11202 LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE OR
11203 WARRANTIES OF NON-INFRINGEMENT, ARE DISCLAIMED.\n      IN NO EVENT SHALL THE Open Connectivity
11204 Foundation, INC. OR CONTRIBUTORS BE LIABLE FOR ANY DIRECT, INDIRECT, INCIDENTAL, SPECIAL, EXEMPLARY,
11205 OR CONSEQUENTIAL DAMAGES (INCLUDING, BUT NOT LIMITED TO, PROCUREMENT OF SUBSTITUTE GOODS OR
11206 SERVICES; LOSS OF USE, DATA, OR PROFITS; OR BUSINESS INTERRUPTION)\n      HOWEVER CAUSED AND ON
11207 ANY THEORY OF LIABILITY, WHETHER IN CONTRACT, STRICT LIABILITY, OR TORT (INCLUDING NEGLIGENCE OR
11208 OTHERWISE) ARISING IN ANY WAY OUT OF THE USE OF THIS SOFTWARE, EVEN IF ADVISED OF THE POSSIBILITY OF
11209 SUCH DAMAGE.\n"
11210     }
11211 },
11212 "schemes": ["http"],
11213 "consumes": ["application/json"],
11214 "produces": ["application/json"],
11215 "paths": {
11216     "/mediaSourceOutputResURI" : {
11217         "get": {
11218             "description": "This resource provides the list of output media sources available on the
11219 device.\nThe sources are an array of mediaSource(s) as separately defined.\n",
11220             "parameters": [
11221                 {"$ref": "#/parameters/interface"}
11222             ],
11223             "responses": {
11224                 "200": {
11225                     "description": "",
11226                     "x-example":
11227                     {
11228                         "rt": ["oic.r.media.output"],
11229                         "id": "unique_example_id",
11230                         "sources": [
11231                             {
11232                                 "sourceName": "HDMI-CEC",
11233                                 "sourceNumber": "1",
11234                                 "sourceType": "audioPlusVideo",
11235                                 "status": true
11236                             },
11237                             {
11238                                 "sourceName": "dualRCA",
11239                                 "sourceNumber": "1",
11240                                 "sourceType": "audioOnly",
11241                                 "status": false
11242                             }
11243                         ]
11244                     }
11245                 },
11246                 "schema": { "$ref": "#/definitions/mediaSourceList" }
11247             }
11248         }
11249     },
11250     "post": {
11251         "description": "Changes the status of the source(s).\nAllows changes of the sourceName and
11252 the status.\n",
11253         "parameters": [
11254             {"$ref": "#/parameters/interface"},
11255             {
11256                 "name": "body",
11257                 "in": "body",
11258                 "required": true,
11259                 "schema": { "$ref": "#/definitions/mediaSourceList" },
11260                 "x-example":
11261                 {
11262                     "sources": [
11263                         {
11264                             "sourceName": "my new name",

```

```

11265         "sourceNumber": "1",
11266         "status": true
11267     }
11268 ]
11269 }
11270 },
11271 ],
11272 "responses": {
11273     "200": {
11274         "description": "",
11275         "x-example":
11276             {
11277                 "id": "unique_example_id",
11278                 "sources": [
11279                     {
11280                         "sourceName": "my new name",
11281                         "sourceNumber": "1",
11282                         "status": true
11283                     }
11284                 ]
11285             }
11286         ,
11287         "schema": { "$ref": "#/definitions/mediaSourceList" }
11288     }
11289 }
11290 },
11291 },
11292 },
11293 "parameters": {
11294     "interface" : {
11295         "in" : "query",
11296         "name" : "if",
11297         "type" : "string",
11298         "enum" : ["oic.if.a", "oic.if.baseline"]
11299     }
11300 },
11301 "definitions": {
11302     "mediaSourceList" : {
11303         "properties": {
11304             "rt" :
11305                 {
11306                     "description": "Resource Type",
11307                     "items": {
11308                         "maxLength": 64,
11309                         "type": "string"
11310                     },
11311                     "minItems": 1,
11312                     "readOnly": true,
11313                     "type": "array"
11314                 },
11315             "precision" :
11316                 {
11317                     "description": "Accuracy granularity of the exposed value",
11318                     "readOnly": true,
11319                     "type": "number"
11320                 },
11321             "n" :
11322                 {
11323                     "description": "Friendly name of the resource",
11324                     "maxLength": 64,
11325                     "readOnly": true,
11326                     "type": "string"
11327                 },
11328             "sources" :
11329                 {
11330                     "items": {
11331                         "oneOf": [
11332                             {
11333                                 "properties": {
11334                                     "sourceName": {
11335                                         "description": "Specifies a pre-defined media input or output",
11336                                         "type": "string"

```

```

11337     },
11338     "sourceNumber": {
11339         "description": "Numeric identifier to specify the instance",
11340         "readOnly": true,
11341         "type": [
11342             "integer",
11343             "string"
11344         ]
11345     },
11346     "sourceType": {
11347         "description": "Specifies the type of the source",
11348         "enum": [
11349             "audioOnly",
11350             "videoOnly",
11351             "audioPlusVideo"
11352         ],
11353         "readOnly": true,
11354         "type": "string"
11355     },
11356     "status": {
11357         "description": "Specifies if the specific source instance is selected or not",
11358         "type": "boolean"
11359     }
11360 }
11361 }
11362 ]
11363 },
11364 "type": "array"
11365 },
11366 "range" :
11367 {
11368     "description": "The valid range for the value Property",
11369     "items": {
11370         "anyOf": [
11371             {
11372                 "type": "number"
11373             },
11374             {
11375                 "type": "integer"
11376             }
11377         ]
11378     },
11379     "maxItems": 2,
11380     "minItems": 2,
11381     "readOnly": true,
11382     "type": "array"
11383 },
11384 "step" :
11385 {
11386     "anyOf": [
11387         {
11388             "type": "integer"
11389         },
11390         {
11391             "type": "number"
11392         }
11393     ],
11394     "description": "Step value across the defined range",
11395     "readOnly": true
11396 },
11397 "id" :
11398 {
11399     "description": "Instance ID of this specific resource",
11400     "maxLength": 64,
11401     "readOnly": true,
11402     "type": "string"
11403 },
11404 "if" :
11405 {
11406     "description": "The interface set supported by this resource",
11407     "items": {
11408         "enum": [

```

```

11409         "oic.if.baseline",
11410         "oic.if.ll",
11411         "oic.if.b",
11412         "oic.if.lb",
11413         "oic.if.rw",
11414         "oic.if.r",
11415         "oic.if.a",
11416         "oic.if.s"
11417     ],
11418     "type": "string"
11419 },
11420 "minItems": 1,
11421 "readOnly": true,
11422 "type": "array"
11423 }
11424 },
11425 "type" : "object"
11426 , "required": ["sources"]
11427 }
11428 }
11429 }
11430

```

11431 **6.46.5 Property definition**

11432 Table 95 defines the Properties that are part of the ['oic.r.media.output'] Resource Type

11433 **Table 95 – The Property definitions of the Resource with type 'rt' = ['oic.r.media.output']**

Property name	Value type	Mandatory	Access mode	Description
range	array: see schema	No	Read Only	The valid range for the value Property
rt	array: see schema	No	Read Only	Resource Type
step	multiple types: see schema	No	Read Only	Step value across the defined range
id	string	No	Read Only	Instance ID of this specific resource
sources	array: see schema	Yes	Read Write	
if	array: see schema	No	Read Only	The interface set supported by this resource
precision	number	No	Read Only	Accuracy granularity of the exposed value
n	string	No	Read Only	Friendly name of the resource

11434 **6.46.6 CRUDN behaviour**

11435 Table 96 defines the CRUDN operations that are supported on the ['oic.r.media.output'] Resource Type

11437 **Table 96 – The CRUDN operations of the Resource with type 'rt' = ['oic.r.media.output']**

Create	Read	Update	Delete	Notify
	get	post		observe

11438 **6.47 Motion Sensor**

11439 **6.47.1 Introduction**

11440 This resource describes whether motion has been sensed or not.

11441 The value is a boolean.

11442 A value of 'true' means that motion has been sensed.

11443 A value of 'false' means that motion not been sensed.

11444

11445 **6.47.2 Example URI**

11446 /MotionResURI

11447 **6.47.3 Resource type**

11448 The resource type (rt) is defined as: ['oic.r.sensor.motion'].

11449 **6.47.4 OpenAPI 2.0 definition**

```
11450 {
11451   "swagger": "2.0",
11452   "info": {
11453     "title": "Motion Sensor",
11454     "version": "v1.1.0-20160519",
11455     "license": {
11456       "name": "copyright 2016-2017 Open Connectivity Foundation, Inc. All rights reserved.",
11457       "x-description": "Redistribution and use in source and binary forms, with or without
11458 modification, are permitted provided that the following conditions are met:\n      1.
11459 Redistributions of source code must retain the above copyright notice, this list of conditions and
11460 the following disclaimer.\n      2. Redistributions in binary form must reproduce the above
11461 copyright notice, this list of conditions and the following disclaimer in the documentation and/or
11462 other materials provided with the distribution.\n\n      THIS SOFTWARE IS PROVIDED BY THE Open
11463 Connectivity Foundation, INC. \AS IS\ AND ANY EXPRESS OR IMPLIED WARRANTIES, INCLUDING, BUT NOT
11464 LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE OR
11465 WARRANTIES OF NON-INFRINGEMENT, ARE DISCLAIMED.\n      IN NO EVENT SHALL THE Open Connectivity
11466 Foundation, INC. OR CONTRIBUTORS BE LIABLE FOR ANY DIRECT, INDIRECT, INCIDENTAL, SPECIAL, EXEMPLARY,
11467 OR CONSEQUENTIAL DAMAGES (INCLUDING, BUT NOT LIMITED TO, PROCUREMENT OF SUBSTITUTE GOODS OR
11468 SERVICES; LOSS OF USE, DATA, OR PROFITS; OR BUSINESS INTERRUPTION)\n      HOWEVER CAUSED AND ON
11469 ANY THEORY OF LIABILITY, WHETHER IN CONTRACT, STRICT LIABILITY, OR TORT (INCLUDING NEGLIGENCE OR
11470 OTHERWISE) ARISING IN ANY WAY OUT OF THE USE OF THIS SOFTWARE, EVEN IF ADVISED OF THE POSSIBILITY OF
11471 SUCH DAMAGE.\n"
11472   },
11473 },
11474 "schemes": ["http"],
11475 "consumes": ["application/json"],
11476 "produces": ["application/json"],
11477 "paths": {
11478   "/MotionResURI" : {
11479     "get": {
11480       "description": "This resource describes whether motion has been sensed or not.\nThe value is
11481 a boolean.\nA value of 'true' means that motion has been sensed.\nA value of 'false' means that
11482 motion not been sensed.\n",
11483       "parameters": [
11484         {"$ref": "#/parameters/interface"}
11485       ],
11486       "responses": {
11487         "200": {
11488           "description": "",
11489           "x-example":
11490             {
11491               "rt": ["oic.r.sensor.motion"],
11492               "id": "unique_example_id",
11493               "value": true
11494             }
11495           ,
11496           "schema": { "$ref": "#/definitions/Motion" }
11497         }
11498       }
11499     }
11500   }
11501 },
11502 "parameters": {
```

```

11503     "interface" : {
11504         "in" : "query",
11505         "name" : "if",
11506         "type" : "string",
11507         "enum" : ["oic.if.s", "oic.if.baseline"]
11508     }
11509 },
11510 "definitions": {
11511     "Motion" : {
11512         "properties": {
11513             "rt" :
11514                 {
11515                     "description": "Resource Type",
11516                     "items": {
11517                         "maxLength": 64,
11518                         "type": "string"
11519                     },
11520                     "minItems": 1,
11521                     "readOnly": true,
11522                     "type": "array"
11523                 },
11524             "value" :
11525                 {
11526                     "description": "true = sensed, false = not sensed.",
11527                     "readOnly": true,
11528                     "type": "boolean"
11529                 },
11530             "n" :
11531                 {
11532                     "description": "Friendly name of the resource",
11533                     "maxLength": 64,
11534                     "readOnly": true,
11535                     "type": "string"
11536                 },
11537             "id" :
11538                 {
11539                     "description": "Instance ID of this specific resource",
11540                     "maxLength": 64,
11541                     "readOnly": true,
11542                     "type": "string"
11543                 },
11544             "if" :
11545                 {
11546                     "description": "The interface set supported by this resource",
11547                     "items": {
11548                         "enum": [
11549                             "oic.if.baseline",
11550                             "oic.if.ll",
11551                             "oic.if.b",
11552                             "oic.if.lb",
11553                             "oic.if.rw",
11554                             "oic.if.r",
11555                             "oic.if.a",
11556                             "oic.if.s"
11557                         ],
11558                         "type": "string"
11559                     },
11560                     "minItems": 1,
11561                     "readOnly": true,
11562                     "type": "array"
11563                 }
11564             },
11565             "type" : "object"
11566         }, "required": ["value"]
11567     }
11568 }
11569 }
11570

```

11571 6.47.5 Property definition

11572 Table 97 defines the Properties that are part of the ['oic.r.sensor.motion'] Resource Type

11573 **Table 97 – The Property definitions of the Resource with type 'rt' = ['oic.r.sensor.motion']**

Property name	Value type	Mandatory	Access mode	Description
n	string	No	Read Only	Friendly name of the resource
rt	array: see schema	No	Read Only	Resource Type
id	string	No	Read Only	Instance ID of this specific resource
value	boolean	Yes	Read Only	true = sensed, false = not sensed.
if	array: see schema	No	Read Only	The interface set supported by this resource

11574 **6.47.6 CRUDN behaviour**

11575 Table 98 defines the CRUDN operations that are supported on the ['oic.r.sensor.motion'] Resource
 11576 Type

11577 **Table 98 – The CRUDN operations of the Resource with type 'rt' = ['oic.r.sensor.motion']**

Create	Read	Update	Delete	Notify
	get			observe

11578 **6.48 Night Mode**

11579 **6.48.1 Introduction**

11580 This resource describes a night mode on/off feature.
 11581 A nightMode value of 'true' means that the feature is on.
 11582 A nightMode value of 'false' means that the feature is off.
 11583

11584 **6.48.2 Example URI**

11585 /NightModeResURI

11586 **6.48.3 Resource type**

11587 The resource type (rt) is defined as: ['oic.r.nightmode'].

11588 **6.48.4 OpenAPI 2.0 definition**

```

11589 {
11590   "swagger": "2.0",
11591   "info": {
11592     "title": "Night Mode",
11593     "version": "v1.1.0-20160519",
11594     "license": {
11595       "name": "copyright 2016-2017 Open Connectivity Foundation, Inc. All rights reserved.",
11596       "x-description": "Redistribution and use in source and binary forms, with or without
11597 modification, are permitted provided that the following conditions are met:\n      1.
11598 Redistributions of source code must retain the above copyright notice, this list of conditions and
11599 the following disclaimer.\n      2. Redistributions in binary form must reproduce the above
11600 copyright notice, this list of conditions and the following disclaimer in the documentation and/or
11601 other materials provided with the distribution.\n\n      THIS SOFTWARE IS PROVIDED BY THE Open
11602 Connectivity Foundation, INC. \\"AS IS\\" AND ANY EXPRESS OR IMPLIED WARRANTIES, INCLUDING, BUT NOT
11603 LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE OR
11604 WARRANTIES OF NON-INFRINGEMENT, ARE DISCLAIMED.\n\n      IN NO EVENT SHALL THE Open Connectivity
11605 Foundation, INC. OR CONTRIBUTORS BE LIABLE FOR ANY DIRECT, INDIRECT, INCIDENTAL, SPECIAL, EXEMPLARY,
11606 OR CONSEQUENTIAL DAMAGES (INCLUDING, BUT NOT LIMITED TO, PROCUREMENT OF SUBSTITUTE GOODS OR
11607 SERVICES; LOSS OF USE, DATA, OR PROFITS; OR BUSINESS INTERRUPTION)\n\n      HOWEVER CAUSED AND ON
11608 ANY THEORY OF LIABILITY, WHETHER IN CONTRACT, STRICT LIABILITY, OR TORT (INCLUDING NEGLIGENCE OR
11609 OTHERWISE) ARISING IN ANY WAY OUT OF THE USE OF THIS SOFTWARE, EVEN IF ADVISED OF THE POSSIBILITY OF
11610 SUCH DAMAGE.\n"
    }
  }

```



```

11611     }
11612   },
11613   "schemes": ["http"],
11614   "consumes": ["application/json"],
11615   "produces": ["application/json"],
11616   "paths": {
11617     "/NightModeResURI" : {
11618       "get": {
11619         "description": "This resource describes a night mode on/off feature.\nA nightMode value of
11620 'true' means that the feature is on.\nA nightMode value of 'false' means that the feature is
11621 off.\n",
11622         "parameters": [
11623           {"$ref": "#/parameters/interface"}
11624         ],
11625         "responses": {
11626           "200": {
11627             "description": "",
11628             "x-example":
11629               {
11630                 "rt": ["oic.r.nightmode"],
11631                 "id": "unique_example_id",
11632                 "nightMode": false
11633               }
11634             ,
11635             "schema": { "$ref": "#/definitions/NightMode" }
11636           }
11637         }
11638       },
11639       "post": {
11640         "description": "",
11641         "parameters": [
11642           {"$ref": "#/parameters/interface"},
11643           {
11644             "name": "body",
11645             "in": "body",
11646             "required": true,
11647             "schema": { "$ref": "#/definitions/NightMode" },
11648             "x-example":
11649               {
11650                 "nightMode": true
11651               }
11652           }
11653         ],
11654         "responses": {
11655           "200": {
11656             "description": "",
11657             "x-example":
11658               {
11659                 "id": "unique_example_id",
11660                 "nightMode": true
11661               }
11662             ,
11663             "schema": { "$ref": "#/definitions/NightMode" }
11664           }
11665         }
11666       }
11667     }
11668   },
11669   "parameters": {
11670     "interface" : {
11671       "in" : "query",
11672       "name" : "if",
11673       "type" : "string",
11674       "enum" : ["oic.if.a", "oic.if.baseline"]
11675     }
11676   },
11677   "definitions": {
11678     "NightMode" : {
11679       "properties": {
11680         "rt" :
11681           {
11682             "description": "Resource Type",

```

```

11683         "items": {
11684             "maxLength": 64,
11685             "type": "string"
11686         },
11687         "minItems": 1,
11688         "readOnly": true,
11689         "type": "array"
11690     },
11691     "n" :
11692     {
11693         "description": "Friendly name of the resource",
11694         "maxLength": 64,
11695         "readOnly": true,
11696         "type": "string"
11697     },
11698     "nightMode" :
11699     {
11700         "description": "Status of the Night Mode",
11701         "type": "boolean"
11702     },
11703     "id" :
11704     {
11705         "description": "Instance ID of this specific resource",
11706         "maxLength": 64,
11707         "readOnly": true,
11708         "type": "string"
11709     },
11710     "if" :
11711     {
11712         "description": "The interface set supported by this resource",
11713         "items": {
11714             "enum": [
11715                 "oic.if.baseline",
11716                 "oic.if.ll",
11717                 "oic.if.b",
11718                 "oic.if.lb",
11719                 "oic.if.rw",
11720                 "oic.if.r",
11721                 "oic.if.a",
11722                 "oic.if.s"
11723             ],
11724             "type": "string"
11725         },
11726         "minItems": 1,
11727         "readOnly": true,
11728         "type": "array"
11729     }
11730     , "type" : "object"
11731     , "required": ["nightMode"]
11732 }
11733 }
11734 }
11735 }
11736

```

6.48.5 Property definition

Table 99 defines the Properties that are part of the ['oic.r.nightmode'] Resource Type

Table 99 – The Property definitions of the Resource with type 'rt' = ['oic.r.nightmode']

Property name	Value type	Mandatory	Access mode	Description
n	string	No	Read Only	Friendly name of the resource
nightMode	boolean	Yes	Read Write	Status of the Night Mode
id	string	No	Read Only	Instance ID of this specific resource

if	array: schema	see	No	Read Only	The interface set supported by this resource
rt	array: schema	see	No	Read Only	Resource Type

11740 **6.48.6 CRUDN behaviour**

11741 Table 100 defines the CRUDN operations that are supported on the ['oic.r.nightmode'] Resource
11742 Type

11743 **Table 100 – The CRUDN operations of the Resource with type 'rt' = ['oic.r.nightmode']**

Create	Read	Update	Delete	Notify
	get	post		observe

11744 **6.49 Presence Sensor**

11745 **6.49.1 Introduction**

11746 This resource describes whether presence has been sensed or not.

11747 The value is a boolean.

11748 A value of 'true' means that presence has been sensed.

11749 A value of 'false' means that presence not been sensed.

11750

11751 **6.49.2 Example URI**

11752 /PresenceResURI

11753 **6.49.3 Resource type**

11754 The resource type (rt) is defined as: ['oic.r.sensor.presence'].

11755 **6.49.4 OpenAPI 2.0 definition**

```

11756 {
11757   "swagger": "2.0",
11758   "info": {
11759     "title": "Presence Sensor",
11760     "version": "v1.1.0-20160519",
11761     "license": {
11762       "name": "copyright 2016-2017 Open Connectivity Foundation, Inc. All rights reserved.",
11763       "x-description": "Redistribution and use in source and binary forms, with or without
11764 modification, are permitted provided that the following conditions are met:\n      1.
11765 Redistributions of source code must retain the above copyright notice, this list of conditions and
11766 the following disclaimer.\n      2. Redistributions in binary form must reproduce the above
11767 copyright notice, this list of conditions and the following disclaimer in the documentation and/or
11768 other materials provided with the distribution.\n\n      THIS SOFTWARE IS PROVIDED BY THE Open
11769 Connectivity Foundation, INC. \AS IS\ AND ANY EXPRESS OR IMPLIED WARRANTIES, INCLUDING, BUT NOT
11770 LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE OR
11771 WARRANTIES OF NON-INFRINGEMENT, ARE DISCLAIMED.\n      IN NO EVENT SHALL THE Open Connectivity
11772 Foundation, INC. OR CONTRIBUTORS BE LIABLE FOR ANY DIRECT, INDIRECT, INCIDENTAL, SPECIAL, EXEMPLARY,
11773 OR CONSEQUENTIAL DAMAGES (INCLUDING, BUT NOT LIMITED TO, PROCUREMENT OF SUBSTITUTE GOODS OR
11774 SERVICES; LOSS OF USE, DATA, OR PROFITS; OR BUSINESS INTERRUPTION)\n      HOWEVER CAUSED AND ON
11775 ANY THEORY OF LIABILITY, WHETHER IN CONTRACT, STRICT LIABILITY, OR TORT (INCLUDING NEGLIGENCE OR
11776 OTHERWISE) ARISING IN ANY WAY OUT OF THE USE OF THIS SOFTWARE, EVEN IF ADVISED OF THE POSSIBILITY OF
11777 SUCH DAMAGE.\n"
11778     }
11779   },
11780   "schemes": ["http"],
11781   "consumes": ["application/json"],
11782   "produces": ["application/json"],
11783   "paths": {
11784     "/PresenceResURI" : {
11785       "get": {
11786         "description": "This resource describes whether presence has been sensed or not.\nThe value
11787 is a boolean.\nA value of 'true' means that presence has been sensed.\nA value of 'false' means that
11788 presence not been sensed.\n",
11789         "parameters": [
11790           {"$ref": "#/parameters/interface"}
11791         ]
11792       }
11793     }
11794   }
11795 }

```

```

11791     ],
11792     "responses": {
11793         "200": {
11794             "description": "",
11795             "x-example":
11796                 {
11797                     "rt": ["oic.r.sensor.presence"],
11798                     "id": "unique_example_id",
11799                     "value": true
11800                 }
11801             ,
11802             "schema": { "$ref": "#/definitions/Presence" }
11803         }
11804     }
11805 }
11806 }
11807 },
11808 "parameters": {
11809     "interface": {
11810         "in": "query",
11811         "name": "if",
11812         "type": "string",
11813         "enum": ["oic.if.s", "oic.if.baseline"]
11814     }
11815 },
11816 "definitions": {
11817     "Presence": {
11818         "properties": {
11819             "rt":
11820                 {
11821                     "description": "Resource Type",
11822                     "items": {
11823                         "maxLength": 64,
11824                         "type": "string"
11825                     },
11826                     "minItems": 1,
11827                     "readOnly": true,
11828                     "type": "array"
11829                 },
11830             "value":
11831                 {
11832                     "description": "true = sensed, false = not sensed.",
11833                     "readOnly": true,
11834                     "type": "boolean"
11835                 },
11836             "n":
11837                 {
11838                     "description": "Friendly name of the resource",
11839                     "maxLength": 64,
11840                     "readOnly": true,
11841                     "type": "string"
11842                 },
11843             "id":
11844                 {
11845                     "description": "Instance ID of this specific resource",
11846                     "maxLength": 64,
11847                     "readOnly": true,
11848                     "type": "string"
11849                 },
11850             "if":
11851                 {
11852                     "description": "The interface set supported by this resource",
11853                     "items": {
11854                         "enum": [
11855                             "oic.if.baseline",
11856                             "oic.if.ll",
11857                             "oic.if.b",
11858                             "oic.if.lb",
11859                             "oic.if.rw",
11860                             "oic.if.r",
11861                             "oic.if.a",
11862                             "oic.if.s"

```

```

11863     ],
11864     "type": "string"
11865   },
11866   "minItems": 1,
11867   "readOnly": true,
11868   "type": "array"
11869 }
11870 },
11871 "type" : "object"
11872 , "required": ["value"]
11873 }
11874 }
11875 }
11876

```

11877 **6.49.5 Property definition**

11878 Table 101 defines the Properties that are part of the ['oic.r.sensor.presence'] Resource Type

11879 **Table 101 – The Property definitions of the Resource with type 'rt' =**
 11880 **['oic.r.sensor.presence']**

Property name	Value type	Mandatory	Access mode	Description
value	boolean	Yes	Read Only	true = sensed, false = not sensed.
n	string	No	Read Only	Friendly name of the resource
if	array: see schema	No	Read Only	The interface set supported by this resource
rt	array: see schema	No	Read Only	Resource Type
id	string	No	Read Only	Instance ID of this specific resource

11881 **6.49.6 CRUDN behaviour**

11882 Table 102 defines the CRUDN operations that are supported on the ['oic.r.sensor.presence']
 11883 Resource Type

11884 **Table 102 – The CRUDN operations of the Resource with type 'rt' = ['oic.r.sensor.presence']**

Create	Read	Update	Delete	Notify
	get			observe

11885 **6.50 Pan Tilt Zoom Movement**

11886 **6.50.1 Introduction**

11887 This resource specifies the pan tilt and zoom capabilities of a device.
 11888 The resource rt is dynamic and reflects whether the values apply to
 11889 physical movement of the device or digital/virtual enhancements to the image.
 11890 For physical movement the rt is 'oic.r.movement.ptz'.
 11891 For digital/virtual image enhancements the rt is 'oic.r.image.ptz'.
 11892 The Pan and Tilt are specified in degrees.
 11893 The Zoom Factor is a value in the range 1-100 for linear (optical) zoom.
 11894 The Zoom Factor is a value in the range [1x, 2x, 4x, 8x, 16x, 32x] for digital zoom.
 11895 If there is no zoom value to set the Zoom Factor shall be '1x'.
 11896 The value 0 degrees means neutral, this is the vendor defined setting.
 11897 Note that this resource also can be used to create an offset for physical movement.
 11898 When that is the case, the rt value is: oic.r.movement.offset.ptz
 11899 Note that this resource also can be used to create an offset for image movement.
 11900 When that is the case, the rt value is: oic.r.image.offset.ptz

11901 When the pan_range value is omitted, then the range is [-180.0,180.0].
11902 If pan is not supported then the range shall be [0.0,0.0]
11903 When the tilt_range value is omitted, then the range is [-180.0,180.0].
11904 If tilt is not supported then the range shall be [0.0,0.0]
11905 Retrieves the current pan, tilt and zoom setting.
11906

11907 6.50.2 Example URI

11908 /PanTiltZoomResURI

11909 6.50.3 Resource type

11910 The resource type (rt) is defined as: ['oic.r.ptz'].

11911 6.50.4 OpenAPI 2.0 definition

```
11912 {  
11913   "swagger": "2.0",  
11914   "info": {  
11915     "title": "Pan Tilt Zoom Movement",  
11916     "version": "v1.1.0-20160519",  
11917     "license": {  
11918       "name": "copyright 2016-2017 Open Connectivity Foundation, Inc. All rights reserved.",  
11919       "x-description": "Redistribution and use in source and binary forms, with or without  
11920 modification, are permitted provided that the following conditions are met:\n      1.  
11921 Redistributions of source code must retain the above copyright notice, this list of conditions and  
11922 the following disclaimer.\n      2. Redistributions in binary form must reproduce the above  
11923 copyright notice, this list of conditions and the following disclaimer in the documentation and/or  
11924 other materials provided with the distribution.\n      THIS SOFTWARE IS PROVIDED BY THE Open  
11925 Connectivity Foundation, INC. \n      \"AS IS\" AND ANY EXPRESS OR IMPLIED WARRANTIES, INCLUDING, BUT NOT  
11926 LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE OR  
11927 WARRANTIES OF NON-INFRINGEMENT, ARE DISCLAIMED.\n      IN NO EVENT SHALL THE Open Connectivity  
11928 Foundation, INC. OR CONTRIBUTORS BE LIABLE FOR ANY DIRECT, INDIRECT, INCIDENTAL, SPECIAL, EXEMPLARY,  
11929 OR CONSEQUENTIAL DAMAGES (INCLUDING, BUT NOT LIMITED TO, PROCUREMENT OF SUBSTITUTE GOODS OR  
11930 SERVICES; LOSS OF USE, DATA, OR PROFITS; OR BUSINESS INTERRUPTION)\n      HOWEVER CAUSED AND ON  
11931 ANY THEORY OF LIABILITY, WHETHER IN CONTRACT, STRICT LIABILITY, OR TORT (INCLUDING NEGLIGENCE OR  
11932 OTHERWISE) ARISING IN ANY WAY OUT OF THE USE OF THIS SOFTWARE, EVEN IF ADVISED OF THE POSSIBILITY OF  
11933 SUCH DAMAGE.\n    \"  
11934   }  
11935 },  
11936 "schemes": ["http"],  
11937 "consumes": ["application/json"],  
11938 "produces": ["application/json"],  
11939 "paths": {  
11940   "/PanTiltZoomResURI" : {  
11941     "get": {  
11942       "description": "This resource specifies the pan tilt and zoom capabilities of a device.\n      The  
11943 resource rt is dynamic and reflects whether the values apply to\n      physical movement of the device  
11944 or digital/virtual enhancements to the image.\n      For physical movement the rt is  
11945 'oic.r.movement.ptz'.\n      For digital/virtual image enhancements the rt is 'oic.r.image.ptz'.\n      The Pan  
11946 and Tilt are specified in degrees.\n      The Zoom Factor is a value in the range 1-100 for linear  
11947 (optical) zoom.\n      The Zoom Factor is a value in the range [1x, 2x, 4x, 8x, 16x, 32x] for digital  
11948 zoom.\n      If there is no zoom value to set the Zoom Factor shall be '1x'.\n      The value 0 degrees means  
11949 neutral, this is the vendor defined setting.\n      Note that this resource also can be used to create an  
11950 offset for physical movement.\n      When that is the case, the rt value is:  
11951 oic.r.movement.offset.ptz\n      Note that this resource also can be used to create an offset for image  
11952 movement.\n      When that is the case, the rt value is: oic.r.image.offset.ptz\n      When the pan_range value  
11953 is omitted, then the range is [-180.0,180.0].\n      If pan is not supported then the range shall be  
11954 [0.0,0.0]\n      When the tilt_range value is omitted, then the range is [-180.0,180.0].\n      If tilt is not  
11955 supported then the range shall be [0.0,0.0]\n      Retrieves the current pan, tilt and zoom setting.\n    \"  
11956     "parameters": [  
11957       { "$ref": "#/parameters/interface" }  
11958     ],  
11959     "responses": {  
11960       "200": {  
11961         "description": "",  
11962         "x-example":  
11963           {  
11964             "rt": ["oic.r.ptz"],  
11965             "id": "unique_example_id",  
11966             "pan": 0.0,
```

```

11967         "tilt":      0.0,
11968         "zoomFactor": "2x"
11969     }
11970 },
11971     "schema": { "$ref": "#/definitions/PanTiltZoom" }
11972 }
11973 },
11974 ],
11975 "post": {
11976     "description": "Sets the current pan, tilt and zoom value\n",
11977     "parameters": [
11978         { "$ref": "#/parameters/interface" },
11979         {
11980             "name": "body",
11981             "in": "body",
11982             "required": true,
11983             "schema": { "$ref": "#/definitions/PanTiltZoom" },
11984             "x-example":
11985                 {
11986                     "pan":      10.0,
11987                     "tilt":     -10.0,
11988                     "zoomFactor": "4x"
11989                 }
11990         },
11991     ],
11992     "responses": {
11993         "200": {
11994             "description": "",
11995             "x-example":
11996                 {
11997                     "id":      "unique_example_id",
11998                     "pan":     10.0,
11999                     "tilt":    -10.0,
12000                     "zoomFactor": "4x"
12001                 }
12002         },
12003         "schema": { "$ref": "#/definitions/PanTiltZoom" }
12004     }
12005 }
12006 },
12007 },
12008 },
12009 "parameters": {
12010     "interface": {
12011         "in": "query",
12012         "name": "if",
12013         "type": "string",
12014         "enum": ["oic.if.a", "oic.if.baseline"]
12015     }
12016 },
12017 "definitions": {
12018     "PanTiltZoom": {
12019         "properties": {
12020             "rt":
12021                 {
12022                     "description": "Resource Type",
12023                     "items": {
12024                         "maxLength": 64,
12025                         "type": "string"
12026                     },
12027                     "minItems": 1,
12028                     "readOnly": true,
12029                     "type": "array"
12030                 },
12031             "tilt_range":
12032                 {
12033                     "description": "Min and Max values for the tilt setting",
12034                     "items": {
12035                         "type": "number"
12036                     },
12037                     "maxItems": 2,
12038                     "minItems": 2,

```

```

12039         "readOnly": true,
12040         "type": "array"
12041     },
12042     "zoomFactor" :
12043     {
12044         "description": "The Zoomfactor value",
12045         "type": "string"
12046     },
12047     "tilt" :
12048     {
12049         "description": "vertical tilt in degrees",
12050         "type": "number"
12051     },
12052     "precision" :
12053     {
12054         "description": "Accuracy granularity of the exposed value",
12055         "readOnly": true,
12056         "type": "number"
12057     },
12058     "n" :
12059     {
12060         "description": "Friendly name of the resource",
12061         "maxLength": 64,
12062         "readOnly": true,
12063         "type": "string"
12064     },
12065     "range" :
12066     {
12067         "description": "The valid range for the value Property",
12068         "items": {
12069             "anyOf": [
12070                 {
12071                     "type": "number"
12072                 },
12073                 {
12074                     "type": "integer"
12075                 }
12076             ]
12077         },
12078         "maxItems": 2,
12079         "minItems": 2,
12080         "readOnly": true,
12081         "type": "array"
12082     },
12083     "pan_range" :
12084     {
12085         "description": "Min and Max values for the pan setting",
12086         "items": {
12087             "type": "number"
12088         },
12089         "maxItems": 2,
12090         "minItems": 2,
12091         "readOnly": true,
12092         "type": "array"
12093     },
12094     "step" :
12095     {
12096         "anyOf": [
12097             {
12098                 "type": "integer"
12099             },
12100             {
12101                 "type": "number"
12102             }
12103         ],
12104         "description": "Step value across the defined range",
12105         "readOnly": true
12106     },
12107     "zoomFactorRange" :
12108     {
12109         "description": "allowed Zoom Factor values. Linear equates to a 1-100 min/max.",
12110         "enum": [

```



```

12111         "linear",
12112         "1x",
12113         "2x",
12114         "4x",
12115         "8x",
12116         "16x",
12117         "32x"
12118     ],
12119     "readOnly": true,
12120     "type": "string"
12121 },
12122 "id" :
12123     {
12124     "description": "Instance ID of this specific resource",
12125     "maxLength": 64,
12126     "readOnly": true,
12127     "type": "string"
12128     },
12129 "pan" :
12130     {
12131     "description": "horizontal pan in degrees",
12132     "type": "number"
12133     },
12134 "if" :
12135     {
12136     "description": "The interface set supported by this resource",
12137     "items": {
12138     "enum": [
12139     "oic.if.baseline",
12140     "oic.if.ll",
12141     "oic.if.b",
12142     "oic.if.lb",
12143     "oic.if.rw",
12144     "oic.if.r",
12145     "oic.if.a",
12146     "oic.if.s"
12147     ],
12148     "type": "string"
12149     },
12150     "minItems": 1,
12151     "readOnly": true,
12152     "type": "array"
12153     }
12154 },
12155 "type" : "object"
12156 , "required": ["pan", "tilt", "zoomFactor"]
12157 }
12158 }
12159 }
12160

```

6.50.5 Property definition

Table 103 defines the Properties that are part of the ['oic.r.ptz'] Resource Type

Table 103 – The Property definitions of the Resource with type 'rt' = ['oic.r.ptz']

Property name	Value type	Mandatory	Access mode	Description
pan_range	array: see schema	No	Read Only	Min and Max values for the pan setting
tilt	number	Yes	Read Write	vertical tilt in degrees
n	string	No	Read Only	Friendly name of the resource
precision	number	No	Read Only	Accuracy granularity of the exposed value

id	string	No	Read Only	Instance ID of this specific resource
tilt_range	array: see schema	No	Read Only	Min and Max values for the tilt setting
zoomFactorRange	string	No	Read Only	allowed Zoom Factor values. Linear equates to a 1-100 min/max.
step	multiple types: see schema	No	Read Only	Step value across the defined range
pan	number	Yes	Read Write	horizontal pan in degrees
zoomFactor	string	Yes	Read Write	The Zoomfactor value
rt	array: see schema	No	Read Only	Resource Type
range	array: see schema	No	Read Only	The valid range for the value Property
if	array: see schema	No	Read Only	The interface set supported by this resource

12164 **6.50.6 CRUDN behaviour**

12165 Table 104 defines the CRUDN operations that are supported on the ['oic.r.ptz'] Resource Type

12166 **Table 104 – The CRUDN operations of the Resource with type 'rt' = ['oic.r.ptz']**

Create	Read	Update	Delete	Notify
	get	post		observe

12167 **6.51 Signal Strength**

12168 **6.51.1 Introduction**

12169 This resource describes the strength of a signal by means of lqi and rssi.
 12170 The lqi is a floating point number that represents Link Quality Indicator.
 12171 The rssi is a floating point number that represents the received signal strength indicator.
 12172

12173 **6.51.2 Example URI**

12174 /SignalStrengthResURI

12175 **6.51.3 Resource type**

12176 The resource type (rt) is defined as: ['oic.r.signalstrength'].

12177 **6.51.4 OpenAPI 2.0 definition**

```

12178 {
12179   "swagger": "2.0",
12180   "info": {
12181     "title": "Signal Strength",
12182     "version": "v1.1.0-20160519",
12183     "license": {
12184       "name": "copyright 2016-2017 Open Connectivity Foundation, Inc. All rights reserved.",
12185       "x-description": "Redistribution and use in source and binary forms, with or without
12186 modification, are permitted provided that the following conditions are met:\n      1.
12187 Redistributions of source code must retain the above copyright notice, this list of conditions and
12188 the following disclaimer.\n      2. Redistributions in binary form must reproduce the above
  
```

```

12189 copyright notice, this list of conditions and the following disclaimer in the documentation and/or
12190 other materials provided with the distribution.\n\n THIS SOFTWARE IS PROVIDED BY THE Open
12191 Connectivity Foundation, INC. \ "AS IS\ " AND ANY EXPRESS OR IMPLIED WARRANTIES, INCLUDING, BUT NOT
12192 LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE OR
12193 WARRANTIES OF NON-INFRINGEMENT, ARE DISCLAIMED.\n IN NO EVENT SHALL THE Open Connectivity
12194 Foundation, INC. OR CONTRIBUTORS BE LIABLE FOR ANY DIRECT, INDIRECT, INCIDENTAL, SPECIAL, EXEMPLARY,
12195 OR CONSEQUENTIAL DAMAGES (INCLUDING, BUT NOT LIMITED TO, PROCUREMENT OF SUBSTITUTE GOODS OR
12196 SERVICES; LOSS OF USE, DATA, OR PROFITS; OR BUSINESS INTERRUPTION)\n HOWEVER CAUSED AND ON
12197 ANY THEORY OF LIABILITY, WHETHER IN CONTRACT, STRICT LIABILITY, OR TORT (INCLUDING NEGLIGENCE OR
12198 OTHERWISE) ARISING IN ANY WAY OUT OF THE USE OF THIS SOFTWARE, EVEN IF ADVISED OF THE POSSIBILITY OF
12199 SUCH DAMAGE.\n"
12200 }
12201 },
12202 "schemes": ["http"],
12203 "consumes": ["application/json"],
12204 "produces": ["application/json"],
12205 "paths": {
12206 "/SignalStrengthResURI" : {
12207 "get": {
12208 "description": "This resource describes the strength of a signal by means of lqi and
12209 rssi.\nThe lqi is a floating point number that represents Link Quality Indicator.\nThe rssi is a
12210 floating point number that represents the received signal strength indicator.\n",
12211 "parameters": [
12212 {"$ref": "#/parameters/interface"}
12213 ],
12214 "responses": {
12215 "200": {
12216 "description": "",
12217 "x-example":
12218 {
12219 "rt": ["oic.r.signalstrength"],
12220 "id": "unique_example_id",
12221 "lqi": 10.0,
12222 "rssi": 55.0
12223 }
12224 ,
12225 "schema": { "$ref": "#/definitions/SignalStrength" }
12226 }
12227 }
12228 }
12229 }
12230 },
12231 "parameters": {
12232 "interface" : {
12233 "in" : "query",
12234 "name" : "if",
12235 "type" : "string",
12236 "enum" : ["oic.if.s", "oic.if.baseline"]
12237 }
12238 },
12239 "definitions": {
12240 "SignalStrength" : {
12241 "properties": {
12242 "rt" :
12243 {
12244 "description": "Resource Type",
12245 "items": {
12246 "maxLength": 64,
12247 "type": "string"
12248 },
12249 "minItems": 1,
12250 "readOnly": true,
12251 "type": "array"
12252 },
12253 "precision" :
12254 {
12255 "description": "Accuracy granularity of the exposed value",
12256 "readOnly": true,
12257 "type": "number"
12258 },
12259 "n" :
12260 {

```

```

12261         "description": "Friendly name of the resource",
12262         "maxLength": 64,
12263         "readOnly": true,
12264         "type": "string"
12265     },
12266     "range" :
12267     {
12268         "description": "The valid range for the value Property",
12269         "items": {
12270             "anyOf": [
12271                 {
12272                     "type": "number"
12273                 },
12274                 {
12275                     "type": "integer"
12276                 }
12277             ]
12278         },
12279         "maxItems": 2,
12280         "minItems": 2,
12281         "readOnly": true,
12282         "type": "array"
12283     },
12284     "lqi" :
12285     {
12286         "description": "current value of Link Quality Indicator",
12287         "readOnly": true,
12288         "type": "number"
12289     },
12290     "step" :
12291     {
12292         "anyOf": [
12293             {
12294                 "type": "integer"
12295             },
12296             {
12297                 "type": "number"
12298             }
12299         ],
12300         "description": "Step value across the defined range",
12301         "readOnly": true
12302     },
12303     "rssi" :
12304     {
12305         "description": "current value of Received Signal Strength Indicator",
12306         "readOnly": true,
12307         "type": "number"
12308     },
12309     "id" :
12310     {
12311         "description": "Instance ID of this specific resource",
12312         "maxLength": 64,
12313         "readOnly": true,
12314         "type": "string"
12315     },
12316     "if" :
12317     {
12318         "description": "The interface set supported by this resource",
12319         "items": {
12320             "enum": [
12321                 "oic.if.baseline",
12322                 "oic.if.ll",
12323                 "oic.if.b",
12324                 "oic.if.lb",
12325                 "oic.if.rw",
12326                 "oic.if.r",
12327                 "oic.if.a",
12328                 "oic.if.s"
12329             ],
12330             "type": "string"
12331         },
12332         "minItems": 1,

```

```

12333         "readOnly": true,
12334         "type": "array"
12335     }
12336 }
12337     , "type" : "object"
12338     , "required": ["lqi", "rssi"]
12339 }
12340 }
12341 }
12342

```

12343 6.51.5 Property definition

12344 Table 105 defines the Properties that are part of the ['oic.r.signalstrength'] Resource Type

12345 **Table 105 – The Property definitions of the Resource with type 'rt' = ['oic.r.signalstrength']**

Property name	Value type	Mandatory	Access mode	Description
precision	number	No	Read Only	Accuracy granularity of the exposed value
rssi	number	Yes	Read Only	current value of Received Signal Strength Indicator
lqi	number	Yes	Read Only	current value of Link Quality Indicator
step	multiple types: see schema	No	Read Only	Step value across the defined range
id	string	No	Read Only	Instance ID of this specific resource
n	string	No	Read Only	Friendly name of the resource
rt	array: see schema	No	Read Only	Resource Type
range	array: see schema	No	Read Only	The valid range for the value Property
if	array: see schema	No	Read Only	The interface set supported by this resource

12346 6.51.6 CRUDN behaviour

12347 Table 106 defines the CRUDN operations that are supported on the ['oic.r.signalstrength']
12348 Resource Type

12349 **Table 106 – The CRUDN operations of the Resource with type 'rt' = ['oic.r.signalstrength']**

Create	Read	Update	Delete	Notify
	get			observe

12350 6.52 Speech Synthesis-TTS

12351 6.52.1 Introduction

12352 This resource may be created on the OIC Server that is capable of rendering speech by an OIC
12353 Client

12354 and allows the client to provide an SSML document with text to render

12355 or may be created on the OIC Server by some resident application.

12356 The audio rendered is at this stage local to the Server (i.e. not streamed).

12357 The utterance is an SSML document.
12358 The supportedLanguages is an array of the RFC 5646 defined language tags that are supported.
12359 The supportedVoices is an SSML document fragment indicating the voices that are supported.
12360 Utterance in the example shall be a properly escaped (JSON rules) SSML document. An example
12361 is given below:

```
12362 "<?xml version="1.0" encoding="ISO-8859-1"?>  
12363  
12364 <spek version="1.1" xmlns="http://www.w3.org/2001/10/synthesis"  
12365  
12366  
12367     xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"  
12368  
12369     xsi:schemaLocation="http://www.w3.org/2001/10/synthesis  
12370  
12371     http://www.w3.org/TR/speech-synthesis11/synthesis.xsd"  
12372  
12373  
12374     xml:lang="en-US">
```

```
12375  
12376  
12377  
12378  
12379  
12380  
12381  
12382  
12383     The title of the movie is:  
12384  
12385     "Monty Pythons The Meaning of Life"  
12386  
12387  
12388  
12389     which is directed by Terry Jones.
```

```
12390  
12391 </spek"  
12392  
12393
```

12394 **6.52.2 Example URI**

12395 /SpeechTTSResURI

12396 **6.52.3 Resource type**

12397 The resource type (rt) is defined as: ['oic.r.speech.tts'].

12398 **6.52.4 OpenAPI 2.0 definition**

```
12399 {  
12400   "swagger": "2.0",  
12401   "info": {  
12402     "title": "Speech Synthesis-TTS",  
12403     "version": "v1.1.0-20160519",  
12404     "license": {  
12405       "name": "copyright 2016-2017 Open Connectivity Foundation, Inc. All rights reserved.",  
12406       "x-description": "Redistribution and use in source and binary forms, with or without  
12407 modification, are permitted provided that the following conditions are met:\n      1.  
12408 Redistributions of source code must retain the above copyright notice, this list of conditions and  
12409 the following disclaimer.\n      2. Redistributions in binary form must reproduce the above  
12410 copyright notice, this list of conditions and the following disclaimer in the documentation and/or  
12411 other materials provided with the distribution.\n\n      THIS SOFTWARE IS PROVIDED BY THE Open  
12412 Connectivity Foundation, INC. \\\n      AS IS\\n AND ANY EXPRESS OR IMPLIED WARRANTIES, INCLUDING, BUT NOT  
12413 LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE OR  
12414 WARRANTIES OF NON-INFRINGEMENT, ARE DISCLAIMED.\n\n      IN NO EVENT SHALL THE Open Connectivity
```

```

12415 Foundation, INC. OR CONTRIBUTORS BE LIABLE FOR ANY DIRECT, INDIRECT, INCIDENTAL, SPECIAL, EXEMPLARY,
12416 OR CONSEQUENTIAL DAMAGES (INCLUDING, BUT NOT LIMITED TO, PROCUREMENT OF SUBSTITUTE GOODS OR
12417 SERVICES; LOSS OF USE, DATA, OR PROFITS; OR BUSINESS INTERRUPTION)\n          HOWEVER CAUSED AND ON
12418 ANY THEORY OF LIABILITY, WHETHER IN CONTRACT, STRICT LIABILITY, OR TORT (INCLUDING NEGLIGENCE OR
12419 OTHERWISE) ARISING IN ANY WAY OUT OF THE USE OF THIS SOFTWARE, EVEN IF ADVISED OF THE POSSIBILITY OF
12420 SUCH DAMAGE.\n"
12421     }
12422 },
12423 "schemes": ["http"],
12424 "consumes": ["application/json"],
12425 "produces": ["application/json"],
12426 "paths": {
12427     "/SpeechTTSResURI" : {
12428         "get": {
12429             "description": "This resource may be created on the OIC Server that is capable of rendering
12430 speech by an OIC Client\n and allows the client to provide an SSML document with text to render\n
12431 or may be created on the OIC Server by some resident application.\nThe audio rendered is at this
12432 stage local to the Server (i.e. not streamed).\nThe utterance is an SSML document.\nThe
12433 supportedLanguages is an array of the RFC 5646 defined language tags that are supported.\nThe
12434 supportedVoices is an SSML document fragment indicating the voices that are supported.\nUtterance in
12435 the example shall be a properly escaped (JSON rules) SSML document. An example is given below:\n
12436 \<?xml version=\"1.0\" encoding=\"ISO-8859-1\"?>\n\r\n <speak version=\"1.1\"
12437 xmlns=\"http://www.w3.org/2001/10/synthesis\"\n\r\n
12438 \txmlns:xsi=\"http://www.w3.org/2001/XMLSchema-instance\"\n\r\n
12439 \txsi:schemaLocation=\"http://www.w3.org/2001/10/synthesis\"\n\r\n
12440 \thttp://www.w3.org/TR/speech-synthesis11/synthesis.xsd\"\n\r\n \txml:lang=\"en-US\">\n\r\n
12441 \n\r\n \tThe title of the movie is:\n\r\n \t\"Monty Pythons The Meaning of Life\"\n\r\n \twhich
12442 is directed by Terry Jones.\n\r\n </speak\"\n",
12443         "parameters": [
12444             { "$ref": "#/parameters/interface" }
12445         ],
12446         "responses": {
12447             "200": {
12448                 "description": "",
12449                 "x-example":
12450                 {
12451                     "rt": ["oic.r.speech.tts"],
12452                     "id": "unique_example_id",
12453                     "utterance": "SSML Document",
12454                     "supportedLanguages": ["en-US", "en-GB", "fr-CA"],
12455                     "supportedVoices": "<voice gender=\"female\" variant=\"2\"></voice>\n\r<voice
12456 name=\"Mike\"></voice>"
12457                 }
12458             },
12459             "schema": { "$ref": "#/definitions/Speech" }
12460         }
12461     },
12462 },
12463 "post": {
12464     "description": "Changes the utterance being rendered.\nExample shows a change in language
12465 selected.\n",
12466     "parameters": [
12467         { "$ref": "#/parameters/interface" },
12468         {
12469             "name": "body",
12470             "in": "body",
12471             "required": true,
12472             "schema": { "$ref": "#/definitions/Speech" },
12473             "x-example":
12474             {
12475                 "rt": ["oic.r.speech.tts"],
12476                 "id": "unique_example_id",
12477                 "utterance": "SSML Document"
12478             }
12479         }
12480     ],
12481     "responses": {
12482         "200": {
12483             "description": "",
12484             "x-example":
12485             {
12486                 "utterance": "SSML Document"

```

```

12487         }
12488     },
12489     "schema": { "$ref": "#/definitions/Speech" }
12490 }
12491 }
12492 }
12493 }
12494 },
12495 "parameters": {
12496     "interface" : {
12497         "in" : "query",
12498         "name" : "if",
12499         "type" : "string",
12500         "enum" : ["oic.if.a", "oic.if.baseline"]
12501     }
12502 },
12503 "definitions": {
12504     "Speech" : {
12505         "properties": {
12506             "rt" :
12507                 {
12508                     "description": "Resource Type",
12509                     "items": {
12510                         "maxLength": 64,
12511                         "type": "string"
12512                     },
12513                     "minItems": 1,
12514                     "readOnly": true,
12515                     "type": "array"
12516                 },
12517             "supportedLanguages" :
12518                 {
12519                     "description": "array of supported language tags",
12520                     "items": {
12521                         "type": "string"
12522                     },
12523                     "readOnly": true,
12524                     "type": "array"
12525                 },
12526             "n" :
12527                 {
12528                     "description": "Friendly name of the resource",
12529                     "maxLength": 64,
12530                     "readOnly": true,
12531                     "type": "string"
12532                 },
12533             "supportedVoices" :
12534                 {
12535                     "description": "SSML document fragment indicating supported voices",
12536                     "readOnly": true,
12537                     "type": "string"
12538                 },
12539             "utterance" :
12540                 {
12541                     "description": "SSML document including the speech body",
12542                     "type": "string"
12543                 },
12544             "id" :
12545                 {
12546                     "description": "Instance ID of this specific resource",
12547                     "maxLength": 64,
12548                     "readOnly": true,
12549                     "type": "string"
12550                 },
12551             "if" :
12552                 {
12553                     "description": "The interface set supported by this resource",
12554                     "items": {
12555                         "enum": [
12556                             "oic.if.baseline",
12557                             "oic.if.ll",
12558                             "oic.if.b",

```



```

12559         "oic.if.lb",
12560         "oic.if.rw",
12561         "oic.if.r",
12562         "oic.if.a",
12563         "oic.if.s"
12564     ],
12565     "type": "string"
12566 },
12567 "minItems": 1,
12568 "readOnly": true,
12569 "type": "array"
12570 }
12571 }
12572 , "type" : "object"
12573 , "required": ["utterance"]
12574 }
12575 }
12576 }
12577 }

```

12578 **6.52.5 Property definition**

12579 Table 107 defines the Properties that are part of the ['oic.r.speech.tts'] Resource Type

12580 **Table 107 – The Property definitions of the Resource with type 'rt' = ['oic.r.speech.tts']**

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

12581 **6.52.6 CRUDN behaviour**

12582 Table 108 defines the CRUDN operations that are supported on the ['oic.r.speech.tts'] Resource
 12583 Type

12584 **Table 108 – The CRUDN operations of the Resource with type 'rt' = ['oic.r.speech.tts']**

Create	Read	Update	Delete	Notify
	get	post		observe

12585 **6.53 Touch Sensor**

12586 **6.53.1 Introduction**

12587 This resource describes whether touch has been sensed or not.

12588 The value is a boolean.

12589 A value of 'true' means that touch has been sensed.

12590 A value of 'false' means that touch not been sensed.
12591

12592 6.53.2 Example URI

12593 /TouchResURI

12594 6.53.3 Resource type

12595 The resource type (rt) is defined as: ['oic.r.sensor.touch'].

12596 6.53.4 OpenAPI 2.0 definition

```
12597 {  
12598   "swagger": "2.0",  
12599   "info": {  
12600     "title": "Touch Sensor",  
12601     "version": "v1.1.0-20160519",  
12602     "license": {  
12603       "name": "copyright 2016-2017 Open Connectivity Foundation, Inc. All rights reserved.",  
12604       "x-description": "Redistribution and use in source and binary forms, with or without  
12605 modification, are permitted provided that the following conditions are met:\n      1.  
12606 Redistributions of source code must retain the above copyright notice, this list of conditions and  
12607 the following disclaimer.\n      2. Redistributions in binary form must reproduce the above  
12608 copyright notice, this list of conditions and the following disclaimer in the documentation and/or  
12609 other materials provided with the distribution.\n      THIS SOFTWARE IS PROVIDED BY THE Open  
12610 Connectivity Foundation, INC. \AS IS\ AND ANY EXPRESS OR IMPLIED WARRANTIES, INCLUDING, BUT NOT  
12611 LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE OR  
12612 WARRANTIES OF NON-INFRINGEMENT, ARE DISCLAIMED.\n      IN NO EVENT SHALL THE Open Connectivity  
12613 Foundation, INC. OR CONTRIBUTORS BE LIABLE FOR ANY DIRECT, INDIRECT, INCIDENTAL, SPECIAL, EXEMPLARY,  
12614 OR CONSEQUENTIAL DAMAGES (INCLUDING, BUT NOT LIMITED TO, PROCUREMENT OF SUBSTITUTE GOODS OR  
12615 SERVICES; LOSS OF USE, DATA, OR PROFITS; OR BUSINESS INTERRUPTION)\n      HOWEVER CAUSED AND ON  
12616 ANY THEORY OF LIABILITY, WHETHER IN CONTRACT, STRICT LIABILITY, OR TORT (INCLUDING NEGLIGENCE OR  
12617 OTHERWISE) ARISING IN ANY WAY OUT OF THE USE OF THIS SOFTWARE, EVEN IF ADVISED OF THE POSSIBILITY OF  
12618 SUCH DAMAGE.\n    }  
12619   },  
12620   },  
12621   "schemes": ["http"],  
12622   "consumes": ["application/json"],  
12623   "produces": ["application/json"],  
12624   "paths": {  
12625     "/TouchResURI" : {  
12626       "get": {  
12627         "description": "This resource describes whether touch has been sensed or not.\nThe value is  
12628 a boolean.\nA value of 'true' means that touch has been sensed.\nA value of 'false' means that touch  
12629 not been sensed.\n",  
12630         "parameters": [  
12631           {"$ref": "#/parameters/interface"}  
12632         ],  
12633         "responses": {  
12634           "200": {  
12635             "description": "",  
12636             "x-example":  
12637               {  
12638                 "rt": ["oic.r.sensor.touch"],  
12639                 "id": "unique_example_id",  
12640                 "value": true  
12641               }  
12642             },  
12643             "schema": {"$ref": "#/definitions/Touch"}  
12644           }  
12645         }  
12646       }  
12647     }  
12648   },  
12649   "parameters": {  
12650     "interface" : {  
12651       "in" : "query",  
12652       "name" : "if",  
12653       "type" : "string",  
12654       "enum" : ["oic.if.s", "oic.if.baseline"]  
12655     }  
12656   },
```

```

12657 "definitions": {
12658   "Touch" : {
12659     "properties": {
12660       "rt" :
12661         {
12662           "description": "Resource Type",
12663           "items": {
12664             "maxLength": 64,
12665             "type": "string"
12666           },
12667           "minItems": 1,
12668           "readOnly": true,
12669           "type": "array"
12670         },
12671       "value" :
12672         {
12673           "description": "true = sensed, false = not sensed.",
12674           "readOnly": true,
12675           "type": "boolean"
12676         },
12677       "n" :
12678         {
12679           "description": "Friendly name of the resource",
12680           "maxLength": 64,
12681           "readOnly": true,
12682           "type": "string"
12683         },
12684       "id" :
12685         {
12686           "description": "Instance ID of this specific resource",
12687           "maxLength": 64,
12688           "readOnly": true,
12689           "type": "string"
12690         },
12691       "if" :
12692         {
12693           "description": "The interface set supported by this resource",
12694           "items": {
12695             "enum": [
12696               "oic.if.baseline",
12697               "oic.if.ll",
12698               "oic.if.b",
12699               "oic.if.lb",
12700               "oic.if.rw",
12701               "oic.if.r",
12702               "oic.if.a",
12703               "oic.if.s"
12704             ],
12705             "type": "string"
12706           },
12707           "minItems": 1,
12708           "readOnly": true,
12709           "type": "array"
12710         }
12711       },
12712       "type" : "object"
12713     }, "required": ["value"]
12714   }
12715 }
12716 }
12717

```

6.53.5 Property definition

Table 109 defines the Properties that are part of the ['oic.r.sensor.touch'] Resource Type

Table 109 – The Property definitions of the Resource with type 'rt' = ['oic.r.sensor.touch']

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

value	boolean	Yes	Read Only	true = sensed, false = not sensed.
id	string	No	Read Only	Instance ID of this specific resource
n	string	No	Read Only	Friendly name of the resource
if	array: see schema	No	Read Only	The interface set supported by this resource
rt	array: see schema	No	Read Only	Resource Type

12721 **6.53.6 CRUDN behaviour**

12722 Table 110 defines the CRUDN operations that are supported on the ['oic.r.sensor.touch'] Resource
12723 Type

12724 **Table 110 – The CRUDN operations of the Resource with type 'rt' = ['oic.r.sensor.touch']**

Create	Read	Update	Delete	Notify
	get			observe

12725 **6.54 UV Radiation**

12726 **6.54.1 Introduction**

12727 This resource specifies UV radiation measurement.
12728 The measurement is the current measured UV Index
12729 Retrieves the current UV Radiation value
12730

12731 **6.54.2 Example URI**

12732 /UVRadiationResURI

12733 **6.54.3 Resource type**

12734 The resource type (rt) is defined as: ['oic.r.sensor.radiation.uv'].

12735 **6.54.4 OpenAPI 2.0 definition**

```

12736 {
12737   "swagger": "2.0",
12738   "info": {
12739     "title": "UV Radiation",
12740     "version": "v1.1.0-20160519",
12741     "license": {
12742       "name": "copyright 2016-2017 Open Connectivity Foundation, Inc. All rights reserved.",
12743       "x-description": "Redistribution and use in source and binary forms, with or without
12744 modification, are permitted provided that the following conditions are met:\n      1.
12745 Redistributions of source code must retain the above copyright notice, this list of conditions and
12746 the following disclaimer.\n      2. Redistributions in binary form must reproduce the above
12747 copyright notice, this list of conditions and the following disclaimer in the documentation and/or
12748 other materials provided with the distribution.\n\n      THIS SOFTWARE IS PROVIDED BY THE Open
12749 Connectivity Foundation, INC. \AS IS\ AND ANY EXPRESS OR IMPLIED WARRANTIES, INCLUDING, BUT NOT
12750 LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE OR
12751 WARRANTIES OF NON-INFRINGEMENT, ARE DISCLAIMED.\n      IN NO EVENT SHALL THE Open Connectivity
12752 Foundation, INC. OR CONTRIBUTORS BE LIABLE FOR ANY DIRECT, INDIRECT, INCIDENTAL, SPECIAL, EXEMPLARY,
12753 OR CONSEQUENTIAL DAMAGES (INCLUDING, BUT NOT LIMITED TO, PROCUREMENT OF SUBSTITUTE GOODS OR
12754 SERVICES; LOSS OF USE, DATA, OR PROFITS; OR BUSINESS INTERRUPTION)\n      HOWEVER CAUSED AND ON
12755 ANY THEORY OF LIABILITY, WHETHER IN CONTRACT, STRICT LIABILITY, OR TORT (INCLUDING NEGLIGENCE OR
12756 OTHERWISE) ARISING IN ANY WAY OUT OF THE USE OF THIS SOFTWARE, EVEN IF ADVISED OF THE POSSIBILITY OF
12757 SUCH DAMAGE.\n"
12758     }
12759   },
12760   "schemes": ["http"],
12761   "consumes": ["application/json"],

```

```

12762     "produces": ["application/json"],
12763     "paths": {
12764         "/UVRadiationResURI" : {
12765             "get": {
12766                 "description": "This resource specifies UV radiation measurement.\nThe measurement is the
12767 current measured UV Index\nRetrieves the current UV Radiation value\n",
12768                 "parameters": [
12769                     {"$ref": "#/parameters/interface"}
12770                 ],
12771                 "responses": {
12772                     "200": {
12773                         "description": "",
12774                         "x-example":
12775                             {
12776                                 "rt":          ["oic.r.sensor.radiation.uv"],
12777                                 "id":          "unique_example_id",
12778                                 "measurement": 3.5
12779                             }
12780                     },
12781                     "schema": { "$ref": "#/definitions/UVRadiation" }
12782                 }
12783             }
12784         }
12785     },
12786     "parameters": {
12787         "interface" : {
12788             "in" : "query",
12789             "name" : "if",
12790             "type" : "string",
12791             "enum" : ["oic.if.s", "oic.if.baseline"]
12792         }
12793     },
12794     "definitions": {
12795         "UVRadiation" : {
12796             "properties": {
12797                 "rt" :
12798                     {
12799                         "description": "Resource Type",
12800                         "items": {
12801                             "maxLength": 64,
12802                             "type": "string"
12803                         },
12804                         "minItems": 1,
12805                         "readOnly": true,
12806                         "type": "array"
12807                     },
12808                 "precision" :
12809                     {
12810                         "description": "Accuracy granularity of the exposed value",
12811                         "readOnly": true,
12812                         "type": "number"
12813                     },
12814                 "n" :
12815                     {
12816                         "description": "Friendly name of the resource",
12817                         "maxLength": 64,
12818                         "readOnly": true,
12819                         "type": "string"
12820                     },
12821                 "range" :
12822                     {
12823                         "description": "The valid range for the value Property",
12824                         "items": {
12825                             "anyOf": [
12826                                 {
12827                                     "type": "number"
12828                                 },
12829                                 {
12830                                     "type": "integer"
12831                                 }
12832                             ]
12833                     }

```

```

12834     },
12835     "maxItems": 2,
12836     "minItems": 2,
12837     "readOnly": true,
12838     "type": "array"
12839   },
12840   "measurement" :
12841   {
12842     "description": "The measured UV Index",
12843     "readOnly": true,
12844     "type": "number"
12845   },
12846   "step" :
12847   {
12848     "anyOf": [
12849     {
12850       "type": "integer"
12851     },
12852     {
12853       "type": "number"
12854     }
12855     ],
12856     "description": "Step value across the defined range",
12857     "readOnly": true
12858   },
12859   "id" :
12860   {
12861     "description": "Instance ID of this specific resource",
12862     "maxLength": 64,
12863     "readOnly": true,
12864     "type": "string"
12865   },
12866   "if" :
12867   {
12868     "description": "The interface set supported by this resource",
12869     "items": {
12870       "enum": [
12871         "oic.if.baseline",
12872         "oic.if.ll",
12873         "oic.if.b",
12874         "oic.if.lb",
12875         "oic.if.rw",
12876         "oic.if.r",
12877         "oic.if.a",
12878         "oic.if.s"
12879       ],
12880       "type": "string"
12881     },
12882     "minItems": 1,
12883     "readOnly": true,
12884     "type": "array"
12885   }
12886 },
12887 "type" : "object"
12888 , "required": ["measurement"]
12889 }
12890 }
12891 }
12892

```

6.54.5 Property definition

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

Table 111 – The Property definitions of the Resource with type 'rt' = ['oic.r.sensor.radiation.uv']

Property name	Value type	Mandatory	Access mode	Description
precision	number	No	Read Only	Accuracy granularity of the exposed value

rt	array: see schema	No	Read Only	Resource Type
if	array: see schema	No	Read Only	The interface set supported by this resource
measurement	number	Yes	Read Only	The measured UV Index
id	string	No	Read Only	Instance ID of this specific resource
n	string	No	Read Only	Friendly name of the resource
step	multiple types: see schema	No	Read Only	Step value across the defined range
range	array: see schema	No	Read Only	The valid range for the value Property

12897 **6.54.6 CRUDN behaviour**

12898 Table 112 defines the CRUDN operations that are supported on the ['oic.r.sensor.radiation.uv']
12899 Resource Type

12900 **Table 112 – The CRUDN operations of the Resource with type 'rt' =**
12901 **['oic.r.sensor.radiation.uv']**

Create	Read	Update	Delete	Notify
	get			observe

12902 **6.55 Water Sensor**

12903 **6.55.1 Introduction**

12904 This resource describes whether water has been sensed or not.

12905 The value is a boolean.

12906 A value of 'true' means that water has been sensed.

12907 A value of 'false' means that water not been sensed.

12908

12909 **6.55.2 Example URI**

12910 /WaterResURI

12911 **6.55.3 Resource type**

12912 The resource type (rt) is defined as: ['oic.r.sensor.water'].

12913 **6.55.4 OpenAPI 2.0 definition**

```
12914 {
12915   "swagger": "2.0",
12916   "info": {
12917     "title": "Water Sensor",
12918     "version": "v1.1.0-20160519",
12919     "license": {
12920       "name": "copyright 2016-2017 Open Connectivity Foundation, Inc. All rights reserved.",
12921       "x-description": "Redistribution and use in source and binary forms, with or without
12922 modification, are permitted provided that the following conditions are met:\n      1.
12923 Redistributions of source code must retain the above copyright notice, this list of conditions and
12924 the following disclaimer.\n      2. Redistributions in binary form must reproduce the above
12925 copyright notice, this list of conditions and the following disclaimer in the documentation and/or
12926 other materials provided with the distribution.\n\n      THIS SOFTWARE IS PROVIDED BY THE Open
12927 Connectivity Foundation, INC. \\\nAS IS\\n AND ANY EXPRESS OR IMPLIED WARRANTIES, INCLUDING, BUT NOT
12928 LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE OR
12929 WARRANTIES OF NON-INFRINGEMENT, ARE DISCLAIMED.\n      IN NO EVENT SHALL THE Open Connectivity
12930 Foundation, INC. OR CONTRIBUTORS BE LIABLE FOR ANY DIRECT, INDIRECT, INCIDENTAL, SPECIAL, EXEMPLARY,
```

```

12931 OR CONSEQUENTIAL DAMAGES (INCLUDING, BUT NOT LIMITED TO, PROCUREMENT OF SUBSTITUTE GOODS OR
12932 SERVICES; LOSS OF USE, DATA, OR PROFITS; OR BUSINESS INTERRUPTION)\n          HOWEVER CAUSED AND ON
12933 ANY THEORY OF LIABILITY, WHETHER IN CONTRACT, STRICT LIABILITY, OR TORT (INCLUDING NEGLIGENCE OR
12934 OTHERWISE) ARISING IN ANY WAY OUT OF THE USE OF THIS SOFTWARE, EVEN IF ADVISED OF THE POSSIBILITY OF
12935 SUCH DAMAGE.\n"
12936 }
12937 },
12938 "schemes": ["http"],
12939 "consumes": ["application/json"],
12940 "produces": ["application/json"],
12941 "paths": {
12942   "/WaterResURI" : {
12943     "get": {
12944       "description": "This resource describes whether water has been sensed or not.\nThe value is
12945 a boolean.\nA value of 'true' means that water has been sensed.\nA value of 'false' means that water
12946 not been sensed.\n",
12947       "parameters": [
12948         {"$ref": "#/parameters/interface"}
12949       ],
12950       "responses": {
12951         "200": {
12952           "description": "",
12953           "x-example":
12954             {
12955               "rt": ["oic.r.sensor.water"],
12956               "id": "unique_example_id",
12957               "value": true
12958             }
12959           ,
12960           "schema": { "$ref": "#/definitions/Water" }
12961         }
12962       }
12963     }
12964   }
12965 },
12966 "parameters": {
12967   "interface" : {
12968     "in" : "query",
12969     "name" : "if",
12970     "type" : "string",
12971     "enum" : ["oic.if.s", "oic.if.baseline"]
12972   }
12973 },
12974 "definitions": {
12975   "Water" : {
12976     "properties": {
12977       "rt" :
12978         {
12979           "description": "Resource Type",
12980           "items": {
12981             "maxLength": 64,
12982             "type": "string"
12983           },
12984           "minItems": 1,
12985           "readOnly": true,
12986           "type": "array"
12987         },
12988       "value" :
12989         {
12990           "description": "true = sensed, false = not sensed.",
12991           "readOnly": true,
12992           "type": "boolean"
12993         },
12994       "n" :
12995         {
12996           "description": "Friendly name of the resource",
12997           "maxLength": 64,
12998           "readOnly": true,
12999           "type": "string"
13000         },
13001       "id" :
13002         {

```



```

13003     "description": "Instance ID of this specific resource",
13004     "maxLength": 64,
13005     "readOnly": true,
13006     "type": "string"
13007   },
13008   "if" :
13009     {
13010     "description": "The interface set supported by this resource",
13011     "items": {
13012       "enum": [
13013         "oic.if.baseline",
13014         "oic.if.ll",
13015         "oic.if.b",
13016         "oic.if.lb",
13017         "oic.if.rw",
13018         "oic.if.r",
13019         "oic.if.a",
13020         "oic.if.s"
13021       ],
13022       "type": "string"
13023     },
13024     "minItems": 1,
13025     "readOnly": true,
13026     "type": "array"
13027   }
13028 },
13029 "type" : "object"
13030 , "required": ["value"]
13031 }
13032 }
13033 }
13034

```

13035 6.55.5 Property definition

13036 Table 113 defines the Properties that are part of the ['oic.r.sensor.water'] Resource Type

13037 **Table 113 – The Property definitions of the Resource with type 'rt' = ['oic.r.sensor.water']**

Property name	Value type	Mandatory	Access mode	Description
value	boolean	Yes	Read Only	true = sensed, false = not sensed.
id	string	No	Read Only	Instance ID of this specific resource
if	array: see schema	No	Read Only	The interface set supported by this resource
n	string	No	Read Only	Friendly name of the resource
rt	array: see schema	No	Read Only	Resource Type

13038 6.55.6 CRUDN behaviour

13039 Table 114 defines the CRUDN operations that are supported on the ['oic.r.sensor.water'] Resource Type

13041 **Table 114 – The CRUDN operations of the Resource with type 'rt' = ['oic.r.sensor.water']**

Create	Read	Update	Delete	Notify
	get			observe

13042 **6.56 Acceleration Sensor**

13043 **6.56.1 Introduction**

13044 This resource provides a measure of proper acceleration (g force) as opposed to co-ordinate
13045 acceleration
13046 (which is dependent on the co-ordinate system and the observer).
13047 The value is a float which describes the acceleration experienced by the object in "g".
13048

13049 **6.56.2 Example URI**

13050 /AccelerationResURI

13051 **6.56.3 Resource type**

13052 The resource type (rt) is defined as: ['oic.r.sensor.acceleration'].

13053 **6.56.4 OpenAPI 2.0 definition**

```
13054 {  
13055   "swagger": "2.0",  
13056   "info": {  
13057     "title": "Acceleration Sensor",  
13058     "version": "v1.1.0-20160519",  
13059     "license": {  
13060       "name": "copyright 2016-2017 Open Connectivity Foundation, Inc. All rights reserved.",  
13061       "x-description": "Redistribution and use in source and binary forms, with or without  
13062 modification, are permitted provided that the following conditions are met:\n      1.  
13063 Redistributions of source code must retain the above copyright notice, this list of conditions and  
13064 the following disclaimer.\n      2. Redistributions in binary form must reproduce the above  
13065 copyright notice, this list of conditions and the following disclaimer in the documentation and/or  
13066 other materials provided with the distribution.\n\n      THIS SOFTWARE IS PROVIDED BY THE Open  
13067 Connectivity Foundation, INC. \AS IS\ AND ANY EXPRESS OR IMPLIED WARRANTIES, INCLUDING, BUT NOT  
13068 LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE OR  
13069 WARRANTIES OF NON-INFRINGEMENT, ARE DISCLAIMED.\n\n      IN NO EVENT SHALL THE Open Connectivity  
13070 Foundation, INC. OR CONTRIBUTORS BE LIABLE FOR ANY DIRECT, INDIRECT, INCIDENTAL, SPECIAL, EXEMPLARY,  
13071 OR CONSEQUENTIAL DAMAGES (INCLUDING, BUT NOT LIMITED TO, PROCUREMENT OF SUBSTITUTE GOODS OR  
13072 SERVICES; LOSS OF USE, DATA, OR PROFITS; OR BUSINESS INTERRUPTION)\n\n      HOWEVER CAUSED AND ON  
13073 ANY THEORY OF LIABILITY, WHETHER IN CONTRACT, STRICT LIABILITY, OR TORT (INCLUDING NEGLIGENCE OR  
13074 OTHERWISE) ARISING IN ANY WAY OUT OF THE USE OF THIS SOFTWARE, EVEN IF ADVISED OF THE POSSIBILITY OF  
13075 SUCH DAMAGE.\n\n"}  
13076   },  
13077 },  
13078 "schemes": ["http"],  
13079 "consumes": ["application/json"],  
13080 "produces": ["application/json"],  
13081 "paths": {  
13082   "/AccelerationResURI" : {  
13083     "get": {  
13084       "description": "This resource provides a measure of proper acceleration (g force) as opposed  
13085 to co-ordinate acceleration\n(which is dependent on the co-ordinate system and the observer).\nThe  
13086 value is a float which describes the acceleration experienced by the object in \g\n.\n",  
13087       "parameters": [  
13088         {"$ref": "#/parameters/interface"}  
13089       ],  
13090       "responses": {  
13091         "200": {  
13092           "description": "",  
13093           "x-example":  
13094             {  
13095               "rt": ["oic.r.sensor.acceleration"],  
13096               "id": "unique_example_id",  
13097               "acceleration": 0.5  
13098             }  
13099           },  
13100           "schema": {"$ref": "#/definitions/acceleration"}  
13101         }  
13102       }  
13103     }  
13104   }  
13105 },  
13106 "parameters": {
```

```

13107     "interface" : {
13108         "in" : "query",
13109         "name" : "if",
13110         "type" : "string",
13111         "enum" : ["oic.if.s", "oic.if.baseline"]
13112     }
13113 },
13114 "definitions": {
13115     "acceleration" : {
13116         "properties": {
13117             "acceleration" :
13118                 {
13119                     "description": "sensed acceleration experienced in 'g'.",
13120                     "readOnly": true,
13121                     "type": "number"
13122                 },
13123             "rt" :
13124                 {
13125                     "description": "Resource Type",
13126                     "items": {
13127                         "maxLength": 64,
13128                         "type": "string"
13129                     },
13130                     "minItems": 1,
13131                     "readOnly": true,
13132                     "type": "array"
13133                 },
13134             "precision" :
13135                 {
13136                     "description": "Accuracy granularity of the exposed value",
13137                     "readOnly": true,
13138                     "type": "number"
13139                 },
13140             "n" :
13141                 {
13142                     "description": "Friendly name of the resource",
13143                     "maxLength": 64,
13144                     "readOnly": true,
13145                     "type": "string"
13146                 },
13147             "range" :
13148                 {
13149                     "description": "The valid range for the value Property",
13150                     "items": {
13151                         "anyOf": [
13152                             {
13153                                 "type": "number"
13154                             },
13155                             {
13156                                 "type": "integer"
13157                             }
13158                         ]
13159                     },
13160                     "maxItems": 2,
13161                     "minItems": 2,
13162                     "readOnly": true,
13163                     "type": "array"
13164                 },
13165             "step" :
13166                 {
13167                     "anyOf": [
13168                         {
13169                             "type": "integer"
13170                         },
13171                         {
13172                             "type": "number"
13173                         }
13174                     ],
13175                     "description": "Step value across the defined range",
13176                     "readOnly": true
13177                 },
13178             "id" :

```

```

13179     {
13180     "description": "Instance ID of this specific resource",
13181     "maxLength": 64,
13182     "readOnly": true,
13183     "type": "string"
13184     },
13185     "if" :
13186     {
13187     "description": "The interface set supported by this resource",
13188     "items": {
13189     "enum": [
13190     "oic.if.baseline",
13191     "oic.if.ll",
13192     "oic.if.b",
13193     "oic.if.lb",
13194     "oic.if.rw",
13195     "oic.if.r",
13196     "oic.if.a",
13197     "oic.if.s"
13198     ],
13199     "type": "string"
13200     },
13201     "minItems": 1,
13202     "readOnly": true,
13203     "type": "array"
13204     }
13205     }, "type" : "object"
13206     , "required": ["acceleration"]
13207     }
13208   }
13209 }
13210 }
13211

```

13212 **6.56.5 Property definition**

13213 Table 115 defines the Properties that are part of the ['oic.r.sensor.acceleration'] Resource Type

13214 **Table 115 – The Property definitions of the Resource with type 'rt' =**
13215 **['oic.r.sensor.acceleration']**

Property name	Value type	Mandatory	Access mode	Description
precision	number	No	Read Only	Accuracy granularity of the exposed value
step	multiple types: see schema	No	Read Only	Step value across the defined range
range	array: see schema	No	Read Only	The valid range for the value Property
id	string	No	Read Only	Instance ID of this specific resource
acceleration	number	Yes	Read Only	sensed acceleration experienced in 'g'.
if	array: see schema	No	Read Only	The interface set supported by this resource
n	string	No	Read Only	Friendly name of the resource
rt	array: see schema	No	Read Only	Resource Type

13216 **6.56.6 CRUDN behaviour**

13217 Table 116> defines the CRUDN operations that are supported on the ['oic.r.sensor.acceleration']
 13218 Resource Type

13219 **Table 116 – The CRUDN operations of the Resource with type 'rt' =**
 13220 **['oic.r.sensor.acceleration']**

Create	Read	Update	Delete	Notify
	get			observe

13221 **6.57 Movement**

13222 **6.57.1 Introduction**

13223 This resource specifies linear movement.
 13224 The movementSettings is an array of strings containing possible movement values (e.g. spin,
 13225 stop, left, right).
 13226 The movement is the currently selected movement value.
 13227 The movementModifier is a modifier to the movement value (e.g. "spin", "90")
 13228

13229 **6.57.2 Example URI**

13230 /MovementResURI

13231 **6.57.3 Resource type**

13232 The resource type (rt) is defined as: ['oic.r.movement.linear'].

13233 **6.57.4 OpenAPI 2.0 definition**

```

13234 {
13235   "swagger": "2.0",
13236   "info": {
13237     "title": "Movement",
13238     "version": "v1.1.0-20160519",
13239     "license": {
13240       "name": "copyright 2016-2017 Open Connectivity Foundation, Inc. All rights reserved.",
13241       "x-description": "Redistribution and use in source and binary forms, with or without
13242 modification, are permitted provided that the following conditions are met:\n      1.
13243 Redistributions of source code must retain the above copyright notice, this list of conditions and
13244 the following disclaimer.\n      2. Redistributions in binary form must reproduce the above
13245 copyright notice, this list of conditions and the following disclaimer in the documentation and/or
13246 other materials provided with the distribution.\n\n      THIS SOFTWARE IS PROVIDED BY THE Open
13247 Connectivity Foundation, INC. \AS IS\ AND ANY EXPRESS OR IMPLIED WARRANTIES, INCLUDING, BUT NOT
13248 LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE OR
13249 WARRANTIES OF NON-INFRINGEMENT, ARE DISCLAIMED.\n      IN NO EVENT SHALL THE Open Connectivity
13250 Foundation, INC. OR CONTRIBUTORS BE LIABLE FOR ANY DIRECT, INDIRECT, INCIDENTAL, SPECIAL, EXEMPLARY,
13251 OR CONSEQUENTIAL DAMAGES (INCLUDING, BUT NOT LIMITED TO, PROCUREMENT OF SUBSTITUTE GOODS OR
13252 SERVICES; LOSS OF USE, DATA, OR PROFITS; OR BUSINESS INTERRUPTION)\n      HOWEVER CAUSED AND ON
13253 ANY THEORY OF LIABILITY, WHETHER IN CONTRACT, STRICT LIABILITY, OR TORT (INCLUDING NEGLIGENCE OR
13254 OTHERWISE) ARISING IN ANY WAY OUT OF THE USE OF THIS SOFTWARE, EVEN IF ADVISED OF THE POSSIBILITY OF
13255 SUCH DAMAGE.\n"
13256   }
13257 },
13258 "schemes": ["http"],
13259 "consumes": ["application/json"],
13260 "produces": ["application/json"],
13261 "paths": {
13262   "/MovementResURI" : {
13263     "get": {
13264       "description": "This resource specifies linear movement.\nThe movementSettings is an array
13265 of strings containing possible movement values (e.g. spin, stop, left, right).\nThe movement is the
13266 currently selected movement value.\nThe movementModifier is a modifier to the movement value (e.g.
13267 \spin\", \90\")\n",
13268       "parameters": [
13269         {"$ref": "#/parameters/interface"}
13270       ],
13271       "responses": {
13272         "200": {
13273           "description": "",
  
```

```

13274         "x-example":
13275         {
13276             "rt":             ["oic.r.movement.linear"],
13277             "id":             "unique_example_id",
13278             "movementSettings": ["stop", "left", "right", "rotate", "forward", "backward"],
13279             "movement":       "rotate",
13280             "movementModifier": "90"
13281         }
13282     },
13283     "schema": { "$ref": "#/definitions/movement" }
13284 }
13285 },
13286 },
13287 "post": {
13288     "description": "Sets the current device movement\n",
13289     "parameters": [
13290         { "$ref": "#/parameters/interface",
13291           {
13292             "name": "body",
13293             "in": "body",
13294             "required": true,
13295             "schema": { "$ref": "#/definitions/movement" },
13296             "x-example":
13297             {
13298                 "movementSettings": ["stop", "left", "right", "rotate", "forward", "backward"],
13299                 "movement": "stop"
13300             }
13301         }
13302     ],
13303     "responses": {
13304         "200": {
13305             "description": "",
13306             "x-example":
13307             {
13308                 "id": "unique_example_id",
13309                 "movementSettings": ["stop", "left", "right", "rotate", "forward", "backward"],
13310                 "movement": "stop"
13311             }
13312         },
13313         "schema": { "$ref": "#/definitions/movement" }
13314     }
13315 }
13316 },
13317 },
13318 },
13319 "parameters": {
13320     "interface": {
13321         "in": "query",
13322         "name": "if",
13323         "type": "string",
13324         "enum": ["oic.if.s", "oic.if.baseline"]
13325     }
13326 },
13327 "definitions": {
13328     "movement": {
13329         "properties": {
13330             "rt":
13331             {
13332                 "description": "Resource Type",
13333                 "items": {
13334                     "maxLength": 64,
13335                     "type": "string"
13336                 },
13337                 "minItems": 1,
13338                 "readOnly": true,
13339                 "type": "array"
13340             },
13341             "movementSettings":
13342             {
13343                 "description": "array of possible movement values",
13344                 "items": {
13345                     "type": "string"

```

```

13346     },
13347     "readOnly": true,
13348     "type": "array"
13349   },
13350   "n" :
13351     {
13352       "description": "Friendly name of the resource",
13353       "maxLength": 64,
13354       "readOnly": true,
13355       "type": "string"
13356     },
13357   "movementModifier" :
13358     {
13359       "description": "Modifier to the movement value (e.g. spin-90, left-20), units are device
13360 dependent",
13361       "type": "string"
13362     },
13363   "if" :
13364     {
13365       "description": "The interface set supported by this resource",
13366       "items": {
13367         "enum": [
13368           "oic.if.baseline",
13369           "oic.if.ll",
13370           "oic.if.b",
13371           "oic.if.lb",
13372           "oic.if.rw",
13373           "oic.if.r",
13374           "oic.if.a",
13375           "oic.if.s"
13376         ],
13377         "type": "string"
13378       },
13379       "minItems": 1,
13380       "readOnly": true,
13381       "type": "array"
13382     },
13383   "id" :
13384     {
13385       "description": "Instance ID of this specific resource",
13386       "maxLength": 64,
13387       "readOnly": true,
13388       "type": "string"
13389     },
13390   "movement" :
13391     {
13392       "description": "Current movement value",
13393       "type": "string"
13394     }
13395   },
13396   "type" : "object"
13397 , "required": ["movementSettings", "movement"]
13398 }
13399 }
13400 }
13401

```

6.57.5 Property definition

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

Table 117 – The Property definitions of the Resource with type 'rt' = ['oic.r.movement.linear']

Property name	Value type	Mandatory	Access mode	Description
if	array: see schema	No	Read Only	The interface set supported by this resource

id	string	No	Read Only	Instance ID of this specific resource
n	string	No	Read Only	Friendly name of the resource
rt	array: see schema	No	Read Only	Resource Type
movementSettings	array: see schema	Yes	Read Only	array of possible movement values
movementModifier	string	No	Read Write	Modifier to the movement value (e.g. spin-90, left-20), units are device dependent
movement	string	Yes	Read Write	Current movement value

13406 **6.57.6 CRUDN behaviour**

13407 Table 118 defines the CRUDN operations that are supported on the ['oic.r.movement.linear']
 13408 Resource Type

13409 **Table 118 – The CRUDN operations of the Resource with type 'rt' = ['oic.r.movement.linear']**

Create	Read	Update	Delete	Notify
	get	post		observe

13410 **6.58 Sleep Sensor**

13411 **6.58.1 Introduction**

13412 This resource describes whether human sleep has been sensed or not.

13413 The value is a boolean.

13414 A value of 'true' means that sleep has been sensed.

13415 A value of 'false' means that sleep not been sensed.

13416

13417 **6.58.2 Example URI**

13418 /SleepSensorResURI

13419 **6.58.3 Resource type**

13420 The resource type (rt) is defined as: ['oic.r.sensor.sleep'].

13421 **6.58.4 OpenAPI 2.0 definition**

```

13422 {
13423   "swagger": "2.0",
13424   "info": {
13425     "title": "Sleep Sensor",
13426     "version": "v1.1.0-20160519",
13427     "license": {
13428       "name": "copyright 2016-2017 Open Connectivity Foundation, Inc. All rights reserved.",
13429       "x-description": "Redistribution and use in source and binary forms, with or without
13430 modification, are permitted provided that the following conditions are met:\n      1.
13431 Redistributions of source code must retain the above copyright notice, this list of conditions and
13432 the following disclaimer.\n      2. Redistributions in binary form must reproduce the above
13433 copyright notice, this list of conditions and the following disclaimer in the documentation and/or
13434 other materials provided with the distribution.\n\n      THIS SOFTWARE IS PROVIDED BY THE Open
13435 Connectivity Foundation, INC. \AS IS\ AND ANY EXPRESS OR IMPLIED WARRANTIES, INCLUDING, BUT NOT
13436 LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE OR
13437 WARRANTIES OF NON-INFRINGEMENT, ARE DISCLAIMED.\n\n      IN NO EVENT SHALL THE Open Connectivity
13438 Foundation, INC. OR CONTRIBUTORS BE LIABLE FOR ANY DIRECT, INDIRECT, INCIDENTAL, SPECIAL, EXEMPLARY,
13439 OR CONSEQUENTIAL DAMAGES (INCLUDING, BUT NOT LIMITED TO, PROCUREMENT OF SUBSTITUTE GOODS OR

```



```

13440 SERVICES; LOSS OF USE, DATA, OR PROFITS; OR BUSINESS INTERRUPTION)\n          HOWEVER CAUSED AND ON
13441 ANY THEORY OF LIABILITY, WHETHER IN CONTRACT, STRICT LIABILITY, OR TORT (INCLUDING NEGLIGENCE OR
13442 OTHERWISE) ARISING IN ANY WAY OUT OF THE USE OF THIS SOFTWARE, EVEN IF ADVISED OF THE POSSIBILITY OF
13443 SUCH DAMAGE.\n"
13444 }
13445 },
13446 "schemes": ["http"],
13447 "consumes": ["application/json"],
13448 "produces": ["application/json"],
13449 "paths": {
13450   "/SleepSensorResURI" : {
13451     "get": {
13452       "description": "This resource describes whether human sleep has been sensed or not.\nThe
13453 value is a boolean.\nA value of 'true' means that sleep has been sensed.\nA value of 'false' means
13454 that sleep not been sensed.\n",
13455       "parameters": [
13456         {"$ref": "#/parameters/interface"}
13457       ],
13458       "responses": {
13459         "200": {
13460           "description": "",
13461           "x-example":
13462             {
13463               "rt": ["oic.r.sensor.sleep"],
13464               "id": "unique_example_id",
13465               "value": true
13466             }
13467           ,
13468           "schema": { "$ref": "#/definitions/sleep" }
13469         }
13470       }
13471     }
13472   }
13473 },
13474 "parameters": {
13475   "interface" : {
13476     "in" : "query",
13477     "name" : "if",
13478     "type" : "string",
13479     "enum" : ["oic.if.s", "oic.if.baseline"]
13480   }
13481 },
13482 "definitions": {
13483   "sleep" : {
13484     "properties": {
13485       "rt" :
13486         {
13487           "description": "Resource Type",
13488           "items": {
13489             "maxLength": 64,
13490             "type": "string"
13491           },
13492           "minItems": 1,
13493           "readOnly": true,
13494           "type": "array"
13495         },
13496       "value" :
13497         {
13498           "description": "true = sensed, false = not sensed.",
13499           "readOnly": true,
13500           "type": "boolean"
13501         },
13502       "n" :
13503         {
13504           "description": "Friendly name of the resource",
13505           "maxLength": 64,
13506           "readOnly": true,
13507           "type": "string"
13508         },
13509       "id" :
13510         {
13511           "description": "Instance ID of this specific resource",

```

```

13512         "maxLength": 64,
13513         "readOnly": true,
13514         "type": "string"
13515     },
13516     "if" :
13517     {
13518         "description": "The interface set supported by this resource",
13519         "items": {
13520             "enum": [
13521                 "oic.if.baseline",
13522                 "oic.if.ll",
13523                 "oic.if.b",
13524                 "oic.if.lb",
13525                 "oic.if.rw",
13526                 "oic.if.r",
13527                 "oic.if.a",
13528                 "oic.if.s"
13529             ],
13530             "type": "string"
13531         },
13532         "minItems": 1,
13533         "readOnly": true,
13534         "type": "array"
13535     }
13536 },
13537 "type" : "object"
13538 , "required": ["value"]
13539 }
13540 }
13541 }
13542

```

13543 6.58.5 Property definition

13544 Table 119 defines the Properties that are part of the ['oic.r.sensor.sleep'] Resource Type

13545 **Table 119 – The Property definitions of the Resource with type 'rt' = ['oic.r.sensor.sleep']**

Property name	Value type	Mandatory	Access mode	Description
if	array: see schema	No	Read Only	The interface set supported by this resource
id	string	No	Read Only	Instance ID of this specific resource
value	boolean	Yes	Read Only	true = sensed, false = not sensed.
rt	array: see schema	No	Read Only	Resource Type
n	string	No	Read Only	Friendly name of the resource

13546 6.58.6 CRUDN behaviour

13547 Table 120 defines the CRUDN operations that are supported on the ['oic.r.sensor.sleep'] Resource Type

13549 **Table 120 – The CRUDN operations of the Resource with type 'rt' = ['oic.r.sensor.sleep']**

Create	Read	Update	Delete	Notify
	get			observe

13550 **6.59 Smoke Sensor**

13551 **6.59.1 Introduction**

13552 This resource describes whether smoke has been sensed or not.

13553 The value is a boolean.

13554 A value of 'true' means that smoke has been sensed.

13555 A value of 'false' means that smoke not been sensed.

13556

13557 **6.59.2 Example URI**

13558 /SmokeSensorResURI

13559 **6.59.3 Resource type**

13560 The resource type (rt) is defined as: ['oic.r.sensor.smoke'].

13561 **6.59.4 OpenAPI 2.0 definition**

```
13562 {
13563   "swagger": "2.0",
13564   "info": {
13565     "title": "Smoke Sensor",
13566     "version": "v1.1.0-20160519",
13567     "license": {
13568       "name": "copyright 2016-2017 Open Connectivity Foundation, Inc. All rights reserved.",
13569       "x-description": "Redistribution and use in source and binary forms, with or without
13570 modification, are permitted provided that the following conditions are met:\n      1.
13571 Redistributions of source code must retain the above copyright notice, this list of conditions and
13572 the following disclaimer.\n      2. Redistributions in binary form must reproduce the above
13573 copyright notice, this list of conditions and the following disclaimer in the documentation and/or
13574 other materials provided with the distribution.\n\n      THIS SOFTWARE IS PROVIDED BY THE Open
13575 Connectivity Foundation, INC. \AS IS\ AND ANY EXPRESS OR IMPLIED WARRANTIES, INCLUDING, BUT NOT
13576 LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE OR
13577 WARRANTIES OF NON-INFRINGEMENT, ARE DISCLAIMED.\n      IN NO EVENT SHALL THE Open Connectivity
13578 Foundation, INC. OR CONTRIBUTORS BE LIABLE FOR ANY DIRECT, INDIRECT, INCIDENTAL, SPECIAL, EXEMPLARY,
13579 OR CONSEQUENTIAL DAMAGES (INCLUDING, BUT NOT LIMITED TO, PROCUREMENT OF SUBSTITUTE GOODS OR
13580 SERVICES; LOSS OF USE, DATA, OR PROFITS; OR BUSINESS INTERRUPTION)\n      HOWEVER CAUSED AND ON
13581 ANY THEORY OF LIABILITY, WHETHER IN CONTRACT, STRICT LIABILITY, OR TORT (INCLUDING NEGLIGENCE OR
13582 OTHERWISE) ARISING IN ANY WAY OUT OF THE USE OF THIS SOFTWARE, EVEN IF ADVISED OF THE POSSIBILITY OF
13583 SUCH DAMAGE.\n"
13584   }
13585 },
13586 "schemes": ["http"],
13587 "consumes": ["application/json"],
13588 "produces": ["application/json"],
13589 "paths": {
13590   "/SmokeSensorResURI" : {
13591     "get": {
13592       "description": "This resource describes whether smoke has been sensed or not.\nThe value is
13593 a boolean.\nA value of 'true' means that smoke has been sensed.\nA value of 'false' means that smoke
13594 not been sensed.\n",
13595       "parameters": [
13596         {"$ref": "#/parameters/interface"}
13597       ],
13598       "responses": {
13599         "200": {
13600           "description": "",
13601           "x-example":
13602             {
13603               "rt": ["oic.r.sensor.smoke"],
13604               "id": "unique_example_id",
13605               "value": true
13606             }
13607           ,
13608           "schema": { "$ref": "#/definitions/smoke" }
13609         }
13610       }
13611     }
13612   }
13613 },
13614 "parameters": {
```

```

13615     "interface" : {
13616         "in" : "query",
13617         "name" : "if",
13618         "type" : "string",
13619         "enum" : ["oic.if.s", "oic.if.baseline"]
13620     }
13621 },
13622 "definitions": {
13623     "smoke" : {
13624         "properties": {
13625             "rt" :
13626                 {
13627                     "description": "Resource Type",
13628                     "items": {
13629                         "maxLength": 64,
13630                         "type": "string"
13631                     },
13632                     "minItems": 1,
13633                     "readOnly": true,
13634                     "type": "array"
13635                 },
13636             "value" :
13637                 {
13638                     "description": "true = sensed, false = not sensed.",
13639                     "readOnly": true,
13640                     "type": "boolean"
13641                 },
13642             "n" :
13643                 {
13644                     "description": "Friendly name of the resource",
13645                     "maxLength": 64,
13646                     "readOnly": true,
13647                     "type": "string"
13648                 },
13649             "id" :
13650                 {
13651                     "description": "Instance ID of this specific resource",
13652                     "maxLength": 64,
13653                     "readOnly": true,
13654                     "type": "string"
13655                 },
13656             "if" :
13657                 {
13658                     "description": "The interface set supported by this resource",
13659                     "items": {
13660                         "enum": [
13661                             "oic.if.baseline",
13662                             "oic.if.ll",
13663                             "oic.if.b",
13664                             "oic.if.lb",
13665                             "oic.if.rw",
13666                             "oic.if.r",
13667                             "oic.if.a",
13668                             "oic.if.s"
13669                         ],
13670                         "type": "string"
13671                     },
13672                     "minItems": 1,
13673                     "readOnly": true,
13674                     "type": "array"
13675                 }
13676             },
13677             "type" : "object"
13678         }, "required": ["value"]
13679     }
13680 }
13681 }
13682

```

13683 6.59.5 Property definition

13684 Table 121 defines the Properties that are part of the ['oic.r.sensor.smoke'] Resource Type

13685 **Table 121 – The Property definitions of the Resource with type 'rt' = ['oic.r.sensor.smoke']**

Property name	Value type	Mandatory	Access mode	Description
if	array: see schema	No	Read Only	The interface set supported by this resource
n	string	No	Read Only	Friendly name of the resource
value	boolean	Yes	Read Only	true = sensed, false = not sensed.
id	string	No	Read Only	Instance ID of this specific resource
rt	array: see schema	No	Read Only	Resource Type

13686 **6.59.6 CRUDN behaviour**

13687 Table 122 defines the CRUDN operations that are supported on the ['oic.r.sensor.smoke'] Resource
13688 Type

13689 **Table 122 – The CRUDN operations of the Resource with type 'rt' = ['oic.r.sensor.smoke']**

Create	Read	Update	Delete	Notify
	get			observe

13690 **6.60 Three Axis Sensor**

13691 **6.60.1 Introduction**

13692 This resource provides a representation of the measurement from a three-axis sensor.
13693 The orientation is an array of numbers representing x-plane, y-plane and z-plane values.
13694 The unit of measurement for each pane is 'g'.
13695

13696 **6.60.2 Example URI**

13697 /ThreeAxisResURI

13698 **6.60.3 Resource type**

13699 The resource type (rt) is defined as: ['oic.r.sensor.threeaxis'].

13700 **6.60.4 OpenAPI 2.0 definition**

```

13701 {
13702   "swagger": "2.0",
13703   "info": {
13704     "title": "Three Axis Sensor",
13705     "version": "v1.1.0-20160519",
13706     "license": {
13707       "name": "copyright 2016-2017 Open Connectivity Foundation, Inc. All rights reserved.",
13708       "x-description": "Redistribution and use in source and binary forms, with or without
13709 modification, are permitted provided that the following conditions are met:\n      1.
13710 Redistributions of source code must retain the above copyright notice, this list of conditions and
13711 the following disclaimer.\n      2. Redistributions in binary form must reproduce the above
13712 copyright notice, this list of conditions and the following disclaimer in the documentation and/or
13713 other materials provided with the distribution.\n\n      THIS SOFTWARE IS PROVIDED BY THE Open
13714 Connectivity Foundation, INC. \\"AS IS\\" AND ANY EXPRESS OR IMPLIED WARRANTIES, INCLUDING, BUT NOT
13715 LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE OR
13716 WARRANTIES OF NON-INFRINGEMENT, ARE DISCLAIMED.\n\n      IN NO EVENT SHALL THE Open Connectivity
13717 Foundation, INC. OR CONTRIBUTORS BE LIABLE FOR ANY DIRECT, INDIRECT, INCIDENTAL, SPECIAL, EXEMPLARY,
13718 OR CONSEQUENTIAL DAMAGES (INCLUDING, BUT NOT LIMITED TO, PROCUREMENT OF SUBSTITUTE GOODS OR
13719 SERVICES; LOSS OF USE, DATA, OR PROFITS; OR BUSINESS INTERRUPTION)\n\n      HOWEVER CAUSED AND ON
13720 ANY THEORY OF LIABILITY, WHETHER IN CONTRACT, STRICT LIABILITY, OR TORT (INCLUDING NEGLIGENCE OR
13721 OTHERWISE) ARISING IN ANY WAY OUT OF THE USE OF THIS SOFTWARE, EVEN IF ADVISED OF THE POSSIBILITY OF
13722 SUCH DAMAGE.\n"

```

```

13723     }
13724   },
13725   "schemes": ["http"],
13726   "consumes": ["application/json"],
13727   "produces": ["application/json"],
13728   "paths": {
13729     "/ThreeAxisResURI" : {
13730       "get": {
13731         "description": "This resource provides a representation of the measurement from a three-axis
13732 sensor.\n\nThe orientation is an array of numbers representing x-plane, y-plane and z-plane
13733 values.\n\nThe unit of measurement for each pane is 'g'.",
13734         "parameters": [
13735           { "$ref": "#/parameters/interface" }
13736         ],
13737         "responses": {
13738           "200": {
13739             "description": "",
13740             "x-example":
13741               {
13742                 "rt": ["oic.r.sensor.threeaxis"],
13743                 "id": "unique_example_id",
13744                 "orientation": [0.7, 1.1, -0.2]
13745               }
13746             ,
13747             "schema": { "$ref": "#/definitions/threeAxis" }
13748           }
13749         }
13750       }
13751     }
13752   },
13753   "parameters": {
13754     "interface" : {
13755       "in" : "query",
13756       "name" : "if",
13757       "type" : "string",
13758       "enum" : ["oic.if.s", "oic.if.baseline"]
13759     }
13760   },
13761   "definitions": {
13762     "threeAxis" : {
13763       "properties": {
13764         "rt" :
13765           {
13766             "description": "Resource Type",
13767             "items": {
13768               "maxLength": 64,
13769               "type": "string"
13770             },
13771             "minItems": 1,
13772             "readOnly": true,
13773             "type": "array"
13774           },
13775         "orientation" :
13776           {
13777             "description": "Array containing x-plane, y-plane and z-plane orientation in 'g'.",
13778             "items": {
13779               "type": "number"
13780             },
13781             "maxItems": 3,
13782             "minItems": 3,
13783             "readOnly": true,
13784             "type": "array"
13785           },
13786         "precision" :
13787           {
13788             "description": "Accuracy granularity of the exposed value",
13789             "readOnly": true,
13790             "type": "number"
13791           },
13792         "n" :
13793           {
13794             "description": "Friendly name of the resource",

```

```

13795         "maxLength": 64,
13796         "readOnly": true,
13797         "type": "string"
13798     },
13799     "range" :
13800     {
13801         "description": "The valid range for the value Property",
13802         "items": {
13803             "anyOf": [
13804                 {
13805                     "type": "number"
13806                 },
13807                 {
13808                     "type": "integer"
13809                 }
13810             ]
13811         },
13812         "maxItems": 2,
13813         "minItems": 2,
13814         "readOnly": true,
13815         "type": "array"
13816     },
13817     "step" :
13818     {
13819         "anyOf": [
13820             {
13821                 "type": "integer"
13822             },
13823             {
13824                 "type": "number"
13825             }
13826         ],
13827         "description": "Step value across the defined range",
13828         "readOnly": true
13829     },
13830     "id" :
13831     {
13832         "description": "Instance ID of this specific resource",
13833         "maxLength": 64,
13834         "readOnly": true,
13835         "type": "string"
13836     },
13837     "if" :
13838     {
13839         "description": "The interface set supported by this resource",
13840         "items": {
13841             "enum": [
13842                 "oic.if.baseline",
13843                 "oic.if.ll",
13844                 "oic.if.b",
13845                 "oic.if.lb",
13846                 "oic.if.rw",
13847                 "oic.if.r",
13848                 "oic.if.a",
13849                 "oic.if.s"
13850             ],
13851             "type": "string"
13852         },
13853         "minItems": 1,
13854         "readOnly": true,
13855         "type": "array"
13856     }
13857 },
13858 "type" : "object"
13859 , "required": ["orientation"]
13860 }
13861 }
13862 }
13863

```

13864 6.60.5 Property definition

13865 Table 123 defines the Properties that are part of the ['oic.r.sensor.threeaxis'] Resource Type
 Copyright Open Connectivity Foundation, Inc. © 2016-19. All rights Reserved

13866
13867

Table 123 – The Property definitions of the Resource with type 'rt' = ['oic.r.sensor.threeaxis']

Property name	Value type	Mandatory	Access mode	Description
precision	number	No	Read Only	Accuracy granularity of the exposed value
rt	array: see schema	No	Read Only	Resource Type
step	multiple types: see schema	No	Read Only	Step value across the defined range
range	array: see schema	No	Read Only	The valid range for the value Property
orientation	array: see schema	Yes	Read Only	Array containing x-plane, y-plane and z-plane orientation in 'g'.
if	array: see schema	No	Read Only	The interface set supported by this resource
n	string	No	Read Only	Friendly name of the resource
id	string	No	Read Only	Instance ID of this specific resource

13868 **6.60.6 CRUDN behaviour**

13869 Table 124 defines the CRUDN operations that are supported on the ['oic.r.sensor.threeaxis']
13870 Resource Type

13871 **Table 124 – The CRUDN operations of the Resource with type 'rt' = ['oic.r.sensor.threeaxis']**

Create	Read	Update	Delete	Notify
	get			observe

13872 **6.61 Altimeter**

13873 **6.61.1 Introduction**

13874 This resource describes the properties associated with altimeter.
13875 alt is the distance (metres) above or below 'local' sea-level.
13876 Retrieves the current the distance (metres) above or below 'local' sea-level.
13877

13878 **6.61.2 Example URI**

13879 /AltimeterResURI

13880 **6.61.3 Resource type**

13881 The resource type (rt) is defined as: ['oic.r.altimeter'].

13882 **6.61.4 OpenAPI 2.0 definition**

13883 {
13884 "swagger": "2.0",
13885 "info": {
13886 "title": "Altimeter",
13887 "version": "v1.1.1-20181004",
13888 "license": {
13889 "name": "copyright 2016-2018 Open Connectivity Foundation, Inc. All rights reserved.",
13890 "x-description": "Redistribution and use in source and binary forms, with or without


```

13891 modification, are permitted provided that the following conditions are met:\n      1.
13892 Redistributions of source code must retain the above copyright notice, this list of conditions and
13893 the following disclaimer.\n      2. Redistributions in binary form must reproduce the above
13894 copyright notice, this list of conditions and the following disclaimer in the documentation and/or
13895 other materials provided with the distribution.\n\n      THIS SOFTWARE IS PROVIDED BY THE Open
13896 Connectivity Foundation, INC. \ "AS IS\ " AND ANY EXPRESS OR IMPLIED WARRANTIES, INCLUDING, BUT NOT
13897 LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE OR
13898 WARRANTIES OF NON-INFRINGEMENT, ARE DISCLAIMED.\n      IN NO EVENT SHALL THE Open Connectivity
13899 Foundation, INC. OR CONTRIBUTORS BE LIABLE FOR ANY DIRECT, INDIRECT, INCIDENTAL, SPECIAL, EXEMPLARY,
13900 OR CONSEQUENTIAL DAMAGES (INCLUDING, BUT NOT LIMITED TO, PROCUREMENT OF SUBSTITUTE GOODS OR
13901 SERVICES; LOSS OF USE, DATA, OR PROFITS; OR BUSINESS INTERRUPTION)\n      HOWEVER CAUSED AND ON
13902 ANY THEORY OF LIABILITY, WHETHER IN CONTRACT, STRICT LIABILITY, OR TORT (INCLUDING NEGLIGENCE OR
13903 OTHERWISE) ARISING IN ANY WAY OUT OF THE USE OF THIS SOFTWARE, EVEN IF ADVISED OF THE POSSIBILITY OF
13904 SUCH DAMAGE.\n"
13905 }
13906 },
13907 "schemes": ["http"],
13908 "consumes": ["application/json"],
13909 "produces": ["application/json"],
13910 "paths": {
13911   "/AltimeterResURI" : {
13912     "get": {
13913       "description": "This resource describes the properties associated with altimeter.\nalt is
13914 the distance (metres) above or below 'local' sea-level.\nRetrieves the current the distance (metres)
13915 above or below 'local' sea-level.\n",
13916       "parameters": [
13917         {"$ref": "#/parameters/interface"}
13918       ],
13919       "responses": {
13920         "200": {
13921           "description": "",
13922           "x-example":
13923             {
13924               "rt": ["oic.r.altimeter"],
13925               "id": "unique_example_id",
13926               "alt": 1500.0
13927             }
13928           ,
13929           "schema": { "$ref": "#/definitions/Altimeter" }
13930         }
13931       }
13932     }
13933   }
13934 },
13935 "parameters": {
13936   "interface" : {
13937     "in" : "query",
13938     "name" : "if",
13939     "type" : "string",
13940     "enum" : ["oic.if.s", "oic.if.baseline"]
13941   }
13942 },
13943 "definitions": {
13944   "Altimeter" : {
13945     "properties": {
13946       "rt" :
13947         {
13948           "description": "Resource Type",
13949           "items": {
13950             "maxLength": 64,
13951             "type": "string"
13952           },
13953           "minItems": 1,
13954           "readOnly": true,
13955           "type": "array"
13956         },
13957       "precision" :
13958         {
13959           "description": "Accuracy granularity of the exposed value",
13960           "readOnly": true,
13961           "type": "number"
13962         }
13963     }
13964 }

```

```

13963     "n" :
13964         {
13965             "description": "Friendly name of the resource",
13966             "maxLength": 64,
13967             "readOnly": true,
13968             "type": "string"
13969         },
13970     "range" :
13971         {
13972             "description": "The valid range for the value Property",
13973             "items": {
13974                 "anyOf": [
13975                     {
13976                         "type": "number"
13977                     },
13978                     {
13979                         "type": "integer"
13980                     }
13981                 ]
13982             },
13983             "maxItems": 2,
13984             "minItems": 2,
13985             "readOnly": true,
13986             "type": "array"
13987         },
13988     "step" :
13989         {
13990             "anyOf": [
13991                 {
13992                     "type": "integer"
13993                 },
13994                 {
13995                     "type": "number"
13996                 }
13997             ],
13998             "description": "Step value across the defined range",
13999             "readOnly": true
14000         },
14001     "alt" :
14002         {
14003             "description": "The current distance (metres) above or below 'local' sea-level.",
14004             "readOnly": true,
14005             "type": "number"
14006         },
14007     "id" :
14008         {
14009             "description": "Instance ID of this specific resource",
14010             "maxLength": 64,
14011             "readOnly": true,
14012             "type": "string"
14013         },
14014     "if" :
14015         {
14016             "description": "The interface set supported by this resource",
14017             "items": {
14018                 "enum": [
14019                     "oic.if.baseline",
14020                     "oic.if.ll",
14021                     "oic.if.b",
14022                     "oic.if.lb",
14023                     "oic.if.rw",
14024                     "oic.if.r",
14025                     "oic.if.a",
14026                     "oic.if.s"
14027                 ],
14028                 "type": "string"
14029             },
14030             "minItems": 1,
14031             "readOnly": true,
14032             "type": "array"
14033         }
14034     }

```

```

14035     , "type" : "object"
14036     , "required": ["alt"]
14037   }
14038 }
14039 }
14040

```

14041 6.61.5 Property definition

14042 Table 125 defines the Properties that are part of the ['oic.r.altimeter'] Resource Type

14043 **Table 125 – The Property definitions of the Resource with type 'rt' = ['oic.r.altimeter']**

Property name	Value type	Mandatory	Access mode	Description
rt	array: see schema	No	Read Only	Resource Type
step	multiple types: see schema	No	Read Only	Step value across the defined range
n	string	No	Read Only	Friendly name of the resource
if	array: see schema	No	Read Only	The interface set supported by this resource
alt	number	Yes	Read Only	The current distance (metres) above or below 'local' sea-level.
precision	number	No	Read Only	Accuracy granularity of the exposed value
range	array: see schema	No	Read Only	The valid range for the value Property
id	string	No	Read Only	Instance ID of this specific resource

14044 6.61.6 CRUDN behaviour

14045 Table 126 defines the CRUDN operations that are supported on the ['oic.r.altimeter'] Resource
14046 Type

14047 **Table 126 – The CRUDN operations of the Resource with type 'rt' = ['oic.r.altimeter']**

Create	Read	Update	Delete	Notify
	get			observe

14048 6.62 Clock

14049 6.62.1 Introduction

14050 This resource describes the properties associated with clock and time.

14051 Clock is a time information.

14052 Datetime is using ISO 8601 datetime format (e.g: "2007-04-05T14:30Z") (Time+Date+Timezone)

14053 Countdown is the desired total seconds for countdown.

14054 Retrieves the current datetime data.

14055

14056 6.62.2 Example URI

14057 /ClockResURI

14058 **6.62.3 Resource type**

14059 The resource type (rt) is defined as: ['oic.r.clock'].

14060 **6.62.4 OpenAPI 2.0 definition**

```
14061 {
14062   "swagger": "2.0",
14063   "info": {
14064     "title": "Clock",
14065     "version": "v1.1.0-20160519",
14066     "license": {
14067       "name": "copyright 2016-2017 Open Connectivity Foundation, Inc. All rights reserved.",
14068       "x-description": "Redistribution and use in source and binary forms, with or without
14069 modification, are permitted provided that the following conditions are met:\n      1.
14070 Redistributions of source code must retain the above copyright notice, this list of conditions and
14071 the following disclaimer.\n      2. Redistributions in binary form must reproduce the above
14072 copyright notice, this list of conditions and the following disclaimer in the documentation and/or
14073 other materials provided with the distribution.\n\n      THIS SOFTWARE IS PROVIDED BY THE Open
14074 Connectivity Foundation, INC. \\"AS IS\\" AND ANY EXPRESS OR IMPLIED WARRANTIES, INCLUDING, BUT NOT
14075 LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE OR
14076 WARRANTIES OF NON-INFRINGEMENT, ARE DISCLAIMED.\n      IN NO EVENT SHALL THE Open Connectivity
14077 Foundation, INC. OR CONTRIBUTORS BE LIABLE FOR ANY DIRECT, INDIRECT, INCIDENTAL, SPECIAL, EXEMPLARY,
14078 OR CONSEQUENTIAL DAMAGES (INCLUDING, BUT NOT LIMITED TO, PROCUREMENT OF SUBSTITUTE GOODS OR
14079 SERVICES; LOSS OF USE, DATA, OR PROFITS; OR BUSINESS INTERRUPTION)\n      HOWEVER CAUSED AND ON
14080 ANY THEORY OF LIABILITY, WHETHER IN CONTRACT, STRICT LIABILITY, OR TORT (INCLUDING NEGLIGENCE OR
14081 OTHERWISE) ARISING IN ANY WAY OUT OF THE USE OF THIS SOFTWARE, EVEN IF ADVISED OF THE POSSIBILITY OF
14082 SUCH DAMAGE.\n"
14083     }
14084   },
14085   "schemes": ["http"],
14086   "consumes": ["application/json"],
14087   "produces": ["application/json"],
14088   "paths": {
14089     "/ClockResURI" : {
14090       "get": {
14091         "description": "This resource describes the properties associated with clock and
14092 time.\nClock is a time information.\nDatetime is using ISO 8601 datetime format (e.g: \"2007-04-
14093 05T14:30Z\") (Time+Date+Timezone)\nCountdown is the desired total seconds for countdown.\nRetrieves
14094 the current datetime data.\n",
14095         "parameters": [
14096           { "$ref": "#/parameters/interface" }
14097         ],
14098         "responses": {
14099           "200": {
14100             "description": "",
14101             "x-example":
14102             {
14103               "rt": ["oic.r.clock"],
14104               "id": "unique_example_id",
14105               "datetime": "2015-11-05T14:30Z",
14106               "countdown": 0.0
14107             }
14108           },
14109           "schema": { "$ref": "#/definitions/Clock" }
14110         }
14111       }
14112     },
14113     "post": {
14114       "description": "Sets the desired datetime.\n",
14115       "parameters": [
14116         { "$ref": "#/parameters/interface" },
14117         {
14118           "name": "body",
14119           "in": "body",
14120           "required": true,
14121           "schema": { "$ref": "#/definitions/Clock" },
14122           "x-example":
14123           {
14124             "datetime": "2015-11-05T14:30Z",
14125             "countdown": 0.0
14126           }
14127         }
14128       ]
14129     }
14130   }
14131 }
```

```

14128     ],
14129     "responses": {
14130         "200": {
14131             "description": "Indicates that the datetime value was successfully changed.\n\nThe new
14132 datetime value is provided in the response.\n",
14133             "x-example":
14134                 {
14135                     "id": "unique_example_id",
14136                     "datetime": "2015-11-05T14:30Z",
14137                     "countdown": 0.0
14138                 },
14139             "schema": { "$ref": "#/definitions/Clock" }
14140         },
14141         "403": {
14142             "description": "Indicates that OIC client sent an invalid property value to the
14143 server.\n\nThe server responds with the required input representation.\n",
14144             "x-example":
14145                 {
14146                     "id": "unique_example_id",
14147                     "datetime": "2015-11-05T14:30Z",
14148                     "countdown": 0.0
14149                 },
14150             "schema": { "$ref": "#/definitions/Clock" }
14151         }
14152     }
14153 }
14154 }
14155 }
14156 },
14157 "parameters": {
14158     "interface": {
14159         "in": "query",
14160         "name": "if",
14161         "type": "string",
14162         "enum": ["oic.if.a", "oic.if.baseline"]
14163     }
14164 },
14165 "definitions": {
14166     "Clock": {
14167         "properties": {
14168             "rt": {
14169                 {
14170                     "description": "Resource Type",
14171                     "items": {
14172                         "maxLength": 64,
14173                         "type": "string"
14174                     },
14175                     "minItems": 1,
14176                     "readOnly": true,
14177                     "type": "array"
14178                 },
14179                 "precision": {
14180                     {
14181                         "description": "Accuracy granularity of the exposed value",
14182                         "readOnly": true,
14183                         "type": "number"
14184                     },
14185                     "n": {
14186                         {
14187                             "description": "Friendly name of the resource",
14188                             "maxLength": 64,
14189                             "readOnly": true,
14190                             "type": "string"
14191                         },
14192                         "countdown": {
14193                             {
14194                                 "description": "Desired total seconds for countdown",
14195                                 "minimum": 0,
14196                                 "type": "number"
14197                             },
14198                             "range":

```

```

14200         {
14201         "description": "The valid range for the value Property",
14202         "items": {
14203             "anyOf": [
14204                 {
14205                     "type": "number"
14206                 },
14207                 {
14208                     "type": "integer"
14209                 }
14210             ]
14211         },
14212         "maxItems": 2,
14213         "minItems": 2,
14214         "readOnly": true,
14215         "type": "array"
14216     },
14217     "step" :
14218     {
14219         "anyOf": [
14220             {
14221                 "type": "integer"
14222             },
14223             {
14224                 "type": "number"
14225             }
14226         ],
14227         "description": "Step value across the defined range",
14228         "readOnly": true
14229     },
14230     "datetime" :
14231     {
14232         "description": "Using ISO 8601 datetime format (e.g: 2007-04-05T14:30Z, 2007-04-
14233 05T14:30+09:00)",
14234         "type": "string"
14235     },
14236     "id" :
14237     {
14238         "description": "Instance ID of this specific resource",
14239         "maxLength": 64,
14240         "readOnly": true,
14241         "type": "string"
14242     },
14243     "if" :
14244     {
14245         "description": "The interface set supported by this resource",
14246         "items": {
14247             "enum": [
14248                 "oic.if.baseline",
14249                 "oic.if.ll",
14250                 "oic.if.b",
14251                 "oic.if.lb",
14252                 "oic.if.rw",
14253                 "oic.if.r",
14254                 "oic.if.a",
14255                 "oic.if.s"
14256             ],
14257             "type": "string"
14258         },
14259         "minItems": 1,
14260         "readOnly": true,
14261         "type": "array"
14262     }
14263     }, "type" : "object"
14264     , "required": ["datetime"]
14265 }
14266 }
14267 }
14268 }
14269

```

14270 **6.62.5 Property definition**

14271 Table 127 defines the Properties that are part of the ['oic.r.clock'] Resource Type

14272 **Table 127 – The Property definitions of the Resource with type 'rt' = ['oic.r.clock']**

Property name	Value type	Mandatory	Access mode	Description
rt	array: see schema	No	Read Only	Resource Type
if	array: see schema	No	Read Only	The interface set supported by this resource
countdown	number	No	Read Write	Desired total seconds for countdown
n	string	No	Read Only	Friendly name of the resource
datetime	string	Yes	Read Write	Using ISO 8601 datetime format (e.g: 2007-04-05T14:30Z, 2007-04-05T14:30+09:00)
step	multiple types: see schema	No	Read Only	Step value across the defined range
id	string	No	Read Only	Instance ID of this specific resource
range	array: see schema	No	Read Only	The valid range for the value Property
precision	number	No	Read Only	Accuracy granularity of the exposed value

14273 **6.62.6 CRUDN behaviour**

14274 Table 128 defines the CRUDN operations that are supported on the ['oic.r.clock'] Resource Type

14275 **Table 128 – The CRUDN operations of the Resource with type 'rt' = ['oic.r.clock']**

Create	Read	Update	Delete	Notify
	get	post		observe

14276 **6.63 Geolocation**

14277 **6.63.1 Introduction**

14278 This resource describes the properties associated with the current geolocation coordinate.

14279 Geolocation is a geolocation coordinate data.

14280 Latitude is a device's current Latitude coordinate (degrees).

14281 Longitude is a device's current Longitude coordinate (degrees).

14282 Alt is a device's current distance (metres) above or below 'local' sea-level.

14283 Accuracy is the accuracy level of the latitude and longitude coordinates (metres).

14284 altitudeAccuracy is the accuracy level of the altitude coordinates (metres).

14285 heading is a direction of travel of device (degree).

14286 speed is a device's current velocity (metres per second).

14287 Retrieves the current geolocation coordinates.

14288

14289 **6.63.2 Example URI**

14290 /GeolocationResURI

14291 **6.63.3 Resource type**

14292 The resource type (rt) is defined as: ['oic.r.sensor.geolocation'].

14293 **6.63.4 OpenAPI 2.0 definition**

```
14294 {
14295   "swagger": "2.0",
14296   "info": {
14297     "title": "Geolocation",
14298     "version": "v1.1.1-20181004",
14299     "license": {
14300       "name": "copyright 2016-2018 Open Connectivity Foundation, Inc. All rights reserved.",
14301       "x-description": "Redistribution and use in source and binary forms, with or without
14302 modification, are permitted provided that the following conditions are met:\n      1.
14303 Redistributions of source code must retain the above copyright notice, this list of conditions and
14304 the following disclaimer.\n      2. Redistributions in binary form must reproduce the above
14305 copyright notice, this list of conditions and the following disclaimer in the documentation and/or
14306 other materials provided with the distribution.\n\n      THIS SOFTWARE IS PROVIDED BY THE Open
14307 Connectivity Foundation, INC. \AS IS\ AND ANY EXPRESS OR IMPLIED WARRANTIES, INCLUDING, BUT NOT
14308 LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE OR
14309 WARRANTIES OF NON-INFRINGEMENT, ARE DISCLAIMED.\n      IN NO EVENT SHALL THE Open Connectivity
14310 Foundation, INC. OR CONTRIBUTORS BE LIABLE FOR ANY DIRECT, INDIRECT, INCIDENTAL, SPECIAL, EXEMPLARY,
14311 OR CONSEQUENTIAL DAMAGES (INCLUDING, BUT NOT LIMITED TO, PROCUREMENT OF SUBSTITUTE GOODS OR
14312 SERVICES; LOSS OF USE, DATA, OR PROFITS; OR BUSINESS INTERRUPTION)\n      HOWEVER CAUSED AND ON
14313 ANY THEORY OF LIABILITY, WHETHER IN CONTRACT, STRICT LIABILITY, OR TORT (INCLUDING NEGLIGENCE OR
14314 OTHERWISE) ARISING IN ANY WAY OUT OF THE USE OF THIS SOFTWARE, EVEN IF ADVISED OF THE POSSIBILITY OF
14315 SUCH DAMAGE.\n"
14316     }
14317   },
14318   "schemes": ["http"],
14319   "consumes": ["application/json"],
14320   "produces": ["application/json"],
14321   "paths": {
14322     "/GeolocationResURI" : {
14323       "get": {
14324         "description": "This resource describes the properties associated with the current
14325 geolocation coordinate.\nGeolocation is a geolocation coordinate data.\nLatitude is a device's
14326 current Latitude coordinate (degrees).\nLongitude is a device's current Longitude coordinate
14327 (degrees).\nAlt is a device's current distance (metres) above or below 'local' sea-level.\nAccuracy
14328 is the accuracy level of the latitude and longitude coordinates (metres).\naltitudeAccuracy is the
14329 accuracy level of the altitude coordinates (metres).\nheading is a direction of travel of device
14330 (degree).\nspeed is a device's current velocity (metres per second).\nRetrieves the current
14331 geolocation coordinates.\n",
14332         "parameters": [
14333           { "$ref": "#/parameters/interface" }
14334         ],
14335         "responses": {
14336           "200": {
14337             "description": "",
14338             "x-example":
14339             {
14340               "rt": ["oic.r.sensor.geolocation"],
14341               "id": "unique_example_id",
14342               "latitude": 55.070859,
14343               "longitude": -3.60512,
14344               "alt": 12.07,
14345               "accuracy": 65.0,
14346               "altitudeAccuracy": 0.0,
14347               "heading": 90.0,
14348               "speed": 0.0
14349             }
14350           },
14351           "schema": { "$ref": "#/definitions/Geolocation" }
14352         }
14353       }
14354     }
14355   },
14356 }
```



```

14357 "parameters": {
14358   "interface" : {
14359     "in" : "query",
14360     "name" : "if",
14361     "type" : "string",
14362     "enum" : ["oic.if.s", "oic.if.baseline"]
14363   },
14364 },
14365 "definitions": {
14366   "Geolocation" : {
14367     "properties": {
14368       "rt" :
14369         {
14370           "description": "Resource Type",
14371           "items": {
14372             "maxLength": 64,
14373             "type": "string"
14374           },
14375           "minItems": 1,
14376           "readOnly": true,
14377           "type": "array"
14378         },
14379       "step" :
14380         {
14381           "anyOf": [
14382             {
14383               "type": "integer"
14384             },
14385             {
14386               "type": "number"
14387             }
14388           ],
14389           "description": "Step value across the defined range",
14390           "readOnly": true
14391         },
14392       "precision" :
14393         {
14394           "description": "Accuracy granularity of the exposed value",
14395           "readOnly": true,
14396           "type": "number"
14397         },
14398       "longitude" :
14399         {
14400           "description": "Device's Current Longitude coordinate (degrees)",
14401           "readOnly": true,
14402           "type": "number"
14403         },
14404       "heading" :
14405         {
14406           "description": "Direction of travel of device (degree)",
14407           "maximum": 360,
14408           "minimum": 0,
14409           "readOnly": true,
14410           "type": "number"
14411         },
14412       "range" :
14413         {
14414           "description": "The valid range for the value Property",
14415           "items": {
14416             "anyOf": [
14417               {
14418                 "type": "number"
14419               },
14420               {
14421                 "type": "integer"
14422               }
14423             ]
14424           },
14425           "maxItems": 2,
14426           "minItems": 2,
14427           "readOnly": true,
14428           "type": "array"

```

```

14429     },
14430     "n" :
14431         {
14432             "description": "Friendly name of the resource",
14433             "maxLength": 64,
14434             "readOnly": true,
14435             "type": "string"
14436         },
14437     "latitude" :
14438         {
14439             "description": "Device's Current Latitude coordinate (degrees)",
14440             "readOnly": true,
14441             "type": "number"
14442         },
14443     "altitudeAccuracy" :
14444         {
14445             "description": "The accuracy level of the altitude coordinates (metres)",
14446             "minimum": 0,
14447             "readOnly": true,
14448             "type": "number"
14449         },
14450     "alt" :
14451         {
14452             "description": "The current distance (metres) above or below 'local' sea-level.",
14453             "readOnly": true,
14454             "type": "number"
14455         },
14456     "accuracy" :
14457         {
14458             "description": "The accuracy level of the latitude and longitude coordinates (metres)",
14459             "minimum": 0,
14460             "readOnly": true,
14461             "type": "number"
14462         },
14463     "speed" :
14464         {
14465             "description": "Device's current velocity (metres per second)",
14466             "minimum": 0,
14467             "readOnly": true,
14468             "type": "number"
14469         },
14470     "id" :
14471         {
14472             "description": "Instance ID of this specific resource",
14473             "maxLength": 64,
14474             "readOnly": true,
14475             "type": "string"
14476         },
14477     "if" :
14478         {
14479             "description": "The interface set supported by this resource",
14480             "items": {
14481                 "enum": [
14482                     "oic.if.baseline",
14483                     "oic.if.ll",
14484                     "oic.if.b",
14485                     "oic.if.lb",
14486                     "oic.if.rw",
14487                     "oic.if.r",
14488                     "oic.if.a",
14489                     "oic.if.s"
14490                 ],
14491                 "type": "string"
14492             },
14493             "minItems": 1,
14494             "readOnly": true,
14495             "type": "array"
14496         }
14497     },
14498     "type" : "object"
14499     , "required": ["latitude", "longitude", "alt"]
14500 }

```

14501 }
 14502 }
 14503

14504 **6.63.5 Property definition**

14505 Table 129 defines the Properties that are part of the ['oic.r.sensor.geolocation'] Resource Type

14506 **Table 129 – The Property definitions of the Resource with type 'rt' =**
 14507 **['oic.r.sensor.geolocation']**

Property name	Value type	Mandatory	Access mode	Description
latitude	number	Yes	Read Only	Device's Current Latitude coordinate (degrees)
id	string	No	Read Only	Instance ID of this specific resource
range	array: see schema	No	Read Only	The valid range for the value Property
heading	number	No	Read Only	Direction of travel of device (degree)
step	multiple types: see schema	No	Read Only	Step value across the defined range
altitudeAccuracy	number	No	Read Only	The accuracy level of the altitude coordinates (metres)
longitude	number	Yes	Read Only	Device's Current Longitude coordinate (degrees)
alt	number	Yes	Read Only	The current distance (metres) above or below 'local' sea-level.
rt	array: see schema	No	Read Only	Resource Type
if	array: see schema	No	Read Only	The interface set supported by this resource
accuracy	number	No	Read Only	The accuracy level of the latitude and longitude coordinates (metres)
precision	number	No	Read Only	Accuracy granularity of the exposed value
speed	number	No	Read Only	Device's current velocity (metres per second)

n	string	No	Read Only	Friendly name of the resource
---	--------	----	-----------	-------------------------------

14508 **6.63.6 CRUDN behaviour**

14509 Table 130 defines the CRUDN operations that are supported on the ['oic.r.sensor.geolocation']
 14510 Resource Type

14511 **Table 130 – The CRUDN operations of the Resource with type 'rt' =**
 14512 **['oic.r.sensor.geolocation']**

Create	Read	Update	Delete	Notify
	get			observe

14513 **6.64 Height**

14514 **6.64.1 Introduction**

14515 This resource describes the properties associated with height of an object's physical size.
 14516 The unit is a single value that is one of m, cm, ft or in.
 14517 If the unit Property is missing the default is meters [m].
 14518 The unit Property is a read-only value that is provided by the server.
 14519 When range (from oic.r.baseresource) is omitted the default is 0 to +MAXFLOAT.
 14520 Retrieves height of an object.
 14521

14522 **6.64.2 Example URI**

14523 /HeightResURI

14524 **6.64.3 Resource type**

14525 The resource type (rt) is defined as: ['oic.r.height'].

14526 **6.64.4 OpenAPI 2.0 definition**

```

14527 {
14528   "swagger": "2.0",
14529   "info": {
14530     "title": "Height",
14531     "version": "v1.1.0-20160519",
14532     "license": {
14533       "name": "copyright 2016-2017 Open Connectivity Foundation, Inc. All rights reserved.",
14534       "x-description": "Redistribution and use in source and binary forms, with or without
14535 modification, are permitted provided that the following conditions are met:\n      1.
14536 Redistributions of source code must retain the above copyright notice, this list of conditions and
14537 the following disclaimer.\n      2. Redistributions in binary form must reproduce the above
14538 copyright notice, this list of conditions and the following disclaimer in the documentation and/or
14539 other materials provided with the distribution.\n\n      THIS SOFTWARE IS PROVIDED BY THE Open
14540 Connectivity Foundation, INC. \\"AS IS\\" AND ANY EXPRESS OR IMPLIED WARRANTIES, INCLUDING, BUT NOT
14541 LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE OR
14542 WARRANTIES OF NON-INFRINGEMENT, ARE DISCLAIMED.\n\n      IN NO EVENT SHALL THE Open Connectivity
14543 Foundation, INC. OR CONTRIBUTORS BE LIABLE FOR ANY DIRECT, INDIRECT, INCIDENTAL, SPECIAL, EXEMPLARY,
14544 OR CONSEQUENTIAL DAMAGES (INCLUDING, BUT NOT LIMITED TO, PROCUREMENT OF SUBSTITUTE GOODS OR
14545 SERVICES; LOSS OF USE, DATA, OR PROFITS; OR BUSINESS INTERRUPTION)\n\n      HOWEVER CAUSED AND ON
14546 ANY THEORY OF LIABILITY, WHETHER IN CONTRACT, STRICT LIABILITY, OR TORT (INCLUDING NEGLIGENCE OR
14547 OTHERWISE) ARISING IN ANY WAY OUT OF THE USE OF THIS SOFTWARE, EVEN IF ADVISED OF THE POSSIBILITY OF
14548 SUCH DAMAGE.\n"
14549     }
14550   },
14551   "schemes": ["http"],
14552   "consumes": ["application/json"],
14553   "produces": ["application/json"],
14554   "paths": {
14555     "/HeightResURI" : {
14556       "get": {
14557         "description": "This resource describes the properties associated with height of an object's
14558 physical size.\nThe unit is a single value that is one of m, cm, ft or in.\nIf the unit Property is
14559 missing the default is meters [m].\nThe unit Property is a read-only value that is provided by the
14560 server.\nWhen range (from oic.r.baseresource) is omitted the default is 0 to +MAXFLOAT.\nRetrieves
14561 height of an object.\n",

```

```

14562     "parameters": [
14563         { "$ref": "#/parameters/interface" }
14564     ],
14565     "responses": {
14566         "200": {
14567             "description": "",
14568             "x-example":
14569                 {
14570                     "rt": ["oic.r.height"],
14571                     "id": "unique_example_id",
14572                     "height": 1.8,
14573                     "units": "m"
14574                 }
14575             ,
14576             "schema": { "$ref": "#/definitions/Height" }
14577         }
14578     },
14579 },
14580 "post": {
14581     "description": "Sets the Height.\n",
14582     "parameters": [
14583         { "$ref": "#/parameters/interface" },
14584         {
14585             "name": "body",
14586             "in": "body",
14587             "required": true,
14588             "schema": { "$ref": "#/definitions/Height" },
14589             "x-example":
14590                 {
14591                     "height": 1.8,
14592                     "units": "m"
14593                 }
14594         }
14595     ],
14596     "responses": {
14597         "200": {
14598             "description": "Indicates that the height was successfully changed.\n\nThe new height
14599 is provided in the response.\n",
14600             "x-example":
14601                 {
14602                     "id": "unique_example_id",
14603                     "height": 1.8,
14604                     "units": "m"
14605                 }
14606             ,
14607             "schema": { "$ref": "#/definitions/Height" }
14608         },
14609         "403": {
14610             "description": "Indicates that OCF client sent an invalid property value to the
14611 server.\n\nThe server responds with the current resource representation.\n",
14612             "x-example":
14613                 {
14614                     "id": "unique_example_id",
14615                     "height": 1.8,
14616                     "units": "m"
14617                 }
14618             ,
14619             "schema": { "$ref": "#/definitions/Height" }
14620         }
14621     }
14622 }
14623 },
14624 },
14625 "parameters": {
14626     "interface": {
14627         "in": "query",
14628         "name": "if",
14629         "type": "string",
14630         "enum": ["oic.if.a", "oic.if.baseline"]
14631     }
14632 },
14633 "definitions": {

```

```

14634 "Height" : {
14635   "properties": {
14636     "rt" :
14637       {
14638         "description": "Resource Type",
14639         "items": {
14640           "maxLength": 64,
14641           "type": "string"
14642         },
14643         "minItems": 1,
14644         "readOnly": true,
14645         "type": "array"
14646       },
14647     "precision" :
14648       {
14649         "description": "Accuracy granularity of the exposed value",
14650         "readOnly": true,
14651         "type": "number"
14652       },
14653     "n" :
14654       {
14655         "description": "Friendly name of the resource",
14656         "maxLength": 64,
14657         "readOnly": true,
14658         "type": "string"
14659       },
14660     "units" :
14661       {
14662         "description": "Height unit",
14663         "enum": [
14664           "m",
14665           "cm",
14666           "ft",
14667           "in"
14668         ],
14669         "readOnly": true,
14670         "type": "string"
14671       },
14672     "range" :
14673       {
14674         "description": "The valid range for the value Property",
14675         "items": [
14676           {
14677             "anyOf": [
14678               {
14679                 "type": "number"
14680               },
14681               {
14682                 "type": "integer"
14683               }
14684             ],
14685             "maxItems": 2,
14686             "minItems": 2,
14687             "readOnly": true,
14688             "type": "array"
14689           },
14690         "step" :
14691           {
14692             "anyOf": [
14693               {
14694                 "type": "integer"
14695               },
14696               {
14697                 "type": "number"
14698               }
14699             ],
14700             "description": "Step value across the defined range",
14701             "readOnly": true
14702           },
14703         "height" :
14704           {
14705             "description": "Height of an object",

```

```

14706         "minimum": 0,
14707         "type": "number"
14708     },
14709     "id" :
14710     {
14711         "description": "Instance ID of this specific resource",
14712         "maxLength": 64,
14713         "readOnly": true,
14714         "type": "string"
14715     },
14716     "if" :
14717     {
14718         "description": "The interface set supported by this resource",
14719         "items": {
14720             "enum": [
14721                 "oic.if.baseline",
14722                 "oic.if.ll",
14723                 "oic.if.b",
14724                 "oic.if.lb",
14725                 "oic.if.rw",
14726                 "oic.if.r",
14727                 "oic.if.a",
14728                 "oic.if.s"
14729             ],
14730             "type": "string"
14731         },
14732         "minItems": 1,
14733         "readOnly": true,
14734         "type": "array"
14735     }
14736     , "type" : "object"
14737     , "required": ["height"]
14738 }
14739 }
14740 }
14741 }
14742 }

```

14743 6.64.5 Property definition

14744 Table 131 defines the Properties that are part of the ['oic.r.height'] Resource Type

14745 **Table 131 – The Property definitions of the Resource with type 'rt' = ['oic.r.height']**

Property name	Value type	Mandatory	Access mode	Description
range	array: see schema	No	Read Only	The valid range for the value Property
rt	array: see schema	No	Read Only	Resource Type
units	string	No	Read Only	Height unit
precision	number	No	Read Only	Accuracy granularity of the exposed value
step	multiple types: see schema	No	Read Only	Step value across the defined range
n	string	No	Read Only	Friendly name of the resource
if	array: see schema	No	Read Only	The interface set supported by this resource
id	string	No	Read Only	Instance ID of this specific resource

height	number	Yes	Read Write	Height of an object
--------	--------	-----	------------	---------------------

14746 **6.64.6 CRUDN behaviour**

14747 Table 132 defines the CRUDN operations that are supported on the ['oic.r.height'] Resource Type

14748 **Table 132 – The CRUDN operations of the Resource with type 'rt' = ['oic.r.height']**

Create	Read	Update	Delete	Notify
	get	post		observe

14749 **6.65 Weight**

14750 **6.65.1 Introduction**

14751 This resource describes the properties associated with weight of an object.

14752 The unit is a single value that is one of kg, g, lb or oz.

14753 If the unit Property is missing the default is kilograms [kg].

14754 The unit Property is a read-only value that is provided by the server.

14755 When range (from oic.r.baseresource) is omitted the default is 0 to +MAXFLOAT.

14756 Retrieves weight of an object.

14757

14758 **6.65.2 Example URI**

14759 /WeightResURI

14760 **6.65.3 Resource type**

14761 The resource type (rt) is defined as: ['oic.r.weight'].

14762 **6.65.4 OpenAPI 2.0 definition**

```

14763 {
14764   "swagger": "2.0",
14765   "info": {
14766     "title": "Weight",
14767     "version": "v1.1.0-20160519",
14768     "license": {
14769       "name": "copyright 2016-2017 Open Connectivity Foundation, Inc. All rights reserved.",
14770       "x-description": "Redistribution and use in source and binary forms, with or without
14771 modification, are permitted provided that the following conditions are met:\n      1.
14772 Redistributions of source code must retain the above copyright notice, this list of conditions and
14773 the following disclaimer.\n      2. Redistributions in binary form must reproduce the above
14774 copyright notice, this list of conditions and the following disclaimer in the documentation and/or
14775 other materials provided with the distribution.\n\n      THIS SOFTWARE IS PROVIDED BY THE Open
14776 Connectivity Foundation, INC. \\"AS IS\\" AND ANY EXPRESS OR IMPLIED WARRANTIES, INCLUDING, BUT NOT
14777 LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE OR
14778 WARRANTIES OF NON-INFRINGEMENT, ARE DISCLAIMED.\n\n      IN NO EVENT SHALL THE Open Connectivity
14779 Foundation, INC. OR CONTRIBUTORS BE LIABLE FOR ANY DIRECT, INDIRECT, INCIDENTAL, SPECIAL, EXEMPLARY,
14780 OR CONSEQUENTIAL DAMAGES (INCLUDING, BUT NOT LIMITED TO, PROCUREMENT OF SUBSTITUTE GOODS OR
14781 SERVICES; LOSS OF USE, DATA, OR PROFITS; OR BUSINESS INTERRUPTION)\n\n      HOWEVER CAUSED AND ON
14782 ANY THEORY OF LIABILITY, WHETHER IN CONTRACT, STRICT LIABILITY, OR TORT (INCLUDING NEGLIGENCE OR
14783 OTHERWISE) ARISING IN ANY WAY OUT OF THE USE OF THIS SOFTWARE, EVEN IF ADVISED OF THE POSSIBILITY OF
14784 SUCH DAMAGE.\n"
14785     }
14786   },
14787   "schemes": ["http"],
14788   "consumes": ["application/json"],
14789   "produces": ["application/json"],
14790   "paths": {
14791     "/WeightResURI" : {
14792       "get": {
14793         "description": "This resource describes the properties associated with weight of an
14794 object.\nThe unit is a single value that is one of kg, g, lb or oz.\nIf the unit Property is missing
14795 the default is kilograms [kg].\nThe unit Property is a read-only value that is provided by the
14796 server.\nWhen range (from oic.r.baseresource) is omitted the default is 0 to +MAXFLOAT.\nRetrieves
14797 weight of an object.\n",
14798         "parameters": [
14799           {"$ref": "#/parameters/interface"}
14800         ],

```



```

14801     "responses": {
14802         "200": {
14803             "description": "",
14804             "x-example":
14805                 {
14806                     "rt": ["oic.r.weight"],
14807                     "id": "unique_example_id",
14808                     "weight": 80.0,
14809                     "units": "kg"
14810                 },
14811             ,
14812             "schema": { "$ref": "#/definitions/Weight" }
14813         }
14814     }
14815 }
14816 },
14817 },
14818 "parameters": {
14819     "interface": {
14820         "in": "query",
14821         "name": "if",
14822         "type": "string",
14823         "enum": ["oic.if.s", "oic.if.baseline"]
14824     }
14825 },
14826 "definitions": {
14827     "Weight": {
14828         "properties": {
14829             "rt":
14830                 {
14831                     "description": "Resource Type",
14832                     "items": {
14833                         "maxLength": 64,
14834                         "type": "string"
14835                     },
14836                     "minItems": 1,
14837                     "readOnly": true,
14838                     "type": "array"
14839                 },
14840             "weight":
14841                 {
14842                     "description": "Weight of an object",
14843                     "minimum": 0,
14844                     "readOnly": true,
14845                     "type": "number"
14846                 },
14847             "precision":
14848                 {
14849                     "description": "Accuracy granularity of the exposed value",
14850                     "readOnly": true,
14851                     "type": "number"
14852                 },
14853             "n":
14854                 {
14855                     "description": "Friendly name of the resource",
14856                     "maxLength": 64,
14857                     "readOnly": true,
14858                     "type": "string"
14859                 },
14860             "units":
14861                 {
14862                     "description": "Weight unit",
14863                     "enum": [
14864                         "kg",
14865                         "g",
14866                         "lb",
14867                         "oz"
14868                     ],
14869                     "readOnly": true,
14870                     "type": "string"
14871                 },
14872             "range":

```

```

14873         {
14874         "description": "The valid range for the value Property",
14875         "items": {
14876           "anyOf": [
14877             {
14878               "type": "number"
14879             },
14880             {
14881               "type": "integer"
14882             }
14883           ]
14884         },
14885         "maxItems": 2,
14886         "minItems": 2,
14887         "readOnly": true,
14888         "type": "array"
14889       },
14890       "step" :
14891       {
14892         "anyOf": [
14893           {
14894             "type": "integer"
14895           },
14896           {
14897             "type": "number"
14898           }
14899         ],
14900         "description": "Step value across the defined range",
14901         "readOnly": true
14902       },
14903       "id" :
14904       {
14905         "description": "Instance ID of this specific resource",
14906         "maxLength": 64,
14907         "readOnly": true,
14908         "type": "string"
14909       },
14910       "if" :
14911       {
14912         "description": "The interface set supported by this resource",
14913         "items": {
14914           "enum": [
14915             "oic.if.baseline",
14916             "oic.if.ll",
14917             "oic.if.b",
14918             "oic.if.lb",
14919             "oic.if.rw",
14920             "oic.if.r",
14921             "oic.if.a",
14922             "oic.if.s"
14923           ],
14924           "type": "string"
14925         },
14926         "minItems": 1,
14927         "readOnly": true,
14928         "type": "array"
14929       }
14930     },
14931     "type" : "object"
14932   },
14933   "required": ["weight", "units"]
14934 }
14935 }
14936

```

14937 6.65.5 Property definition

14938 Table 133 defines the Properties that are part of the ['oic.r.weight'] Resource Type

14939 **Table 133 – The Property definitions of the Resource with type 'rt' = ['oic.r.weight']**

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

rt	array: see schema	No	Read Only	Resource Type
range	array: see schema	No	Read Only	The valid range for the value Property
id	string	No	Read Only	Instance ID of this specific resource
n	string	No	Read Only	Friendly name of the resource
step	multiple types: see schema	No	Read Only	Step value across the defined range
if	array: see schema	No	Read Only	The interface set supported by this resource
units	string	Yes	Read Only	Weight unit
precision	number	No	Read Only	Accuracy granularity of the exposed value
weight	number	Yes	Read Only	Weight of an object

14940 **6.65.6 CRUDN behaviour**

14941 Table 134 defines the CRUDN operations that are supported on the ['oic.r.weight'] Resource Type

14942 **Table 134 – The CRUDN operations of the Resource with type 'rt' = ['oic.r.weight']**

Create	Read	Update	Delete	Notify
	get			observe

14943 **6.66 Air Quality**

14944 **6.66.1 Introduction**

14945 This resource describes a qualitative or measured contaminant that can be used to infer Air
14946 Quality.

14947 Measured is the actual sensed value with units per contaminant type as described below.
14948 Qualitative is a representative value within the range provided where the minimum value is
14949 minimum contamination and maximum value is maximum contamination for the specific
14950 contaminant.

14951 The valueType indicates a qualitative or measured reading within the contaminantvalue Property.
14952 contaminantvalue contains the actual measured or qualitative level.

14953 range contains the allowed range for the value that is being reported (from oic.r.baseresource).

14954 If valueType is 'Measured' then the units for the contaminant types are as follows:

14955 Methanal (also known as Formaldehyde): CH₂O (ug/m³),

14956 Carbon Dioxide: CO₂ (ppm),

14957 Carbon Monoxide: CO (ppm),

14958 Particulate Matter (less than 2.5 microns in diameter): PM_{2.5} (ug/m³),

14959 Particulate Matter (less than 10 microns in diameter): PM₁₀ (ug/m³),

14960 Volatile Organic Compounds: VOC (ug/m³)

14961 Retrieves the current air quality.

14962

14963 **6.66.2 Example URI**

14964 /AirQualityResURI

14965 **6.66.3 Resource type**

14966 The resource type (rt) is defined as: ['oic.r.airquality'].

14967 **6.66.4 OpenAPI 2.0 definition**

```
14968 {
14969   "swagger": "2.0",
14970   "info": {
14971     "title": "Air Quality",
14972     "version": "v1.1.0-20160519",
14973     "license": {
14974       "name": "copyright 2016-2017 Open Connectivity Foundation, Inc. All rights reserved.",
14975       "x-description": "Redistribution and use in source and binary forms, with or without
14976 modification, are permitted provided that the following conditions are met:\n      1.
14977 Redistributions of source code must retain the above copyright notice, this list of conditions and
14978 the following disclaimer.\n      2. Redistributions in binary form must reproduce the above
14979 copyright notice, this list of conditions and the following disclaimer in the documentation and/or
14980 other materials provided with the distribution.\n\n      THIS SOFTWARE IS PROVIDED BY THE Open
14981 Connectivity Foundation, INC. \\"AS IS\\" AND ANY EXPRESS OR IMPLIED WARRANTIES, INCLUDING, BUT NOT
14982 LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE OR
14983 WARRANTIES OF NON-INFRINGEMENT, ARE DISCLAIMED.\n\n      IN NO EVENT SHALL THE Open Connectivity
14984 Foundation, INC. OR CONTRIBUTORS BE LIABLE FOR ANY DIRECT, INDIRECT, INCIDENTAL, SPECIAL, EXEMPLARY,
14985 OR CONSEQUENTIAL DAMAGES (INCLUDING, BUT NOT LIMITED TO, PROCUREMENT OF SUBSTITUTE GOODS OR
14986 SERVICES; LOSS OF USE, DATA, OR PROFITS; OR BUSINESS INTERRUPTION)\n\n      HOWEVER CAUSED AND ON
14987 ANY THEORY OF LIABILITY, WHETHER IN CONTRACT, STRICT LIABILITY, OR TORT (INCLUDING NEGLIGENCE OR
14988 OTHERWISE) ARISING IN ANY WAY OUT OF THE USE OF THIS SOFTWARE, EVEN IF ADVISED OF THE POSSIBILITY OF
14989 SUCH DAMAGE.\n"
14990   }
14991 },
14992 "schemes": ["http"],
14993 "consumes": ["application/json"],
14994 "produces": ["application/json"],
14995 "paths": {
14996   "/AirQualityResURI" : {
14997     "get": {
14998       "description": "This resource describes a qualitative or measured contaminant that can be
14999 used to infer Air Quality.\nMeasured is the actual sensed value with units per contaminant type as
15000 described below.\nQualitative is a representative value within the range provided where the minium
15001 value is minimum contamination and maximum value is maximum contamination for the specific
15002 contaminant.\nThe valueType indicates a qualitative or measured reading within the contaminantvalue
15003 Property.\ncontaminantvalue contains the actual measured or qualitative level.\nrange contains the
15004 allowed range for the value that is being reported (from oic.r.baseresource).\nIf valueType is
15005 'Measured' then the units for the contaminant types are as follows:\nMethanal (also known as
15006 Formaldehyde): CH2O (ug/m^3),\nCarbon Dioxide: CO2 (ppm),\nCarbon Monoxide: CO (ppm),\n
15007 Particulate Matter (less than 2.5 microns in diameter): PM2.5 (ug/m^3),\nParticulate Matter (less
15008 than 10 microns in diameter): PM10 (ug/m^3),\nVolatile Organic Compounds: VOC (ug/m^3)\nRetrieves
15009 the current air quality.\n",
15010     "parameters": [
15011       {"$ref": "#/parameters/interface"}
15012     ],
15013     "responses": {
15014       "200": {
15015         "description": "",
15016         "x-example":
15017           {
15018             "rt": ["oic.r.airquality"],
15019             "id": "unique_example_id",
15020             "contaminanttype": "CO",
15021             "valuetype": "Measured",
15022             "contaminantvalue": 10,
15023             "range": [0,500]
15024           }
15025       },
15026       "schema": { "$ref": "#/definitions/AirQuality" }
15027     }
15028   }
15029 }
15030 }
15031 },
15032 "parameters": {
15033   "interface" : {
15034     "in" : "query",
15035     "name" : "if",
15036     "type" : "string",
15037     "enum" : ["oic.if.s", "oic.if.baseline"]
15038   }
15039 }
```

```

15038     }
15039   },
15040   "definitions": {
15041     "AirQuality": {
15042       "properties": {
15043         "contaminanttype": :
15044           {
15045             "description": "The contaminant being measured.",
15046             "enum": [
15047               "CH2O",
15048               "CO2",
15049               "CO",
15050               "PM2.5",
15051               "PM10",
15052               "VOC",
15053               "Smoke",
15054               "Odor",
15055               "AirPollution"
15056             ],
15057             "readOnly": true,
15058             "type": "string"
15059           },
15060         "rt": :
15061           {
15062             "description": "Resource Type",
15063             "items": {
15064               "maxLength": 64,
15065               "type": "string"
15066             },
15067             "minItems": 1,
15068             "readOnly": true,
15069             "type": "array"
15070           },
15071         "valuetype": :
15072           {
15073             "description": "Indicates whether the provided value is qualitative or measured.",
15074             "enum": [
15075               "Qualitative",
15076               "Measured"
15077             ],
15078             "readOnly": true,
15079             "type": "string"
15080           },
15081         "precision": :
15082           {
15083             "description": "Accuracy granularity of the exposed value",
15084             "readOnly": true,
15085             "type": "number"
15086           },
15087         "n": :
15088           {
15089             "description": "Friendly name of the resource",
15090             "maxLength": 64,
15091             "readOnly": true,
15092             "type": "string"
15093           },
15094         "range": :
15095           {
15096             "description": "The valid range for the value Property",
15097             "items": {
15098               "anyOf": [
15099                 {
15100                   "type": "number"
15101                 },
15102                 {
15103                   "type": "integer"
15104                 }
15105               ]
15106             },
15107             "maxItems": 2,
15108             "minItems": 2,

```

```

15110         "readOnly": true,
15111         "type": "array"
15112     },
15113     "step" :
15114     {
15115         "anyOf": [
15116             {
15117                 "type": "integer"
15118             },
15119             {
15120                 "type": "number"
15121             }
15122         ],
15123         "description": "Step value across the defined range",
15124         "readOnly": true
15125     },
15126     "contaminantvalue" :
15127     {
15128         "description": "The measured or qualitative value for the contaminant.",
15129         "readOnly": true,
15130         "type": "integer"
15131     },
15132     "id" :
15133     {
15134         "description": "Instance ID of this specific resource",
15135         "maxLength": 64,
15136         "readOnly": true,
15137         "type": "string"
15138     },
15139     "if" :
15140     {
15141         "description": "The interface set supported by this resource",
15142         "items": {
15143             "enum": [
15144                 "oic.if.baseline",
15145                 "oic.if.ll",
15146                 "oic.if.b",
15147                 "oic.if.lb",
15148                 "oic.if.rw",
15149                 "oic.if.r",
15150                 "oic.if.a",
15151                 "oic.if.s"
15152             ],
15153             "type": "string"
15154         },
15155         "minItems": 1,
15156         "readOnly": true,
15157         "type": "array"
15158     }
15159     },
15160     "type" : "object"
15161     , "required": ["contaminantvalue", "contaminanttype", "valuetype", "range"]
15162 }
15163 }
15164 }
15165

```

6.66.5 Property definition

Table 135 defines the Properties that are part of the ['oic.r.airquality'] Resource Type

Table 135 – The Property definitions of the Resource with type 'rt' = ['oic.r.airquality']

Property name	Value type	Mandatory	Access mode	Description
if	array: see schema	No	Read Only	The interface set supported by this resource
id	string	No	Read Only	Instance ID of this specific resource

range	array: see schema	Yes	Read Only	The valid range for the value Property
contaminantvalue	integer	Yes	Read Only	The measured or qualitative value for the contaminant.
precision	number	No	Read Only	Accuracy granularity of the exposed value
step	multiple types: see schema	No	Read Only	Step value across the defined range
valuetype	string	Yes	Read Only	Indicates whether the provided value is qualitative or measured.
contaminanttype	string	Yes	Read Only	The contaminant being measured.
n	string	No	Read Only	Friendly name of the resource
rt	array: see schema	No	Read Only	Resource Type

15169 **6.66.6 CRUDN behaviour**

15170 Table 136 defines the CRUDN operations that are supported on the ['oic.r.airquality'] Resource
15171 Type

15172 **Table 136 – The CRUDN operations of the Resource with type 'rt' = ['oic.r.airquality']**

Create	Read	Update	Delete	Notify
	get			observe

15173 **6.67 Air Quality Collection**

15174 **6.67.1 Introduction**

15175 This resource describes a sensor that provides the qualitative or measured Air Quality.
15176 The resource is a collection of instances of oic.r.airquality detailing the individual exposed
15177 contaminant measures
15178 There is one collection entry per contaminant type supported by the device. A device must
15179 expose at least one measured or qualitative value.
15180 Retrieves the current air quality.
15181

15182 **6.67.2 Example URI**

15183 /AirQualityResURI

15184 **6.67.3 Resource type**

15185 The resource type (rt) is defined as: ['oic.r.airqualitycollection', 'oic.wk.col'].

15186 **6.67.4 OpenAPI 2.0 definition**

```
15187 {
15188   "swagger": "2.0",
15189   "info": {
15190     "title": "Air Quality Collection",
15191     "version": "v1.1.0-20160519",
15192     "license": {
15193       "name": "copyright 2016-2017 Open Connectivity Foundation, Inc. All rights reserved.",
15194       "x-description": "Redistribution and use in source and binary forms, with or without
```

```

15195 modification, are permitted provided that the following conditions are met:\n      1.
15196 Redistributions of source code must retain the above copyright notice, this list of conditions and
15197 the following disclaimer.\n      2. Redistributions in binary form must reproduce the above
15198 copyright notice, this list of conditions and the following disclaimer in the documentation and/or
15199 other materials provided with the distribution.\n\n      THIS SOFTWARE IS PROVIDED BY THE Open
15200 Connectivity Foundation, INC. \ "AS IS\ " AND ANY EXPRESS OR IMPLIED WARRANTIES, INCLUDING, BUT NOT
15201 LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE OR
15202 WARRANTIES OF NON-INFRINGEMENT, ARE DISCLAIMED.\n      IN NO EVENT SHALL THE Open Connectivity
15203 Foundation, INC. OR CONTRIBUTORS BE LIABLE FOR ANY DIRECT, INDIRECT, INCIDENTAL, SPECIAL, EXEMPLARY,
15204 OR CONSEQUENTIAL DAMAGES (INCLUDING, BUT NOT LIMITED TO, PROCUREMENT OF SUBSTITUTE GOODS OR
15205 SERVICES; LOSS OF USE, DATA, OR PROFITS; OR BUSINESS INTERRUPTION)\n      HOWEVER CAUSED AND ON
15206 ANY THEORY OF LIABILITY, WHETHER IN CONTRACT, STRICT LIABILITY, OR TORT (INCLUDING NEGLIGENCE OR
15207 OTHERWISE) ARISING IN ANY WAY OUT OF THE USE OF THIS SOFTWARE, EVEN IF ADVISED OF THE POSSIBILITY OF
15208 SUCH DAMAGE.\n"
15209     }
15210   },
15211   "schemes": ["http"],
15212   "consumes": ["application/json"],
15213   "produces": ["application/json"],
15214   "paths": {
15215     "/AirQualityResURI?if=oic.if.ll" : {
15216       "get": {
15217         "description": "This resource describes a sensor that provides the qualitative or measured
15218 Air Quality.\nThe resource is a collection of instances of oic.r.airquality detailing the individual
15219 exposed contaminant measures\nThere is one collection entry per contaminant type supported by the
15220 device. A device must expose at least one measured or qualitative value.\nRetrieves the current air
15221 quality.\n",
15222         "parameters": [
15223           { "$ref": "#/parameters/interface-ll" }
15224         ],
15225         "responses": {
15226           "200": {
15227             "description": "",
15228             "x-example":
15229               [
15230                 { "href": "/myCOMeasureResURI", "rt": ["oic.r.airquality"], "if":
15231 ["oic.if.s","oic.if.baseline"], "eps": [{"ep": "coaps://[fe80::b1d6]:1122"}},
15232                 { "href": "/myCO2ResURI", "rt": ["oic.r.airquality"], "if":
15233 ["oic.if.s","oic.if.baseline"], "eps": [{"ep": "coaps://[fe80::b1d6]:1122"}]}
15234               ]
15235             ,
15236             "schema": { "$ref": "#/definitions/AirQuality-ll" }
15237           }
15238         }
15239       }
15240     },
15241     "/AirQualityResURI?if=oic.if.baseline" : {
15242       "get": {
15243         "description": "This resource describes a sensor that provides the qualitative or measured
15244 Air Quality.\nThe resource is a collection of instances of oic.r.airquality detailing the individual
15245 exposed contaminant measures\nThere is one collection entry per contaminant type supported by the
15246 device. A device must expose at least one measured or qualitative value.\nRetrieves the current air
15247 quality.\n",
15248         "parameters": [
15249           { "$ref": "#/parameters/interface-baseline" }
15250         ],
15251         "responses": {
15252           "200": {
15253             "description": "",
15254             "x-example":
15255               {
15256                 "rt": ["oic.r.airqualitycollection","oic.wk.col"],
15257                 "if": ["oic.if.baseline","oic.if.ll"],
15258                 "id": "unique_example_id",
15259                 "links": [
15260                   { "href": "/myCOMeasureResURI", "rt": ["oic.r.airquality"], "if":
15261 ["oic.if.s","oic.if.baseline"], "eps": [{"ep": "coaps://[fe80::b1d6]:1122"}},
15262                   { "href": "/myCO2ResURI", "rt": ["oic.r.airquality"], "if":
15263 ["oic.if.s","oic.if.baseline"], "eps": [{"ep": "coaps://[fe80::b1d6]:1122"}]}
15264                 ]
15265             }
15266           }
15267         }
15268       }
15269     }
15270   }

```



```

15267         "schema": { "$ref": "#/definitions/AirQuality" }
15268     }
15269 }
15270 }
15271 }
15272 },
15273 "parameters": {
15274     "interface-ll" : {
15275         "in" : "query",
15276         "name" : "if",
15277         "type" : "string",
15278         "enum" : ["oic.if.ll"]
15279     },
15280     "interface-baseline" : {
15281         "in" : "query",
15282         "name" : "if",
15283         "type" : "string",
15284         "enum" : ["oic.if.baseline"]
15285     },
15286     "interface-all" : {
15287         "in" : "query",
15288         "name" : "if",
15289         "type" : "string",
15290         "enum" : ["oic.if.ll", "oic.if.baseline"]
15291     }
15292 },
15293 "definitions": {
15294     "AirQuality-ll" : {
15295         "title" :
15296             "Air Quality Collection Link List Schema (auto merged)"
15297     },
15298     "items" :
15299     {
15300         "$ref": "#/definitions/oic.oic-link"
15301     }
15302     ,
15303     "type" :
15304     "array"
15305 }
15306 ,
15307 "AirQuality" : {
15308     "properties": {
15309         "rt" :
15310         {
15311             "items": {
15312                 "enum": [
15313                     "oic.r.airqualitycollection",
15314                     "oic.wk.col"
15315                 ],
15316                 "type": "string"
15317             },
15318             "maxItems": 2,
15319             "minItems": 2,
15320             "type": "array",
15321             "uniqueItems": true
15322         },
15323     },
15324     "links" :
15325     {
15326         "description": "A set of simple or individual OIC Links.",
15327         "items": {
15328             "properties": {
15329                 "anchor": {
15330                     "description": "This is used to override the context URI e.g. override the URI of
15331 the containing collection.",
15332                     "format": "uri",
15333                     "maxLength": 256,
15334                     "type": "string"
15335                 },
15336                 "di": {
15337                     "description": "The Device ID formatted according to IETF RFC 4122.",
15338                     "pattern": "^[a-fA-F0-9]{8}-[a-fA-F0-9]{4}-[a-fA-F0-9]{4}-[a-fA-F0-9]{4}-[a-fA-F0-9]{4}$"

```

```

15339 9]{12}$",
15340     "type": "string"
15341   },
15342   "eps": {
15343     "description": "the Endpoint information of the target Resource",
15344     "items": {
15345       "properties": {
15346         "ep": {
15347           "description": "Transport Protocol Suite + Endpoint Locator",
15348           "format": "uri",
15349           "type": "string"
15350         },
15351         "pri": {
15352           "description": "The priority among multiple Endpoints",
15353           "minimum": 1,
15354           "type": "integer"
15355         }
15356       },
15357       "type": "object"
15358     },
15359     "type": "array"
15360   },
15361   "href": {
15362     "description": "This is the target URI, it can be specified as a Relative Reference
15363 or fully-qualified URI.",
15364     "format": "uri",
15365     "maxLength": 256,
15366     "type": "string"
15367   },
15368   "if": {
15369     "description": "The interface set supported by this resource",
15370     "items": {
15371       "enum": [
15372         "oic.if.baseline",
15373         "oic.if.ll",
15374         "oic.if.b",
15375         "oic.if.rw",
15376         "oic.if.r",
15377         "oic.if.a",
15378         "oic.if.s"
15379       ],
15380       "type": "string"
15381     },
15382     "minItems": 1,
15383     "type": "array"
15384   },
15385   "ins": {
15386     "description": "The instance identifier for this web link in an array of web links -
15387 used in collections",
15388     "type": "integer"
15389   },
15390   "p": {
15391     "description": "Specifies the framework policies on the Resource referenced by the
15392 target URI",
15393     "properties": {
15394       "bm": {
15395         "description": "Specifies the framework policies on the Resource referenced by
15396 the target URI for e.g. observable and discoverable",
15397         "type": "integer"
15398       }
15399     },
15400     "required": [
15401       "bm"
15402     ],
15403     "type": "object"
15404   },
15405   "rel": {
15406     "description": "The relation of the target URI referenced by the link to the context
15407 URI",
15408     "oneOf": [
15409       {
15410         "default": [

```

```

15411         "hosts"
15412     ],
15413     "items": {
15414         "maxLength": 64,
15415         "type": "string"
15416     },
15417     "minItems": 1,
15418     "type": "array"
15419 },
15420 {
15421     "default": "hosts",
15422     "maxLength": 64,
15423     "type": "string"
15424 }
15425 ]
15426 },
15427 "rt": {
15428     "description": "Resource Type of the Resource",
15429     "items": {
15430         "maxLength": 64,
15431         "type": "string"
15432     },
15433     "minItems": 1,
15434     "type": "array"
15435 },
15436 "title": {
15437     "description": "A title for the link relation. Can be used by the UI to provide a
15438 context.",
15439     "maxLength": 64,
15440     "type": "string"
15441 },
15442 "type": {
15443     "default": "application/cbor",
15444     "description": "A hint at the representation of the resource referenced by the
15445 target URI. This represents the media types that are used for both accepting and emitting.",
15446     "items": {
15447         "maxLength": 64,
15448         "type": "string"
15449     },
15450     "minItems": 1,
15451     "type": "array"
15452 }
15453 },
15454 "required": [
15455     "href",
15456     "rt",
15457     "if"
15458 ],
15459 "type": "object"
15460 },
15461 "type": "array"
15462 },
15463 "n" :
15464 {
15465     "description": "Friendly name of the resource",
15466     "maxLength": 64,
15467     "readOnly": true,
15468     "type": "string"
15469 },
15470 },
15471 "rts" :
15472 {
15473     "items": {
15474         "anyOf": [
15475             {
15476                 "enum": [
15477                     "oic.r.airquality",
15478                     "oic.r.value.conditional"
15479                 ],
15480             },
15481             "type": "string"
15482         ]

```

```

15483         {
15484             "enum": [
15485                 "oic.r.airquality"
15486             ],
15487             "type": "string"
15488         }
15489     ]
15490 },
15491     "maxItems": 2,
15492     "minItems": 1,
15493     "type": "array",
15494     "uniqueItems": true
15495 },
15496
15497 "id" :
15498     {
15499         "description": "Instance ID of this specific resource",
15500         "maxLength": 64,
15501         "readOnly": true,
15502         "type": "string"
15503     },
15504
15505 "if" :
15506     {
15507         "description": "The interface set supported by this resource",
15508         "items": {
15509             "enum": [
15510                 "oic.if.baseline",
15511                 "oic.if.ll",
15512                 "oic.if.b",
15513                 "oic.if.lb",
15514                 "oic.if.rw",
15515                 "oic.if.r",
15516                 "oic.if.a",
15517                 "oic.if.s"
15518             ],
15519             "type": "string"
15520         },
15521         "minItems": 1,
15522         "readOnly": true,
15523         "type": "array"
15524     }
15525 }
15526 },
15527 "type" : "object"
15528 }
15529 , "airqualitycollection-ll" :
15530     {
15531         "items": {
15532             "$ref": "#/definitions/oic.oic-link"
15533         },
15534         "type": "array"
15535     }
15536
15537 , "oic.collection.links.arrayoflinks" :
15538     {
15539         "properties": {
15540             "links": {
15541                 "description": "A set of simple or individual OIC Links.",
15542                 "items": {
15543                     "properties": {
15544                         "anchor": {
15545                             "description": "This is used to override the context URI e.g. override the URI of
15546 the containing collection.",
15547                             "format": "uri",
15548                             "maxLength": 256,
15549                             "type": "string"
15550                         },
15551                         "di": {
15552                             "description": "The Device ID formatted according to IETF RFC 4122.",
15553                             "pattern": "^[a-fA-F0-9]{8}-[a-fA-F0-9]{4}-[a-fA-F0-9]{4}-[a-fA-F0-9]{4}-[a-fA-F0-9]{12}$",
15554

```

```

15555         "type": "string"
15556     },
15557     "eps": {
15558         "description": "the Endpoint information of the target Resource",
15559         "items": {
15560             "properties": {
15561                 "ep": {
15562                     "description": "Transport Protocol Suite + Endpoint Locator",
15563                     "format": "uri",
15564                     "type": "string"
15565                 },
15566                 "pri": {
15567                     "description": "The priority among multiple Endpoints",
15568                     "minimum": 1,
15569                     "type": "integer"
15570                 }
15571             },
15572             "type": "object"
15573         },
15574         "type": "array"
15575     },
15576     "href": {
15577         "description": "This is the target URI, it can be specified as a Relative Reference
15578 or fully-qualified URI.",
15579         "format": "uri",
15580         "maxLength": 256,
15581         "type": "string"
15582     },
15583     "if": {
15584         "description": "The interface set supported by this resource",
15585         "items": {
15586             "enum": [
15587                 "oic.if.baseline",
15588                 "oic.if.ll",
15589                 "oic.if.b",
15590                 "oic.if.rw",
15591                 "oic.if.x",
15592                 "oic.if.a",
15593                 "oic.if.s"
15594             ],
15595             "type": "string"
15596         },
15597         "minItems": 1,
15598         "type": "array"
15599     },
15600     "ins": {
15601         "description": "The instance identifier for this web link in an array of web links -
15602 used in collections",
15603         "type": "integer"
15604     },
15605     "p": {
15606         "description": "Specifies the framework policies on the Resource referenced by the
15607 target URI",
15608         "properties": {
15609             "bm": {
15610                 "description": "Specifies the framework policies on the Resource referenced by
15611 the target URI for e.g. observable and discoverable",
15612                 "type": "integer"
15613             }
15614         },
15615         "required": [
15616             "bm"
15617         ],
15618         "type": "object"
15619     },
15620     "rel": {
15621         "description": "The relation of the target URI referenced by the link to the context
15622 URI",
15623         "oneOf": [
15624             {
15625                 "default": [
15626                     "hosts"

```

```

15627         ],
15628         "items": {
15629             "maxLength": 64,
15630             "type": "string"
15631         },
15632         "minItems": 1,
15633         "type": "array"
15634     },
15635     {
15636         "default": "hosts",
15637         "maxLength": 64,
15638         "type": "string"
15639     }
15640 ]
15641 },
15642 "rt": {
15643     "description": "Resource Type of the Resource",
15644     "items": {
15645         "maxLength": 64,
15646         "type": "string"
15647     },
15648     "minItems": 1,
15649     "type": "array"
15650 },
15651 "title": {
15652     "description": "A title for the link relation. Can be used by the UI to provide a
15653 context.",
15654     "maxLength": 64,
15655     "type": "string"
15656 },
15657 "type": {
15658     "default": "application/cbor",
15659     "description": "A hint at the representation of the resource referenced by the
15660 target URI. This represents the media types that are used for both accepting and emitting.",
15661     "items": {
15662         "maxLength": 64,
15663         "type": "string"
15664     },
15665     "minItems": 1,
15666     "type": "array"
15667 }
15668 },
15669 "required": [
15670     "href",
15671     "rt",
15672     "if"
15673 ],
15674 "type": "object"
15675 },
15676 "type": "array"
15677 }
15678 }
15679 }
15680
15681 , "oic.collection.properties" :
15682 {
15683     "description": "A collection is a set of links along with additional properties to describe
15684 the collection itself",
15685     "properties": {
15686         "rts": {
15687             "$ref": "#/definitions/oic.core/properties/rt",
15688             "description": "The list of allowable resource types (for Target and anchors) in links
15689 included in the collection"
15690         }
15691     },
15692     "type": "object"
15693 }
15694
15695 , "oic.core" :
15696 {
15697     "properties": {
15698         "id": {

```

```

15699         "description": "Instance ID of this specific resource",
15700         "maxLength": 64,
15701         "readOnly": true,
15702         "type": "string"
15703     },
15704     "if": {
15705         "description": "The interface set supported by this resource",
15706         "items": {
15707             "enum": [
15708                 "oic.if.baseline",
15709                 "oic.if.ll",
15710                 "oic.if.b",
15711                 "oic.if.lb",
15712                 "oic.if.rw",
15713                 "oic.if.r",
15714                 "oic.if.a",
15715                 "oic.if.s"
15716             ],
15717             "type": "string"
15718         },
15719         "minItems": 1,
15720         "readOnly": true,
15721         "type": "array"
15722     },
15723     "n": {
15724         "description": "Friendly name of the resource",
15725         "maxLength": 64,
15726         "readOnly": true,
15727         "type": "string"
15728     },
15729     "rt": {
15730         "description": "Resource Type",
15731         "items": {
15732             "maxLength": 64,
15733             "type": "string"
15734         },
15735         "minItems": 1,
15736         "readOnly": true,
15737         "type": "array"
15738     }
15739 },
15740 "type": "object"
15741 }
15742
15743 , "oic.r.airqualitycollection" :
15744 {
15745     "properties": {
15746         "rt": {
15747             "items": {
15748                 "enum": [
15749                     "oic.r.airqualitycollection",
15750                     "oic.wk.col"
15751                 ],
15752                 "type": "string"
15753             },
15754             "maxItems": 2,
15755             "minItems": 2,
15756             "type": "array",
15757             "uniqueItems": true
15758         },
15759         "rts": {
15760             "items": {
15761                 "anyOf": [
15762                     {
15763                         "enum": [
15764                             "oic.r.airquality",
15765                             "oic.r.value.conditional"
15766                         ],
15767                         "type": "string"
15768                     },
15769                     {
15770                         "enum": [

```

```

15771         "oic.r.airquality"
15772     ],
15773     "type": "string"
15774 }
15775 ]
15776 },
15777 "maxItems": 2,
15778 "minItems": 1,
15779 "type": "array",
15780 "uniqueItems": true
15781 }
15782 },
15783 "type": "object"
15784 }
15785
15786 , "oic.oic-link" :
15787 {
15788     "properties": {
15789         "anchor": {
15790             "description": "This is used to override the context URI e.g. override the URI of the
15791 containing collection.",
15792             "format": "uri",
15793             "maxLength": 256,
15794             "type": "string"
15795         },
15796         "di": {
15797             "description": "The Device ID formatted according to IETF RFC 4122.",
15798             "pattern": "^[a-fA-F0-9]{8}-[a-fA-F0-9]{4}-[a-fA-F0-9]{4}-[a-fA-F0-9]{4}-[a-fA-F0-
15799 9]{12}$",
15800             "type": "string"
15801         },
15802         "eps": {
15803             "description": "the Endpoint information of the target Resource",
15804             "items": {
15805                 "properties": {
15806                     "ep": {
15807                         "description": "Transport Protocol Suite + Endpoint Locator",
15808                         "format": "uri",
15809                         "type": "string"
15810                     },
15811                     "pri": {
15812                         "description": "The priority among multiple Endpoints",
15813                         "minimum": 1,
15814                         "type": "integer"
15815                     }
15816                 },
15817                 "type": "object"
15818             },
15819             "type": "array"
15820         },
15821         "href": {
15822             "description": "This is the target URI, it can be specified as a Relative Reference or
15823 fully-qualified URI.",
15824             "format": "uri",
15825             "maxLength": 256,
15826             "type": "string"
15827         },
15828         "if": {
15829             "description": "The interface set supported by this resource",
15830             "items": {
15831                 "enum": [
15832                     "oic.if.baseline",
15833                     "oic.if.ll",
15834                     "oic.if.b",
15835                     "oic.if.rw",
15836                     "oic.if.r",
15837                     "oic.if.a",
15838                     "oic.if.s"
15839                 ],
15840                 "type": "string"
15841             },
15842             "minItems": 1,

```



```

15843         "type": "array"
15844     },
15845     "ins": {
15846         "description": "The instance identifier for this web link in an array of web links - used
15847 in collections",
15848         "type": "integer"
15849     },
15850     "p": {
15851         "description": "Specifies the framework policies on the Resource referenced by the target
15852 URI",
15853         "properties": {
15854             "bm": {
15855                 "description": "Specifies the framework policies on the Resource referenced by the
15856 target URI for e.g. observable and discoverable",
15857                 "type": "integer"
15858             }
15859         },
15860         "required": [
15861             "bm"
15862         ],
15863         "type": "object"
15864     },
15865     "rel": {
15866         "description": "The relation of the target URI referenced by the link to the context URI",
15867         "oneOf": [
15868             {
15869                 "default": [
15870                     "hosts"
15871                 ],
15872                 "items": {
15873                     "maxLength": 64,
15874                     "type": "string"
15875                 },
15876                 "minItems": 1,
15877                 "type": "array"
15878             },
15879             {
15880                 "default": "hosts",
15881                 "maxLength": 64,
15882                 "type": "string"
15883             }
15884         ]
15885     },
15886     "rt": {
15887         "description": "Resource Type of the Resource",
15888         "items": {
15889             "maxLength": 64,
15890             "type": "string"
15891         },
15892         "minItems": 1,
15893         "type": "array"
15894     },
15895     "title": {
15896         "description": "A title for the link relation. Can be used by the UI to provide a
15897 context.",
15898         "maxLength": 64,
15899         "type": "string"
15900     },
15901     "type": {
15902         "default": "application/cbor",
15903         "description": "A hint at the representation of the resource referenced by the target URI.
15904 This represents the media types that are used for both accepting and emitting.",
15905         "items": {
15906             "maxLength": 64,
15907             "type": "string"
15908         },
15909         "minItems": 1,
15910         "type": "array"
15911     }
15912 },
15913 "required": [
15914     "href",

```

```

15915         "rt",
15916         "if"
15917     ],
15918     "type": "object"
15919 }
15920 }
15921 }
15922 }
15923 }

```

15924 **6.67.5 Property definition**

15925 Table 137 defines the Properties that are part of the ['oic.r.airqualitycollection', 'oic.wk.col']
15926 Resource Type

15927 **Table 137 – The Property definitions of the Resource with type 'rt' =**
15928 **['oic.r.airqualitycollection', 'oic.wk.col']**

Property name	Value type	Mandatory	Access mode	Description
rts	multiple types: see schema		Read Write	The list of allowable resource types (for Target and anchors) in links included in the collection
if	array: see schema		Read Only	The interface set supported by this resource
rt	array: see schema		Read Only	Resource Type
id	string		Read Only	Instance ID of this specific resource
n	string		Read Only	Friendly name of the resource
if	array: see schema	Yes	Read Write	The interface set supported by this resource
rt	array: see schema	Yes	Read Write	Resource Type of the Resource
eps	array: see schema	No	Read Write	the Endpoint information of the target Resource
title	string	No	Read Write	A title for the link relation. Can be used by the UI to provide a context.
ins	integer	No	Read Write	The instance identifier for this web link in an array of web links - used in collections
href	string	Yes	Read Write	This is the target URI, it can be specified as a Relative

				Reference or fully-qualified URI.
anchor	string	No	Read Write	This is used to override the context URI e.g. override the URI of the containing collection.
di	string	No	Read Write	The Device ID formatted according to IETF RFC 4122.
p	object: schema see	No	Read Write	Specifies the framework policies on the Resource referenced by the target URI
type	array: schema see	No	Read Write	A hint at the representation of the resource referenced by the target URI. This represents the media types that are used for both accepting and emitting.
rel	multiple types: see schema	No	Read Write	The relation of the target URI referenced by the link to the context URI
rt	array: schema see	Yes	Read Write	
if	array: schema see	Yes	Read Only	The interface set supported by this resource
links	array: schema see	No	Read Write	A set of simple or individual OIC Links.
n	string	No	Read Only	Friendly name of the resource
rts	array: schema see	No	Read Write	
id	string	No	Read Only	Instance ID of this specific resource
rt	array: schema see		Read Write	
rts	array: schema see		Read Write	
links	array: schema see	No	Read Write	A set of simple or individual OIC Links.

15929 **6.67.6 CRUDN behaviour**

15930 Table 138 defines the CRUDN operations that are supported on the ['oic.r.airqualitycollection',
15931 'oic.wk.col'] Resource Type

15932 **Table 138 – The CRUDN operations of the Resource with type 'rt' =**
15933 **['oic.r.airqualitycollection', 'oic.wk.col']**

Create	Read	Update	Delete	Notify
	get			observe

15934 **6.68 Consumable**

15935 **6.68.1 Introduction**

15936 This resource specifies a thing that can be consumed such as filter material, printer toner etc
15937 The type is an enumeration defining the thing being consumed as defined by the Smart Home
15938 Device Specification

15939 The remaining is an integer capturing the percentatge remaining life

15940 The orderpercentage is an integer capturing the percentage life at which replacement or
15941 replenishment is recommended by the manufacturer

15942 The url is a string containing a URL at which further information may be obtained with respect to
15943 the consumable
15944

15945 **6.68.2 Example URI**

15946 /ConsumableResURI

15947 **6.68.3 Resource type**

15948 The resource type (rt) is defined as: ['oic.r.consumable'].

15949 **6.68.4 OpenAPI 2.0 definition**

```

15950 {
15951   "swagger": "2.0",
15952   "info": {
15953     "title": "Consumable",
15954     "version": "OCF-v1.0.0-20160620",
15955     "license": {
15956       "name": "copyright 2016-2017 Open Connectivity Foundation, Inc. All rights reserved.",
15957       "x-description": "Redistribution and use in source and binary forms, with or without
15958 modification, are permitted provided that the following conditions are met:\n      1.
15959 Redistributions of source code must retain the above copyright notice, this list of conditions and
15960 the following disclaimer.\n      2. Redistributions in binary form must reproduce the above
15961 copyright notice, this list of conditions and the following disclaimer in the documentation and/or
15962 other materials provided with the distribution.\n\n      THIS SOFTWARE IS PROVIDED BY THE Open
15963 Connectivity Foundation, INC. \\"AS IS\\" AND ANY EXPRESS OR IMPLIED WARRANTIES, INCLUDING, BUT NOT
15964 LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE OR
15965 WARRANTIES OF NON-INFRINGEMENT, ARE DISCLAIMED.\n      IN NO EVENT SHALL THE Open Connectivity
15966 Foundation, INC. OR CONTRIBUTORS BE LIABLE FOR ANY DIRECT, INDIRECT, INCIDENTAL, SPECIAL, EXEMPLARY,
15967 OR CONSEQUENTIAL DAMAGES (INCLUDING, BUT NOT LIMITED TO, PROCUREMENT OF SUBSTITUTE GOODS OR
15968 SERVICES; LOSS OF USE, DATA, OR PROFITS; OR BUSINESS INTERRUPTION)\n      HOWEVER CAUSED AND ON
15969 ANY THEORY OF LIABILITY, WHETHER IN CONTRACT, STRICT LIABILITY, OR TORT (INCLUDING NEGLIGENCE OR
15970 OTHERWISE) ARISING IN ANY WAY OUT OF THE USE OF THIS SOFTWARE, EVEN IF ADVISED OF THE POSSIBILITY OF
15971 SUCH DAMAGE.\n"
15972     }
15973   },
15974   "schemes": ["http"],
15975   "consumes": ["application/json"],
15976   "produces": ["application/json"],
15977   "paths": {
15978     "/ConsumableResURI" : {
15979       "get": {
15980         "description": "This resource specifies a thing that can be consumed such as filter
15981 material, printer toner etc\nThe type is an enumeration defining the thing being consumed as defined
15982 by the Smart Home Device Specification\nThe remaining is an integer capturing the percentatge
15983 remaining life\nThe orderpercentage is an integer capturing the percentage life at which replacement
15984 or replenishment is recommended by the manufacturer\nThe url is a string containing a URL at which
15985 further information may be obtained with respect to the consumable\n",

```

```

15986     "parameters": [
15987       { "$ref": "#/parameters/interface" }
15988     ],
15989     "responses": {
15990       "200": {
15991         "description": "",
15992         "x-example":
15993           {
15994             "rt": ["oic.r.consumable"],
15995             "id": "unique_example_id",
15996             "typeofconsumable": "tonerBlack",
15997             "remaining": 20,
15998             "orderpercentage": 10,
15999             "url": "http://myreorderURL"
16000           }
16001         ,
16002         "schema": { "$ref": "#/definitions/consumable" }
16003       }
16004     }
16005   }
16006 },
16007 },
16008 "parameters": {
16009   "interface": {
16010     "in": "query",
16011     "name": "if",
16012     "type": "string",
16013     "enum": ["oic.if.s", "oic.if.baseline"]
16014   }
16015 },
16016 "definitions": {
16017   "consumable": {
16018     "properties": {
16019       "rt":
16020         {
16021           "description": "Resource Type",
16022           "items": {
16023             "maxLength": 64,
16024             "type": "string"
16025           },
16026           "minItems": 1,
16027           "readOnly": true,
16028           "type": "array"
16029         },
16030       "remaining":
16031         {
16032           "description": "Percentage remaining lifespan.",
16033           "maximum": 100,
16034           "minimum": 0,
16035           "readOnly": true,
16036           "type": "integer"
16037         },
16038       "typeofconsumable":
16039         {
16040           "description": "Thing that is being consumed.",
16041           "readOnly": true,
16042           "type": "string"
16043         },
16044       "url":
16045         {
16046           "description": "URL at which additional ordering information may be found.",
16047           "format": "uri",
16048           "readOnly": true,
16049           "type": "string"
16050         },
16051       "precision":
16052         {
16053           "description": "Accuracy granularity of the exposed value",
16054           "readOnly": true,
16055           "type": "number"
16056         },
16057       "n":

```

```

16058         {
16059             "description": "Friendly name of the resource",
16060             "maxLength": 64,
16061             "readOnly": true,
16062             "type": "string"
16063         },
16064         "range" :
16065         {
16066             "description": "The valid range for the value Property",
16067             "items": {
16068                 "anyOf": [
16069                     {
16070                         "type": "number"
16071                     },
16072                     {
16073                         "type": "integer"
16074                     }
16075                 ]
16076             },
16077             "maxItems": 2,
16078             "minItems": 2,
16079             "readOnly": true,
16080             "type": "array"
16081         },
16082         "orderpercentage" :
16083         {
16084             "description": "Percentage at which re-ordering is recommended by the manufacturer",
16085             "maximum": 100,
16086             "minimum": 0,
16087             "readOnly": true,
16088             "type": "integer"
16089         },
16090         "step" :
16091         {
16092             "anyOf": [
16093                 {
16094                     "type": "integer"
16095                 },
16096                 {
16097                     "type": "number"
16098                 }
16099             ],
16100             "description": "Step value across the defined range",
16101             "readOnly": true
16102         },
16103         "id" :
16104         {
16105             "description": "Instance ID of this specific resource",
16106             "maxLength": 64,
16107             "readOnly": true,
16108             "type": "string"
16109         },
16110         "if" :
16111         {
16112             "description": "The interface set supported by this resource",
16113             "items": {
16114                 "enum": [
16115                     "oic.if.baseline",
16116                     "oic.if.ll",
16117                     "oic.if.b",
16118                     "oic.if.lb",
16119                     "oic.if.rw",
16120                     "oic.if.r",
16121                     "oic.if.a",
16122                     "oic.if.s"
16123                 ],
16124                 "type": "string"
16125             },
16126             "minItems": 1,
16127             "readOnly": true,
16128             "type": "array"
16129         }

```

```

16130     }
16131     , "type" : "object"
16132     , "required": ["typeofconsumable", "remaining"]
16133   }
16134 }
16135 }
16136

```

16137 6.68.5 Property definition

16138 Table 139 defines the Properties that are part of the ['oic.r.consumable'] Resource Type

16139 **Table 139 – The Property definitions of the Resource with type 'rt' = ['oic.r.consumable']**

Property name	Value type	Mandatory	Access mode	Description
step	multiple types: see schema	No	Read Only	Step value across the defined range
remaining	integer	Yes	Read Only	Percentage remaining lifespan.
range	array: see schema	No	Read Only	The valid range for the value Property
typeofconsumable	string	Yes	Read Only	Thing that is being consumed.
orderpercentage	integer	No	Read Only	Percentage at which re-ordering is recommended by the manufacturer
if	array: see schema	No	Read Only	The interface set supported by this resource
id	string	No	Read Only	Instance ID of this specific resource
precision	number	No	Read Only	Accuracy granularity of the exposed value
n	string	No	Read Only	Friendly name of the resource
url	string	No	Read Only	URL at which additional ordering information may be found.
rt	array: see schema	No	Read Only	Resource Type

16140 6.68.6 CRUDN behaviour

16141 Table 140 defines the CRUDN operations that are supported on the ['oic.r.consumable'] Resource
16142 Type

16143 **Table 140 – The CRUDN operations of the Resource with type 'rt' = ['oic.r.consumable']**

Create	Read	Update	Delete	Notify
	get			observe

16144 **6.69 Consumables**

16145 **6.69.1 Introduction**

16146 This resource specifies things that can be consumed such as filter material, printer toner etc
16147 The resource is a collection of instances of oic.r.consumable detailing the individual consumed
16148 items
16149 supportedconsumables is the set of consumable types that this instance of the Resource
16150 supports
16151

16152 **6.69.2 Example URI**

16153 /ConsumablesResURI

16154 **6.69.3 Resource type**

16155 The resource type (rt) is defined as: ['oic.r.consumablecollection', 'oic.wk.col'].

16156 **6.69.4 OpenAPI 2.0 definition**

```
16157 {  
16158   "swagger": "2.0",  
16159   "info": {  
16160     "title": "Consumables",  
16161     "version": "OCF-v1.0.0-20160620",  
16162     "license": {  
16163       "name": "copyright 2016-2017 Open Connectivity Foundation, Inc. All rights reserved.",  
16164       "x-description": "Redistribution and use in source and binary forms, with or without  
16165 modification, are permitted provided that the following conditions are met:\n      1.  
16166 Redistributions of source code must retain the above copyright notice, this list of conditions and  
16167 the following disclaimer.\n      2. Redistributions in binary form must reproduce the above  
16168 copyright notice, this list of conditions and the following disclaimer in the documentation and/or  
16169 other materials provided with the distribution.\n\n      THIS SOFTWARE IS PROVIDED BY THE Open  
16170 Connectivity Foundation, INC. \n      AS IS\n      AND ANY EXPRESS OR IMPLIED WARRANTIES, INCLUDING, BUT NOT  
16171 LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE OR  
16172 WARRANTIES OF NON-INFRINGEMENT, ARE DISCLAIMED.\n\n      IN NO EVENT SHALL THE Open Connectivity  
16173 Foundation, INC. OR CONTRIBUTORS BE LIABLE FOR ANY DIRECT, INDIRECT, INCIDENTAL, SPECIAL, EXEMPLARY,  
16174 OR CONSEQUENTIAL DAMAGES (INCLUDING, BUT NOT LIMITED TO, PROCUREMENT OF SUBSTITUTE GOODS OR  
16175 SERVICES; LOSS OF USE, DATA, OR PROFITS; OR BUSINESS INTERRUPTION)\n      HOWEVER CAUSED AND ON  
16176 ANY THEORY OF LIABILITY, WHETHER IN CONTRACT, STRICT LIABILITY, OR TORT (INCLUDING NEGLIGENCE OR  
16177 OTHERWISE) ARISING IN ANY WAY OUT OF THE USE OF THIS SOFTWARE, EVEN IF ADVISED OF THE POSSIBILITY OF  
16178 SUCH DAMAGE.\n\n    }  
16179   },  
16180   },  
16181   "schemes": ["http"],  
16182   "consumes": ["application/json"],  
16183   "produces": ["application/json"],  
16184   "paths": {  
16185     "/ConsumablesResURI?if=oic.if.ll" : {  
16186       "get": {  
16187         "description": "This resource specifies things that can be consumed such as filter material,  
16188 printer toner etc\nThe resource is a collection of instances of oic.r.consumable detailing the  
16189 individual consumed items\nsupportedconsumables is the set of consumable types that this instance of  
16190 the Resource supports\n",  
16191         "parameters": [  
16192           {  
16193             "$ref": "#/parameters/interface-ll"  
16194           }  
16195         ],  
16196         "responses": {  
16197           "200": {  
16198             "description": "",  
16199             "x-example":  
16200               [{"href": "/myTonerBlackResURI", "rt": ["oic.r.consumable"], "if":  
16201                 [{"ep": "coaps://[fe80::b1d6]:1122"}]},  
16202                 [{"href": "/myTonerCyanResURI", "rt": ["oic.r.consumable"], "if":  
16203                 [{"ep": "coaps://[fe80::b1d6]:1122"}]},  
16204                 [{"href": "/myTonerMagentaResURI", "rt": ["oic.r.consumable"], "if":  
16205                 [{"ep": "coaps://[fe80::b1d6]:1122"}]},  
16206                 [{"href": "/myTonerYellowResURI", "rt": ["oic.r.consumable"], "if":  
16207                 [{"ep": "coaps://[fe80::b1d6]:1122"}]}]  
16208             }  
16209           }  
16210         }  
16211       }  
16212     }  
16213   }  
16214 }
```



```

16208         ,
16209         "schema": { "$ref": "#/definitions/consumables-11" }
16210     }
16211 }
16212 },
16213 },
16214 "/ConsumablesResURI?if=oic.if.baseline" : {
16215     "get": {
16216         "description": "This resource specifies things that can be consumed such as filter material,
16217 printer toner etc\nThe resource is a collection of instances of oic.r.consumable detailing the
16218 individual consumed items\nsupportedconsumables is the set of consumable types that this instance of
16219 the Resource supports\n",
16220         "parameters": [
16221             { "$ref": "#/parameters/interface-baseline" }
16222         ],
16223         "responses": {
16224             "200": {
16225                 "description": "",
16226                 "x-example":
16227                 {
16228                     "rt": ["oic.r.consumablecollection","oic.wk.col"],
16229                     "id": "unique_example_id",
16230                     "rts": ["oic.r.consumable","oic.r.value.conditional"],
16231                     "supportedconsumables": ["tonerBlack","tonerCyan","tonerMagenta","tonerYellow"],
16232                     "links": [
16233                         { "href": "/myTonerBlackResURI", "rt": ["oic.r.consumable"], "if":
16234 ["oic.if.s","oic.if.baseline"], "eps": [{"ep": "coaps://[fe80::b1d6]:1122"}]},
16235                         { "href": "/myTonerCyanResURI", "rt": ["oic.r.consumable"], "if":
16236 ["oic.if.s","oic.if.baseline"], "eps": [{"ep": "coaps://[fe80::b1d6]:1122"}]},
16237                         { "href": "/myTonerMagentaResURI", "rt": ["oic.r.consumable"], "if":
16238 ["oic.if.s","oic.if.baseline"], "eps": [{"ep": "coaps://[fe80::b1d6]:1122"}]},
16239                         { "href": "/myTonerYellowResURI", "rt": ["oic.r.consumable"], "if":
16240 ["oic.if.s","oic.if.baseline"], "eps": [{"ep": "coaps://[fe80::b1d6]:1122"}]}
16241                     ]
16242                 }
16243             },
16244             "schema": { "$ref": "#/definitions/consumables" }
16245         }
16246     }
16247 }
16248 },
16249 },
16250 "parameters": {
16251     "interface-11" : {
16252         "in" : "query",
16253         "name" : "if",
16254         "type" : "string",
16255         "enum" : ["oic.if.11"]
16256     },
16257     "interface-baseline" : {
16258         "in" : "query",
16259         "name" : "if",
16260         "type" : "string",
16261         "enum" : ["oic.if.baseline"]
16262     },
16263     "interface-all" : {
16264         "in" : "query",
16265         "name" : "if",
16266         "type" : "string",
16267         "enum" : ["oic.if.11", "oic.if.baseline"]
16268     }
16269 },
16270 "definitions": {
16271     "consumables-11" : {
16272         "title" :
16273             "Consumables Collection Link List Schema (auto merged)"
16274     },
16275     "items" :
16276     {
16277         "$ref": "#/definitions/oic.oic-link"
16278     }
16279 }

```

```

16280     , "type" :
16281         "array"
16282     }
16283 }
16284 ,
16285 "consumables" : {
16286     "properties" : {
16287         "rt" :
16288             {
16289                 "items" : {
16290                     "enum" : [
16291                         "oic.r.consumablecollection",
16292                         "oic.wk.col"
16293                     ],
16294                     "type" : "string"
16295                 },
16296                 "maxItems" : 2,
16297                 "minItems" : 2,
16298                 "type" : "array",
16299                 "uniqueItems" : true
16300             },
16301     "supportedconsumables" :
16302         {
16303             "description" : "Array of possible consumables the device measures.",
16304             "items" : {
16305                 "type" : "string"
16306             },
16307             "readOnly" : true,
16308             "type" : "array"
16309         },
16310     "links" :
16311         {
16312             "description" : "A set of simple or individual OIC Links.",
16313             "items" : {
16314                 "properties" : {
16315                     "anchor" : {
16316                         "description" : "This is used to override the context URI e.g. override the URI of
16317 the containing collection.",
16318                         "format" : "uri",
16319                         "maxLength" : 256,
16320                         "type" : "string"
16321                     },
16322                     "di" : {
16323                         "description" : "The Device ID formatted according to IETF RFC 4122.",
16324                         "pattern" : "^[a-fA-F0-9]{8}-[a-fA-F0-9]{4}-[a-fA-F0-9]{4}-[a-fA-F0-
16325 9]{12}$",
16326                         "type" : "string"
16327                     },
16328                     "eps" : {
16329                         "description" : "the Endpoint information of the target Resource",
16330                         "items" : {
16331                             "properties" : {
16332                                 "ep" : {
16333                                     "description" : "Transport Protocol Suite + Endpoint Locator",
16334                                     "format" : "uri",
16335                                     "type" : "string"
16336                                 },
16337                                 "pri" : {
16338                                     "description" : "The priority among multiple Endpoints",
16339                                     "minimum" : 1,
16340                                     "type" : "integer"
16341                                 }
16342                             }
16343                         },
16344                         "type" : "object"
16345                     },
16346                     "type" : "array"
16347                 },
16348                 "href" : {
16349                     "description" : "This is the target URI, it can be specified as a Relative Reference
16350 or fully-qualified URI.",
16351

```

```

16352         "format": "uri",
16353         "maxLength": 256,
16354         "type": "string"
16355     },
16356     "if": {
16357         "description": "The interface set supported by this resource",
16358         "items": {
16359             "enum": [
16360                 "oic.if.baseline",
16361                 "oic.if.ll",
16362                 "oic.if.b",
16363                 "oic.if.rw",
16364                 "oic.if.r",
16365                 "oic.if.a",
16366                 "oic.if.s"
16367             ],
16368             "type": "string"
16369         },
16370         "minItems": 1,
16371         "type": "array"
16372     },
16373     "ins": {
16374         "description": "The instance identifier for this web link in an array of web links -
16375 used in collections",
16376         "type": "integer"
16377     },
16378     "p": {
16379         "description": "Specifies the framework policies on the Resource referenced by the
16380 target URI",
16381         "properties": {
16382             "bm": {
16383                 "description": "Specifies the framework policies on the Resource referenced by
16384 the target URI for e.g. observable and discoverable",
16385                 "type": "integer"
16386             }
16387         },
16388         "required": [
16389             "bm"
16390         ],
16391         "type": "object"
16392     },
16393     "rel": {
16394         "description": "The relation of the target URI referenced by the link to the context
16395 URI",
16396         "oneOf": [
16397             {
16398                 "default": [
16399                     "hosts"
16400                 ],
16401                 "items": {
16402                     "maxLength": 64,
16403                     "type": "string"
16404                 },
16405                 "minItems": 1,
16406                 "type": "array"
16407             },
16408             {
16409                 "default": "hosts",
16410                 "maxLength": 64,
16411                 "type": "string"
16412             }
16413         ]
16414     },
16415     "rt": {
16416         "description": "Resource Type of the Resource",
16417         "items": {
16418             "maxLength": 64,
16419             "type": "string"
16420         },
16421         "minItems": 1,
16422         "type": "array"
16423     },

```

```

16424         "title": {
16425             "description": "A title for the link relation. Can be used by the UI to provide a
16426 context.",
16427             "maxLength": 64,
16428             "type": "string"
16429         },
16430         "type": {
16431             "default": "application/cbor",
16432             "description": "A hint at the representation of the resource referenced by the
16433 target URI. This represents the media types that are used for both accepting and emitting.",
16434             "items": {
16435                 "maxLength": 64,
16436                 "type": "string"
16437             },
16438             "minItems": 1,
16439             "type": "array"
16440         }
16441     },
16442     "required": [
16443         "href",
16444         "rt",
16445         "if"
16446     ],
16447     "type": "object"
16448 },
16449 "type": "array"
16450 },
16451
16452 "n" :
16453     {
16454         "description": "Friendly name of the resource",
16455         "maxLength": 64,
16456         "readOnly": true,
16457         "type": "string"
16458     },
16459
16460 "rts" :
16461     {
16462         "items": {
16463             "anyOf": [
16464                 {
16465                     "enum": [
16466                         "oic.r.consumable",
16467                         "oic.r.value.conditional"
16468                     ],
16469                     "type": "string"
16470                 },
16471                 {
16472                     "enum": [
16473                         "oic.r.consumable"
16474                     ],
16475                     "type": "string"
16476                 }
16477             ]
16478         },
16479         "maxItems": 2,
16480         "minItems": 1,
16481         "type": "array",
16482         "uniqueItems": true
16483     },
16484
16485 "id" :
16486     {
16487         "description": "Instance ID of this specific resource",
16488         "maxLength": 64,
16489         "readOnly": true,
16490         "type": "string"
16491     },
16492
16493 "if" :
16494     {
16495         "description": "The interface set supported by this resource",

```

```

16496         "items": {
16497             "enum": [
16498                 "oic.if.baseline",
16499                 "oic.if.ll",
16500                 "oic.if.b",
16501                 "oic.if.lb",
16502                 "oic.if.rw",
16503                 "oic.if.r",
16504                 "oic.if.a",
16505                 "oic.if.s"
16506             ],
16507             "type": "string"
16508         },
16509         "minItems": 1,
16510         "readOnly": true,
16511         "type": "array"
16512     }
16513 }
16514 }, "type" : "object"
16515 }
16516 }, "oic.collection.links.arrayoflinks" :
16517 {
16518     "properties": {
16519         "links": {
16520             "description": "A set of simple or individual OIC Links.",
16521             "items": {
16522                 "properties": {
16523                     "anchor": {
16524                         "description": "This is used to override the context URI e.g. override the URI of
16525 the containing collection.",
16526                         "format": "uri",
16527                         "maxLength": 256,
16528                         "type": "string"
16529                     },
16530                     "di": {
16531                         "description": "The Device ID formatted according to IETF RFC 4122.",
16532                         "pattern": "^[a-fA-F0-9]{8}-[a-fA-F0-9]{4}-[a-fA-F0-9]{4}-[a-fA-F0-9]{4}-[a-fA-F0-
16533 9]{12}$",
16534                         "type": "string"
16535                     },
16536                     "eps": {
16537                         "description": "the Endpoint information of the target Resource",
16538                         "items": {
16539                             "properties": {
16540                                 "ep": {
16541                                     "description": "Transport Protocol Suite + Endpoint Locator",
16542                                     "format": "uri",
16543                                     "type": "string"
16544                                 },
16545                                 "pri": {
16546                                     "description": "The priority among multiple Endpoints",
16547                                     "minimum": 1,
16548                                     "type": "integer"
16549                                 }
16550                             }
16551                         },
16552                         "type": "object"
16553                     },
16554                     "type": "array"
16555                 },
16556                 "href": {
16557                     "description": "This is the target URI, it can be specified as a Relative Reference
16558 or fully-qualified URI.",
16559                     "format": "uri",
16560                     "maxLength": 256,
16561                     "type": "string"
16562                 },
16563                 "if": {
16564                     "description": "The interface set supported by this resource",
16565                     "items": {
16566                         "enum": [
16567                             "oic.if.baseline",

```

```

16568         "oic.if.ll",
16569         "oic.if.b",
16570         "oic.if.rw",
16571         "oic.if.x",
16572         "oic.if.a",
16573         "oic.if.s"
16574     ],
16575     "type": "string"
16576 },
16577     "minItems": 1,
16578     "type": "array"
16579 },
16580     "ins": {
16581         "description": "The instance identifier for this web link in an array of web links -
16582 used in collections",
16583         "type": "integer"
16584     },
16585     "p": {
16586         "description": "Specifies the framework policies on the Resource referenced by the
16587 target URI",
16588         "properties": {
16589             "bm": {
16590                 "description": "Specifies the framework policies on the Resource referenced by
16591 the target URI for e.g. observable and discoverable",
16592                 "type": "integer"
16593             }
16594         },
16595         "required": [
16596             "bm"
16597         ],
16598         "type": "object"
16599     },
16600     "rel": {
16601         "description": "The relation of the target URI referenced by the link to the context
16602 URI",
16603         "oneOf": [
16604             {
16605                 "default": [
16606                     "hosts"
16607                 ],
16608                 "items": {
16609                     "maxLength": 64,
16610                     "type": "string"
16611                 },
16612                 "minItems": 1,
16613                 "type": "array"
16614             },
16615             {
16616                 "default": "hosts",
16617                 "maxLength": 64,
16618                 "type": "string"
16619             }
16620         ]
16621     },
16622     "rt": {
16623         "description": "Resource Type of the Resource",
16624         "items": {
16625             "maxLength": 64,
16626             "type": "string"
16627         },
16628         "minItems": 1,
16629         "type": "array"
16630     },
16631     "title": {
16632         "description": "A title for the link relation. Can be used by the UI to provide a
16633 context.",
16634         "maxLength": 64,
16635         "type": "string"
16636     },
16637     "type": {
16638         "default": "application/cbor",
16639         "description": "A hint at the representation of the resource referenced by the

```

```

16640 target URI. This represents the media types that are used for both accepting and emitting.",
16641     "items": {
16642         "maxLength": 64,
16643         "type": "string"
16644     },
16645     "minItems": 1,
16646     "type": "array"
16647 }
16648 },
16649 "required": [
16650     "href",
16651     "rt",
16652     "if"
16653 ],
16654 "type": "object"
16655 },
16656 "type": "array"
16657 }
16658 }
16659 }
16660
16661 , "oic.collection.properties" :
16662 {
16663     "description": "A collection is a set of links along with additional properties to describe
16664 the collection itself",
16665     "properties": {
16666         "rts": {
16667             "$ref": "#/definitions/oic.core/properties/rt",
16668             "description": "The list of allowable resource types (for Target and anchors) in links
16669 included in the collection"
16670         }
16671     },
16672     "type": "object"
16673 }
16674
16675 , "oic.core" :
16676 {
16677     "properties": {
16678         "id": {
16679             "description": "Instance ID of this specific resource",
16680             "maxLength": 64,
16681             "readOnly": true,
16682             "type": "string"
16683         },
16684         "if": {
16685             "description": "The interface set supported by this resource",
16686             "items": {
16687                 "enum": [
16688                     "oic.if.baseline",
16689                     "oic.if.ll",
16690                     "oic.if.b",
16691                     "oic.if.lb",
16692                     "oic.if.rw",
16693                     "oic.if.r",
16694                     "oic.if.a",
16695                     "oic.if.s"
16696                 ],
16697                 "type": "string"
16698             },
16699             "minItems": 1,
16700             "readOnly": true,
16701             "type": "array"
16702         },
16703         "n": {
16704             "description": "Friendly name of the resource",
16705             "maxLength": 64,
16706             "readOnly": true,
16707             "type": "string"
16708         },
16709         "rt": {
16710             "description": "Resource Type",
16711             "items": {

```

```

16712         "maxLength": 64,
16713         "type": "string"
16714     },
16715     "minItems": 1,
16716     "readOnly": true,
16717     "type": "array"
16718 }
16719 },
16720 "type": "object"
16721 }
16722
16723 , "consumablecollection-11" :
16724 {
16725     "items": {
16726         "$ref": "#/definitions/oic.oic-link"
16727     },
16728     "type": "array"
16729 }
16730
16731 , "oic.r.consumablecollection" :
16732 {
16733     "properties": {
16734         "rt": {
16735             "items": {
16736                 "enum": [
16737                     "oic.r.consumablecollection",
16738                     "oic.wk.col"
16739                 ],
16740                 "type": "string"
16741             },
16742             "maxItems": 2,
16743             "minItems": 2,
16744             "type": "array",
16745             "uniqueItems": true
16746         },
16747         "rts": {
16748             "items": {
16749                 "anyOf": [
16750                     {
16751                         "enum": [
16752                             "oic.r.consumable",
16753                             "oic.r.value.conditional"
16754                         ],
16755                         "type": "string"
16756                     },
16757                     {
16758                         "enum": [
16759                             "oic.r.consumable"
16760                         ],
16761                         "type": "string"
16762                     }
16763                 ]
16764             },
16765             "maxItems": 2,
16766             "minItems": 1,
16767             "type": "array",
16768             "uniqueItems": true
16769         },
16770         "supportedconsumables": {
16771             "description": "Array of possible consumables the device measures.",
16772             "items": {
16773                 "type": "string"
16774             },
16775             "readOnly": true,
16776             "type": "array"
16777         }
16778     },
16779     "type": "object"
16780 }
16781
16782 , "oic.oic-link" :
16783 {

```



```

16784     "properties": {
16785         "anchor": {
16786             "description": "This is used to override the context URI e.g. override the URI of the
16787 containing collection.",
16788             "format": "uri",
16789             "maxLength": 256,
16790             "type": "string"
16791         },
16792         "di": {
16793             "description": "The Device ID formatted according to IETF RFC 4122.",
16794             "pattern": "^[a-fA-F0-9]{8}-[a-fA-F0-9]{4}-[a-fA-F0-9]{4}-[a-fA-F0-
16795 9]{12}$",
16796             "type": "string"
16797         },
16798         "eps": {
16799             "description": "the Endpoint information of the target Resource",
16800             "items": {
16801                 "properties": {
16802                     "ep": {
16803                         "description": "Transport Protocol Suite + Endpoint Locator",
16804                         "format": "uri",
16805                         "type": "string"
16806                     },
16807                     "pri": {
16808                         "description": "The priority among multiple Endpoints",
16809                         "minimum": 1,
16810                         "type": "integer"
16811                     }
16812                 },
16813                 "type": "object"
16814             },
16815             "type": "array"
16816         },
16817         "href": {
16818             "description": "This is the target URI, it can be specified as a Relative Reference or
16819 fully-qualified URI.",
16820             "format": "uri",
16821             "maxLength": 256,
16822             "type": "string"
16823         },
16824         "if": {
16825             "description": "The interface set supported by this resource",
16826             "items": {
16827                 "enum": [
16828                     "oic.if.baseline",
16829                     "oic.if.ll",
16830                     "oic.if.b",
16831                     "oic.if.rw",
16832                     "oic.if.r",
16833                     "oic.if.a",
16834                     "oic.if.s"
16835                 ],
16836                 "type": "string"
16837             },
16838             "minItems": 1,
16839             "type": "array"
16840         },
16841         "ins": {
16842             "description": "The instance identifier for this web link in an array of web links - used
16843 in collections",
16844             "type": "integer"
16845         },
16846         "p": {
16847             "description": "Specifies the framework policies on the Resource referenced by the target
16848 URI",
16849             "properties": {
16850                 "bm": {
16851                     "description": "Specifies the framework policies on the Resource referenced by the
16852 target URI for e.g. observable and discoverable",
16853                     "type": "integer"
16854                 }
16855             },

```

```

16856         "required": [
16857             "bm"
16858         ],
16859         "type": "object"
16860     },
16861     "rel": {
16862         "description": "The relation of the target URI referenced by the link to the context URI",
16863         "oneOf": [
16864             {
16865                 "default": [
16866                     "hosts"
16867                 ],
16868                 "items": {
16869                     "maxLength": 64,
16870                     "type": "string"
16871                 },
16872                 "minItems": 1,
16873                 "type": "array"
16874             },
16875             {
16876                 "default": "hosts",
16877                 "maxLength": 64,
16878                 "type": "string"
16879             }
16880         ]
16881     },
16882     "rt": {
16883         "description": "Resource Type of the Resource",
16884         "items": {
16885             "maxLength": 64,
16886             "type": "string"
16887         },
16888         "minItems": 1,
16889         "type": "array"
16890     },
16891     "title": {
16892         "description": "A title for the link relation. Can be used by the UI to provide a
16893 context.",
16894         "maxLength": 64,
16895         "type": "string"
16896     },
16897     "type": {
16898         "default": "application/cbor",
16899         "description": "A hint at the representation of the resource referenced by the target URI.
16900 This represents the media types that are used for both accepting and emitting.",
16901         "items": {
16902             "maxLength": 64,
16903             "type": "string"
16904         },
16905         "minItems": 1,
16906         "type": "array"
16907     }
16908 },
16909 "required": [
16910     "href",
16911     "rt",
16912     "if"
16913 ],
16914 "type": "object"
16915 }
16916 }
16917 }
16918 }
16919

```

16920 6.69.5 Property definition

16921 Table 141 defines the Properties that are part of the ['oic.r.consumablecollection', 'oic.wk.col']
16922 Resource Type

Table 141 – The Property definitions of the Resource with type 'rt' = ['oic.r.consumablecollection', 'oic.wk.col']

Property name	Value type	Mandatory	Access mode	Description
if	array: see schema	Yes	Read Only	The interface set supported by this resource
n	string	No	Read Only	Friendly name of the resource
supportedconsumables	array: see schema	No	Read Only	Array of possible consumables the device measures.
rts	array: see schema	No	Read Write	
rt	array: see schema	Yes	Read Write	
id	string	No	Read Only	Instance ID of this specific resource
links	array: see schema	No	Read Write	A set of simple or individual OIC Links.
links	array: see schema	No	Read Write	A set of simple or individual OIC Links.
href	string	Yes	Read Write	This is the target URI, it can be specified as a Relative Reference or fully-qualified URI.
type	array: see schema	No	Read Write	A hint at the representation of the resource referenced by the target URI. This represents the media types that are used for both accepting and emitting.
p	object: see schema	No	Read Write	Specifies the framework policies on the Resource referenced by the target URI
rel	multiple types: see schema	No	Read Write	The relation of the target URI referenced by the link to the context URI
di	string	No	Read Write	The Device ID formatted

				according to IETF RFC 4122.
title	string	No	Read Write	A title for the link relation. Can be used by the UI to provide a context.
rt	array: see schema	Yes	Read Write	Resource Type of the Resource
anchor	string	No	Read Write	This is used to override the context URI e.g. override the URI of the containing collection.
eps	array: see schema	No	Read Write	the Endpoint information of the target Resource
if	array: see schema	Yes	Read Write	The interface set supported by this resource
ins	integer	No	Read Write	The instance identifier for this web link in an array of web links - used in collections
rts	multiple types: see schema		Read Write	The list of allowable resource types (for Target and anchors) in links included in the collection
supportedconsumables	array: see schema		Read Only	Array of possible consumables the device measures.
rts	array: see schema		Read Write	
rt	array: see schema		Read Write	
n	string		Read Only	Friendly name of the resource
id	string		Read Only	Instance ID of this specific resource
rt	array: see schema		Read Only	Resource Type
if	array: see schema		Read Only	The interface set supported by this resource

16925 **6.69.6 CRUDN behaviour**

16926 Table 142 defines the CRUDN operations that are supported on the ['oic.r.consumablecollection',
16927 'oic.wk.col'] Resource Type

16928 **Table 142 – The CRUDN operations of the Resource with type 'rt' =**
16929 **['oic.r.consumablecollection', 'oic.wk.col']**

Create	Read	Update	Delete	Notify
	get			observe

16930 **6.70 Delay Defrost**

16931 **6.70.1 Introduction**

16932 This resource describes the delay defrost function as defined by the US Energy Star
16933 Specifications.

16934 See Energy Star Refrigerator Requirements Version 5 Section 4)G
16935 ([https://www.energystar.gov/sites/default/files/specs//private/ENERGY%20STAR%20Final%20Ver](https://www.energystar.gov/sites/default/files/specs//private/ENERGY%20STAR%20Final%20Version%205.0%20Residential%20Refrigerators%20and%20Freezers%20Program%20Requirements.pdf)
16936 [sion%205.0%20Residential%20Refrigerators%20and%20Freezers%20Program%20Requirements](https://www.energystar.gov/sites/default/files/specs//private/ENERGY%20STAR%20Final%20Version%205.0%20Residential%20Refrigerators%20and%20Freezers%20Program%20Requirements.pdf)
16937 [.pdf](https://www.energystar.gov/sites/default/files/specs//private/ENERGY%20STAR%20Final%20Version%205.0%20Residential%20Refrigerators%20and%20Freezers%20Program%20Requirements.pdf))

16938 The status is a boolean indicating whether the function is on, if off then defrost is scheduled as
16939 part of normal device operation.

16940 start`Time`, from oic.r.time.period (mandatory) is an ISO8601 encoded start time for the interval in
16941 which defrost shall not occur.

16942 stop`Time`, from oic.r.time.period is an ISO8601 encoded stop time for the interval in which defrost
16943 shall not occur.

16944 interval, from oic.r.time.period with additional range restrictions is the time in minutes of the
16945 period that starts at start`time` (if not present the default is 240).

16946 stop`Time` and interval are mutually exclusive; they cannot both be present in a Resource instance
16947 Retrieves the current Delay Defrost function status

16948

16949 **6.70.2 Example URI**

16950 /DelayDefrostResURI

16951 **6.70.3 Resource type**

16952 The resource type (rt) is defined as: ['oic.r.delaydefrost'].

16953 **6.70.4 OpenAPI 2.0 definition**

```
16954 {  
16955   "swagger": "2.0",  
16956   "info": {  
16957     "title": "Delay Defrost",  
16958     "version": "OCF_v1.0.0-2016____",  
16959     "license": {  
16960       "name": "copyright 2016-2017 Open Connectivity Foundation, Inc. All rights reserved.",  
16961       "x-description": "Redistribution and use in source and binary forms, with or without  
16962 modification, are permitted provided that the following conditions are met:\n      1.  
16963 Redistributions of source code must retain the above copyright notice, this list of conditions and  
16964 the following disclaimer.\n      2. Redistributions in binary form must reproduce the above  
16965 copyright notice, this list of conditions and the following disclaimer in the documentation and/or  
16966 other materials provided with the distribution.\n      THIS SOFTWARE IS PROVIDED BY THE Open  
16967 Connectivity Foundation, INC. \\\n      AS IS\\n      AND ANY EXPRESS OR IMPLIED WARRANTIES, INCLUDING, BUT NOT  
16968 LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE OR  
16969 WARRANTIES OF NON-INFRINGEMENT, ARE DISCLAIMED.\n      IN NO EVENT SHALL THE Open Connectivity  
16970 Foundation, INC. OR CONTRIBUTORS BE LIABLE FOR ANY DIRECT, INDIRECT, INCIDENTAL, SPECIAL, EXEMPLARY,  
16971 OR CONSEQUENTIAL DAMAGES (INCLUDING, BUT NOT LIMITED TO, PROCUREMENT OF SUBSTITUTE GOODS OR  
16972 SERVICES; LOSS OF USE, DATA, OR PROFITS; OR BUSINESS INTERRUPTION)\n      HOWEVER CAUSED AND ON  
16973 ANY THEORY OF LIABILITY, WHETHER IN CONTRACT, STRICT LIABILITY, OR TORT (INCLUDING NEGLIGENCE OR  
16974 OTHERWISE) ARISING IN ANY WAY OUT OF THE USE OF THIS SOFTWARE, EVEN IF ADVISED OF THE POSSIBILITY OF  
16975 SUCH DAMAGE.\n    }  
16976   },  
16977   "schemes": ["http"],  
16978   "consumes": ["application/json"],  
16979
```

```

16980     "produces": ["application/json"],
16981     "paths": {
16982         "/DelayDefrostResURI" : {
16983             "get": {
16984                 "description": "This resource describes the delay defrost function as defined by the US
16985 Energy Star Specifications.\nSee Energy Star Refrigerator Requirements Version 5 Section
16986 4)G\n(https://www.energystar.gov/sites/default/files/specs//private/ENERGY%20STAR%20Final%20Version%
16987 205.0%20Residential%20Refrigerators%20and%20Freezers%20Program%20Requirements.pdf)\nThe status is a
16988 boolean indicating whether the function is on, if off then defrost is scheduled as part of normal
16989 device operation.\nstartTime, from oic.r.time.period (mandatory) is an ISO8601 encoded start time
16990 for the interval in which defrost shall not occur.\nstopTime, from oic.r.time.period is an ISO8601
16991 encoded stop time for the interval in which defrost shall not occur.\ninterval, from
16992 oic.r.time.period with additional range restrictions is the time in minutes of the period that
16993 starts at starttime (if not present the default is 240).\nstopTime and interval are mutually
16994 exclusive; they cannot both be present in a Resource instance\nRetrieves the current Delay Defrost
16995 function status\n",
16996                 "parameters": [
16997                     { "$ref": "#/parameters/interface" }
16998                 ],
16999                 "responses": {
17000                     "200": {
17001                         "description": "",
17002                         "x-example":
17003                             {
17004                                 "rt":      ["oic.r.delaydefrost"],
17005                                 "id":      "unique_example_id",
17006                                 "startTime": "06:00Z",
17007                                 "status":  false
17008                             }
17009                         ,
17010                         "schema": { "$ref": "#/definitions/DelayDefrost" }
17011                     }
17012                 },
17013             },
17014             "post": {
17015                 "description": "Activates the desired Delay Defrost functions\n",
17016                 "parameters": [
17017                     { "$ref": "#/parameters/interface" },
17018                     {
17019                         "name": "body",
17020                         "in": "body",
17021                         "required": true,
17022                         "schema": { "$ref": "#/definitions/DelayDefrost" },
17023                         "x-example":
17024                             {
17025                                 "status":      true,
17026                                 "startTime":  "06:00Z",
17027                                 "interval":   180
17028                             }
17029                         }
17030                 ],
17031                 "responses": {
17032                     "200": {
17033                         "description": "Indicates that the DelayDefrost function was changed.\nThe new
17034 representation may be provided in the response.\n",
17035                         "x-example":
17036                             {
17037                                 "id":          "unique_example_id",
17038                                 "status":     true,
17039                                 "startTime":  "06:00Z",
17040                                 "interval":   180
17041                             }
17042                         ,
17043                         "schema": { "$ref": "#/definitions/DelayDefrost" }
17044                     },
17045                     "403": {
17046                         "description": "Indicates the update to the time properties was rejected.\nReasons
17047 for rejection:\n invalid time entry\nThe current unchanged representation may be provided in the
17048 response.\n",
17049                         "x-example":
17050                             {
17051                                 "id":          "unique_example_id",

```

```

17052         "status": true,
17053         "startTime": "06:00Z",
17054         "interval": 180
17055     }
17056 },
17057     "schema": { "$ref": "#/definitions/DelayDefrost" }
17058 }
17059 }
17060 }
17061 }
17062 },
17063 "parameters": {
17064     "interface" : {
17065         "in" : "query",
17066         "name" : "if",
17067         "type" : "string",
17068         "enum" : ["oic.if.a", "oic.if.baseline"]
17069     }
17070 },
17071 "definitions": {
17072     "DelayDefrost" : {
17073         "properties": {
17074             "rt" :
17075                 {
17076                     "description": "Resource Type",
17077                     "items": {
17078                         "maxLength": 64,
17079                         "type": "string"
17080                     },
17081                     "minItems": 1,
17082                     "readOnly": true,
17083                     "type": "array"
17084                 },
17085             "status" :
17086                 {
17087                     "description": "Indicates whether any supported delay defrost function is active",
17088                     "type": "boolean"
17089                 },
17090             "interval" :
17091                 {
17092                     "default": 240,
17093                     "description": "Defrost interval as defined by Energy Star",
17094                     "maximum": 1440,
17095                     "minimum": 1,
17096                     "type": "integer"
17097                 },
17098             "precision" :
17099                 {
17100                     "description": "Accuracy granularity of the exposed value",
17101                     "readOnly": true,
17102                     "type": "number"
17103                 },
17104             "n" :
17105                 {
17106                     "description": "Friendly name of the resource",
17107                     "maxLength": 64,
17108                     "readOnly": true,
17109                     "type": "string"
17110                 },
17111             "range" :
17112                 {
17113                     "description": "The valid range for the value Property",
17114                     "items": {
17115                         "anyOf": [
17116                             {
17117                                 "type": "number"
17118                             },
17119                             {
17120                                 "type": "integer"
17121                             }
17122                         ]
17123                 },

```

```

17124         "maxItems": 2,
17125         "minItems": 2,
17126         "readOnly": true,
17127         "type": "array"
17128     },
17129     "stopTime" :
17130     {
17131         "description": "Stop time for the time period, if present interval cannot be present",
17132         "type": "string"
17133     },
17134     "startTime" :
17135     {
17136         "description": "Start time for the time period",
17137         "type": "string"
17138     },
17139     "step" :
17140     {
17141         "anyOf": [
17142             {
17143                 "type": "integer"
17144             },
17145             {
17146                 "type": "number"
17147             }
17148         ],
17149         "description": "Step value across the defined range",
17150         "readOnly": true
17151     },
17152     "id" :
17153     {
17154         "description": "Instance ID of this specific resource",
17155         "maxLength": 64,
17156         "readOnly": true,
17157         "type": "string"
17158     },
17159     "if" :
17160     {
17161         "description": "The interface set supported by this resource",
17162         "items": {
17163             "enum": [
17164                 "oic.if.baseline",
17165                 "oic.if.ll",
17166                 "oic.if.b",
17167                 "oic.if.lb",
17168                 "oic.if.rw",
17169                 "oic.if.r",
17170                 "oic.if.a",
17171                 "oic.if.s"
17172             ],
17173             "type": "string"
17174         },
17175         "minItems": 1,
17176         "readOnly": true,
17177         "type": "array"
17178     }
17179 },
17180 , "type" : "object"
17181 }
17182 }
17183 }
17184

```

6.70.5 Property definition

Table 143 defines the Properties that are part of the ['oic.r.delaydefrost'] Resource Type

Table 143 – The Property definitions of the Resource with type 'rt' = ['oic.r.delaydefrost']

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

precision	number		Read Only	Accuracy granularity of the exposed value
id	string		Read Only	Instance ID of this specific resource
interval	integer		Read Write	Defrost interval as defined by Energy Star
range	array: see schema		Read Only	The valid range for the value Property
step	multiple types: see schema		Read Only	Step value across the defined range
startTime	string		Read Write	Start time for the time period
stopTime	string		Read Write	Stop time for the time period, if present interval cannot be present
if	array: see schema		Read Only	The interface set supported by this resource
n	string		Read Only	Friendly name of the resource
rt	array: see schema		Read Only	Resource Type
status	boolean		Read Write	Indicates whether any supported delay defrost function is active

17188 **6.70.6 CRUDN behaviour**

17189 Table 144 defines the CRUDN operations that are supported on the ['oic.r.delaydefrost'] Resource
 17190 Type

17191 **Table 144 – The CRUDN operations of the Resource with type 'rt' = ['oic.r.delaydefrost']**

Create	Read	Update	Delete	Notify
	get	post		observe

17192 **6.71 Eco Mode**

17193 **6.71.1 Introduction**

17194 This resource specifies the supported and currently active Eco Mode of a Device
 17195 The Resource uses the existing schema for Mode (oic.r.mode) with a restriction that the
 17196 population of supportedmodes and modes Properties is restricted to the set of values given
 17197 below:

17198 "disabled", "enabled", "notsupported"

17199 The adminforced Property indicates that the value has been set by another party (e.g. via some
 17200 offboard Smart Energy interaction)

17201

17202 **6.71.2 Example URI**

17203 /EcomodeResURI

17204 **6.71.3 Resource type**

17205 The resource type (rt) is defined as: ['oic.r.ecomode'].

17206 **6.71.4 OpenAPI 2.0 definition**

```
17207 {
17208   "swagger": "2.0",
17209   "info": {
17210     "title": "Eco Mode",
17211     "version": "OCF-v1.0.0-20160620",
17212     "license": {
17213       "name": "copyright 2016-2017 Open Connectivity Foundation, Inc. All rights reserved.",
17214       "x-description": "Redistribution and use in source and binary forms, with or without
17215 modification, are permitted provided that the following conditions are met:\n      1.
17216 Redistributions of source code must retain the above copyright notice, this list of conditions and
17217 the following disclaimer.\n      2. Redistributions in binary form must reproduce the above
17218 copyright notice, this list of conditions and the following disclaimer in the documentation and/or
17219 other materials provided with the distribution.\n\n      THIS SOFTWARE IS PROVIDED BY THE Open
17220 Connectivity Foundation, INC. \AS IS\ AND ANY EXPRESS OR IMPLIED WARRANTIES, INCLUDING, BUT NOT
17221 LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE OR
17222 WARRANTIES OF NON-INFRINGEMENT, ARE DISCLAIMED.\n      IN NO EVENT SHALL THE Open Connectivity
17223 Foundation, INC. OR CONTRIBUTORS BE LIABLE FOR ANY DIRECT, INDIRECT, INCIDENTAL, SPECIAL, EXEMPLARY,
17224 OR CONSEQUENTIAL DAMAGES (INCLUDING, BUT NOT LIMITED TO, PROCUREMENT OF SUBSTITUTE GOODS OR
17225 SERVICES; LOSS OF USE, DATA, OR PROFITS; OR BUSINESS INTERRUPTION)\n      HOWEVER CAUSED AND ON
17226 ANY THEORY OF LIABILITY, WHETHER IN CONTRACT, STRICT LIABILITY, OR TORT (INCLUDING NEGLIGENCE OR
17227 OTHERWISE) ARISING IN ANY WAY OUT OF THE USE OF THIS SOFTWARE, EVEN IF ADVISED OF THE POSSIBILITY OF
17228 SUCH DAMAGE.\n"
17229     }
17230   },
17231   "schemes": ["http"],
17232   "consumes": ["application/json"],
17233   "produces": ["application/json"],
17234   "paths": {
17235     "/EcomodeResURI" : {
17236       "get": {
17237         "description": "This resource specifies the supported and currently active Eco Mode of a
17238 Device\nThe Resource uses the existing schema for Mode (oic.r.mode) with a restriction that the
17239 population of supportedmodes and modes Properties is restricted to the set of values given
17240 below:\n\n\"disabled\", \"enabled\", \"notsupported\"\n\nThe adminforced Property indicates that the value
17241 has been set by another party (e.g. via some offboard Smart Energy interaction)\n",
17242         "parameters": [
17243           { "$ref": "#/parameters/interface" }
17244         ],
17245         "responses": {
17246           "200": {
17247             "description": "",
17248             "x-example":
17249             {
17250               "rt": ["oic.r.ecomode"],
17251               "id": "unique_example_id",
17252               "supportedModes": ["disabled", "enabled"],
17253               "modes": ["disabled"],
17254               "adminforced": false
17255             }
17256           },
17257           "schema": { "$ref": "#/definitions/ecomode" }
17258         }
17259       }
17260     },
17261     "post": {
17262       "description": "",
17263       "parameters": [
17264         { "$ref": "#/parameters/interface" },
17265         {
17266           "name": "body",
17267           "in": "body",
17268           "required": true,
17269           "schema": { "$ref": "#/definitions/ecomode-update" },
17270           "x-example":
17271           {
17272             "modes": ["enabled"]
17273           }
17274         }
17275       ]
17276     }
17277   }
17278 }
```

```

17274     }
17275   ],
17276   "responses": {
17277     "200": {
17278       "description": "",
17279       "x-example":
17280         {
17281           "id": "unique_example_id",
17282           "modes": ["enabled"]
17283         }
17284     },
17285     "schema": { "$ref": "#/definitions/ecomode-update" }
17286   }
17287 }
17288 }
17289 }
17290 },
17291 "parameters": {
17292   "interface": {
17293     "in": "query",
17294     "name": "if",
17295     "type": "string",
17296     "enum": ["oic.if.a", "oic.if.baseline"]
17297   }
17298 },
17299 "definitions": {
17300   "ecomode": {
17301     "properties": {
17302       "rt":
17303         {
17304           "description": "Resource Type",
17305           "items": {
17306             "maxLength": 64,
17307             "type": "string"
17308           },
17309           "minItems": 1,
17310           "readOnly": true,
17311           "type": "array"
17312         },
17313       "modes":
17314         {
17315           "description": "Array of the currently active mode(s)",
17316           "items": {
17317             "type": "string"
17318           },
17319           "type": "array"
17320         },
17321       "n":
17322         {
17323           "description": "Friendly name of the resource",
17324           "maxLength": 64,
17325           "readOnly": true,
17326           "type": "string"
17327         },
17328       "supportedModes":
17329         {
17330           "description": "Array of possible modes the device supports.",
17331           "items": {
17332             "type": "string"
17333           },
17334           "readOnly": true,
17335           "type": "array"
17336         },
17337       "id":
17338         {
17339           "description": "Instance ID of this specific resource",
17340           "maxLength": 64,
17341           "readOnly": true,
17342           "type": "string"
17343         },
17344       "adminforced":
17345         {

```

```

17346         "description": "Indicator that the current mode of operation has been forced by admin
17347 action.",
17348         "readOnly": true,
17349         "type": "boolean"
17350     },
17351     "if" :
17352     {
17353         "description": "The interface set supported by this resource",
17354         "items": {
17355             "enum": [
17356                 "oic.if.baseline",
17357                 "oic.if.ll",
17358                 "oic.if.b",
17359                 "oic.if.lb",
17360                 "oic.if.rw",
17361                 "oic.if.r",
17362                 "oic.if.a",
17363                 "oic.if.s"
17364             ],
17365             "type": "string"
17366         },
17367         "minItems": 1,
17368         "readOnly": true,
17369         "type": "array"
17370     }
17371 },
17372 "type" : "object"
17373 , "required": ["supportedModes", "modes"]
17374 }
17375 ,
17376 "ecomode-update" : {
17377     "properties": {
17378         "modes" :
17379         {
17380             "description": "Desired mode",
17381             "items": {
17382                 "type": "string"
17383             },
17384             "type": "array"
17385         }
17386     }
17387 , "type" : "object"
17388 , "required": ["modes"]
17389 }
17390 }
17391 }
17392

```

17393 6.71.5 Property definition

17394 Table 145 defines the Properties that are part of the ['oic.r.ecomode'] Resource Type

17395 **Table 145 – The Property definitions of the Resource with type 'rt' = ['oic.r.ecomode']**

Property name	Value type	Mandatory	Access mode	Description
modes	array: see schema	Yes	Read Write	Desired mode
adminforced	boolean	No	Read Only	Indicator that the current mode of operation has been forced by admin action.
n	string	No	Read Only	Friendly name of the resource
modes	array: see schema	Yes	Read Write	Array of the currently active mode(s)

if	array: schema	see	No	Read Only	The interface set supported by this resource
supportedModes	array: schema	see	Yes	Read Only	Array of possible modes the device supports.
rt	array: schema	see	No	Read Only	Resource Type
id	string		No	Read Only	Instance ID of this specific resource

17396 **6.71.6 CRUDN behaviour**

17397 Table 146 defines the CRUDN operations that are supported on the ['oic.r.ecomode'] Resource
17398 Type

17399 **Table 146 – The CRUDN operations of the Resource with type 'rt' = ['oic.r.ecomode']**

Create	Read	Update	Delete	Notify
	get	post		observe

17400 **6.72 Heating Zone**

17401 **6.72.1 Introduction**

17402 This Resource provides information about the status of a heating zone of a Cook-Top.
17403 It describes the case of a Cook-Top whose zones can be activated dynamically (i.e. the device
17404 implements pot recognition).
17405 maxheatinglevel defines the max level for the heating zone
17406 heatinglevel is the current heating level of the zone
17407 For each element the value range is from 0 (indication that the zone is not heating) to
17408 maxheatinglevel,
17409 Retrieves the current heating zone information.
17410

17411 **6.72.2 Example URI**

17412 /HeatingZoneResURI

17413 **6.72.3 Resource type**

17414 The resource type (rt) is defined as: ['oic.r.heatingzone'].

17415 **6.72.4 OpenAPI 2.0 definition**

```
17416 {
17417   "swagger": "2.0",
17418   "info": {
17419     "title": "Heating Zone",
17420     "version": "OCF1.0-20160722",
17421     "license": {
17422       "name": "copyright 2016-2017 Open Connectivity Foundation, Inc. All rights reserved.",
17423       "x-description": "Redistribution and use in source and binary forms, with or without
17424 modification, are permitted provided that the following conditions are met:\n      1.
17425 Redistributions of source code must retain the above copyright notice, this list of conditions and
17426 the following disclaimer.\n      2. Redistributions in binary form must reproduce the above
17427 copyright notice, this list of conditions and the following disclaimer in the documentation and/or
17428 other materials provided with the distribution.\n\n      THIS SOFTWARE IS PROVIDED BY THE Open
17429 Connectivity Foundation, INC. \AS IS\ AND ANY EXPRESS OR IMPLIED WARRANTIES, INCLUDING, BUT NOT
17430 LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE OR
17431 WARRANTIES OF NON-INFRINGEMENT, ARE DISCLAIMED.\n\n      IN NO EVENT SHALL THE Open Connectivity
17432 Foundation, INC. OR CONTRIBUTORS BE LIABLE FOR ANY DIRECT, INDIRECT, INCIDENTAL, SPECIAL, EXEMPLARY,
17433 OR CONSEQUENTIAL DAMAGES (INCLUDING, BUT NOT LIMITED TO, PROCUREMENT OF SUBSTITUTE GOODS OR
17434 SERVICES; LOSS OF USE, DATA, OR PROFITS; OR BUSINESS INTERRUPTION)\n\n      HOWEVER CAUSED AND ON
17435 ANY THEORY OF LIABILITY, WHETHER IN CONTRACT, STRICT LIABILITY, OR TORT (INCLUDING NEGLIGENCE OR
17436 OTHERWISE) ARISING IN ANY WAY OUT OF THE USE OF THIS SOFTWARE, EVEN IF ADVISED OF THE POSSIBILITY OF
17437 SUCH DAMAGE.\n"
```

```

17438     }
17439   },
17440   "schemes": ["http"],
17441   "consumes": ["application/json"],
17442   "produces": ["application/json"],
17443   "paths": {
17444     "/HeatingZoneResURI" : {
17445       "get": {
17446         "description": "This Resource provides information about the status of a heating zone of a
17447 Cook-Top.\nIt describes the case of a Cook-Top whose zones can be activated dynamically (i.e. the
17448 device implements pot recognition).\nmaxheatinglevel defines the max level for the heating
17449 zone\nheatinglevel is the current heating level of the zone\n For each element the value range is
17450 from 0 (indication that the zone is not heating) to maxheatinglevel,\nRetrieves the current heating
17451 zone information.\n",
17452         "parameters": [
17453           { "$ref": "#/parameters/interface" }
17454         ],
17455         "responses": {
17456           "200": {
17457             "description": "",
17458             "x-example":
17459               {
17460                 "rt": ["oic.r.heatingzone"],
17461                 "id": "unique_example_id",
17462                 "maxheatinglevel": 6,
17463                 "heatinglevel": 0
17464               }
17465           },
17466           "schema": { "$ref": "#/definitions/HeatingZone" }
17467         }
17468       }
17469     }
17470   }
17471 },
17472 "parameters": {
17473   "interface" : {
17474     "in" : "query",
17475     "name" : "if",
17476     "type" : "string",
17477     "enum" : ["oic.if.s", "oic.if.baseline"]
17478   }
17479 },
17480 "definitions": {
17481   "HeatingZone" : {
17482     "properties": {
17483       "rt" :
17484         {
17485           "description": "Resource Type",
17486           "items": {
17487             "maxLength": 64,
17488             "type": "string"
17489           },
17490           "minItems": 1,
17491           "readOnly": true,
17492           "type": "array"
17493         },
17494       "step" :
17495         {
17496           "anyOf": [
17497             {
17498               "type": "integer"
17499             },
17500             {
17501               "type": "number"
17502             }
17503           ],
17504           "description": "Step value across the defined range",
17505           "readOnly": true
17506         },
17507       "id" :
17508         {
17509           "description": "Instance ID of this specific resource",

```

```

17510         "maxLength": 64,
17511         "readOnly": true,
17512         "type": "string"
17513     },
17514     "precision" :
17515     {
17516         "description": "Accuracy granularity of the exposed value",
17517         "readOnly": true,
17518         "type": "number"
17519     },
17520     "n" :
17521     {
17522         "description": "Friendly name of the resource",
17523         "maxLength": 64,
17524         "readOnly": true,
17525         "type": "string"
17526     },
17527     "range" :
17528     {
17529         "description": "The valid range for the value Property",
17530         "items": {
17531             "anyOf": [
17532                 {
17533                     "type": "number"
17534                 },
17535                 {
17536                     "type": "integer"
17537                 }
17538             ]
17539         },
17540         "maxItems": 2,
17541         "minItems": 2,
17542         "readOnly": true,
17543         "type": "array"
17544     },
17545     "heatinglevel" :
17546     {
17547         "description": "Current heating level for the zone indicated.",
17548         "readOnly": true,
17549         "type": "integer"
17550     },
17551     "maxheatinglevel" :
17552     {
17553         "description": "Maximum heating level for the zone indicated.",
17554         "readOnly": true,
17555         "type": "integer"
17556     },
17557     "if" :
17558     {
17559         "description": "The interface set supported by this resource",
17560         "items": {
17561             "enum": [
17562                 "oic.if.baseline",
17563                 "oic.if.ll",
17564                 "oic.if.b",
17565                 "oic.if.lb",
17566                 "oic.if.rw",
17567                 "oic.if.r",
17568                 "oic.if.a",
17569                 "oic.if.s"
17570             ],
17571             "type": "string"
17572         },
17573         "minItems": 1,
17574         "readOnly": true,
17575         "type": "array"
17576     }
17577     },
17578     "type" : "object"
17579     , "required": ["maxheatinglevel", "heatinglevel"]
17580 }
17581 }

```

17582 }
17583

17584 6.72.5 Property definition

17585 Table 147 defines the Properties that are part of the ['oic.r.heatingzone'] Resource Type

17586 **Table 147 – The Property definitions of the Resource with type 'rt' = ['oic.r.heatingzone']**

Property name	Value type	Mandatory	Access mode	Description
if	array: see schema	No	Read Only	The interface set supported by this resource
id	string	No	Read Only	Instance ID of this specific resource
heatinglevel	integer	Yes	Read Only	Current heating level for the zone indicated.
range	array: see schema	No	Read Only	The valid range for the value Property
step	multiple types: see schema	No	Read Only	Step value across the defined range
n	string	No	Read Only	Friendly name of the resource
maxheatinglevel	integer	Yes	Read Only	Maximum heating level for the zone indicated.
precision	number	No	Read Only	Accuracy granularity of the exposed value
rt	array: see schema	No	Read Only	Resource Type

17587 6.72.6 CRUDN behaviour

17588 Table 148 defines the CRUDN operations that are supported on the ['oic.r.heatingzone'] Resource
17589 Type

17590 **Table 148 – The CRUDN operations of the Resource with type 'rt' = ['oic.r.heatingzone']**

Create	Read	Update	Delete	Notify
	get			observe

17591 6.73 Heating Zone Collection

17592 6.73.1 Introduction

17593 This Resource provides information about the status of the heating zones of a Cook-Top.
17594 It describes the case of a Cook-Top whose zones can be activated dynamically (i.e. the device
17595 implements pot recognition).

17596 The resource is a collection of instances of oic.r.heatingzone detailing the individual cooktop
17597 zones

17598 Retrieves the current heating zone information.

17599

17600 6.73.2 Example URI

17601 /HeatingZoneResURI

17602 **6.73.3 Resource type**

17603 The resource type (rt) is defined as: ['oic.r.heatingzonecollection', 'oic.wk.col'].

17604 **6.73.4 OpenAPI 2.0 definition**

```
17605 {
17606   "swagger": "2.0",
17607   "info": {
17608     "title": "Heating Zone Collection",
17609     "version": "OCFL.0-20160722",
17610     "license": {
17611       "name": "copyright 2016-2017 Open Connectivity Foundation, Inc. All rights reserved.",
17612       "x-description": "Redistribution and use in source and binary forms, with or without
17613 modification, are permitted provided that the following conditions are met:\n      1.
17614 Redistributions of source code must retain the above copyright notice, this list of conditions and
17615 the following disclaimer.\n      2. Redistributions in binary form must reproduce the above
17616 copyright notice, this list of conditions and the following disclaimer in the documentation and/or
17617 other materials provided with the distribution.\n\n      THIS SOFTWARE IS PROVIDED BY THE Open
17618 Connectivity Foundation, INC. \AS IS\ AND ANY EXPRESS OR IMPLIED WARRANTIES, INCLUDING, BUT NOT
17619 LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE OR
17620 WARRANTIES OF NON-INFRINGEMENT, ARE DISCLAIMED.\n      IN NO EVENT SHALL THE Open Connectivity
17621 Foundation, INC. OR CONTRIBUTORS BE LIABLE FOR ANY DIRECT, INDIRECT, INCIDENTAL, SPECIAL, EXEMPLARY,
17622 OR CONSEQUENTIAL DAMAGES (INCLUDING, BUT NOT LIMITED TO, PROCUREMENT OF SUBSTITUTE GOODS OR
17623 SERVICES; LOSS OF USE, DATA, OR PROFITS; OR BUSINESS INTERRUPTION)\n      HOWEVER CAUSED AND ON
17624 ANY THEORY OF LIABILITY, WHETHER IN CONTRACT, STRICT LIABILITY, OR TORT (INCLUDING NEGLIGENCE OR
17625 OTHERWISE) ARISING IN ANY WAY OUT OF THE USE OF THIS SOFTWARE, EVEN IF ADVISED OF THE POSSIBILITY OF
17626 SUCH DAMAGE.\n"
17627     }
17628   },
17629   "schemes": ["http"],
17630   "consumes": ["application/json"],
17631   "produces": ["application/json"],
17632   "paths": {
17633     "/HeatingZoneResURI?if=oic.if.ll" : {
17634       "get": {
17635         "description": "This Resource provides information about the status of the heating zones of
17636 a Cook-Top.\nIt describes the case of a Cook-Top whose zones can be activated dynamically (i.e. the
17637 device implements pot recognition).\nThe resource is a collection of instances of oic.r.heatingzone
17638 detailing the individual cooktop zones\n",
17639         "parameters": [
17640           {"$ref": "#/parameters/interface-ll"}
17641         ],
17642         "responses": {
17643           "200": {
17644             "description": "",
17645             "x-example":
17646               [
17647                 {"href": "/myZone1ResURI", "rt": ["oic.r.heatingzone"], "if": ["oic.if.s"]},
17648                 {"href": "/myZone2ResURI", "rt": ["oic.r.heatingzone"], "if": ["oic.if.s"]},
17649                 {"href": "/myZone3ResURI", "rt": ["oic.r.heatingzone"], "if": ["oic.if.s"]},
17650                 {"href": "/myZone4ResURI", "rt": ["oic.r.heatingzone"], "if": ["oic.if.s"]},
17651                 {"href": "/myZone5ResURI", "rt": ["oic.r.heatingzone"], "if": ["oic.if.s"]},
17652                 {"href": "/myZone6ResURI", "rt": ["oic.r.heatingzone"], "if": ["oic.if.s"]},
17653                 {"href": "/myZone7ResURI", "rt": ["oic.r.heatingzone"], "if": ["oic.if.s"]},
17654                 {"href": "/myZone8ResURI", "rt": ["oic.r.heatingzone"], "if": ["oic.if.s"]},
17655                 {"href": "/myZone9ResURI", "rt": ["oic.r.heatingzone"], "if": ["oic.if.s"]},
17656                 {"href": "/myZone10ResURI", "rt": ["oic.r.heatingzone"], "if": ["oic.if.s"]}
17657               ],
17658             "schema": {"$ref": "#/definitions/HeatingZone-ll" }
17659           }
17660         }
17661       }
17662     },
17663     "/HeatingZoneResURI?if=oic.if.baseline" : {
17664       "get": {
17665         "description": "This Resource provides information about the status of the heating zones of
17666 a Cook-Top.\nIt describes the case of a Cook-Top whose zones can be activated dynamically (i.e. the
17667 device implements pot recognition).\nThe resource is a collection of instances of oic.r.heatingzone
17668 detailing the individual cooktop zones\nRetrieves the current heating zone information.\n",
17669         "parameters": [
17670           {"$ref": "#/parameters/interface-baseline"}
17671         ],
17672         "responses": {
```

```

17672         "200": {
17673             "description": "",
17674             "x-example":
17675                 {
17676                     "rt": ["oic.r.heatingzonecollection", "oic.wk.col"],
17677                     "id": "unique_example_id",
17678                     "links": [
17679                         {"href": "/myZone1ResURI", "rt": ["oic.r.heatingzone"], "if":
17680 ["oic.if.s", "oic.if.baseline"], "eps": [{"ep": "coaps://[fe80::b1d6]:1122"}]},
17681                         {"href": "/myZone2ResURI", "rt": ["oic.r.heatingzone"], "if":
17682 ["oic.if.s", "oic.if.baseline"], "eps": [{"ep": "coaps://[fe80::b1d6]:1122"}]},
17683                         {"href": "/myZone3ResURI", "rt": ["oic.r.heatingzone"], "if":
17684 ["oic.if.s", "oic.if.baseline"], "eps": [{"ep": "coaps://[fe80::b1d6]:1122"}]},
17685                         {"href": "/myZone4ResURI", "rt": ["oic.r.heatingzone"], "if":
17686 ["oic.if.s", "oic.if.baseline"], "eps": [{"ep": "coaps://[fe80::b1d6]:1122"}]}
17687                     ]
17688                 }
17689             ,
17690             "schema": { "$ref": "#/definitions/HeatingZone" }
17691         }
17692     }
17693 }
17694 },
17695 "parameters": {
17696     "interface-ll" : {
17697         "in" : "query",
17698         "name" : "if",
17699         "type" : "string",
17700         "enum" : ["oic.if.ll"]
17701     },
17702     "interface-baseline" : {
17703         "in" : "query",
17704         "name" : "if",
17705         "type" : "string",
17706         "enum" : ["oic.if.baseline"]
17707     },
17708     "interface-all" : {
17709         "in" : "query",
17710         "name" : "if",
17711         "type" : "string",
17712         "enum" : ["oic.if.ll", "oic.if.baseline"]
17713     }
17714 },
17715 "definitions": {
17716     "HeatingZone-ll" : {
17717         "title" :
17718             "Heating Zone Collection Link List Schema (auto merged)"
17719     },
17720     "items" :
17721         {
17722             "$ref": "#/definitions/oic.oic-link"
17723         }
17724     ,
17725     "type" :
17726         "array"
17727     }
17728 },
17729 "HeatingZone" : {
17730     "properties": {
17731         "rt" :
17732             {
17733                 "items": {
17734                     "enum": [
17735                         "oic.r.heatingzonecollection",
17736                         "oic.wk.col"
17737                     ],
17738                     "type": "string"
17739                 },
17740                 "maxItems": 2,
17741                 "minItems": 2,

```

```

17744         "type": "array",
17745         "uniqueItems": true
17746     },
17747
17748     "links" :
17749     {
17750         "description": "A set of simple or individual OIC Links.",
17751         "items": {
17752             "properties": {
17753                 "anchor": {
17754                     "description": "This is used to override the context URI e.g. override the URI of
17755 the containing collection.",
17756                     "format": "uri",
17757                     "maxLength": 256,
17758                     "type": "string"
17759                 },
17760                 "di": {
17761                     "description": "The Device ID formatted according to IETF RFC 4122.",
17762                     "pattern": "^[a-fA-F0-9]{8}-[a-fA-F0-9]{4}-[a-fA-F0-9]{4}-[a-fA-F0-
17763 9]{12}$",
17764                     "type": "string"
17765                 },
17766                 "eps": {
17767                     "description": "the Endpoint information of the target Resource",
17768                     "items": {
17769                         "properties": {
17770                             "ep": {
17771                                 "description": "Transport Protocol Suite + Endpoint Locator",
17772                                 "format": "uri",
17773                                 "type": "string"
17774                             },
17775                             "pri": {
17776                                 "description": "The priority among multiple Endpoints",
17777                                 "minimum": 1,
17778                                 "type": "integer"
17779                             }
17780                         },
17781                         "type": "object"
17782                     },
17783                     "type": "array"
17784                 },
17785                 "href": {
17786                     "description": "This is the target URI, it can be specified as a Relative Reference
17787 or fully-qualified URI.",
17788                     "format": "uri",
17789                     "maxLength": 256,
17790                     "type": "string"
17791                 },
17792                 "if": {
17793                     "description": "The interface set supported by this resource",
17794                     "items": {
17795                         "enum": [
17796                             "oic.if.baseline",
17797                             "oic.if.ll",
17798                             "oic.if.b",
17799                             "oic.if.rw",
17800                             "oic.if.x",
17801                             "oic.if.a",
17802                             "oic.if.s"
17803                         ],
17804                         "type": "string"
17805                     },
17806                     "minItems": 1,
17807                     "type": "array"
17808                 },
17809                 "ins": {
17810                     "description": "The instance identifier for this web link in an array of web links -
17811 used in collections",
17812                     "type": "integer"
17813                 },
17814                 "p": {
17815                     "description": "Specifies the framework policies on the Resource referenced by the

```

```

17816 target URI",
17817     "properties": {
17818         "bm": {
17819             "description": "Specifies the framework policies on the Resource referenced by
17820 the target URI for e.g. observable and discoverable",
17821             "type": "integer"
17822         }
17823     },
17824     "required": [
17825         "bm"
17826     ],
17827     "type": "object"
17828 },
17829 "rel": {
17830     "description": "The relation of the target URI referenced by the link to the context
17831 URI",
17832     "oneOf": [
17833         {
17834             "default": [
17835                 "hosts"
17836             ],
17837             "items": {
17838                 "maxLength": 64,
17839                 "type": "string"
17840             },
17841             "minItems": 1,
17842             "type": "array"
17843         },
17844         {
17845             "default": "hosts",
17846             "maxLength": 64,
17847             "type": "string"
17848         }
17849     ]
17850 },
17851 "rt": {
17852     "description": "Resource Type of the Resource",
17853     "items": {
17854         "maxLength": 64,
17855         "type": "string"
17856     },
17857     "minItems": 1,
17858     "type": "array"
17859 },
17860 "title": {
17861     "description": "A title for the link relation. Can be used by the UI to provide a
17862 context.",
17863     "maxLength": 64,
17864     "type": "string"
17865 },
17866 "type": {
17867     "default": "application/cbor",
17868     "description": "A hint at the representation of the resource referenced by the
17869 target URI. This represents the media types that are used for both accepting and emitting.",
17870     "items": {
17871         "maxLength": 64,
17872         "type": "string"
17873     },
17874     "minItems": 1,
17875     "type": "array"
17876 }
17877 },
17878 "required": [
17879     "href",
17880     "rt",
17881     "if"
17882 ],
17883 "type": "object"
17884 },
17885 "type": "array"
17886 },
17887

```

```

17888     "n" :
17889         {
17890             "description": "Friendly name of the resource",
17891             "maxLength": 64,
17892             "readOnly": true,
17893             "type": "string"
17894         },
17895
17896     "rts" :
17897         {
17898             "items": {
17899                 "anyOf": [
17900                     {
17901                         "enum": [
17902                             "oic.r.heatingzone",
17903                             "oic.r.value.conditional"
17904                         ],
17905                         "type": "string"
17906                     },
17907                     {
17908                         "enum": [
17909                             "oic.r.heatingzone"
17910                         ],
17911                         "type": "string"
17912                     }
17913                 ]
17914             },
17915             "maxItems": 2,
17916             "minItems": 1,
17917             "type": "array",
17918             "uniqueItems": true
17919         },
17920
17921     "id" :
17922         {
17923             "description": "Instance ID of this specific resource",
17924             "maxLength": 64,
17925             "readOnly": true,
17926             "type": "string"
17927         },
17928
17929     "if" :
17930         {
17931             "description": "The interface set supported by this resource",
17932             "items": {
17933                 "enum": [
17934                     "oic.if.baseline",
17935                     "oic.if.ll",
17936                     "oic.if.b",
17937                     "oic.if.lb",
17938                     "oic.if.rw",
17939                     "oic.if.r",
17940                     "oic.if.a",
17941                     "oic.if.s"
17942                 ],
17943                 "type": "string"
17944             },
17945             "minItems": 1,
17946             "readOnly": true,
17947             "type": "array"
17948         }
17949     }
17950 }
17951 , "type" : "object"
17952 }
17953 , "oic.collection.links.arrayoflinks" :
17954 {
17955     "properties": {
17956         "links": {
17957             "description": "A set of simple or individual OIC Links.",
17958             "items": {
17959                 "properties": {

```

```

17960         "anchor": {
17961             "description": "This is used to override the context URI e.g. override the URI of
the containing collection.",
17962             "format": "uri",
17963             "maxLength": 256,
17964             "type": "string"
17965         },
17966     },
17967     "di": {
17968         "description": "The Device ID formatted according to IETF RFC 4122.",
17969         "pattern": "^[a-fA-F0-9]{8}-[a-fA-F0-9]{4}-[a-fA-F0-9]{4}-[a-fA-F0-
17970 9]{12}$",
17971         "type": "string"
17972     },
17973     "eps": {
17974         "description": "the Endpoint information of the target Resource",
17975         "items": {
17976             "properties": {
17977                 "ep": {
17978                     "description": "Transport Protocol Suite + Endpoint Locator",
17979                     "format": "uri",
17980                     "type": "string"
17981                 },
17982                 "pri": {
17983                     "description": "The priority among multiple Endpoints",
17984                     "minimum": 1,
17985                     "type": "integer"
17986                 }
17987             }
17988         },
17989         "type": "object"
17990     },
17991     "type": "array"
17992 },
17993 "href": {
17994     "description": "This is the target URI, it can be specified as a Relative Reference
or fully-qualified URI.",
17995     "format": "uri",
17996     "maxLength": 256,
17997     "type": "string"
17998 },
17999 "if": {
18000     "description": "The interface set supported by this resource",
18001     "items": {
18002         "enum": [
18003             "oic.if.baseline",
18004             "oic.if.ll",
18005             "oic.if.b",
18006             "oic.if.rw",
18007             "oic.if.r",
18008             "oic.if.a",
18009             "oic.if.s"
18010         ],
18011         "type": "string"
18012     },
18013     "minItems": 1,
18014     "type": "array"
18015 },
18016 "ins": {
18017     "description": "The instance identifier for this web link in an array of web links -
18018 used in collections",
18019     "type": "integer"
18020 },
18021 "p": {
18022     "description": "Specifies the framework policies on the Resource referenced by the
18023 target URI",
18024     "properties": {
18025         "bm": {
18026             "description": "Specifies the framework policies on the Resource referenced by
18027 the target URI for e.g. observable and discoverable",
18028             "type": "integer"
18029         }
18030     },
18031     "required": [

```

```

18032         "bm"
18033     ],
18034     "type": "object"
18035 },
18036 "rel": {
18037     "description": "The relation of the target URI referenced by the link to the context
18038 URI",
18039     "oneOf": [
18040         {
18041             "default": [
18042                 "hosts"
18043             ],
18044             "items": {
18045                 "maxLength": 64,
18046                 "type": "string"
18047             },
18048             "minItems": 1,
18049             "type": "array"
18050         },
18051         {
18052             "default": "hosts",
18053             "maxLength": 64,
18054             "type": "string"
18055         }
18056     ],
18057 },
18058 "rt": {
18059     "description": "Resource Type of the Resource",
18060     "items": {
18061         "maxLength": 64,
18062         "type": "string"
18063     },
18064     "minItems": 1,
18065     "type": "array"
18066 },
18067 "title": {
18068     "description": "A title for the link relation. Can be used by the UI to provide a
18069 context.",
18070     "maxLength": 64,
18071     "type": "string"
18072 },
18073 "type": {
18074     "default": "application/cbor",
18075     "description": "A hint at the representation of the resource referenced by the
18076 target URI. This represents the media types that are used for both accepting and emitting.",
18077     "items": {
18078         "maxLength": 64,
18079         "type": "string"
18080     },
18081     "minItems": 1,
18082     "type": "array"
18083 },
18084 },
18085 "required": [
18086     "href",
18087     "rt",
18088     "if"
18089 ],
18090 "type": "object"
18091 },
18092 "type": "array"
18093 }
18094 }
18095 }
18096
18097 , "heatingzonecollection-ll" :
18098 {
18099     "items": {
18100         "$ref": "#/definitions/oic.oic-link"
18101     },
18102     "type": "array"
18103 }

```

```

18104
18105     , "oic.core" :
18106     {
18107         "properties": {
18108             "id": {
18109                 "description": "Instance ID of this specific resource",
18110                 "maxLength": 64,
18111                 "readOnly": true,
18112                 "type": "string"
18113             },
18114             "if": {
18115                 "description": "The interface set supported by this resource",
18116                 "items": {
18117                     "enum": [
18118                         "oic.if.baseline",
18119                         "oic.if.ll",
18120                         "oic.if.b",
18121                         "oic.if.lb",
18122                         "oic.if.rw",
18123                         "oic.if.r",
18124                         "oic.if.a",
18125                         "oic.if.s"
18126                     ],
18127                     "type": "string"
18128                 },
18129                 "minItems": 1,
18130                 "readOnly": true,
18131                 "type": "array"
18132             },
18133             "n": {
18134                 "description": "Friendly name of the resource",
18135                 "maxLength": 64,
18136                 "readOnly": true,
18137                 "type": "string"
18138             },
18139             "rt": {
18140                 "description": "Resource Type",
18141                 "items": {
18142                     "maxLength": 64,
18143                     "type": "string"
18144                 },
18145                 "minItems": 1,
18146                 "readOnly": true,
18147                 "type": "array"
18148             }
18149         },
18150         "type": "object"
18151     }
18152
18153     , "oic.r.heatingzonecollection" :
18154     {
18155         "properties": {
18156             "rt": {
18157                 "items": {
18158                     "enum": [
18159                         "oic.r.heatingzonecollection",
18160                         "oic.wk.col"
18161                     ],
18162                     "type": "string"
18163                 },
18164                 "maxItems": 2,
18165                 "minItems": 2,
18166                 "type": "array",
18167                 "uniqueItems": true
18168             },
18169             "rts": {
18170                 "items": {
18171                     "anyOf": [
18172                         {
18173                             "enum": [
18174                                 "oic.r.heatingzone",
18175                                 "oic.r.value.conditional"

```



```

18176         ],
18177         "type": "string"
18178     },
18179     {
18180         "enum": [
18181             "oic.r.heatingzone"
18182         ],
18183         "type": "string"
18184     }
18185 ]
18186 },
18187 "maxItems": 2,
18188 "minItems": 1,
18189 "type": "array",
18190 "uniqueItems": true
18191 }
18192 },
18193 "type": "object"
18194 }
18195
18196 , "oic.collection.properties" :
18197 {
18198     "description": "A collection is a set of links along with additional properties to describe
18199 the collection itself",
18200     "properties": {
18201         "rts": {
18202             "$ref": "#/definitions/oic.core.properties/rt",
18203             "description": "The list of allowable resource types (for Target and anchors) in links
18204 included in the collection"
18205         }
18206     },
18207     "type": "object"
18208 }
18209
18210 , "oic.oic-link" :
18211 {
18212     "properties": {
18213         "anchor": {
18214             "description": "This is used to override the context URI e.g. override the URI of the
18215 containing collection.",
18216             "format": "uri",
18217             "maxLength": 256,
18218             "type": "string"
18219         },
18220         "di": {
18221             "description": "The Device ID formatted according to IETF RFC 4122.",
18222             "pattern": "^[a-fA-F0-9]{8}-[a-fA-F0-9]{4}-[a-fA-F0-9]{4}-[a-fA-F0-9]{4}-[a-fA-F0-
18223 9]{12}$",
18224             "type": "string"
18225         },
18226         "eps": {
18227             "description": "the Endpoint information of the target Resource",
18228             "items": {
18229                 "properties": {
18230                     "ep": {
18231                         "description": "Transport Protocol Suite + Endpoint Locator",
18232                         "format": "uri",
18233                         "type": "string"
18234                     },
18235                     "pri": {
18236                         "description": "The priority among multiple Endpoints",
18237                         "minimum": 1,
18238                         "type": "integer"
18239                     }
18240                 },
18241                 "type": "object"
18242             },
18243             "type": "array"
18244         },
18245         "href": {
18246             "description": "This is the target URI, it can be specified as a Relative Reference or
18247 fully-qualified URI.",

```

```

18248         "format": "uri",
18249         "maxLength": 256,
18250         "type": "string"
18251     },
18252     "if": {
18253         "description": "The interface set supported by this resource",
18254         "items": {
18255             "enum": [
18256                 "oic.if.baseline",
18257                 "oic.if.ll",
18258                 "oic.if.b",
18259                 "oic.if.rw",
18260                 "oic.if.r",
18261                 "oic.if.a",
18262                 "oic.if.s"
18263             ],
18264             "type": "string"
18265         },
18266         "minItems": 1,
18267         "type": "array"
18268     },
18269     "ins": {
18270         "description": "The instance identifier for this web link in an array of web links - used
18271 in collections",
18272         "type": "integer"
18273     },
18274     "p": {
18275         "description": "Specifies the framework policies on the Resource referenced by the target
18276 URI",
18277         "properties": {
18278             "bm": {
18279                 "description": "Specifies the framework policies on the Resource referenced by the
18280 target URI for e.g. observable and discoverable",
18281                 "type": "integer"
18282             }
18283         },
18284         "required": [
18285             "bm"
18286         ],
18287         "type": "object"
18288     },
18289     "rel": {
18290         "description": "The relation of the target URI referenced by the link to the context URI",
18291         "oneOf": [
18292             {
18293                 "default": [
18294                     "hosts"
18295                 ],
18296                 "items": {
18297                     "maxLength": 64,
18298                     "type": "string"
18299                 },
18300                 "minItems": 1,
18301                 "type": "array"
18302             },
18303             {
18304                 "default": "hosts",
18305                 "maxLength": 64,
18306                 "type": "string"
18307             }
18308         ]
18309     },
18310     "rt": {
18311         "description": "Resource Type of the Resource",
18312         "items": {
18313             "maxLength": 64,
18314             "type": "string"
18315         },
18316         "minItems": 1,
18317         "type": "array"
18318     },
18319     "title": {

```

```

18320         "description": "A title for the link relation. Can be used by the UI to provide a
18321 context.",
18322         "maxLength": 64,
18323         "type": "string"
18324     },
18325     "type": {
18326         "default": "application/cbor",
18327         "description": "A hint at the representation of the resource referenced by the target URI.
18328 This represents the media types that are used for both accepting and emitting.",
18329         "items": {
18330             "maxLength": 64,
18331             "type": "string"
18332         },
18333         "minItems": 1,
18334         "type": "array"
18335     }
18336 },
18337 "required": [
18338     "href",
18339     "rt",
18340     "if"
18341 ],
18342 "type": "object"
18343 }
18344 }
18345 }
18346 }
18347

```

18348 **6.73.5 Property definition**

18349 Table 149 defines the Properties that are part of the ['oic.r.heatingzonecollection', 'oic.wk.col']
18350 Resource Type

18351 **Table 149 – The Property definitions of the Resource with type 'rt' =**
18352 **['oic.r.heatingzonecollection', 'oic.wk.col']**

Property name	Value type	Mandatory	Access mode	Description
links	array: see schema	No	Read Write	A set of simple or individual OIC Links.
rts	array: see schema		Read Write	
rt	array: see schema		Read Write	
id	string		Read Only	Instance ID of this specific resource
n	string		Read Only	Friendly name of the resource
rt	array: see schema		Read Only	Resource Type
if	array: see schema		Read Only	The interface set supported by this resource
rts	multiple types: see schema		Read Write	The list of allowable resource types (for Target and anchors) in links included in the collection

id	string	No	Read Only	Instance ID of this specific resource
n	string	No	Read Only	Friendly name of the resource
if	array: schema see	Yes	Read Only	The interface set supported by this resource
rts	array: schema see	No	Read Write	
links	array: schema see	No	Read Write	A set of simple or individual OIC Links.
rt	array: schema see	Yes	Read Write	
di	string	No	Read Write	The Device ID formatted according to IETF RFC 4122.
href	string	Yes	Read Write	This is the target URI, it can be specified as a Relative Reference or fully-qualified URI.
eps	array: schema see	No	Read Write	the Endpoint information of the target Resource
anchor	string	No	Read Write	This is used to override the context URI e.g. override the URI of the containing collection.
title	string	No	Read Write	A title for the link relation. Can be used by the UI to provide a context.
if	array: schema see	Yes	Read Write	The interface set supported by this resource
type	array: schema see	No	Read Write	A hint at the representation of the resource referenced by the target URI. This represents the media types that are used for both accepting and emitting.
rel	multiple types: see schema	No	Read Write	The relation of the target URI

				referenced by the link to the context URI
p	object: schema	see	No	Read Write
ins	integer		No	Read Write
rt	array: schema	see	Yes	Read Write

18353 **6.73.6 CRUDN behaviour**

18354 Table 150 defines the CRUDN operations that are supported on the ['oic.r.heatingzonecollection',
18355 'oic.wk.col'] Resource Type

18356 **Table 150 – The CRUDN operations of the Resource with type 'rt' =**
18357 **['oic.r.heatingzonecollection', 'oic.wk.col']**

Create	Read	Update	Delete	Notify
	get			observe

18358 **6.74 Selectable Levels**

18359 **6.74.1 Introduction**

18360 This Resource provides a set of device defined 'levels' that can be selected for an operation.
18361 For example where a humidifier has a discrete set that model different humidity levels that can be
18362 set.
18363 availablelevels is an array of the levels that can be selected, these can be a number or an
18364 integer.
18365 targetlevel is the level that has currently been selected and is written to in order to select a new
18366 level.
18367 When retrieved the targetlevel provides the actual value that has been selected.
18368 Retrieves the current selectable levels.
18369

18370 **6.74.2 Example URI**

18371 /SelectableLevelsResURI

18372 **6.74.3 Resource type**

18373 The resource type (rt) is defined as: ['oic.r.selectablelevels'].

18374 **6.74.4 OpenAPI 2.0 definition**

18375 {
18376 "swagger": "2.0",
18377 "info": {
18378 "title": "Selectable Levels",
18379 "version": "v1.1.0-20160519",
18380 "license": {
18381 "name": "copyright 2016-2017 Open Connectivity Foundation, Inc. All rights reserved.",
18382 "x-description": "Redistribution and use in source and binary forms, with or without
18383 modification, are permitted provided that the following conditions are met:\n 1.
18384 Redistributions of source code must retain the above copyright notice, this list of conditions and
18385 the following disclaimer.\n 2. Redistributions in binary form must reproduce the above
18386 copyright notice, this list of conditions and the following disclaimer in the documentation and/or

```

18387 other materials provided with the distribution.\n\n          THIS SOFTWARE IS PROVIDED BY THE Open
18388 Connectivity Foundation, INC. \ "AS IS\ " AND ANY EXPRESS OR IMPLIED WARRANTIES, INCLUDING, BUT NOT
18389 LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE OR
18390 WARRANTIES OF NON-INFRINGEMENT, ARE DISCLAIMED.\n          IN NO EVENT SHALL THE Open Connectivity
18391 Foundation, INC. OR CONTRIBUTORS BE LIABLE FOR ANY DIRECT, INDIRECT, INCIDENTAL, SPECIAL, EXEMPLARY,
18392 OR CONSEQUENTIAL DAMAGES (INCLUDING, BUT NOT LIMITED TO, PROCUREMENT OF SUBSTITUTE GOODS OR
18393 SERVICES; LOSS OF USE, DATA, OR PROFITS; OR BUSINESS INTERRUPTION)\n          HOWEVER CAUSED AND ON
18394 ANY THEORY OF LIABILITY, WHETHER IN CONTRACT, STRICT LIABILITY, OR TORT (INCLUDING NEGLIGENCE OR
18395 OTHERWISE) ARISING IN ANY WAY OUT OF THE USE OF THIS SOFTWARE, EVEN IF ADVISED OF THE POSSIBILITY OF
18396 SUCH DAMAGE.\n"
18397     }
18398   },
18399   "schemes": ["http"],
18400   "consumes": ["application/json"],
18401   "produces": ["application/json"],
18402   "paths": {
18403     "/SelectableLevelsResURI" : {
18404       "get": {
18405         "description": "This Resource provides a set of device defined 'levels' that can be selected
18406 for an operation.\nFor example where a humidifier has a discrete set that model different humidity
18407 levels that can be set.\navailablelevels is an array of the levels that can be selected, these can
18408 be a number or an integer.\ntargetlevel is the level that has currently been selected and is written
18409 to in order to select a new level.\nWhen retrieved the targetlevel provides the actual value that
18410 has been selected.\nRetrieves the current selectable levels.\n",
18411         "parameters": [
18412           { "$ref": "#/parameters/interface" }
18413         ],
18414         "responses": {
18415           "200": {
18416             "description": "",
18417             "x-example":
18418               {
18419                 "rt": ["oic.r.selectablelevels"],
18420                 "id": "unique_example_id",
18421                 "availablelevels": [0,2,4,6,8],
18422                 "targetlevel": 2
18423               }
18424             ,
18425             "schema": { "$ref": "#/definitions/SelectableLevels" }
18426           }
18427         }
18428       },
18429       "post": {
18430         "description": "Sets the current level from the set that is selectable",
18431         "parameters": [
18432           { "$ref": "#/parameters/interface" },
18433           {
18434             "name": "body",
18435             "in": "body",
18436             "required": true,
18437             "schema": { "$ref": "#/definitions/UpdateSchema" },
18438             "x-example":
18439               {
18440                 "targetlevel": 4
18441               }
18442           }
18443         ],
18444         "responses": {
18445           "200": {
18446             "description": "",
18447             "x-example":
18448               {
18449                 "targetlevel": 4
18450               }
18451             ,
18452             "schema": { "$ref": "#/definitions/UpdateSchema" }
18453           },
18454           "403": {
18455             "description": "Generated by a Server when an attempt is made to update to a
18456 targetlevel that is not in the set of availablelevels",
18457             "x-example":
18458               {

```

```

18459         "id": "unique_example_id",
18460         "availablelevels": [0,2,4,6,8],
18461         "targetlevel": 2
18462     }
18463     ,
18464     "schema": { "$ref": "#/definitions/SelectableLevels" }
18465 }
18466 }
18467 }
18468 },
18469 },
18470 "parameters": {
18471     "interface" : {
18472         "in" : "query",
18473         "name" : "if",
18474         "type" : "string",
18475         "enum" : ["oic.if.a", "oic.if.baseline"]
18476     }
18477 },
18478 "definitions": {
18479     "SelectableLevels" : {
18480         "properties": {
18481             "rt" :
18482                 {
18483                     "description": "Resource Type",
18484                     "items": {
18485                         "maxLength": 64,
18486                         "type": "string"
18487                     },
18488                     "minItems": 1,
18489                     "readOnly": true,
18490                     "type": "array"
18491                 },
18492             "n" :
18493                 {
18494                     "description": "Friendly name of the resource",
18495                     "maxLength": 64,
18496                     "readOnly": true,
18497                     "type": "string"
18498                 },
18499             "targetlevel" :
18500                 {
18501                     "anyOf": [
18502                         {
18503                             "type": "integer"
18504                         },
18505                         {
18506                             "type": "number"
18507                         }
18508                     ],
18509                     "description": "The target level from the available selectable set"
18510                 },
18511             "availablelevels" :
18512                 {
18513                     "description": "Set of levels from which one can be selected",
18514                     "items": {
18515                         "anyOf": [
18516                             {
18517                                 "type": "integer"
18518                             },
18519                             {
18520                                 "type": "number"
18521                             }
18522                         ]
18523                     },
18524                     "readOnly": true,
18525                     "type": "array"
18526                 },
18527             "id" :
18528                 {
18529                     "description": "Instance ID of this specific resource",
18530                     "maxLength": 64,

```

```

18531         "readOnly": true,
18532         "type": "string"
18533     },
18534     "if" :
18535     {
18536         "description": "The interface set supported by this resource",
18537         "items": {
18538             "enum": [
18539                 "oic.if.baseline",
18540                 "oic.if.ll",
18541                 "oic.if.b",
18542                 "oic.if.lb",
18543                 "oic.if.rw",
18544                 "oic.if.r",
18545                 "oic.if.a",
18546                 "oic.if.s"
18547             ],
18548             "type": "string"
18549         },
18550         "minItems": 1,
18551         "readOnly": true,
18552         "type": "array"
18553     }
18554 }
18555 }, "type" : "object"
18556 , "required": ["availablelevels", "targetlevel"]
18557 }
18558 ,
18559 "UpdateSchema" : {
18560     "properties": {
18561         "targetlevel" :
18562         {
18563             "description": "The target level from the available selectable set",
18564             "type": [
18565                 "integer",
18566                 "number"
18567             ]
18568         }
18569     }
18570 }, "type" : "object"
18571 , "required": ["targetlevel"]
18572 }
18573 }
18574 }
18575 }
18576

```

6.74.5 Property definition

Table 151 defines the Properties that are part of the ['oic.r.selectablelevels'] Resource Type

Table 151 – The Property definitions of the Resource with type 'rt' = ['oic.r.selectablelevels']

Property name	Value type	Mandatory	Access mode	Description
rt	array: see schema	No	Read Only	Resource Type
id	string	No	Read Only	Instance ID of this specific resource
availablelevels	array: see schema	Yes	Read Only	Set of levels from which one can be selected
n	string	No	Read Only	Friendly name of the resource
targetlevel	multiple types: see schema	Yes	Read Write	The target level from the

				available selectable set
if	array: see schema	No	Read Only	The interface set supported by this resource
targetlevel	['integer', 'number']	Yes	Read Write	The target level from the available selectable set

18581 **6.74.6 CRUDN behaviour**

18582 Table 152 defines the CRUDN operations that are supported on the ['oic.r.selectablelevels']
18583 Resource Type

18584 **Table 152 – The CRUDN operations of the Resource with type 'rt' = ['oic.r.selectablelevels']**

Create	Read	Update	Delete	Notify
	get	post		observe

18585 **6.75 Value Conditional**

18586 **6.75.1 Introduction**

18587 This resource specifies conditions that can be applied to an observed value in any Resource.
18588 These conditions are applied by the server exposing the Resource to any generated notifications
18589 because of subscriptions to the Resource.

18590 A unicast RETRIEVE to the Resource will receive the most recent value; which may not be the
18591 most recent notified value.

18592 A server exposes this Resource in association with the Resource conveying the observed value.
18593 This is done by means of a new Resource instance with an RT of ["oic.r.<thing being observed>",
18594 "oic.r.value.conditional"], e.g ["oic.r.temperature", "oic.r.value.conditional"]. Please see Section
18595 5.7.1 of the published OCF Resource Type Specification for more details.

18596 The threshold is the amount by which the thing being observed must change before a notification
18597 is sent.

18598 The minnotifyperiod is the minimum time in ms (milliseconds) that must elapse before a
18599 notification is sent.

18600 If the maxnotifyperiod (time in ms (milliseconds)) elapses then a notification must be sent.

18601 The maxnotifyperiod timer resets each time a notification is sent.

18602 A value of '0' for any of threshold, minnotifyperiod or maxnotifyperiod means that the capability is
18603 supported but not active.

18604

18605 **6.75.2 Example URI**

18606 /ValueConditionalResURI

18607 **6.75.3 Resource type**

18608 The resource type (rt) is defined as: ['oic.r.value.conditional'].

18609 **6.75.4 OpenAPI 2.0 definition**

```
18610 {
18611   "swagger": "2.0",
18612   "info": {
18613     "title": "Value Conditional",
18614     "version": "v1.1.0-20161031",
18615     "license": {
18616       "name": "copyright 2016-2017 Open Connectivity Foundation, Inc. All rights reserved.",
18617       "x-description": "Redistribution and use in source and binary forms, with or without
18618 modification, are permitted provided that the following conditions are met:\n      1.
18619 Redistributions of source code must retain the above copyright notice, this list of conditions and
18620 the following disclaimer.\n      2. Redistributions in binary form must reproduce the above
18621 copyright notice, this list of conditions and the following disclaimer in the documentation and/or
18622 other materials provided with the distribution.\n\n      THIS SOFTWARE IS PROVIDED BY THE Open
```

```

18623 Connectivity Foundation, INC. \ "AS IS\ " AND ANY EXPRESS OR IMPLIED WARRANTIES, INCLUDING, BUT NOT
18624 LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE OR
18625 WARRANTIES OF NON-INFRINGEMENT, ARE DISCLAIMED.\n          IN NO EVENT SHALL THE Open Connectivity
18626 Foundation, INC. OR CONTRIBUTORS BE LIABLE FOR ANY DIRECT, INDIRECT, INCIDENTAL, SPECIAL, EXEMPLARY,
18627 OR CONSEQUENTIAL DAMAGES (INCLUDING, BUT NOT LIMITED TO, PROCUREMENT OF SUBSTITUTE GOODS OR
18628 SERVICES; LOSS OF USE, DATA, OR PROFITS; OR BUSINESS INTERRUPTION)\n          HOWEVER CAUSED AND ON
18629 ANY THEORY OF LIABILITY, WHETHER IN CONTRACT, STRICT LIABILITY, OR TORT (INCLUDING NEGLIGENCE OR
18630 OTHERWISE) ARISING IN ANY WAY OUT OF THE USE OF THIS SOFTWARE, EVEN IF ADVISED OF THE POSSIBILITY OF
18631 SUCH DAMAGE.\n"
18632 }
18633 },
18634 "schemes": ["http"],
18635 "consumes": ["application/json"],
18636 "produces": ["application/json"],
18637 "paths": {
18638     "/ValueConditionalResURI" : {
18639         "get": {
18640             "description": "This resource specifies conditions that can be applied to an observed value
18641 in any Resource.\nThese conditions are applied by the server exposing the Resource to any generated
18642 notifications because of subscriptions to the Resource.\nA unicast RETRIEVE to the Resource will
18643 receive the most recent value; which may not be the most recent notified value.\nA server exposes
18644 this Resource in association with the Resource conveying the observed value.\nThis is done by means
18645 of a new Resource instance with an RT of [\ "oic.r.<thing being observed>\ ",
18646 \ "oic.r.value.conditional\" ], e.g [\ "oic.r.temperature\" , \ "oic.r.value.conditional\" ]. Please see
18647 Section 5.7.1 of the published OCF Resource Type Specification for more details.\nThe threshold is
18648 the amount by which the thing being observed must change before a notification is sent.\nThe
18649 minnotifyperiod is the minimum time in ms (milliseconds) that must elapse before a notification is
18650 sent.\nIf the maxnotifyperiod (time in ms (milliseconds)) elapses then a notification must be
18651 sent.\nThe maxnotifyperiod timer resets each time a notification is sent.\nA value of '0' for any of
18652 threshold, minnotifyperiod or maxnotifyperiod means that the capability is supported but not
18653 active.\n",
18654         "parameters": [
18655             { "$ref": "#/parameters/interface" }
18656         ],
18657         "responses": {
18658             "200": {
18659                 "description": "",
18660                 "x-example":
18661                 {
18662                     "rt":          [ "oic.r.value.conditional" ],
18663                     "id":         "unique_example_id",
18664                     "threshold":   2,
18665                     "minnotifyperiod": 2000,
18666                     "maxnotifyperiod": 5000
18667                 },
18668                 ,
18669                 "schema": { "$ref": "#/definitions/valueconditional" }
18670             }
18671         }
18672     },
18673     "post": {
18674         "description": "body:\n application/json:\n          schema: valueconditional\n          example: |\n
18675 {\n          \ "threshold\" : 2,\n          \ "minnotifyperiod\" : 1500\n          }\n",
18676         "parameters": [
18677             { "$ref": "#/parameters/interface" }
18678         ],
18679         "responses": {
18680             "200": {
18681                 "description": "",
18682                 "x-example":
18683                 {
18684                     "threshold":   2,
18685                     "minnotifyperiod": 1500
18686                 },
18687                 ,
18688                 "schema": { "$ref": "#/definitions/valueconditional" }
18689             }
18690         }
18691     }
18692 },
18693 },
18694 "parameters": {

```

```

18695     "interface" : {
18696         "in" : "query",
18697         "name" : "if",
18698         "type" : "string",
18699         "enum" : ["oic.if.rw", "oic.if.baseline"]
18700     }
18701 },
18702 "definitions": {
18703     "valueconditional" : {
18704         "properties": {
18705             "rt" :
18706                 {
18707                     "description": "Resource Type",
18708                     "items": {
18709                         "maxLength": 64,
18710                         "type": "string"
18711                     },
18712                     "minItems": 1,
18713                     "readOnly": true,
18714                     "type": "array"
18715                 },
18716         "maxnotifyperiod" :
18717             {
18718                 "description": "Maximum elapsed time in ms before a notification must be sent.",
18719                 "minimum": 0,
18720                 "type": "integer"
18721             },
18722         "n" :
18723             {
18724                 "description": "Friendly name of the resource",
18725                 "maxLength": 64,
18726                 "readOnly": true,
18727                 "type": "string"
18728             },
18729         "minnotifyperiod" :
18730             {
18731                 "description": "Minimum elapsed time in ms before a notification is sent.",
18732                 "minimum": 0,
18733                 "type": "integer"
18734             },
18735         "threshold" :
18736             {
18737                 "description": "Amount by which the measured value must change before a notification is
18738 sent.",
18739                 "minimum": 0,
18740                 "type": "number"
18741             },
18742         "id" :
18743             {
18744                 "description": "Instance ID of this specific resource",
18745                 "maxLength": 64,
18746                 "readOnly": true,
18747                 "type": "string"
18748             },
18749         "if" :
18750             {
18751                 "description": "The interface set supported by this resource",
18752                 "items": {
18753                     "enum": [
18754                         "oic.if.baseline",
18755                         "oic.if.ll",
18756                         "oic.if.b",
18757                         "oic.if.lb",
18758                         "oic.if.rw",
18759                         "oic.if.r",
18760                         "oic.if.a",
18761                         "oic.if.s"
18762                     ],
18763                     "type": "string"
18764                 },
18765                 "minItems": 1,
18766                 "readOnly": true,

```

```

18767     "type": "array"
18768   }
18769 }
18770 , "anyOf" :
18771   [
18772     {
18773       "required": [
18774         "threshold"
18775       ]
18776     },
18777     {
18778       "required": [
18779         "minnotifyperiod"
18780       ]
18781     },
18782     {
18783       "required": [
18784         "maxnotifyperiod"
18785       ]
18786     }
18787   ]
18788 , "type" : "object"
18789 }
18790 }
18791 }
18792

```

18793 **6.75.5 Property definition**

18794 Table 153 defines the Properties that are part of the ['oic.r.value.conditional'] Resource Type

18795 **Table 153 – The Property definitions of the Resource with type 'rt' =**
18796 **['oic.r.value.conditional']**

Property name	Value type	Mandatory	Access mode	Description
maxnotifyperiod	integer	Yes	Read Write	Maximum elapsed time in ms before a notification must be sent.
id	string	No	Read Only	Instance ID of this specific resource
rt	array: see schema	No	Read Only	Resource Type
threshold	number	No	Read Write	Amount by which the measured value must change before a notification is sent.
minnotifyperiod	integer	No	Read Write	Minimum elapsed time in ms before a notification is sent.
n	string	No	Read Only	Friendly name of the resource
if	array: see schema	No	Read Only	The interface set supported by this resource

18797 **6.75.6 CRUDN behaviour**

18798 Table 154 defines the CRUDN operations that are supported on the ['*oic.r.value.conditional*']
18799 Resource Type

18800 **Table 154 – The CRUDN operations of the Resource with type 'rt' =**
18801 **['*oic.r.value.conditional*']**

Create	Read	Update	Delete	Notify
	get	post		observe

18802 **6.76 Colour Space Coordinates**

18803 **6.76.1 Introduction**

18804 This resource describes the colour using colour space co-ordinates.

18805 *csc* is the colour space coordinates in CIE colour space.

18806 The first item in the array is the X coordinate.

18807 The second item in the array is the Y coordinate.

18808 If precision (from *oic.r.baseresource*) is provided it applies to both the X and Y coordinates.

18809 Provides the colour using colour space coordinates.

18810

18811 **6.76.2 Example URI**

18812 /example/ColourSpaceCoordinatesResURI

18813 **6.76.3 Resource type**

18814 The resource type (rt) is defined as: ['*oic.r.colour.csc*'].

18815 **6.76.4 OpenAPI 2.0 definition**

```
18816 {
18817   "swagger": "2.0",
18818   "info": {
18819     "title": "Colour Space Coordinates",
18820     "version": "OCFv1.1.0-2017",
18821     "license": {
18822       "name": "copyright 2016-2017 Open Connectivity Foundation, Inc. All rights reserved.",
18823       "x-description": "Redistribution and use in source and binary forms, with or without
18824 modification, are permitted provided that the following conditions are met:\n      1.
18825 Redistributions of source code must retain the above copyright notice, this list of conditions and
18826 the following disclaimer.\n      2. Redistributions in binary form must reproduce the above
18827 copyright notice, this list of conditions and the following disclaimer in the documentation and/or
18828 other materials provided with the distribution.\n\n      THIS SOFTWARE IS PROVIDED BY THE Open
18829 Connectivity Foundation, INC. \\\nAS IS\\n AND ANY EXPRESS OR IMPLIED WARRANTIES, INCLUDING, BUT NOT
18830 LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE OR
18831 WARRANTIES OF NON-INFRINGEMENT, ARE DISCLAIMED.\n      IN NO EVENT SHALL THE Open Connectivity
18832 Foundation, INC. OR CONTRIBUTORS BE LIABLE FOR ANY DIRECT, INDIRECT, INCIDENTAL, SPECIAL, EXEMPLARY,
18833 OR CONSEQUENTIAL DAMAGES (INCLUDING, BUT NOT LIMITED TO, PROCUREMENT OF SUBSTITUTE GOODS OR
18834 SERVICES; LOSS OF USE, DATA, OR PROFITS; OR BUSINESS INTERRUPTION)\n      HOWEVER CAUSED AND ON
18835 ANY THEORY OF LIABILITY, WHETHER IN CONTRACT, STRICT LIABILITY, OR TORT (INCLUDING NEGLIGENCE OR
18836 OTHERWISE) ARISING IN ANY WAY OUT OF THE USE OF THIS SOFTWARE, EVEN IF ADVISED OF THE POSSIBILITY OF
18837 SUCH DAMAGE.\n"
18838   }
18839 },
18840 "schemes": ["http"],
18841 "consumes": ["application/json"],
18842 "produces": ["application/json"],
18843 "paths": {
18844   "/example/ColourSpaceCoordinatesResURI" : {
18845     "get": {
18846       "description": "This resource describes the colour using colour space co-ordinates.\ncsc is
18847 the colour space coordinates in CIE colour space.\n The first item in the array is the X
18848 coordinate.\n The second item in the array is the Y coordinate.\n If precision (from
18849 oic.r.baseresource) is provided it applies to both the X and Y coordinates.\nProvides the colour
18850 using colour space coordinates.\n",
18851       "parameters": [
18852         {"$ref": "#/parameters/interface-all"}
18853       ],
18854     }
18855   }
18856 }
```

```

18854     "responses": {
18855         "200": {
18856             "description": "",
18857             "x-example":
18858                 {
18859                     "rt": ["oic.r.colour.csc"],
18860                     "id": "unique_example_id",
18861                     "csc": [0.41,0.51]
18862                 }
18863             ,
18864             "schema": { "$ref": "#/definitions/ColourCSC" }
18865         }
18866     },
18867 },
18868 "post": {
18869     "description": "Sets current colour space coordinates\n",
18870     "parameters": [
18871         { "$ref": "#/parameters/interface-a" },
18872         {
18873             "name": "body",
18874             "in": "body",
18875             "required": true,
18876             "schema": { "$ref": "#/definitions/ColourCSC" },
18877             "x-example":
18878                 {
18879                     "csc": [0.40,0.70]
18880                 }
18881         }
18882     ],
18883     "responses": {
18884         "200": {
18885             "description": "",
18886             "x-example":
18887                 {
18888                     "id": "unique_example_id",
18889                     "csc": [0.40,0.70]
18890                 }
18891             ,
18892             "schema": { "$ref": "#/definitions/ColourCSC" }
18893         }
18894     }
18895 },
18896 },
18897 },
18898 "parameters": {
18899     "interface-a" : {
18900         "in" : "query",
18901         "name" : "if",
18902         "type" : "string",
18903         "enum" : ["oic.if.a"]
18904     },
18905     "interface-all" : {
18906         "in" : "query",
18907         "name" : "if",
18908         "type" : "string",
18909         "enum" : ["oic.if.a", "oic.if.baseline"]
18910     }
18911 },
18912 "definitions": {
18913     "ColourCSC" : {
18914         "properties": {
18915             "rt" :
18916                 {
18917                     "description": "Resource Type",
18918                     "items": {
18919                         "maxLength": 64,
18920                         "type": "string"
18921                     },
18922                     "minItems": 1,
18923                     "readOnly": true,
18924                     "type": "array"
18925                 }

```

```

18926     "precision" :
18927         {
18928             "description": "Accuracy granularity of the exposed value",
18929             "readOnly": true,
18930             "type": "number"
18931         },
18932     "csc" :
18933         {
18934             "description": "X and Y coordinates of the colour in CIE colour space",
18935             "items": {
18936                 "maximum": 1,
18937                 "minimum": 0,
18938                 "type": "number"
18939             },
18940             "maxItems": 2,
18941             "minItems": 2,
18942             "type": "array"
18943         },
18944     "n" :
18945         {
18946             "description": "Friendly name of the resource",
18947             "maxLength": 64,
18948             "readOnly": true,
18949             "type": "string"
18950         },
18951     "range" :
18952         {
18953             "description": "The valid range for the value Property",
18954             "items": {
18955                 "anyOf": [
18956                     {
18957                         "type": "number"
18958                     },
18959                     {
18960                         "type": "integer"
18961                     }
18962                 ]
18963             },
18964             "maxItems": 2,
18965             "minItems": 2,
18966             "readOnly": true,
18967             "type": "array"
18968         },
18969     "step" :
18970         {
18971             "anyOf": [
18972                 {
18973                     "type": "integer"
18974                 },
18975                 {
18976                     "type": "number"
18977                 }
18978             ],
18979             "description": "Step value across the defined range",
18980             "readOnly": true
18981         },
18982     "id" :
18983         {
18984             "description": "Instance ID of this specific resource",
18985             "maxLength": 64,
18986             "readOnly": true,
18987             "type": "string"
18988         },
18989     "if" :
18990         {
18991             "description": "The interface set supported by this resource",
18992             "items": {
18993                 "enum": [
18994                     "oic.if.baseline",
18995                     "oic.if.ll",
18996                     "oic.if.b",
18997                     "oic.if.lb",

```

```

18998         "oic.if.rw",
18999         "oic.if.r",
19000         "oic.if.a",
19001         "oic.if.s"
19002     ],
19003     "type": "string"
19004 },
19005     "minItems": 1,
19006     "readOnly": true,
19007     "type": "array"
19008 }
19009 }
19010 , "type" : "object"
19011 , "required": ["csc"]
19012 }
19013 }
19014 }
19015 }

```

19016 **6.76.5 Property definition**

19017 Table 155 defines the Properties that are part of the ['oic.r.colour.csc'] Resource Type

19018 **Table 155 – The Property definitions of the Resource with type 'rt' = ['oic.r.colour.csc']**

Property name	Value type	Mandatory	Access mode	Description
if	array: see schema	No	Read Only	The interface set supported by this resource
precision	number	No	Read Only	Accuracy granularity of the exposed value
rt	array: see schema	No	Read Only	Resource Type
step	multiple types: see schema	No	Read Only	Step value across the defined range
csc	array: see schema	Yes	Read Write	X and Y coordinates of the colour in CIE colour space
range	array: see schema	No	Read Only	The valid range for the value Property
n	string	No	Read Only	Friendly name of the resource
id	string	No	Read Only	Instance ID of this specific resource

19019 **6.76.6 CRUDN behaviour**

19020 Table 156 defines the CRUDN operations that are supported on the ['oic.r.colour.csc'] Resource Type

19022 **Table 156 – The CRUDN operations of the Resource with type 'rt' = ['oic.r.colour.csc']**

Create	Read	Update	Delete	Notify
	get	post		observe

19023 **6.77 Colour Temperature**

19024 **6.77.1 Introduction**

19025 This resource describes the colour using colour temperature conventions.

19026 ct is the Mired colour temperature.

19027 The equivalent value in Kelvin is obtained by Colour Temp(K) = 1,000,000/Colour Temp(Mired)

19028 Provides the colour using colour temperature conventions.

19029

19030 **6.77.2 Example URI**

19031 /example/ColourTemperatureResURI

19032 **6.77.3 Resource type**

19033 The resource type (rt) is defined as: ['oic.r.colour.colourtemperature'].

19034 **6.77.4 OpenAPI 2.0 definition**

```
19035 {
19036   "swagger": "2.0",
19037   "info": {
19038     "title": "Colour Temperature",
19039     "version": "OCFv1.0-2017",
19040     "license": {
19041       "name": "copyright 2016-2017 Open Connectivity Foundation, Inc. All rights reserved.",
19042       "x-description": "Redistribution and use in source and binary forms, with or without
19043 modification, are permitted provided that the following conditions are met:\n      1.
19044 Redistributions of source code must retain the above copyright notice, this list of conditions and
19045 the following disclaimer.\n      2. Redistributions in binary form must reproduce the above
19046 copyright notice, this list of conditions and the following disclaimer in the documentation and/or
19047 other materials provided with the distribution.\n\n      THIS SOFTWARE IS PROVIDED BY THE Open
19048 Connectivity Foundation, INC. \AS IS\ AND ANY EXPRESS OR IMPLIED WARRANTIES, INCLUDING, BUT NOT
19049 LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE OR
19050 WARRANTIES OF NON-INFRINGEMENT, ARE DISCLAIMED.\n      IN NO EVENT SHALL THE Open Connectivity
19051 Foundation, INC. OR CONTRIBUTORS BE LIABLE FOR ANY DIRECT, INDIRECT, INCIDENTAL, SPECIAL, EXEMPLARY,
19052 OR CONSEQUENTIAL DAMAGES (INCLUDING, BUT NOT LIMITED TO, PROCUREMENT OF SUBSTITUTE GOODS OR
19053 SERVICES; LOSS OF USE, DATA, OR PROFITS; OR BUSINESS INTERRUPTION)\n      HOWEVER CAUSED AND ON
19054 ANY THEORY OF LIABILITY, WHETHER IN CONTRACT, STRICT LIABILITY, OR TORT (INCLUDING NEGLIGENCE OR
19055 OTHERWISE) ARISING IN ANY WAY OUT OF THE USE OF THIS SOFTWARE, EVEN IF ADVISED OF THE POSSIBILITY OF
19056 SUCH DAMAGE.\n"
19057     }
19058   },
19059   "schemes": ["http"],
19060   "consumes": ["application/json"],
19061   "produces": ["application/json"],
19062   "paths": {
19063     "/example/ColourTemperatureResURI" : {
19064       "get": {
19065         "description": "This resource describes the colour using colour temperature conventions.\nct
19066 is the Mired colour temperature.\nThe equivalent value in Kelvin is obtained by Colour Temp(K) =
19067 1,000,000/Colour Temp(Mired)\nProvides the colour using colour temperature conventions.\n",
19068         "parameters": [
19069           {"$ref": "#/parameters/interface-all"}
19070         ],
19071         "responses": {
19072           "200": {
19073             "description": "",
19074             "x-example":
19075               {
19076                 "rt": ["oic.r.colour.colourtemperature"],
19077                 "id": "unique_example_id",
19078                 "ct": 457
19079               }
19080             ,
19081             "schema": { "$ref": "#/definitions/ColourTemp" }
19082           }
19083         }
19084       },
19085       "post": {
19086         "description": "Sets current colour temperature value\n",
19087         "parameters": [
```

```

19088         {"$ref": "#/parameters/interface-a"},
19089         {
19090             "name": "body",
19091             "in": "body",
19092             "required": true,
19093             "schema": { "$ref": "#/definitions/ColourTemp" },
19094             "x-example":
19095                 {
19096                     "ct": 457
19097                 }
19098         }
19099     ],
19100     "responses": {
19101         "200": {
19102             "description": "",
19103             "x-example":
19104                 {
19105                     "id": "unique_example_id",
19106                     "ct": 467
19107                 }
19108             ,
19109             "schema": { "$ref": "#/definitions/ColourTemp" }
19110         }
19111     }
19112 }
19113 },
19114 },
19115 "parameters": {
19116     "interface-a" : {
19117         "in" : "query",
19118         "name" : "if",
19119         "type" : "string",
19120         "enum" : ["oic.if.a"]
19121     },
19122     "interface-all" : {
19123         "in" : "query",
19124         "name" : "if",
19125         "type" : "string",
19126         "enum" : ["oic.if.a", "oic.if.baseline"]
19127     }
19128 },
19129 "definitions": {
19130     "ColourTemp" : {
19131         "properties": {
19132             "rt" :
19133                 {
19134                     "description": "Resource Type",
19135                     "items": {
19136                         "maxLength": 64,
19137                         "type": "string"
19138                     },
19139                     "minItems": 1,
19140                     "readOnly": true,
19141                     "type": "array"
19142                 },
19143             "precision" :
19144                 {
19145                     "description": "Accuracy granularity of the exposed value",
19146                     "readOnly": true,
19147                     "type": "number"
19148                 },
19149             "n" :
19150                 {
19151                     "description": "Friendly name of the resource",
19152                     "maxLength": 64,
19153                     "readOnly": true,
19154                     "type": "string"
19155                 },
19156             "range" :
19157                 {
19158                     "description": "The valid range for the value Property",
19159                     "items": {

```

```

19160         "anyOf": [
19161             {
19162                 "type": "number"
19163             },
19164             {
19165                 "type": "integer"
19166             }
19167         ],
19168     },
19169     "maxItems": 2,
19170     "minItems": 2,
19171     "readOnly": true,
19172     "type": "array"
19173 },
19174 "step" :
19175     {
19176         "anyOf": [
19177             {
19178                 "type": "integer"
19179             },
19180             {
19181                 "type": "number"
19182             }
19183         ],
19184         "description": "Step value across the defined range",
19185         "readOnly": true
19186     },
19187 "ct" :
19188     {
19189         "description": "Mired colour temperature",
19190         "minimum": 0,
19191         "type": "integer"
19192     },
19193 "id" :
19194     {
19195         "description": "Instance ID of this specific resource",
19196         "maxLength": 64,
19197         "readOnly": true,
19198         "type": "string"
19199     },
19200 "if" :
19201     {
19202         "description": "The interface set supported by this resource",
19203         "items": {
19204             "enum": [
19205                 "oic.if.baseline",
19206                 "oic.if.ll",
19207                 "oic.if.b",
19208                 "oic.if.lb",
19209                 "oic.if.rw",
19210                 "oic.if.r",
19211                 "oic.if.a",
19212                 "oic.if.s"
19213             ],
19214             "type": "string"
19215         },
19216         "minItems": 1,
19217         "readOnly": true,
19218         "type": "array"
19219     }
19220 },
19221 "type" : "object"
19222 , "required": ["ct"]
19223 }
19224 }
19225 }
19226

```

19227 6.77.5 Property definition

19228 Table 157 defines the Properties that are part of the ['oic.r.colour.colourtemperature'] Resource
19229 Type

19230
19231

Table 157 – The Property definitions of the Resource with type 'rt' = ['oic.r.colour.colourtemperature']

Property name	Value type	Mandatory	Access mode	Description
if	array: see schema	No	Read Only	The interface set supported by this resource
rt	array: see schema	No	Read Only	Resource Type
id	string	No	Read Only	Instance ID of this specific resource
n	string	No	Read Only	Friendly name of the resource
ct	integer	Yes	Read Write	Mired colour temperature
precision	number	No	Read Only	Accuracy granularity of the exposed value
range	array: see schema	No	Read Only	The valid range for the value Property
step	multiple types: see schema	No	Read Only	Step value across the defined range

19232 **6.77.6 CRUDN behaviour**

19233 Table 158 defines the CRUDN operations that are supported on the
19234 ['oic.r.colour.colourtemperature'] Resource Type

Table 158 – The CRUDN operations of the Resource with type 'rt' = ['oic.r.colour.colourtemperature']

Create	Read	Update	Delete	Notify
	get	post		observe

19237 **6.78 Colour Hue and Saturation**

19238 **6.78.1 Introduction**

19239 This resource describes the colour using hue-saturation conventions.

19240 hue is the hue angle, it is a number value as defined by the CIECAM02 model definition (see
19241 reference [CIE CIE159:2004]).

19242 A Device that does not support fractional hue angles can provide integer values.

19243 If precision (from oic.r.baseresource) is provided it applies to the hue angle.

19244 saturation is an integer value as defined by the CIECAM02 model definition (see reference [CIE
19245 CIE159:2004]).

19246 saturation can be converted to a percentage by $\text{saturation}/\text{maximumsaturation} \times 100$; where
19247 maximumsaturation is 32767 if the Property itself is not present.

19248 maximumsaturation is the upper bound on the saturation supported by the Device.

19249 If not present the maximum value for saturation is 32767.

19250 Provides the colour using hue and saturation conventions.

19251

19252 **6.78.2 Example URI**

19253 /example/ColourHueSaturationResURI

19254 **6.78.3 Resource type**

19255 The resource type (rt) is defined as: ['oic.r.colour.hs'].

19256 **6.78.4 OpenAPI 2.0 definition**

```
19257 {
19258   "swagger": "2.0",
19259   "info": {
19260     "title": "Colour Hue and Saturation",
19261     "version": "v1.0-2017",
19262     "license": {
19263       "name": "copyright 2016-2017 Open Connectivity Foundation, Inc. All rights reserved.",
19264       "x-description": "Redistribution and use in source and binary forms, with or without
19265 modification, are permitted provided that the following conditions are met:\n      1.
19266 Redistributions of source code must retain the above copyright notice, this list of conditions and
19267 the following disclaimer.\n      2. Redistributions in binary form must reproduce the above
19268 copyright notice, this list of conditions and the following disclaimer in the documentation and/or
19269 other materials provided with the distribution.\n\n      THIS SOFTWARE IS PROVIDED BY THE Open
19270 Connectivity Foundation, INC. \AS IS\ AND ANY EXPRESS OR IMPLIED WARRANTIES, INCLUDING, BUT NOT
19271 LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE OR
19272 WARRANTIES OF NON-INFRINGEMENT, ARE DISCLAIMED.\n      IN NO EVENT SHALL THE Open Connectivity
19273 Foundation, INC. OR CONTRIBUTORS BE LIABLE FOR ANY DIRECT, INDIRECT, INCIDENTAL, SPECIAL, EXEMPLARY,
19274 OR CONSEQUENTIAL DAMAGES (INCLUDING, BUT NOT LIMITED TO, PROCUREMENT OF SUBSTITUTE GOODS OR
19275 SERVICES; LOSS OF USE, DATA, OR PROFITS; OR BUSINESS INTERRUPTION)\n      HOWEVER CAUSED AND ON
19276 ANY THEORY OF LIABILITY, WHETHER IN CONTRACT, STRICT LIABILITY, OR TORT (INCLUDING NEGLIGENCE OR
19277 OTHERWISE) ARISING IN ANY WAY OUT OF THE USE OF THIS SOFTWARE, EVEN IF ADVISED OF THE POSSIBILITY OF
19278 SUCH DAMAGE.\n"
19279   }
19280 },
19281 "schemes": ["http"],
19282 "consumes": ["application/json"],
19283 "produces": ["application/json"],
19284 "paths": {
19285   "/example/ColourHueSaturationResURI" : {
19286     "get": {
19287       "description": "This resource describes the colour using hue-saturation conventions.\nhue is
19288 the hue angle, it is a number value as defined by the CIECAM02 model definition (see reference [CIE
19289 CIE159:2004]).\n A Device that does not support fractional hue angles can provide integer values.\n
19290 If precision (from oic.r.baseresource) is provided it applies to the hue angle.\nsaturation is an
19291 integer value as defined by the CIECAM02 model definition (see reference [CIE CIE159:2004]).\n
19292 saturation can be converted to a percentage by saturation/maximumsaturation X 100; where
19293 maximumsaturation is 32767 if the Property itself is not present.\nmaximumsaturation is the upper
19294 bound on the saturation supported by the Device.\n If not present the maximum value for saturation
19295 is 32767.\nProvides the colour using hue and saturation conventions.\n",
19296       "parameters": [
19297         { "$ref": "#/parameters/interface-all" }
19298       ],
19299       "responses": {
19300         "200": {
19301           "description": "",
19302           "x-example":
19303             {
19304               "rt": ["oic.r.colour.hs"],
19305               "id": "unique_example_id",
19306               "hue": 300.0,
19307               "saturation": 212,
19308               "maximumsaturation": 1000
19309             }
19310         },
19311         "schema": { "$ref": "#/definitions/ColourHS" }
19312       }
19313     }
19314   },
19315   "post": {
19316     "description": "Sets current colour hue and saturation values.\nAt least one of hue or
19317 saturation shall be provided in the payload.\n",
19318     "parameters": [
19319       { "$ref": "#/parameters/interface-a" },
19320       {
19321         "name": "body",
19322         "in": "body",
19323         "required": true,
19324         "schema": { "$ref": "#/definitions/ColourHS" },
19325         "x-example":
19326           {
```

```

19327         "hue":          300.0,
19328         "saturation": 212
19329     }
19330 }
19331 ],
19332 "responses": {
19333     "200": {
19334         "description" : "",
19335         "x-example":
19336         {
19337             "id":          "unique_example_id",
19338             "hue":         300.0,
19339             "saturation": 212
19340         }
19341     },
19342     "schema": { "$ref": "#/definitions/ColourHS" }
19343 }
19344 }
19345 }
19346 }
19347 },
19348 "parameters": {
19349     "interface-a" : {
19350         "in" : "query",
19351         "name" : "if",
19352         "type" : "string",
19353         "enum" : ["oic.if.a"]
19354     },
19355     "interface-all" : {
19356         "in" : "query",
19357         "name" : "if",
19358         "type" : "string",
19359         "enum" : ["oic.if.a", "oic.if.baseline"]
19360     }
19361 },
19362 "definitions": {
19363     "ColourHS" : {
19364         "properties": {
19365             "rt" :
19366             {
19367                 "description": "Resource Type",
19368                 "items": {
19369                     "maxLength": 64,
19370                     "type": "string"
19371                 },
19372                 "minItems": 1,
19373                 "readOnly": true,
19374                 "type": "array"
19375             },
19376             "hue" :
19377             {
19378                 "description": "Hue angle as defined by the CIECAM02 model definition",
19379                 "maximum": 360.0,
19380                 "minimum": 0.0,
19381                 "type": "number"
19382             },
19383             "saturation" :
19384             {
19385                 "description": "Saturation as defined by the CIECAM02 model definition",
19386                 "maximum": 32767,
19387                 "minimum": 0,
19388                 "type": "integer"
19389             },
19390             "maximumsaturation" :
19391             {
19392                 "description": "Maximum supported value of Saturation for this Device",
19393                 "maximum": 32767,
19394                 "minimum": 0,
19395                 "readOnly": true,
19396                 "type": "integer"
19397             },
19398             "precision" :

```

```

19399         {
19400             "description": "Accuracy granularity of the exposed value",
19401             "readOnly": true,
19402             "type": "number"
19403         },
19404         "n" :
19405         {
19406             "description": "Friendly name of the resource",
19407             "maxLength": 64,
19408             "readOnly": true,
19409             "type": "string"
19410         },
19411         "range" :
19412         {
19413             "description": "The valid range for the value Property",
19414             "items": {
19415                 "anyOf": [
19416                     {
19417                         "type": "number"
19418                     },
19419                     {
19420                         "type": "integer"
19421                     }
19422                 ]
19423             },
19424             "maxItems": 2,
19425             "minItems": 2,
19426             "readOnly": true,
19427             "type": "array"
19428         },
19429         "step" :
19430         {
19431             "anyOf": [
19432                 {
19433                     "type": "integer"
19434                 },
19435                 {
19436                     "type": "number"
19437                 }
19438             ],
19439             "description": "Step value across the defined range",
19440             "readOnly": true
19441         },
19442         "id" :
19443         {
19444             "description": "Instance ID of this specific resource",
19445             "maxLength": 64,
19446             "readOnly": true,
19447             "type": "string"
19448         },
19449         "if" :
19450         {
19451             "description": "The interface set supported by this resource",
19452             "items": {
19453                 "enum": [
19454                     "oic.if.baseline",
19455                     "oic.if.ll",
19456                     "oic.if.b",
19457                     "oic.if.lb",
19458                     "oic.if.rw",
19459                     "oic.if.r",
19460                     "oic.if.a",
19461                     "oic.if.s"
19462                 ],
19463                 "type": "string"
19464             },
19465             "minItems": 1,
19466             "readOnly": true,
19467             "type": "array"
19468         }
19469     }
19470     , "type" : "object"

```

```

19471     , "required": ["hue", "saturation"]
19472     }
19473   }
19474 }
19475

```

19476 6.78.5 Property definition

19477 Table 159 defines the Properties that are part of the ['oic.r.colour.hs'] Resource Type

19478 **Table 159 – The Property definitions of the Resource with type 'rt' = ['oic.r.colour.hs']**

Property name	Value type	Mandatory	Access mode	Description
range	array: see schema	No	Read Only	The valid range for the value Property
id	string	No	Read Only	Instance ID of this specific resource
precision	number	No	Read Only	Accuracy granularity of the exposed value
n	string	No	Read Only	Friendly name of the resource
rt	array: see schema	No	Read Only	Resource Type
if	array: see schema	No	Read Only	The interface set supported by this resource
step	multiple types: see schema	No	Read Only	Step value across the defined range
maximumsaturation	integer	No	Read Only	Maximum supported value of Saturation for this Device
saturation	integer	Yes	Read Write	Saturation as defined by the CIECAM02 model definition
hue	number	Yes	Read Write	Hue angle as defined by the CIECAM02 model definition

19479 6.78.6 CRUDN behaviour

19480 Table 160 defines the CRUDN operations that are supported on the ['oic.r.colour.hs'] Resource
19481 Type

19482 **Table 160 – The CRUDN operations of the Resource with type 'rt' = ['oic.r.colour.hs']**

Create	Read	Update	Delete	Notify
	get	post		observe

19483 6.79 Battery Material

19484 6.79.1 Introduction

19485 This resource describes the battery material represented as an enumerated set of strings.
19486 Retrieves the battery material.

19487

19488 **6.79.2 Example URI**

19489 /BatteryMaterialResURI

19490 **6.79.3 Resource type**

19491 The resource type (rt) is defined as: ['oic.r.batterymaterial'].

19492 **6.79.4 OpenAPI 2.0 definition**

```
19493 {
19494   "swagger": "2.0",
19495   "info": {
19496     "title": "Battery Material",
19497     "version": "v1.1.0-20170815",
19498     "license": {
19499       "name": "copyright 2016-2017 Open Connectivity Foundation, Inc. All rights reserved.",
19500       "x-description": "Redistribution and use in source and binary forms, with or without
19501 modification, are permitted provided that the following conditions are met:\n      1.
19502 Redistributions of source code must retain the above copyright notice, this list of conditions and
19503 the following disclaimer.\n      2. Redistributions in binary form must reproduce the above
19504 copyright notice, this list of conditions and the following disclaimer in the documentation and/or
19505 other materials provided with the distribution.\n\n      THIS SOFTWARE IS PROVIDED BY THE Open
19506 Connectivity Foundation, INC. \AS IS\ AND ANY EXPRESS OR IMPLIED WARRANTIES, INCLUDING, BUT NOT
19507 LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE OR
19508 WARRANTIES OF NON-INFRINGEMENT, ARE DISCLAIMED.\n      IN NO EVENT SHALL THE Open Connectivity
19509 Foundation, INC. OR CONTRIBUTORS BE LIABLE FOR ANY DIRECT, INDIRECT, INCIDENTAL, SPECIAL, EXEMPLARY,
19510 OR CONSEQUENTIAL DAMAGES (INCLUDING, BUT NOT LIMITED TO, PROCUREMENT OF SUBSTITUTE GOODS OR
19511 SERVICES; LOSS OF USE, DATA, OR PROFITS; OR BUSINESS INTERRUPTION)\n      HOWEVER CAUSED AND ON
19512 ANY THEORY OF LIABILITY, WHETHER IN CONTRACT, STRICT LIABILITY, OR TORT (INCLUDING NEGLIGENCE OR
19513 OTHERWISE) ARISING IN ANY WAY OUT OF THE USE OF THIS SOFTWARE, EVEN IF ADVISED OF THE POSSIBILITY OF
19514 SUCH DAMAGE.\n"
19515     }
19516   },
19517   "schemes": ["http"],
19518   "consumes": ["application/json"],
19519   "produces": ["application/json"],
19520   "paths": {
19521     "/BatteryMaterialResURI" : {
19522       "get": {
19523         "description": "This resource describes the battery material represented as an enumerated
19524 set of strings.\nRetrieves the battery material.\n",
19525         "parameters": [
19526           {"$ref": "#/parameters/interface"}
19527         ],
19528         "responses": {
19529           "200": {
19530             "description": "",
19531             "x-example":
19532               {
19533                 "rt": ["oic.r.batterymaterial"],
19534                 "id": "unique_example_id",
19535                 "material": "Alkaline"
19536               }
19537             ,
19538             "schema": { "$ref": "#/definitions/BatteryMaterial" }
19539           }
19540         }
19541       }
19542     }
19543   },
19544   "parameters": {
19545     "interface" : {
19546       "in" : "query",
19547       "name" : "if",
19548       "type" : "string",
19549       "enum" : ["oic.if.s", "oic.if.baseline"]
19550     }
19551   },
19552   "definitions": {
19553     "BatteryMaterial" : {
19554       "properties": {
19555         "rt" :
```

```

19556         {
19557         "description": "Resource Type",
19558         "items": {
19559             "maxLength": 64,
19560             "type": "string"
19561         },
19562         "minItems": 1,
19563         "readOnly": true,
19564         "type": "array"
19565     },
19566     "material" :
19567     {
19568         "description": "Battery construction material (type).",
19569         "enum": [
19570             "Alkaline",
19571             "Aluminium Air",
19572             "Aluminium Ion",
19573             "Atomic Betavoltaics",
19574             "Atomic Optoelectric Nuclear",
19575             "Atomic Nuclear",
19576             "Bunsen Cell",
19577             "Chromic Acid Cell",
19578             "Poggendorff Cell",
19579             "Clark Cell",
19580             "Daniell Cell",
19581             "Dry Cell",
19582             "Earth",
19583             "Flow",
19584             "Flow Vanadium Redox",
19585             "Flow Zinc Bromine",
19586             "Flow Zinc Cerium",
19587             "Frog",
19588             "Fuel",
19589             "Galvanic Cell",
19590             "Glass",
19591             "Grove Cell",
19592             "Lead Acid",
19593             "Lead Acid Deep Cycle",
19594             "Lead Acid VRLA",
19595             "Lead Acid AGM",
19596             "Lead Acid Gel",
19597             "Leclanche Cell",
19598             "Lemon Potato",
19599             "Lithium",
19600             "Lithium Air",
19601             "Lithium Ion",
19602             "Lithium Ion Cobalt Oxide (ICR)",
19603             "Lithium Ion Manganese Oxide (IMR)",
19604             "Lithium Ion Polymer",
19605             "Lithium Iron Phosphate",
19606             "Lithium Sulfur",
19607             "Lithium Titanate",
19608             "Lithium Ion Thin Film",
19609             "Magnesium",
19610             "Magnesium Ion",
19611             "Mercury",
19612             "Molten Salt",
19613             "Nickel Cadmium",
19614             "Nickel Cadmium Vented Cell",
19615             "Nickel Hydrogen",
19616             "Nickel Iron ",
19617             "Nickel Metal Hydride",
19618             "Nickel Metal Hydride Low Self-Discharge",
19619             "Nickel Oxyhydroxide",
19620             "Nickel Oxyride",
19621             "Nickel Zinc",
19622             "Organic Radical",
19623             "Paper",
19624             "Polymer Based",
19625             "Polysulfide Bromide",
19626             "Potassium Ion",
19627             "Pulvermachers Chain",

```

```

19628         "Silicon Air",
19629         "Silver Calcium",
19630         "Silver Oxide",
19631         "Silver Zinc",
19632         "Sodium Ion",
19633         "Sodium Sulfur",
19634         "Solid State",
19635         "Sugar",
19636         "Super Iron",
19637         "UltraBattery",
19638         "Voltaic Pile",
19639         "Voltaic Pile Penny",
19640         "Voltaic Pile Trough",
19641         "Water Activated",
19642         "Weston Cell",
19643         "Zinc Air",
19644         "Zinc Carbon",
19645         "Zinc Chloride",
19646         "Zinc Ion",
19647         "Unknown"
19648     ],
19649     "readOnly": true,
19650     "type": "string"
19651 },
19652 "n" :
19653     {
19654         "description": "Friendly name of the resource",
19655         "maxLength": 64,
19656         "readOnly": true,
19657         "type": "string"
19658     },
19659 "id" :
19660     {
19661         "description": "Instance ID of this specific resource",
19662         "maxLength": 64,
19663         "readOnly": true,
19664         "type": "string"
19665     },
19666 "if" :
19667     {
19668         "description": "The interface set supported by this resource",
19669         "items": {
19670             "enum": [
19671                 "oic.if.baseline",
19672                 "oic.if.ll",
19673                 "oic.if.b",
19674                 "oic.if.lb",
19675                 "oic.if.rw",
19676                 "oic.if.r",
19677                 "oic.if.a",
19678                 "oic.if.s"
19679             ],
19680             "type": "string"
19681         },
19682         "minItems": 1,
19683         "readOnly": true,
19684         "type": "array"
19685     }
19686 },
19687 "type" : "object"
19688 , "required": ["material"]
19689 }
19690 }
19691 }
19692

```

19693 6.79.5 Property definition

19694 Table 161 defines the Properties that are part of the ['oic.r.batterymaterial'] Resource Type

19695 **Table 161 – The Property definitions of the Resource with type 'rt' = ['oic.r.batterymaterial']**

Property name	Value type	Mandatory	Access mode	Description
material	string	Yes	Read Only	Battery construction material (type).
n	string	No	Read Only	Friendly name of the resource
id	string	No	Read Only	Instance ID of this specific resource
if	array: see schema	No	Read Only	The interface set supported by this resource
rt	array: see schema	No	Read Only	Resource Type

19696 **6.79.6 CRUDN behaviour**

19697 Table 162 defines the CRUDN operations that are supported on the ['oic.r.batterymaterial']
 19698 Resource Type

19699 **Table 162 – The CRUDN operations of the Resource with type 'rt' = ['oic.r.batterymaterial']**

Create	Read	Update	Delete	Notify
	get			observe

19700 **6.80 Brewing**

19701 **6.80.1 Introduction**

19702 This resource describes the attributes associated with brewing. This resource is used for
 19703 configuration only. Operation is handled independently of this resource. The amount requested is
 19704 in ml. The strength of a brewed drink is an integer, the range of which may be enforced by the
 19705 presence of a strengthrange Property.
 19706 Retrieves the state of brewing.
 19707

19708 **6.80.2 Example URI**

19709 /BrewingResURI

19710 **6.80.3 Resource type**

19711 The resource type (rt) is defined as: ['oic.r.brewing'].

19712 **6.80.4 OpenAPI 2.0 definition**

```

19713 {
19714   "swagger": "2.0",
19715   "info": {
19716     "title": "Brewing",
19717     "version": "v1.1.0-20170815",
19718     "license": {
19719       "name": "copyright 2016-2017 Open Connectivity Foundation, Inc. All rights reserved.",
19720       "x-description": "Redistribution and use in source and binary forms, with or without
19721 modification, are permitted provided that the following conditions are met:\n      1.
19722 Redistributions of source code must retain the above copyright notice, this list of conditions and
19723 the following disclaimer.\n      2. Redistributions in binary form must reproduce the above
19724 copyright notice, this list of conditions and the following disclaimer in the documentation and/or
19725 other materials provided with the distribution.\n\n      THIS SOFTWARE IS PROVIDED BY THE Open
19726 Connectivity Foundation, INC. \AS IS\ AND ANY EXPRESS OR IMPLIED WARRANTIES, INCLUDING, BUT NOT
19727 LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE OR
19728 WARRANTIES OF NON-INFRINGEMENT, ARE DISCLAIMED.\n\n      IN NO EVENT SHALL THE Open Connectivity
19729 Foundation, INC. OR CONTRIBUTORS BE LIABLE FOR ANY DIRECT, INDIRECT, INCIDENTAL, SPECIAL, EXEMPLARY,
19730 OR CONSEQUENTIAL DAMAGES (INCLUDING, BUT NOT LIMITED TO, PROCUREMENT OF SUBSTITUTE GOODS OR
19731 SERVICES; LOSS OF USE, DATA, OR PROFITS; OR BUSINESS INTERRUPTION)\n\n      HOWEVER CAUSED AND ON
19732 ANY THEORY OF LIABILITY, WHETHER IN CONTRACT, STRICT LIABILITY, OR TORT (INCLUDING NEGLIGENCE OR
    
```

```

19733 OTHERWISE) ARISING IN ANY WAY OUT OF THE USE OF THIS SOFTWARE, EVEN IF ADVISED OF THE POSSIBILITY OF
19734 SUCH DAMAGE.\n"
19735     }
19736   },
19737   "schemes": ["http"],
19738   "consumes": ["application/json"],
19739   "produces": ["application/json"],
19740   "paths": {
19741     "/BrewingResURI" : {
19742       "get": {
19743         "description": "This resource describes the attributes associated with brewing. This
19744 resource is used for configuration only. Operation is handled independently of this resource. The
19745 amount requested is in ml. The strength of a brewed drink is an integer, the range of which may be
19746 enforced by the presence of a strengthrange Property.\nRetrieves the state of brewing.\n",
19747         "parameters": [
19748           {"$ref": "#/parameters/interface"}
19749         ],
19750         "responses": {
19751           "200": {
19752             "description": "",
19753             "x-example":
19754               {
19755                 "rt": ["oic.r.brewing"],
19756                 "id": "unique_example_id",
19757                 "amountrequested": 120,
19758                 "strength": 8,
19759                 "strengthrange": [1,10]
19760               }
19761           },
19762           "schema": { "$ref": "#/definitions/Brewing" }
19763         }
19764       }
19765     },
19766     "post": {
19767       "description": "Sets the brewing values\n",
19768       "parameters": [
19769         {"$ref": "#/parameters/interface"},
19770         {
19771           "name": "body",
19772           "in": "body",
19773           "required": true,
19774           "schema": { "$ref": "#/definitions/Brewing" },
19775           "x-example":
19776             {
19777               "amountrequested": 120,
19778               "strength": 8
19779             }
19780         }
19781       ],
19782       "responses": {
19783         "200": {
19784           "description": "",
19785           "x-example":
19786             {
19787               "id": "unique_example_id",
19788               "amountrequested": 120,
19789               "strength": 8
19790             }
19791         }
19792       }
19793     }
19794   },
19795   "parameters": {
19796     "interface" : {
19797       "in" : "query",
19798       "name" : "if",
19799       "type" : "string",
19800       "enum" : ["oic.if.rw", "oic.if.baseline"]
19801     }
19802   },
19803   "definitions": {

```

```

19805 "Brewing" : {
19806   "properties": {
19807     "rt" :
19808       {
19809         "description": "Resource Type",
19810         "items": {
19811           "maxLength": 64,
19812           "type": "string"
19813         },
19814         "minItems": 1,
19815         "readOnly": true,
19816         "type": "array"
19817       },
19818     "strength" :
19819       {
19820         "description": "The strength of a brewed drink.",
19821         "type": "integer"
19822       },
19823     "amountrequested" :
19824       {
19825         "description": "The amount requested in ml.",
19826         "type": "integer"
19827       },
19828     "n" :
19829       {
19830         "description": "Friendly name of the resource",
19831         "maxLength": 64,
19832         "readOnly": true,
19833         "type": "string"
19834       },
19835     "range" :
19836       {
19837         "description": "The valid range for the value Property",
19838         "items": {
19839           "anyOf": [
19840             {
19841               "type": "number"
19842             },
19843             {
19844               "type": "integer"
19845             }
19846           ]
19847         },
19848         "maxItems": 2,
19849         "minItems": 2,
19850         "readOnly": true,
19851         "type": "array"
19852       },
19853     "strengthrange" :
19854       {
19855         "items": {
19856           "type": "integer"
19857         },
19858         "maxItems": 2,
19859         "minItems": 2,
19860         "readOnly": true,
19861         "type": "array"
19862       },
19863     "step" :
19864       {
19865         "anyOf": [
19866           {
19867             "type": "integer"
19868           },
19869           {
19870             "type": "number"
19871           }
19872         ],
19873         "description": "Step value across the defined range",
19874         "readOnly": true
19875       },
19876     "id" :

```

```

19877     {
19878         "description": "Instance ID of this specific resource",
19879         "maxLength": 64,
19880         "readOnly": true,
19881         "type": "string"
19882     },
19883     "if" :
19884     {
19885         "description": "The interface set supported by this resource",
19886         "items": {
19887             "enum": [
19888                 "oic.if.baseline",
19889                 "oic.if.ll",
19890                 "oic.if.b",
19891                 "oic.if.lb",
19892                 "oic.if.rw",
19893                 "oic.if.r",
19894                 "oic.if.a",
19895                 "oic.if.s"
19896             ],
19897             "type": "string"
19898         },
19899         "minItems": 1,
19900         "readOnly": true,
19901         "type": "array"
19902     }
19903     },
19904     "type" : "object"
19905     , "required": ["amountrequested"]
19906 }
19907 }
19908 }
19909

```

19910 6.80.5 Property definition

19911 Table 163 defines the Properties that are part of the ['oic.r.brewing'] Resource Type

19912 **Table 163 – The Property definitions of the Resource with type 'rt' = ['oic.r.brewing']**

Property name	Value type	Mandatory	Access mode	Description
step	multiple types: see schema	No	Read Only	Step value across the defined range
amountrequested	integer	Yes	Read Write	The amount requested in ml.
strengthrange	array: see schema	No	Read Only	
range	array: see schema	No	Read Only	The valid range for the value Property
strength	integer	No	Read Write	The strength of a brewed drink.
id	string	No	Read Only	Instance ID of this specific resource
n	string	No	Read Only	Friendly name of the resource
if	array: see schema	No	Read Only	The interface set supported by this resource
rt	array: see schema	No	Read Only	Resource Type

19913 **6.80.6 CRUDN behaviour**

19914 Table 164 defines the CRUDN operations that are supported on the ['oic.r.brewing'] Resource Type

19915 **Table 164 – The CRUDN operations of the Resource with type 'rt' = ['oic.r.brewing']**

Create	Read	Update	Delete	Notify
	get	post		observe

19916 **6.81 Energy**

19917 **6.81.1 Introduction**

19918 This resource describes the attributes associated with electrical energy. This can be used for
 19919 either rated (read-only), desired (read-write) or measured (read-only) energy. The voltage is in
 19920 Volts (V), current in Amps (A), and frequency in Hertz (Hz).
 19921 Retrieves the current energy.
 19922

19923 **6.81.2 Example URI**

19924 /EnergyResURI

19925 **6.81.3 Resource type**

19926 The resource type (rt) is defined as: ['oic.r.energy.electrical'].

19927 **6.81.4 OpenAPI 2.0 definition**

```

19928 {
19929   "swagger": "2.0",
19930   "info": {
19931     "title": "Energy",
19932     "version": "v1.1.0-20170815",
19933     "license": {
19934       "name": "copyright 2016-2017 Open Connectivity Foundation, Inc. All rights reserved.",
19935       "x-description": "Redistribution and use in source and binary forms, with or without
19936 modification, are permitted provided that the following conditions are met:\n      1.
19937 Redistributions of source code must retain the above copyright notice, this list of conditions and
19938 the following disclaimer.\n      2. Redistributions in binary form must reproduce the above
19939 copyright notice, this list of conditions and the following disclaimer in the documentation and/or
19940 other materials provided with the distribution.\n\n      THIS SOFTWARE IS PROVIDED BY THE Open
19941 Connectivity Foundation, INC. \AS IS\ AND ANY EXPRESS OR IMPLIED WARRANTIES, INCLUDING, BUT NOT
19942 LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE OR
19943 WARRANTIES OF NON-INFRINGEMENT, ARE DISCLAIMED.\n      IN NO EVENT SHALL THE Open Connectivity
19944 Foundation, INC. OR CONTRIBUTORS BE LIABLE FOR ANY DIRECT, INDIRECT, INCIDENTAL, SPECIAL, EXEMPLARY,
19945 OR CONSEQUENTIAL DAMAGES (INCLUDING, BUT NOT LIMITED TO, PROCUREMENT OF SUBSTITUTE GOODS OR
19946 SERVICES; LOSS OF USE, DATA, OR PROFITS; OR BUSINESS INTERRUPTION)\n      HOWEVER CAUSED AND ON
19947 ANY THEORY OF LIABILITY, WHETHER IN CONTRACT, STRICT LIABILITY, OR TORT (INCLUDING NEGLIGENCE OR
19948 OTHERWISE) ARISING IN ANY WAY OUT OF THE USE OF THIS SOFTWARE, EVEN IF ADVISED OF THE POSSIBILITY OF
19949 SUCH DAMAGE.\n"
19950   }
19951 },
19952 "schemes": ["http"],
19953 "consumes": ["application/json"],
19954 "produces": ["application/json"],
19955 "paths": {
19956   "/EnergyResURI" : {
19957     "get": {
19958       "description": "This resource describes the attributes associated with electrical energy.
19959 This can be used for either rated (read-only), desired (read-write) or measured (read-only) energy.
19960 The voltage is in Volts (V), current in Amps (A), and frequency in Hertz (Hz).\nRetrieves the
19961 current energy.\n",
19962       "parameters": [
19963         {"$ref": "#/parameters/interface-all"}
19964       ],
19965       "responses": {
19966         "200": {
19967           "description": "",
19968           "x-example":
19969             {
19970               "rt": ["oic.r.energy.electrical"],

```



```

19971         "id": "unique_example_id",
19972         "voltage": 120.0,
19973         "current": 5.0,
19974         "frequency": 60.0
19975     }
19976     },
19977     "schema": { "$ref": "#/definitions/Energy" }
19978 }
19979 },
19980 },
19981 "post": {
19982     "description": "Sets the desired energy values\n",
19983     "parameters": [
19984         { "$ref": "#/parameters/interface-update" },
19985         {
19986             "name": "body",
19987             "in": "body",
19988             "required": true,
19989             "schema": { "$ref": "#/definitions/EnergyUpdate" },
19990             "x-example":
19991                 {
19992                     "desiredvoltage": 130.0,
19993                     "desiredcurrent": 6.0
19994                 }
19995         }
19996     ],
19997     "responses": {
19998         "200": {
19999             "description": "",
20000             "x-example":
20001                 {
20002                     "id": "unique_example_id",
20003                     "desiredvoltage": 130.0,
20004                     "desiredcurrent": 6.0
20005                 }
20006             }
20007         }
20008     }
20009 },
20010 },
20011 "parameters": {
20012     "interface-update": {
20013         "in": "query",
20014         "name": "if",
20015         "type": "string",
20016         "enum": ["oic.if.rw", "oic.if.baseline"]
20017     },
20018     "interface-all": {
20019         "in": "query",
20020         "name": "if",
20021         "type": "string",
20022         "enum": ["oic.if.r", "oic.if.rw", "oic.if.s", "oic.if.baseline"]
20023     }
20024 },
20025 "definitions": {
20026     "Energy": {
20027         "properties": {
20028             "rt":
20029                 {
20030                     "description": "Resource Type",
20031                     "items": {
20032                         "maxLength": 64,
20033                         "type": "string"
20034                     },
20035                     "minItems": 1,
20036                     "readOnly": true,
20037                     "type": "array"
20038                 },
20039             "precision":
20040                 {
20041                     "description": "Accuracy granularity of the exposed value",
20042                     "readOnly": true,

```

```

20043     "type": "number"
20044   },
20045   "desiredcurrent" :
20046     {
20047       "description": "The desired electric current in Amps (A).",
20048       "type": "number"
20049     },
20050   "current" :
20051     {
20052       "description": "The electric current in Amps (A).",
20053       "readOnly": true,
20054       "type": "number"
20055     },
20056   "range" :
20057     {
20058       "description": "The valid range for the value Property",
20059       "items": {
20060         "anyOf": [
20061           {
20062             "type": "number"
20063           },
20064           {
20065             "type": "integer"
20066           }
20067         ]
20068       },
20069       "maxItems": 2,
20070       "minItems": 2,
20071       "readOnly": true,
20072       "type": "array"
20073     },
20074   "frequency" :
20075     {
20076       "description": "The electric frequency in Hertz (Hz).",
20077       "readOnly": true,
20078       "type": "number"
20079     },
20080   "voltage" :
20081     {
20082       "description": "The electric voltage in Volts (V).",
20083       "readOnly": true,
20084       "type": "number"
20085     },
20086   "step" :
20087     {
20088       "anyOf": [
20089         {
20090           "type": "integer"
20091         },
20092         {
20093           "type": "number"
20094         }
20095       ],
20096       "description": "Step value across the defined range",
20097       "readOnly": true
20098     },
20099   "n" :
20100     {
20101       "description": "Friendly name of the resource",
20102       "maxLength": 64,
20103       "readOnly": true,
20104       "type": "string"
20105     },
20106   "desiredfrequency" :
20107     {
20108       "description": "The desired electric frequency in Hertz (Hz).",
20109       "type": "number"
20110     },
20111   "id" :
20112     {
20113       "description": "Instance ID of this specific resource",
20114       "maxLength": 64,

```

```

20115         "readOnly": true,
20116         "type": "string"
20117     },
20118     "desiredvoltage" :
20119     {
20120         "description": "The desired electric voltage in Volts (V).",
20121         "type": "number"
20122     },
20123     "if" :
20124     {
20125         "description": "The interface set supported by this resource",
20126         "items": {
20127             "enum": [
20128                 "oic.if.baseline",
20129                 "oic.if.ll",
20130                 "oic.if.b",
20131                 "oic.if.lb",
20132                 "oic.if.rw",
20133                 "oic.if.r",
20134                 "oic.if.a",
20135                 "oic.if.s"
20136             ],
20137             "type": "string"
20138         },
20139         "minItems": 1,
20140         "readOnly": true,
20141         "type": "array"
20142     }
20143 },
20144 "type" : "object"
20145 , "required": ["voltage", "current", "frequency"]
20146 }
20147 ,
20148 "EnergyUpdate" : {
20149     "properties": {
20150         "desiredcurrent" :
20151         {
20152             "description": "The desired electric current in Amps (A).",
20153             "type": "number"
20154         },
20155         "desiredfrequency" :
20156         {
20157             "description": "The desired electric frequency in Hertz (Hz).",
20158             "type": "number"
20159         },
20160         "desiredvoltage" :
20161         {
20162             "description": "The desired electric voltage in Volts (V).",
20163             "type": "number"
20164         },
20165         "if" :
20166         {
20167             "description": "The interface set supported by this resource",
20168             "items": {
20169                 "enum": [
20170                     "oic.if.baseline",
20171                     "oic.if.ll",
20172                     "oic.if.b",
20173                     "oic.if.lb",
20174                     "oic.if.rw",
20175                     "oic.if.r",
20176                     "oic.if.a",
20177                     "oic.if.s"
20178                 ],
20179                 "type": "string"
20180             },
20181             "minItems": 1,
20182             "readOnly": true,
20183             "type": "array"
20184         }
20185     }
20186     , "anyOf" :

```

```

20187     [
20188     {
20189         "required": [
20190             "desiredvoltage"
20191         ]
20192     },
20193     {
20194         "required": [
20195             "desiredcurrent"
20196         ]
20197     },
20198     {
20199         "required": [
20200             "desiredfrequency"
20201         ]
20202     }
20203 ]
20204 , "type" : "object"
20205 }
20206 }
20207 }
20208

```

20209 **6.81.5 Property definition**

20210 Table 165 defines the Properties that are part of the ['oic.r.energy.electrical'] Resource Type

20211 **Table 165 – The Property definitions of the Resource with type 'rt' =**
20212 **['oic.r.energy.electrical']**

Property name	Value type	Mandatory	Access mode	Description
desiredfrequency	number	Yes	Read Write	The desired electric frequency in Hertz (Hz).
if	array: see schema	No	Read Only	The interface set supported by this resource
desiredvoltage	number	No	Read Write	The desired electric voltage in Volts (V).
desiredcurrent	number	No	Read Write	The desired electric current in Amps (A).
precision	number	No	Read Only	Accuracy granularity of the exposed value
step	multiple types: see schema	No	Read Only	Step value across the defined range
desiredcurrent	number	No	Read Write	The desired electric current in Amps (A).
if	array: see schema	No	Read Only	The interface set supported by this resource
id	string	No	Read Only	Instance ID of this specific resource
desiredvoltage	number	No	Read Write	The desired electric voltage in Volts (V).

frequency	number	Yes	Read Only	The electric frequency in Hertz (Hz).
current	number	Yes	Read Only	The electric current in Amps (A).
range	array: see schema	No	Read Only	The valid range for the value Property
voltage	number	Yes	Read Only	The electric voltage in Volts (V).
desiredfrequency	number	No	Read Write	The desired electric frequency in Hertz (Hz).
n	string	No	Read Only	Friendly name of the resource
rt	array: see schema	No	Read Only	Resource Type

20213 **6.81.6 CRUDN behaviour**

20214 Table 166 defines the CRUDN operations that are supported on the ['oic.r.energy.electrical']
 20215 Resource Type

20216 **Table 166 – The CRUDN operations of the Resource with type 'rt' = ['oic.r.energy.electrical']**

Create	Read	Update	Delete	Notify
	get	post		observe

20217 **6.82 Energy Generation**

20218 **6.82.1 Introduction**

20219 This resource describes the attributes associated with energy generation
 20220 energygenerated is a number that provides the energy generated in Watt-hour(Wh).
 20221 Retrieves the current energy generation.
 20222

20223 **6.82.2 Example URI**

20224 /EnergyGenerationResURI

20225 **6.82.3 Resource type**

20226 The resource type (rt) is defined as: ['oic.r.energy.generation'].

20227 **6.82.4 OpenAPI 2.0 definition**

```

20228 {
20229   "swagger": "2.0",
20230   "info": {
20231     "title": "Energy Generation",
20232     "version": "v1.1.0-20170815",
20233     "license": {
20234       "name": "copyright 2016-2017 Open Connectivity Foundation, Inc. All rights reserved.",
20235       "x-description": "Redistribution and use in source and binary forms, with or without
20236 modification, are permitted provided that the following conditions are met:\n      1.
20237 Redistributions of source code must retain the above copyright notice, this list of conditions and
20238 the following disclaimer.\n      2. Redistributions in binary form must reproduce the above
20239 copyright notice, this list of conditions and the following disclaimer in the documentation and/or
20240 other materials provided with the distribution.\n\n      THIS SOFTWARE IS PROVIDED BY THE Open
20241 Connectivity Foundation, INC. \AS IS\ AND ANY EXPRESS OR IMPLIED WARRANTIES, INCLUDING, BUT NOT
20242 LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE OR
20243 WARRANTIES OF NON-INFRINGEMENT, ARE DISCLAIMED.\n      IN NO EVENT SHALL THE Open Connectivity
20244 Foundation, INC. OR CONTRIBUTORS BE LIABLE FOR ANY DIRECT, INDIRECT, INCIDENTAL, SPECIAL, EXEMPLARY,

```

```

20245 OR CONSEQUENTIAL DAMAGES (INCLUDING, BUT NOT LIMITED TO, PROCUREMENT OF SUBSTITUTE GOODS OR
20246 SERVICES; LOSS OF USE, DATA, OR PROFITS; OR BUSINESS INTERRUPTION)\n          HOWEVER CAUSED AND ON
20247 ANY THEORY OF LIABILITY, WHETHER IN CONTRACT, STRICT LIABILITY, OR TORT (INCLUDING NEGLIGENCE OR
20248 OTHERWISE) ARISING IN ANY WAY OUT OF THE USE OF THIS SOFTWARE, EVEN IF ADVISED OF THE POSSIBILITY OF
20249 SUCH DAMAGE.\n"
20250 }
20251 },
20252 "schemes": ["http"],
20253 "consumes": ["application/json"],
20254 "produces": ["application/json"],
20255 "paths": {
20256   "/EnergyGenerationResURI" : {
20257     "get": {
20258       "description": "This resource describes the attributes associated with energy
20259 generation\nenergygenerated is a number that provides the energy generated in Watt-
20260 hour(Wh).\nRetrieves the current energy generation.\n",
20261       "parameters": [
20262         {"$ref": "#/parameters/interface"}
20263       ],
20264       "responses": {
20265         "200": {
20266           "description": "",
20267           "x-example":
20268             {
20269               "rt": ["oic.r.energy.generation"],
20270               "id": "unique_example_id",
20271               "energygenerated": 3000.00
20272             }
20273           ,
20274           "schema": { "$ref": "#/definitions/EnergyGeneration" }
20275         }
20276       }
20277     }
20278   },
20279 },
20280 "parameters": {
20281   "interface" : {
20282     "in" : "query",
20283     "name" : "if",
20284     "type" : "string",
20285     "enum" : ["oic.if.s", "oic.if.baseline"]
20286   }
20287 },
20288 "definitions": {
20289   "EnergyGeneration" : {
20290     "properties": {
20291       "rt" :
20292         {
20293           "description": "Resource Type",
20294           "items": {
20295             "maxLength": 64,
20296             "type": "string"
20297           },
20298           "minItems": 1,
20299           "readOnly": true,
20300           "type": "array"
20301         },
20302       "energygenerated" :
20303         {
20304           "description": "The energy generated in Watt-hour(Wh).",
20305           "readOnly": true,
20306           "type": "number"
20307         },
20308       "precision" :
20309         {
20310           "description": "Accuracy granularity of the exposed value",
20311           "readOnly": true,
20312           "type": "number"
20313         },
20314       "n" :
20315         {
20316           "description": "Friendly name of the resource",

```

```

20317         "maxLength": 64,
20318         "readOnly": true,
20319         "type": "string"
20320     },
20321     "range" :
20322     {
20323         "description": "The valid range for the value Property",
20324         "items": {
20325             "anyOf": [
20326                 {
20327                     "type": "number"
20328                 },
20329                 {
20330                     "type": "integer"
20331                 }
20332             ]
20333         },
20334         "maxItems": 2,
20335         "minItems": 2,
20336         "readOnly": true,
20337         "type": "array"
20338     },
20339     "step" :
20340     {
20341         "anyOf": [
20342             {
20343                 "type": "integer"
20344             },
20345             {
20346                 "type": "number"
20347             }
20348         ],
20349         "description": "Step value across the defined range",
20350         "readOnly": true
20351     },
20352     "id" :
20353     {
20354         "description": "Instance ID of this specific resource",
20355         "maxLength": 64,
20356         "readOnly": true,
20357         "type": "string"
20358     },
20359     "if" :
20360     {
20361         "description": "The interface set supported by this resource",
20362         "items": {
20363             "enum": [
20364                 "oic.if.baseline",
20365                 "oic.if.ll",
20366                 "oic.if.b",
20367                 "oic.if.lb",
20368                 "oic.if.rw",
20369                 "oic.if.r",
20370                 "oic.if.a",
20371                 "oic.if.s"
20372             ],
20373             "type": "string"
20374         },
20375         "minItems": 1,
20376         "readOnly": true,
20377         "type": "array"
20378     }
20379 },
20380 "type" : "object"
20381 , "required": ["energygenerated"]
20382 }
20383 }
20384 }
20385

```

20386 6.82.5 Property definition

20387 Table 167 defines the Properties that are part of the ['oic.r.energy.generation'] Resource Type
 Copyright Open Connectivity Foundation, Inc. © 2016-19. All rights Reserved

20388
20389

Table 167 – The Property definitions of the Resource with type 'rt' = ['oic.r.energy.generation']

Property name	Value type	Mandatory	Access mode	Description
precision	number	No	Read Only	Accuracy granularity of the exposed value
if	array: see schema	No	Read Only	The interface set supported by this resource
step	multiple types: see schema	No	Read Only	Step value across the defined range
n	string	No	Read Only	Friendly name of the resource
id	string	No	Read Only	Instance ID of this specific resource
rt	array: see schema	No	Read Only	Resource Type
range	array: see schema	No	Read Only	The valid range for the value Property
energygenerated	number	Yes	Read Only	The energy generated in Watt-hour(Wh).

20390 **6.82.6 CRUDN behaviour**

20391 Table 168 defines the CRUDN operations that are supported on the ['oic.r.energy.generation']
20392 Resource Type

Table 168 – The CRUDN operations of the Resource with type 'rt' = ['oic.r.energy.generation']

Create	Read	Update	Delete	Notify
	get			observe

20395 **6.83 Foaming**

20396 **6.83.1 Introduction**

20397 This resource describes the attributes associated with foaming. The foam strength of the liquid is
20398 represented as an integer.

20399 The foam strength is an integer, the range of which may be enforced by the presence of a range
20400 Property defined in the baseresource.

20401 Retrieves the state of foaming.

20402

20403 **6.83.2 Example URI**

20404 /FoamingResURI

20405 **6.83.3 Resource type**

20406 The resource type (rt) is defined as: ['oic.r.foaming'].

20407 **6.83.4 OpenAPI 2.0 definition**

20408 {
20409 "swagger": "2.0",
20410 "info": {
20411 "title": "Foaming",
20412 "version": "v1.1.0-20170815",
20413 "license": {


```

20414     "name": "copyright 2016-2017 Open Connectivity Foundation, Inc. All rights reserved.",
20415     "x-description": "Redistribution and use in source and binary forms, with or without
20416 modification, are permitted provided that the following conditions are met:\n      1.
20417 Redistributions of source code must retain the above copyright notice, this list of conditions and
20418 the following disclaimer.\n      2. Redistributions in binary form must reproduce the above
20419 copyright notice, this list of conditions and the following disclaimer in the documentation and/or
20420 other materials provided with the distribution.\n\n      THIS SOFTWARE IS PROVIDED BY THE Open
20421 Connectivity Foundation, INC. \AS IS\ AND ANY EXPRESS OR IMPLIED WARRANTIES, INCLUDING, BUT NOT
20422 LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE OR
20423 WARRANTIES OF NON-INFRINGEMENT, ARE DISCLAIMED.\n      IN NO EVENT SHALL THE Open Connectivity
20424 Foundation, INC. OR CONTRIBUTORS BE LIABLE FOR ANY DIRECT, INDIRECT, INCIDENTAL, SPECIAL, EXEMPLARY,
20425 OR CONSEQUENTIAL DAMAGES (INCLUDING, BUT NOT LIMITED TO, PROCUREMENT OF SUBSTITUTE GOODS OR
20426 SERVICES; LOSS OF USE, DATA, OR PROFITS; OR BUSINESS INTERRUPTION)\n      HOWEVER CAUSED AND ON
20427 ANY THEORY OF LIABILITY, WHETHER IN CONTRACT, STRICT LIABILITY, OR TORT (INCLUDING NEGLIGENCE OR
20428 OTHERWISE) ARISING IN ANY WAY OUT OF THE USE OF THIS SOFTWARE, EVEN IF ADVISED OF THE POSSIBILITY OF
20429 SUCH DAMAGE.\n"
20430   }
20431 },
20432 "schemes": ["http"],
20433 "consumes": ["application/json"],
20434 "produces": ["application/json"],
20435 "paths": {
20436   "/FoamingResURI" : {
20437     "get": {
20438       "description": "This resource describes the attributes associated with foaming. The foam
20439 strength of the liquid is represented as an integer.\nThe foam strength is an integer, the range of
20440 which may be enforced by the presence of a range Property defined in the baseresource.\nRetrieves
20441 the state of foaming.\n",
20442       "parameters": [
20443         { "$ref": "#/parameters/interface" }
20444       ],
20445       "responses": {
20446         "200": {
20447           "description": "",
20448           "x-example":
20449             {
20450               "rt": ["oic.r.foaming"],
20451               "id": "unique_example_id",
20452               "foamstrength": 50,
20453               "range": [0,100]
20454             }
20455           ,
20456           "schema": { "$ref": "#/definitions/Foaming" }
20457         }
20458       }
20459     },
20460     "post": {
20461       "description": "Sets foaming value\n",
20462       "parameters": [
20463         { "$ref": "#/parameters/interface" },
20464         {
20465           "name": "body",
20466           "in": "body",
20467           "required": true,
20468           "schema": { "$ref": "#/definitions/Foaming" },
20469           "x-example":
20470             {
20471               "foamstrength": 50
20472             }
20473         }
20474       ],
20475       "responses": {
20476         "200": {
20477           "description": "",
20478           "x-example":
20479             {
20480               "id": "unique_example_id",
20481               "foamstrength": 50
20482             }
20483           ,
20484           "schema": { "$ref": "#/definitions/Foaming" }
20485         }
20486       }
20487     }
20488   }

```

```

20486     }
20487   }
20488 }
20489 },
20490 "parameters": {
20491   "interface": {
20492     "in": "query",
20493     "name": "if",
20494     "type": "string",
20495     "enum": ["oic.if.rw", "oic.if.baseline"]
20496   }
20497 },
20498 "definitions": {
20499   "Foaming": {
20500     "properties": {
20501       "rt": {
20502         {
20503           "description": "Resource Type",
20504           "items": {
20505             "maxLength": 64,
20506             "type": "string"
20507           },
20508           "minItems": 1,
20509           "readOnly": true,
20510           "type": "array"
20511         },
20512       "foamstrength": {
20513         {
20514           "description": "The desired foaminess of the liquid.",
20515           "type": "integer"
20516         },
20517       "precision": {
20518         {
20519           "description": "Accuracy granularity of the exposed value",
20520           "readOnly": true,
20521           "type": "number"
20522         },
20523       "n": {
20524         {
20525           "description": "Friendly name of the resource",
20526           "maxLength": 64,
20527           "readOnly": true,
20528           "type": "string"
20529         },
20530       "range": {
20531         {
20532           "description": "The valid range for the value Property",
20533           "items": {
20534             "anyOf": [
20535               {
20536                 "type": "number"
20537               },
20538               {
20539                 "type": "integer"
20540               }
20541             ]
20542           },
20543           "maxItems": 2,
20544           "minItems": 2,
20545           "readOnly": true,
20546           "type": "array"
20547         },
20548       "step": {
20549         {
20550           "anyOf": [
20551             {
20552               "type": "integer"
20553             },
20554             {
20555               "type": "number"
20556             }
20557           ]

```

```

20558         "description": "Step value across the defined range",
20559         "readOnly": true
20560     },
20561     "id" :
20562     {
20563         "description": "Instance ID of this specific resource",
20564         "maxLength": 64,
20565         "readOnly": true,
20566         "type": "string"
20567     },
20568     "if" :
20569     {
20570         "description": "The interface set supported by this resource",
20571         "items": {
20572             "enum": [
20573                 "oic.if.baseline",
20574                 "oic.if.ll",
20575                 "oic.if.b",
20576                 "oic.if.lb",
20577                 "oic.if.rw",
20578                 "oic.if.r",
20579                 "oic.if.a",
20580                 "oic.if.s"
20581             ],
20582             "type": "string"
20583         },
20584         "minItems": 1,
20585         "readOnly": true,
20586         "type": "array"
20587     }
20588     , "type" : "object"
20589     , "required": ["foamstrength"]
20590 }
20591 }
20592 }
20593 }
20594 }

```

20595 6.83.5 Property definition

20596 Table 169 defines the Properties that are part of the ['oic.r.foaming'] Resource Type

20597 **Table 169 – The Property definitions of the Resource with type 'rt' = ['oic.r.foaming']**

Property name	Value type	Mandatory	Access mode	Description
id	string	No	Read Only	Instance ID of this specific resource
step	multiple types: see schema	No	Read Only	Step value across the defined range
if	array: see schema	No	Read Only	The interface set supported by this resource
foamstrength	integer	Yes	Read Write	The desired foaminess of the liquid.
rt	array: see schema	No	Read Only	Resource Type
n	string	No	Read Only	Friendly name of the resource
precision	number	No	Read Only	Accuracy granularity of the exposed value

range	array: schema	see	No	Read Only	The valid range for the value Property
-------	------------------	-----	----	-----------	--

20598 **6.83.6 CRUDN behaviour**

20599 Table 170 defines the CRUDN operations that are supported on the ['oic.r.foaming'] Resource Type

20600 **Table 170 – The CRUDN operations of the Resource with type 'rt' = ['oic.r.foaming']**

Create	Read	Update	Delete	Notify
	get	post		observe

20601 **6.84 Grinder**

20602 **6.84.1 Introduction**

20603 This resource describes the attributes associated with a grinder. The coarseness of the grounds
20604 is an integer. The higher the value, the less coarse. remaining is a percentage that represents
20605 the unground material left.

20606 Retrieves the state of a grinder.

20607

20608 **6.84.2 Example URI**

20609 /GrinderResURI

20610 **6.84.3 Resource type**

20611 The resource type (rt) is defined as: ['oic.r.grinder'].

20612 **6.84.4 OpenAPI 2.0 definition**

```

20613 {
20614   "swagger": "2.0",
20615   "info": {
20616     "title": "Grinder",
20617     "version": "v1.1.0-20170815",
20618     "license": {
20619       "name": "copyright 2016-2017 Open Connectivity Foundation, Inc. All rights reserved.",
20620       "x-description": "Redistribution and use in source and binary forms, with or without
20621 modification, are permitted provided that the following conditions are met:\n      1.
20622 Redistributions of source code must retain the above copyright notice, this list of conditions and
20623 the following disclaimer.\n      2. Redistributions in binary form must reproduce the above
20624 copyright notice, this list of conditions and the following disclaimer in the documentation and/or
20625 other materials provided with the distribution.\n\n      THIS SOFTWARE IS PROVIDED BY THE Open
20626 Connectivity Foundation, INC. \\"AS IS\\" AND ANY EXPRESS OR IMPLIED WARRANTIES, INCLUDING, BUT NOT
20627 LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE OR
20628 WARRANTIES OF NON-INFRINGEMENT, ARE DISCLAIMED.\n\n      IN NO EVENT SHALL THE Open Connectivity
20629 Foundation, INC. OR CONTRIBUTORS BE LIABLE FOR ANY DIRECT, INDIRECT, INCIDENTAL, SPECIAL, EXEMPLARY,
20630 OR CONSEQUENTIAL DAMAGES (INCLUDING, BUT NOT LIMITED TO, PROCUREMENT OF SUBSTITUTE GOODS OR
20631 SERVICES; LOSS OF USE, DATA, OR PROFITS; OR BUSINESS INTERRUPTION)\n\n      HOWEVER CAUSED AND ON
20632 ANY THEORY OF LIABILITY, WHETHER IN CONTRACT, STRICT LIABILITY, OR TORT (INCLUDING NEGLIGENCE OR
20633 OTHERWISE) ARISING IN ANY WAY OUT OF THE USE OF THIS SOFTWARE, EVEN IF ADVISED OF THE POSSIBILITY OF
20634 SUCH DAMAGE.\n"
20635     }
20636   },
20637   "schemes": ["http"],
20638   "consumes": ["application/json"],
20639   "produces": ["application/json"],
20640   "paths": {
20641     "/GrinderResURI" : {
20642       "get": {
20643         "description": "This resource describes the attributes associated with a grinder. The
20644 coarseness of the grounds is an integer. The higher the value, the less coarse. remaining is a
20645 percentage that represents the unground material left.\nRetrieves the state of a grinder.\n",
20646         "parameters": [
20647           {"$ref": "#/parameters/interface"}
20648         ],
20649         "responses": {
20650           "200": {
20651             "description": "",

```

```

20652         "x-example":
20653             {
20654                 "rt":      ["oic.r.grinder"],
20655                 "id":      "unique_example_id",
20656                 "coarseness": 10,
20657                 "remaining": 50
20658             }
20659         ,
20660         "schema": { "$ref": "#/definitions/Grinder" }
20661     }
20662 },
20663 "post": {
20664     "description": "Sets grinding values\n",
20665     "parameters": [
20666         { "$ref": "#/parameters/interface" },
20667         {
20668             "name": "body",
20669             "in": "body",
20670             "required": true,
20671             "schema": { "$ref": "#/definitions/GrinderUpdate" },
20672             "x-example":
20673                 {
20674                     "coarseness": 10
20675                 }
20676         }
20677     ],
20678     "responses": {
20679         "200": {
20680             "description": "",
20681             "x-example":
20682                 {
20683                     "id": "unique_example_id",
20684                     "coarseness": 10
20685                 }
20686             ,
20687             "schema": { "$ref": "#/definitions/GrinderUpdate" }
20688         }
20689     }
20690 },
20691 },
20692 },
20693 },
20694 "parameters": {
20695     "interface": {
20696         "in": "query",
20697         "name": "if",
20698         "type": "string",
20699         "enum": ["oic.if.rw", "oic.if.baseline"]
20700     }
20701 },
20702 "definitions": {
20703     "Grinder": {
20704         "properties": {
20705             "coarseness":
20706                 {
20707                     "description": "The desired coarseness when grinding.",
20708                     "type": "integer"
20709                 },
20710             "rt":
20711                 {
20712                     "description": "Resource Type",
20713                     "items": {
20714                         "maxLength": 64,
20715                         "type": "string"
20716                     },
20717                     "minItems": 1,
20718                     "readOnly": true,
20719                     "type": "array"
20720                 },
20721             "remaining":
20722                 {
20723                     "description": "The percentage of unground material left.",

```

```

20724         "maximum": 100,
20725         "minimum": 0,
20726         "readOnly": true,
20727         "type": "integer"
20728     },
20729     "precision" :
20730     {
20731         "description": "Accuracy granularity of the exposed value",
20732         "readOnly": true,
20733         "type": "number"
20734     },
20735     "n" :
20736     {
20737         "description": "Friendly name of the resource",
20738         "maxLength": 64,
20739         "readOnly": true,
20740         "type": "string"
20741     },
20742     "range" :
20743     {
20744         "description": "The valid range for the value Property",
20745         "items": {
20746             "anyOf": [
20747                 {
20748                     "type": "number"
20749                 },
20750                 {
20751                     "type": "integer"
20752                 }
20753             ]
20754         },
20755         "maxItems": 2,
20756         "minItems": 2,
20757         "readOnly": true,
20758         "type": "array"
20759     },
20760     "step" :
20761     {
20762         "anyOf": [
20763             {
20764                 "type": "integer"
20765             },
20766             {
20767                 "type": "number"
20768             }
20769         ],
20770         "description": "Step value across the defined range",
20771         "readOnly": true
20772     },
20773     "id" :
20774     {
20775         "description": "Instance ID of this specific resource",
20776         "maxLength": 64,
20777         "readOnly": true,
20778         "type": "string"
20779     },
20780     "if" :
20781     {
20782         "description": "The interface set supported by this resource",
20783         "items": {
20784             "enum": [
20785                 "oic.if.baseline",
20786                 "oic.if.ll",
20787                 "oic.if.b",
20788                 "oic.if.lb",
20789                 "oic.if.rw",
20790                 "oic.if.r",
20791                 "oic.if.a",
20792                 "oic.if.s"
20793             ],
20794             "type": "string"
20795         },

```

```

20796         "minItems": 1,
20797         "readOnly": true,
20798         "type": "array"
20799     }
20800
20801     },
20802     "type" : "object"
20803     , "required": ["coarseness"]
20804 }
20805
20806 "GrinderUpdate" : {
20807     "properties": {
20808         "coarseness" :
20809         {
20810             "description": "The desired coarseness when grinding.",
20811             "type": "integer"
20812         }
20813     }
20814     , "type" : "object"
20815     , "required": ["coarseness"]
20816 }
20817 }
20818 }
20819

```

6.84.5 Property definition

Table 171 defines the Properties that are part of the ['oic.r.grinder'] Resource Type

Table 171 – The Property definitions of the Resource with type 'rt' = ['oic.r.grinder']

Property name	Value type	Mandatory	Access mode	Description
range	array: see schema	No	Read Only	The valid range for the value Property
step	multiple types: see schema	No	Read Only	Step value across the defined range
coarseness	integer	Yes	Read Write	The desired coarseness when grinding.
rt	array: see schema	No	Read Only	Resource Type
id	string	No	Read Only	Instance ID of this specific resource
remaining	integer	No	Read Only	The percentage of unground material left.
n	string	No	Read Only	Friendly name of the resource
precision	number	No	Read Only	Accuracy granularity of the exposed value
if	array: see schema	No	Read Only	The interface set supported by this resource
coarseness	integer	Yes	Read Write	The desired coarseness when grinding.

6.84.6 CRUDN behaviour

Table 172 defines the CRUDN operations that are supported on the ['oic.r.grinder'] Resource Type

20825

Table 172 – The CRUDN operations of the Resource with type 'rt' = ['oic.r.grinder']

Create	Read	Update	Delete	Notify
	get	post		observe

20826

6.85 Liquid Level

20827

6.85.1 Introduction

20828 This resource describes the attributes associated with liquid level. The current level and desired
 20829 level are defined in terms of a percentage. The behaviour of when the currentlevel and
 20830 desiredlevel are not equal is determined by the device manufacturer.

20831 Retrieves the state of liquid level.

20832

20833 **6.85.2 Example URI**

20834 /LiquidLevelResURI

20835 **6.85.3 Resource type**

20836 The resource type (rt) is defined as: ['oic.r.liquid.level'].

20837 **6.85.4 OpenAPI 2.0 definition**

```

20838 {
20839   "swagger": "2.0",
20840   "info": {
20841     "title": "Liquid Level",
20842     "version": "v1.1.0-20160519",
20843     "license": {
20844       "name": "copyright 2016-2017 Open Connectivity Foundation, Inc. All rights reserved.",
20845       "x-description": "Redistribution and use in source and binary forms, with or without
20846 modification, are permitted provided that the following conditions are met:\n      1.
20847 Redistributions of source code must retain the above copyright notice, this list of conditions and
20848 the following disclaimer.\n      2. Redistributions in binary form must reproduce the above
20849 copyright notice, this list of conditions and the following disclaimer in the documentation and/or
20850 other materials provided with the distribution.\n\n      THIS SOFTWARE IS PROVIDED BY THE Open
20851 Connectivity Foundation, INC. \AS IS\ AND ANY EXPRESS OR IMPLIED WARRANTIES, INCLUDING, BUT NOT
20852 LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE OR
20853 WARRANTIES OF NON-INFRINGEMENT, ARE DISCLAIMED.\n      IN NO EVENT SHALL THE Open Connectivity
20854 Foundation, INC. OR CONTRIBUTORS BE LIABLE FOR ANY DIRECT, INDIRECT, INCIDENTAL, SPECIAL, EXEMPLARY,
20855 OR CONSEQUENTIAL DAMAGES (INCLUDING, BUT NOT LIMITED TO, PROCUREMENT OF SUBSTITUTE GOODS OR
20856 SERVICES; LOSS OF USE, DATA, OR PROFITS; OR BUSINESS INTERRUPTION)\n\n      HOWEVER CAUSED AND ON
20857 ANY THEORY OF LIABILITY, WHETHER IN CONTRACT, STRICT LIABILITY, OR TORT (INCLUDING NEGLIGENCE OR
20858 OTHERWISE) ARISING IN ANY WAY OUT OF THE USE OF THIS SOFTWARE, EVEN IF ADVISED OF THE POSSIBILITY OF
20859 SUCH DAMAGE.\n"
20860     }
20861   },
20862   "schemes": ["http"],
20863   "consumes": ["application/json"],
20864   "produces": ["application/json"],
20865   "paths": {
20866     "/LiquidLevelResURI" : {
20867       "get": {
20868         "description": "This resource describes the attributes associated with liquid level. The
20869 current level and desired level are defined in terms of a percentage. The behaviour of when the
20870 currentlevel and desiredlevel are not equal is determined by the device manufacturer.\nRetrieves the
20871 state of liquid level.\n",
20872         "parameters": [
20873           {"$ref": "#/parameters/interface"}
20874         ],
20875         "responses": {
20876           "200": {
20877             "description": "",
20878             "x-example":
20879             {
20880               "rt": ["oic.r.liquid.level"],
20881               "id": "unique_example_id",
20882               "currentlevel": 60,
20883               "desiredlevel": 80
20884             }
20885           }
20886         }
20887       }
20888     }
20889   }

```



```

20885         ,
20886         "schema": { "$ref": "#/definitions/LiquidLevel" }
20887     }
20888 }
20889 },
20890 "post": {
20891     "description": "Sets liquid level values\n",
20892     "parameters": [
20893         { "$ref": "#/parameters/interface" },
20894         {
20895             "name": "body",
20896             "in": "body",
20897             "required": true,
20898             "schema": { "$ref": "#/definitions/LiquidLevelUpdate" },
20899             "x-example":
20900                 {
20901                     "desiredlevel": 80
20902                 }
20903         }
20904     ],
20905     "responses": {
20906         "200": {
20907             "description": "",
20908             "x-example":
20909                 {
20910                     "id": "unique_example_id",
20911                     "desiredlevel": 80
20912                 }
20913             ,
20914             "schema": { "$ref": "#/definitions/LiquidLevelUpdate" }
20915         }
20916     }
20917 }
20918 },
20919 },
20920 "parameters": {
20921     "interface" : {
20922         "in" : "query",
20923         "name" : "if",
20924         "type" : "string",
20925         "enum" : ["oic.if.rw", "oic.if.r", "oic.if.baseline"]
20926     }
20927 },
20928 "definitions": {
20929     "LiquidLevel" : {
20930         "properties": {
20931             "rt" :
20932                 {
20933                     "description": "Resource Type",
20934                     "items": {
20935                         "maxLength": 64,
20936                         "type": "string"
20937                     },
20938                     "minItems": 1,
20939                     "readOnly": true,
20940                     "type": "array"
20941                 },
20942             "currentlevel" :
20943                 {
20944                     "description": "The current level of the liquid in percentage.",
20945                     "maximum": 100,
20946                     "minimum": 0,
20947                     "readOnly": true,
20948                     "type": "integer"
20949                 },
20950             "precision" :
20951                 {
20952                     "description": "Accuracy granularity of the exposed value",
20953                     "readOnly": true,
20954                     "type": "number"
20955                 }
20956         },

```

```

20957         {
20958             "description": "Friendly name of the resource",
20959             "maxLength": 64,
20960             "readOnly": true,
20961             "type": "string"
20962         },
20963         "range" :
20964         {
20965             "description": "The valid range for the value Property",
20966             "items": {
20967                 "anyOf": [
20968                     {
20969                         "type": "number"
20970                     },
20971                     {
20972                         "type": "integer"
20973                     }
20974                 ]
20975             },
20976             "maxItems": 2,
20977             "minItems": 2,
20978             "readOnly": true,
20979             "type": "array"
20980         },
20981         "step" :
20982         {
20983             "anyOf": [
20984                 {
20985                     "type": "integer"
20986                 },
20987                 {
20988                     "type": "number"
20989                 }
20990             ],
20991             "description": "Step value across the defined range",
20992             "readOnly": true
20993         },
20994         "desiredlevel" :
20995         {
20996             "description": "The desired level of the liquid in percentage.",
20997             "maximum": 100,
20998             "minimum": 0,
20999             "type": "integer"
21000         },
21001         "id" :
21002         {
21003             "description": "Instance ID of this specific resource",
21004             "maxLength": 64,
21005             "readOnly": true,
21006             "type": "string"
21007         },
21008         "if" :
21009         {
21010             "description": "The interface set supported by this resource",
21011             "items": {
21012                 "enum": [
21013                     "oic.if.baseline",
21014                     "oic.if.ll",
21015                     "oic.if.b",
21016                     "oic.if.lb",
21017                     "oic.if.rw",
21018                     "oic.if.r",
21019                     "oic.if.a",
21020                     "oic.if.s"
21021                 ],
21022                 "type": "string"
21023             },
21024             "minItems": 1,
21025             "readOnly": true,
21026             "type": "array"
21027         }
21028     }

```

```

21029     , "type" : "object"
21030     , "required": ["currentlevel"]
21031   }
21032   ,
21033   "LiquidLevelUpdate" : {
21034     "properties": {
21035       "desiredlevel" :
21036         {
21037           "description": "The desired level of the liquid in percentage.",
21038           "maximum": 100,
21039           "minimum": 0,
21040           "type": "integer"
21041         }
21042     }
21043     , "type" : "object"
21044     , "required": ["desiredlevel"]
21045   }
21046 }
21047 }
21048

```

21049 **6.85.5 Property definition**

21050 Table 173 defines the Properties that are part of the ['oic.r.liquid.level'] Resource Type

21051 **Table 173 – The Property definitions of the Resource with type 'rt' = ['oic.r.liquid.level']**

Property name	Value type	Mandatory	Access mode	Description
precision	number	No	Read Only	Accuracy granularity of the exposed value
rt	array: see schema	No	Read Only	Resource Type
step	multiple types: see schema	No	Read Only	Step value across the defined range
if	array: see schema	No	Read Only	The interface set supported by this resource
id	string	No	Read Only	Instance ID of this specific resource
currentlevel	integer	Yes	Read Only	The current level of the liquid in percentage.
n	string	No	Read Only	Friendly name of the resource
range	array: see schema	No	Read Only	The valid range for the value Property
desiredlevel	integer	No	Read Write	The desired level of the liquid in percentage.
desiredlevel	integer	Yes	Read Write	The desired level of the liquid in percentage.

21052 **6.85.6 CRUDN behaviour**

21053 Table 174 defines the CRUDN operations that are supported on the ['oic.r.liquid.level'] Resource
 21054 Type

21055 **Table 174 – The CRUDN operations of the Resource with type 'rt' = ['oic.r.liquid.level']**

Create	Read	Update	Delete	Notify
	get	post		observe

21056 **6.86 Vehicle Connector**

21057 **6.86.1 Introduction**

21058 This resource describes the attributes associated with an electric vehicle charging connector. The
 21059 connected state is a boolean indicating the status of the connector (False = disconnected, True =
 21060 connected). The rated charging capacity and rated discharging capacity are in Amps (A).
 21061 Retrieves the state of the vehicle connector.
 21062

21063 **6.86.2 Example URI**

21064 /VehicleConnectorResURI

21065 **6.86.3 Resource type**

21066 The resource type (rt) is defined as: ['oic.r.vehicle.connector'].

21067 **6.86.4 OpenAPI 2.0 definition**

```

21068 {
21069   "swagger": "2.0",
21070   "info": {
21071     "title": "Vehicle Connector",
21072     "version": "v1.1.0-20170815",
21073     "license": {
21074       "name": "copyright 2016-2017 Open Connectivity Foundation, Inc. All rights reserved.",
21075       "x-description": "Redistribution and use in source and binary forms, with or without
21076 modification, are permitted provided that the following conditions are met:\n      1.
21077 Redistributions of source code must retain the above copyright notice, this list of conditions and
21078 the following disclaimer.\n      2. Redistributions in binary form must reproduce the above
21079 copyright notice, this list of conditions and the following disclaimer in the documentation and/or
21080 other materials provided with the distribution.\n\n      THIS SOFTWARE IS PROVIDED BY THE Open
21081 Connectivity Foundation, INC. \\"AS IS\\" AND ANY EXPRESS OR IMPLIED WARRANTIES, INCLUDING, BUT NOT
21082 LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE OR
21083 WARRANTIES OF NON-INFRINGEMENT, ARE DISCLAIMED.\n      IN NO EVENT SHALL THE Open Connectivity
21084 Foundation, INC. OR CONTRIBUTORS BE LIABLE FOR ANY DIRECT, INDIRECT, INCIDENTAL, SPECIAL, EXEMPLARY,
21085 OR CONSEQUENTIAL DAMAGES (INCLUDING, BUT NOT LIMITED TO, PROCUREMENT OF SUBSTITUTE GOODS OR
21086 SERVICES; LOSS OF USE, DATA, OR PROFITS; OR BUSINESS INTERRUPTION)\n\n      HOWEVER CAUSED AND ON
21087 ANY THEORY OF LIABILITY, WHETHER IN CONTRACT, STRICT LIABILITY, OR TORT (INCLUDING NEGLIGENCE OR
21088 OTHERWISE) ARISING IN ANY WAY OUT OF THE USE OF THIS SOFTWARE, EVEN IF ADVISED OF THE POSSIBILITY OF
21089 SUCH DAMAGE.\n\n"
21090     }
21091   },
21092   "schemes": ["http"],
21093   "consumes": ["application/json"],
21094   "produces": ["application/json"],
21095   "paths": {
21096     "/VehicleConnectorResURI" : {
21097       "get": {
21098         "description": "This resource describes the attributes associated with an electric vehicle
21099 charging connector. The connected state is a boolean indicating the status of the connector (False =
21100 disconnected, True = connected). The rated charging capacity and rated discharging capacity are in
21101 Amps (A).\nRetrieves the state of the vehicle connector.\n",
21102         "parameters": [
21103           {"$ref": "#/parameters/interface"}
21104         ],
21105         "responses": {
21106           "200": {
21107             "description": "",
21108             "x-example":
21109             {
21110               "rt": ["oic.r.vehicle.connector"],
21111               "id": "unique_example_id",
21112               "connected": true,
21113               "ratedchargingcapacity": 20.0,
21114               "rateddischargingcapacity": 5.0

```

```

21115         }
21116     },
21117     "schema": { "$ref": "#/definitions/VehicleConnector" }
21118 }
21119 }
21120 }
21121 }
21122 },
21123 "parameters": {
21124     "interface" : {
21125         "in" : "query",
21126         "name" : "if",
21127         "type" : "string",
21128         "enum" : ["oic.if.s", "oic.if.baseline"]
21129     }
21130 },
21131 "definitions": {
21132     "VehicleConnector" : {
21133         "properties": {
21134             "rt" :
21135                 {
21136                     "description": "Resource Type",
21137                     "items": {
21138                         "maxLength": 64,
21139                         "type": "string"
21140                     },
21141                     "minItems": 1,
21142                     "readOnly": true,
21143                     "type": "array"
21144                 },
21145             "precision" :
21146                 {
21147                     "description": "Accuracy granularity of the exposed value",
21148                     "readOnly": true,
21149                     "type": "number"
21150                 },
21151             "n" :
21152                 {
21153                     "description": "Friendly name of the resource",
21154                     "maxLength": 64,
21155                     "readOnly": true,
21156                     "type": "string"
21157                 },
21158             "range" :
21159                 {
21160                     "description": "The valid range for the value Property",
21161                     "items": {
21162                         "anyOf": [
21163                             {
21164                                 "type": "number"
21165                             },
21166                             {
21167                                 "type": "integer"
21168                             }
21169                         ]
21170                     },
21171                     "maxItems": 2,
21172                     "minItems": 2,
21173                     "readOnly": true,
21174                     "type": "array"
21175                 },
21176             "connected" :
21177                 {
21178                     "description": "The connection state.",
21179                     "readOnly": true,
21180                     "type": "boolean"
21181                 },
21182             "ratedchargingcapacity" :
21183                 {
21184                     "description": "The rated charging capacity in Amps (A).",
21185                     "readOnly": true,
21186                     "type": "number"

```

```

21187     },
21188     "rateddischargingcapacity" :
21189     {
21190         "description": "The rated discharging capacity in Amps (A).",
21191         "readOnly": true,
21192         "type": "number"
21193     },
21194     "step" :
21195     {
21196         "anyOf": [
21197             {
21198                 "type": "integer"
21199             },
21200             {
21201                 "type": "number"
21202             }
21203         ],
21204         "description": "Step value across the defined range",
21205         "readOnly": true
21206     },
21207     "id" :
21208     {
21209         "description": "Instance ID of this specific resource",
21210         "maxLength": 64,
21211         "readOnly": true,
21212         "type": "string"
21213     },
21214     "if" :
21215     {
21216         "description": "The interface set supported by this resource",
21217         "items": {
21218             "enum": [
21219                 "oic.if.baseline",
21220                 "oic.if.ll",
21221                 "oic.if.b",
21222                 "oic.if.lb",
21223                 "oic.if.rw",
21224                 "oic.if.r",
21225                 "oic.if.a",
21226                 "oic.if.s"
21227             ],
21228             "type": "string"
21229         },
21230         "minItems": 1,
21231         "readOnly": true,
21232         "type": "array"
21233     }
21234     , "type" : "object"
21235     , "required": ["connected"]
21236 }
21237 }
21238 }
21239 }
21240

```

21241 6.86.5 Property definition

21242 Table 175 defines the Properties that are part of the ['oic.r.vehicle.connector'] Resource Type

21243 **Table 175 – The Property definitions of the Resource with type 'rt' =**
21244 **['oic.r.vehicle.connector']**

Property name	Value type	Mandatory	Access mode	Description
id	string	No	Read Only	Instance ID of this specific resource
n	string	No	Read Only	Friendly name of the resource

step	multiple types: see schema	No	Read Only	Step value across the defined range
connected	boolean	Yes	Read Only	The connection state.
range	array: see schema	No	Read Only	The valid range for the value Property
rateddischargingcapacity	number	No	Read Only	The rated discharging capacity in Amps (A).
if	array: see schema	No	Read Only	The interface set supported by this resource
precision	number	No	Read Only	Accuracy granularity of the exposed value
ratedchargingcapacity	number	No	Read Only	The rated charging capacity in Amps (A).
rt	array: see schema	No	Read Only	Resource Type

21245 **6.86.6 CRUDN behaviour**

21246 Table 176 defines the CRUDN operations that are supported on the ['oic.r.vehicle.connector']
21247 Resource Type

21248 **Table 176 – The CRUDN operations of the Resource with type 'rt' =**
21249 **['oic.r.vehicle.connector']**

Create	Read	Update	Delete	Notify
	get			observe

21250 **6.87 Time Stamp**

21251 **6.87.1 Introduction**

21252 This resource describes the properties associated with a timestamp.
21253 TimeStamp is a string that captures the timestamp using the RFC3339 datetime format (e.g:
21254 2007-04-05T14:30Z) (Time+Date+Timezone)
21255 Retrieves the current timestamp data.
21256

21257 **6.87.2 Example URI**

21258 /TimeStampResURI

21259 **6.87.3 Resource type**

21260 The resource type (rt) is defined as: ['oic.r.time.stamp'].

21261 **6.87.4 OpenAPI 2.0 definition**

```
21262 {
21263   "swagger": "2.0",
21264   "info": {
21265     "title": "Time Stamp",
21266     "version": "v1.1.0-20170830",
21267     "license": {
21268       "name": "copyright 2016-2017 Open Connectivity Foundation, Inc. All rights reserved.",
21269       "x-description": "Redistribution and use in source and binary forms, with or without
```

```

21270 modification, are permitted provided that the following conditions are met:\n      1.
21271 Redistributions of source code must retain the above copyright notice, this list of conditions and
21272 the following disclaimer.\n      2. Redistributions in binary form must reproduce the above
21273 copyright notice, this list of conditions and the following disclaimer in the documentation and/or
21274 other materials provided with the distribution.\n\n      THIS SOFTWARE IS PROVIDED BY THE Open
21275 Connectivity Foundation, INC. \ "AS IS\ " AND ANY EXPRESS OR IMPLIED WARRANTIES, INCLUDING, BUT NOT
21276 LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE OR
21277 WARRANTIES OF NON-INFRINGEMENT, ARE DISCLAIMED.\n      IN NO EVENT SHALL THE Open Connectivity
21278 Foundation, INC. OR CONTRIBUTORS BE LIABLE FOR ANY DIRECT, INDIRECT, INCIDENTAL, SPECIAL, EXEMPLARY,
21279 OR CONSEQUENTIAL DAMAGES (INCLUDING, BUT NOT LIMITED TO, PROCUREMENT OF SUBSTITUTE GOODS OR
21280 SERVICES; LOSS OF USE, DATA, OR PROFITS; OR BUSINESS INTERRUPTION)\n      HOWEVER CAUSED AND ON
21281 ANY THEORY OF LIABILITY, WHETHER IN CONTRACT, STRICT LIABILITY, OR TORT (INCLUDING NEGLIGENCE OR
21282 OTHERWISE) ARISING IN ANY WAY OUT OF THE USE OF THIS SOFTWARE, EVEN IF ADVISED OF THE POSSIBILITY OF
21283 SUCH DAMAGE.\n"
21284 }
21285 },
21286 "schemes": ["http"],
21287 "consumes": ["application/json"],
21288 "produces": ["application/json"],
21289 "paths": {
21290   "/TimeStampResURI" : {
21291     "get": {
21292       "description": "This resource describes the properties associated with a
21293 timestamp.\nTimeStamp is a string that captures the timestamp using the RFC3339 datetime format
21294 (e.g: 2007-04-05T14:30Z) (Time+Date+Timezone)\nRetrieves the current timestamp data.\n",
21295 "parameters": [
21296   {"$ref": "#/parameters/interface"}
21297 ],
21298 "responses": {
21299   "200": {
21300     "description": "",
21301     "x-example":
21302       {
21303         "rt": ["oic.r.time.stamp"],
21304         "id": "unique_example_id",
21305         "timestamp": "2015-11-05T14:30Z"
21306       }
21307     ,
21308     "schema": { "$ref": "#/definitions/TimeStamp" }
21309   }
21310 }
21311 }
21312 },
21313 },
21314 "parameters": {
21315   "interface" : {
21316     "in" : "query",
21317     "name" : "if",
21318     "type" : "string",
21319     "enum" : ["oic.if.s", "oic.if.r", "oic.if.baseline"]
21320   }
21321 },
21322 "definitions": {
21323   "TimeStamp" : {
21324     "properties": {
21325       "rt" :
21326         {
21327           "description": "Resource Type",
21328           "items": {
21329             "maxLength": 64,
21330             "type": "string"
21331           },
21332           "minItems": 1,
21333           "readOnly": true,
21334           "type": "array"
21335         },
21336       "timestamp" :
21337         {
21338           "description": "An RFC3339 formatted time indicating when the data was observed (e.g.:
21339 2016-02-15T09:19Z, 1996-12-19T16:39:57-08:00)",
21340           "format": "date-time",
21341           "readOnly": true,

```



```

21342     "type": "string"
21343   },
21344   "precision" :
21345     {
21346       "description": "Accuracy granularity of the exposed value",
21347       "readOnly": true,
21348       "type": "number"
21349     },
21350   "n" :
21351     {
21352       "description": "Friendly name of the resource",
21353       "maxLength": 64,
21354       "readOnly": true,
21355       "type": "string"
21356     },
21357   "range" :
21358     {
21359       "description": "The valid range for the value Property",
21360       "items": {
21361         "anyOf": [
21362           {
21363             "type": "number"
21364           },
21365           {
21366             "type": "integer"
21367           }
21368         ]
21369       },
21370       "maxItems": 2,
21371       "minItems": 2,
21372       "readOnly": true,
21373       "type": "array"
21374     },
21375   "step" :
21376     {
21377       "anyOf": [
21378         {
21379           "type": "integer"
21380         },
21381         {
21382           "type": "number"
21383         }
21384       ],
21385       "description": "Step value across the defined range",
21386       "readOnly": true
21387     },
21388   "id" :
21389     {
21390       "description": "Instance ID of this specific resource",
21391       "maxLength": 64,
21392       "readOnly": true,
21393       "type": "string"
21394     },
21395   "if" :
21396     {
21397       "description": "The interface set supported by this resource",
21398       "items": {
21399         "enum": [
21400           "oic.if.baseline",
21401           "oic.if.ll",
21402           "oic.if.b",
21403           "oic.if.lb",
21404           "oic.if.rw",
21405           "oic.if.r",
21406           "oic.if.a",
21407           "oic.if.s"
21408         ],
21409         "type": "string"
21410       },
21411       "minItems": 1,
21412       "readOnly": true,
21413       "type": "array"

```

```

21414     }
21415     },
21416     "type" : "object"
21417     , "required": ["timestamp"]
21418   }
21419 }
21420 }
21421

```

21422 **6.87.5 Property definition**

21423 Table 177 defines the Properties that are part of the ['oic.r.time.stamp'] Resource Type

21424 **Table 177 – The Property definitions of the Resource with type 'rt' = ['oic.r.time.stamp']**

Property name	Value type	Mandatory	Access mode	Description
precision	number	No	Read Only	Accuracy granularity of the exposed value
range	array: see schema	No	Read Only	The valid range for the value Property
timestamp	string	Yes	Read Only	An RFC3339 formatted time indicating when the data was observed (e.g.: 2016-02-15T09:19Z, 1996-12-19T16:39:57-08:00)
step	multiple types: see schema	No	Read Only	Step value across the defined range
if	array: see schema	No	Read Only	The interface set supported by this resource
id	string	No	Read Only	Instance ID of this specific resource
rt	array: see schema	No	Read Only	Resource Type
n	string	No	Read Only	Friendly name of the resource

21425 **6.87.6 CRUDN behaviour**

21426 Table 178 defines the CRUDN operations that are supported on the ['oic.r.time.stamp'] Resource Type

21428 **Table 178 – The CRUDN operations of the Resource with type 'rt' = ['oic.r.time.stamp']**

Create	Read	Update	Delete	Notify
	get			observe

21429 **6.88 3D Printer**

21430 **6.88.1 Introduction**

21431 This resource describes the attributes associated with 3D Printer. The type of 3D printing
 21432 technology is specified by an enumerated string value. The maximum sizes in mm are included
 21433 for the x, y, and z dimensions. A designation of whether the device is capable of WAN

21434 connectivity is represented in a boolean. The memory capacity is captured in MB.

21435

21436 The print

21437 Retrieves the current 3D Printer attributes.

21438

21439 6.88.2 Example URI

21440 /3DPrinterResURI

21441 6.88.3 Resource type

21442 The resource type (rt) is defined as: ['oic.r.printer.3d'].

21443 6.88.4 OpenAPI 2.0 definition

```
21444 {
21445   "swagger": "2.0",
21446   "info": {
21447     "title": "3D Printer",
21448     "version": "v1.1.0-20180115",
21449     "license": {
21450       "name": "copyright 2016-2017 Open Connectivity Foundation, Inc. All rights reserved.",
21451       "x-description": "Redistribution and use in source and binary forms, with or without
21452 modification, are permitted provided that the following conditions are met:\n      1.
21453 Redistributions of source code must retain the above copyright notice, this list of conditions and
21454 the following disclaimer.\n      2. Redistributions in binary form must reproduce the above
21455 copyright notice, this list of conditions and the following disclaimer in the documentation and/or
21456 other materials provided with the distribution.\n\n      THIS SOFTWARE IS PROVIDED BY THE Open
21457 Connectivity Foundation, INC. \\"AS IS\\" AND ANY EXPRESS OR IMPLIED WARRANTIES, INCLUDING, BUT NOT
21458 LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE OR
21459 WARRANTIES OF NON-INFRINGEMENT, ARE DISCLAIMED.\n\n      IN NO EVENT SHALL THE Open Connectivity
21460 Foundation, INC. OR CONTRIBUTORS BE LIABLE FOR ANY DIRECT, INDIRECT, INCIDENTAL, SPECIAL, EXEMPLARY,
21461 OR CONSEQUENTIAL DAMAGES (INCLUDING, BUT NOT LIMITED TO, PROCUREMENT OF SUBSTITUTE GOODS OR
21462 SERVICES; LOSS OF USE, DATA, OR PROFITS; OR BUSINESS INTERRUPTION)\n\n      HOWEVER CAUSED AND ON
21463 ANY THEORY OF LIABILITY, WHETHER IN CONTRACT, STRICT LIABILITY, OR TORT (INCLUDING NEGLIGENCE OR
21464 OTHERWISE) ARISING IN ANY WAY OUT OF THE USE OF THIS SOFTWARE, EVEN IF ADVISED OF THE POSSIBILITY OF
21465 SUCH DAMAGE.\n"
21466     }
21467   },
21468   "schemes": ["http"],
21469   "consumes": ["application/json"],
21470   "produces": ["application/json"],
21471   "paths": {
21472     "/3DPrinterResURI" : {
21473       "get": {
21474         "description": "This resource describes the attributes associated with 3D Printer. The type
21475 of 3D printing technology is specified by an enumerated string value. The maximum sizes in mm are
21476 included for the x, y, and z dimensions. A designation of whether the device is capable of WAN
21477 connectivity is represented in a boolean. The memory capacity is captured in MB.\n\nThe
21478 print\nRetrieves the current 3D Printer attributes.\n",
21479         "parameters": [
21480           { "$ref": "#/parameters/interface" }
21481         ],
21482         "responses": {
21483           "200": {
21484             "description": "",
21485             "x-example":
21486               {
21487                 "rt" : ["oic.r.printer.3d"],
21488                 "id" : "unique_example_id",
21489                 "3dprinttype" : "Digital Light Processing",
21490                 "printsizex" : 300.00,
21491                 "printsizey" : 200.50,
21492                 "printsizez" : 250.75,
21493                 "wanconnected" : false,
21494                 "memorysize" : 120.5
21495               }
21496           },
21497           "schema": { "$ref": "#/definitions/3DPrinter" }
21498         }
21499       }
21500     }
21501   }
```

```

21500     }
21501   }
21502 },
21503 "parameters": {
21504   "interface" : {
21505     "in" : "query",
21506     "name" : "if",
21507     "type" : "string",
21508     "enum" : ["oic.if.r", "oic.if.baseline"]
21509   }
21510 },
21511 "definitions": {
21512   "3DPrinter" : {
21513     "properties": {
21514       "rt" :
21515         {
21516           "description": "Resource Type",
21517           "items": {
21518             "maxLength": 64,
21519             "type": "string"
21520           },
21521           "minItems": 1,
21522           "readOnly": true,
21523           "type": "array"
21524         },
21525       "printsizex" :
21526         {
21527           "description": "This represents the maximum size of printing object in the direction of Y-
21528 axis. The unit is mm.",
21529           "readOnly": true,
21530           "type": "number"
21531         },
21532       "memorysize" :
21533         {
21534           "description": "This value represents the total memory size of the printer. The unit is
21535 MB(Mega Bytes)",
21536           "readOnly": true,
21537           "type": "number"
21538         },
21539       "precision" :
21540         {
21541           "description": "Accuracy granularity of the exposed value",
21542           "readOnly": true,
21543           "type": "number"
21544         },
21545       "n" :
21546         {
21547           "description": "Friendly name of the resource",
21548           "maxLength": 64,
21549           "readOnly": true,
21550           "type": "string"
21551         },
21552       "3dprinttype" :
21553         {
21554           "description": "The type of 3D printing technology.",
21555           "enum": [
21556             "Fused Filament Fabrication",
21557             "Fused Deposition Modeling",
21558             "Digital Light Processing",
21559             "Powder Bed & inkjet head 3D Printing",
21560             "Photopolymer Jetting Technology",
21561             "Laminated Object Manufacturing",
21562             "Stereolithography Apparatus",
21563             "Selective Laser Sintering",
21564             "Unknown"
21565           ],
21566           "readOnly": true,
21567           "type": "string"
21568         },
21569       "range" :
21570         {
21571

```

```

21572         "description": "The valid range for the value Property",
21573         "items": {
21574             "anyOf": [
21575                 {
21576                     "type": "number"
21577                 },
21578                 {
21579                     "type": "integer"
21580                 }
21581             ]
21582         },
21583         "maxItems": 2,
21584         "minItems": 2,
21585         "readOnly": true,
21586         "type": "array"
21587     },
21588     "step" :
21589     {
21590         "anyOf": [
21591             {
21592                 "type": "integer"
21593             },
21594             {
21595                 "type": "number"
21596             }
21597         ],
21598         "description": "Step value across the defined range",
21599         "readOnly": true
21600     },
21601     "wanconnected" :
21602     {
21603         "description": "This value indicates the connectivity capability of the 3D printer. If the
21604 value is false, the printer does not have network facility to Wide Area Network such as internet and
21605 GSM. If the value is true, the printer has network connectivity",
21606         "readOnly": true,
21607         "type": "boolean"
21608     },
21609     "printsizex" :
21610     {
21611         "description": "This represents the maximum size of printing object in the direction of X-
21612 axis. The unit is mm.",
21613         "readOnly": true,
21614         "type": "number"
21615     },
21616     "id" :
21617     {
21618         "description": "Instance ID of this specific resource",
21619         "maxLength": 64,
21620         "readOnly": true,
21621         "type": "string"
21622     },
21623     "printsizex" :
21624     {
21625         "description": "This represents the maximum size of printing object in the direction of Z-
21626 axis. The unit is mm.",
21627         "readOnly": true,
21628         "type": "number"
21629     },
21630     "if" :
21631     {
21632         "description": "The interface set supported by this resource",
21633         "items": {
21634             "enum": [
21635                 "oic.if.baseline",
21636                 "oic.if.ll",
21637                 "oic.if.b",
21638                 "oic.if.lb",
21639                 "oic.if.rw",
21640                 "oic.if.r",
21641                 "oic.if.a",
21642                 "oic.if.s"
21643             ],

```

```

21644         "type": "string"
21645     },
21646     "minItems": 1,
21647     "readOnly": true,
21648     "type": "array"
21649 }
21650 }
21651 , "type" : "object"
21652 , "required": ["3dprinttype", "printsizex", "printsizex", "printsizex", "wanconnected",
21653 "memorysize"]
21654 }
21655 }
21656 }
21657

```

21658 6.88.5 Property definition

21659 Table 179 defines the Properties that are part of the ['oic.r.printer.3d'] Resource Type

21660 **Table 179 – The Property definitions of the Resource with type 'rt' = ['oic.r.printer.3d']**

Property name	Value type	Mandatory	Access mode	Description
printsizex	number	Yes	Read Only	This represents the maximum size of printing object in the direction of Y-axis. The unit is mm.
printsizex	number	Yes	Read Only	This represents the maximum size of printing object in the direction of X-axis. The unit is mm.
id	string	No	Read Only	Instance ID of this specific resource
3dprinttype	string	Yes	Read Only	The type of 3D printing technology.
range	array: see schema	No	Read Only	The valid range for the value Property
step	multiple types: see schema	No	Read Only	Step value across the defined range
wanconnected	boolean	Yes	Read Only	This value indicates the connectivity capability of the 3D printer. If the value is false, the printer does not have network facility to Wide Area Network such as internet and GSM. If the value is true, the

				printer has network connectivity
memorysize	number	Yes	Read Only	This value represents the total memory size of the printer. The unit is MB(Mega Bytes)
if	array: see schema	No	Read Only	The interface set supported by this resource
rt	array: see schema	No	Read Only	Resource Type
printsizex	number	Yes	Read Only	This represents the maximum size of printing object in the direction of Z-axis. The unit is mm.
n	string	No	Read Only	Friendly name of the resource
precision	number	No	Read Only	Accuracy granularity of the exposed value

21661 **6.88.6 CRUDN behaviour**

21662 Table 180 defines the CRUDN operations that are supported on the ['oic.r.printer.3d'] Resource
21663 Type

21664 **Table 180 – The CRUDN operations of the Resource with type 'rt' = ['oic.r.printer.3d']**

Create	Read	Update	Delete	Notify
	get			observe

21665 **6.89 Blood Pressure**

21666 **6.89.1 Introduction**

21667 This resource describes the properties associated with a person's Blood Pressure.
21668 The unit is a single value that is one of mmHg or kPa.
21669 If the unit Property is missing the default is a millimeter of mercury [mmHg].
21670 The BloodPressure and unit Properties are read-only values that are provided by the server.
21671 When range (from oic.r.baseresource) is omitted the default is 0 to +MAXFLOAT.
21672 Retrieves blood pressure of an object.
21673

21674 **6.89.2 Example URI**

21675 /BloodPressureResURI

21676 **6.89.3 Resource type**

21677 The resource type (rt) is defined as: ['oic.r.blood.pressure'].

21678 **6.89.4 OpenAPI 2.0 definition**

21679 {
21680 "swagger": "2.0",
21681 "info": {
21682 "title": "Blood Pressure",

```

21683     "version": "v1.1.0-20160519",
21684     "license": {
21685         "name": "copyright 2016-2017 Open Connectivity Foundation, Inc. All rights reserved.",
21686         "x-description": "Redistribution and use in source and binary forms, with or without
21687 modification, are permitted provided that the following conditions are met:\n      1.
21688 Redistributions of source code must retain the above copyright notice, this list of conditions and
21689 the following disclaimer.\n      2. Redistributions in binary form must reproduce the above
21690 copyright notice, this list of conditions and the following disclaimer in the documentation and/or
21691 other materials provided with the distribution.\n\n      THIS SOFTWARE IS PROVIDED BY THE Open
21692 Connectivity Foundation, INC. \\"AS IS\\" AND ANY EXPRESS OR IMPLIED WARRANTIES, INCLUDING, BUT NOT
21693 LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE OR
21694 WARRANTIES OF NON-INFRINGEMENT, ARE DISCLAIMED.\n      IN NO EVENT SHALL THE Open Connectivity
21695 Foundation, INC. OR CONTRIBUTORS BE LIABLE FOR ANY DIRECT, INDIRECT, INCIDENTAL, SPECIAL, EXEMPLARY,
21696 OR CONSEQUENTIAL DAMAGES (INCLUDING, BUT NOT LIMITED TO, PROCUREMENT OF SUBSTITUTE GOODS OR
21697 SERVICES; LOSS OF USE, DATA, OR PROFITS; OR BUSINESS INTERRUPTION)\n      HOWEVER CAUSED AND ON
21698 ANY THEORY OF LIABILITY, WHETHER IN CONTRACT, STRICT LIABILITY, OR TORT (INCLUDING NEGLIGENCE OR
21699 OTHERWISE) ARISING IN ANY WAY OUT OF THE USE OF THIS SOFTWARE, EVEN IF ADVISED OF THE POSSIBILITY OF
21700 SUCH DAMAGE.\n"
21701     },
21702 },
21703 "schemes": ["http"],
21704 "consumes": ["application/json"],
21705 "produces": ["application/json"],
21706 "paths": {
21707     "/BloodPressureResURI" : {
21708         "get": {
21709             "description": "This resource describes the properties associated with a person's Blood
21710 Pressure.\nThe unit is a single value that is one of mmHg or kPa.\nIf the unit Property is missing
21711 the default is a millimeter of mercury [mmHg].\nThe BloodPressure and unit Properties are read-only
21712 values that are provided by the server.\nWhen range (from oic.r.baseresource) is omitted the default
21713 is 0 to +MAXFLOAT.\nRetrieves blood pressure of an object.\n",
21714             "parameters": [
21715                 { "$ref": "#/parameters/interface" }
21716             ],
21717             "responses": {
21718                 "200": {
21719                     "description": "",
21720                     "x-example":
21721                     {
21722                         "rt": ["oic.r.blood.pressure"],
21723                         "id": "unique_example_id",
21724                         "systolic": 110,
21725                         "diastolic": 85,
21726                         "units": "mmHg"
21727                     }
21728                 },
21729                 "schema": { "$ref": "#/definitions/BloodPressure" }
21730             }
21731         }
21732     }
21733 },
21734 "parameters": {
21735     "interface" : {
21736         "in" : "query",
21737         "name" : "if",
21738         "type" : "string",
21739         "enum" : ["oic.if.s", "oic.if.baseline"]
21740     }
21741 },
21742 "definitions": {
21743     "BloodPressure" : {
21744         "properties": {
21745             "rt" :
21746             {
21747                 "description": "Resource Type",
21748                 "items": {
21749                     "maxLength": 64,
21750                     "type": "string"
21751                 },
21752                 "minItems": 1,
21753                 "readOnly": true,

```



```

21755     "type": "array"
21756   },
21757   "map" :
21758     {
21759       "description": "Mean Arterial Pressure (MAP)",
21760       "minimum": 0,
21761       "readOnly": true,
21762       "type": "number"
21763     },
21764   "precision" :
21765     {
21766       "description": "Accuracy granularity of the exposed value",
21767       "readOnly": true,
21768       "type": "number"
21769     },
21770   "n" :
21771     {
21772       "description": "Friendly name of the resource",
21773       "maxLength": 64,
21774       "readOnly": true,
21775       "type": "string"
21776     },
21777   "units" :
21778     {
21779       "description": "Blood pressure unit",
21780       "enum": [
21781         "mmHg",
21782         "kPa"
21783       ],
21784       "readOnly": true,
21785       "type": "string"
21786     },
21787   "range" :
21788     {
21789       "description": "The valid range for the value Property",
21790       "items": {
21791         "anyOf": [
21792           {
21793             "type": "number"
21794           },
21795           {
21796             "type": "integer"
21797           }
21798         ]
21799       },
21800       "maxItems": 2,
21801       "minItems": 2,
21802       "readOnly": true,
21803       "type": "array"
21804     },
21805   "systolic" :
21806     {
21807       "description": "Systolic blood pressure",
21808       "minimum": 0,
21809       "readOnly": true,
21810       "type": "number"
21811     },
21812   "step" :
21813     {
21814       "anyOf": [
21815         {
21816           "type": "integer"
21817         },
21818         {
21819           "type": "number"
21820         }
21821       ],
21822       "description": "Step value across the defined range",
21823       "readOnly": true
21824     },
21825   "diastolic" :
21826     {

```

```

21827     "description": "Diastolic blood pressure",
21828     "minimum": 0,
21829     "readOnly": true,
21830     "type": "number"
21831   },
21832   "id" :
21833     {
21834       "description": "Instance ID of this specific resource",
21835       "maxLength": 64,
21836       "readOnly": true,
21837       "type": "string"
21838     },
21839   "if" :
21840     {
21841       "description": "The interface set supported by this resource",
21842       "items": {
21843         "enum": [
21844           "oic.if.baseline",
21845           "oic.if.ll",
21846           "oic.if.b",
21847           "oic.if.lb",
21848           "oic.if.rw",
21849           "oic.if.r",
21850           "oic.if.a",
21851           "oic.if.s"
21852         ],
21853         "type": "string"
21854       },
21855       "minItems": 1,
21856       "readOnly": true,
21857       "type": "array"
21858     }
21859   },
21860   "type" : "object"
21861   , "required": ["systolic", "diastolic"]
21862 }
21863 }
21864 }
21865

```

21866 6.89.5 Property definition

21867 Table 181 defines the Properties that are part of the ['oic.r.blood.pressure'] Resource Type

21868 **Table 181 – The Property definitions of the Resource with type 'rt' = ['oic.r.blood.pressure']**

Property name	Value type	Mandatory	Access mode	Description
range	array: see schema	No	Read Only	The valid range for the value Property
precision	number	No	Read Only	Accuracy granularity of the exposed value
if	array: see schema	No	Read Only	The interface set supported by this resource
id	string	No	Read Only	Instance ID of this specific resource
rt	array: see schema	No	Read Only	Resource Type
step	multiple types: see schema	No	Read Only	Step value across the defined range
n	string	No	Read Only	Friendly name of the resource

units	string	No	Read Only	Blood pressure unit
diastolic	number	Yes	Read Only	Diastolic blood pressure
systolic	number	Yes	Read Only	Systolic blood pressure
map	number	No	Read Only	Mean Arterial Pressure (MAP)

21869 **6.89.6 CRUDN behaviour**

21870 Table 182 defines the CRUDN operations that are supported on the ['`oic.r.blood.pressure`']
 21871 Resource Type

21872 **Table 182 – The CRUDN operations of the Resource with type 'rt' = ['`oic.r.blood.pressure`']**

Create	Read	Update	Delete	Notify
	get			observe

21873 **6.90 Blood Pressure Monitor Atomic Measurement Batch Representation**

21874 **6.90.1 Introduction**

21875 This resource describes the properties associated with Blood Pressure Monitor.
 21876 The resource is an atomic measurement of blood pressure (`oic.r.blood.pressure`), pulse rate
 21877 (`oic.r.pulserate`), observed time (`oic.r.time.stamp`), and user ID (`oic.r.userid`).
 21878 Retrieves the current blood pressure.
 21879

21880 **6.90.2 Example URI**

21881 `/BloodPressureMonitorAMResURI`

21882 **6.90.3 Resource type**

21883 The resource type (rt) is defined as: ['`oic.r.bloodpressuremonitor-am`', '`oic.wk.atomicmeasurement`'].

21884 **6.90.4 OpenAPI 2.0 definition**

```

21885 {
21886   "swagger": "2.0",
21887   "info": {
21888     "title": "Blood Pressure Monitor Atomic Measurement Batch Representation",
21889     "version": "v1.1.0-20160519",
21890     "license": {
21891       "name": "copyright 2016-2017 Open Connectivity Foundation, Inc. All rights reserved.",
21892       "x-description": "Redistribution and use in source and binary forms, with or without
21893 modification, are permitted provided that the following conditions are met:\n      1.
21894 Redistributions of source code must retain the above copyright notice, this list of conditions and
21895 the following disclaimer.\n      2. Redistributions in binary form must reproduce the above
21896 copyright notice, this list of conditions and the following disclaimer in the documentation and/or
21897 other materials provided with the distribution.\n      THIS SOFTWARE IS PROVIDED BY THE Open
21898 Connectivity Foundation, INC. \AS IS\ AND ANY EXPRESS OR IMPLIED WARRANTIES, INCLUDING, BUT NOT
21899 LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE OR
21900 WARRANTIES OF NON-INFRINGEMENT, ARE DISCLAIMED.\n      IN NO EVENT SHALL THE Open Connectivity
21901 Foundation, INC. OR CONTRIBUTORS BE LIABLE FOR ANY DIRECT, INDIRECT, INCIDENTAL, SPECIAL, EXEMPLARY,
21902 OR CONSEQUENTIAL DAMAGES (INCLUDING, BUT NOT LIMITED TO, PROCUREMENT OF SUBSTITUTE GOODS OR
21903 SERVICES; LOSS OF USE, DATA, OR PROFITS; OR BUSINESS INTERRUPTION)\n      HOWEVER CAUSED AND ON
21904 ANY THEORY OF LIABILITY, WHETHER IN CONTRACT, STRICT LIABILITY, OR TORT (INCLUDING NEGLIGENCE OR
21905 OTHERWISE) ARISING IN ANY WAY OUT OF THE USE OF THIS SOFTWARE, EVEN IF ADVISED OF THE POSSIBILITY OF
21906 SUCH DAMAGE.\n"
21907     }
21908   },
21909   "schemes": ["http"],
21910   "consumes": ["application/json"],
21911   "produces": ["application/json"],
21912   "paths": {
21913     "/BloodPressureMonitorAMResURI?if=oic.if.b" : {
21914       "get": {
21915         "description": "This resource describes the properties associated with Blood Pressure
  
```

```

21916 Monitor.\nThe resource is an atomic measurement of blood pressure (oic.r.blood.pressure), pulse
21917 rate (oic.r.pulserate), observed time (oic.r.time.stamp), and user ID (oic.r.userid).\nRetrieves the
21918 current blood pressure.\n",
21919     "parameters": [
21920         {"$ref": "#/parameters/interface-b"}
21921     ],
21922     "responses": {
21923         "200": {
21924             "description": "",
21925             "x-example":
21926                 [
21927                     {
21928                         "href": "/myBloodPressureResURI",
21929                         "rep":
21930                             {
21931                                 "systolic": 120,
21932                                 "diastolic": 80,
21933                                 "units": "mmHg"
21934                             }
21935                     },
21936                     {
21937                         "href": "/myPulseRateResURI",
21938                         "rep":
21939                             {
21940                                 "pulserate": 70
21941                             }
21942                     }
21943                 ]
21944             ,
21945             "schema": { "$ref": "#/definitions/batch-retrieve" }
21946         }
21947     }
21948 },
21949 ],
21950 "/BloodPressureMonitorAMResURI?if=oic.if.ll" : {
21951     "get": {
21952         "description": "This resource describes the properties associated with Blood Pressure
21953 Monitor.\nThe resource is an atomic measurement of blood pressure (oic.r.blood.pressure), pulse
21954 rate (oic.r.pulserate), observed time (oic.r.time.stamp), and user ID (oic.r.userid).\nRetrieves the
21955 current blood pressure.\n",
21956         "parameters": [
21957             {"$ref": "#/parameters/interface-ll"}
21958         ],
21959         "responses": {
21960             "200": {
21961                 "description": "",
21962                 "x-example":
21963                     [
21964                         {
21965                             "href": "/myBloodPressureResURI",
21966                             "rt": ["oic.r.blood.pressure"],
21967                             "if": ["oic.if.s", "oic.if.baseline"]
21968                         },
21969                         {
21970                             "href": "/myPulseRateResURI",
21971                             "rt": ["oic.r.pulserate"],
21972                             "if": ["oic.if.s", "oic.if.baseline"]
21973                         }
21974                     ]
21975                 ,
21976                 "schema": { "$ref": "#/definitions/links" }
21977             }
21978         }
21979     },
21980 },
21981 "/BloodPressureMonitorAMResURI?if=oic.if.baseline" : {
21982     "get": {
21983         "description": "This resource describes the properties associated with Blood Pressure
21984 Monitor.\nThe resource is an atomic measurement of blood pressure (oic.r.blood.pressure), pulse
21985 rate (oic.r.pulserate), observed time (oic.r.time.stamp), and user ID (oic.r.userid).\nRetrieves the
21986 current blood pressure.\n",
21987         "parameters": [

```

```

21988     {"$ref": "#/parameters/interface-baseline"}
21989   ],
21990   "responses": {
21991     "200": {
21992       "description": "",
21993       "x-example":
21994         {
21995           "rt": ["oic.r.bloodpressuremonitor-am", "oic.wk.atomicmeasurement"],
21996           "if": ["oic.if.b", "oic.if.ll", "oic.if.baseline"],
21997           "rts-m": ["oic.r.blood.pressure"],
21998           "rts": ["oic.r.blood.pressure", "oic.r.pulserate"],
21999           "links": [
22000             {
22001               "href": "/myBloodPressureResURI",
22002               "rt": ["oic.r.blood.pressure"],
22003               "if": ["oic.if.s", "oic.if.baseline"]
22004             },
22005             {
22006               "href": "/myPulseRateResURI",
22007               "rt": ["oic.r.pulserate"],
22008               "if": ["oic.if.s", "oic.if.baseline"]
22009             }
22010           ]
22011         }
22012     },
22013     "schema": { "$ref": "#/definitions/baseline" }
22014   }
22015 }
22016 }
22017 },
22018 },
22019 "parameters": {
22020   "interface-ll" : {
22021     "in" : "query",
22022     "name" : "if",
22023     "type" : "string",
22024     "enum" : ["oic.if.ll"]
22025   },
22026   "interface-b" : {
22027     "in" : "query",
22028     "name" : "if",
22029     "type" : "string",
22030     "enum" : ["oic.if.b"]
22031   },
22032   "interface-baseline" : {
22033     "in" : "query",
22034     "name" : "if",
22035     "type" : "string",
22036     "enum" : ["oic.if.baseline"]
22037   },
22038   "interface-all" : {
22039     "in" : "query",
22040     "name" : "if",
22041     "type" : "string",
22042     "enum" : ["oic.if.b", "oic.if.ll", "oic.if.baseline"]
22043   }
22044 },
22045 "definitions": {
22046   "batch-retrieve" : {
22047     "title" :
22048       "Collection Batch Retrieve Format"
22049     , "minItems" :
22050       1
22051     , "items" :
22052       {
22053         "additionalProperties": true,
22054         "properties": {
22055           "href": {
22056             "description": "URI of the target resource relative assuming the collection URI as
22057 anchor",

```

```

22060         "type": "string"
22061     },
22062     "rep": {
22063         "oneOf": [
22064             {
22065                 "description": "The response payload from a single resource",
22066                 "type": "object"
22067             },
22068             {
22069                 "description": " The response payload from a collection (batch) resource",
22070                 "type": "array"
22071             }
22072         ]
22073     },
22074     },
22075     "required": [
22076         "href",
22077         "rep"
22078     ],
22079     "type": "object"
22080 }
22081
22082 , "type" :
22083     "array"
22084 }
22085
22086 ,
22087 "links" : {
22088     "type" :
22089         "array"
22090
22091     , "items" :
22092         {
22093             "$ref": "#/definitions/oic.oic-link"
22094         }
22095     }
22096 }
22097
22098 , "baseline" : {
22099     "properties": {
22100         "rt" :
22101             {
22102                 "items": {
22103                     "enum": [
22104                         "oic.r.bloodpressuremonitor-am",
22105                         "oic.wk.atomicmeasurement"
22106                     ]
22107                 },
22108                 "maxItems": 2,
22109                 "minItems": 2,
22110                 "type": "array",
22111                 "uniqueItems": true
22112             },
22113
22114             "links" :
22115                 {
22116                     "description": "A set of simple or individual OIC Links.",
22117                     "items": {
22118                         "properties": {
22119                             "anchor": {
22120                                 "description": "This is used to override the context URI e.g. override the URI of
22121 the containing collection.",
22122                                 "format": "uri",
22123                                 "maxLength": 256,
22124                                 "type": "string"
22125                             },
22126                             "di": {
22127                                 "description": "The Device ID formatted according to IETF RFC 4122.",
22128                                 "pattern": "^[a-fA-F0-9]{8}-[a-fA-F0-9]{4}-[a-fA-F0-9]{4}-[a-fA-F0-9]{4}-[a-fA-F0-
22129 9]{12}$",
22130                                 "type": "string"
22131                             }
22132                         }
22133                     }
22134                 }
22135             }
22136         }
22137     }
22138 }

```

```

22132     "eps": {
22133         "description": "the Endpoint information of the target Resource",
22134         "items": {
22135             "properties": {
22136                 "ep": {
22137                     "description": "Transport Protocol Suite + Endpoint Locator",
22138                     "format": "uri",
22139                     "type": "string"
22140                 },
22141                 "pri": {
22142                     "description": "The priority among multiple Endpoints",
22143                     "minimum": 1,
22144                     "type": "integer"
22145                 }
22146             },
22147             "type": "object"
22148         },
22149         "type": "array"
22150     },
22151     "href": {
22152         "description": "This is the target URI, it can be specified as a Relative Reference
22153 or fully-qualified URI.",
22154         "format": "uri",
22155         "maxLength": 256,
22156         "type": "string"
22157     },
22158     "if": {
22159         "description": "The interface set supported by this resource",
22160         "items": {
22161             "enum": [
22162                 "oic.if.baseline",
22163                 "oic.if.ll",
22164                 "oic.if.b",
22165                 "oic.if.rw",
22166                 "oic.if.r",
22167                 "oic.if.a",
22168                 "oic.if.s"
22169             ],
22170             "type": "string"
22171         },
22172         "minItems": 1,
22173         "type": "array"
22174     },
22175     "ins": {
22176         "description": "The instance identifier for this web link in an array of web links -
22177 used in collections",
22178         "type": "integer"
22179     },
22180     "p": {
22181         "description": "Specifies the framework policies on the Resource referenced by the
22182 target URI",
22183         "properties": {
22184             "bm": {
22185                 "description": "Specifies the framework policies on the Resource referenced by
22186 the target URI for e.g. observable and discoverable",
22187                 "type": "integer"
22188             }
22189         },
22190         "required": [
22191             "bm"
22192         ],
22193         "type": "object"
22194     },
22195     "rel": {
22196         "description": "The relation of the target URI referenced by the link to the context
22197 URI",
22198         "oneOf": [
22199             {
22200                 "default": [
22201                     "hosts"
22202                 ],
22203                 "items": {

```

```

22204         "maxLength": 64,
22205         "type": "string"
22206     },
22207     "minItems": 1,
22208     "type": "array"
22209 },
22210 {
22211     "default": "hosts",
22212     "maxLength": 64,
22213     "type": "string"
22214 }
22215 ]
22216 },
22217 "rt": {
22218     "description": "Resource Type of the Resource",
22219     "items": {
22220         "maxLength": 64,
22221         "type": "string"
22222     },
22223     "minItems": 1,
22224     "type": "array"
22225 },
22226 "title": {
22227     "description": "A title for the link relation. Can be used by the UI to provide a
context.",
22228     "maxLength": 64,
22229     "type": "string"
22230 },
22231 },
22232 "type": {
22233     "default": "application/cbor",
22234     "description": "A hint at the representation of the resource referenced by the
target URI. This represents the media types that are used for both accepting and emitting.",
22235     "items": {
22236         "maxLength": 64,
22237         "type": "string"
22238     },
22239     "minItems": 1,
22240     "type": "array"
22241 }
22242 },
22243 },
22244 "required": [
22245     "href",
22246     "rt",
22247     "if"
22248 ],
22249 "type": "object"
22250 },
22251 "type": "array"
22252 },
22253 "n" :
22254 {
22255     "description": "Friendly name of the resource",
22256     "maxLength": 64,
22257     "readOnly": true,
22258     "type": "string"
22259 },
22260 },
22261 "rts" :
22262 {
22263     "description": "This contains all possible resource types for this atomic measurement.",
22264     "items": {
22265         "enum": [
22266             "oic.r.blood.pressure",
22267             "oic.r.pulserate",
22268             "oic.r.userid",
22269             "oic.r.time.stamp"
22270         ]
22271     },
22272 },
22273 "minItems": 1,
22274 "type": "array",
22275 "uniqueItems": true

```



```

22276     },
22277
22278     "id" :
22279     {
22280         "description": "Instance ID of this specific resource",
22281         "maxLength": 64,
22282         "readOnly": true,
22283         "type": "string"
22284     },
22285
22286     "rts-m" :
22287     {
22288         "description": "This contains all mandatory resource types for this atomic measurement.",
22289         "items": {
22290             "enum": [
22291                 "oic.r.blood.pressure"
22292             ]
22293         },
22294         "maxItems": 1,
22295         "minItems": 1,
22296         "type": "array",
22297         "uniqueItems": true
22298     },
22299
22300     "if" :
22301     {
22302         "description": "The interface set supported by this resource",
22303         "items": {
22304             "enum": [
22305                 "oic.if.baseline",
22306                 "oic.if.ll",
22307                 "oic.if.b",
22308                 "oic.if.lb",
22309                 "oic.if.rw",
22310                 "oic.if.r",
22311                 "oic.if.a",
22312                 "oic.if.s"
22313             ],
22314             "type": "string"
22315         },
22316         "minItems": 1,
22317         "readOnly": true,
22318         "type": "array"
22319     }
22320
22321     },
22322     "type" : "object"
22323 , "required": ["rts-m"]
22324 }
22325 , "oic.oic-link" :
22326 {
22327     "properties": {
22328         "anchor": {
22329             "description": "This is used to override the context URI e.g. override the URI of the
22330 containing collection.",
22331             "format": "uri",
22332             "maxLength": 256,
22333             "type": "string"
22334         },
22335         "di": {
22336             "description": "The Device ID formatted according to IETF RFC 4122.",
22337             "pattern": "^[a-fA-F0-9]{8}-[a-fA-F0-9]{4}-[a-fA-F0-9]{4}-[a-fA-F0-9]{4}-[a-fA-F0-
22338 9]{12}$",
22339             "type": "string"
22340         },
22341         "eps": {
22342             "description": "the Endpoint information of the target Resource",
22343             "items": {
22344                 "properties": {
22345                     "ep": {
22346                         "description": "Transport Protocol Suite + Endpoint Locator",
22347                         "format": "uri",

```

```

22348         "type": "string"
22349     },
22350     "pri": {
22351         "description": "The priority among multiple Endpoints",
22352         "minimum": 1,
22353         "type": "integer"
22354     }
22355 },
22356 "type": "object"
22357 },
22358 "type": "array"
22359 },
22360 "href": {
22361     "description": "This is the target URI, it can be specified as a Relative Reference or
22362 fully-qualified URI.",
22363     "format": "uri",
22364     "maxLength": 256,
22365     "type": "string"
22366 },
22367 "if": {
22368     "description": "The interface set supported by this resource",
22369     "items": {
22370         "enum": [
22371             "oic.if.baseline",
22372             "oic.if.ll",
22373             "oic.if.b",
22374             "oic.if.rw",
22375             "oic.if.r",
22376             "oic.if.a",
22377             "oic.if.s"
22378         ],
22379         "type": "string"
22380     },
22381     "minItems": 1,
22382     "type": "array"
22383 },
22384 "ins": {
22385     "description": "The instance identifier for this web link in an array of web links - used
22386 in collections",
22387     "type": "integer"
22388 },
22389 "p": {
22390     "description": "Specifies the framework policies on the Resource referenced by the target
22391 URI",
22392     "properties": {
22393         "bm": {
22394             "description": "Specifies the framework policies on the Resource referenced by the
22395 target URI for e.g. observable and discoverable",
22396             "type": "integer"
22397         }
22398     },
22399     "required": [
22400         "bm"
22401     ],
22402     "type": "object"
22403 },
22404 "rel": {
22405     "description": "The relation of the target URI referenced by the link to the context URI",
22406     "oneOf": [
22407         {
22408             "default": [
22409                 "hosts"
22410             ],
22411             "items": {
22412                 "maxLength": 64,
22413                 "type": "string"
22414             },
22415             "minItems": 1,
22416             "type": "array"
22417         },
22418         {
22419             "default": "hosts",

```

```

22420         "maxLength": 64,
22421         "type": "string"
22422     }
22423 ]
22424 },
22425 "rt": {
22426     "description": "Resource Type of the Resource",
22427     "items": {
22428         "maxLength": 64,
22429         "type": "string"
22430     },
22431     "minItems": 1,
22432     "type": "array"
22433 },
22434 "title": {
22435     "description": "A title for the link relation. Can be used by the UI to provide a
22436 context.",
22437     "maxLength": 64,
22438     "type": "string"
22439 },
22440 "type": {
22441     "default": "application/cbor",
22442     "description": "A hint at the representation of the resource referenced by the target URI.
22443 This represents the media types that are used for both accepting and emitting.",
22444     "items": {
22445         "maxLength": 64,
22446         "type": "string"
22447     },
22448     "minItems": 1,
22449     "type": "array"
22450 }
22451 },
22452 "required": [
22453     "href",
22454     "rt",
22455     "if"
22456 ],
22457 "type": "object"
22458 }
22459 }
22460 }
22461 }
22462

```

22463 6.90.5 Property definition

22464 Table 183 defines the Properties that are part of the ['oic.r.bloodpressuremonitor-am',
22465 'oic.wk.atomicmeasurement'] Resource Type

22466 **Table 183 – The Property definitions of the Resource with type 'rt' =**
22467 **['oic.r.bloodpressuremonitor-am', 'oic.wk.atomicmeasurement']**

Property name	Value type	Mandatory	Access mode	Description
href	string	Yes	Read Write	URI of the target resource relative assuming the collection URI as anchor
rep	multiple types: see schema	Yes	Read Write	
n	string	No	Read Only	Friendly name of the resource
if	array: see schema	No	Read Only	The interface set supported by this resource

id	string	No	Read Only	Instance ID of this specific resource
rts	array: schema see	No	Read Write	This contains all possible resource types for this atomic measurement.
rt	array: schema see	No	Read Write	
links	array: schema see	No	Read Write	A set of simple or individual OIC Links.
rts-m	array: schema see	Yes	Read Write	This contains all mandatory resource types for this atomic measurement.
rel	multiple types: see schema	No	Read Write	The relation of the target URI referenced by the link to the context URI
ins	integer	No	Read Write	The instance identifier for this web link in an array of web links - used in collections
p	object: schema see	No	Read Write	Specifies the framework policies on the Resource referenced by the target URI
type	array: schema see	No	Read Write	A hint at the representation of the resource referenced by the target URI. This represents the media types that are used for both accepting and emitting.
if	array: schema see	Yes	Read Write	The interface set supported by this resource
href	string	Yes	Read Write	This is the target URI, it can be specified as a Relative Reference or fully-qualified URI.

rt	array: see schema	Yes	Read Write	Resource Type of the Resource
title	string	No	Read Write	A title for the link relation. Can be used by the UI to provide a context.
di	string	No	Read Write	The Device ID formatted according to IETF RFC 4122.
eps	array: see schema	No	Read Write	the Endpoint information of the target Resource
anchor	string	No	Read Write	This is used to override the context URI e.g. override the URI of the containing collection.

22468 **6.90.6 CRUDN behaviour**

22469 Table 184 defines the CRUDN operations that are supported on the ['oic.r.bloodpressuremonitor-
22470 am', 'oic.wk.atomicmeasurement'] Resource Type

22471 **Table 184 – The CRUDN operations of the Resource with type 'rt' =**
22472 **['oic.r.bloodpressuremonitor-am', 'oic.wk.atomicmeasurement']**

Create	Read	Update	Delete	Notify
	get			observe

22473 **6.91 BMI**

22474 **6.91.1 Introduction**

22475 This resource describes the properties associated with a person's Body Mass Index (BMI).

22476 The unit, which is the default unit, is kg/m².

22477 The bmi and unit Properties are read-only values that are provided by the server.

22478 When range (from oic.r.baseresource) is omitted the default is 0 to +MAXFLOAT.

22479 Retrieves BMI of an object.

22480

22481 **6.91.2 Example URI**

22482 /BMIResURI

22483 **6.91.3 Resource type**

22484 The resource type (rt) is defined as: ['oic.r.bmi'].

22485 **6.91.4 OpenAPI 2.0 definition**

22486 {
22487 "swagger": "2.0",
22488 "info": {
22489 "title": "BMI",
22490 "version": "v1.1.0-20160519",
22491 "license": {
22492 "name": "copyright 2016-2017 Open Connectivity Foundation, Inc. All rights reserved.",
22493 "x-description": "Redistribution and use in source and binary forms, with or without
22494 modification, are permitted provided that the following conditions are met:\n 1.
22495 Redistributions of source code must retain the above copyright notice, this list of conditions and
22496 the following disclaimer.\n 2. Redistributions in binary form must reproduce the above
22497 copyright notice, this list of conditions and the following disclaimer in the documentation and/or

```

22498 other materials provided with the distribution.\n\n          THIS SOFTWARE IS PROVIDED BY THE Open
22499 Connectivity Foundation, INC. \ "AS IS\ " AND ANY EXPRESS OR IMPLIED WARRANTIES, INCLUDING, BUT NOT
22500 LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE OR
22501 WARRANTIES OF NON-INFRINGEMENT, ARE DISCLAIMED.\n          IN NO EVENT SHALL THE Open Connectivity
22502 Foundation, INC. OR CONTRIBUTORS BE LIABLE FOR ANY DIRECT, INDIRECT, INCIDENTAL, SPECIAL, EXEMPLARY,
22503 OR CONSEQUENTIAL DAMAGES (INCLUDING, BUT NOT LIMITED TO, PROCUREMENT OF SUBSTITUTE GOODS OR
22504 SERVICES; LOSS OF USE, DATA, OR PROFITS; OR BUSINESS INTERRUPTION)\n          HOWEVER CAUSED AND ON
22505 ANY THEORY OF LIABILITY, WHETHER IN CONTRACT, STRICT LIABILITY, OR TORT (INCLUDING NEGLIGENCE OR
22506 OTHERWISE) ARISING IN ANY WAY OUT OF THE USE OF THIS SOFTWARE, EVEN IF ADVISED OF THE POSSIBILITY OF
22507 SUCH DAMAGE.\n"
22508     }
22509   },
22510   "schemes": ["http"],
22511   "consumes": ["application/json"],
22512   "produces": ["application/json"],
22513   "paths": {
22514     "/BMIResURI" : {
22515       "get": {
22516         "description": "This resource describes the properties associated with a person's Body Mass
22517 Index (BMI).\nThe unit, which is the default unit, is kg/m^2.\nThe bmi and unit Properties are read-
22518 only values that are provided by the server.\nWhen range (from oic.r.baseresource) is omitted the
22519 default is 0 to +MAXFLOAT.\nRetrieves BMI of an object.\n",
22520         "parameters": [
22521           { "$ref": "#/parameters/interface" }
22522         ],
22523         "responses": {
22524           "200": {
22525             "description": "",
22526             "x-example":
22527               {
22528                 "rt": ["oic.r.bmi"],
22529                 "id": "unique_example_id",
22530                 "bmi": 20
22531               }
22532           },
22533           "schema": { "$ref": "#/definitions/BMI" }
22534         }
22535       }
22536     }
22537   }
22538 },
22539 "parameters": {
22540   "interface" : {
22541     "in": "query",
22542     "name": "if",
22543     "type": "string",
22544     "enum": ["oic.if.s", "oic.if.baseline"]
22545   }
22546 },
22547 "definitions": {
22548   "BMI" : {
22549     "properties": {
22550       "rt" :
22551         {
22552           "description": "Resource Type",
22553           "items": {
22554             "maxLength": 64,
22555             "type": "string"
22556           },
22557           "minItems": 1,
22558           "readOnly": true,
22559           "type": "array"
22560         },
22561       "bmi" :
22562         {
22563           "description": "Body Mass Index (BMI) in kg/m^2",
22564           "minimum": 0,
22565           "readOnly": true,
22566           "type": "number"
22567         },
22568       "precision" :
22569         {

```

```

22570         "description": "Accuracy granularity of the exposed value",
22571         "readOnly": true,
22572         "type": "number"
22573     },
22574     "n" :
22575     {
22576         "description": "Friendly name of the resource",
22577         "maxLength": 64,
22578         "readOnly": true,
22579         "type": "string"
22580     },
22581     "range" :
22582     {
22583         "description": "The valid range for the value Property",
22584         "items": {
22585             "anyOf": [
22586                 {
22587                     "type": "number"
22588                 },
22589                 {
22590                     "type": "integer"
22591                 }
22592             ]
22593         },
22594         "maxItems": 2,
22595         "minItems": 2,
22596         "readOnly": true,
22597         "type": "array"
22598     },
22599     "step" :
22600     {
22601         "anyOf": [
22602             {
22603                 "type": "integer"
22604             },
22605             {
22606                 "type": "number"
22607             }
22608         ],
22609         "description": "Step value across the defined range",
22610         "readOnly": true
22611     },
22612     "id" :
22613     {
22614         "description": "Instance ID of this specific resource",
22615         "maxLength": 64,
22616         "readOnly": true,
22617         "type": "string"
22618     },
22619     "if" :
22620     {
22621         "description": "The interface set supported by this resource",
22622         "items": {
22623             "enum": [
22624                 "oic.if.baseline",
22625                 "oic.if.ll",
22626                 "oic.if.b",
22627                 "oic.if.lb",
22628                 "oic.if.rw",
22629                 "oic.if.r",
22630                 "oic.if.a",
22631                 "oic.if.s"
22632             ],
22633             "type": "string"
22634         },
22635         "minItems": 1,
22636         "readOnly": true,
22637         "type": "array"
22638     }
22639 },
22640 "type" : "object"
22641 , "required": ["bmi"]

```

22642 }
 22643 }
 22644 }
 22645 }

22646 **6.91.5 Property definition**

22647 Table 185 defines the Properties that are part of the ['oic.r.bmi'] Resource Type

22648 **Table 185 – The Property definitions of the Resource with type 'rt' = ['oic.r.bmi']**

Property name	Value type	Mandatory	Access mode	Description
rt	array: see schema	No	Read Only	Resource Type
if	array: see schema	No	Read Only	The interface set supported by this resource
bmi	number	Yes	Read Only	Body Mass Index (BMI) in kg/m ²
range	array: see schema	No	Read Only	The valid range for the value Property
n	string	No	Read Only	Friendly name of the resource
precision	number	No	Read Only	Accuracy granularity of the exposed value
step	multiple types: see schema	No	Read Only	Step value across the defined range
id	string	No	Read Only	Instance ID of this specific resource

22649 **6.91.6 CRUDN behaviour**

22650 Table 186 defines the CRUDN operations that are supported on the ['oic.r.bmi'] Resource Type

22651 **Table 186 – The CRUDN operations of the Resource with type 'rt' = ['oic.r.bmi']**

Create	Read	Update	Delete	Notify
	get			observe

22652 **6.92 Body Fat**

22653 **6.92.1 Introduction**

22654 This resource describes the properties associated with a person's Body fat.

22655 The unit is a single value that is one of kg, lb or %.

22656 If the unit Property is missing the default is kilograms [kg].

22657 The bodyfat and unit Properties are read-only values that are provided by the server.

22658 When range (from oic.r.baseresource) is omitted the default is 0 to +MAXFLOAT.

22659 Retrieves Body fat of an object.

22660

22661 **6.92.2 Example URI**

22662 /BodyFatResURI

22663 **6.92.3 Resource type**

22664 The resource type (rt) is defined as: ['oic.r.body.fat'].

22665 **6.92.4 OpenAPI 2.0 definition**

```
22666 {
22667   "swagger": "2.0",
22668   "info": {
22669     "title": "Body Fat",
22670     "version": "v1.1.0-20160519",
22671     "license": {
22672       "name": "copyright 2016-2017 Open Connectivity Foundation, Inc. All rights reserved.",
22673       "x-description": "Redistribution and use in source and binary forms, with or without
22674 modification, are permitted provided that the following conditions are met:\n      1.
22675 Redistributions of source code must retain the above copyright notice, this list of conditions and
22676 the following disclaimer.\n      2. Redistributions in binary form must reproduce the above
22677 copyright notice, this list of conditions and the following disclaimer in the documentation and/or
22678 other materials provided with the distribution.\n\n      THIS SOFTWARE IS PROVIDED BY THE Open
22679 Connectivity Foundation, INC. \\"AS IS\\" AND ANY EXPRESS OR IMPLIED WARRANTIES, INCLUDING, BUT NOT
22680 LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE OR
22681 WARRANTIES OF NON-INFRINGEMENT, ARE DISCLAIMED.\n\n      IN NO EVENT SHALL THE Open Connectivity
22682 Foundation, INC. OR CONTRIBUTORS BE LIABLE FOR ANY DIRECT, INDIRECT, INCIDENTAL, SPECIAL, EXEMPLARY,
22683 OR CONSEQUENTIAL DAMAGES (INCLUDING, BUT NOT LIMITED TO, PROCUREMENT OF SUBSTITUTE GOODS OR
22684 SERVICES; LOSS OF USE, DATA, OR PROFITS; OR BUSINESS INTERRUPTION)\n\n      HOWEVER CAUSED AND ON
22685 ANY THEORY OF LIABILITY, WHETHER IN CONTRACT, STRICT LIABILITY, OR TORT (INCLUDING NEGLIGENCE OR
22686 OTHERWISE) ARISING IN ANY WAY OUT OF THE USE OF THIS SOFTWARE, EVEN IF ADVISED OF THE POSSIBILITY OF
22687 SUCH DAMAGE.\n"
22688     }
22689   },
22690   "schemes": ["http"],
22691   "consumes": ["application/json"],
22692   "produces": ["application/json"],
22693   "paths": {
22694     "/BodyFatResURI" : {
22695       "get": {
22696         "description": "This resource describes the properties associated with a person's Body
22697 fat.\nThe unit is a single value that is one of kg, lb or %.\nIf the unit Property is missing the
22698 default is kilograms [kg].\nThe bodyfat and unit Properties are read-only values that are provided
22699 by the server.\nWhen range (from oic.r.baseresource) is omitted the default is 0 to
22700 +MAXFLOAT.\nRetrieves Body fat of an object.\n",
22701         "parameters": [
22702           {"$ref": "#/parameters/interface"}
22703         ],
22704         "responses": {
22705           "200": {
22706             "description": "",
22707             "x-example":
22708             {
22709               "rt": ["oic.r.body.fat"],
22710               "id": "unique_example_id",
22711               "bodyfat": 20,
22712               "units": "kg"
22713             }
22714           },
22715           "schema": { "$ref": "#/definitions/BodyFat" }
22716         }
22717       }
22718     }
22719   },
22720 },
22721 "parameters": {
22722   "interface" : {
22723     "in" : "query",
22724     "name" : "if",
22725     "type" : "string",
22726     "enum" : ["oic.if.s", "oic.if.baseline"]
22727   }
22728 },
22729 "definitions": {
22730   "BodyFat" : {
22731     "properties": {
22732       "rt" :
22733       {
22734         "description": "Resource Type",
22735         "items": {
```

```

22736         "maxLength": 64,
22737         "type": "string"
22738     },
22739     "minItems": 1,
22740     "readOnly": true,
22741     "type": "array"
22742 },
22743
22744 "precision" :
22745 {
22746     "description": "Accuracy granularity of the exposed value",
22747     "readOnly": true,
22748     "type": "number"
22749 },
22750
22751 "bodyfat" :
22752 {
22753     "description": "Body fat.",
22754     "minimum": 0,
22755     "readOnly": true,
22756     "type": "number"
22757 },
22758
22759 "n" :
22760 {
22761     "description": "Friendly name of the resource",
22762     "maxLength": 64,
22763     "readOnly": true,
22764     "type": "string"
22765 },
22766
22767 "units" :
22768 {
22769     "description": "Body fat units",
22770     "enum": [
22771         "kg",
22772         "lb",
22773         "%"
22774     ],
22775     "readOnly": true,
22776     "type": "string"
22777 },
22778
22779 "range" :
22780 {
22781     "description": "The valid range for the value Property",
22782     "items": {
22783         "anyOf": [
22784             {
22785                 "type": "number"
22786             },
22787             {
22788                 "type": "integer"
22789             }
22790         ]
22791     },
22792     "maxItems": 2,
22793     "minItems": 2,
22794     "readOnly": true,
22795     "type": "array"
22796 },
22797
22798 "value" :
22799 {
22800     "anyOf": [
22801         {
22802             "type": "array"
22803         },
22804         {
22805             "type": "string"
22806         },
22807         {

```

```

22808         "type": "boolean"
22809     },
22810     {
22811         "type": "integer"
22812     },
22813     {
22814         "type": "number"
22815     },
22816     {
22817         "type": "object"
22818     }
22819 ],
22820 "description": "The value sensed or actuated by this Resource"
22821 },
22822
22823 "step" :
22824 {
22825     "anyOf": [
22826     {
22827         "type": "integer"
22828     },
22829     {
22830         "type": "number"
22831     }
22832     ],
22833     "description": "Step value across the defined range",
22834     "readOnly": true
22835 },
22836
22837 "id" :
22838 {
22839     "description": "Instance ID of this specific resource",
22840     "maxLength": 64,
22841     "readOnly": true,
22842     "type": "string"
22843 },
22844
22845 "if" :
22846 {
22847     "description": "The interface set supported by this resource",
22848     "items": {
22849         "enum": [
22850             "oic.if.baseline",
22851             "oic.if.ll",
22852             "oic.if.b",
22853             "oic.if.lb",
22854             "oic.if.rw",
22855             "oic.if.r",
22856             "oic.if.a",
22857             "oic.if.s"
22858         ],
22859         "type": "string"
22860     },
22861     "minItems": 1,
22862     "readOnly": true,
22863     "type": "array"
22864 }
22865 }
22866 }, "type" : "object"
22867 , "required": ["bodyfat"]
22868 }
22869 }
22870 }
22871 }
22872

```

22873 6.92.5 Property definition

22874 Table 187 defines the Properties that are part of the ['oic.r.body.fat'] Resource Type

Table 187 – The Property definitions of the Resource with type 'rt' = ['oic.r.body.fat']

Property name	Value type	Mandatory	Access mode	Description
range	array: see schema	No	Read Only	The valid range for the value Property
id	string	No	Read Only	Instance ID of this specific resource
precision	number	No	Read Only	Accuracy granularity of the exposed value
value	multiple types: see schema	No	Read Write	The value sensed or actuated by this Resource
step	multiple types: see schema	No	Read Only	Step value across the defined range
rt	array: see schema	No	Read Only	Resource Type
bodyfat	number	Yes	Read Only	Body fat.
if	array: see schema	No	Read Only	The interface set supported by this resource
units	string	No	Read Only	Body fat units
n	string	No	Read Only	Friendly name of the resource

22876 **6.92.6 CRUDN behaviour**

22877 Table 188 defines the CRUDN operations that are supported on the ['oic.r.body.fat'] Resource Type

22878 **Table 188 – The CRUDN operations of the Resource with type 'rt' = ['oic.r.body.fat']**

Create	Read	Update	Delete	Notify
	get			observe

22879 **6.93 Body Fat Free Mass**22880 **6.93.1 Introduction**

22881 This resource describes the properties associated with a person's Body fat free mass.

22882 The unit is a single value that is one of kg, lb or %.

22883 If the unit Property is missing the default is kilograms [kg].

22884 The ffm and unit Properties are read-only values that are provided by the server.

22885 When range (from oic.r.baseresource) is omitted the default is 0 to +MAXFLOAT.

22886 Retrieves Body fat free mass of an object.

22887

22888 **6.93.2 Example URI**

22889 /BodyFatFreeMassResURI

22890 **6.93.3 Resource type**

22891 The resource type (rt) is defined as: ['oic.r.body.ffm'].

22892 **6.93.4 OpenAPI 2.0 definition**

```

22893 {
22894   "swagger": "2.0",
22895   "info": {
22896     "title": "Body Fat Free Mass",

```

```

22897     "version": "v1.1.0-20160519",
22898     "license": {
22899         "name": "copyright 2016-2017 Open Connectivity Foundation, Inc. All rights reserved.",
22900         "x-description": "Redistribution and use in source and binary forms, with or without
22901 modification, are permitted provided that the following conditions are met:\n      1.
22902 Redistributions of source code must retain the above copyright notice, this list of conditions and
22903 the following disclaimer.\n      2. Redistributions in binary form must reproduce the above
22904 copyright notice, this list of conditions and the following disclaimer in the documentation and/or
22905 other materials provided with the distribution.\n\n      THIS SOFTWARE IS PROVIDED BY THE Open
22906 Connectivity Foundation, INC. \ "AS IS\ " AND ANY EXPRESS OR IMPLIED WARRANTIES, INCLUDING, BUT NOT
22907 LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE OR
22908 WARRANTIES OF NON-INFRINGEMENT, ARE DISCLAIMED.\n\n      IN NO EVENT SHALL THE Open Connectivity
22909 Foundation, INC. OR CONTRIBUTORS BE LIABLE FOR ANY DIRECT, INDIRECT, INCIDENTAL, SPECIAL, EXEMPLARY,
22910 OR CONSEQUENTIAL DAMAGES (INCLUDING, BUT NOT LIMITED TO, PROCUREMENT OF SUBSTITUTE GOODS OR
22911 SERVICES; LOSS OF USE, DATA, OR PROFITS; OR BUSINESS INTERRUPTION)\n\n      HOWEVER CAUSED AND ON
22912 ANY THEORY OF LIABILITY, WHETHER IN CONTRACT, STRICT LIABILITY, OR TORT (INCLUDING NEGLIGENCE OR
22913 OTHERWISE) ARISING IN ANY WAY OUT OF THE USE OF THIS SOFTWARE, EVEN IF ADVISED OF THE POSSIBILITY OF
22914 SUCH DAMAGE.\n"
22915     },
22916 },
22917 "schemes": ["http"],
22918 "consumes": ["application/json"],
22919 "produces": ["application/json"],
22920 "paths": {
22921     "/BodyFatFreeMassResURI" : {
22922         "get": {
22923             "description": "This resource describes the properties associated with a person's Body fat
22924 free mass.\nThe unit is a single value that is one of kg, lb or %.\nIf the unit Property is missing
22925 the default is kilograms [kg].\nThe ffm and unit Properties are read-only values that are provided
22926 by the server.\nWhen range (from oic.r.baseresource) is omitted the default is 0 to
22927 +MAXFLOAT.\nRetrieves Body fat free mass of an object.\n",
22928             "parameters": [
22929                 { "$ref": "#/parameters/interface" }
22930             ],
22931             "responses": {
22932                 "200": {
22933                     "description": "",
22934                     "x-example":
22935                     {
22936                         "rt": ["oic.r.body.ffm"],
22937                         "id": "unique_example_id",
22938                         "ffm": 40,
22939                         "units": "kg"
22940                     }
22941                 },
22942                 "schema": { "$ref": "#/definitions/BodyFatFreeMass" }
22943             }
22944         }
22945     }
22946 },
22947 },
22948 "parameters": {
22949     "interface" : {
22950         "in" : "query",
22951         "name" : "if",
22952         "type" : "string",
22953         "enum" : ["oic.if.s", "oic.if.baseline"]
22954     }
22955 },
22956 "definitions": {
22957     "BodyFatFreeMass" : {
22958         "properties": {
22959             "rt" :
22960             {
22961                 "description": "Resource Type",
22962                 "items": {
22963                     "maxLength": 64,
22964                     "type": "string"
22965                 },
22966                 "minItems": 1,
22967                 "readOnly": true,
22968                 "type": "array"

```

```

22969     },
22970
22971     "ffm" :
22972     {
22973         "description": "Body fat free mass.",
22974         "minimum": 0,
22975         "readOnly": true,
22976         "type": "number"
22977     },
22978
22979     "value" :
22980     {
22981         "anyOf": [
22982             {
22983                 "type": "array"
22984             },
22985             {
22986                 "type": "string"
22987             },
22988             {
22989                 "type": "boolean"
22990             },
22991             {
22992                 "type": "integer"
22993             },
22994             {
22995                 "type": "number"
22996             },
22997             {
22998                 "type": "object"
22999             }
23000         ],
23001         "description": "The value sensed or actuated by this Resource"
23002     },
23003
23004     "n" :
23005     {
23006         "description": "Friendly name of the resource",
23007         "maxLength": 64,
23008         "readOnly": true,
23009         "type": "string"
23010     },
23011
23012     "units" :
23013     {
23014         "description": "Body fat free mass units",
23015         "enum": [
23016             "kg",
23017             "lb",
23018             "%"
23019         ],
23020         "readOnly": true,
23021         "type": "string"
23022     },
23023
23024     "range" :
23025     {
23026         "description": "The valid range for the value Property",
23027         "items": {
23028             "anyOf": [
23029                 {
23030                     "type": "number"
23031                 },
23032                 {
23033                     "type": "integer"
23034                 }
23035             ]
23036         },
23037         "maxItems": 2,
23038         "minItems": 2,
23039         "readOnly": true,
23040         "type": "array"

```

```

23041     },
23042
23043     "precision" :
23044     {
23045         "description": "Accuracy granularity of the exposed value",
23046         "readOnly": true,
23047         "type": "number"
23048     },
23049
23050     "step" :
23051     {
23052         "anyOf": [
23053             {
23054                 "type": "integer"
23055             },
23056             {
23057                 "type": "number"
23058             }
23059         ],
23060         "description": "Step value across the defined range",
23061         "readOnly": true
23062     },
23063
23064     "id" :
23065     {
23066         "description": "Instance ID of this specific resource",
23067         "maxLength": 64,
23068         "readOnly": true,
23069         "type": "string"
23070     },
23071
23072     "if" :
23073     {
23074         "description": "The interface set supported by this resource",
23075         "items": {
23076             "enum": [
23077                 "oic.if.baseline",
23078                 "oic.if.ll",
23079                 "oic.if.b",
23080                 "oic.if.lb",
23081                 "oic.if.rw",
23082                 "oic.if.r",
23083                 "oic.if.a",
23084                 "oic.if.s"
23085             ],
23086             "type": "string"
23087         },
23088         "minItems": 1,
23089         "readOnly": true,
23090         "type": "array"
23091     }
23092 }
23093 }
23094 , "type" : "object"
23095 , "required": ["ffm"]
23096 }
23097 }
23098 }
23099

```

23100 6.93.5 Property definition

23101 Table 189 defines the Properties that are part of the ['oic.r.body.ffm'] Resource Type

23102 **Table 189 – The Property definitions of the Resource with type 'rt' = ['oic.r.body.ffm']**

Property name	Value type	Mandatory	Access mode	Description
value	multiple types: see schema	No	Read Write	The value sensed or actuated by this Resource

units	string	No	Read Only	Body fat free mass units
rt	array: see schema	No	Read Only	Resource Type
step	multiple types: see schema	No	Read Only	Step value across the defined range
if	array: see schema	No	Read Only	The interface set supported by this resource
ffm	number	Yes	Read Only	Body fat free mass.
id	string	No	Read Only	Instance ID of this specific resource
range	array: see schema	No	Read Only	The valid range for the value Property
n	string	No	Read Only	Friendly name of the resource
precision	number	No	Read Only	Accuracy granularity of the exposed value

23103 **6.93.6 CRUDN behaviour**

23104 Table 190 defines the CRUDN operations that are supported on the ['oic.r.body.ffm'] Resource
23105 Type

23106 **Table 190 – The CRUDN operations of the Resource with type 'rt' = ['oic.r.body.ffm']**

Create	Read	Update	Delete	Notify
	get			observe

23107 **6.94 Body Location**

23108 **6.94.1 Introduction**

23109 This resource describes the properties associated with Body location of a person.

23110 The bloc Property is a read-only value that is provided by the server.

23111 Retrieves Body location of a person.

23112

23113 **6.94.2 Example URI**

23114 /BodyLocationResURI

23115 **6.94.3 Resource type**

23116 The resource type (rt) is defined as: ['oic.r.body.location'].

23117 **6.94.4 OpenAPI 2.0 definition**

```
23118 {
23119   "swagger": "2.0",
23120   "info": {
23121     "title": "Body Location",
23122     "version": "v1.1.0-20160519",
23123     "license": {
23124       "name": "copyright 2016-2017 Open Connectivity Foundation, Inc. All rights reserved.",
23125       "x-description": "Redistribution and use in source and binary forms, with or without
23126 modification, are permitted provided that the following conditions are met:\n      1.
23127 Redistributions of source code must retain the above copyright notice, this list of conditions and
23128 the following disclaimer.\n      2. Redistributions in binary form must reproduce the above
23129 copyright notice, this list of conditions and the following disclaimer in the documentation and/or
23130 other materials provided with the distribution.\n\n      THIS SOFTWARE IS PROVIDED BY THE Open
```



```

23131 Connectivity Foundation, INC. \ "AS IS\ " AND ANY EXPRESS OR IMPLIED WARRANTIES, INCLUDING, BUT NOT
23132 LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE OR
23133 WARRANTIES OF NON-INFRINGEMENT, ARE DISCLAIMED.\n      IN NO EVENT SHALL THE Open Connectivity
23134 Foundation, INC. OR CONTRIBUTORS BE LIABLE FOR ANY DIRECT, INDIRECT, INCIDENTAL, SPECIAL, EXEMPLARY,
23135 OR CONSEQUENTIAL DAMAGES (INCLUDING, BUT NOT LIMITED TO, PROCUREMENT OF SUBSTITUTE GOODS OR
23136 SERVICES; LOSS OF USE, DATA, OR PROFITS; OR BUSINESS INTERRUPTION)\n      HOWEVER CAUSED AND ON
23137 ANY THEORY OF LIABILITY, WHETHER IN CONTRACT, STRICT LIABILITY, OR TORT (INCLUDING NEGLIGENCE OR
23138 OTHERWISE) ARISING IN ANY WAY OUT OF THE USE OF THIS SOFTWARE, EVEN IF ADVISED OF THE POSSIBILITY OF
23139 SUCH DAMAGE.\n"
23140 }
23141 },
23142 "schemes": ["http"],
23143 "consumes": ["application/json"],
23144 "produces": ["application/json"],
23145 "paths": {
23146   "/BodyLocationResURI" : {
23147     "get": {
23148       "description": "This resource describes the properties associated with Body location of a
23149 person.\nThe bloc Property is a read-only value that is provided by the server.\nRetrieves Body
23150 location of a person.\n",
23151       "parameters": [
23152         {"$ref": "#/parameters/interface"}
23153       ],
23154       "responses": {
23155         "200": {
23156           "description": "",
23157           "x-example":
23158             {
23159               "rt": ["oic.r.body.location"],
23160               "id": "unique_example_id",
23161               "bloc": "axillary"
23162             }
23163           ,
23164           "schema": { "$ref": "#/definitions/BodyLocation" }
23165         }
23166       }
23167     }
23168   }
23169 },
23170 "parameters": {
23171   "interface" : {
23172     "in" : "query",
23173     "name" : "if",
23174     "type" : "string",
23175     "enum" : ["oic.if.s", "oic.if.baseline"]
23176   }
23177 },
23178 "definitions": {
23179   "BodyLocation" : {
23180     "properties": {
23181       "rt" :
23182         {
23183           "description": "Resource Type",
23184           "items": {
23185             "maxLength": 64,
23186             "type": "string"
23187           },
23188           "minItems": 1,
23189           "readOnly": true,
23190           "type": "array"
23191         },
23192       "precision" :
23193         {
23194           "description": "Accuracy granularity of the exposed value",
23195           "readOnly": true,
23196           "type": "number"
23197         },
23198       "value" :
23199         {
23200           "anyOf": [
23201

```

```

23203     {
23204         "type": "array"
23205     },
23206     {
23207         "type": "string"
23208     },
23209     {
23210         "type": "boolean"
23211     },
23212     {
23213         "type": "integer"
23214     },
23215     {
23216         "type": "number"
23217     },
23218     {
23219         "type": "object"
23220     }
23221 ],
23222 "description": "The value sensed or actuated by this Resource"
23223 },
23224
23225 "n" :
23226     {
23227         "description": "Friendly name of the resource",
23228         "maxLength": 64,
23229         "readOnly": true,
23230         "type": "string"
23231     },
23232
23233 "range" :
23234     {
23235         "description": "The valid range for the value Property",
23236         "items": {
23237             "anyOf": [
23238                 {
23239                     "type": "number"
23240                 },
23241                 {
23242                     "type": "integer"
23243                 }
23244             ]
23245         },
23246         "maxItems": 2,
23247         "minItems": 2,
23248         "readOnly": true,
23249         "type": "array"
23250     },
23251
23252 "bloc" :
23253     {
23254         "description": "A list of all potential body locations",
23255         "enum": [
23256             "axillary",
23257             "body",
23258             "ear",
23259             "finger",
23260             "gitract",
23261             "mouth",
23262             "rectum",
23263             "toe",
23264             "tympanum"
23265         ],
23266         "readOnly": true,
23267         "type": "string"
23268     },
23269
23270 "step" :
23271     {
23272         "anyOf": [
23273             {
23274                 "type": "integer"

```

```

23275     },
23276     {
23277         "type": "number"
23278     }
23279 ],
23280 "description": "Step value across the defined range",
23281 "readOnly": true
23282 },
23283
23284 "id" :
23285     {
23286         "description": "Instance ID of this specific resource",
23287         "maxLength": 64,
23288         "readOnly": true,
23289         "type": "string"
23290     },
23291
23292 "if" :
23293     {
23294         "description": "The interface set supported by this resource",
23295         "items": {
23296             "enum": [
23297                 "oic.if.baseline",
23298                 "oic.if.ll",
23299                 "oic.if.b",
23300                 "oic.if.lb",
23301                 "oic.if.rw",
23302                 "oic.if.r",
23303                 "oic.if.a",
23304                 "oic.if.s"
23305             ],
23306             "type": "string"
23307         },
23308         "minItems": 1,
23309         "readOnly": true,
23310         "type": "array"
23311     }
23312 }
23313 }
23314 , "type" : "object"
23315 }
23316 }
23317 }
23318

```

6.94.5 Property definition

Table 191 defines the Properties that are part of the ['oic.r.body.location'] Resource Type

Table 191 – The Property definitions of the Resource with type 'rt' = ['oic.r.body.location']

Property name	Value type	Mandatory	Access mode	Description
rt	array: see schema		Read Only	Resource Type
precision	number		Read Only	Accuracy granularity of the exposed value
bloc	string		Read Only	A list of all potential body locations
n	string		Read Only	Friendly name of the resource
id	string		Read Only	Instance ID of this specific resource
range	array: see schema		Read Only	The valid range for the value Property

value	multiple types: see schema		Read Write	The value sensed or actuated by this Resource
if	array: see schema		Read Only	The interface set supported by this resource
step	multiple types: see schema		Read Only	Step value across the defined range

23322 **6.94.6 CRUDN behaviour**

23323 Table 192 defines the CRUDN operations that are supported on the ['oic.r.body.location'] Resource
23324 Type

23325 **Table 192 – The CRUDN operations of the Resource with type 'rt' = ['oic.r.body.location']**

Create	Read	Update	Delete	Notify
	get			observe

23326 **6.95 Body Location Temperature**

23327 **6.95.1 Introduction**

23328 This resource describes the properties associated with Body location for temperature
23329 measurement of a person.

23330 The bloc Property is a read-only value that is provided by the server.

23331 Retrieves Body location for temperature measurement of a person.
23332

23333 **6.95.2 Example URI**

23334 /BodyLocationTemperatureResURI

23335 **6.95.3 Resource type**

23336 The resource type (rt) is defined as: ['oic.r.body.location.temperature'].

23337 **6.95.4 OpenAPI 2.0 definition**

```

23338 {
23339   "swagger": "2.0",
23340   "info": {
23341     "title": "Body Location Temperature",
23342     "version": "v1.1.0-20160519",
23343     "license": {
23344       "name": "copyright 2016-2017 Open Connectivity Foundation, Inc. All rights reserved.",
23345       "x-description": "Redistribution and use in source and binary forms, with or without
23346 modification, are permitted provided that the following conditions are met:\n
23347 1.
23348 Redistributions of source code must retain the above copyright notice, this list of conditions and
23349 the following disclaimer.\n
23350 2. Redistributions in binary form must reproduce the above
23351 copyright notice, this list of conditions and the following disclaimer in the documentation and/or
23352 other materials provided with the distribution.\n\n
23353 THIS SOFTWARE IS PROVIDED BY THE Open
23354 Connectivity Foundation, INC. \AS IS\ AND ANY EXPRESS OR IMPLIED WARRANTIES, INCLUDING, BUT NOT
23355 LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE OR
23356 WARRANTIES OF NON-INFRINGEMENT, ARE DISCLAIMED.\n
23357 IN NO EVENT SHALL THE Open Connectivity
23358 Foundation, INC. OR CONTRIBUTORS BE LIABLE FOR ANY DIRECT, INDIRECT, INCIDENTAL, SPECIAL, EXEMPLARY,
23359 OR CONSEQUENTIAL DAMAGES (INCLUDING, BUT NOT LIMITED TO, PROCUREMENT OF SUBSTITUTE GOODS OR
23360 SERVICES; LOSS OF USE, DATA, OR PROFITS; OR BUSINESS INTERRUPTION)\n
23361 HOWEVER CAUSED AND ON
23362 ANY THEORY OF LIABILITY, WHETHER IN CONTRACT, STRICT LIABILITY, OR TORT (INCLUDING NEGLIGENCE OR
23363 OTHERWISE) ARISING IN ANY WAY OUT OF THE USE OF THIS SOFTWARE, EVEN IF ADVISED OF THE POSSIBILITY OF
23364 SUCH DAMAGE.\n"
23365   }
23366 },
23367   "schemes": ["http"],
23368   "consumes": ["application/json"],
23369   "produces": ["application/json"],
23370   "paths": {
23371     "/BodyLocationTemperatureResURI" : {

```

```

23367     "get": {
23368         "description": "This resource describes the properties associated with Body location for
23369 temperature measurement of a person.\n\nThe bloc Property is a read-only value that is provided by the
23370 server.\n\nRetrieves Body location for temperature measurement of a person.\n",
23371         "parameters": [
23372             { "$ref": "#/parameters/interface" }
23373         ],
23374         "responses": {
23375             "200": {
23376                 "description": "",
23377                 "x-example":
23378                 {
23379                     "rt": ["oic.r.body.location.temperature"],
23380                     "id": "unique_example_id",
23381                     "bloc": "ear"
23382                 }
23383             },
23384             "schema": { "$ref": "#/definitions/BodyLocationTemperature" }
23385         }
23386     }
23387 }
23388 },
23389 },
23390 "parameters": {
23391     "interface" : {
23392         "in" : "query",
23393         "name" : "if",
23394         "type" : "string",
23395         "enum" : ["oic.if.s", "oic.if.baseline"]
23396     }
23397 },
23398 "definitions": {
23399     "BodyLocationTemperature" : {
23400         "properties": {
23401             "rt" :
23402             {
23403                 "description": "Resource Type",
23404                 "items": {
23405                     "maxLength": 64,
23406                     "type": "string"
23407                 },
23408                 "minItems": 1,
23409                 "readOnly": true,
23410                 "type": "array"
23411             },
23412             "precision" :
23413             {
23414                 "description": "Accuracy granularity of the exposed value",
23415                 "readOnly": true,
23416                 "type": "number"
23417             },
23418             "value" :
23419             {
23420                 "anyOf": [
23421                     {
23422                         "type": "array"
23423                     },
23424                     {
23425                         "type": "string"
23426                     },
23427                     {
23428                         "type": "boolean"
23429                     },
23430                     {
23431                         "type": "integer"
23432                     },
23433                     {
23434                         "type": "number"
23435                     }
23436                 ],
23437             }
23438         }

```

```

23439         "type": "object"
23440     }
23441 ],
23442 "description": "The value sensed or actuated by this Resource"
23443 },
23444 "n" :
23445     {
23446         "description": "Friendly name of the resource",
23447         "maxLength": 64,
23448         "readOnly": true,
23449         "type": "string"
23450     },
23451 },
23452 "range" :
23453     {
23454         "description": "The valid range for the value Property",
23455         "items": {
23456             "anyOf": [
23457                 {
23458                     "type": "number"
23459                 },
23460                 {
23461                     "type": "integer"
23462                 }
23463             ]
23464         },
23465         "maxItems": 2,
23466         "minItems": 2,
23467         "readOnly": true,
23468         "type": "array"
23469     },
23470 },
23471 "bloc" :
23472     {
23473         "description": "A list specific to temperature site",
23474         "enum": [
23475             "axillary",
23476             "body",
23477             "ear",
23478             "finger",
23479             "gitract",
23480             "mouth",
23481             "rectum",
23482             "toe",
23483             "tympanum"
23484         ],
23485         "readOnly": true,
23486         "type": "string"
23487     },
23488 },
23489 "step" :
23490     {
23491         "anyOf": [
23492             {
23493                 "type": "integer"
23494             },
23495             {
23496                 "type": "number"
23497             }
23498         ],
23499         "description": "Step value across the defined range",
23500         "readOnly": true
23501     },
23502 },
23503 "id" :
23504     {
23505         "description": "Instance ID of this specific resource",
23506         "maxLength": 64,
23507         "readOnly": true,
23508         "type": "string"
23509     },
23510 },

```

```

23511
23512     "if" :
23513     {
23514         "description": "The interface set supported by this resource",
23515         "items": {
23516             "enum": [
23517                 "oic.if.baseline",
23518                 "oic.if.ll",
23519                 "oic.if.b",
23520                 "oic.if.lb",
23521                 "oic.if.rw",
23522                 "oic.if.r",
23523                 "oic.if.a",
23524                 "oic.if.s"
23525             ],
23526             "type": "string"
23527         },
23528         "minItems": 1,
23529         "readOnly": true,
23530         "type": "array"
23531     }
23532
23533     }, "type" : "object"
23534     , "required": ["bloc"]
23535 }
23536 }
23537 }
23538 }
23539

```

23540 6.95.5 Property definition

23541 Table 193 defines the Properties that are part of the ['oic.r.body.location.temperature'] Resource
23542 Type

23543 **Table 193 – The Property definitions of the Resource with type 'rt' =**
23544 **['oic.r.body.location.temperature']**

Property name	Value type	Mandatory	Access mode	Description
precision	number	No	Read Only	Accuracy granularity of the exposed value
step	multiple types: see schema	No	Read Only	Step value across the defined range
id	string	No	Read Only	Instance ID of this specific resource
if	array: see schema	No	Read Only	The interface set supported by this resource
n	string	No	Read Only	Friendly name of the resource
rt	array: see schema	No	Read Only	Resource Type
value	multiple types: see schema	No	Read Write	The value sensed or actuated by this Resource
bloc	string	Yes	Read Only	A list specific to temperature site
range	array: see schema	No	Read Only	The valid range for the value Property

23545 **6.95.6 CRUDN behaviour**

23546 Table 194 defines the CRUDN operations that are supported on the
23547 ['oic.r.body.location.temperature'] Resource Type

23548 **Table 194 – The CRUDN operations of the Resource with type 'rt' =**
23549 **['oic.r.body.location.temperature']**

Create	Read	Update	Delete	Notify
	get			observe

23550 **6.96 Body Scale Atomic Measurement**

23551 **6.96.1 Introduction**

23552 This resource describes the properties associated with Body Scale.
23553 The resource is an atomic measurement of Weight (oic.r.weight), Body Mass Index (BMI)
23554 (oic.r.bmi), Height (oic.r.height), Body Fat (oic.r.body.fat), Body Water (oic.r.body.water), Body
23555 Soft Lean Mass (oic.r.body.slm), Body Fat Free Mass (oic.r.body.ffm), Observed time
23556 (oic.r.time.stamp), and User ID (oic.r.userid).
23557 Retrieves the current weight.
23558

23559 **6.96.2 Example URI**

23560 /BodyScaleAMResURI

23561 **6.96.3 Resource type**

23562 The resource type (rt) is defined as: ['oic.r.bodyscale-am', 'oic.wk.atomicmeasurement'].

23563 **6.96.4 OpenAPI 2.0 definition**

```
23564 {  
23565   "swagger": "2.0",  
23566   "info": {  
23567     "title": "Body Scale Atomic Measurement Linked List Representation",  
23568     "version": "v1.1.0-20160519",  
23569     "license": {  
23570       "name": "copyright 2016-2017 Open Connectivity Foundation, Inc. All rights reserved.",  
23571       "x-description": "Redistribution and use in source and binary forms, with or without  
23572 modification, are permitted provided that the following conditions are met:\n      1.  
23573 Redistributions of source code must retain the above copyright notice, this list of conditions and  
23574 the following disclaimer.\n      2. Redistributions in binary form must reproduce the above  
23575 copyright notice, this list of conditions and the following disclaimer in the documentation and/or  
23576 other materials provided with the distribution.\n\n      THIS SOFTWARE IS PROVIDED BY THE Open  
23577 Connectivity Foundation, INC. \\\nAS IS\\n AND ANY EXPRESS OR IMPLIED WARRANTIES, INCLUDING, BUT NOT  
23578 LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE OR  
23579 WARRANTIES OF NON-INFRINGEMENT, ARE DISCLAIMED.\n\n      IN NO EVENT SHALL THE Open Connectivity  
23580 Foundation, INC. OR CONTRIBUTORS BE LIABLE FOR ANY DIRECT, INDIRECT, INCIDENTAL, SPECIAL, EXEMPLARY,  
23581 OR CONSEQUENTIAL DAMAGES (INCLUDING, BUT NOT LIMITED TO, PROCUREMENT OF SUBSTITUTE GOODS OR  
23582 SERVICES; LOSS OF USE, DATA, OR PROFITS; OR BUSINESS INTERRUPTION)\n\n      HOWEVER CAUSED AND ON  
23583 ANY THEORY OF LIABILITY, WHETHER IN CONTRACT, STRICT LIABILITY, OR TORT (INCLUDING NEGLIGENCE OR  
23584 OTHERWISE) ARISING IN ANY WAY OUT OF THE USE OF THIS SOFTWARE, EVEN IF ADVISED OF THE POSSIBILITY OF  
23585 SUCH DAMAGE.\n\n"  
23586   }  
23587 },  
23588   "schemes": ["http"],  
23589   "consumes": ["application/json"],  
23590   "produces": ["application/json"],  
23591   "paths": {  
23592     "/BodyScaleAMResURI?if=oic.if.ll" : {  
23593       "get": {  
23594         "description": "This resource describes the properties associated with Body Scale.\n\nThe  
23595 resource is an atomic measurement of Weight (oic.r.weight), Body Mass Index (BMI) (oic.r.bmi),  
23596 Height (oic.r.height), Body Fat (oic.r.body.fat), Body Water (oic.r.body.water), Body Soft Lean Mass  
23597 (oic.r.body.slm), Body Fat Free Mass (oic.r.body.ffm), Observed time (oic.r.time.stamp), and User ID  
23598 (oic.r.userid).\n\nRetrieves the current weight.\n\n",  
23599         "parameters": [  
23600           {"$ref": "#/parameters/interface-ll"}  
23601         ],
```



```

23602     "responses": {
23603         "200": {
23604             "description": "",
23605             "x-example":
23606                 [
23607                     {
23608                         "href": "/myWeightResURI",
23609                         "rt": ["oic.r.weight"],
23610                         "if": ["oic.if.s", "oic.if.baseline"]
23611                     },
23612                     {
23613                         "href": "/myBMIResURI",
23614                         "rt": ["oic.r.bmi"],
23615                         "if": ["oic.if.s", "oic.if.baseline"]
23616                     }
23617                 ]
23618         },
23619         "schema": { "$ref": "#/definitions/links" }
23620     }
23621 }
23622 },
23623 ],
23624 "/BodyScaleAMResURI?if=oic.if.baseline" : {
23625     "get": {
23626         "description": "This resource describes the properties associated with Body Scale.\nThe
23627 resource is an atomic measurement of Weight (oic.r.weight), Body Mass Index (BMI) (oic.r.bmi),
23628 Height (oic.r.height), Body Fat (oic.r.body.fat), Body Water (oic.r.body.water), Body Soft Lean Mass
23629 (oic.r.body.slm), Body Fat Free Mass (oic.r.body.ffmpeg), Observed time (oic.r.time.stamp), and User ID
23630 (oic.r.userid).\nRetrieves the current weight.\n",
23631         "parameters": [
23632             { "$ref": "#/parameters/interface-baseline" }
23633         ],
23634         "responses": {
23635             "200": {
23636                 "description": "",
23637                 "x-example":
23638                     {
23639                         "rt": ["oic.r.bodyscale-am", "oic.wk.atomicmeasurement"],
23640                         "if": ["oic.if.b", "oic.if.ll", "oic.if.baseline"],
23641                         "rts": ["oic.r.weight", "oic.r.bmi"],
23642                         "rts-m": ["oic.r.weight"],
23643                         "links": [
23644                             {
23645                                 "href": "/myWeightResURI",
23646                                 "rt": ["oic.r.weight"],
23647                                 "if": ["oic.if.s", "oic.if.baseline"]
23648                             },
23649                             {
23650                                 "href": "/myBMIResURI",
23651                                 "rt": ["oic.r.bmi"],
23652                                 "if": ["oic.if.s", "oic.if.baseline"]
23653                             }
23654                         ]
23655                     }
23656             },
23657             "schema": { "$ref": "#/definitions/baseline" }
23658         }
23659     }
23660 },
23661 ],
23662 "/BodyScaleAMResURI?if=oic.if.b" : {
23663     "get": {
23664         "description": "This resource describes the properties associated with Body Scale.\nThe
23665 resource is an atomic measurement of Weight (oic.r.weight), Body Mass Index (BMI) (oic.r.bmi),
23666 Height (oic.r.height), Body Fat (oic.r.body.fat), Body Water (oic.r.body.water), Body Soft Lean Mass
23667 (oic.r.body.slm), Body Fat Free Mass (oic.r.body.ffmpeg), Observed time (oic.r.time.stamp), and User ID
23668 (oic.r.userid).\nRetrieves the current weight.\n",
23669         "parameters": [
23670             { "$ref": "#/parameters/interface-b" }
23671         ],
23672         "responses": {
23673             "200": {

```

```

23674         "description" : "",
23675         "x-example":
23676             [
23677                 {
23678                     "href": "/myWeightResURI",
23679                     "rep":
23680                         {
23681                             "weight": 80,
23682                             "units": "kg"
23683                         }
23684                 },
23685                 {
23686                     "href": "/myBMIResURI",
23687                     "rep":
23688                         {
23689                             "bmi": 20
23690                         }
23691                 }
23692             ]
23693         ,
23694         "schema": { "$ref": "#/definitions/batch-retrieve" }
23695     }
23696 }
23697 }
23698 }
23699 },
23700 "parameters": {
23701     "interface-ll" : {
23702         "in" : "query",
23703         "name" : "if",
23704         "type" : "string",
23705         "enum" : ["oic.if.ll"]
23706     },
23707     "interface-b" : {
23708         "in" : "query",
23709         "name" : "if",
23710         "type" : "string",
23711         "enum" : ["oic.if.b"]
23712     },
23713     "interface-baseline" : {
23714         "in" : "query",
23715         "name" : "if",
23716         "type" : "string",
23717         "enum" : ["oic.if.baseline"]
23718     },
23719     "interface-all" : {
23720         "in" : "query",
23721         "name" : "if",
23722         "type" : "string",
23723         "enum" : ["oic.if.b", "oic.if.ll", "oic.if.baseline"]
23724     }
23725 },
23726 "definitions": {
23727     "links" : {
23728         "type" :
23729             "array"
23730     ,
23731     "items" :
23732         {
23733             "$ref": "#/definitions/oic.oic-link"
23734         }
23735     }
23736 },
23737 ,
23738 "baseline" : {
23739     "properties": {
23740         "rt" :
23741             {
23742                 "items": {
23743                     "enum": [
23744                         "oic.r.bodyscale-am",
23745                         "oic.wk.atomicmeasurement"

```

```

23746     ]
23747     },
23748     "maxItems": 2,
23749     "minItems": 2,
23750     "type": "array",
23751     "uniqueItems": true
23752   },
23753
23754   "links" :
23755   {
23756     "description": "A set of simple or individual OIC Links.",
23757     "items": {
23758       "properties": {
23759         "anchor": {
23760           "description": "This is used to override the context URI e.g. override the URI of
the containing collection.",
23761           "format": "uri",
23762           "maxLength": 256,
23763           "type": "string"
23764         },
23765         "di": {
23766           "description": "The Device ID formatted according to IETF RFC 4122.",
23767           "pattern": "^[a-fA-F0-9]{8}-[a-fA-F0-9]{4}-[a-fA-F0-9]{4}-[a-fA-F0-
23768           9]{12}$",
23769           "type": "string"
23770         },
23771         "eps": {
23772           "description": "the Endpoint information of the target Resource",
23773           "items": {
23774             "properties": {
23775               "ep": {
23776                 "description": "Transport Protocol Suite + Endpoint Locator",
23777                 "format": "uri",
23778                 "type": "string"
23779               },
23780               "pri": {
23781                 "description": "The priority among multiple Endpoints",
23782                 "minimum": 1,
23783                 "type": "integer"
23784               }
23785             }
23786           },
23787           "type": "object"
23788         },
23789         "type": "array"
23790       },
23791       "href": {
23792         "description": "This is the target URI, it can be specified as a Relative Reference
or fully-qualified URI.",
23793         "format": "uri",
23794         "maxLength": 256,
23795         "type": "string"
23796       },
23797       "if": {
23798         "description": "The interface set supported by this resource",
23799         "items": {
23800           "enum": [
23801             "oic.if.baseline",
23802             "oic.if.ll",
23803             "oic.if.b",
23804             "oic.if.rw",
23805             "oic.if.x",
23806             "oic.if.a",
23807             "oic.if.s"
23808           ],
23809           "type": "string"
23810         },
23811         "minItems": 1,
23812         "type": "array"
23813       },
23814       "ins": {
23815         "description": "The instance identifier for this web link in an array of web links -
23816         used in collections",
23817

```

```

23818         "type": "integer"
23819     },
23820     "p": {
23821         "description": "Specifies the framework policies on the Resource referenced by the
23822 target URI",
23823         "properties": {
23824             "bm": {
23825                 "description": "Specifies the framework policies on the Resource referenced by
23826 the target URI for e.g. observable and discoverable",
23827                 "type": "integer"
23828             }
23829         },
23830         "required": [
23831             "bm"
23832         ],
23833         "type": "object"
23834     },
23835     "rel": {
23836         "description": "The relation of the target URI referenced by the link to the context
23837 URI",
23838         "oneOf": [
23839             {
23840                 "default": [
23841                     "hosts"
23842                 ],
23843                 "items": {
23844                     "maxLength": 64,
23845                     "type": "string"
23846                 },
23847                 "minItems": 1,
23848                 "type": "array"
23849             },
23850             {
23851                 "default": "hosts",
23852                 "maxLength": 64,
23853                 "type": "string"
23854             }
23855         ]
23856     },
23857     "rt": {
23858         "description": "Resource Type of the Resource",
23859         "items": {
23860             "maxLength": 64,
23861             "type": "string"
23862         },
23863         "minItems": 1,
23864         "type": "array"
23865     },
23866     "title": {
23867         "description": "A title for the link relation. Can be used by the UI to provide a
23868 context.",
23869         "maxLength": 64,
23870         "type": "string"
23871     },
23872     "type": {
23873         "default": "application/cbor",
23874         "description": "A hint at the representation of the resource referenced by the
23875 target URI. This represents the media types that are used for both accepting and emitting.",
23876         "items": {
23877             "maxLength": 64,
23878             "type": "string"
23879         },
23880         "minItems": 1,
23881         "type": "array"
23882     }
23883 },
23884 "required": [
23885     "href",
23886     "rt",
23887     "if"
23888 ],
23889 "type": "object"

```

```

23890     },
23891     "type": "array"
23892   },
23893
23894   "n" :
23895     {
23896       "description": "Friendly name of the resource",
23897       "maxLength": 64,
23898       "readOnly": true,
23899       "type": "string"
23900     },
23901
23902   "rts" :
23903     {
23904       "description": "This contains all possible resource types for this atomic measurement.",
23905       "items": {
23906         "enum": [
23907           "oic.r.weight",
23908           "oic.r.bmi",
23909           "oic.r.height",
23910           "oic.r.body.fat",
23911           "oic.r.body.water",
23912           "oic.r.body.slm",
23913           "oic.r.body.ffmpeg",
23914           "oic.r.time.stamp",
23915           "oic.r.userid"
23916         ]
23917       },
23918       "minItems": 1,
23919       "type": "array",
23920       "uniqueItems": true
23921     },
23922
23923   "id" :
23924     {
23925       "description": "Instance ID of this specific resource",
23926       "maxLength": 64,
23927       "readOnly": true,
23928       "type": "string"
23929     },
23930
23931   "rts-m" :
23932     {
23933       "description": "This contains all mandatory resource types for this atomic measurement.",
23934       "items": {
23935         "enum": [
23936           "oic.r.weight"
23937         ]
23938       },
23939       "maxItems": 1,
23940       "minItems": 1,
23941       "type": "array",
23942       "uniqueItems": true
23943     },
23944
23945   "if" :
23946     {
23947       "description": "The interface set supported by this resource",
23948       "items": {
23949         "enum": [
23950           "oic.if.baseline",
23951           "oic.if.ll",
23952           "oic.if.b",
23953           "oic.if.lb",
23954           "oic.if.rw",
23955           "oic.if.r",
23956           "oic.if.a",
23957           "oic.if.s"
23958         ],
23959         "type": "string"
23960       },
23961       "minItems": 1,

```

```

23962         "readOnly": true,
23963         "type": "array"
23964     }
23965
23966     }
23967     , "type" : "object"
23968     , "required": ["rts-m"]
23969 }
23970 ,
23971 "batch-retrieve" : {
23972     "title" :
23973         "Collection Batch Retrieve Format"
23974
23975     , "minItems" :
23976         1
23977
23978     , "items" :
23979         {
23980             "additionalProperties": true,
23981             "properties": {
23982                 "href": {
23983                     "description": "URI of the target resource relative assuming the collection URI as
23984 anchor",
23985                     "type": "string"
23986                 },
23987                 "rep": {
23988                     "oneOf": [
23989                         {
23990                             "description": "The response payload from a single resource",
23991                             "type": "object"
23992                         },
23993                         {
23994                             "description": " The response payload from a collection (batch) resource",
23995                             "type": "array"
23996                         }
23997                     ]
23998                 }
23999             },
24000             "required": [
24001                 "href",
24002                 "rep"
24003             ],
24004             "type": "object"
24005         }
24006     , "type" :
24007         "array"
24008
24009 }
24010
24011 , "oic.oic-link" :
24012     {
24013         "properties": {
24014             "anchor": {
24015                 "description": "This is used to override the context URI e.g. override the URI of the
24016 containing collection.",
24017                 "format": "uri",
24018                 "maxLength": 256,
24019                 "type": "string"
24020             },
24021             "di": {
24022                 "description": "The Device ID formatted according to IETF RFC 4122.",
24023                 "pattern": "^[a-fA-F0-9]{8}-[a-fA-F0-9]{4}-[a-fA-F0-9]{4}-[a-fA-F0-9]{4}-[a-fA-F0-
24024 9]{12}$",
24025                 "type": "string"
24026             },
24027             "eps": {
24028                 "description": "the Endpoint information of the target Resource",
24029                 "items": {
24030                     "properties": {
24031                         "ep": {
24032                             "description": "Transport Protocol Suite + Endpoint Locator",
24033                             "format": "uri",

```

```

24034         "type": "string"
24035     },
24036     "pri": {
24037         "description": "The priority among multiple Endpoints",
24038         "minimum": 1,
24039         "type": "integer"
24040     }
24041 },
24042 "type": "object"
24043 },
24044 "type": "array"
24045 },
24046 "href": {
24047     "description": "This is the target URI, it can be specified as a Relative Reference or
24048 fully-qualified URI.",
24049     "format": "uri",
24050     "maxLength": 256,
24051     "type": "string"
24052 },
24053 "if": {
24054     "description": "The interface set supported by this resource",
24055     "items": {
24056         "enum": [
24057             "oic.if.baseline",
24058             "oic.if.ll",
24059             "oic.if.b",
24060             "oic.if.rw",
24061             "oic.if.r",
24062             "oic.if.a",
24063             "oic.if.s"
24064         ],
24065         "type": "string"
24066     },
24067     "minItems": 1,
24068     "type": "array"
24069 },
24070 "ins": {
24071     "description": "The instance identifier for this web link in an array of web links - used
24072 in collections",
24073     "type": "integer"
24074 },
24075 "p": {
24076     "description": "Specifies the framework policies on the Resource referenced by the target
24077 URI",
24078     "properties": {
24079         "bm": {
24080             "description": "Specifies the framework policies on the Resource referenced by the
24081 target URI for e.g. observable and discoverable",
24082             "type": "integer"
24083         }
24084     },
24085     "required": [
24086         "bm"
24087     ],
24088     "type": "object"
24089 },
24090 "rel": {
24091     "description": "The relation of the target URI referenced by the link to the context URI",
24092     "oneOf": [
24093         {
24094             "default": [
24095                 "hosts"
24096             ],
24097             "items": {
24098                 "maxLength": 64,
24099                 "type": "string"
24100             },
24101             "minItems": 1,
24102             "type": "array"
24103         },
24104         {
24105             "default": "hosts",

```

```

24106         "maxLength": 64,
24107         "type": "string"
24108     }
24109 ]
24110 },
24111 "rt": {
24112     "description": "Resource Type of the Resource",
24113     "items": {
24114         "maxLength": 64,
24115         "type": "string"
24116     },
24117     "minItems": 1,
24118     "type": "array"
24119 },
24120 "title": {
24121     "description": "A title for the link relation. Can be used by the UI to provide a
24122 context.",
24123     "maxLength": 64,
24124     "type": "string"
24125 },
24126 "type": {
24127     "default": "application/cbor",
24128     "description": "A hint at the representation of the resource referenced by the target URI.
24129 This represents the media types that are used for both accepting and emitting.",
24130     "items": {
24131         "maxLength": 64,
24132         "type": "string"
24133     },
24134     "minItems": 1,
24135     "type": "array"
24136 }
24137 },
24138 "required": [
24139     "href",
24140     "rt",
24141     "if"
24142 ],
24143 "type": "object"
24144 }
24145 }
24146 }
24147 }
24148

```

24149 6.96.5 Property definition

24150 Table 195 defines the Properties that are part of the ['oic.r.bodyscale-am',
24151 'oic.wk.atomicmeasurement'] Resource Type

24152 **Table 195 – The Property definitions of the Resource with type 'rt' = ['oic.r.bodyscale-am',
24153 'oic.wk.atomicmeasurement']**

Property name	Value type	Mandatory	Access mode	Description
rep	multiple types: see schema	Yes	Read Write	
href	string	Yes	Read Write	URI of the target resource relative assuming the collection URI as anchor
rt	array: see schema	Yes	Read Write	Resource Type of the Resource
title	string	No	Read Write	A title for the link relation. Can be used by the UI to provide a context.

type	array: see schema	No	Read Write	A hint at the representation of the resource referenced by the target URI. This represents the media types that are used for both accepting and emitting.
rel	multiple types: see schema	No	Read Write	The relation of the target URI referenced by the link to the context URI
ins	integer	No	Read Write	The instance identifier for this web link in an array of web links - used in collections
p	object: see schema	No	Read Write	Specifies the framework policies on the Resource referenced by the target URI
href	string	Yes	Read Write	This is the target URI, it can be specified as a Relative Reference or fully-qualified URI.
di	string	No	Read Write	The Device ID formatted according to IETF RFC 4122.
eps	array: see schema	No	Read Write	the Endpoint information of the target Resource
if	array: see schema	Yes	Read Write	The interface set supported by this resource
anchor	string	No	Read Write	This is used to override the context URI e.g. override the URI of the containing collection.
rt	array: see schema	No	Read Write	
links	array: see schema	No	Read Write	A set of simple or individual OIC Links.

id	string	No	Read Only	Instance ID of this specific resource
n	string	No	Read Only	Friendly name of the resource
rts-m	array: see schema	Yes	Read Write	This contains all mandatory resource types for this atomic measurement.
if	array: see schema	No	Read Only	The interface set supported by this resource
rts	array: see schema	No	Read Write	This contains all possible resource types for this atomic measurement.

24154 **6.96.6 CRUDN behaviour**

24155 Table 196 defines the CRUDN operations that are supported on the ['oic.r.bodyscale-am',
24156 'oic.wk.atomicmeasurement'] Resource Type

24157 **Table 196 – The CRUDN operations of the Resource with type 'rt' = ['oic.r.bodyscale-am',**
24158 **'oic.wk.atomicmeasurement']**

Create	Read	Update	Delete	Notify
	get			observe

24159 **6.97 Body Soft Lean Mass**

24160 **6.97.1 Introduction**

24161 This resource describes the properties associated with a person's Body soft lean mass.
24162 The unit is a single value that is one of kg, lb or %.
24163 If the unit Property is missing the default is kilograms [kg].
24164 The slm and unit Properties are read-only values that are provided by the server.
24165 When range (from oic.r.baseresource) is omitted the default is 0 to +MAXFLOAT.
24166 Retrieves Body soft lean mass of an object.
24167

24168 **6.97.2 Example URI**

24169 /BodySoftLeanMassResURI

24170 **6.97.3 Resource type**

24171 The resource type (rt) is defined as: ['oic.r.body.slm'].

24172 **6.97.4 OpenAPI 2.0 definition**

```
24173 {
24174   "swagger": "2.0",
24175   "info": {
24176     "title": "BodySoftLeanMass",
24177     "version": "v1.1.0-20160519",
24178     "license": {
24179       "name": "copyright 2016-2017 Open Connectivity Foundation, Inc. All rights reserved.",
24180       "x-description": "Redistribution and use in source and binary forms, with or without
24181 modification, are permitted provided that the following conditions are met:\n      1.
24182 Redistributions of source code must retain the above copyright notice, this list of conditions and
24183 the following disclaimer.\n      2. Redistributions in binary form must reproduce the above
24184 copyright notice, this list of conditions and the following disclaimer in the documentation and/or
24185 other materials provided with the distribution.\n\n      THIS SOFTWARE IS PROVIDED BY THE Open
24186 Connectivity Foundation, INC. \\\n      AS IS\\n      AND ANY EXPRESS OR IMPLIED WARRANTIES, INCLUDING, BUT NOT
24187 LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE OR
```

```

24188 WARRANTIES OF NON-INFRINGEMENT, ARE DISCLAIMED.\n          IN NO EVENT SHALL THE Open Connectivity
24189 Foundation, INC. OR CONTRIBUTORS BE LIABLE FOR ANY DIRECT, INDIRECT, INCIDENTAL, SPECIAL, EXEMPLARY,
24190 OR CONSEQUENTIAL DAMAGES (INCLUDING, BUT NOT LIMITED TO, PROCUREMENT OF SUBSTITUTE GOODS OR
24191 SERVICES; LOSS OF USE, DATA, OR PROFITS; OR BUSINESS INTERRUPTION)\n          HOWEVER CAUSED AND ON
24192 ANY THEORY OF LIABILITY, WHETHER IN CONTRACT, STRICT LIABILITY, OR TORT (INCLUDING NEGLIGENCE OR
24193 OTHERWISE) ARISING IN ANY WAY OUT OF THE USE OF THIS SOFTWARE, EVEN IF ADVISED OF THE POSSIBILITY OF
24194 SUCH DAMAGE.\n"
24195 }
24196 },
24197 "schemes": ["http"],
24198 "consumes": ["application/json"],
24199 "produces": ["application/json"],
24200 "paths": {
24201   "/BodySoftLeanMassResURI" : {
24202     "get": {
24203       "description": "This resource describes the properties associated with a person's Body soft
24204 lean mass.\nThe unit is a single value that is one of kg, lb or %.\nIf the unit Property is missing
24205 the default is kilograms [kg].\nThe slm and unit Properties are read-only values that are provided
24206 by the server.\nWhen range (from oic.r.baseresource) is omitted the default is 0 to
24207 +MAXFLOAT.\nRetrieves Body soft lean mass of an object.\n",
24208     "parameters": [
24209       { "$ref": "#/parameters/interface" }
24210     ],
24211     "responses": {
24212       "200": {
24213         "description": "",
24214         "x-example":
24215           {
24216             "rt": ["oic.r.body.slm"],
24217             "id": "unique_example_id",
24218             "slm": 20,
24219             "units": "kg"
24220           }
24221         ,
24222         "schema": { "$ref": "#/definitions/BodySoftLeanMass" }
24223       }
24224     }
24225   }
24226 }
24227 },
24228 "parameters": {
24229   "interface" : {
24230     "in" : "query",
24231     "name" : "if",
24232     "type" : "string",
24233     "enum" : ["oic.if.s", "oic.if.baseline"]
24234   }
24235 },
24236 "definitions": {
24237   "BodySoftLeanMass" : {
24238     "properties": {
24239       "rt" :
24240         {
24241           "description": "Resource Type",
24242           "items": {
24243             "maxLength": 64,
24244             "type": "string"
24245           },
24246           "minItems": 1,
24247           "readOnly": true,
24248           "type": "array"
24249         },
24250       "units" :
24251         {
24252           "description": "Body soft lean mass units",
24253           "enum": [
24254             "kg",
24255             "lb",
24256             "%"
24257           ],
24258           "readOnly": true,
24259           "type": "string"

```

```

24260     },
24261     "precision" :
24262     {
24263         "description": "Accuracy granularity of the exposed value",
24264         "readOnly": true,
24265         "type": "number"
24266     },
24267     "n" :
24268     {
24269         "description": "Friendly name of the resource",
24270         "maxLength": 64,
24271         "readOnly": true,
24272         "type": "string"
24273     },
24274     "slm" :
24275     {
24276         "description": "Body soft lean mass.",
24277         "minimum": 0,
24278         "readOnly": true,
24279         "type": "number"
24280     },
24281     "range" :
24282     {
24283         "description": "The valid range for the value Property",
24284         "items": {
24285             "anyOf": [
24286                 {
24287                     "type": "number"
24288                 },
24289                 {
24290                     "type": "integer"
24291                 }
24292             ]
24293         },
24294         "maxItems": 2,
24295         "minItems": 2,
24296         "readOnly": true,
24297         "type": "array"
24298     },
24299     "step" :
24300     {
24301         "anyOf": [
24302             {
24303                 "type": "integer"
24304             },
24305             {
24306                 "type": "number"
24307             }
24308         ],
24309         "description": "Step value across the defined range",
24310         "readOnly": true
24311     },
24312     "id" :
24313     {
24314         "description": "Instance ID of this specific resource",
24315         "maxLength": 64,
24316         "readOnly": true,
24317         "type": "string"
24318     },
24319     "if" :
24320     {
24321         "description": "The interface set supported by this resource",
24322         "items": {
24323             "enum": [
24324                 "oic.if.baseline",
24325                 "oic.if.ll",
24326                 "oic.if.b",
24327                 "oic.if.lb",
24328                 "oic.if.rw",
24329                 "oic.if.r",
24330                 "oic.if.a",
24331                 "oic.if.s"

```

```

24332     ],
24333     "type": "string"
24334   },
24335   "minItems": 1,
24336   "readOnly": true,
24337   "type": "array"
24338 }
24339 }
24340 , "type" : "object"
24341 , "required": ["slm"]
24342 }
24343 }
24344 }
24345

```

24346 **6.97.5 Property definition**

24347 Table 197 defines the Properties that are part of the ['oic.r.body.slm'] Resource Type

24348 **Table 197 – The Property definitions of the Resource with type 'rt' = ['oic.r.body.slm']**

Property name	Value type	Mandatory	Access mode	Description
step	multiple types: see schema	No	Read Only	Step value across the defined range
n	string	No	Read Only	Friendly name of the resource
rt	array: see schema	No	Read Only	Resource Type
id	string	No	Read Only	Instance ID of this specific resource
range	array: see schema	No	Read Only	The valid range for the value Property
if	array: see schema	No	Read Only	The interface set supported by this resource
slm	number	Yes	Read Only	Body soft lean mass.
precision	number	No	Read Only	Accuracy granularity of the exposed value
units	string	No	Read Only	Body soft lean mass units

24349 **6.97.6 CRUDN behaviour**

24350 Table 198 defines the CRUDN operations that are supported on the ['oic.r.body.slm'] Resource
24351 Type

24352 **Table 198 – The CRUDN operations of the Resource with type 'rt' = ['oic.r.body.slm']**

Create	Read	Update	Delete	Notify
	get			observe

24353 **6.98 Body Thermometer Atomic Measurement**

24354 **6.98.1 Introduction**

24355 This resource describes the properties associated with body thermometer.
24356 The resource is an atomic measurement of temperature (oic.r.temperature), body location for
24357 temperature (oic.r.body.location.temperature), observed time (oic.r.time.stamp), and user ID
24358 (oic.r.userid).

24359 Retrieves the current body temperature.

24360

24361 6.98.2 Example URI

24362 /BodyThermometerAMResURI

24363 6.98.3 Resource type

24364 The resource type (rt) is defined as: ['oic.r.bodythermometer-am', 'oic.wk.atomicmeasurement'].

24365 6.98.4 OpenAPI 2.0 definition

```
24366 {
24367   "swagger": "2.0",
24368   "info": {
24369     "title": "Body Thermometer Atomic Measurement Batch Representation",
24370     "version": "v1.1.0-20160519",
24371     "license": {
24372       "name": "copyright 2016-2017 Open Connectivity Foundation, Inc. All rights reserved.",
24373       "x-description": "Redistribution and use in source and binary forms, with or without
24374 modification, are permitted provided that the following conditions are met:\n      1.
24375 Redistributions of source code must retain the above copyright notice, this list of conditions and
24376 the following disclaimer.\n      2. Redistributions in binary form must reproduce the above
24377 copyright notice, this list of conditions and the following disclaimer in the documentation and/or
24378 other materials provided with the distribution.\n      THIS SOFTWARE IS PROVIDED BY THE Open
24379 Connectivity Foundation, INC. \\"AS IS\\" AND ANY EXPRESS OR IMPLIED WARRANTIES, INCLUDING, BUT NOT
24380 LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE OR
24381 WARRANTIES OF NON-INFRINGEMENT, ARE DISCLAIMED.\n      IN NO EVENT SHALL THE Open Connectivity
24382 Foundation, INC. OR CONTRIBUTORS BE LIABLE FOR ANY DIRECT, INDIRECT, INCIDENTAL, SPECIAL, EXEMPLARY,
24383 OR CONSEQUENTIAL DAMAGES (INCLUDING, BUT NOT LIMITED TO, PROCUREMENT OF SUBSTITUTE GOODS OR
24384 SERVICES; LOSS OF USE, DATA, OR PROFITS; OR BUSINESS INTERRUPTION)\n      HOWEVER CAUSED AND ON
24385 ANY THEORY OF LIABILITY, WHETHER IN CONTRACT, STRICT LIABILITY, OR TORT (INCLUDING NEGLIGENCE OR
24386 OTHERWISE) ARISING IN ANY WAY OUT OF THE USE OF THIS SOFTWARE, EVEN IF ADVISED OF THE POSSIBILITY OF
24387 SUCH DAMAGE.\n"
24388     },
24389   },
24390   "schemes": ["http"],
24391   "consumes": ["application/json"],
24392   "produces": ["application/json"],
24393   "paths": {
24394     "/BodyThermometerAMResURI?if=oic.if.b" : {
24395       "get": {
24396         "description": "This resource describes the properties associated with body
24397 thermometer.\nThe resource is an atomic measurement of temperature (oic.r.temperature), body
24398 location for temperature (oic.r.body.location.temperature), observed time (oic.r.time.stamp), and
24399 user ID (oic.r.userid).\nRetrieves the current body temperature.\n",
24400         "parameters": [
24401           {"$ref": "#/parameters/interface-b"}
24402         ],
24403         "responses": {
24404           "200": {
24405             "description": "",
24406             "x-example":
24407               [
24408                 {
24409                   "href": "/myTemperatureResURI",
24410                   "rep":
24411                     {
24412                       "temperature": 38,
24413                       "units": "C"
24414                     }
24415                 },
24416                 {
24417                   "href": "/myBodyLocationForTemperatureResURI",
24418                   "rep":
24419                     {
24420                       "bloc": "mouth"
24421                     }
24422                 }
24423               ]
24424           },
24425           "schema": { "$ref": "#/definitions/batch-retrieve" }
24426         }
24427       }
24428     }
24429   }
24430 }
```

```

24426     }
24427   }
24428 }
24429 },
24430 "/BodyThermometerAMResURI?if=oic.if.ll" : {
24431   "get": {
24432     "description": "This resource describes the properties associated with body
24433 thermometer.\n\nThe resource is an atomic measurement of temperature (oic.r.temperature), body
24434 location for temperature (oic.r.body.location.temperature), observed time (oic.r.time.stamp), and
24435 user ID (oic.r.userid).\n\nRetrieves the current body temperature.\n",
24436     "parameters": [
24437       {"$ref": "#/parameters/interface-ll"}
24438     ],
24439     "responses": {
24440       "200": {
24441         "description": "",
24442         "x-example":
24443           [
24444             {
24445               "href": "/myTemperatureResURI",
24446               "rt": ["oic.r.temperature"],
24447               "if": ["oic.if.s", "oic.if.baseline"]
24448             },
24449             {
24450               "href": "/myBodyLocationForTemperatureResURI",
24451               "rt": ["oic.r.body.location.temperature"],
24452               "if": ["oic.if.s", "oic.if.baseline"]
24453             }
24454           ]
24455       },
24456       "schema": { "$ref": "#/definitions/links" }
24457     }
24458   }
24459 },
24460 "/BodyThermometerAMResURI?if=oic.if.baseline" : {
24461   "get": {
24462     "description": "This resource describes the properties associated with body
24463 thermometer.\n\nThe resource is an atomic measurement of temperature (oic.r.temperature), body
24464 location for temperature (oic.r.body.location.temperature), observed time (oic.r.time.stamp), and
24465 user ID (oic.r.userid).\n\nRetrieves the current body temperature.\n",
24466     "parameters": [
24467       {"$ref": "#/parameters/interface-baseline"}
24468     ],
24469     "responses": {
24470       "200": {
24471         "description": "",
24472         "x-example":
24473           {
24474             "rt": ["oic.r.bodythermometer-am", "oic.wk.atomicmeasurement"],
24475             "if": ["oic.if.b", "oic.if.ll", "oic.if.baseline"],
24476             "rts": ["oic.r.temperature", "oic.r.body.location.temperature"],
24477             "rts-m": ["oic.r.temperature"],
24478             "links": [
24479               {
24480                 "href": "/myTemperatureResURI",
24481                 "rt": ["oic.r.temperature"],
24482                 "if": ["oic.if.s", "oic.if.baseline"]
24483               },
24484               {
24485                 "href": "/myBodyLocationForTemperatureResURI",
24486                 "rt": ["oic.r.body.location.temperature"],
24487                 "if": ["oic.if.s", "oic.if.baseline"]
24488               }
24489             ]
24490           }
24491       },
24492       "schema": { "$ref": "#/definitions/baseline" }
24493     }
24494   }
24495 }
24496 }
24497 }

```

```

24498 },
24499 "parameters": {
24500   "interface-ll" : {
24501     "in" : "query",
24502     "name" : "if",
24503     "type" : "string",
24504     "enum" : ["oic.if.ll"]
24505   },
24506   "interface-b" : {
24507     "in" : "query",
24508     "name" : "if",
24509     "type" : "string",
24510     "enum" : ["oic.if.b"]
24511   },
24512   "interface-baseline" : {
24513     "in" : "query",
24514     "name" : "if",
24515     "type" : "string",
24516     "enum" : ["oic.if.baseline"]
24517   },
24518   "interface-all" : {
24519     "in" : "query",
24520     "name" : "if",
24521     "type" : "string",
24522     "enum" : ["oic.if.b", "oic.if.ll", "oic.if.baseline"]
24523   }
24524 },
24525 "definitions": {
24526   "batch-retrieve" : {
24527     "title" :
24528       "Collection Batch Retrieve Format"
24529
24530     , "minItems" :
24531       1
24532
24533     , "items" :
24534       {
24535         "additionalProperties": true,
24536         "properties": {
24537           "href": {
24538             "description": "URI of the target resource relative assuming the collection URI as
24539 anchor",
24540             "type": "string"
24541           },
24542           "rep": {
24543             "oneOf": [
24544               {
24545                 "description": "The response payload from a single resource",
24546                 "type": "object"
24547               },
24548               {
24549                 "description": " The response payload from a collection (batch) resource",
24550                 "type": "array"
24551               }
24552             ]
24553           }
24554         },
24555         "required": [
24556           "href",
24557           "rep"
24558         ],
24559         "type": "object"
24560       }
24561     , "type" :
24562       "array"
24563
24564   }
24565 },
24566 "links" : {
24567   "type" :
24568     "array"
24569

```



```

24570
24571     , "items" :
24572         {
24573             "$ref": "#/definitions/oic.oic-link"
24574         }
24575     }
24576 }
24577 ,
24578 "baseline" : {
24579     "properties": {
24580         "rt" :
24581             {
24582                 "items": {
24583                     "enum": [
24584                         "oic.r.bodythermometer-am",
24585                         "oic.wk.atomicmeasurement"
24586                     ]
24587                 },
24588                 "maxItems": 2,
24589                 "minItems": 2,
24590                 "type": "array",
24591                 "uniqueItems": true
24592             },
24593     "links" :
24594         {
24595             "description": "A set of simple or individual OIC Links.",
24596             "items": {
24597                 "properties": {
24598                     "anchor": {
24599                         "description": "This is used to override the context URI e.g. override the URI of
24600 the containing collection.",
24601                         "format": "uri",
24602                         "maxLength": 256,
24603                         "type": "string"
24604                     },
24605                     "di": {
24606                         "description": "The Device ID formatted according to IETF RFC 4122.",
24607                         "pattern": "^[a-fA-F0-9]{8}-[a-fA-F0-9]{4}-[a-fA-F0-9]{4}-[a-fA-F0-
24608 9]{12}$",
24609                         "type": "string"
24610                     },
24611                     "eps": {
24612                         "description": "the Endpoint information of the target Resource",
24613                         "items": {
24614                             "properties": {
24615                                 "ep": {
24616                                     "description": "Transport Protocol Suite + Endpoint Locator",
24617                                     "format": "uri",
24618                                     "type": "string"
24619                                 },
24620                                 "pri": {
24621                                     "description": "The priority among multiple Endpoints",
24622                                     "minimum": 1,
24623                                     "type": "integer"
24624                                 }
24625                             }
24626                         },
24627                         "type": "object"
24628                     },
24629                     "type": "array"
24630                 },
24631                 "href": {
24632                     "description": "This is the target URI, it can be specified as a Relative Reference
24633 or fully-qualified URI.",
24634                     "format": "uri",
24635                     "maxLength": 256,
24636                     "type": "string"
24637                 },
24638                 "if": {
24639                     "description": "The interface set supported by this resource",
24640                     "items": {
24641                         "enum": [

```

```

24642         "oic.if.baseline",
24643         "oic.if.ll",
24644         "oic.if.b",
24645         "oic.if.rw",
24646         "oic.if.r",
24647         "oic.if.a",
24648         "oic.if.s"
24649     ],
24650     "type": "string"
24651 },
24652     "minItems": 1,
24653     "type": "array"
24654 },
24655     "ins": {
24656         "description": "The instance identifier for this web link in an array of web links -
used in collections",
24657         "type": "integer"
24658     },
24659     "p": {
24660         "description": "Specifies the framework policies on the Resource referenced by the
target URI",
24661         "properties": {
24662             "bm": {
24663                 "description": "Specifies the framework policies on the Resource referenced by
the target URI for e.g. observable and discoverable",
24664                 "type": "integer"
24665             }
24666         },
24667         "required": [
24668             "bm"
24669         ],
24670         "type": "object"
24671     },
24672     "rel": {
24673         "description": "The relation of the target URI referenced by the link to the context
URI",
24674         "oneOf": [
24675             {
24676                 "default": [
24677                     "hosts"
24678                 ],
24679                 "items": {
24680                     "maxLength": 64,
24681                     "type": "string"
24682                 },
24683                 "minItems": 1,
24684                 "type": "array"
24685             },
24686             {
24687                 "default": "hosts",
24688                 "maxLength": 64,
24689                 "type": "string"
24690             }
24691         ]
24692     },
24693     "rt": {
24694         "description": "Resource Type of the Resource",
24695         "items": {
24696             "maxLength": 64,
24697             "type": "string"
24698         },
24699         "minItems": 1,
24700         "type": "array"
24701     },
24702     "title": {
24703         "description": "A title for the link relation. Can be used by the UI to provide a
context.",
24704         "maxLength": 64,
24705         "type": "string"
24706     },
24707     "type": {
24708         "default": "application/cbor",
24709     }
24710 }
24711 }
24712 }
24713 }

```

```

24714         "description": "A hint at the representation of the resource referenced by the
24715 target URI. This represents the media types that are used for both accepting and emitting.",
24716         "items": {
24717             "maxLength": 64,
24718             "type": "string"
24719         },
24720         "minItems": 1,
24721         "type": "array"
24722     },
24723 },
24724     "required": [
24725         "href",
24726         "rt",
24727         "if"
24728     ],
24729     "type": "object"
24730 },
24731 "type": "array"
24732 },
24733
24734 "n" :
24735     {
24736         "description": "Friendly name of the resource",
24737         "maxLength": 64,
24738         "readOnly": true,
24739         "type": "string"
24740     },
24741
24742 "rts" :
24743     {
24744         "description": "This contains all possible resource types for this atomic measurement.",
24745         "items": {
24746             "enum": [
24747                 "oic.r.temperature",
24748                 "oic.r.body.location.temperature",
24749                 "oic.r.time.observed",
24750                 "oic.r.userid"
24751             ]
24752         },
24753         "minItems": 1,
24754         "type": "array",
24755         "uniqueItems": true
24756     },
24757
24758 "id" :
24759     {
24760         "description": "Instance ID of this specific resource",
24761         "maxLength": 64,
24762         "readOnly": true,
24763         "type": "string"
24764     },
24765
24766 "rts-m" :
24767     {
24768         "description": "This contains all mandatory resource types for this atomic measurement.",
24769         "items": {
24770             "enum": [
24771                 "oic.r.temperature"
24772             ]
24773         },
24774         "maxItems": 1,
24775         "minItems": 1,
24776         "type": "array",
24777         "uniqueItems": true
24778     },
24779
24780 "if" :
24781     {
24782         "description": "The interface set supported by this resource",
24783         "items": {
24784             "enum": [
24785                 "oic.if.baseline",

```

```

24786         "oic.if.ll",
24787         "oic.if.b",
24788         "oic.if.lb",
24789         "oic.if.rw",
24790         "oic.if.r",
24791         "oic.if.a",
24792         "oic.if.s"
24793     ],
24794     "type": "string"
24795 },
24796 "minItems": 1,
24797 "readOnly": true,
24798 "type": "array"
24799 }
24800
24801 }
24802 , "type" : "object"
24803 , "required": ["rts-m"]
24804 }
24805 , "oic.oic-link" :
24806 {
24807     "properties": {
24808         "anchor": {
24809             "description": "This is used to override the context URI e.g. override the URI of the
24810 containing collection.",
24811             "format": "uri",
24812             "maxLength": 256,
24813             "type": "string"
24814         },
24815         "di": {
24816             "description": "The Device ID formatted according to IETF RFC 4122.",
24817             "pattern": "^[a-fA-F0-9]{8}-[a-fA-F0-9]{4}-[a-fA-F0-9]{4}-[a-fA-F0-9]{4}-[a-fA-F0-
24818 9]{12}$",
24819             "type": "string"
24820         },
24821         "eps": {
24822             "description": "the Endpoint information of the target Resource",
24823             "items": {
24824                 "properties": {
24825                     "ep": {
24826                         "description": "Transport Protocol Suite + Endpoint Locator",
24827                         "format": "uri",
24828                         "type": "string"
24829                     },
24830                     "pri": {
24831                         "description": "The priority among multiple Endpoints",
24832                         "minimum": 1,
24833                         "type": "integer"
24834                     }
24835                 },
24836                 "type": "object"
24837             },
24838             "type": "array"
24839         },
24840         "href": {
24841             "description": "This is the target URI, it can be specified as a Relative Reference or
24842 fully-qualified URI.",
24843             "format": "uri",
24844             "maxLength": 256,
24845             "type": "string"
24846         },
24847         "if": {
24848             "description": "The interface set supported by this resource",
24849             "items": {
24850                 "enum": [
24851                     "oic.if.baseline",
24852                     "oic.if.ll",
24853                     "oic.if.b",
24854                     "oic.if.rw",
24855                     "oic.if.r",
24856                     "oic.if.a",
24857                     "oic.if.s"

```

```

24858         ],
24859         "type": "string"
24860     },
24861     "minItems": 1,
24862     "type": "array"
24863 },
24864 "ins": {
24865     "description": "The instance identifier for this web link in an array of web links - used
24866 in collections",
24867     "type": "integer"
24868 },
24869 "p": {
24870     "description": "Specifies the framework policies on the Resource referenced by the target
24871 URI",
24872     "properties": {
24873         "bm": {
24874             "description": "Specifies the framework policies on the Resource referenced by the
24875 target URI for e.g. observable and discoverable",
24876             "type": "integer"
24877         }
24878     },
24879     "required": [
24880         "bm"
24881     ],
24882     "type": "object"
24883 },
24884 "rel": {
24885     "description": "The relation of the target URI referenced by the link to the context URI",
24886     "oneOf": [
24887         {
24888             "default": [
24889                 "hosts"
24890             ],
24891             "items": {
24892                 "maxLength": 64,
24893                 "type": "string"
24894             },
24895             "minItems": 1,
24896             "type": "array"
24897         },
24898         {
24899             "default": "hosts",
24900             "maxLength": 64,
24901             "type": "string"
24902         }
24903     ]
24904 },
24905 "rt": {
24906     "description": "Resource Type of the Resource",
24907     "items": {
24908         "maxLength": 64,
24909         "type": "string"
24910     },
24911     "minItems": 1,
24912     "type": "array"
24913 },
24914 "title": {
24915     "description": "A title for the link relation. Can be used by the UI to provide a
24916 context.",
24917     "maxLength": 64,
24918     "type": "string"
24919 },
24920 "type": {
24921     "default": "application/cbor",
24922     "description": "A hint at the representation of the resource referenced by the target URI.
24923 This represents the media types that are used for both accepting and emitting.",
24924     "items": {
24925         "maxLength": 64,
24926         "type": "string"
24927     },
24928     "minItems": 1,
24929     "type": "array"

```

```

24930     }
24931   },
24932   "required": [
24933     "href",
24934     "rt",
24935     "if"
24936   ],
24937   "type": "object"
24938 }
24939 }
24940 }
24941 }
24942 }

```

24943 6.98.5 Property definition

24944 Table 199 defines the Properties that are part of the ['oic.r.bodythermometer-am',
24945 'oic.wk.atomicmeasurement'] Resource Type

24946 **Table 199 – The Property definitions of the Resource with type 'rt' =**
24947 **['oic.r.bodythermometer-am', 'oic.wk.atomicmeasurement']**

Property name	Value type	Mandatory	Access mode	Description
href	string	Yes	Read Write	This is the target URI, it can be specified as a Relative Reference or fully-qualified URI.
ins	integer	No	Read Write	The instance identifier for this web link in an array of web links - used in collections
rt	array: see schema	Yes	Read Write	Resource Type of the Resource
if	array: see schema	Yes	Read Write	The interface set supported by this resource
rel	multiple types: see schema	No	Read Write	The relation of the target URI referenced by the link to the context URI
title	string	No	Read Write	A title for the link relation. Can be used by the UI to provide a context.
di	string	No	Read Write	The Device ID formatted according to IETF RFC 4122.
anchor	string	No	Read Write	This is used to override the context URI e.g. override the URI of the containing collection.

p	object: schema	see	No	Read Write	Specifies the framework policies on the Resource referenced by the target URI
type	array: schema	see	No	Read Write	A hint at the representation of the resource referenced by the target URI. This represents the media types that are used for both accepting and emitting.
eps	array: schema	see	No	Read Write	the Endpoint information of the target Resource
rts-m	array: schema	see	Yes	Read Write	This contains all mandatory resource types for this atomic measurement.
rt	array: schema	see	No	Read Write	
if	array: schema	see	No	Read Only	The interface set supported by this resource
links	array: schema	see	No	Read Write	A set of simple or individual OIC Links.
n	string		No	Read Only	Friendly name of the resource
rts	array: schema	see	No	Read Write	This contains all possible resource types for this atomic measurement.
id	string		No	Read Only	Instance ID of this specific resource
href	string		Yes	Read Write	URI of the target resource relative assuming the collection URI as anchor
rep	multiple types: see schema		Yes	Read Write	

24948

6.98.6 CRUDN behaviour

24949

Table 200 defines the CRUDN operations that are supported on the ['oic.r.bodythermometer-am', 'oic.wk.atomicmeasurement'] Resource Type

24950

24951
24952

**Table 200 – The CRUDN operations of the Resource with type 'rt' =
['oic.r.bodythermometer-am', 'oic.wk.atomicmeasurement']**

Create	Read	Update	Delete	Notify
	get			observe

24953 **6.99 Body Water**

24954 **6.99.1 Introduction**

24955 This resource describes the properties associated with a person's Body water.
24956 The unit is a single value that is one of kg or lb.
24957 If the unit Property is missing the default is kilograms [kg].
24958 The bwater and unit Properties are read-only values that are provided by the server.
24959 When range (from oic.r.baseresource) is omitted the default is 0 to +MAXFLOAT.
24960 Retrieves Body water of an object.
24961

24962 **6.99.2 Example URI**

24963 /BodyWaterResURI

24964 **6.99.3 Resource type**

24965 The resource type (rt) is defined as: ['oic.r.body.water'].

24966 **6.99.4 OpenAPI 2.0 definition**

```
24967 {  
24968   "swagger": "2.0",  
24969   "info": {  
24970     "title": "Body Water",  
24971     "version": "v1.1.0-20160519",  
24972     "license": {  
24973       "name": "copyright 2016-2017 Open Connectivity Foundation, Inc. All rights reserved.",  
24974       "x-description": "Redistribution and use in source and binary forms, with or without  
24975 modification, are permitted provided that the following conditions are met:\n      1.  
24976 Redistributions of source code must retain the above copyright notice, this list of conditions and  
24977 the following disclaimer.\n      2. Redistributions in binary form must reproduce the above  
24978 copyright notice, this list of conditions and the following disclaimer in the documentation and/or  
24979 other materials provided with the distribution.\n\n      THIS SOFTWARE IS PROVIDED BY THE Open  
24980 Connectivity Foundation, INC. \\\nAS IS\\n AND ANY EXPRESS OR IMPLIED WARRANTIES, INCLUDING, BUT NOT  
24981 LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE OR  
24982 WARRANTIES OF NON-INFRINGEMENT, ARE DISCLAIMED.\n      IN NO EVENT SHALL THE Open Connectivity  
24983 Foundation, INC. OR CONTRIBUTORS BE LIABLE FOR ANY DIRECT, INDIRECT, INCIDENTAL, SPECIAL, EXEMPLARY,  
24984 OR CONSEQUENTIAL DAMAGES (INCLUDING, BUT NOT LIMITED TO, PROCUREMENT OF SUBSTITUTE GOODS OR  
24985 SERVICES; LOSS OF USE, DATA, OR PROFITS; OR BUSINESS INTERRUPTION)\n      HOWEVER CAUSED AND ON  
24986 ANY THEORY OF LIABILITY, WHETHER IN CONTRACT, STRICT LIABILITY, OR TORT (INCLUDING NEGLIGENCE OR  
24987 OTHERWISE) ARISING IN ANY WAY OUT OF THE USE OF THIS SOFTWARE, EVEN IF ADVISED OF THE POSSIBILITY OF  
24988 SUCH DAMAGE.\n\n"}  
24989   },  
24990 },  
24991 "schemes": ["http"],  
24992 "consumes": ["application/json"],  
24993 "produces": ["application/json"],  
24994 "paths": {  
24995   "/BodyWaterResURI" : {  
24996     "get": {  
24997       "description": "This resource describes the properties associated with a person's Body  
24998 water.\n      The unit is a single value that is one of kg or lb.\n      If the unit Property is missing the  
24999 default is kilograms [kg].\n      The bwater and unit Properties are read-only values that are provided by  
25000 the server.\n      When range (from oic.r.baseresource) is omitted the default is 0 to  
25001 +MAXFLOAT.\n      Retrieves Body water of an object.\n\n",  
25002     "parameters": [  
25003       {"$ref": "#/parameters/interface"}  
25004     ],  
25005     "responses": {  
25006       "200": {  
25007         "description": "",  
25008         "x-example":  
25009         {
```



```

25010         "rt":      ["oic.r.body.water"],
25011         "id":      "unique_example_id",
25012         "bwater":  20,
25013         "units":   "kg"
25014     }
25015     ,
25016     "schema": { "$ref": "#/definitions/BodyWater" }
25017 }
25018 }
25019 }
25020 }
25021 },
25022 "parameters": {
25023   "interface" : {
25024     "in" : "query",
25025     "name" : "if",
25026     "type" : "string",
25027     "enum" : ["oic.if.s", "oic.if.baseline"]
25028   }
25029 },
25030 "definitions": {
25031   "BodyWater" : {
25032     "properties": {
25033       "rt" :
25034         {
25035           "description": "Resource Type",
25036           "items": {
25037             "maxLength": 64,
25038             "type": "string"
25039           },
25040           "minItems": 1,
25041           "readOnly": true,
25042           "type": "array"
25043         },
25044       "step" :
25045         {
25046           "anyOf": [
25047             {
25048               "type": "integer"
25049             },
25050             {
25051               "type": "number"
25052             }
25053           ],
25054           "description": "Step value across the defined range",
25055           "readOnly": true
25056         },
25057       "precision" :
25058         {
25059           "description": "Accuracy granularity of the exposed value",
25060           "readOnly": true,
25061           "type": "number"
25062         },
25063       "n" :
25064         {
25065           "description": "Friendly name of the resource",
25066           "maxLength": 64,
25067           "readOnly": true,
25068           "type": "string"
25069         },
25070       "units" :
25071         {
25072           "description": "Body water unit",
25073           "enum": [
25074             "kg",
25075             "lb"
25076           ],
25077           "readOnly": true,
25078           "type": "string"
25079         },
25080       "range" :
25081         {

```

```

25082         "description": "The valid range for the value Property",
25083         "items": {
25084             "anyOf": [
25085                 {
25086                     "type": "number"
25087                 },
25088                 {
25089                     "type": "integer"
25090                 }
25091             ]
25092         },
25093         "maxItems": 2,
25094         "minItems": 2,
25095         "readOnly": true,
25096         "type": "array"
25097     },
25098     "id" :
25099     {
25100         "description": "Instance ID of this specific resource",
25101         "maxLength": 64,
25102         "readOnly": true,
25103         "type": "string"
25104     },
25105     "bwater" :
25106     {
25107         "description": "Body water.",
25108         "minimum": 0,
25109         "readOnly": true,
25110         "type": "number"
25111     },
25112     "if" :
25113     {
25114         "description": "The interface set supported by this resource",
25115         "items": {
25116             "enum": [
25117                 "oic.if.baseline",
25118                 "oic.if.ll",
25119                 "oic.if.b",
25120                 "oic.if.lb",
25121                 "oic.if.rw",
25122                 "oic.if.r",
25123                 "oic.if.a",
25124                 "oic.if.s"
25125             ],
25126             "type": "string"
25127         },
25128         "minItems": 1,
25129         "readOnly": true,
25130         "type": "array"
25131     }
25132 },
25133 "type" : "object"
25134 , "required": ["bwater"]
25135 }
25136 }
25137 }
25138

```

25139 6.99.5 Property definition

25140 Table 201 defines the Properties that are part of the ['oic.r.body.water'] Resource Type

25141 **Table 201 – The Property definitions of the Resource with type 'rt' = ['oic.r.body.water']**

Property name	Value type	Mandatory	Access mode	Description
n	string	No	Read Only	Friendly name of the resource
bwater	number	Yes	Read Only	Body water.
rt	array: schema	see	Read Only	Resource Type

precision	number	No	Read Only	Accuracy granularity of the exposed value
step	multiple types: see schema	No	Read Only	Step value across the defined range
units	string	No	Read Only	Body water unit
if	array: see schema	No	Read Only	The interface set supported by this resource
range	array: see schema	No	Read Only	The valid range for the value Property
id	string	No	Read Only	Instance ID of this specific resource

25142 **6.99.6 CRUDN behaviour**

25143 Table 202 defines the CRUDN operations that are supported on the ['oic.r.body.water'] Resource
25144 Type

25145 **Table 202 – The CRUDN operations of the Resource with type 'rt' = ['oic.r.body.water']**

Create	Read	Update	Delete	Notify
	get			observe

25146 **6.100 Glucose**

25147 **6.100.1 Introduction**

25148 This resource describes the properties associated with a person's Glucose level.
25149 The unit is a single value that is one of mg/dL, mmol/L.
25150 If the unit Property is missing the default is milligrams per decilitre [mg/dL].
25151 The glucose and unit Properties are read-only values that are provided by the server.
25152 When range (from oic.r.baseresource) is omitted the default is 0 to +MAXFLOAT.
25153 Retrieves glucose level of a person.
25154

25155 **6.100.2 Example URI**

25156 /GlucoseResURI

25157 **6.100.3 Resource type**

25158 The resource type (rt) is defined as: ['oic.r.glucose'].

25159 **6.100.4 OpenAPI 2.0 definition**

```
25160 {
25161   "swagger": "2.0",
25162   "info": {
25163     "title": "Glucose",
25164     "version": "v1.1.0-20160519",
25165     "license": {
25166       "name": "copyright 2016-2017 Open Connectivity Foundation, Inc. All rights reserved.",
25167       "x-description": "Redistribution and use in source and binary forms, with or without
25168 modification, are permitted provided that the following conditions are met:\n      1.
25169 Redistributions of source code must retain the above copyright notice, this list of conditions and
25170 the following disclaimer.\n      2. Redistributions in binary form must reproduce the above
25171 copyright notice, this list of conditions and the following disclaimer in the documentation and/or
25172 other materials provided with the distribution.\n\n      THIS SOFTWARE IS PROVIDED BY THE Open
25173 Connectivity Foundation, INC. \\\AS IS\\" AND ANY EXPRESS OR IMPLIED WARRANTIES, INCLUDING, BUT NOT
25174 LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE OR
25175 WARRANTIES OF NON-INFRINGEMENT, ARE DISCLAIMED.\n      IN NO EVENT SHALL THE Open Connectivity
25176 Foundation, INC. OR CONTRIBUTORS BE LIABLE FOR ANY DIRECT, INDIRECT, INCIDENTAL, SPECIAL, EXEMPLARY,
25177 OR CONSEQUENTIAL DAMAGES (INCLUDING, BUT NOT LIMITED TO, PROCUREMENT OF SUBSTITUTE GOODS OR
```

```

25178 SERVICES; LOSS OF USE, DATA, OR PROFITS; OR BUSINESS INTERRUPTION)\n          HOWEVER CAUSED AND ON
25179 ANY THEORY OF LIABILITY, WHETHER IN CONTRACT, STRICT LIABILITY, OR TORT (INCLUDING NEGLIGENCE OR
25180 OTHERWISE) ARISING IN ANY WAY OUT OF THE USE OF THIS SOFTWARE, EVEN IF ADVISED OF THE POSSIBILITY OF
25181 SUCH DAMAGE.\n"
25182 }
25183 },
25184 "schemes": ["http"],
25185 "consumes": ["application/json"],
25186 "produces": ["application/json"],
25187 "paths": {
25188   "/GlucoseResURI" : {
25189     "get": {
25190       "description": "This resource describes the properties associated with a person's Glucose
25191 level.\nThe unit is a single value that is one of mg/dL, mmol/L.\nIf the unit Property is missing
25192 the default is milligrams per decilitre [mg/dL].\nThe glucose and unit Properties are read-only
25193 values that are provided by the server.\nWhen range (from oic.r.baseresource) is omitted the default
25194 is 0 to +MAXFLOAT.\nRetrieves glucose level of a person.\n",
25195       "parameters": [
25196         {"$ref": "#/parameters/interface"}
25197       ],
25198       "responses": {
25199         "200": {
25200           "description": "",
25201           "x-example":
25202             {
25203               "rt": ["oic.r.glucose"],
25204               "id": "unique_example_id",
25205               "glucose": 90,
25206               "units": "mg/dL"
25207             }
25208           ,
25209           "schema": { "$ref": "#/definitions/Glucose" }
25210         }
25211       }
25212     }
25213   }
25214 },
25215 "parameters": {
25216   "interface" : {
25217     "in" : "query",
25218     "name" : "if",
25219     "type" : "string",
25220     "enum" : ["oic.if.s", "oic.if.baseline"]
25221   }
25222 },
25223 "definitions": {
25224   "Glucose" : {
25225     "properties": {
25226       "rt" :
25227         {
25228           "description": "Resource Type",
25229           "items": {
25230             "maxLength": 64,
25231             "type": "string"
25232           },
25233           "minItems": 1,
25234           "readOnly": true,
25235           "type": "array"
25236         },
25237       "precision" :
25238         {
25239           "description": "Accuracy granularity of the exposed value",
25240           "readOnly": true,
25241           "type": "number"
25242         },
25243       "value" :
25244         {
25245           "anyOf": [
25246             {
25247               "type": "array"

```

```

25250     },
25251     {
25252         "type": "string"
25253     },
25254     {
25255         "type": "boolean"
25256     },
25257     {
25258         "type": "integer"
25259     },
25260     {
25261         "type": "number"
25262     },
25263     {
25264         "type": "object"
25265     }
25266 ],
25267 "description": "The value sensed or actuated by this Resource"
25268 },
25269
25270 "n" :
25271     {
25272         "description": "Friendly name of the resource",
25273         "maxLength": 64,
25274         "readOnly": true,
25275         "type": "string"
25276     },
25277
25278 "units" :
25279     {
25280         "description": "Glucose unit",
25281         "enum": [
25282             "mg/dL",
25283             "mmol/L"
25284         ],
25285         "readOnly": true,
25286         "type": "string"
25287     },
25288
25289 "range" :
25290     {
25291         "description": "The valid range for the value Property",
25292         "items": {
25293             "anyOf": [
25294                 {
25295                     "type": "number"
25296                 },
25297                 {
25298                     "type": "integer"
25299                 }
25300             ]
25301         },
25302         "maxItems": 2,
25303         "minItems": 2,
25304         "readOnly": true,
25305         "type": "array"
25306     },
25307
25308 "step" :
25309     {
25310         "anyOf": [
25311             {
25312                 "type": "integer"
25313             },
25314             {
25315                 "type": "number"
25316             }
25317         ],
25318         "description": "Step value across the defined range",
25319         "readOnly": true
25320     },
25321

```

```

25322     "glucose" :
25323         {
25324             "description": "A measurement of glucose concentration in the blood",
25325             "minimum": 0,
25326             "readOnly": true,
25327             "type": "number"
25328         },
25329
25330     "id" :
25331         {
25332             "description": "Instance ID of this specific resource",
25333             "maxLength": 64,
25334             "readOnly": true,
25335             "type": "string"
25336         },
25337
25338     "if" :
25339         {
25340             "description": "The interface set supported by this resource",
25341             "items": {
25342                 "enum": [
25343                     "oic.if.baseline",
25344                     "oic.if.ll",
25345                     "oic.if.b",
25346                     "oic.if.lb",
25347                     "oic.if.rw",
25348                     "oic.if.r",
25349                     "oic.if.a",
25350                     "oic.if.s"
25351                 ],
25352                 "type": "string"
25353             },
25354             "minItems": 1,
25355             "readOnly": true,
25356             "type": "array"
25357         }
25358     },
25359     "type" : "object"
25360 },
25361 "required": ["glucose"]
25362 }
25363 }
25364 }
25365

```

6.100.5 Property definition

Table 203 defines the Properties that are part of the ['oic.r.glucose'] Resource Type

Table 203 – The Property definitions of the Resource with type 'rt' = ['oic.r.glucose']

Property name	Value type	Mandatory	Access mode	Description
range	array: see schema	No	Read Only	The valid range for the value Property
n	string	No	Read Only	Friendly name of the resource
value	multiple types: see schema	No	Read Write	The value sensed or actuated by this Resource
id	string	No	Read Only	Instance ID of this specific resource
rt	array: see schema	No	Read Only	Resource Type
units	string	No	Read Only	Glucose unit

precision	number	No	Read Only	Accuracy granularity of the exposed value
glucose	number	Yes	Read Only	A measurement of glucose concentration in the blood
step	multiple types: see schema	No	Read Only	Step value across the defined range
if	array: see schema	No	Read Only	The interface set supported by this resource

25369 **6.100.6 CRUDN behaviour**

25370 Table 204 defines the CRUDN operations that are supported on the ['oic.r.glucose'] Resource Type

25371 **Table 204 – The CRUDN operations of the Resource with type 'rt' = ['oic.r.glucose']**

Create	Read	Update	Delete	Notify
	get			observe

25372 **6.101 Context Carbohydrates for Glucose Meter**

25373 **6.101.1 Introduction**

25374 This resource describes the properties associated with a context carbohydrates.

25375 The carb property has a default unit of grams[g].

25376 The carb and meal properties are read-only values that are provided by the server.

25377 When range (from oic.r.baseresource) is omitted the default is 0 to +MAXFLOAT.

25378 Retrieves Context Carbohydrates for Glucose Meter.

25379

25380 **6.101.2 Example URI**

25381 /GlucoseCarbResURI

25382 **6.101.3 Resource type**

25383 The resource type (rt) is defined as: ['oic.r.glucose.carb'].

25384 **6.101.4 OpenAPI 2.0 definition**

```

25385 {
25386   "swagger": "2.0",
25387   "info": {
25388     "title": "Context Carbohydrates for Glucose Meter",
25389     "version": "v1.1.0-20160519",
25390     "license": {
25391       "name": "copyright 2016-2017 Open Connectivity Foundation, Inc. All rights reserved.",
25392       "x-description": "Redistribution and use in source and binary forms, with or without
25393 modification, are permitted provided that the following conditions are met:\n      1.
25394 Redistributions of source code must retain the above copyright notice, this list of conditions and
25395 the following disclaimer.\n      2. Redistributions in binary form must reproduce the above
25396 copyright notice, this list of conditions and the following disclaimer in the documentation and/or
25397 other materials provided with the distribution.\n\n      THIS SOFTWARE IS PROVIDED BY THE Open
25398 Connectivity Foundation, INC. \AS IS\ AND ANY EXPRESS OR IMPLIED WARRANTIES, INCLUDING, BUT NOT
25399 LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE OR
25400 WARRANTIES OF NON-INFRINGEMENT, ARE DISCLAIMED.\n      IN NO EVENT SHALL THE Open Connectivity
25401 Foundation, INC. OR CONTRIBUTORS BE LIABLE FOR ANY DIRECT, INDIRECT, INCIDENTAL, SPECIAL, EXEMPLARY,
25402 OR CONSEQUENTIAL DAMAGES (INCLUDING, BUT NOT LIMITED TO, PROCUREMENT OF SUBSTITUTE GOODS OR
25403 SERVICES; LOSS OF USE, DATA, OR PROFITS; OR BUSINESS INTERRUPTION)\n      HOWEVER CAUSED AND ON
25404 ANY THEORY OF LIABILITY, WHETHER IN CONTRACT, STRICT LIABILITY, OR TORT (INCLUDING NEGLIGENCE OR
25405 OTHERWISE) ARISING IN ANY WAY OUT OF THE USE OF THIS SOFTWARE, EVEN IF ADVISED OF THE POSSIBILITY OF
25406 SUCH DAMAGE.\n"
25407     }
25408   },
25409   "schemes": ["http"],

```

```

25410     "consumes": ["application/json"],
25411     "produces": ["application/json"],
25412     "paths": {
25413         "/GlucoseCarbResURI" : {
25414             "get": {
25415                 "description": "This resource describes the properties associated with a context
25416 carbohydrates.\nThe carb property has a default unit of grams[g].\nThe carb and meal properties are
25417 read-only values that are provided by the server.\nWhen range (from oic.r.baseresource) is omitted
25418 the default is 0 to +MAXFLOAT.\nRetrieves Context Carbohydrates for Glucose Meter.\n",
25419                 "parameters": [
25420                     {"$ref": "#/parameters/interface"}
25421                 ],
25422                 "responses": {
25423                     "200": {
25424                         "description": "",
25425                         "x-example":
25426                         {
25427                             "rt": ["oic.r.glucose.carb"],
25428                             "id": "unique_example_id",
25429                             "carb": 100,
25430                             "meal": "breakfast"
25431                         }
25432                     },
25433                     "schema": { "$ref": "#/definitions/GlucoseCarb" }
25434                 }
25435             }
25436         }
25437     },
25438 },
25439 "parameters": {
25440     "interface" : {
25441         "in" : "query",
25442         "name" : "if",
25443         "type" : "string",
25444         "enum" : ["oic.if.s", "oic.if.baseline"]
25445     }
25446 },
25447 "definitions": {
25448     "GlucoseCarb" : {
25449         "properties": {
25450             "rt" :
25451             {
25452                 "description": "Resource Type",
25453                 "items": {
25454                     "maxLength": 64,
25455                     "type": "string"
25456                 },
25457                 "minItems": 1,
25458                 "readOnly": true,
25459                 "type": "array"
25460             },
25461             "step" :
25462             {
25463                 "anyOf": [
25464                     {
25465                         "type": "integer"
25466                     },
25467                     {
25468                         "type": "number"
25469                     }
25470                 ],
25471                 "description": "Step value across the defined range",
25472                 "readOnly": true
25473             },
25474             "id" :
25475             {
25476                 "description": "Instance ID of this specific resource",
25477                 "maxLength": 64,
25478                 "readOnly": true,
25479                 "type": "string"
25480             },
25481             "precision" :

```



```

25482         {
25483         "description": "Accuracy granularity of the exposed value",
25484         "readOnly": true,
25485         "type": "number"
25486     },
25487     "n" :
25488     {
25489         "description": "Friendly name of the resource",
25490         "maxLength": 64,
25491         "readOnly": true,
25492         "type": "string"
25493     },
25494     "range" :
25495     {
25496         "description": "The valid range for the value Property",
25497         "items": {
25498             "anyOf": [
25499                 {
25500                     "type": "number"
25501                 },
25502                 {
25503                     "type": "integer"
25504                 }
25505             ]
25506         },
25507         "maxItems": 2,
25508         "minItems": 2,
25509         "readOnly": true,
25510         "type": "array"
25511     },
25512     "carb" :
25513     {
25514         "description": "The amount of carbohydrates undertaken in grams",
25515         "readOnly": true,
25516         "type": "number"
25517     },
25518     "meal" :
25519     {
25520         "description": "Recorded time of carbohydrates intake",
25521         "enum": [
25522             "breakfast",
25523             "lunch",
25524             "dinner",
25525             "snack",
25526             "drink",
25527             "supper",
25528             "brunch",
25529             "undetermined",
25530             "other",
25531             "no_entry",
25532             "no_ingestion"
25533         ],
25534         "readOnly": true,
25535         "type": "string"
25536     },
25537     "if" :
25538     {
25539         "description": "The interface set supported by this resource",
25540         "items": {
25541             "enum": [
25542                 "oic.if.baseline",
25543                 "oic.if.ll",
25544                 "oic.if.b",
25545                 "oic.if.lb",
25546                 "oic.if.rw",
25547                 "oic.if.r",
25548                 "oic.if.a",
25549                 "oic.if.s"
25550             ],
25551             "type": "string"
25552         },
25553         "minItems": 1,

```

```

25554         "readOnly": true,
25555         "type": "array"
25556     }
25557 }
25558     , "type" : "object"
25559     , "required": ["carb", "meal"]
25560 }
25561 }
25562 }
25563

```

25564 6.101.5 Property definition

25565 Table 205 defines the Properties that are part of the ['oic.r.glucose.carb'] Resource Type

25566 **Table 205 – The Property definitions of the Resource with type 'rt' = ['oic.r.glucose.carb']**

Property name	Value type	Mandatory	Access mode	Description
meal	string	Yes	Read Only	Recorded time of carbohydrates intake
id	string	No	Read Only	Instance ID of this specific resource
if	array: see schema	No	Read Only	The interface set supported by this resource
carb	number	Yes	Read Only	The amount of carbohydrates undertaken in grams
n	string	No	Read Only	Friendly name of the resource
rt	array: see schema	No	Read Only	Resource Type
precision	number	No	Read Only	Accuracy granularity of the exposed value
range	array: see schema	No	Read Only	The valid range for the value Property
step	multiple types: see schema	No	Read Only	Step value across the defined range

25567 6.101.6 CRUDN behaviour

25568 Table 206 defines the CRUDN operations that are supported on the ['oic.r.glucose.carb'] Resource
 25569 Type

25570 **Table 206 – The CRUDN operations of the Resource with type 'rt' = ['oic.r.glucose.carb']**

Create	Read	Update	Delete	Notify
	get			observe

25571 6.102 Exercise for Glucose Meter

25572 6.102.1 Introduction

25573 This resource describes the properties associated with glucose exercise.

25574 The exercise property has a default unit of percentage[%].

25575 The exercise property is a read-only value that is provided by the server.

25576 Retrieves the level of exercise undertaken in percentage.

25577

25578 **6.102.2 Example URI**

25579 /ExerciseResURI

25580 **6.102.3 Resource type**

25581 The resource type (rt) is defined as: ['oic.r.glucose.exercise'].

25582 **6.102.4 OpenAPI 2.0 definition**

```
25583 {
25584   "swagger": "2.0",
25585   "info": {
25586     "title": "Exercise for Glucose Meter",
25587     "version": "v1.1.0-20160519",
25588     "license": {
25589       "name": "copyright 2016-2017 Open Connectivity Foundation, Inc. All rights reserved.",
25590       "x-description": "Redistribution and use in source and binary forms, with or without
25591 modification, are permitted provided that the following conditions are met:\n      1.
25592 Redistributions of source code must retain the above copyright notice, this list of conditions and
25593 the following disclaimer.\n      2. Redistributions in binary form must reproduce the above
25594 copyright notice, this list of conditions and the following disclaimer in the documentation and/or
25595 other materials provided with the distribution.\n\n      THIS SOFTWARE IS PROVIDED BY THE Open
25596 Connectivity Foundation, INC. \AS IS\ AND ANY EXPRESS OR IMPLIED WARRANTIES, INCLUDING, BUT NOT
25597 LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE OR
25598 WARRANTIES OF NON-INFRINGEMENT, ARE DISCLAIMED.\n      IN NO EVENT SHALL THE Open Connectivity
25599 Foundation, INC. OR CONTRIBUTORS BE LIABLE FOR ANY DIRECT, INDIRECT, INCIDENTAL, SPECIAL, EXEMPLARY,
25600 OR CONSEQUENTIAL DAMAGES (INCLUDING, BUT NOT LIMITED TO, PROCUREMENT OF SUBSTITUTE GOODS OR
25601 SERVICES; LOSS OF USE, DATA, OR PROFITS; OR BUSINESS INTERRUPTION)\n      HOWEVER CAUSED AND ON
25602 ANY THEORY OF LIABILITY, WHETHER IN CONTRACT, STRICT LIABILITY, OR TORT (INCLUDING NEGLIGENCE OR
25603 OTHERWISE) ARISING IN ANY WAY OUT OF THE USE OF THIS SOFTWARE, EVEN IF ADVISED OF THE POSSIBILITY OF
25604 SUCH DAMAGE.\n"
25605     }
25606   },
25607   "schemes": ["http"],
25608   "consumes": ["application/json"],
25609   "produces": ["application/json"],
25610   "paths": {
25611     "/ExerciseResURI" : {
25612       "get": {
25613         "description": "This resource describes the properties associated with glucose
25614 exercise.\nThe exercise property has a default unit of percentage[%].\nThe exercise property is a
25615 read-only value that is provided by the server.\nRetrieves the level of exercise undertaken in
25616 percentage.\n",
25617         "parameters": [
25618           { "$ref": "#/parameters/interface" }
25619         ],
25620         "responses": {
25621           "200": {
25622             "description": "",
25623             "x-example":
25624               {
25625                 "rt": ["oic.r.glucose.exercise"],
25626                 "id": "unique_example_id",
25627                 "exercise": 30
25628               }
25629             ,
25630             "schema": { "$ref": "#/definitions/Exercise" }
25631           }
25632         }
25633       }
25634     }
25635   },
25636   "parameters": {
25637     "interface" : {
25638       "in" : "query",
25639       "name" : "if",
25640       "type" : "string",
25641       "enum" : ["oic.if.s", "oic.if.baseline"]
25642     }
25643   },
25644   "definitions": {
25645     "Exercise" : {
```

```

25646 "properties": {
25647   "rt" :
25648     {
25649       "description": "Resource Type",
25650       "items": {
25651         "maxLength": 64,
25652         "type": "string"
25653       },
25654       "minItems": 1,
25655       "readOnly": true,
25656       "type": "array"
25657     },
25658   "precision" :
25659     {
25660       "description": "Accuracy granularity of the exposed value",
25661       "readOnly": true,
25662       "type": "number"
25663     },
25664   "n" :
25665     {
25666       "description": "Friendly name of the resource",
25667       "maxLength": 64,
25668       "readOnly": true,
25669       "type": "string"
25670     },
25671   "range" :
25672     {
25673       "description": "The valid range for the value Property",
25674       "items": {
25675         "anyOf": [
25676           {
25677             "type": "number"
25678           },
25679           {
25680             "type": "integer"
25681           }
25682         ]
25683       },
25684       "maxItems": 2,
25685       "minItems": 2,
25686       "readOnly": true,
25687       "type": "array"
25688     },
25689   "step" :
25690     {
25691       "anyOf": [
25692         {
25693           "type": "integer"
25694         },
25695         {
25696           "type": "number"
25697         }
25698       ],
25699       "description": "Step value across the defined range",
25700       "readOnly": true
25701     },
25702   "id" :
25703     {
25704       "description": "Instance ID of this specific resource",
25705       "maxLength": 64,
25706       "readOnly": true,
25707       "type": "string"
25708     },
25709   "exercise" :
25710     {
25711       "description": "The level of exercise undertaken in percentage",
25712       "maximum": 100,
25713       "minimum": 0,
25714       "readOnly": true,
25715       "type": "number"
25716     },
25717   "if" :

```

```

25718     {
25719     "description": "The interface set supported by this resource",
25720     "items": {
25721     "enum": [
25722     "oic.if.baseline",
25723     "oic.if.ll",
25724     "oic.if.b",
25725     "oic.if.lb",
25726     "oic.if.rw",
25727     "oic.if.r",
25728     "oic.if.a",
25729     "oic.if.s"
25730     ],
25731     "type": "string"
25732     },
25733     "minItems": 1,
25734     "readOnly": true,
25735     "type": "array"
25736     }
25737     },
25738     "type" : "object"
25739     , "required": ["exercise"]
25740     }
25741     }
25742     }
25743

```

25744 **6.102.5 Property definition**

25745 Table 207 defines the Properties that are part of the ['oic.r.glucose.exercise'] Resource Type

25746 **Table 207 – The Property definitions of the Resource with type 'rt' =**
25747 **['oic.r.glucose.exercise']**

Property name	Value type	Mandatory	Access mode	Description
step	multiple types: see schema	No	Read Only	Step value across the defined range
rt	array: see schema	No	Read Only	Resource Type
precision	number	No	Read Only	Accuracy granularity of the exposed value
n	string	No	Read Only	Friendly name of the resource
id	string	No	Read Only	Instance ID of this specific resource
exercise	number	Yes	Read Only	The level of exercise undertaken in percentage
range	array: see schema	No	Read Only	The valid range for the value Property
if	array: see schema	No	Read Only	The interface set supported by this resource

25748 **6.102.6 CRUDN behaviour**

25749 Table 208 defines the CRUDN operations that are supported on the ['oic.r.glucose.exercise']
25750 Resource Type

25751
25752

**Table 208 – The CRUDN operations of the Resource with type 'rt' =
['oic.r.glucose.exercise']**

Create	Read	Update	Delete	Notify
	get			observe

25753 **6.103 Hemoglobin Bound to Glucose A1c Form (HbA1c) for Glucose Meter**

25754 **6.103.1 Introduction**

25755 This resource describes the properties associated with a person's Hba1c level.
25756 The unit is a single value that is percentage [%].
25757 The hba1c Property is a read-only value that is provided by the server.
25758 Retrieves Hemoglobin Bound to Glucose A1c Form (HbA1c) for Glucose Meter.
25759

25760 **6.103.2 Example URI**

25761 /GlucoseHbA1cResURI

25762 **6.103.3 Resource type**

25763 The resource type (rt) is defined as: ['oic.r.glucose.hba1c'].

25764 **6.103.4 OpenAPI 2.0 definition**

```
25765 {  
25766   "swagger": "2.0",  
25767   "info": {  
25768     "title": "Hemoglobin Bound to Glucose Alc Form (HbAlc) for Glucose Meter",  
25769     "version": "v1.1.0-20160519",  
25770     "license": {  
25771       "name": "copyright 2016-2017 Open Connectivity Foundation, Inc. All rights reserved.",  
25772       "x-description": "Redistribution and use in source and binary forms, with or without  
25773 modification, are permitted provided that the following conditions are met:\n      1.  
25774 Redistributions of source code must retain the above copyright notice, this list of conditions and  
25775 the following disclaimer.\n      2. Redistributions in binary form must reproduce the above  
25776 copyright notice, this list of conditions and the following disclaimer in the documentation and/or  
25777 other materials provided with the distribution.\n      THIS SOFTWARE IS PROVIDED BY THE Open  
25778 Connectivity Foundation, INC. \\\n      AS IS\\n AND ANY EXPRESS OR IMPLIED WARRANTIES, INCLUDING, BUT NOT  
25779 LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE OR  
25780 WARRANTIES OF NON-INFRINGEMENT, ARE DISCLAIMED.\n      IN NO EVENT SHALL THE Open Connectivity  
25781 Foundation, INC. OR CONTRIBUTORS BE LIABLE FOR ANY DIRECT, INDIRECT, INCIDENTAL, SPECIAL, EXEMPLARY,  
25782 OR CONSEQUENTIAL DAMAGES (INCLUDING, BUT NOT LIMITED TO, PROCUREMENT OF SUBSTITUTE GOODS OR  
25783 SERVICES; LOSS OF USE, DATA, OR PROFITS; OR BUSINESS INTERRUPTION)\n      HOWEVER CAUSED AND ON  
25784 ANY THEORY OF LIABILITY, WHETHER IN CONTRACT, STRICT LIABILITY, OR TORT (INCLUDING NEGLIGENCE OR  
25785 OTHERWISE) ARISING IN ANY WAY OUT OF THE USE OF THIS SOFTWARE, EVEN IF ADVISED OF THE POSSIBILITY OF  
25786 SUCH DAMAGE.\n    }  
25787   },  
25788   "schemes": ["http"],  
25789   "consumes": ["application/json"],  
25790   "produces": ["application/json"],  
25791   "paths": {  
25792     "/GlucoseHbAlcResURI" : {  
25793       "get": {  
25794         "description": "This resource describes the properties associated with a person's Hbalc  
25795 level.\n        The unit is a single value that is percentage [%].\n        The hbalc Property is a read-only value  
25796 that is provided by the server.\n        Retrieves Hemoglobin Bound to Glucose Alc Form (HbAlc) for Glucose  
25797 Meter.\n      ",  
25798       "parameters": [  
25799         {  
25800           "$ref": "#/parameters/interface"  
25801         }  
25802       ],  
25803       "responses": {  
25804         "200": {  
25805           "description": "",  
25806           "x-example":  
25807             {  
25808               "rt": ["oic.r.glucose.hbalc"],  
25809               "id": "unique_example_id",  
25810               "hbalc": 5  
25811             }  
25812         }  
25813       }  
25814     }  
25815   }  
25816 }
```

```

25811         ,
25812         "schema": { "$ref": "#/definitions/HbA1c" }
25813     }
25814 }
25815 }
25816 }
25817 },
25818 "parameters": {
25819     "interface" : {
25820         "in" : "query",
25821         "name" : "if",
25822         "type" : "string",
25823         "enum" : ["oic.if.s", "oic.if.baseline"]
25824     }
25825 },
25826 "definitions": {
25827     "HbA1c" : {
25828         "properties": {
25829             "rt" :
25830                 {
25831                     "description": "Resource Type",
25832                     "items": {
25833                         "maxLength": 64,
25834                         "type": "string"
25835                     },
25836                     "minItems": 1,
25837                     "readOnly": true,
25838                     "type": "array"
25839                 },
25840             "hbalc" :
25841                 {
25842                     "description": "Current HbA1c measurement in percentage",
25843                     "maximum": 100,
25844                     "minimum": 0,
25845                     "readOnly": true,
25846                     "type": "number"
25847                 },
25848             "value" :
25849                 {
25850                     "anyOf": [
25851                         {
25852                             "type": "array"
25853                         },
25854                         {
25855                             "type": "string"
25856                         },
25857                         {
25858                             "type": "boolean"
25859                         },
25860                         {
25861                             "type": "integer"
25862                         },
25863                         {
25864                             "type": "number"
25865                         },
25866                         {
25867                             "type": "object"
25868                         }
25869                     ],
25870                     "description": "The value sensed or actuated by this Resource"
25871                 },
25872             "n" :
25873                 {
25874                     "description": "Friendly name of the resource",
25875                     "maxLength": 64,
25876                     "readOnly": true,
25877                     "type": "string"
25878                 },
25879             "type": "string"
25880         },
25881     },
25882 }

```

```

25883     "range" :
25884         {
25885             "description": "The valid range for the value Property",
25886             "items": {
25887                 "anyOf": [
25888                     {
25889                         "type": "number"
25890                     },
25891                     {
25892                         "type": "integer"
25893                     }
25894                 ]
25895             },
25896             "maxItems": 2,
25897             "minItems": 2,
25898             "readOnly": true,
25899             "type": "array"
25900         },
25901     "precision" :
25902         {
25903             "description": "Accuracy granularity of the exposed value",
25904             "readOnly": true,
25905             "type": "number"
25906         },
25907     "step" :
25908         {
25909             "anyOf": [
25910                 {
25911                     "type": "integer"
25912                 },
25913                 {
25914                     "type": "number"
25915                 }
25916             ],
25917             "description": "Step value across the defined range",
25918             "readOnly": true
25919         },
25920     "id" :
25921         {
25922             "description": "Instance ID of this specific resource",
25923             "maxLength": 64,
25924             "readOnly": true,
25925             "type": "string"
25926         },
25927     "if" :
25928         {
25929             "description": "The interface set supported by this resource",
25930             "items": {
25931                 "enum": [
25932                     "oic.if.baseline",
25933                     "oic.if.ll",
25934                     "oic.if.b",
25935                     "oic.if.lb",
25936                     "oic.if.rw",
25937                     "oic.if.r",
25938                     "oic.if.a",
25939                     "oic.if.s"
25940                 ],
25941                 "type": "string"
25942             },
25943             "minItems": 1,
25944             "readOnly": true,
25945             "type": "array"
25946         }
25947     },
25948     "type" : "object"
25949 },
25950 "required": ["hbalc"]

```


25955 }
 25956 }
 25957 }
 25958 }

25959 **6.103.5 Property definition**

25960 Table 209 defines the Properties that are part of the ['oic.r.glucose.hba1c'] Resource Type

25961 **Table 209 – The Property definitions of the Resource with type 'rt' = ['oic.r.glucose.hba1c']**

Property name	Value type	Mandatory	Access mode	Description
if	array: see schema	No	Read Only	The interface set supported by this resource
step	multiple types: see schema	No	Read Only	Step value across the defined range
n	string	No	Read Only	Friendly name of the resource
rt	array: see schema	No	Read Only	Resource Type
range	array: see schema	No	Read Only	The valid range for the value Property
id	string	No	Read Only	Instance ID of this specific resource
hba1c	number	Yes	Read Only	Current HbA1c measurement in percentage
precision	number	No	Read Only	Accuracy granularity of the exposed value
value	multiple types: see schema	No	Read Write	The value sensed or actuated by this Resource

25962 **6.103.6 CRUDN behaviour**

25963 Table 210 defines the CRUDN operations that are supported on the ['oic.r.glucose.hba1c']
 25964 Resource Type

25965 **Table 210 – The CRUDN operations of the Resource with type 'rt' = ['oic.r.glucose.hba1c']**

Create	Read	Update	Delete	Notify
	get			observe

25966 **6.104 Context Health for Glucose Meter**

25967 **6.104.1 Introduction**

25968 This resource describes the properties associated with context health.
 25969 The health Property is a read-only value that is provided by the server where
 25970 minor and major are related to the general health or the level of illness of the person;
 25971 menses refers to the female menstrual cycle;
 25972 stress refers to physiological or psychological stress.
 25973 Retrieves Context Health for Glucose Meter.
 25974

25975 **6.104.2 Example URI**

25976 /GlucoseHealthResURI

25977 6.104.3 Resource type

25978 The resource type (rt) is defined as: ['oic.r.glucose.health'].

25979 6.104.4 OpenAPI 2.0 definition

```
25980 {
25981   "swagger": "2.0",
25982   "info": {
25983     "title": "Context Health for Glucose Meter",
25984     "version": "v1.1.0-20160519",
25985     "license": {
25986       "name": "copyright 2016-2017 Open Connectivity Foundation, Inc. All rights reserved.",
25987       "x-description": "Redistribution and use in source and binary forms, with or without
25988 modification, are permitted provided that the following conditions are met:\n      1.
25989 Redistributions of source code must retain the above copyright notice, this list of conditions and
25990 the following disclaimer.\n      2. Redistributions in binary form must reproduce the above
25991 copyright notice, this list of conditions and the following disclaimer in the documentation and/or
25992 other materials provided with the distribution.\n\n      THIS SOFTWARE IS PROVIDED BY THE Open
25993 Connectivity Foundation, INC. \\"AS IS\\" AND ANY EXPRESS OR IMPLIED WARRANTIES, INCLUDING, BUT NOT
25994 LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE OR
25995 WARRANTIES OF NON-INFRINGEMENT, ARE DISCLAIMED.\n      IN NO EVENT SHALL THE Open Connectivity
25996 Foundation, INC. OR CONTRIBUTORS BE LIABLE FOR ANY DIRECT, INDIRECT, INCIDENTAL, SPECIAL, EXEMPLARY,
25997 OR CONSEQUENTIAL DAMAGES (INCLUDING, BUT NOT LIMITED TO, PROCUREMENT OF SUBSTITUTE GOODS OR
25998 SERVICES; LOSS OF USE, DATA, OR PROFITS; OR BUSINESS INTERRUPTION)\n      HOWEVER CAUSED AND ON
25999 ANY THEORY OF LIABILITY, WHETHER IN CONTRACT, STRICT LIABILITY, OR TORT (INCLUDING NEGLIGENCE OR
26000 OTHERWISE) ARISING IN ANY WAY OUT OF THE USE OF THIS SOFTWARE, EVEN IF ADVISED OF THE POSSIBILITY OF
26001 SUCH DAMAGE.\n"
26002     }
26003   },
26004   "schemes": ["http"],
26005   "consumes": ["application/json"],
26006   "produces": ["application/json"],
26007   "paths": {
26008     "/GlucoseHealthResURI" : {
26009       "get": {
26010         "description": "This resource describes the properties associated with context health.\nThe
26011 health Property is a read-only value that is provided by the server where\nminor and major are
26012 related to the general health or the level of illness of the person;\nmenses refers to the female
26013 menstrual cycle;\nstress refers to physiological or psychological stress.\nRetrieves Context Health
26014 for Glucose Meter.\n",
26015         "parameters": [
26016           { "$ref": "#/parameters/interface" }
26017         ],
26018         "responses": {
26019           "200": {
26020             "description": "",
26021             "x-example":
26022             {
26023               "rt": ["oic.r.glucose.health"],
26024               "id": "unique_example_id",
26025               "health": "major"
26026             }
26027           },
26028           "schema": { "$ref": "#/definitions/GlucoseHealth" }
26029         }
26030       }
26031     }
26032   },
26033   "parameters": {
26034     "interface" : {
26035       "in": "query",
26036       "name": "if",
26037       "type": "string",
26038       "enum": ["oic.if.s", "oic.if.baseline"]
26039     }
26040   },
26041   "definitions": {
26042     "GlucoseHealth" : {
26043       "properties": {
26044         "rt" :
26045         {
26046
```

```

26047         "description": "Resource Type",
26048         "items": {
26049             "maxLength": 64,
26050             "type": "string"
26051         },
26052         "minItems": 1,
26053         "readOnly": true,
26054         "type": "array"
26055     },
26056
26057     "precision" :
26058     {
26059         "description": "Accuracy granularity of the exposed value",
26060         "readOnly": true,
26061         "type": "number"
26062     },
26063
26064     "value" :
26065     {
26066         "anyOf": [
26067             {
26068                 "type": "array"
26069             },
26070             {
26071                 "type": "string"
26072             },
26073             {
26074                 "type": "boolean"
26075             },
26076             {
26077                 "type": "integer"
26078             },
26079             {
26080                 "type": "number"
26081             },
26082             {
26083                 "type": "object"
26084             }
26085         ],
26086         "description": "The value sensed or actuated by this Resource"
26087     },
26088
26089     "n" :
26090     {
26091         "description": "Friendly name of the resource",
26092         "maxLength": 64,
26093         "readOnly": true,
26094         "type": "string"
26095     },
26096
26097     "range" :
26098     {
26099         "description": "The valid range for the value Property",
26100         "items": {
26101             "anyOf": [
26102                 {
26103                     "type": "number"
26104                 },
26105                 {
26106                     "type": "integer"
26107                 }
26108             ]
26109         },
26110         "maxItems": 2,
26111         "minItems": 2,
26112         "readOnly": true,
26113         "type": "array"
26114     },
26115
26116     "health" :
26117     {
26118         "description": "The various levels of health a person feels when taking a glucose.",

```

```

26119         "enum": [
26120             "minor",
26121             "major",
26122             "menses",
26123             "stress",
26124             "none"
26125         ],
26126         "readOnly": true,
26127         "type": "string"
26128     },
26129     "step" :
26130     {
26131         "anyOf": [
26132             {
26133                 "type": "integer"
26134             },
26135             {
26136                 "type": "number"
26137             }
26138         ],
26139         "description": "Step value across the defined range",
26140         "readOnly": true
26141     },
26142 },
26143 "id" :
26144 {
26145     "description": "Instance ID of this specific resource",
26146     "maxLength": 64,
26147     "readOnly": true,
26148     "type": "string"
26149 },
26150 "if" :
26151 {
26152     "description": "The interface set supported by this resource",
26153     "items": {
26154         "enum": [
26155             "oic.if.baseline",
26156             "oic.if.ll",
26157             "oic.if.b",
26158             "oic.if.lb",
26159             "oic.if.rw",
26160             "oic.if.r",
26161             "oic.if.a",
26162             "oic.if.s"
26163         ],
26164         "type": "string"
26165     },
26166     "minItems": 1,
26167     "readOnly": true,
26168     "type": "array"
26169 }
26170 },
26171 },
26172 },
26173 },
26174 , "type" : "object"
26175 , "required": ["health"]
26176 }
26177 }
26178 }
26179

```

26180 6.104.5 Property definition

26181 Table 211 defines the Properties that are part of the ['oic.r.glucose.health'] Resource Type

26182 **Table 211 – The Property definitions of the Resource with type 'rt' = ['oic.r.glucose.health']**

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

id	string	No	Read Only	Instance ID of this specific resource
step	multiple types: see schema	No	Read Only	Step value across the defined range
precision	number	No	Read Only	Accuracy granularity of the exposed value
value	multiple types: see schema	No	Read Write	The value sensed or actuated by this Resource
rt	array: see schema	No	Read Only	Resource Type
if	array: see schema	No	Read Only	The interface set supported by this resource
health	string	Yes	Read Only	The various levels of health a person feels when taking a glucose.
range	array: see schema	No	Read Only	The valid range for the value Property
n	string	No	Read Only	Friendly name of the resource

26183 **6.104.6 CRUDN behaviour**

26184 Table 212 defines the CRUDN operations that are supported on the ['oic.r.glucose.health']
 26185 Resource Type

26186 **Table 212 – The CRUDN operations of the Resource with type 'rt' = ['oic.r.glucose.health']**

Create	Read	Update	Delete	Notify
	get			observe

26187 **6.105 Context Meal for Glucose Meter**

26188 **6.105.1 Introduction**

26189 This resource describes the properties associated with context meal.

26190 Preprandial means pre-meal.

26191 Postprandial means post-meal.

26192 Fasting means the effect of long-term absence of food intake (overnight).

26193 The meal Property is a read-only value that is provided by the server.

26194 Retrieves Context Meal for Glucose Meter.

26195

26196 **6.105.2 Example URI**

26197 /GlucoseMealResURI

26198 **6.105.3 Resource type**

26199 The resource type (rt) is defined as: ['oic.r.glucose.meal'].

26200 **6.105.4 OpenAPI 2.0 definition**

26201 {
 26202 "swagger": "2.0",
 26203 "info": {

```

26204     "title": "Context Meal for Glucose Meter",
26205     "version": "v1.1.0-20160519",
26206     "license": {
26207         "name": "copyright 2016-2017 Open Connectivity Foundation, Inc. All rights reserved.",
26208         "x-description": "Redistribution and use in source and binary forms, with or without
26209 modification, are permitted provided that the following conditions are met:\n      1.
26210 Redistributions of source code must retain the above copyright notice, this list of conditions and
26211 the following disclaimer.\n      2. Redistributions in binary form must reproduce the above
26212 copyright notice, this list of conditions and the following disclaimer in the documentation and/or
26213 other materials provided with the distribution.\n\n      THIS SOFTWARE IS PROVIDED BY THE Open
26214 Connectivity Foundation, INC. \"AS IS\" AND ANY EXPRESS OR IMPLIED WARRANTIES, INCLUDING, BUT NOT
26215 LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE OR
26216 WARRANTIES OF NON-INFRINGEMENT, ARE DISCLAIMED.\n      IN NO EVENT SHALL THE Open Connectivity
26217 Foundation, INC. OR CONTRIBUTORS BE LIABLE FOR ANY DIRECT, INDIRECT, INCIDENTAL, SPECIAL, EXEMPLARY,
26218 OR CONSEQUENTIAL DAMAGES (INCLUDING, BUT NOT LIMITED TO, PROCUREMENT OF SUBSTITUTE GOODS OR
26219 SERVICES; LOSS OF USE, DATA, OR PROFITS; OR BUSINESS INTERRUPTION)\n      HOWEVER CAUSED AND ON
26220 ANY THEORY OF LIABILITY, WHETHER IN CONTRACT, STRICT LIABILITY, OR TORT (INCLUDING NEGLIGENCE OR
26221 OTHERWISE) ARISING IN ANY WAY OUT OF THE USE OF THIS SOFTWARE, EVEN IF ADVISED OF THE POSSIBILITY OF
26222 SUCH DAMAGE.\n"
26223     }
26224 },
26225 "schemes": ["http"],
26226 "consumes": ["application/json"],
26227 "produces": ["application/json"],
26228 "paths": {
26229     "/GlucoseMealResURI" : {
26230         "get": {
26231             "description": "This resource describes the properties associated with context
26232 meal.\nPreprandial means pre-meal.\nPostprandial means post-meal.\nFasting meanse the effect of
26233 long-term absence of food intake (overnight).\nThe meal Property is a read-only value that is
26234 provided by the server.\nRetrieves Context Meal for Glucose Meter.\n",
26235             "parameters": [
26236                 { "$ref": "#/parameters/interface" }
26237             ],
26238             "responses": {
26239                 "200": {
26240                     "description": "",
26241                     "x-example":
26242                     {
26243                         "rt": ["oic.r.glucose.meal"],
26244                         "id": "unique_example_id",
26245                         "meal": "preprandial"
26246                     }
26247                 },
26248                 "schema": { "$ref": "#/definitions/GlucoseMeal" }
26249             }
26250         }
26251     }
26252 },
26253 },
26254 "parameters": {
26255     "interface" : {
26256         "in" : "query",
26257         "name" : "if",
26258         "type" : "string",
26259         "enum" : ["oic.if.s", "oic.if.baseline"]
26260     }
26261 },
26262 "definitions": {
26263     "GlucoseMeal" : {
26264         "properties": {
26265             "rt" :
26266             {
26267                 "description": "Resource Type",
26268                 "items": {
26269                     "maxLength": 64,
26270                     "type": "string"
26271                 },
26272                 "minItems": 1,
26273                 "readOnly": true,
26274                 "type": "array"
26275             }

```

```

26276
26277     "step" :
26278         {
26279             "anyOf": [
26280                 {
26281                     "type": "integer"
26282                 },
26283                 {
26284                     "type": "number"
26285                 }
26286             ],
26287             "description": "Step value across the defined range",
26288             "readOnly": true
26289         },
26290
26291     "precision" :
26292         {
26293             "description": "Accuracy granularity of the exposed value",
26294             "readOnly": true,
26295             "type": "number"
26296         },
26297
26298     "value" :
26299         {
26300             "anyOf": [
26301                 {
26302                     "type": "array"
26303                 },
26304                 {
26305                     "type": "string"
26306                 },
26307                 {
26308                     "type": "boolean"
26309                 },
26310                 {
26311                     "type": "integer"
26312                 },
26313                 {
26314                     "type": "number"
26315                 },
26316                 {
26317                     "type": "object"
26318                 }
26319             ],
26320             "description": "The value sensed or actuated by this Resource"
26321         },
26322
26323     "n" :
26324         {
26325             "description": "Friendly name of the resource",
26326             "maxLength": 64,
26327             "readOnly": true,
26328             "type": "string"
26329         },
26330
26331     "range" :
26332         {
26333             "description": "The valid range for the value Property",
26334             "items": {
26335                 "anyOf": [
26336                     {
26337                         "type": "number"
26338                     },
26339                     {
26340                         "type": "integer"
26341                     }
26342                 ]
26343             },
26344             "maxItems": 2,
26345             "minItems": 2,
26346             "readOnly": true,
26347             "type": "array"

```

```

26348     },
26349
26350     "id" :
26351     {
26352         "description": "Instance ID of this specific resource",
26353         "maxLength": 64,
26354         "readOnly": true,
26355         "type": "string"
26356     },
26357
26358     "meal" :
26359     {
26360         "description": "Time of day when the measurement is taken.",
26361         "enum": [
26362             "preprandial",
26363             "postprandial",
26364             "fasting",
26365             "bedtime",
26366             "casual"
26367         ],
26368         "readOnly": true,
26369         "type": "string"
26370     },
26371
26372     "if" :
26373     {
26374         "description": "The interface set supported by this resource",
26375         "items": {
26376             "enum": [
26377                 "oic.if.baseline",
26378                 "oic.if.ll",
26379                 "oic.if.b",
26380                 "oic.if.lb",
26381                 "oic.if.rw",
26382                 "oic.if.r",
26383                 "oic.if.a",
26384                 "oic.if.s"
26385             ],
26386             "type": "string"
26387         },
26388         "minItems": 1,
26389         "readOnly": true,
26390         "type": "array"
26391     }
26392 },
26393 },
26394 , "type" : "object"
26395 , "required": ["meal"]
26396 }
26397 }
26398 }
26399

```

26400 6.105.5 Property definition

26401 Table 213 defines the Properties that are part of the ['oic.r.glucose.meal'] Resource Type

26402 **Table 213 – The Property definitions of the Resource with type 'rt' = ['oic.r.glucose.meal']**

Property name	Value type	Mandatory	Access mode	Description
meal	string	Yes	Read Only	Time of day when the measurement is taken.
step	multiple types: see schema	No	Read Only	Step value across the defined range
rt	array: see schema	No	Read Only	Resource Type

range	array: schema	see	No	Read Only	The valid range for the value Property
if	array: schema	see	No	Read Only	The interface set supported by this resource
id	string		No	Read Only	Instance ID of this specific resource
precision	number		No	Read Only	Accuracy granularity of the exposed value
value	multiple types: see schema		No	Read Write	The value sensed or actuated by this Resource
n	string		No	Read Only	Friendly name of the resource

26403 **6.105.6 CRUDN behaviour**

26404 Table 214 defines the CRUDN operations that are supported on the ['oic.r.glucose.meal'] Resource
26405 Type

26406 **Table 214 – The CRUDN operations of the Resource with type 'rt' = ['oic.r.glucose.meal']**

Create	Read	Update	Delete	Notify
	get			observe

26407 **6.106 Context Medication for Glucose Meter**

26408 **6.106.1 Introduction**

26409 This resource describes the properties associated with context medication.

26410 The unit is a single value that is one of mg and mL.

26411 The medication property has a default unit of milligrams[mg].

26412 The medication, unit and regimen Properties are read-only values that are provided by the server.

26413 When range (from oic.r.baseresource) is omitted the default is 0 to +MAXFLOAT.

26414 Retrieves Context Medication for Glucose Meter.

26415

26416 **6.106.2 Example URI**

26417 /GlucoseMedicationResURI

26418 **6.106.3 Resource type**

26419 The resource type (rt) is defined as: ['oic.r.glucose.medication'].

26420 **6.106.4 OpenAPI 2.0 definition**

```

26421 {
26422   "swagger": "2.0",
26423   "info": {
26424     "title": "Context Medication for Glucose Meter",
26425     "version": "v1.1.0-20160519",
26426     "license": {
26427       "name": "copyright 2016-2017 Open Connectivity Foundation, Inc. All rights reserved.",
26428       "x-description": "Redistribution and use in source and binary forms, with or without
26429 modification, are permitted provided that the following conditions are met:\n      1.
26430 Redistributions of source code must retain the above copyright notice, this list of conditions and
26431 the following disclaimer.\n      2. Redistributions in binary form must reproduce the above
26432 copyright notice, this list of conditions and the following disclaimer in the documentation and/or
26433 other materials provided with the distribution.\n\n      THIS SOFTWARE IS PROVIDED BY THE Open
26434 Connectivity Foundation, INC. \\"AS IS\\" AND ANY EXPRESS OR IMPLIED WARRANTIES, INCLUDING, BUT NOT
26435 LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE OR
26436 WARRANTIES OF NON-INFRINGEMENT, ARE DISCLAIMED.\n\n      IN NO EVENT SHALL THE Open Connectivity

```

```

26437 Foundation, INC. OR CONTRIBUTORS BE LIABLE FOR ANY DIRECT, INDIRECT, INCIDENTAL, SPECIAL, EXEMPLARY,
26438 OR CONSEQUENTIAL DAMAGES (INCLUDING, BUT NOT LIMITED TO, PROCUREMENT OF SUBSTITUTE GOODS OR
26439 SERVICES; LOSS OF USE, DATA, OR PROFITS; OR BUSINESS INTERRUPTION)\n          HOWEVER CAUSED AND ON
26440 ANY THEORY OF LIABILITY, WHETHER IN CONTRACT, STRICT LIABILITY, OR TORT (INCLUDING NEGLIGENCE OR
26441 OTHERWISE) ARISING IN ANY WAY OUT OF THE USE OF THIS SOFTWARE, EVEN IF ADVISED OF THE POSSIBILITY OF
26442 SUCH DAMAGE.\n"
26443     }
26444 },
26445 "schemes": ["http"],
26446 "consumes": ["application/json"],
26447 "produces": ["application/json"],
26448 "paths": {
26449     "/GlucoseMedicationResURI" : {
26450         "get": {
26451             "description": "This resource describes the properties associated with context
26452 medication.\nThe unit is a single value that is one of mg and mL.\nThe medication property has a
26453 default unit of milligrams[mg].\nThe medication, unit and regimen Properties are read-only values
26454 that are provided by the server.\nWhen range (from oic.r.baseresource) is omitted the default is 0
26455 to +MAXFLOAT.\nRetrieves Context Medication for Glucose Meter.\n",
26456             "parameters": [
26457                 {"$ref": "#/parameters/interface"}
26458             ],
26459             "responses": {
26460                 "200": {
26461                     "description": "",
26462                     "x-example":
26463                         {
26464                             "rt": ["oic.r.glucose.medication"],
26465                             "id": "unique_example_id",
26466                             "medication": 100,
26467                             "units": "mg",
26468                             "regimen": "rapidacting"
26469                         }
26470                 },
26471                 "schema": { "$ref": "#/definitions/GlucoseMedication" }
26472             }
26473         }
26474     }
26475 },
26476 "parameters": {
26477     "interface" : {
26478         "in" : "query",
26479         "name" : "if",
26480         "type" : "string",
26481         "enum" : ["oic.if.s", "oic.if.baseline"]
26482     }
26483 },
26484 "definitions": {
26485     "GlucoseMedication" : {
26486         "properties": {
26487             "rt" :
26488                 {
26489                     "description": "Resource Type",
26490                     "items": {
26491                         "maxLength": 64,
26492                         "type": "string"
26493                     },
26494                     "minItems": 1,
26495                     "readOnly": true,
26496                     "type": "array"
26497                 },
26498             "regimen" :
26499                 {
26500                     "description": "Medication regimen",
26501                     "enum": [
26502                         "rapidacting",
26503                         "shortacting",
26504                         "intermediateacting",
26505                         "longacting",
26506                         "premix"

```

```

26509     ],
26510     "readOnly": true,
26511     "type": "string"
26512 },
26513
26514 "medication" :
26515     {
26516     "description": "The level of medication undertaken",
26517     "readOnly": true,
26518     "type": "number"
26519     },
26520
26521 "precision" :
26522     {
26523     "description": "Accuracy granularity of the exposed value",
26524     "readOnly": true,
26525     "type": "number"
26526     },
26527
26528 "value" :
26529     {
26530     "anyOf": [
26531     {
26532     "type": "array"
26533     },
26534     {
26535     "type": "string"
26536     },
26537     {
26538     "type": "boolean"
26539     },
26540     {
26541     "type": "integer"
26542     },
26543     {
26544     "type": "number"
26545     },
26546     {
26547     "type": "object"
26548     }
26549     ],
26550     "description": "The value sensed or actuated by this Resource"
26551     },
26552
26553 "n" :
26554     {
26555     "description": "Friendly name of the resource",
26556     "maxLength": 64,
26557     "readOnly": true,
26558     "type": "string"
26559     },
26560
26561 "units" :
26562     {
26563     "description": "Current exercise movement type measurement",
26564     "enum": [
26565     "mg",
26566     "mL"
26567     ],
26568     "readOnly": true,
26569     "type": "string"
26570     },
26571
26572 "range" :
26573     {
26574     "description": "The valid range for the value Property",
26575     "items": {
26576     "anyOf": [
26577     {
26578     "type": "number"
26579     },
26580     {

```

```

26581         "type": "integer"
26582     }
26583 ]
26584 },
26585 "maxItems": 2,
26586 "minItems": 2,
26587 "readOnly": true,
26588 "type": "array"
26589 },
26590
26591 "step" :
26592 {
26593   "anyOf": [
26594     {
26595       "type": "integer"
26596     },
26597     {
26598       "type": "number"
26599     }
26600   ],
26601   "description": "Step value across the defined range",
26602   "readOnly": true
26603 },
26604
26605 "id" :
26606 {
26607   "description": "Instance ID of this specific resource",
26608   "maxLength": 64,
26609   "readOnly": true,
26610   "type": "string"
26611 },
26612
26613 "if" :
26614 {
26615   "description": "The interface set supported by this resource",
26616   "items": {
26617     "enum": [
26618       "oic.if.baseline",
26619       "oic.if.ll",
26620       "oic.if.b",
26621       "oic.if.lb",
26622       "oic.if.rw",
26623       "oic.if.r",
26624       "oic.if.a",
26625       "oic.if.s"
26626     ],
26627     "type": "string"
26628   },
26629   "minItems": 1,
26630   "readOnly": true,
26631   "type": "array"
26632 }
26633
26634 }
26635 , "type" : "object"
26636 , "required": ["medication"]
26637 }
26638 }
26639 }
26640

```

6.106.5 Property definition

Table 215 defines the Properties that are part of the ['oic.r.glucose.medication'] Resource Type

Table 215 – The Property definitions of the Resource with type 'rt' = ['oic.r.glucose.medication']

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

range	array: see schema	No	Read Only	The valid range for the value Property
if	array: see schema	No	Read Only	The interface set supported by this resource
regimen	string	No	Read Only	Medication regimen
units	string	No	Read Only	Current exercise movement type measurement
value	multiple types: see schema	No	Read Write	The value sensed or actuated by this Resource
id	string	No	Read Only	Instance ID of this specific resource
step	multiple types: see schema	No	Read Only	Step value across the defined range
rt	array: see schema	No	Read Only	Resource Type
precision	number	No	Read Only	Accuracy granularity of the exposed value
medication	number	Yes	Read Only	The level of medication undertaken
n	string	No	Read Only	Friendly name of the resource

26645 **6.106.6 CRUDN behaviour**

26646 Table 216 defines the CRUDN operations that are supported on the ['oic.r.glucose.medication']
26647 Resource Type

26648 **Table 216 – The CRUDN operations of the Resource with type 'rt' =**
26649 **['oic.r.glucose.medication']**

Create	Read	Update	Delete	Notify
	get			observe

26650 **6.107 Glucose Meter Atomic Measurement Linked List Representation**

26651 **6.107.1 Introduction**

26652 This resource describes the properties associated with glucose meter.
26653 The resource is an atomic measurement of glucose (oic.r.glucose), context carbohydrates
26654 (oic.r.glucose.carb), context exercise (oic.r.glucose.exercise), Hemoglobin Bound to Glucose A1c
26655 Form (HbA1c) (oic.r.glucose.hba1c), context health (oic.r.glucose.health), context meal
26656 (oic.r.glucose.meal), context medication (oic.r.glucose.medication), context sample location
26657 (oic.r.glucose.samplelocation), context tester (oic.r.glucose.tester), observed time
26658 (oic.r.time.stamp), and user ID (oic.r.userid).
26659 Retrieves the current glucose.
26660

26661 **6.107.2 Example URI**

26662 /GlucoseMeterAMResURI

26663 **6.107.3 Resource type**

26664 The resource type (rt) is defined as: ['oic.r.glucosemeter-am', 'oic.wk.atomicmeasurement'].

26665 **6.107.4 OpenAPI 2.0 definition**

```
26666 {
26667   "swagger": "2.0",
26668   "info": {
26669     "title": "Glucose Meter Atomic Measurement Linked List Representation",
26670     "version": "v1.1.0-20160519",
26671     "license": {
26672       "name": "copyright 2016-2017 Open Connectivity Foundation, Inc. All rights reserved.",
26673       "x-description": "Redistribution and use in source and binary forms, with or without
26674 modification, are permitted provided that the following conditions are met:\n      1.
26675 Redistributions of source code must retain the above copyright notice, this list of conditions and
26676 the following disclaimer.\n      2. Redistributions in binary form must reproduce the above
26677 copyright notice, this list of conditions and the following disclaimer in the documentation and/or
26678 other materials provided with the distribution.\n\n      THIS SOFTWARE IS PROVIDED BY THE Open
26679 Connectivity Foundation, INC. \AS IS\ AND ANY EXPRESS OR IMPLIED WARRANTIES, INCLUDING, BUT NOT
26680 LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE OR
26681 WARRANTIES OF NON-INFRINGEMENT, ARE DISCLAIMED.\n      IN NO EVENT SHALL THE Open Connectivity
26682 Foundation, INC. OR CONTRIBUTORS BE LIABLE FOR ANY DIRECT, INDIRECT, INCIDENTAL, SPECIAL, EXEMPLARY,
26683 OR CONSEQUENTIAL DAMAGES (INCLUDING, BUT NOT LIMITED TO, PROCUREMENT OF SUBSTITUTE GOODS OR
26684 SERVICES; LOSS OF USE, DATA, OR PROFITS; OR BUSINESS INTERRUPTION)\n      HOWEVER CAUSED AND ON
26685 ANY THEORY OF LIABILITY, WHETHER IN CONTRACT, STRICT LIABILITY, OR TORT (INCLUDING NEGLIGENCE OR
26686 OTHERWISE) ARISING IN ANY WAY OUT OF THE USE OF THIS SOFTWARE, EVEN IF ADVISED OF THE POSSIBILITY OF
26687 SUCH DAMAGE.\n"
26688     }
26689   },
26690   "schemes": ["http"],
26691   "consumes": ["application/json"],
26692   "produces": ["application/json"],
26693   "paths": {
26694     "/GlucoseMeterAMResURI?if=oic.if.ll" : {
26695       "get": {
26696         "description": "This resource describes the properties associated with glucose meter.\nThe
26697 resource is an atomic measurement of glucose (oic.r.glucose), context carbohydrates
26698 (oic.r.glucose.carb), context exercise (oic.r.glucose.exercise), Hemoglobin Bound to Glucose Alc
26699 Form (HbA1c) (oic.r.glucose.hb1c), context health (oic.r.glucose.health), context meal
26700 (oic.r.glucose.meal), context medication (oic.r.glucose.medication), context sample location
26701 (oic.r.glucose.samplelocation), context tester (oic.r.glucose.tester), observed time
26702 (oic.r.time.stamp), and user ID (oic.r.userid).\nRetrieves the current glucose.\n",
26703         "parameters": [
26704           {"$ref": "#/parameters/interface-ll"}
26705         ],
26706         "responses": {
26707           "200": {
26708             "description": "",
26709             "x-example":
26710               [
26711                 {
26712                   "href": "/myGlucoseResURI",
26713                   "rt": ["oic.r.glucose"],
26714                   "if": ["oic.if.s", "oic.if.baseline"]
26715                 },
26716                 {
26717                   "href": "/myHbA1cResURI",
26718                   "rt": ["oic.r.glucose.hb1c"],
26719                   "if": ["oic.if.s", "oic.if.baseline"]
26720                 }
26721               ]
26722           },
26723           "schema": {"$ref": "#/definitions/links"}
26724         }
26725       }
26726     },
26727     "/GlucoseMeterAMResURI?if=oic.if.b" : {
26728       "get": {
26729         "description": "This resource describes the properties associated with glucose meter.\nThe
26730 resource is an atomic measurement of glucose (oic.r.glucose), context carbohydrates
26731 (oic.r.glucose.carb), context exercise (oic.r.glucose.exercise), Hemoglobin Bound to Glucose Alc
26732 (oic.r.glucose.carb), context exercise (oic.r.glucose.exercise), Hemoglobin Bound to Glucose Alc
```

```

26733 Form (HbA1c) (oic.r.glucose.hbald), context health (oic.r.glucose.health), context meal
26734 (oic.r.glucose.meal), context medication (oic.r.glucose.medication), context sample location
26735 (oic.r.glucose.samplelocation), context tester (oic.r.glucose.tester), observed time
26736 (oic.r.time.stamp), and user ID (oic.r.userid).\nRetrieves the current glucose.\n",
26737   "parameters": [
26738     {"$ref": "#/parameters/interface-b"}
26739   ],
26740   "responses": {
26741     "200": {
26742       "description": "",
26743       "x-example":
26744         [
26745           {
26746             "href": "/myGlucoseResURI",
26747             "rep":
26748               {
26749                 "glucose": 100,
26750                 "units": "mg/dL"
26751               }
26752           },
26753           {
26754             "href": "/myHbA1cResURI",
26755             "rep":
26756               {
26757                 "hbald": 5
26758               }
26759           }
26760         ]
26761     },
26762     "schema": { "$ref": "#/definitions/batch-retrieve" }
26763   }
26764 }
26765 },
26766 "/GlucoseMeterAMResURI?if=oic.if.baseline" : {
26767   "get": {
26768     "description": "This resource describes the properties associated with glucose meter.\nThe
26769 resource is an atomic measurement of glucose (oic.r.glucose), context carbohydrates
26770 (oic.r.glucose.carb), context exercise (oic.r.glucose.exercise), Hemoglobin Bound to Glucose Alc
26771 Form (HbA1c) (oic.r.glucose.hbald), context health (oic.r.glucose.health), context meal
26772 (oic.r.glucose.meal), context medication (oic.r.glucose.medication), context sample location
26773 (oic.r.glucose.samplelocation), context tester (oic.r.glucose.tester), observed time
26774 (oic.r.time.stamp), and user ID (oic.r.userid).\nRetrieves the current glucose.\n",
26775     "parameters": [
26776       {"$ref": "#/parameters/interface-baseline"}
26777     ],
26778     "responses": {
26779       "200": {
26780         "description": "",
26781         "x-example":
26782           {
26783             "rt": ["oic.r.glucosemeter-am", "oic.wk.atomicmeasurement"],
26784             "if": ["oic.if.b", "oic.if.ll", "oic.if.baseline"],
26785             "rts": ["oic.r.glucose", "oic.r.glucose.hbald"],
26786             "rts-m": ["oic.r.glucose"],
26787             "links": [
26788               {
26789                 "href": "/myGlucoseResURI",
26790                 "rt": ["oic.r.glucose"],
26791                 "if": ["oic.if.s", "oic.if.baseline"]
26792               },
26793               {
26794                 "href": "/myHbA1cResURI",
26795                 "rt": ["oic.r.glucose.hbald"],
26796                 "if": ["oic.if.s", "oic.if.baseline"]
26797               }
26798             ]
26799           }
26800       }
26801     },
26802     "schema": { "$ref": "#/definitions/baseline" }
26803   }
26804 }

```

```

26805     }
26806   }
26807 },
26808 "parameters": {
26809   "interface-ll" : {
26810     "in" : "query",
26811     "name" : "if",
26812     "type" : "string",
26813     "enum" : ["oic.if.ll"]
26814   },
26815   "interface-b" : {
26816     "in" : "query",
26817     "name" : "if",
26818     "type" : "string",
26819     "enum" : ["oic.if.b"]
26820   },
26821   "interface-baseline" : {
26822     "in" : "query",
26823     "name" : "if",
26824     "type" : "string",
26825     "enum" : ["oic.if.baseline"]
26826   },
26827   "interface-all" : {
26828     "in" : "query",
26829     "name" : "if",
26830     "type" : "string",
26831     "enum" : ["oic.if.b", "oic.if.ll", "oic.if.baseline"]
26832   }
26833 },
26834 "definitions": {
26835   "links" : {
26836     "type" :
26837       "array"
26838
26839     , "items" :
26840       {
26841         "$ref": "#/definitions/oic.oic-link"
26842       }
26843   }
26844 },
26845 ,
26846 "batch-retrieve" : {
26847   "title" :
26848     "Collection Batch Retrieve Format"
26849
26850   , "minItems" :
26851     1
26852
26853   , "items" :
26854     {
26855       "additionalProperties": true,
26856       "properties": {
26857         "href": {
26858           "description": "URI of the target resource relative assuming the collection URI as
26859 anchor",
26860           "type": "string"
26861         },
26862         "rep": {
26863           "oneOf": [
26864             {
26865               "description": "The response payload from a single resource",
26866               "type": "object"
26867             },
26868             {
26869               "description": " The response payload from a collection (batch) resource",
26870               "type": "array"
26871             }
26872           ]
26873         }
26874       },
26875       "required": [
26876         "href",

```



```

26877         "rep"
26878     ],
26879     "type": "object"
26880 }
26881
26882     , "type" :
26883         "array"
26884
26885 }
26886
26887 'baseline' : {
26888     "properties": {
26889         "rt" :
26890             {
26891                 "items": {
26892                     "enum": [
26893                         "oic.r.glucosemeter-am",
26894                         "oic.wk.atomicmeasurement"
26895                     ]
26896                 },
26897                 "maxItems": 2,
26898                 "minItems": 2,
26899                 "type": "array",
26900                 "uniqueItems": true
26901             },
26902
26903     "links" :
26904         {
26905             "description": "A set of simple or individual OIC Links.",
26906             "items": {
26907                 "properties": {
26908                     "anchor": {
26909                         "description": "This is used to override the context URI e.g. override the URI of
26910 the containing collection.",
26911                         "format": "uri",
26912                         "maxLength": 256,
26913                         "type": "string"
26914                     },
26915                     "di": {
26916                         "description": "The Device ID formatted according to IETF RFC 4122.",
26917                         "pattern": "^[a-fA-F0-9]{8}-[a-fA-F0-9]{4}-[a-fA-F0-9]{4}-[a-fA-F0-9]{4}-[a-fA-F0-
26918 9]{12}$",
26919                         "type": "string"
26920                     },
26921                     "eps": {
26922                         "description": "the Endpoint information of the target Resource",
26923                         "items": {
26924                             "properties": {
26925                                 "ep": {
26926                                     "description": "Transport Protocol Suite + Endpoint Locator",
26927                                     "format": "uri",
26928                                     "type": "string"
26929                                 },
26930                                 "pri": {
26931                                     "description": "The priority among multiple Endpoints",
26932                                     "minimum": 1,
26933                                     "type": "integer"
26934                                 }
26935                             },
26936                             "type": "object"
26937                         },
26938                         "type": "array"
26939                     },
26940                     "href": {
26941                         "description": "This is the target URI, it can be specified as a Relative Reference
26942 or fully-qualified URI.",
26943                         "format": "uri",
26944                         "maxLength": 256,
26945                         "type": "string"
26946                     },
26947                     "if": {
26948                         "description": "The interface set supported by this resource",

```

```

26949         "items": {
26950             "enum": [
26951                 "oic.if.baseline",
26952                 "oic.if.ll",
26953                 "oic.if.b",
26954                 "oic.if.rw",
26955                 "oic.if.r",
26956                 "oic.if.a",
26957                 "oic.if.s"
26958             ],
26959             "type": "string"
26960         },
26961         "minItems": 1,
26962         "type": "array"
26963     },
26964     "ins": {
26965         "description": "The instance identifier for this web link in an array of web links -
26966 used in collections",
26967         "type": "integer"
26968     },
26969     "p": {
26970         "description": "Specifies the framework policies on the Resource referenced by the
26971 target URI",
26972         "properties": {
26973             "bm": {
26974                 "description": "Specifies the framework policies on the Resource referenced by
26975 the target URI for e.g. observable and discoverable",
26976                 "type": "integer"
26977             }
26978         },
26979         "required": [
26980             "bm"
26981         ],
26982         "type": "object"
26983     },
26984     "rel": {
26985         "description": "The relation of the target URI referenced by the link to the context
26986 URI",
26987         "oneOf": [
26988             {
26989                 "default": [
26990                     "hosts"
26991                 ],
26992                 "items": {
26993                     "maxLength": 64,
26994                     "type": "string"
26995                 },
26996                 "minItems": 1,
26997                 "type": "array"
26998             },
26999             {
27000                 "default": "hosts",
27001                 "maxLength": 64,
27002                 "type": "string"
27003             }
27004         ]
27005     },
27006     "rt": {
27007         "description": "Resource Type of the Resource",
27008         "items": {
27009             "maxLength": 64,
27010             "type": "string"
27011         },
27012         "minItems": 1,
27013         "type": "array"
27014     },
27015     "title": {
27016         "description": "A title for the link relation. Can be used by the UI to provide a
27017 context.",
27018         "maxLength": 64,
27019         "type": "string"
27020     },

```

```

27021         "type": {
27022             "default": "application/cbor",
27023             "description": "A hint at the representation of the resource referenced by the
27024 target URI. This represents the media types that are used for both accepting and emitting.",
27025             "items": {
27026                 "maxLength": 64,
27027                 "type": "string"
27028             },
27029             "minItems": 1,
27030             "type": "array"
27031         }
27032     },
27033     "required": [
27034         "href",
27035         "rt",
27036         "if"
27037     ],
27038     "type": "object"
27039 },
27040 "type": "array"
27041 },
27042
27043 "n" :
27044     {
27045         "description": "Friendly name of the resource",
27046         "maxLength": 64,
27047         "readOnly": true,
27048         "type": "string"
27049     },
27050
27051 "rts" :
27052     {
27053         "description": "This contains all possible resource types for this atomic measurement.",
27054         "items": {
27055             "enum": [
27056                 "oic.r.glucose",
27057                 "oic.r.glucose.carb",
27058                 "oic.r.glucose.exercise",
27059                 "oic.r.glucose.hbabc",
27060                 "oic.r.glucose.health",
27061                 "oic.r.glucose.meal",
27062                 "oic.r.glucose.medication",
27063                 "oic.r.glucose.samplelocation",
27064                 "oic.r.glucose.tester",
27065                 "oic.r.time.observed",
27066                 "oic.r.userid"
27067             ]
27068         },
27069         "minItems": 1,
27070         "type": "array",
27071         "uniqueItems": true
27072     },
27073
27074 "id" :
27075     {
27076         "description": "Instance ID of this specific resource",
27077         "maxLength": 64,
27078         "readOnly": true,
27079         "type": "string"
27080     },
27081
27082 "rts-m" :
27083     {
27084         "description": "This contains all mandatory resource types for this atomic measurement.",
27085         "items": {
27086             "enum": [
27087                 "oic.r.glucose"
27088             ]
27089         },
27090         "maxItems": 1,
27091         "minItems": 1,
27092         "type": "array",

```

```

27093         "uniqueItems": true
27094     },
27095     "if" :
27096     {
27097         "description": "The interface set supported by this resource",
27098         "items": {
27099             "enum": [
27100                 "oic.if.baseline",
27101                 "oic.if.ll",
27102                 "oic.if.b",
27103                 "oic.if.lb",
27104                 "oic.if.rw",
27105                 "oic.if.r",
27106                 "oic.if.a",
27107                 "oic.if.s"
27108             ],
27109             "type": "string"
27110         },
27111         "minItems": 1,
27112         "readOnly": true,
27113         "type": "array"
27114     }
27115 }
27116
27117 },
27118 "type" : "object"
27119 , "required": ["rts-m"]
27120 }
27121 , "oic.oic-link" :
27122 {
27123     "properties": {
27124         "anchor": {
27125             "description": "This is used to override the context URI e.g. override the URI of the
27126 containing collection.",
27127             "format": "uri",
27128             "maxLength": 256,
27129             "type": "string"
27130         },
27131         "di": {
27132             "description": "The Device ID formatted according to IETF RFC 4122.",
27133             "pattern": "^[a-fA-F0-9]{8}-[a-fA-F0-9]{4}-[a-fA-F0-9]{4}-[a-fA-F0-9]{4}-[a-fA-F0-
27134 9]{12}$",
27135             "type": "string"
27136         },
27137         "eps": {
27138             "description": "the Endpoint information of the target Resource",
27139             "items": {
27140                 "properties": {
27141                     "ep": {
27142                         "description": "Transport Protocol Suite + Endpoint Locator",
27143                         "format": "uri",
27144                         "type": "string"
27145                     },
27146                     "pri": {
27147                         "description": "The priority among multiple Endpoints",
27148                         "minimum": 1,
27149                         "type": "integer"
27150                     }
27151                 },
27152                 "type": "object"
27153             },
27154             "type": "array"
27155         },
27156         "href": {
27157             "description": "This is the target URI, it can be specified as a Relative Reference or
27158 fully-qualified URI.",
27159             "format": "uri",
27160             "maxLength": 256,
27161             "type": "string"
27162         },
27163         "if": {
27164             "description": "The interface set supported by this resource",

```

```

27165         "items": {
27166             "enum": [
27167                 "oic.if.baseline",
27168                 "oic.if.ll",
27169                 "oic.if.b",
27170                 "oic.if.rw",
27171                 "oic.if.r",
27172                 "oic.if.a",
27173                 "oic.if.s"
27174             ],
27175             "type": "string"
27176         },
27177         "minItems": 1,
27178         "type": "array"
27179     },
27180     "ins": {
27181         "description": "The instance identifier for this web link in an array of web links - used
27182 in collections",
27183         "type": "integer"
27184     },
27185     "p": {
27186         "description": "Specifies the framework policies on the Resource referenced by the target
27187 URI",
27188         "properties": {
27189             "bm": {
27190                 "description": "Specifies the framework policies on the Resource referenced by the
27191 target URI for e.g. observable and discoverable",
27192                 "type": "integer"
27193             }
27194         },
27195         "required": [
27196             "bm"
27197         ],
27198         "type": "object"
27199     },
27200     "rel": {
27201         "description": "The relation of the target URI referenced by the link to the context URI",
27202         "oneOf": [
27203             {
27204                 "default": [
27205                     "hosts"
27206                 ],
27207                 "items": {
27208                     "maxLength": 64,
27209                     "type": "string"
27210                 },
27211                 "minItems": 1,
27212                 "type": "array"
27213             },
27214             {
27215                 "default": "hosts",
27216                 "maxLength": 64,
27217                 "type": "string"
27218             }
27219         ]
27220     },
27221     "rt": {
27222         "description": "Resource Type of the Resource",
27223         "items": {
27224             "maxLength": 64,
27225             "type": "string"
27226         },
27227         "minItems": 1,
27228         "type": "array"
27229     },
27230     "title": {
27231         "description": "A title for the link relation. Can be used by the UI to provide a
27232 context.",
27233         "maxLength": 64,
27234         "type": "string"
27235     },
27236     "type": {

```

```

27237         "default": "application/cbor",
27238         "description": "A hint at the representation of the resource referenced by the target URI.
This represents the media types that are used for both accepting and emitting.",
27239         "items": {
27240             "maxLength": 64,
27241             "type": "string"
27242         },
27243         "minItems": 1,
27244         "type": "array"
27245     },
27246     },
27247     "required": [
27248         "href",
27249         "rt",
27250         "if"
27251     ],
27252     "type": "object"
27253 }
27254 }
27255 }
27256 }
27257 }
27258 }

```

27259 **6.107.5 Property definition**

27260 Table 217 defines the Properties that are part of the ['oic.r.glucosemeter-am',
27261 'oic.wk.atomicmeasurement'] Resource Type

27262 **Table 217 – The Property definitions of the Resource with type 'rt' = ['oic.r.glucosemeter-
27263 am', 'oic.wk.atomicmeasurement']**

Property name	Value type	Mandatory	Access mode	Description
href	string	Yes	Read Write	URI of the target resource relative assuming the collection URI as anchor
rep	multiple types: see schema	Yes	Read Write	
n	string	No	Read Only	Friendly name of the resource
links	array: see schema	No	Read Write	A set of simple or individual OIC Links.
if	array: see schema	No	Read Only	The interface set supported by this resource
rts	array: see schema	No	Read Write	This contains all possible resource types for this atomic measurement.
rts-m	array: see schema	Yes	Read Write	This contains all mandatory resource types for this atomic measurement.
id	string	No	Read Only	Instance ID of this specific resource
rt	array: see schema	No	Read Write	

title	string	No	Read Write	A title for the link relation. Can be used by the UI to provide a context.
if	array: see schema	Yes	Read Write	The interface set supported by this resource
p	object: see schema	No	Read Write	Specifies the framework policies on the Resource referenced by the target URI
type	array: see schema	No	Read Write	A hint at the representation of the resource referenced by the target URI. This represents the media types that are used for both accepting and emitting.
href	string	Yes	Read Write	This is the target URI, it can be specified as a Relative Reference or fully-qualified URI.
eps	array: see schema	No	Read Write	the Endpoint information of the target Resource
rel	multiple types: see schema	No	Read Write	The relation of the target URI referenced by the link to the context URI
ins	integer	No	Read Write	The instance identifier for this web link in an array of web links - used in collections
di	string	No	Read Write	The Device ID formatted according to IETF RFC 4122.
anchor	string	No	Read Write	This is used to override the context URI e.g. override the URI of the containing collection.

rt	array: schema	see	Yes	Read Write	Resource Type of the Resource
----	------------------	-----	-----	------------	----------------------------------

27264 **6.107.6 CRUDN behaviour**

27265 Table 218 defines the CRUDN operations that are supported on the ['oic.r.glucosemeter-am',
27266 'oic.wk.atomicmeasurement'] Resource Type

Table 218 – The CRUDN operations of the Resource with type 'rt' = ['oic.r.glucosemeter-am', 'oic.wk.atomicmeasurement']

Create	Read	Update	Delete	Notify
	get			observe

27269 **6.108 Context Sample Location for Glucose Meter**

27270 **6.108.1 Introduction**

27271 This resource describes the properties associated with context Sample Location.
27272 AST means Alternative Site Test specifying that the location of test performed was from an
27273 alternative site on the body.
27274 The samplelocation Property is a read-only value that is provided by the server.
27275 Retrieves Context Sample Location for Glucose Meter.
27276

27277 **6.108.2 Example URI**

27278 /GlucoseSampleLocationResURI

27279 **6.108.3 Resource type**

27280 The resource type (rt) is defined as: ['oic.r.glucose.samplelocation'].

27281 **6.108.4 OpenAPI 2.0 definition**

```

27282 {
27283   "swagger": "2.0",
27284   "info": {
27285     "title": "Context Sample Location for Glucose Meter",
27286     "version": "v1.1.0-20160519",
27287     "license": {
27288       "name": "copyright 2016-2017 Open Connectivity Foundation, Inc. All rights reserved.",
27289       "x-description": "Redistribution and use in source and binary forms, with or without
27290 modification, are permitted provided that the following conditions are met:\n      1.
27291 Redistributions of source code must retain the above copyright notice, this list of conditions and
27292 the following disclaimer.\n      2. Redistributions in binary form must reproduce the above
27293 copyright notice, this list of conditions and the following disclaimer in the documentation and/or
27294 other materials provided with the distribution.\n\n      THIS SOFTWARE IS PROVIDED BY THE Open
27295 Connectivity Foundation, INC. \\"AS IS\\" AND ANY EXPRESS OR IMPLIED WARRANTIES, INCLUDING, BUT NOT
27296 LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE OR
27297 WARRANTIES OF NON-INFRINGEMENT, ARE DISCLAIMED.\n      IN NO EVENT SHALL THE Open Connectivity
27298 Foundation, INC. OR CONTRIBUTORS BE LIABLE FOR ANY DIRECT, INDIRECT, INCIDENTAL, SPECIAL, EXEMPLARY,
27299 OR CONSEQUENTIAL DAMAGES (INCLUDING, BUT NOT LIMITED TO, PROCUREMENT OF SUBSTITUTE GOODS OR
27300 SERVICES; LOSS OF USE, DATA, OR PROFITS; OR BUSINESS INTERRUPTION)\n      HOWEVER CAUSED AND ON
27301 ANY THEORY OF LIABILITY, WHETHER IN CONTRACT, STRICT LIABILITY, OR TORT (INCLUDING NEGLIGENCE OR
27302 OTHERWISE) ARISING IN ANY WAY OUT OF THE USE OF THIS SOFTWARE, EVEN IF ADVISED OF THE POSSIBILITY OF
27303 SUCH DAMAGE.\n"
27304     }
27305   },
27306   "schemes": ["http"],
27307   "consumes": ["application/json"],
27308   "produces": ["application/json"],
27309   "paths": {
27310     "/GlucoseSampleLocationResURI" : {
27311       "get": {
27312         "description": "This resource describes the properties associated with context Sample
27313 Location.\nAST means Alternative Site Test specifying that the location of test performed was from
27314 an alternative site on the body.\nThe samplelocation Property is a read-only value that is provided
27315 by the server.\nRetrieves Context Sample Location for Glucose Meter.\n",
27316         "parameters": [
27317           {"$ref": "#/parameters/interface"}
27318         ]
27319       }
27320     }
27321   }
27322 }
```



```

27318     ],
27319     "responses": {
27320         "200": {
27321             "description": "",
27322             "x-example":
27323                 {
27324                     "rt": ["oic.r.glucose.samplelocation"],
27325                     "id": "unique_example_id",
27326                     "samplelocation": "finger"
27327                 }
27328             ,
27329             "schema": { "$ref": "#/definitions/GlucoseSampleLocation" }
27330         }
27331     }
27332 }
27333 }
27334 },
27335 "parameters": {
27336     "interface": {
27337         "in": "query",
27338         "name": "if",
27339         "type": "string",
27340         "enum": ["oic.if.s", "oic.if.baseline"]
27341     }
27342 },
27343 "definitions": {
27344     "GlucoseSampleLocation": {
27345         "properties": {
27346             "rt":
27347                 {
27348                     "description": "Resource Type",
27349                     "items": {
27350                         "maxLength": 64,
27351                         "type": "string"
27352                     },
27353                     "minItems": 1,
27354                     "readOnly": true,
27355                     "type": "array"
27356                 },
27357             "precision":
27358                 {
27359                     "description": "Accuracy granularity of the exposed value",
27360                     "readOnly": true,
27361                     "type": "number"
27362                 },
27363             "value":
27364                 {
27365                     "anyOf": [
27366                         {
27367                             "type": "array"
27368                         },
27369                         {
27370                             "type": "string"
27371                         },
27372                         {
27373                             "type": "boolean"
27374                         },
27375                         {
27376                             "type": "integer"
27377                         },
27378                         {
27379                             "type": "number"
27380                         },
27381                         {
27382                             "type": "object"
27383                         }
27384                     ],
27385                     "description": "The value sensed or actuated by this Resource"
27386                 },
27387             "description": "The value sensed or actuated by this Resource"
27388         },
27389     }

```

```

27390     "n" :
27391         {
27392             "description": "Friendly name of the resource",
27393             "maxLength": 64,
27394             "readOnly": true,
27395             "type": "string"
27396         },
27397
27398     "range" :
27399         {
27400             "description": "The valid range for the value Property",
27401             "items": {
27402                 "anyOf": [
27403                     {
27404                         "type": "number"
27405                     },
27406                     {
27407                         "type": "integer"
27408                     }
27409                 ]
27410             },
27411             "maxItems": 2,
27412             "minItems": 2,
27413             "readOnly": true,
27414             "type": "array"
27415         },
27416
27417     "samplelocation" :
27418         {
27419             "description": "The possible blood locations where the blood sample may be taken.",
27420             "enum": [
27421                 "finger",
27422                 "ast",
27423                 "earlobe",
27424                 "ctrlsolution"
27425             ],
27426             "readOnly": true,
27427             "type": "string"
27428         },
27429
27430     "step" :
27431         {
27432             "anyOf": [
27433                 {
27434                     "type": "integer"
27435                 },
27436                 {
27437                     "type": "number"
27438                 }
27439             ],
27440             "description": "Step value across the defined range",
27441             "readOnly": true
27442         },
27443
27444     "id" :
27445         {
27446             "description": "Instance ID of this specific resource",
27447             "maxLength": 64,
27448             "readOnly": true,
27449             "type": "string"
27450         },
27451
27452     "if" :
27453         {
27454             "description": "The interface set supported by this resource",
27455             "items": {
27456                 "enum": [
27457                     "oic.if.baseline",
27458                     "oic.if.ll",
27459                     "oic.if.b",
27460                     "oic.if.lb",
27461                     "oic.if.rw",

```

```

27462         "oic.if.r",
27463         "oic.if.a",
27464         "oic.if.s"
27465     ],
27466     "type": "string"
27467 },
27468 "minItems": 1,
27469 "readOnly": true,
27470 "type": "array"
27471 }
27472
27473 }
27474 , "type" : "object"
27475 , "required": ["samplelocation"]
27476 }
27477 }
27478 }
27479 }

```

27480 **6.108.5 Property definition**

27481 Table 219 defines the Properties that are part of the ['oic.r.glucose.samplelocation'] Resource Type

27482 **Table 219 – The Property definitions of the Resource with type 'rt' =**
27483 **['oic.r.glucose.samplelocation']**

Property name	Value type	Mandatory	Access mode	Description
n	string	No	Read Only	Friendly name of the resource
step	multiple types: see schema	No	Read Only	Step value across the defined range
if	array: see schema	No	Read Only	The interface set supported by this resource
id	string	No	Read Only	Instance ID of this specific resource
rt	array: see schema	No	Read Only	Resource Type
range	array: see schema	No	Read Only	The valid range for the value Property
value	multiple types: see schema	No	Read Write	The value sensed or actuated by this Resource
precision	number	No	Read Only	Accuracy granularity of the exposed value
samplelocation	string	Yes	Read Only	The possible blood locations where the blood sample may be taken.

27484 **6.108.6 CRUDN behaviour**

27485 Table 220 defines the CRUDN operations that are supported on the ['oic.r.glucose.samplelocation']
27486 Resource Type

27487
27488

Table 220 – The CRUDN operations of the Resource with type 'rt' = ['oic.r.glucose.samplelocation']

Create	Read	Update	Delete	Notify
	get			observe

27489 **6.109 Context Tester for Glucose Meter**

27490 **6.109.1 Introduction**

27491 This resource describes the properties associated with context Tester.
 27492 The tester Property is a read-only value that is provided by the server where especially
 27493 hcp stands for HealthCare Professional.
 27494 Retrieves Context Tester for Glucose Meter.
 27495

27496 **6.109.2 Example URI**

27497 /GlucoseTesterResURI

27498 **6.109.3 Resource type**

27499 The resource type (rt) is defined as: ['oic.r.glucose.Tester'].

27500 **6.109.4 OpenAPI 2.0 definition**

```

27501 {
27502   "swagger": "2.0",
27503   "info": {
27504     "title": "Context Tester for Glucose Meter",
27505     "version": "v1.1.0-20160519",
27506     "license": {
27507       "name": "copyright 2016-2017 Open Connectivity Foundation, Inc. All rights reserved.",
27508       "x-description": "Redistribution and use in source and binary forms, with or without
27509 modification, are permitted provided that the following conditions are met:\n      1.
27510 Redistributions of source code must retain the above copyright notice, this list of conditions and
27511 the following disclaimer.\n      2. Redistributions in binary form must reproduce the above
27512 copyright notice, this list of conditions and the following disclaimer in the documentation and/or
27513 other materials provided with the distribution.\n\n      THIS SOFTWARE IS PROVIDED BY THE Open
27514 Connectivity Foundation, INC. \\"AS IS\\" AND ANY EXPRESS OR IMPLIED WARRANTIES, INCLUDING, BUT NOT
27515 LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE OR
27516 WARRANTIES OF NON-INFRINGEMENT, ARE DISCLAIMED.\n      IN NO EVENT SHALL THE Open Connectivity
27517 Foundation, INC. OR CONTRIBUTORS BE LIABLE FOR ANY DIRECT, INDIRECT, INCIDENTAL, SPECIAL, EXEMPLARY,
27518 OR CONSEQUENTIAL DAMAGES (INCLUDING, BUT NOT LIMITED TO, PROCUREMENT OF SUBSTITUTE GOODS OR
27519 SERVICES; LOSS OF USE, DATA, OR PROFITS; OR BUSINESS INTERRUPTION)\n      HOWEVER CAUSED AND ON
27520 ANY THEORY OF LIABILITY, WHETHER IN CONTRACT, STRICT LIABILITY, OR TORT (INCLUDING NEGLIGENCE OR
27521 OTHERWISE) ARISING IN ANY WAY OUT OF THE USE OF THIS SOFTWARE, EVEN IF ADVISED OF THE POSSIBILITY OF
27522 SUCH DAMAGE.\n"
27523   },
27524 },
27525 "schemes": ["http"],
27526 "consumes": ["application/json"],
27527 "produces": ["application/json"],
27528 "paths": {
27529   "/GlucoseTesterResURI" : {
27530     "get": {
27531       "description": "This resource describes the properties associated with context Tester.\nThe
27532 tester Property is a read-only value that is provided by the server where especially\nh\nhcp stands for
27533 HealthCare Professional.\nRetrieves Context Tester for Glucose Meter.\n",
27534       "parameters": [
27535         {"$ref": "#/parameters/interface"}
27536       ],
27537       "responses": {
27538         "200": {
27539           "description": "",
27540           "x-example":
27541             {
27542               "rt": ["oic.r.glucose.Tester"],
27543               "id": "unique_example_id",
27544               "tester": "self"
27545             }
27546         }
27547       }
27548     }
27549   }
27550 }

```

```

27547         "schema": { "$ref": "#/definitions/GlucoseTester" }
27548     }
27549 }
27550 }
27551 }
27552 },
27553 "parameters": {
27554     "interface" : {
27555         "in" : "query",
27556         "name" : "if",
27557         "type" : "string",
27558         "enum" : ["oic.if.s", "oic.if.baseline"]
27559     }
27560 },
27561 "definitions": {
27562     "GlucoseTester" : {
27563         "properties": {
27564             "rt" :
27565                 {
27566                     "description": "Resource Type",
27567                     "items": {
27568                         "maxLength": 64,
27569                         "type": "string"
27570                     },
27571                     "minItems": 1,
27572                     "readOnly": true,
27573                     "type": "array"
27574                 },
27575             "tester" :
27576                 {
27577                     "description": "The possible cases of testers who may perform the blood sugar
27578 measurement.",
27579                     "enum": [
27580                         "self",
27581                         "hcp",
27582                         "lab"
27583                     ],
27584                     "readOnly": true,
27585                     "type": "string"
27586                 },
27587             "precision" :
27588                 {
27589                     "description": "Accuracy granularity of the exposed value",
27590                     "readOnly": true,
27591                     "type": "number"
27592                 },
27593             "value" :
27594                 {
27595                     "anyOf": [
27596                         {
27597                             "type": "array"
27598                         },
27599                         {
27600                             "type": "string"
27601                         },
27602                         {
27603                             "type": "boolean"
27604                         },
27605                         {
27606                             "type": "integer"
27607                         },
27608                         {
27609                             "type": "number"
27610                         },
27611                         {
27612                             "type": "object"
27613                         }
27614                     ],
27615                     "description": "The value sensed or actuated by this Resource"
27616                 }
27617         }
27618     }

```

```

27619     },
27620
27621     "n" :
27622     {
27623         "description": "Friendly name of the resource",
27624         "maxLength": 64,
27625         "readOnly": true,
27626         "type": "string"
27627     },
27628
27629     "range" :
27630     {
27631         "description": "The valid range for the value Property",
27632         "items": {
27633             "anyOf": [
27634                 {
27635                     "type": "number"
27636                 },
27637                 {
27638                     "type": "integer"
27639                 }
27640             ]
27641         },
27642         "maxItems": 2,
27643         "minItems": 2,
27644         "readOnly": true,
27645         "type": "array"
27646     },
27647
27648     "step" :
27649     {
27650         "anyOf": [
27651             {
27652                 "type": "integer"
27653             },
27654             {
27655                 "type": "number"
27656             }
27657         ],
27658         "description": "Step value across the defined range",
27659         "readOnly": true
27660     },
27661
27662     "id" :
27663     {
27664         "description": "Instance ID of this specific resource",
27665         "maxLength": 64,
27666         "readOnly": true,
27667         "type": "string"
27668     },
27669
27670     "if" :
27671     {
27672         "description": "The interface set supported by this resource",
27673         "items": {
27674             "enum": [
27675                 "oic.if.baseline",
27676                 "oic.if.ll",
27677                 "oic.if.b",
27678                 "oic.if.lb",
27679                 "oic.if.rw",
27680                 "oic.if.r",
27681                 "oic.if.a",
27682                 "oic.if.s"
27683             ],
27684             "type": "string"
27685         },
27686         "minItems": 1,
27687         "readOnly": true,
27688         "type": "array"
27689     }
27690

```

```

27691     }
27692     , "type" : "object"
27693     , "required": ["tester"]
27694   }
27695 }
27696 }
27697

```

27698 6.109.5 Property definition

27699 Table 221 defines the Properties that are part of the ['oic.r.glucose.Tester'] Resource Type

27700 **Table 221 – The Property definitions of the Resource with type 'rt' = ['oic.r.glucose.Tester']**

Property name	Value type	Mandatory	Access mode	Description
value	multiple types: see schema	No	Read Write	The value sensed or actuated by this Resource
n	string	No	Read Only	Friendly name of the resource
precision	number	No	Read Only	Accuracy granularity of the exposed value
tester	string	Yes	Read Only	The possible cases of testers who may perform the blood sugar measurement.
range	array: see schema	No	Read Only	The valid range for the value Property
rt	array: see schema	No	Read Only	Resource Type
if	array: see schema	No	Read Only	The interface set supported by this resource
step	multiple types: see schema	No	Read Only	Step value across the defined range
id	string	No	Read Only	Instance ID of this specific resource

27701 6.109.6 CRUDN behaviour

27702 Table 222 defines the CRUDN operations that are supported on the ['oic.r.glucose.Tester']
27703 Resource Type

27704 **Table 222 – The CRUDN operations of the Resource with type 'rt' = ['oic.r.glucose.Tester']**

Create	Read	Update	Delete	Notify
	get			observe

27705 6.110 Optical RFID Station

27706 6.110.1 Introduction

27707 The process represents the stage of the product in the product line which has an optical RFID tag
27708 on its body.

27709 Event is represented by a Boolean value set to "True" and "False" alarming the issue when
27710 additional action is requested for the tagged product.

27711 Actionrequest represent necessary actions like the isolation of the product, to send the product

27712 back to other specific line to modify or fix the issue.
27713 Retrieves the station information from optical augmented RFID reader in smart factory
27714 environment.
27715

27716 6.110.2 Example URI

27717 /ORFIDStationResURI

27718 6.110.3 Resource type

27719 The resource type (rt) is defined as: ['oic.r.orfid.station'].

27720 6.110.4 OpenAPI 2.0 definition

```
27721 {
27722   "swagger": "2.0",
27723   "info": {
27724     "title": "Optical RFID Station",
27725     "version": "Version 2018-01-30",
27726     "license": {
27727       "name": "copyright 2016-2017 Open Connectivity Foundation, Inc. All rights reserved.",
27728       "x-description": "Redistribution and use in source and binary forms, with or without
27729 modification, are permitted provided that the following conditions are met:\n      1.
27730 Redistributions of source code must retain the above copyright notice, this list of conditions and
27731 the following disclaimer.\n      2. Redistributions in binary form must reproduce the above
27732 copyright notice, this list of conditions and the following disclaimer in the documentation and/or
27733 other materials provided with the distribution.\n\n      THIS SOFTWARE IS PROVIDED BY THE Open
27734 Connectivity Foundation, INC. \AS IS\ AND ANY EXPRESS OR IMPLIED WARRANTIES, INCLUDING, BUT NOT
27735 LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE OR
27736 WARRANTIES OF NON-INFRINGEMENT, ARE DISCLAIMED.\n\n      IN NO EVENT SHALL THE Open Connectivity
27737 Foundation, INC. OR CONTRIBUTORS BE LIABLE FOR ANY DIRECT, INDIRECT, INCIDENTAL, SPECIAL, EXEMPLARY,
27738 OR CONSEQUENTIAL DAMAGES (INCLUDING, BUT NOT LIMITED TO, PROCUREMENT OF SUBSTITUTE GOODS OR
27739 SERVICES; LOSS OF USE, DATA, OR PROFITS; OR BUSINESS INTERRUPTION)\n\n      HOWEVER CAUSED AND ON
27740 ANY THEORY OF LIABILITY, WHETHER IN CONTRACT, STRICT LIABILITY, OR TORT (INCLUDING NEGLIGENCE OR
27741 OTHERWISE) ARISING IN ANY WAY OUT OF THE USE OF THIS SOFTWARE, EVEN IF ADVISED OF THE POSSIBILITY OF
27742 SUCH DAMAGE.\n"
27743     },
27744   },
27745   "schemes": ["http"],
27746   "consumes": ["application/json"],
27747   "produces": ["application/json"],
27748   "paths": {
27749     "/ORFIDStationResURI" : {
27750       "get": {
27751         "description": "The process represents the stage of the product in the product line which
27752 has an optical RFID tag on its body.\nEvent is represented by a Boolean value set to \"True\" and
27753 \"False\" alarming the issue when additional action is requested for the tagged
27754 product.\nActionrequest represent necessary actions like the isolation of the product, to send the
27755 product back to other specific line to modify or fix the issue.\nRetrieves the station information
27756 from optical augmented RFID reader in smart factory environment.\n",
27757         "parameters": [
27758           { "$ref": "#/parameters/interface" }
27759         ],
27760         "responses": {
27761           "200": {
27762             "description": "",
27763             "x-example":
27764               {
27765                 "rt": ["oic.r.orfid.station"],
27766                 "id": "unique_example_id",
27767                 "process": 17,
27768                 "event": true,
27769                 "actionrequest": 2
27770               }
27771             ,
27772             "schema": { "$ref": "#/definitions/ORFID" }
27773           }
27774         }
27775       },
27776       "post": {
27777         "description": "Sets necessary action in accordance with Tag Information\n",
27778         "parameters": [
```



```

27779         {"$ref": "#/parameters/interface"},
27780         {
27781             "name": "body",
27782             "in": "body",
27783             "required": true,
27784             "schema": { "$ref": "#/definitions/ORFID" },
27785             "x-example":
27786                 {
27787                     "event":                false,
27788                     "actionrequest":       0
27789                 }
27790         },
27791     ],
27792     "responses": {
27793         "200": {
27794             "description": "",
27795             "x-example":
27796                 {
27797                     "event":                false,
27798                     "actionrequest":       0
27799                 }
27800             ,
27801             "schema": { "$ref": "#/definitions/ORFID" }
27802         }
27803     }
27804 },
27805 },
27806 },
27807 "parameters": {
27808     "interface" : {
27809         "in" : "query",
27810         "name" : "if",
27811         "type" : "string",
27812         "enum" : ["oic.if.rw", "oic.if.baseline"]
27813     }
27814 },
27815 "definitions": {
27816     "ORFID" : {
27817         "properties": {
27818             "rt" :
27819                 {
27820                     "description": "Resource Type",
27821                     "items": {
27822                         "maxLength": 64,
27823                         "type": "string"
27824                     },
27825                     "minItems": 1,
27826                     "readOnly": true,
27827                     "type": "array"
27828                 },
27829             "step" :
27830                 {
27831                     "anyOf": [
27832                         {
27833                             "type": "integer"
27834                         },
27835                         {
27836                             "type": "number"
27837                         }
27838                     ],
27839                     "description": "Step value across the defined range",
27840                     "readOnly": true
27841                 },
27842             "process" :
27843                 {
27844                     "description": "the process step that is being performed at this station",
27845                     "readOnly": true,
27846                     "type": "integer"
27847                 },
27848             "precision" :
27849                 {
27850                     "description": "Accuracy granularity of the exposed value",

```

```

27851         "readOnly": true,
27852         "type": "number"
27853     },
27854     "n" :
27855     {
27856         "description": "Friendly name of the resource",
27857         "maxLength": 64,
27858         "readOnly": true,
27859         "type": "string"
27860     },
27861     "actionrequest" :
27862     {
27863         "description": "the action request identifier",
27864         "type": "integer"
27865     },
27866     "range" :
27867     {
27868         "description": "The valid range for the value Property",
27869         "items": {
27870             "anyOf": [
27871                 {
27872                     "type": "number"
27873                 },
27874                 {
27875                     "type": "integer"
27876                 }
27877             ]
27878         },
27879         "maxItems": 2,
27880         "minItems": 2,
27881         "readOnly": true,
27882         "type": "array"
27883     },
27884     "id" :
27885     {
27886         "description": "Instance ID of this specific resource",
27887         "maxLength": 64,
27888         "readOnly": true,
27889         "type": "string"
27890     },
27891     "event" :
27892     {
27893         "description": "when True, the action request should be applied to the product identified
27894 by the tagid",
27895         "type": "boolean"
27896     },
27897     "if" :
27898     {
27899         "description": "The interface set supported by this resource",
27900         "items": {
27901             "enum": [
27902                 "oic.if.baseline",
27903                 "oic.if.ll",
27904                 "oic.if.b",
27905                 "oic.if.lb",
27906                 "oic.if.rw",
27907                 "oic.if.r",
27908                 "oic.if.a",
27909                 "oic.if.s"
27910             ],
27911             "type": "string"
27912         },
27913         "minItems": 1,
27914         "readOnly": true,
27915         "type": "array"
27916     }
27917 },
27918 "type" : "object"
27919 , "required": ["event", "actionrequest"]
27920 }
27921 }

```

27922 }
27923

27924 6.110.5 Property definition

27925 Table 223 defines the Properties that are part of the ['oic.r.orfid.station'] Resource Type

27926 **Table 223 – The Property definitions of the Resource with type 'rt' = ['oic.r.orfid.station']**

Property name	Value type	Mandatory	Access mode	Description
rt	array: see schema	No	Read Only	Resource Type
range	array: see schema	No	Read Only	The valid range for the value Property
actionrequest	integer	Yes	Read Write	the action request identifier
if	array: see schema	No	Read Only	The interface set supported by this resource
n	string	No	Read Only	Friendly name of the resource
process	integer	No	Read Only	the process step that is being performed at this station
step	multiple types: see schema	No	Read Only	Step value across the defined range
id	string	No	Read Only	Instance ID of this specific resource
precision	number	No	Read Only	Accuracy granularity of the exposed value
event	boolean	Yes	Read Write	when True, the action request should be applied to the product identified by the tagid

27927 6.110.6 CRUDN behaviour

27928 Table 224 defines the CRUDN operations that are supported on the ['oic.r.orfid.station'] Resource
27929 Type

27930 **Table 224 – The CRUDN operations of the Resource with type 'rt' = ['oic.r.orfid.station']**

Create	Read	Update	Delete	Notify
	get	post		observe

27931 6.111 Optical RFID Tag

27932 6.111.1 Introduction

27933 The tagid is an integer showing the currently read optical augmented RFID tag's identity
27934 information.

27935 Retrieves the tag information from optical augmented RFID reader in smart factory environment.

27936

27937 **6.111.2 Example URI**

27938 /ORFIDTagResURI

27939 **6.111.3 Resource type**

27940 The resource type (rt) is defined as: ['oic.r.orfid.tag'].

27941 **6.111.4 OpenAPI 2.0 definition**

```
27942 {
27943   "swagger": "2.0",
27944   "info": {
27945     "title": "Optical RFID Tag",
27946     "version": "Version 2018-01-30",
27947     "license": {
27948       "name": "copyright 2016-2017 Open Connectivity Foundation, Inc. All rights reserved.",
27949       "x-description": "Redistribution and use in source and binary forms, with or without
27950 modification, are permitted provided that the following conditions are met:\n      1.
27951 Redistributions of source code must retain the above copyright notice, this list of conditions and
27952 the following disclaimer.\n      2. Redistributions in binary form must reproduce the above
27953 copyright notice, this list of conditions and the following disclaimer in the documentation and/or
27954 other materials provided with the distribution.\n\n      THIS SOFTWARE IS PROVIDED BY THE Open
27955 Connectivity Foundation, INC. \AS IS\ AND ANY EXPRESS OR IMPLIED WARRANTIES, INCLUDING, BUT NOT
27956 LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE OR
27957 WARRANTIES OF NON-INFRINGEMENT, ARE DISCLAIMED.\n      IN NO EVENT SHALL THE Open Connectivity
27958 Foundation, INC. OR CONTRIBUTORS BE LIABLE FOR ANY DIRECT, INDIRECT, INCIDENTAL, SPECIAL, EXEMPLARY,
27959 OR CONSEQUENTIAL DAMAGES (INCLUDING, BUT NOT LIMITED TO, PROCUREMENT OF SUBSTITUTE GOODS OR
27960 SERVICES; LOSS OF USE, DATA, OR PROFITS; OR BUSINESS INTERRUPTION)\n      HOWEVER CAUSED AND ON
27961 ANY THEORY OF LIABILITY, WHETHER IN CONTRACT, STRICT LIABILITY, OR TORT (INCLUDING NEGLIGENCE OR
27962 OTHERWISE) ARISING IN ANY WAY OUT OF THE USE OF THIS SOFTWARE, EVEN IF ADVISED OF THE POSSIBILITY OF
27963 SUCH DAMAGE.\n"
27964     }
27965   },
27966   "schemes": ["http"],
27967   "consumes": ["application/json"],
27968   "produces": ["application/json"],
27969   "paths": {
27970     "/ORFIDTagResURI" : {
27971       "get": {
27972         "description": "The tagid is an integer showing the currently read optical augmented RFID
27973 tag's identity information.\nRetrieves the tag information from optical augmented RFID reader in
27974 smart factory environment.\n",
27975         "parameters": [
27976           {"$ref": "#/parameters/interface"}
27977         ],
27978         "responses": {
27979           "200": {
27980             "description": "",
27981             "x-example": {
27982               "rt": ["oic.r.orfid.tag"],
27983               "id": "unique_example_id",
27984               "tagid": 10965742,
27985               "reading": true
27986             }
27987           },
27988           "schema": { "$ref": "#/definitions/ORFID" }
27989         }
27990       }
27991     }
27992   }
27993 },
27994 "parameters": {
27995   "interface" : {
27996     "in" : "query",
27997     "name" : "if",
27998     "type" : "string",
27999     "enum" : ["oic.if.r", "oic.if.baseline"]
28000   }
28001 },
28002 "definitions": {
28003   "ORFID" : {
28004
```

```

28005 "properties": {
28006   "rt" :
28007     {
28008       "description": "Resource Type",
28009       "items": {
28010         "maxLength": 64,
28011         "type": "string"
28012       },
28013       "minItems": 1,
28014       "readOnly": true,
28015       "type": "array"
28016     },
28017   "tagid" :
28018     {
28019       "description": "the tag read by the reader",
28020       "readOnly": true,
28021       "type": "integer"
28022     },
28023   "precision" :
28024     {
28025       "description": "Accuracy granularity of the exposed value",
28026       "readOnly": true,
28027       "type": "number"
28028     },
28029   "n" :
28030     {
28031       "description": "Friendly name of the resource",
28032       "maxLength": 64,
28033       "readOnly": true,
28034       "type": "string"
28035     },
28036   "range" :
28037     {
28038       "description": "The valid range for the value Property",
28039       "items": {
28040         "anyOf": [
28041           {
28042             "type": "number"
28043           },
28044           {
28045             "type": "integer"
28046           }
28047         ]
28048       },
28049       "minItems": 2,
28050       "maxItems": 2,
28051       "readOnly": true,
28052       "type": "array"
28053     },
28054   "step" :
28055     {
28056       "anyOf": [
28057         {
28058           "type": "integer"
28059         },
28060         {
28061           "type": "number"
28062         }
28063       ],
28064       "description": "Step value across the defined range",
28065       "readOnly": true
28066     },
28067   "reading" :
28068     {
28069       "description": "true, the tagid is read e.g. being valid. false, the tagid is invalid",
28070       "readOnly": true,
28071       "type": "boolean"
28072     },
28073   "id" :
28074     {
28075       "description": "Instance ID of this specific resource",
28076       "maxLength": 64,

```

```

28077     "readOnly": true,
28078     "type": "string"
28079   },
28080   "if" :
28081     {
28082       "description": "The interface set supported by this resource",
28083       "items": {
28084         "enum": [
28085           "oic.if.baseline",
28086           "oic.if.ll",
28087           "oic.if.b",
28088           "oic.if.lb",
28089           "oic.if.rw",
28090           "oic.if.r",
28091           "oic.if.a",
28092           "oic.if.s"
28093         ],
28094         "type": "string"
28095       },
28096       "minItems": 1,
28097       "readOnly": true,
28098       "type": "array"
28099     }
28100   },
28101   "type" : "object"
28102 , "required": ["tagid", "reading"]
28103 }
28104 }
28105 }
28106

```

28107 6.111.5 Property definition

28108 Table 225 defines the Properties that are part of the ['oic.r.orfid.tag'] Resource Type

28109 **Table 225 – The Property definitions of the Resource with type 'rt' = ['oic.r.orfid.tag']**

Property name	Value type	Mandatory	Access mode	Description
if	array: see schema	No	Read Only	The interface set supported by this resource
tagid	integer	Yes	Read Only	the tag read by the reader
precision	number	No	Read Only	Accuracy granularity of the exposed value
id	string	No	Read Only	Instance ID of this specific resource
reading	boolean	Yes	Read Only	true, the tagid is read e.g. being valid. false, the tagid is invalid
rt	array: see schema	No	Read Only	Resource Type
step	multiple types: see schema	No	Read Only	Step value across the defined range
range	array: see schema	No	Read Only	The valid range for the value Property
n	string	No	Read Only	Friendly name of the resource

28110 **6.111.6 CRUDN behaviour**

28111 Table 226 defines the CRUDN operations that are supported on the ['oic.r.orfid.tag'] Resource Type

28112 **Table 226 – The CRUDN operations of the Resource with type 'rt' = ['oic.r.orfid.tag']**

Create	Read	Update	Delete	Notify
	get			observe

28113

28114 **6.112 Power Source**

28115 **6.112.1 Introduction**

28116 This resource list the available power sources for the device.
28117 The list is read only and is informative only.
28118 If there is more than 1 power sources active, use multiple resources
28119 to indicate the active power sources.
28120 Retrieves the list of available power sources.
28121 if the power source is unknown use the value "unknown".
28122

28123 **6.112.2 Example URI**

28124 /PowerResourcesExampleResourceURI

28125 **6.112.3 Resource type**

28126 The resource type (rt) is defined as: ['oic.r.powersource'].

28127 **6.112.4 OpenAPI 2.0 definition**

```
28128 {  
28129   "swagger": "2.0",  
28130   "info": {  
28131     "title": "PowerSource",  
28132     "version": "0.1",  
28133     "license": {  
28134       "name": "copyright 2016-2017 Open Connectivity Foundation, Inc. All rights reserved.",  
28135       "x-description": "Redistribution and use in source and binary forms, with or without  
28136 modification, are permitted provided that the following conditions are met:\n      1.  
28137 Redistributions of source code must retain the above copyright notice, this list of conditions and  
28138 the following disclaimer.\n      2. Redistributions in binary form must reproduce the above  
28139 copyright notice, this list of conditions and the following disclaimer in the documentation and/or  
28140 other materials provided with the distribution.\n      THIS SOFTWARE IS PROVIDED BY THE Open  
28141 Connectivity Foundation, INC. \\\n      AS IS\\n AND ANY EXPRESS OR IMPLIED WARRANTIES, INCLUDING, BUT NOT  
28142 LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE OR  
28143 WARRANTIES OF NON-INFRINGEMENT, ARE DISCLAIMED.\n      IN NO EVENT SHALL THE Open Connectivity  
28144 Foundation, INC. OR CONTRIBUTORS BE LIABLE FOR ANY DIRECT, INDIRECT, INCIDENTAL, SPECIAL, EXEMPLARY,  
28145 OR CONSEQUENTIAL DAMAGES (INCLUDING, BUT NOT LIMITED TO, PROCUREMENT OF SUBSTITUTE GOODS OR  
28146 SERVICES; LOSS OF USE, DATA, OR PROFITS; OR BUSINESS INTERRUPTION)\n      HOWEVER CAUSED AND ON  
28147 ANY THEORY OF LIABILITY, WHETHER IN CONTRACT, STRICT LIABILITY, OR TORT (INCLUDING NEGLIGENCE OR  
28148 OTHERWISE) ARISING IN ANY WAY OUT OF THE USE OF THIS SOFTWARE, EVEN IF ADVISED OF THE POSSIBILITY OF  
28149 SUCH DAMAGE.\n    "  
28150   }  
28151 },  
28152 "schemes": ["http"],  
28153 "consumes": ["application/json"],  
28154 "produces": ["application/json"],  
28155 "paths": {  
28156   "/PowerResourcesExampleResourceURI" : {  
28157     "get": {  
28158       "description": "This resource list the available power sources for the device.\n      The list is  
28159 read only and is informative only.\n      If there is more than 1 power sources active, use multiple  
28160 resources\n      nto indicate the active power sources.\n      Retrieves the list of available power  
28161 sources.\n      nif the power source is unknown use the value \\\n      unknown\\n".\n    ",  
28162     "parameters": [  
28163       {"$ref": "#/parameters/interface"}  
28164     ],  
28165     "responses": {  
28166       "200": {  
28167         "description": "",
```

```

28168         "x-example":
28169             {
28170                 "rt":          ["oic.r.powersource"],
28171                 "id":          "unique_example_id",
28172                 "powerSources": ["DC power",
28173                                 "Internal Battery",
28174                                 "External Battery",
28175                                 "Power over Ethernet",
28176                                 "USB",
28177                                 "AC (Mains) Power",
28178                                 "Solar"]
28179             }
28180         ,
28181         "schema": { "$ref": "#/definitions/powerSourceSchema" }
28182     }
28183 }
28184 }
28185 }
28186 },
28187 "parameters": {
28188     "interface" : {
28189         "in" : "query",
28190         "name" : "if",
28191         "type" : "string",
28192         "enum" : ["oic.if.r", "oic.if.baseline"]
28193     }
28194 },
28195 "definitions": {
28196     "powerSourceSchema" : {
28197         "properties": {
28198             "rt" :
28199                 {
28200                     "description": "Resource Type",
28201                     "items": {
28202                         "maxLength": 64,
28203                         "type": "string"
28204                     },
28205                     "minItems": 1,
28206                     "readOnly": true,
28207                     "type": "array"
28208                 },
28209             "powerSources" :
28210                 {
28211                     "items": {
28212                         "enum": [
28213                             "unknown",
28214                             "DC power",
28215                             "Internal Battery",
28216                             "External Battery",
28217                             "Power over Ethernet",
28218                             "USB",
28219                             "AC (Mains) Power",
28220                             "Solar"
28221                         ],
28222                         "minItems": 1,
28223                         "type": "string",
28224                         "uniqueItems": true
28225                     },
28226                     "type": "array"
28227                 },
28228             "n" :
28229                 {
28230                     "description": "Friendly name of the resource",
28231                     "maxLength": 64,
28232                     "readOnly": true,
28233                     "type": "string"
28234                 },
28235             "id" :
28236                 {
28237                     "description": "Instance ID of this specific resource",
28238                     "maxLength": 64,
28239                     "readOnly": true,

```



```

28240     "type": "string"
28241   },
28242   "if" :
28243     {
28244     "description": "The interface set supported by this resource",
28245     "items": {
28246       "enum": [
28247         "oic.if.baseline",
28248         "oic.if.ll",
28249         "oic.if.b",
28250         "oic.if.lb",
28251         "oic.if.rw",
28252         "oic.if.r",
28253         "oic.if.a",
28254         "oic.if.s"
28255       ],
28256       "type": "string"
28257     },
28258     "minItems": 1,
28259     "readOnly": true,
28260     "type": "array"
28261   }
28262 },
28263 "type" : "object"
28264 , "required": ["powerSources"]
28265 }
28266 }
28267 }
28268

```

28269 6.112.5 Property definition

28270 Table 227 defines the Properties that are part of the ['oic.r.powersource'] Resource Type

28271 **Table 227 – The Property definitions of the Resource with type 'rt' = ['oic.r.powersource']**

Property name	Value type	Mandatory	Access mode	Description
n	string	No	Read Only	Friendly name of the resource
id	string	No	Read Only	Instance ID of this specific resource
rt	array: see schema	No	Read Only	Resource Type
if	array: see schema	No	Read Only	The interface set supported by this resource
powerSources	array: see schema	Yes	Read Write	

28272 6.112.6 CRUDN behaviour

28273 Table 228 defines the CRUDN operations that are supported on the ['oic.r.powersource'] Resource Type

28275 **Table 228 – The CRUDN operations of the Resource with type 'rt' = ['oic.r.powersource']**

Create	Read	Update	Delete	Notify
	get			observe

28276 6.113 Print Queue

28277 6.113.1 Introduction

28278 This resource describes the items in a Printer Queue. The URI and status are read only items that cannot be changed through this resource.

28279 Retrieves the current Print Queue.

28280
28281

28282 **6.113.2 Example URI**

28283 /PrintQueueResURI

28284 **6.113.3 Resource type**

28285 The resource type (rt) is defined as: ['oic.r.printer.queue'].

28286 **6.113.4 OpenAPI 2.0 definition**

```
28287 {
28288   "swagger": "2.0",
28289   "info": {
28290     "title": "Print Queue",
28291     "version": "v1.1.0-20180115",
28292     "license": {
28293       "name": "copyright 2016-2017 Open Connectivity Foundation, Inc. All rights reserved.",
28294       "x-description": "Redistribution and use in source and binary forms, with or without
28295 modification, are permitted provided that the following conditions are met:\n      1.
28296 Redistributions of source code must retain the above copyright notice, this list of conditions and
28297 the following disclaimer.\n      2. Redistributions in binary form must reproduce the above
28298 copyright notice, this list of conditions and the following disclaimer in the documentation and/or
28299 other materials provided with the distribution.\n\n      THIS SOFTWARE IS PROVIDED BY THE Open
28300 Connectivity Foundation, INC. \AS IS\ AND ANY EXPRESS OR IMPLIED WARRANTIES, INCLUDING, BUT NOT
28301 LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE OR
28302 WARRANTIES OF NON-INFRINGEMENT, ARE DISCLAIMED.\n      IN NO EVENT SHALL THE Open Connectivity
28303 Foundation, INC. OR CONTRIBUTORS BE LIABLE FOR ANY DIRECT, INDIRECT, INCIDENTAL, SPECIAL, EXEMPLARY,
28304 OR CONSEQUENTIAL DAMAGES (INCLUDING, BUT NOT LIMITED TO, PROCUREMENT OF SUBSTITUTE GOODS OR
28305 SERVICES; LOSS OF USE, DATA, OR PROFITS; OR BUSINESS INTERRUPTION)\n      HOWEVER CAUSED AND ON
28306 ANY THEORY OF LIABILITY, WHETHER IN CONTRACT, STRICT LIABILITY, OR TORT (INCLUDING NEGLIGENCE OR
28307 OTHERWISE) ARISING IN ANY WAY OUT OF THE USE OF THIS SOFTWARE, EVEN IF ADVISED OF THE POSSIBILITY OF
28308 SUCH DAMAGE.\n"
28309     }
28310   },
28311   "schemes": ["http"],
28312   "consumes": ["application/json"],
28313   "produces": ["application/json"],
28314   "paths": {
28315     "/PrintQueueResURI" : {
28316       "get": {
28317         "description": "This resource describes the items in a Printer Queue. The URI and status are
28318 read only items that cannot be changed through this resource.\nRetrieves the current Print
28319 Queue.\n",
28320         "parameters": [
28321           {"$ref": "#/parameters/interface"}
28322         ],
28323         "responses": {
28324           "200": {
28325             "description": "",
28326             "x-example": {
28327               {
28328                 "rt" : ["oic.r.printer.queue"],
28329                 "id" : "unique_example_id",
28330                 "queue" :
28331                 [
28332                   {
28333                     "uri" : "10.10.10.10/3dprinter/queueitem/1",
28334                     "status" : "Printing"
28335                   },
28336                   {
28337                     "uri" : "10.10.10.10/3dprinter/queueitem/2",
28338                     "status" : "Pending"
28339                   }
28340                 ]
28341               }
28342             },
28343             "schema": { "$ref": "#/definitions/PrintQueue" }
28344           }
28345         }
28346       }
28347     }
28348   },
28349   "parameters": {
```

```

28350     "interface" : {
28351         "in" : "query",
28352         "name" : "if",
28353         "type" : "string",
28354         "enum" : ["oic.if.r", "oic.if.baseline"]
28355     }
28356 },
28357 "definitions": {
28358     "PrintQueue" : {
28359         "properties": {
28360             "rt" :
28361                 {
28362                     "description": "Resource Type",
28363                     "items": {
28364                         "maxLength": 64,
28365                         "type": "string"
28366                     },
28367                     "minItems": 1,
28368                     "readOnly": true,
28369                     "type": "array"
28370                 },
28371             "n" :
28372                 {
28373                     "description": "Friendly name of the resource",
28374                     "maxLength": 64,
28375                     "readOnly": true,
28376                     "type": "string"
28377                 },
28378             "queue" :
28379                 {
28380                     "description": "The array of queue items for the printer.",
28381                     "items": {
28382                         "properties": {
28383                             "status": {
28384                                 "description": "The status of the queue item.",
28385                                 "enum": [
28386                                     "Printing",
28387                                     "Pending",
28388                                     "Paused",
28389                                     "Error",
28390                                     "Unknown"
28391                                 ],
28392                                 "readOnly": true,
28393                                 "type": "string"
28394                             },
28395                             "uri": {
28396                                 "description": "The URI of the queue item.",
28397                                 "format": "uri",
28398                                 "maxLength": 256,
28399                                 "readOnly": true,
28400                                 "type": "string"
28401                             }
28402                         },
28403                         "required": [
28404                             "uri",
28405                             "status"
28406                         ],
28407                         "type": "object"
28408                     },
28409                     "readOnly": true,
28410                     "type": "array"
28411                 },
28412             "id" :
28413                 {
28414                     "description": "Instance ID of this specific resource",
28415                     "maxLength": 64,
28416                     "readOnly": true,
28417                     "type": "string"
28418                 },
28419             "if" :
28420                 {
28421                     "description": "The interface set supported by this resource",

```

```

28422     "items": {
28423         "enum": [
28424             "oic.if.baseline",
28425             "oic.if.ll",
28426             "oic.if.b",
28427             "oic.if.lb",
28428             "oic.if.rw",
28429             "oic.if.r",
28430             "oic.if.a",
28431             "oic.if.s"
28432         ],
28433         "type": "string"
28434     },
28435     "minItems": 1,
28436     "readOnly": true,
28437     "type": "array"
28438 }
28439 }
28440 , "type" : "object"
28441 , "required": ["queue"]
28442 }
28443 }
28444 }
28445

```

28446 **6.113.5 Property definition**

28447 Table 229 defines the Properties that are part of the ['oic.r.printer.queue'] Resource Type

28448 **Table 229 – The Property definitions of the Resource with type 'rt' = ['oic.r.printer.queue']**

Property name	Value type	Mandatory	Access mode	Description
id	string	No	Read Only	Instance ID of this specific resource
if	array: see schema	No	Read Only	The interface set supported by this resource
queue	array: see schema	Yes	Read Only	The array of queue items for the printer.
n	string	No	Read Only	Friendly name of the resource
rt	array: see schema	No	Read Only	Resource Type

28449 **6.113.6 CRUDN behaviour**

28450 Table 230 defines the CRUDN operations that are supported on the ['oic.r.printer.queue'] Resource Type

28452 **Table 230 – The CRUDN operations of the Resource with type 'rt' = ['oic.r.printer.queue']**

Create	Read	Update	Delete	Notify
	get			observe

28453 **6.114 Pulse Rate**

28454 **6.114.1 Introduction**

28455 This resource describes the properties associated with a person's pulse rate.
28456 The unit, which is the default unit, is bpm.
28457 The PulseRate and unit Properties are read-only values that are provided by the server.
28458 When range (from oic.r.baseresource) is omitted the default is 0 to +MAXFLOAT.
28459 Retrieves pulse rate of an object.
28460

28461 **6.114.2 Example URI**

28462 /PulseRateResURI

28463 **6.114.3 Resource type**

28464 The resource type (rt) is defined as: ['oic.r.pulserate'].

28465 **6.114.4 OpenAPI 2.0 definition**

```
28466 {
28467   "swagger": "2.0",
28468   "info": {
28469     "title": "Pulse Rate",
28470     "version": "v1.1.0-20160519",
28471     "license": {
28472       "name": "copyright 2016-2017 Open Connectivity Foundation, Inc. All rights reserved.",
28473       "x-description": "Redistribution and use in source and binary forms, with or without
28474 modification, are permitted provided that the following conditions are met:\n      1.
28475 Redistributions of source code must retain the above copyright notice, this list of conditions and
28476 the following disclaimer.\n      2. Redistributions in binary form must reproduce the above
28477 copyright notice, this list of conditions and the following disclaimer in the documentation and/or
28478 other materials provided with the distribution.\n\n      THIS SOFTWARE IS PROVIDED BY THE Open
28479 Connectivity Foundation, INC. \AS IS\ AND ANY EXPRESS OR IMPLIED WARRANTIES, INCLUDING, BUT NOT
28480 LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE OR
28481 WARRANTIES OF NON-INFRINGEMENT, ARE DISCLAIMED.\n      IN NO EVENT SHALL THE Open Connectivity
28482 Foundation, INC. OR CONTRIBUTORS BE LIABLE FOR ANY DIRECT, INDIRECT, INCIDENTAL, SPECIAL, EXEMPLARY,
28483 OR CONSEQUENTIAL DAMAGES (INCLUDING, BUT NOT LIMITED TO, PROCUREMENT OF SUBSTITUTE GOODS OR
28484 SERVICES; LOSS OF USE, DATA, OR PROFITS; OR BUSINESS INTERRUPTION)\n      HOWEVER CAUSED AND ON
28485 ANY THEORY OF LIABILITY, WHETHER IN CONTRACT, STRICT LIABILITY, OR TORT (INCLUDING NEGLIGENCE OR
28486 OTHERWISE) ARISING IN ANY WAY OUT OF THE USE OF THIS SOFTWARE, EVEN IF ADVISED OF THE POSSIBILITY OF
28487 SUCH DAMAGE.\n"
28488     }
28489   },
28490   "schemes": ["http"],
28491   "consumes": ["application/json"],
28492   "produces": ["application/json"],
28493   "paths": {
28494     "/PulseRateResURI" : {
28495       "get": {
28496         "description": "This resource describes the properties associated with a person's pulse
28497 rate.\nThe unit, which is the default unit, is bpm.\nThe PulseRate and unit Properties are read-only
28498 values that are provided by the server.\nWhen range (from oic.r.baseresource) is omitted the default
28499 is 0 to +MAXFLOAT.\nRetrieves pulse rate of an object.\n",
28500         "parameters": [
28501           { "$ref": "#/parameters/interface" }
28502         ],
28503         "responses": {
28504           "200": {
28505             "description": "",
28506             "x-example":
28507             {
28508               "rt": ["oic.r.pulserate"],
28509               "id": "unique_example_id",
28510               "pulserate": 80
28511             }
28512           },
28513           "schema": { "$ref": "#/definitions/PulseRate" }
28514         }
28515       }
28516     }
28517   },
28518   "parameters": {
28519     "interface" : {
28520       "in": "query",
28521       "name": "if",
28522       "type": "string",
28523       "enum": ["oic.if.s", "oic.if.baseline"]
28524     }
28525   },
28526   "definitions": {
28527     "PulseRate" : {
28528
```

```

28529 "properties": {
28530   "rt" :
28531     {
28532       "description": "Resource Type",
28533       "items": {
28534         "maxLength": 64,
28535         "type": "string"
28536       },
28537       "minItems": 1,
28538       "readOnly": true,
28539       "type": "array"
28540     },
28541   "step" :
28542     {
28543       "anyOf": [
28544         {
28545           "type": "integer"
28546         },
28547         {
28548           "type": "number"
28549         }
28550       ],
28551       "description": "Step value across the defined range",
28552       "readOnly": true
28553     },
28554   "precision" :
28555     {
28556       "description": "Accuracy granularity of the exposed value",
28557       "readOnly": true,
28558       "type": "number"
28559     },
28560   "value" :
28561     {
28562       "anyOf": [
28563         {
28564           "type": "array"
28565         },
28566         {
28567           "type": "string"
28568         },
28569         {
28570           "type": "boolean"
28571         },
28572         {
28573           "type": "integer"
28574         },
28575         {
28576           "type": "number"
28577         },
28578         {
28579           "type": "object"
28580         }
28581       ],
28582       "description": "The value sensed or actuated by this Resource"
28583     },
28584   "n" :
28585     {
28586       "description": "Friendly name of the resource",
28587       "maxLength": 64,
28588       "readOnly": true,
28589       "type": "string"
28590     },
28591   "range" :
28592     {
28593       "description": "The valid range for the value Property",
28594       "items": {
28595         "anyOf": [

```

```

28601         {
28602             "type": "number"
28603         },
28604         {
28605             "type": "integer"
28606         }
28607     ]
28608 },
28609 "maxItems": 2,
28610 "minItems": 2,
28611 "readOnly": true,
28612 "type": "array"
28613 },
28614
28615 "pulserate" :
28616     {
28617         "description": "Pulse rate in bpm.",
28618         "minimum": 0,
28619         "readOnly": true,
28620         "type": "integer"
28621     },
28622
28623 "id" :
28624     {
28625         "description": "Instance ID of this specific resource",
28626         "maxLength": 64,
28627         "readOnly": true,
28628         "type": "string"
28629     },
28630
28631 "if" :
28632     {
28633         "description": "The interface set supported by this resource",
28634         "items": {
28635             "enum": [
28636                 "oic.if.baseline",
28637                 "oic.if.ll",
28638                 "oic.if.b",
28639                 "oic.if.lb",
28640                 "oic.if.rw",
28641                 "oic.if.r",
28642                 "oic.if.a",
28643                 "oic.if.s"
28644             ],
28645             "type": "string"
28646         },
28647         "minItems": 1,
28648         "readOnly": true,
28649         "type": "array"
28650     }
28651 }
28652 }, "type" : "object"
28653 , "required": ["pulserate"]
28654 }
28655 }
28656 }
28657 }
28658

```

28659 6.114.5 Property definition

28660 Table 231 defines the Properties that are part of the ['oic.r.pulserate'] Resource Type

28661 **Table 231 – The Property definitions of the Resource with type 'rt' = ['oic.r.pulserate']**

Property name	Value type	Mandatory	Access mode	Description
n	string	No	Read Only	Friendly name of the resource
if	array: see schema	No	Read Only	The interface set supported by this resource

precision	number	No	Read Only	Accuracy granularity of the exposed value
range	array: see schema	No	Read Only	The valid range for the value Property
rt	array: see schema	No	Read Only	Resource Type
id	string	No	Read Only	Instance ID of this specific resource
pulserate	integer	Yes	Read Only	Pulse rate in bpm.
value	multiple types: see schema	No	Read Write	The value sensed or actuated by this Resource
step	multiple types: see schema	No	Read Only	Step value across the defined range

28662 **6.114.6 CRUDN behaviour**

28663 Table 232 defines the CRUDN operations that are supported on the ['oic.r.pulserate'] Resource
 28664 Type

28665 **Table 232 – The CRUDN operations of the Resource with type 'rt' = ['oic.r.pulserate']**

Create	Read	Update	Delete	Notify
	get			observe

28666 **6.115 Sensor Properties**

28667 **6.115.1 Introduction**

28668 This resource describes the properties which guide the reporting of a state change of a Sensor.
 28669 The silenttime represents the period after which a state change report was sent where the Sensor
 28670 state change is not reported.

28671 The sensitivity represents the level at which the sensor detects a state change.

28672 These values are completely dependent on the type of Sensor and the manufacturer capability,
 28673 so no range restrictions are used.

28674 The range from the baseresource is only applied to the sensitivity.

28675 Gets current Sensor Property values
 28676

28677 **6.115.2 Example URI**

28678 /SensorPropsResURI

28679 **6.115.3 Resource type**

28680 The resource type (rt) is defined as: ['oic.r.sensor.props'].

28681 **6.115.4 OpenAPI 2.0 definition**

```

28682 {
28683   "swagger": "2.0",
28684   "info": {
28685     "title": "Sensor Properties",
28686     "version": "v1.1.0-20180115",
28687     "license": {
28688       "name": "copyright 2016-2017 Open Connectivity Foundation, Inc. All rights reserved.",
28689       "x-description": "Redistribution and use in source and binary forms, with or without
28690 modification, are permitted provided that the following conditions are met:\n      1.
28691 Redistributions of source code must retain the above copyright notice, this list of conditions and
28692 the following disclaimer.\n      2. Redistributions in binary form must reproduce the above

```



```

28693 copyright notice, this list of conditions and the following disclaimer in the documentation and/or
28694 other materials provided with the distribution.\n\n THIS SOFTWARE IS PROVIDED BY THE Open
28695 Connectivity Foundation, INC. \ "AS IS\ " AND ANY EXPRESS OR IMPLIED WARRANTIES, INCLUDING, BUT NOT
28696 LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE OR
28697 WARRANTIES OF NON-INFRINGEMENT, ARE DISCLAIMED.\n IN NO EVENT SHALL THE Open Connectivity
28698 Foundation, INC. OR CONTRIBUTORS BE LIABLE FOR ANY DIRECT, INDIRECT, INCIDENTAL, SPECIAL, EXEMPLARY,
28699 OR CONSEQUENTIAL DAMAGES (INCLUDING, BUT NOT LIMITED TO, PROCUREMENT OF SUBSTITUTE GOODS OR
28700 SERVICES; LOSS OF USE, DATA, OR PROFITS; OR BUSINESS INTERRUPTION)\n HOWEVER CAUSED AND ON
28701 ANY THEORY OF LIABILITY, WHETHER IN CONTRACT, STRICT LIABILITY, OR TORT (INCLUDING NEGLIGENCE OR
28702 OTHERWISE) ARISING IN ANY WAY OUT OF THE USE OF THIS SOFTWARE, EVEN IF ADVISED OF THE POSSIBILITY OF
28703 SUCH DAMAGE.\n"
28704 }
28705 },
28706 "schemes": ["http"],
28707 "consumes": ["application/json"],
28708 "produces": ["application/json"],
28709 "paths": {
28710 "/SensorPropsResURI" : {
28711 "get": {
28712 "description": "This resource describes the properties which guide the reporting of a state
28713 change of a Sensor.\nThe silenttime represents the period after which a state change report was sent
28714 where the Sensor state change is not reported.\nThe sensitivity represents the level at which the
28715 sensor detects a state change.\nThese values are completely dependent on the type of Sensor and the
28716 manufacturer capability, so no range restrictions are used.\nThe range from the baseresource is only
28717 applied to the sensitivity.\nGets current Sensor Property values\n",
28718 "parameters": [
28719 {"$ref": "#/parameters/interface"}
28720 ],
28721 "responses": {
28722 "200": {
28723 "description": "",
28724 "x-example":
28725 {
28726 "rt": ["oic.r.sensor.props"],
28727 "id": "unique_example_id",
28728 "silenttime": 10,
28729 "sensitivity": 20.5,
28730 "range" : [ 0, 100 ]
28731 }
28732 },
28733 "schema": { "$ref": "#/definitions/SensorProps" }
28734 }
28735 },
28736 },
28737 "post": {
28738 "description": "Sets Sensor Property values\n",
28739 "parameters": [
28740 {"$ref": "#/parameters/interface"},
28741 {
28742 "name": "body",
28743 "in": "body",
28744 "required": true,
28745 "schema": { "$ref": "#/definitions/SensorProps" },
28746 "x-example":
28747 {
28748 "silenttime": 20,
28749 "sensitivity": 10.75
28750 }
28751 }
28752 ],
28753 "responses": {
28754 "200": {
28755 "description": "",
28756 "x-example":
28757 {
28758 "id": "unique_example_id",
28759 "silenttime": 20,
28760 "sensitivity": 10.75
28761 },
28762 "schema": { "$ref": "#/definitions/SensorProps" }
28763 }
28764 }

```

```

28765     }
28766   }
28767 },
28768 "parameters": {
28769   "interface" : {
28770     "in" : "query",
28771     "name" : "if",
28772     "type" : "string",
28773     "enum" : ["oic.if.rw", "oic.if.baseline"]
28774   }
28775 },
28776 "definitions": {
28777   "SensorProps" : {
28778     "properties": {
28779       "rt" :
28780         {
28781           "description": "Resource Type",
28782           "items": {
28783             "maxLength": 64,
28784             "type": "string"
28785           },
28786           "minItems": 1,
28787           "readOnly": true,
28788           "type": "array"
28789         },
28790       "silenttime" :
28791         {
28792           "description": "The time in seconds from the previous report that the Sensor restrains
28793 from sending a state change. This is used to avoid repeated state change reports.",
28794           "type": "integer"
28795         },
28796       "sensitivity" :
28797         {
28798           "description": "The level of the detection accuracy of the Sensor. This is used to control
28799 the level at which the Sensor detects a state change. Range should be specified per manufacturer
28800 device capabilities.",
28801           "type": "number"
28802         },
28803       "precision" :
28804         {
28805           "description": "Accuracy granularity of the exposed value",
28806           "readOnly": true,
28807           "type": "number"
28808         },
28809       "n" :
28810         {
28811           "description": "Friendly name of the resource",
28812           "maxLength": 64,
28813           "readOnly": true,
28814           "type": "string"
28815         },
28816       "range" :
28817         {
28818           "description": "The valid range for the value Property",
28819           "items": {
28820             "anyOf": [
28821               {
28822                 "type": "number"
28823               },
28824               {
28825                 "type": "integer"
28826               }
28827             ]
28828           },
28829           "maxItems": 2,
28830           "minItems": 2,
28831           "readOnly": true,
28832           "type": "array"
28833         },
28834       "step" :
28835         {
28836           "anyOf": [

```

```

28837     {
28838         "type": "integer"
28839     },
28840     {
28841         "type": "number"
28842     }
28843 ],
28844 "description": "Step value across the defined range",
28845 "readOnly": true
28846 },
28847 "id" :
28848     {
28849         "description": "Instance ID of this specific resource",
28850         "maxLength": 64,
28851         "readOnly": true,
28852         "type": "string"
28853     },
28854 "if" :
28855     {
28856         "description": "The interface set supported by this resource",
28857         "items": {
28858             "enum": [
28859                 "oic.if.baseline",
28860                 "oic.if.ll",
28861                 "oic.if.b",
28862                 "oic.if.lb",
28863                 "oic.if.rw",
28864                 "oic.if.r",
28865                 "oic.if.a",
28866                 "oic.if.s"
28867             ],
28868             "type": "string"
28869         },
28870         "minItems": 1,
28871         "readOnly": true,
28872         "type": "array"
28873     }
28874 },
28875 "type" : "object"
28876 , "required": ["silenttime", "sensitivity"]
28877 }
28878 }
28879 }
28880

```

6.115.5 Property definition

Table 233 defines the Properties that are part of the ['oic.r.sensor.props'] Resource Type

Table 233 – The Property definitions of the Resource with type 'rt' = ['oic.r.sensor.props']

Property name	Value type	Mandatory	Access mode	Description
precision	number	No	Read Only	Accuracy granularity of the exposed value
if	array: see schema	No	Read Only	The interface set supported by this resource
n	string	No	Read Only	Friendly name of the resource
range	array: see schema	No	Read Only	The valid range for the value Property
sensitivity	number	Yes	Read Write	The level of the detection accuracy of the Sensor. This is used to control

				the level at which the Sensor detects a state change. Range should be specified per manufacturer device capabilities.
id	string	No	Read Only	Instance ID of this specific resource
step	multiple types: see schema	No	Read Only	Step value across the defined range
rt	array: see schema	No	Read Only	Resource Type
silenttime	integer	Yes	Read Write	The time in seconds from the previous report that the Sensor restrains from sending a state change. This is used to avoid repeated state change reports.

28884 **6.115.6 CRUDN behaviour**

28885 Table 234 defines the CRUDN operations that are supported on the ['oic.r.sensor.props'] Resource
 28886 Type

28887 **Table 234 – The CRUDN operations of the Resource with type 'rt' = ['oic.r.sensor.props']**

Create	Read	Update	Delete	Notify
	get	post		observe

28888 **6.116 User ID**

28889 **6.116.1 Introduction**

28890 This resource describes the properties associated with user ID of an OCF client.
 28891 The userid Property is a single value whose type is one of string, number or integer.
 28892 The userid Property is a read-only value that is provided by the server.
 28893 Retrieves User ID of an object.
 28894

28895 **6.116.2 Example URI**

28896 /UserIDResURI

28897 **6.116.3 Resource type**

28898 The resource type (rt) is defined as: ['oic.r.userid'].

28899 **6.116.4 OpenAPI 2.0 definition**

```

28900 {
28901   "swagger": "2.0",
28902   "info": {
28903     "title": "User ID",
28904     "version": "v1.1.0-20160519",
28905     "license": {
28906       "name": "copyright 2016-2017 Open Connectivity Foundation, Inc. All rights reserved.",

```

```

28907         "x-description": "Redistribution and use in source and binary forms, with or without
28908 modification, are permitted provided that the following conditions are met:\n      1.
28909 Redistributions of source code must retain the above copyright notice, this list of conditions and
28910 the following disclaimer.\n      2. Redistributions in binary form must reproduce the above
28911 copyright notice, this list of conditions and the following disclaimer in the documentation and/or
28912 other materials provided with the distribution.\n\n      THIS SOFTWARE IS PROVIDED BY THE Open
28913 Connectivity Foundation, INC. \ "AS IS\ " AND ANY EXPRESS OR IMPLIED WARRANTIES, INCLUDING, BUT NOT
28914 LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE OR
28915 WARRANTIES OF NON-INFRINGEMENT, ARE DISCLAIMED.\n      IN NO EVENT SHALL THE Open Connectivity
28916 Foundation, INC. OR CONTRIBUTORS BE LIABLE FOR ANY DIRECT, INDIRECT, INCIDENTAL, SPECIAL, EXEMPLARY,
28917 OR CONSEQUENTIAL DAMAGES (INCLUDING, BUT NOT LIMITED TO, PROCUREMENT OF SUBSTITUTE GOODS OR
28918 SERVICES; LOSS OF USE, DATA, OR PROFITS; OR BUSINESS INTERRUPTION)\n      HOWEVER CAUSED AND ON
28919 ANY THEORY OF LIABILITY, WHETHER IN CONTRACT, STRICT LIABILITY, OR TORT (INCLUDING NEGLIGENCE OR
28920 OTHERWISE) ARISING IN ANY WAY OUT OF THE USE OF THIS SOFTWARE, EVEN IF ADVISED OF THE POSSIBILITY OF
28921 SUCH DAMAGE.\n"
28922     }
28923 },
28924 "schemes": ["http"],
28925 "consumes": ["application/json"],
28926 "produces": ["application/json"],
28927 "paths": {
28928     "/UserIDResURI" : {
28929         "get": {
28930             "description": "This resource describes the properties associated with user ID of an OCF
28931 client.\nThe userid Property is a single value whose type is one of string, number or integer.\nThe
28932 userid Property is a read-only value that is provided by the server.\nRetrieves User ID of an
28933 object.\n",
28934             "parameters": [
28935                 {"$ref": "#/parameters/interface"}
28936             ],
28937             "responses": {
28938                 "200": {
28939                     "description": "",
28940                     "x-example":
28941                     {
28942                         "rt": ["oic.r.userid"],
28943                         "id": "unique_example_id",
28944                         "userid": "USER1"
28945                     }
28946                 },
28947                 "schema": { "$ref": "#/definitions/UserID" }
28948             }
28949         }
28950     }
28951 },
28952 },
28953 "parameters": {
28954     "interface" : {
28955         "in" : "query",
28956         "name" : "if",
28957         "type" : "string",
28958         "enum" : ["oic.if.s", "oic.if.baseline"]
28959     }
28960 },
28961 "definitions": {
28962     "UserID" : {
28963         "properties": {
28964             "rt" :
28965             {
28966                 "description": "Resource Type",
28967                 "items": {
28968                     "maxLength": 64,
28969                     "type": "string"
28970                 },
28971                 "minItems": 1,
28972                 "readOnly": true,
28973                 "type": "array"
28974             },
28975             "userid" :
28976             {
28977                 "description": "ID of a patient/user of healthcare devices",
28978                 "readOnly": true,

```

```

28979     "type": "string"
28980   },
28981   "n" :
28982     {
28983       "description": "Friendly name of the resource",
28984       "maxLength": 64,
28985       "readOnly": true,
28986       "type": "string"
28987     },
28988   "id" :
28989     {
28990       "description": "Instance ID of this specific resource",
28991       "maxLength": 64,
28992       "readOnly": true,
28993       "type": "string"
28994     },
28995   "if" :
28996     {
28997       "description": "The interface set supported by this resource",
28998       "items": {
28999         "enum": [
29000           "oic.if.baseline",
29001           "oic.if.ll",
29002           "oic.if.b",
29003           "oic.if.lb",
29004           "oic.if.rw",
29005           "oic.if.r",
29006           "oic.if.a",
29007           "oic.if.s"
29008         ],
29009         "type": "string"
29010       },
29011       "minItems": 1,
29012       "readOnly": true,
29013       "type": "array"
29014     }
29015   },
29016   "type" : "object"
29017   , "required": ["userid"]
29018 }
29019 }
29020 }
29021

```

29022 6.116.5 Property definition

29023 Table 235 defines the Properties that are part of the ['oic.r.userid'] Resource Type

29024 **Table 235 – The Property definitions of the Resource with type 'rt' = ['oic.r.userid']**

Property name	Value type	Mandatory	Access mode	Description
rt	array: see schema	No	Read Only	Resource Type
userid	string	Yes	Read Only	ID of a patient/user of healthcare devices
id	string	No	Read Only	Instance ID of this specific resource
if	array: see schema	No	Read Only	The interface set supported by this resource
n	string	No	Read Only	Friendly name of the resource

29025 6.116.6 CRUDN behaviour

29026 Table 236 defines the CRUDN operations that are supported on the ['oic.r.userid'] Resource Type
 Copyright Open Connectivity Foundation, Inc. © 2016-19. All rights Reserved 488

29027

Table 236 – The CRUDN operations of the Resource with type 'rt' = ['oic.r.userid']

Create	Read	Update	Delete	Notify
	get			observe

29028

6.117 Base Resource Schema

29029

6.117.1 Introduction

29030

This is the base resource schema on which all other resources defined in this specification build.

29031

value is the sensed or actuated value of the Resource.

29032

precision is the accuracy granularity of the value.

29033

range is the range over which value is valid.

29034

step is the step function over the defined range if applicable (e.g. always step by '2').

29035

retrieves the state of the resource.

29036

6.117.2 Example URI

29037

/BaseResourceSchemaResURI

29038

6.117.3 Resource type

29039

The resource type (rt) is defined as: ['oic.baseresource'].

29040

6.117.4 OpenAPI 2.0 definition

29041

```

29041 {
29042   "swagger": "2.0",
29043   "info": {
29044     "title": "Base Resource Schema",
29045     "version": "v1.1.0-20160519",
29046     "license": {
29047       "name": "copyright 2016-2017 Open Connectivity Foundation, Inc. All rights reserved.",
29048       "x-description": "Redistribution and use in source and binary forms, with or without
29049 modification, are permitted provided that the following conditions are met:\n      1.
29050 Redistributions of source code must retain the above copyright notice, this list of conditions and
29051 the following disclaimer.\n      2. Redistributions in binary form must reproduce the above
29052 copyright notice, this list of conditions and the following disclaimer in the documentation and/or
29053 other materials provided with the distribution.\n\n      THIS SOFTWARE IS PROVIDED BY THE Open
29054 Connectivity Foundation, INC. \AS IS\ AND ANY EXPRESS OR IMPLIED WARRANTIES, INCLUDING, BUT NOT
29055 LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE OR
29056 WARRANTIES OF NON-INFRINGEMENT, ARE DISCLAIMED.\n      IN NO EVENT SHALL THE Open Connectivity
29057 Foundation, INC. OR CONTRIBUTORS BE LIABLE FOR ANY DIRECT, INDIRECT, INCIDENTAL, SPECIAL, EXEMPLARY,
29058 OR CONSEQUENTIAL DAMAGES (INCLUDING, BUT NOT LIMITED TO, PROCUREMENT OF SUBSTITUTE GOODS OR
29059 SERVICES; LOSS OF USE, DATA, OR PROFITS; OR BUSINESS INTERRUPTION)\n      HOWEVER CAUSED AND ON
29060 ANY THEORY OF LIABILITY, WHETHER IN CONTRACT, STRICT LIABILITY, OR TORT (INCLUDING NEGLIGENCE OR
29061 OTHERWISE) ARISING IN ANY WAY OUT OF THE USE OF THIS SOFTWARE, EVEN IF ADVISED OF THE POSSIBILITY OF
29062 SUCH DAMAGE.\n"
29063     }
29064   },
29065   "schemes": ["http"],
29066   "consumes": ["application/json"],
29067   "produces": ["application/json"],
29068   "paths": {
29069     "/BaseResourceSchemaResURI" : {
29070       "get": {
29071         "description": "This is the base resource schema on which all other resources defined in
29072 this specification build.\nvalue is the sensed or actuated value of the Resource.\nprecision is the
29073 accuracy granularity of the value.\nrange is the range over which value is valid.\nstep is the step
29074 function over the defined range if applicable (e.g. always step by '2').\nretrieves the state of the
29075 resource.",
29076         "parameters": [
29077           {"$ref": "#/parameters/interface-baseline"}
29078         ],
29079         "responses": {
29080           "200": {
29081             "description": "",
29082             "x-example":
29083               {
29084                 "rt" :           ["oic.baseresource"],
29085                 "if":           ["oic.if.baseline"],
29086                 "id":           "unique_example_id",

```

```

29087         "value":          10.5,
29088         "precision":       0.5,
29089         "range":           [0.0,100.0]
29090     }
29091     },
29092     "schema": { "$ref": "#/definitions/base" }
29093 }
29094 },
29095 },
29096 "post": {
29097     "description": "sets the read-write resource properties",
29098     "parameters": [
29099         { "$ref": "#/parameters/interface-a" },
29100         {
29101             "name": "body",
29102             "in": "body",
29103             "required": true,
29104             "schema": { "$ref": "#/definitions/base" },
29105             "x-example":
29106                 {
29107                     "value": 20.5
29108                 }
29109         }
29110     ],
29111     "responses": {
29112         "200": {
29113             "description": "",
29114             "x-example":
29115                 {
29116                     "value": 20.5
29117                 }
29118             ,
29119             "schema": { "$ref": "#/definitions/base" }
29120         }
29121     }
29122 },
29123 },
29124 },
29125 "parameters": {
29126     "interface-a" : {
29127         "in" : "query",
29128         "name" : "if",
29129         "type" : "string",
29130         "enum" : ["oic.if.a"]
29131     },
29132     "interface-baseline" : {
29133         "in" : "query",
29134         "name" : "if",
29135         "type" : "string",
29136         "enum" : ["oic.if.baseline"]
29137     }
29138 },
29139 "definitions": {
29140     "base" :
29141     {
29142         "properties": {
29143             "id": {
29144                 "description": "Instance ID of this specific resource",
29145                 "maxLength": 64,
29146                 "readOnly": true,
29147                 "type": "string"
29148             },
29149             "if": {
29150                 "description": "The interface set supported by this resource",
29151                 "items": {
29152                     "enum": [
29153                         "oic.if.baseline",
29154                         "oic.if.ll",
29155                         "oic.if.b",
29156                         "oic.if.lb",
29157                         "oic.if.rw",
29158                         "oic.if.r",

```



```

29159         "oic.if.a",
29160         "oic.if.s"
29161     ],
29162     "type": "string"
29163 },
29164     "minItems": 1,
29165     "readOnly": true,
29166     "type": "array"
29167 },
29168     "n": {
29169         "description": "Friendly name of the resource",
29170         "maxLength": 64,
29171         "readOnly": true,
29172         "type": "string"
29173     },
29174     "precision": {
29175         "description": "Accuracy granularity of the exposed value",
29176         "readOnly": true,
29177         "type": "number"
29178     },
29179     "range": {
29180         "description": "The valid range for the value Property",
29181         "items": {
29182             "anyOf": [
29183                 {
29184                     "type": "number"
29185                 },
29186                 {
29187                     "type": "integer"
29188                 }
29189             ]
29190         },
29191         "maxItems": 2,
29192         "minItems": 2,
29193         "readOnly": true,
29194         "type": "array"
29195     },
29196     "rt": {
29197         "description": "Resource Type",
29198         "items": {
29199             "maxLength": 64,
29200             "type": "string"
29201         },
29202         "minItems": 1,
29203         "readOnly": true,
29204         "type": "array"
29205     },
29206     "step": {
29207         "anyOf": [
29208             {
29209                 "type": "integer"
29210             },
29211             {
29212                 "type": "number"
29213             }
29214         ],
29215         "description": "Step value across the defined range",
29216         "readOnly": true
29217     },
29218     "value": {
29219         "anyOf": [
29220             {
29221                 "type": "array"
29222             },
29223             {
29224                 "type": "string"
29225             },
29226             {
29227                 "type": "boolean"
29228             },
29229             {
29230                 "type": "integer"

```

```

29231         },
29232         {
29233             "type": "number"
29234         },
29235         {
29236             "type": "object"
29237         }
29238     ],
29239     "description": "The value sensed or actuated by this Resource"
29240 },
29241 },
29242 "type": "object"
29243 }
29244 }
29245 }
29246 }
29247 }

```

29248 **6.117.5 Property definition**

29249 Table 237 defines the Properties that are part of the ['oic.baseresource'] Resource Type

29250 **Table 237 – The Property definitions of the Resource with type 'rt' = ['oic.baseresource']**

Property name	Value type	Mandatory	Access mode	Description
value	multiple types: see schema		Read Write	The value sensed or actuated by this Resource
n	string		Read Only	Friendly name of the resource
step	multiple types: see schema		Read Only	Step value across the defined range
range	array: see schema		Read Only	The valid range for the value Property
if	array: see schema		Read Only	The interface set supported by this resource
rt	array: see schema		Read Only	Resource Type
precision	number		Read Only	Accuracy granularity of the exposed value
id	string		Read Only	Instance ID of this specific resource

29251 **6.117.6 CRUDN behaviour**

29252 Table 238 defines the CRUDN operations that are supported on the ['oic.baseresource'] Resource Type

29254 **Table 238 – The CRUDN operations of the Resource with type 'rt' = ['oic.baseresource']**

Create	Read	Update	Delete	Notify
	get	post		observe

29255