

# ISO/IEC 30118-4:2018-11 (E)

## Information technology - Open Connectivity Foundation (OCF) Specification - Part 4: Resource type specification

---

Contents	Page
1 Scope .....	29
2 Normative references .....	29
3 Terms, definitions, symbols and abbreviations .....	29
3.1 Terms and definitions .....	29
3.2 Symbols and abbreviations .....	30
3.3 Conventions .....	30
4 Document conventions and organization .....	30
4.1 Notation.....	30
4.2 Data types .....	31
5 Baseline Model Constructs .....	31
5.1 URI.....	31
5.2 Interfaces .....	32
5.3 RAML definition .....	32
5.4 Property definition .....	33
5.4.1 Common Properties.....	33
5.4.2 Resource Properties.....	33
5.4.3 Basic Resource Schema .....	34
5.4.4 CRUDN Operation Response Codes .....	34
5.5 Example Resource Definitions .....	35
5.6 Observable Resource Types.....	38
5.6.1 Conditional Notification .....	38
5.7 Composite Resource Types .....	41
5.8 Specification Version .....	43
6 Resource Type definitions .....	43
6.1 Introduction .....	43
6.2 Air Flow .....	47
6.2.1 Introduction .....	47
6.2.2 Example URI .....	47
6.2.3 Resource Type .....	47
6.2.4 RAML Definition .....	47
6.2.5 Property Definition .....	51
6.2.6 CRUDN behavior.....	52
6.3 Air Flow Control.....	52
6.3.1 Introduction .....	52
6.3.2 Example URI .....	52
6.3.3 Resource Type .....	52
6.3.4 RAML Definition .....	52
6.3.5 Property Definition .....	56
6.3.6 CRUDN behavior.....	56

6.4	Battery .....	56
6.4.1	Introduction .....	56
6.4.2	Example URI .....	56
6.4.3	Resource Type .....	56
6.4.4	RAML Definition .....	56
6.4.5	Property Definition .....	57
6.4.6	CRUDN behavior .....	57
6.5	Binary Switch .....	57
6.5.1	Introduction .....	57
6.5.2	Example URI .....	57
6.5.3	Resource Type .....	57
6.5.4	RAML Definition .....	57
6.5.5	Property Definition .....	59
6.5.6	CRUDN behavior .....	60
6.6	Brightness .....	60
6.6.1	Introduction .....	60
6.6.2	Example URI .....	60
6.6.3	Resource Type .....	60
6.6.4	RAML Definition .....	60
6.6.5	Property Definition .....	62
6.6.6	CRUDN behavior .....	62
6.7	Colour Chroma .....	63
6.7.1	Introduction .....	63
6.7.2	Example URI .....	63
6.7.3	Resource Type .....	63
6.7.4	RAML Definition .....	63
6.7.5	Property Definition .....	66
6.7.6	CRUDN behavior .....	66
6.8	Colour RGB .....	66
6.8.1	Introduction .....	66
6.8.2	Example URI .....	67
6.8.3	Resource Type .....	67
6.8.4	RAML Definition .....	67
6.8.5	Property Definition .....	69
6.8.6	CRUDN behavior .....	69
6.9	Dimming .....	69
6.9.1	Introduction .....	69
6.9.2	Example URI .....	69
6.9.3	Resource Type .....	69
6.9.4	RAML Definition .....	70
6.9.5	Property Definition .....	72
6.9.6	CRUDN behavior .....	73
6.10	Door .....	73
6.10.1	Introduction .....	73

6.10.2	Example URI .....	73
6.10.3	Resource Type .....	73
6.10.4	RAML Definition .....	73
6.10.5	Property Definition .....	75
6.10.6	CRUDN behavior.....	76
6.11	Energy Consumption .....	76
6.11.1	Introduction .....	76
6.11.2	Example URI .....	76
6.11.3	Resource Type .....	76
6.11.4	RAML Definition .....	76
6.11.5	Property Definition .....	77
6.11.6	CRUDN behavior.....	77
6.12	Energy Usage.....	77
6.12.1	Introduction .....	77
6.12.2	Example URI .....	77
6.12.3	Resource Type .....	77
6.12.4	RAML Definition .....	77
6.12.5	CRUDN behavior.....	79
6.13	Humidity .....	79
6.13.1	Introduction .....	79
6.13.2	Example URI .....	79
6.13.3	Resource Type .....	79
6.13.4	RAML Definition .....	79
6.13.5	Property Definition .....	81
6.13.6	CRUDN behavior.....	81
6.14	Ice Maker .....	81
6.14.1	Introduction .....	81
6.14.2	Example URI .....	81
6.14.3	Resource Type .....	82
6.14.4	RAML Definition .....	82
6.14.5	Property Definition .....	84
6.14.6	CRUDN behavior.....	85
6.15	Lock .....	85
6.15.1	Introduction .....	85
6.15.2	Example URI .....	85
6.15.3	Resource Type .....	85
6.15.4	RAML Definition .....	85
6.15.5	Property Definition .....	88
6.15.6	CRUDN behavior.....	88
6.16	Lock Code .....	88
6.16.1	Introduction .....	88
6.16.2	Example URI .....	88
6.16.3	Resource Type .....	88
6.16.4	RAML Definition .....	88

6.16.5	Property Definition .....	90
6.16.6	CRUDN behavior.....	90
6.17	Mode .....	90
6.17.1	Introduction .....	90
6.17.2	Example URI .....	90
6.17.3	Resource Type .....	91
6.17.4	RAML Definition .....	91
6.17.5	Property Definition .....	94
6.17.6	CRUDN behavior.....	94
6.18	Open Level.....	94
6.18.1	Introduction .....	94
6.18.2	Example URI .....	94
6.18.3	Resource Type .....	94
6.18.4	RAML Definition .....	94
6.18.5	Property Definition .....	97
6.18.6	CRUDN behavior.....	98
6.19	Operational State .....	98
6.19.1	Introduction .....	98
6.19.2	Example URI .....	98
6.19.3	Resource Type .....	98
6.19.4	RAML Definition .....	98
6.19.5	Property Definition .....	102
6.19.6	CRUDN behavior.....	103
6.20	Ramp Time.....	103
6.20.1	Introduction .....	103
6.20.2	Example URI .....	103
6.20.3	Resource Type .....	103
6.20.4	RAML Definition .....	103
6.20.5	Property Definition .....	106
6.20.6	CRUDN behavior.....	106
6.21	Refrigeration.....	106
6.21.1	Introduction .....	106
6.21.2	Example URI .....	106
6.21.3	Resource Type .....	106
6.21.4	RAML Definition .....	106
6.21.5	Property Definition .....	109
6.21.6	CRUDN behavior.....	110
6.22	Temperature.....	110
6.22.1	Introduction .....	110
6.22.2	Example URI .....	110
6.22.3	Resource Type .....	110
6.22.4	RAML Definition .....	110
6.22.5	Property Definition .....	114
6.22.6	CRUDN behavior.....	114

6.23	Time Period .....	114
6.23.1	Introduction .....	114
6.23.2	Example URI .....	114
6.23.3	Resource Type .....	114
6.23.4	RAML Definition .....	114
6.23.5	Property Definition .....	117
6.23.6	CRUDN behavior .....	117
6.24	Activity Count .....	118
6.24.1	Introduction .....	118
6.24.2	Example URI .....	118
6.24.3	Resource Type .....	118
6.24.4	RAML Definition .....	118
6.24.5	Property Definition .....	120
6.24.6	CRUDN behavior .....	120
6.25	Atmospheric Pressure Sensor .....	120
6.25.1	Introduction .....	120
6.25.2	Example URI .....	120
6.25.3	Resource Type .....	120
6.25.4	RAML Definition .....	120
6.25.5	Property Definition .....	121
6.25.6	CRUDN behavior .....	121
6.26	Audio Controls .....	121
6.26.1	Introduction .....	121
6.26.2	Example URI .....	122
6.26.3	Resource Type .....	122
6.26.4	RAML Definition .....	122
6.26.5	Property Definition .....	124
6.26.6	CRUDN behavior .....	124
6.27	Auto Focus .....	124
6.27.1	Introduction .....	124
6.27.2	Example URI .....	124
6.27.3	Resource Type .....	124
6.27.4	RAML Definition .....	124
6.27.5	Property Definition .....	127
6.27.6	CRUDN behavior .....	127
6.28	Automatic Document Feeder .....	127
6.28.1	Introduction .....	127
6.28.2	Example URI .....	127
6.28.3	Resource Type .....	127
6.28.4	RAML Definition .....	127
6.28.5	Property Definition .....	128
6.28.6	CRUDN behavior .....	128
6.29	Button Switch .....	128
6.29.1	Introduction .....	128

6.29.2	Example URI .....	128
6.29.3	Resource Type .....	129
6.29.4	RAML Definition .....	129
6.29.5	Property Definition .....	130
6.29.6	CRUDN behavior.....	130
6.30	Carbon Dioxide Sensor.....	130
6.30.1	Introduction .....	130
6.30.2	Example URI .....	130
6.30.3	Resource Type.....	130
6.30.4	RAML Definition .....	130
6.30.5	Property Definition .....	131
6.30.6	CRUDN behavior.....	131
6.31	Carbon Monoxide Sensor .....	131
6.31.1	Introduction .....	131
6.31.2	Example URI .....	131
6.31.3	Resource Type .....	131
6.31.4	RAML Definition .....	131
6.31.5	Property Definition .....	132
6.31.6	CRUDN behavior.....	132
6.32	Auto White Balance .....	132
6.32.1	Introduction.....	132
6.32.2	Example URI .....	132
6.32.3	Resource Type.....	132
6.32.4	RAML Definition .....	132
6.32.5	Property Definition .....	135
6.32.6	CRUDN behavior.....	135
6.33	Colour Saturation .....	135
6.33.1	Introduction .....	135
6.33.2	Example URI .....	135
6.33.3	Resource Type.....	135
6.33.4	RAML Definition .....	135
6.33.5	Property Definition .....	137
6.33.6	CRUDN behavior.....	137
6.34	Contact Sensor.....	137
6.34.1	Introduction .....	137
6.34.2	Example URI .....	137
6.34.3	Resource Type.....	137
6.34.4	RAML Definition .....	138
6.34.5	Property Definition .....	138
6.34.6	CRUDN behavior.....	139
6.35	Demand Response Load Control (DRLC).....	139
6.35.1	Introduction .....	139
6.35.2	Example URI .....	139
6.35.3	Resource Type.....	139

6.35.4	RAML Definition .....	139
6.35.5	Property Definition .....	142
6.35.6	CRUDN behavior.....	142
6.36	Energy Overload/Circuit Breaker .....	143
6.36.1	Introduction .....	143
6.36.2	Example URI .....	143
6.36.3	Resource Type .....	143
6.36.4	RAML Definition .....	143
6.36.5	Property Definition .....	144
6.36.6	CRUDN behavior.....	144
6.37	Generic Sensor .....	144
6.37.1	Introduction .....	144
6.37.2	Example URI .....	144
6.37.3	Resource Type .....	144
6.37.4	RAML Definition .....	144
6.37.5	Property Definition .....	145
6.37.6	CRUDN behavior.....	145
6.38	Glass Break Sensor.....	145
6.38.1	Introduction .....	145
6.38.2	Example URI .....	145
6.38.3	Resource Type .....	145
6.38.4	RAML Definition .....	145
6.38.5	Property Definition .....	146
6.38.6	CRUDN behavior.....	146
6.39	Heart Rate Zone .....	146
6.39.1	Introduction .....	146
6.39.2	Example URI .....	147
6.39.3	Resource Type .....	147
6.39.4	RAML Definition .....	147
6.39.5	Property Definition .....	148
6.39.6	CRUDN behavior.....	148
6.40	Illuminance Sensor .....	148
6.40.1	Introduction .....	148
6.40.2	Example URI .....	148
6.40.3	Resource Type .....	148
6.40.4	RAML Definition .....	148
6.40.5	Property Definition .....	149
6.40.6	CRUDN behavior.....	149
6.41	Magnetic Field Direction Sensor .....	149
6.41.1	Introduction .....	149
6.41.2	Example URI .....	149
6.41.3	Resource Type .....	149
6.41.4	RAML Definition .....	149
6.41.5	Property Definition .....	150

6.41.6	CRUDN behavior.....	150
6.42	Media.....	151
6.42.1	Introduction.....	151
6.42.2	Example URI.....	151
6.42.3	Resource Type.....	151
6.42.4	RAML Definition.....	151
6.42.5	Property Definition.....	152
6.42.6	CRUDN behavior.....	153
6.43	Media Source.....	153
6.43.1	Introduction.....	153
6.43.2	Example URI.....	153
6.43.3	Resource Type.....	153
6.43.4	RAML Definition.....	153
6.43.5	Property Definition.....	156
6.43.6	CRUDN behavior.....	156
6.44	Media Source List.....	156
6.44.1	Introduction.....	156
6.44.2	Example URI.....	156
6.44.3	Resource Type.....	156
6.44.4	RAML Definition.....	156
6.44.5	Property Definition.....	159
6.44.6	CRUDN behavior.....	159
6.44.7	Referenced JSON schemas.....	160
6.45	Media Source Input.....	160
6.45.1	Introduction.....	160
6.45.2	Example URI.....	160
6.45.3	Resource Type.....	160
6.45.4	RAML Definition.....	160
6.45.5	Property Definition.....	163
6.45.6	CRUDN behavior.....	163
6.46	Media Source Output.....	163
6.46.1	Introduction.....	163
6.46.2	Example URI.....	163
6.46.3	Resource Type.....	163
6.46.4	RAML Definition.....	163
6.46.5	Property Definition.....	166
6.46.6	CRUDN behavior.....	166
6.47	Motion Sensor.....	166
6.47.1	Introduction.....	166
6.47.2	Example URI.....	166
6.47.3	Resource Type.....	166
6.47.4	RAML Definition.....	166
6.47.5	Property Definition.....	167
6.47.6	CRUDN behavior.....	167

6.48	Night Mode .....	167
6.48.1	Introduction .....	167
6.48.2	Example URI .....	167
6.48.3	Resource Type .....	167
6.48.4	RAML Definition .....	167
6.48.5	Property Definition .....	169
6.48.6	CRUDN behavior .....	170
6.49	Presence Sensor .....	170
6.49.1	Introduction .....	170
6.49.2	Example URI .....	170
6.49.3	Resource Type .....	170
6.49.4	RAML Definition .....	170
6.49.5	Property Definition .....	171
6.49.6	CRUDN behavior .....	171
6.50	Pan Tilt Zoom Movement .....	171
6.50.1	Introduction .....	171
6.50.2	Example URI .....	171
6.50.3	Resource Type .....	171
6.50.4	RAML Definition .....	171
6.50.5	Property Definition .....	175
6.50.6	CRUDN behavior .....	176
6.51	Signal Strength .....	176
6.51.1	Introduction .....	176
6.51.2	Example URI .....	176
6.51.3	Resource Type .....	176
6.51.4	RAML Definition .....	176
6.51.5	Property Definition .....	177
6.51.6	CRUDN behavior .....	177
6.52	Speech Synthesis-TTS .....	177
6.52.1	Introduction .....	177
6.52.2	Example URI .....	177
6.52.3	Resource Type .....	177
6.52.4	RAML Definition .....	177
6.52.5	Property Definition .....	180
6.52.6	CRUDN behavior .....	181
6.53	Touch Sensor .....	181
6.53.1	Introduction .....	181
6.53.2	Example URI .....	181
6.53.3	Resource Type .....	181
6.53.4	RAML Definition .....	181
6.53.5	Property Definition .....	182
6.53.6	CRUDN behavior .....	182
6.54	UV Radiation .....	182
6.54.1	Introduction .....	182

6.54.2	Example URI .....	182
6.54.3	Resource Type .....	182
6.54.4	RAML Definition .....	182
6.54.5	Property Definition .....	183
6.54.6	CRUDN behavior.....	183
6.55	Water Sensor .....	183
6.55.1	Introduction .....	183
6.55.2	Example URI .....	183
6.55.3	Resource Type .....	183
6.55.4	RAML Definition .....	183
6.55.5	Property Definition .....	184
6.55.6	CRUDN behavior.....	184
6.56	Acceleration Sensor .....	185
6.56.1	Introduction .....	185
6.56.2	Example URI .....	185
6.56.3	Resource Type .....	185
6.56.4	RAML Definition .....	185
6.56.5	Property Definition .....	186
6.56.6	CRUDN behavior.....	186
6.57	Movement.....	186
6.57.1	Introduction .....	186
6.57.2	Example URI .....	186
6.57.3	Resource Type .....	186
6.57.4	RAML Definition .....	186
6.57.5	Property Definition .....	189
6.57.6	CRUDN behavior.....	189
6.58	Sleep Sensor.....	189
6.58.1	Introduction .....	189
6.58.2	Example URI .....	189
6.58.3	Resource Type .....	189
6.58.4	RAML Definition .....	189
6.58.5	Property Definition .....	190
6.58.6	CRUDN behavior.....	190
6.59	Smoke Sensor .....	190
6.59.1	Introduction .....	190
6.59.2	Example URI .....	190
6.59.3	Resource Type .....	191
6.59.4	RAML Definition .....	191
6.59.5	Property Definition .....	191
6.59.6	CRUDN behavior.....	192
6.60	Three Axis Sensor .....	192
6.60.1	Introduction .....	192
6.60.2	Example URI .....	192
6.60.3	Resource Type .....	192

6.60.4	RAML Definition .....	192
6.60.5	Property Definition .....	193
6.60.6	CRUDN behavior.....	193
6.61	Altimeter.....	193
6.61.1	Introduction .....	193
6.61.2	Example URI .....	193
6.61.3	Resource Type .....	193
6.61.4	RAML Definition .....	193
6.61.5	Property Definition .....	194
6.61.6	CRUDN behavior.....	194
6.62	Clock.....	195
6.62.1	Introduction .....	195
6.62.2	Example URI .....	195
6.62.3	Resource Type .....	195
6.62.4	RAML Definition .....	195
6.62.5	Property Definition .....	198
6.62.6	CRUDN behavior.....	198
6.63	Geolocation .....	198
6.63.1	Introduction .....	198
6.63.2	Example URI .....	198
6.63.3	Resource Type .....	198
6.63.4	RAML Definition .....	199
6.63.5	Property Definition .....	200
6.63.6	CRUDN behavior.....	201
6.64	Height .....	201
6.64.1	Introduction .....	201
6.64.2	Example URI .....	201
6.64.3	Resource Type .....	201
6.64.4	RAML Definition .....	201
6.64.5	Property Definition .....	204
6.64.6	CRUDN behavior.....	204
6.65	Weight.....	204
6.65.1	Introduction .....	204
6.65.2	Example URI .....	204
6.65.3	Resource Type .....	204
6.65.4	RAML Definition .....	204
6.65.5	Property Definition .....	205
6.65.6	CRUDN behavior.....	205
6.66	Air Quality .....	205
6.66.1	Introduction .....	205
6.66.2	Example URI .....	206
6.66.3	Resource Type .....	206
6.66.4	RAML Definition .....	206
6.66.5	Property Definition .....	207

6.66.6	CRUDN behavior.....	207
6.67	Air Quality Collection.....	207
6.67.1	Introduction.....	207
6.67.2	Example URI.....	208
6.67.3	Resource Type.....	208
6.67.4	RAML Definition.....	208
6.67.5	Property Definition.....	209
6.67.6	CRUDN behavior.....	210
6.67.7	Referenced JSON schemas.....	210
6.68	Consumable.....	211
6.68.1	Introduction.....	211
6.68.2	Example URI.....	211
6.68.3	Resource Type.....	211
6.68.4	RAML Definition.....	211
6.68.5	Property Definition.....	213
6.68.6	CRUDN behavior.....	213
6.69	Consumable Collection.....	213
6.69.1	Introduction.....	213
6.69.2	Example URI.....	213
6.69.3	Resource Type.....	213
6.69.4	RAML Definition.....	213
6.69.5	Property Definition.....	215
6.69.6	CRUDN behavior.....	216
6.69.7	Referenced JSON schemas.....	216
6.70	Delay Defrost.....	217
6.70.1	Introduction.....	217
6.70.2	Example URI.....	217
6.70.3	Resource Type.....	217
6.70.4	RAML Definition.....	217
6.70.5	Property Definition.....	221
6.70.6	CRUDN behavior.....	222
6.70.7	Referenced JSON schemas.....	222
6.71	Eco Mode.....	222
6.71.1	Introduction.....	222
6.71.2	Example URI.....	223
6.71.3	Resource Type.....	223
6.71.4	RAML Definition.....	223
6.71.5	Property Definition.....	225
6.71.6	CRUDN behavior.....	225
6.71.7	Referenced JSON schemas.....	225
6.72	Heating Zone.....	226
6.72.1	Introduction.....	226
6.72.2	Example URI.....	226
6.72.3	Resource Type.....	226

6.72.4	RAML Definition .....	226
6.72.5	Property Definition .....	227
6.72.6	CRUDN behavior.....	227
6.73	Heating Zone Collection .....	227
6.73.1	Introduction .....	227
6.73.2	Example URI .....	227
6.73.3	Resource Type .....	227
6.73.4	RAML Definition .....	228
6.73.5	Property Definition .....	229
6.73.6	CRUDN behavior.....	230
6.73.7	Referenced JSON schemas.....	230
6.74	Selectable Levels .....	231
6.74.1	Introduction .....	231
6.74.2	Example URI .....	231
6.74.3	Resource Type.....	231
6.74.4	RAML Definition .....	231
6.74.5	Property Definition .....	235
6.74.6	CRUDN behavior.....	235
6.75	Value Conditional .....	235
6.75.1	Introduction .....	235
6.75.2	Example URI .....	235
6.75.3	Resource Type.....	235
6.75.4	RAML Definition .....	235
6.75.5	Property Definition .....	238
6.75.6	CRUDN behavior.....	238
Annex A	Base Resource.....	239
A.1	Base Resource Schema .....	239
A.1.1	Introduction .....	239
A.1.2	Example URI .....	239
A.1.3	Resource Type.....	239
A.1.4	RAML Definition .....	239
A.1.5	Property Definition .....	242
A.1.6	CRUDN behavior.....	243
A.1.7	Referenced JSON schemas.....	243
A.1.8	oic.core.json.....	243
Annex B	Swagger 2.0 .....	245
B.1	245	
B.2	Acceleration Sensor .....	245
B.2.1	Introduction .....	245
B.2.2	Example URI .....	245
B.2.3	Resource Type.....	245
B.2.4	Swagger2.0 Definition .....	245
B.2.5	Property Definition .....	247
B.2.6	CRUDN behaviour.....	248

B.3	Activity Count .....	248
B.3.1	Introduction .....	248
B.3.2	Example URI .....	248
B.3.3	Resource Type .....	248
B.3.4	Swagger2.0 Definition .....	248
B.3.5	Property Definition .....	251
B.3.6	CRUDN behaviour .....	252
B.4	Air Flow .....	252
B.4.1	Introduction .....	252
B.4.2	Example URI .....	252
B.4.3	Resource Type .....	252
B.4.4	Swagger2.0 Definition .....	252
B.4.5	Property Definition .....	256
B.4.6	CRUDN behaviour .....	257
B.5	Air Flow Control.....	257
B.5.1	Introduction .....	257
B.5.2	Example URI .....	257
B.5.3	Resource Type .....	257
B.5.4	Swagger2.0 Definition .....	257
B.5.5	Property Definition .....	265
B.5.6	CRUDN behaviour .....	266
B.6	Air Quality .....	266
B.6.1	Introduction .....	266
B.6.2	Example URI .....	267
B.6.3	Resource Type .....	267
B.6.4	Swagger2.0 Definition .....	267
B.6.5	Property Definition .....	270
B.6.6	CRUDN behaviour .....	270
B.7	Air Quality Collection .....	271
B.7.1	Introduction .....	271
B.7.2	Example URI .....	271
B.7.3	Resource Type .....	271
B.7.4	Swagger2.0 Definition .....	271
B.7.5	Property Definition .....	278
B.7.6	CRUDN behaviour .....	280
B.8	Altimeter .....	280
B.8.1	Introduction .....	280
B.8.2	Example URI .....	280
B.8.3	Resource Type .....	280
B.8.4	Swagger2.0 Definition .....	280
B.8.5	Property Definition .....	283
B.8.6	CRUDN behaviour .....	283
B.9	Atmospheric Pressure Sensor .....	284
B.9.1	Introduction .....	284

B.9.2	Example URI .....	284
B.9.3	Resource Type .....	284
B.9.4	Swagger2.0 Definition .....	284
B.9.5	Property Definition .....	286
B.9.6	CRUDN behaviour .....	287
B.10	Audio Controls .....	287
B.10.1	Introduction .....	287
B.10.2	Example URI .....	287
B.10.3	Resource Type .....	287
B.10.4	Swagger2.0 Definition .....	287
B.10.5	Property Definition .....	290
B.10.6	CRUDN behaviour .....	291
B.11	Auto Focus .....	291
B.11.1	Introduction .....	291
B.11.2	Example URI .....	291
B.11.3	Resource Type .....	291
B.11.4	Swagger2.0 Definition .....	291
B.11.5	Property Definition .....	294
B.11.6	CRUDN behaviour .....	295
B.12	Automatic Document Feeder .....	295
B.12.1	Introduction .....	295
B.12.2	Example URI .....	295
B.12.3	Resource Type .....	295
B.12.4	Swagger2.0 Definition .....	295
B.12.5	Property Definition .....	298
B.12.6	CRUDN behaviour .....	298
B.13	Base Resource Schema .....	299
B.13.1	Introduction .....	299
B.13.2	Example URI .....	299
B.13.3	Resource Type .....	299
B.13.4	Swagger2.0 Definition .....	299
B.13.5	Property Definition .....	302
B.13.6	CRUDN behaviour .....	302
B.14	Battery .....	302
B.14.1	Introduction .....	302
B.14.2	Example URI .....	303
B.14.3	Resource Type .....	303
B.14.4	Swagger2.0 Definition .....	303
B.14.5	Property Definition .....	308
B.14.6	CRUDN behaviour .....	309
B.15	Binary Switch .....	309
B.15.1	Introduction .....	309
B.15.2	Example URI .....	309
B.15.3	Resource Type .....	309

B.15.4	Swagger2.0 Definition .....	309
B.15.5	Property Definition .....	312
B.15.6	CRUDN behaviour .....	312
B.16	Brightness .....	313
B.16.1	Introduction .....	313
B.16.2	Example URI .....	313
B.16.3	Resource Type .....	313
B.16.4	Swagger2.0 Definition .....	313
B.16.5	Property Definition .....	316
B.16.6	CRUDN behaviour .....	316
B.17	Button Switch .....	317
B.17.1	Introduction .....	317
B.17.2	Example URI .....	317
B.17.3	Resource Type .....	317
B.17.4	Swagger2.0 Definition .....	317
B.17.5	Property Definition .....	319
B.17.6	CRUDN behaviour .....	319
B.18	Carbon Dioxide Sensor .....	320
B.18.1	Introduction .....	320
B.18.2	Example URI .....	320
B.18.3	Resource Type .....	320
B.18.4	Swagger2.0 Definition .....	320
B.18.5	Property Definition .....	322
B.18.6	CRUDN behaviour .....	322
B.19	Carbon Monoxide Sensor .....	323
B.19.1	Introduction .....	323
B.19.2	Example URI .....	323
B.19.3	Resource Type .....	323
B.19.4	Swagger2.0 Definition .....	323
B.19.5	Property Definition .....	325
B.19.6	CRUDN behaviour .....	325
B.20	Clock .....	326
B.20.1	Introduction .....	326
B.20.2	Example URI .....	326
B.20.3	Resource Type .....	326
B.20.4	Swagger2.0 Definition .....	326
B.20.5	Property Definition .....	329
B.20.6	CRUDN behaviour .....	330
B.21	Auto White Balance .....	330
B.21.1	Introduction .....	330
B.21.2	Example URI .....	330
B.21.3	Resource Type .....	330
B.21.4	Swagger2.0 Definition .....	330
B.21.5	Property Definition .....	333

B.21.6	CRUDN behaviour .....	333
B.22	Colour Saturation .....	334
B.22.1	Introduction .....	334
B.22.2	Example URI .....	334
B.22.3	Resource Type .....	334
B.22.4	Swagger2.0 Definition .....	334
B.22.5	Property Definition .....	337
B.22.6	CRUDN behaviour .....	337
B.23	Colour Chroma .....	337
B.23.1	Introduction .....	337
B.23.2	Example URI .....	338
B.23.3	Resource Type .....	338
B.23.4	Swagger2.0 Definition .....	338
B.23.5	Property Definition .....	341
B.23.6	CRUDN behaviour .....	342
B.24	Colour RGB .....	342
B.24.1	Introduction .....	342
B.24.2	Example URI .....	343
B.24.3	Resource Type .....	343
B.24.4	Swagger2.0 Definition .....	343
B.24.5	Property Definition .....	346
B.24.6	CRUDN behaviour .....	346
B.25	Consumable .....	346
B.25.1	Introduction .....	346
B.25.2	Example URI .....	347
B.25.3	Resource Type .....	347
B.25.4	Swagger2.0 Definition .....	347
B.25.5	Property Definition .....	350
B.25.6	CRUDN behaviour .....	350
B.26	Consumables .....	350
B.26.1	Introduction .....	350
B.26.2	Example URI .....	351
B.26.3	Resource Type .....	351
B.26.4	Swagger2.0 Definition .....	351
B.26.5	Property Definition .....	358
B.26.6	CRUDN behaviour .....	360
B.27	Contact Sensor .....	360
B.27.1	Introduction .....	360
B.27.2	Example URI .....	361
B.27.3	Resource Type .....	361
B.27.4	Swagger2.0 Definition .....	361
B.27.5	Property Definition .....	363
B.27.6	CRUDN behaviour .....	363
B.28	Delay Defrost .....	363

B.28.1	Introduction .....	363
B.28.2	Example URI .....	364
B.28.3	Resource Type .....	364
B.28.4	Swagger2.0 Definition .....	364
B.28.5	Property Definition .....	367
B.28.6	CRUDN behaviour .....	368
B.29	Dimming .....	368
B.29.1	Introduction .....	368
B.29.2	Example URI .....	368
B.29.3	Resource Type .....	368
B.29.4	Swagger2.0 Definition .....	369
B.29.5	Property Definition .....	372
B.29.6	CRUDN behaviour .....	372
B.30	Door .....	372
B.30.1	Introduction .....	372
B.30.2	Example URI .....	373
B.30.3	Resource Type .....	373
B.30.4	Swagger2.0 Definition .....	373
B.30.5	Property Definition .....	377
B.30.6	CRUDN behaviour .....	379
B.31	Demand Response Load Control (DRLC) .....	379
B.31.1	Introduction .....	379
B.31.2	Example URI .....	379
B.31.3	Resource Type .....	379
B.31.4	Swagger2.0 Definition .....	379
B.31.5	Property Definition .....	383
B.31.6	CRUDN behaviour .....	383
B.32	Eco Mode .....	383
B.32.1	Introduction .....	383
B.32.2	Example URI .....	384
B.32.3	Resource Type .....	384
B.32.4	Swagger2.0 Definition .....	384
B.32.5	Property Definition .....	389
B.32.6	CRUDN behaviour .....	390
B.33	Energy Consumption .....	390
B.33.1	Introduction .....	390
B.33.2	Example URI .....	390
B.33.3	Resource Type .....	390
B.33.4	Swagger2.0 Definition .....	390
B.33.5	Property Definition .....	393
B.33.6	CRUDN behaviour .....	393
B.34	Energy Overload/Circuit Breaker .....	393
B.34.1	Introduction .....	393
B.34.2	Example URI .....	393

B.34.3	Resource Type .....	394
B.34.4	Swagger2.0 Definition .....	394
B.34.5	Property Definition .....	396
B.34.6	CRUDN behaviour .....	396
B.35	Energy Usage.....	396
B.35.1	Introduction .....	396
B.35.2	Example URI .....	396
B.35.3	Resource Type .....	397
B.35.4	Swagger2.0 Definition .....	397
B.35.5	Property Definition .....	401
B.35.6	CRUDN behaviour .....	402
B.36	Generic Sensor .....	402
B.36.1	Introduction .....	402
B.36.2	Example URI .....	402
B.36.3	Resource Type .....	402
B.36.4	Swagger2.0 Definition .....	402
B.36.5	Property Definition .....	405
B.36.6	CRUDN behaviour .....	405
B.37	Geolocation .....	405
B.37.1	Introduction .....	405
B.37.2	Example URI .....	405
B.37.3	Resource Type .....	405
B.37.4	Swagger2.0 Definition .....	405
B.37.5	Property Definition .....	409
B.37.6	CRUDN behaviour .....	410
B.38	Glass Break Sensor.....	410
B.38.1	Introduction .....	410
B.38.2	Example URI .....	410
B.38.3	Resource Type .....	410
B.38.4	Swagger2.0 Definition .....	410
B.38.5	Property Definition .....	412
B.38.6	CRUDN behaviour .....	413
B.39	Heart Rate Zone .....	413
B.39.1	Introduction .....	413
B.39.2	Example URI .....	413
B.39.3	Resource Type .....	413
B.39.4	Swagger2.0 Definition .....	413
B.39.5	Property Definition .....	416
B.39.6	CRUDN behaviour .....	416
B.40	Heating Zone .....	416
B.40.1	Introduction .....	416
B.40.2	Example URI .....	416
B.40.3	Resource Type .....	417
B.40.4	Swagger2.0 Definition .....	417

B.40.5	Property Definition .....	419
B.40.6	CRUDN behaviour.....	420
B.41	Heating Zone Collection .....	420
B.41.1	Introduction .....	420
B.41.2	Example URI .....	420
B.41.3	Resource Type .....	420
B.41.4	Swagger2.0 Definition .....	420
B.41.5	Property Definition .....	428
B.41.6	CRUDN behaviour.....	430
B.42	Height .....	430
B.42.1	Introduction .....	430
B.42.2	Example URI .....	430
B.42.3	Resource Type .....	430
B.42.4	Swagger2.0 Definition .....	430
B.42.5	Property Definition .....	433
B.42.6	CRUDN behaviour.....	433
B.43	Humidity .....	434
B.43.1	Introduction .....	434
B.43.2	Example URI .....	434
B.43.3	Resource Type .....	434
B.43.4	Swagger2.0 Definition .....	434
B.43.5	Property Definition .....	438
B.43.6	CRUDN behaviour.....	439
B.44	Ice Maker .....	440
B.44.1	Introduction .....	440
B.44.2	Example URI .....	440
B.44.3	Resource Type .....	440
B.44.4	Swagger2.0 Definition .....	440
B.44.5	Property Definition .....	445
B.44.6	CRUDN behaviour.....	446
B.45	Illuminance Sensor .....	446
B.45.1	Introduction .....	446
B.45.2	Example URI .....	446
B.45.3	Resource Type .....	446
B.45.4	Swagger2.0 Definition .....	446
B.45.5	Property Definition .....	448
B.45.6	CRUDN behaviour.....	449
B.46	Lock Code .....	449
B.46.1	Introduction .....	449
B.46.2	Example URI .....	449
B.46.3	Resource Type .....	449
B.46.4	Swagger2.0 Definition .....	449
B.46.5	Property Definition .....	452
B.46.6	CRUDN behaviour.....	453

B.47	Lock .....	453
B.47.1	Introduction .....	453
B.47.2	Example URI .....	453
B.47.3	Resource Type .....	453
B.47.4	Swagger2.0 Definition .....	453
B.47.5	Property Definition .....	456
B.47.6	CRUDN behaviour .....	457
B.48	Magnetic Field Direction Sensor .....	457
B.48.1	Introduction .....	457
B.48.2	Example URI .....	457
B.48.3	Resource Type .....	457
B.48.4	Swagger2.0 Definition .....	457
B.48.5	Property Definition .....	459
B.48.6	CRUDN behaviour .....	460
B.49	Media .....	460
B.49.1	Introduction .....	460
B.49.2	Example URI .....	460
B.49.3	Resource Type .....	460
B.49.4	Swagger2.0 Definition .....	460
B.49.5	Property Definition .....	463
B.49.6	CRUDN behaviour .....	464
B.50	Media Source .....	464
B.50.1	Introduction .....	464
B.50.2	Example URI .....	464
B.50.3	Resource Type .....	464
B.50.4	Swagger2.0 Definition .....	464
B.50.5	Property Definition .....	468
B.50.6	CRUDN behaviour .....	469
B.51	Media Source List .....	469
B.51.1	Introduction .....	469
B.51.2	Example URI .....	469
B.51.3	Resource Type .....	469
B.51.4	Swagger2.0 Definition .....	469
B.51.5	Property Definition .....	473
B.51.6	CRUDN behaviour .....	473
B.52	Media Source Input .....	473
B.52.1	Introduction .....	473
B.52.2	Example URI .....	474
B.52.3	Resource Type .....	474
B.52.4	Swagger2.0 Definition .....	474
B.52.5	Property Definition .....	477
B.52.6	CRUDN behaviour .....	478
B.53	Media Source Output .....	478
B.53.1	Introduction .....	478

B.53.2	Example URI .....	478
B.53.3	Resource Type .....	478
B.53.4	Swagger2.0 Definition .....	478
B.53.5	Property Definition .....	482
B.53.6	CRUDN behaviour .....	482
B.54	Mode .....	483
B.54.1	Introduction .....	483
B.54.2	Example URI .....	483
B.54.3	Resource Type .....	483
B.54.4	Swagger2.0 Definition .....	483
B.54.5	Property Definition .....	488
B.54.6	CRUDN behaviour .....	489
B.55	Motion Sensor .....	489
B.55.1	Introduction .....	489
B.55.2	Example URI .....	489
B.55.3	Resource Type .....	489
B.55.4	Swagger2.0 Definition .....	489
B.55.5	Property Definition .....	491
B.55.6	CRUDN behaviour .....	492
B.56	Movement .....	492
B.56.1	Introduction .....	492
B.56.2	Example URI .....	492
B.56.3	Resource Type .....	492
B.56.4	Swagger2.0 Definition .....	492
B.56.5	Property Definition .....	495
B.56.6	CRUDN behaviour .....	496
B.57	Night Mode .....	496
B.57.1	Introduction .....	496
B.57.2	Example URI .....	496
B.57.3	Resource Type .....	496
B.57.4	Swagger2.0 Definition .....	496
B.57.5	Property Definition .....	499
B.57.6	CRUDN behaviour .....	500
B.58	Open Level .....	500
B.58.1	Introduction .....	500
B.58.2	Example URI .....	500
B.58.3	Resource Type .....	500
B.58.4	Swagger2.0 Definition .....	500
B.58.5	Property Definition .....	504
B.58.6	CRUDN behaviour .....	504
B.59	Operational State .....	504
B.59.1	Introduction .....	504
B.59.2	Example URI .....	504
B.59.3	Resource Type .....	505

B.59.4	Swagger2.0 Definition .....	505
B.59.5	Property Definition .....	510
B.59.6	CRUDN behaviour.....	512
B.60	Presence Sensor .....	512
B.60.1	Introduction .....	512
B.60.2	Example URI .....	512
B.60.3	Resource Type .....	512
B.60.4	Swagger2.0 Definition .....	512
B.60.5	Property Definition .....	514
B.60.6	CRUDN behaviour.....	515
B.61	Pan Tilt Zoom Movement.....	515
B.61.1	Introduction .....	515
B.61.2	Example URI .....	515
B.61.3	Resource Type .....	515
B.61.4	Swagger2.0 Definition .....	515
B.61.5	Property Definition .....	519
B.61.6	CRUDN behaviour.....	520
B.62	Ramp Time.....	520
B.62.1	Introduction .....	520
B.62.2	Example URI .....	520
B.62.3	Resource Type .....	520
B.62.4	Swagger2.0 Definition .....	520
B.62.5	Property Definition .....	523
B.62.6	CRUDN behaviour.....	524
B.63	Refrigeration.....	524
B.63.1	Introduction .....	524
B.63.2	Example URI .....	524
B.63.3	Resource Type .....	524
B.63.4	Swagger2.0 Definition .....	524
B.63.5	Property Definition .....	530
B.63.6	CRUDN behaviour.....	531
B.64	Selectable Levels .....	531
B.64.1	Introduction .....	531
B.64.2	Example URI .....	531
B.64.3	Resource Type .....	531
B.64.4	Swagger2.0 Definition .....	531
B.64.5	Property Definition .....	537
B.64.6	CRUDN behaviour.....	538
B.65	Signal Strength.....	538
B.65.1	Introduction .....	538
B.65.2	Example URI .....	538
B.65.3	Resource Type .....	538
B.65.4	Swagger2.0 Definition .....	538
B.65.5	Property Definition .....	541

B.65.6	CRUDN behaviour .....	541
B.66	Sleep Sensor .....	541
B.66.1	Introduction .....	541
B.66.2	Example URI .....	541
B.66.3	Resource Type .....	541
B.66.4	Swagger2.0 Definition .....	542
B.66.5	Property Definition .....	544
B.66.6	CRUDN behaviour .....	544
B.67	Smoke Sensor .....	544
B.67.1	Introduction .....	544
B.67.2	Example URI .....	544
B.67.3	Resource Type .....	544
B.67.4	Swagger2.0 Definition .....	545
B.67.5	Property Definition .....	547
B.67.6	CRUDN behaviour .....	547
B.68	Speech Synthesis-TTS .....	547
B.68.1	Introduction .....	547
B.68.2	Example URI .....	548
B.68.3	Resource Type .....	548
B.68.4	Swagger2.0 Definition .....	548
B.68.5	Property Definition .....	552
B.68.6	CRUDN behaviour .....	552
B.69	Temperature .....	552
B.69.1	Introduction .....	552
B.69.2	Example URI .....	553
B.69.3	Resource Type .....	553
B.69.4	Swagger2.0 Definition .....	553
B.69.5	Property Definition .....	556
B.69.6	CRUDN behaviour .....	557
B.70	Three Axis Sensor .....	557
B.70.1	Introduction .....	557
B.70.2	Example URI .....	557
B.70.3	Resource Type .....	557
B.70.4	Swagger2.0 Definition .....	557
B.70.5	Property Definition .....	560
B.70.6	CRUDN behaviour .....	560
B.71	Time Period .....	561
B.71.1	Introduction .....	561
B.71.2	Example URI .....	561
B.71.3	Resource Type .....	561
B.71.4	Swagger2.0 Definition .....	561
B.71.5	Property Definition .....	564
B.71.6	CRUDN behaviour .....	565
B.72	Touch Sensor .....	565

B.72.1	Introduction .....	565
B.72.2	Example URI .....	565
B.72.3	Resource Type .....	565
B.72.4	Swagger2.0 Definition .....	565
B.72.5	Property Definition .....	567
B.72.6	CRUDN behaviour .....	568
B.73	UV Radiation .....	568
B.73.1	Introduction .....	568
B.73.2	Example URI .....	568
B.73.3	Resource Type .....	568
B.73.4	Swagger2.0 Definition .....	568
B.73.5	Property Definition .....	571
B.73.6	CRUDN behaviour .....	571
B.74	Value Conditional .....	571
B.74.1	Introduction .....	571
B.74.2	Example URI .....	572
B.74.3	Resource Type .....	572
B.74.4	Swagger2.0 Definition .....	572
B.74.5	Property Definition .....	574
B.74.6	CRUDN behaviour .....	574
B.75	Water Sensor .....	574
B.75.1	Introduction .....	574
B.75.2	Example URI .....	574
B.75.3	Resource Type .....	574
B.75.4	Swagger2.0 Definition .....	574
B.75.5	Property Definition .....	576
B.75.6	CRUDN behaviour .....	577
B.76	Weight .....	577
B.76.1	Introduction .....	577
B.76.2	Example URI .....	577
B.76.3	Resource Type .....	577
B.76.4	Swagger2.0 Definition .....	577
B.76.5	Property Definition .....	580
B.76.6	CRUDN behaviour .....	580

## Figures

Figure 1: Overall conditional notification logic.....	40
Figure 2: Conditional Notification Example Flow .....	41

## Tables

Table 5-1 Conversion between OCF CRUDN and RAML definitions.....	32
Table 5-2 Common Properties for OCF Resources .....	33
Table 5-3 Property definitions of a Resource Type in the JSON schema.....	33
Table 5-4 Return codes behaviour in RAML.....	34
Table 5-5 RAML example of an Resource representing an Actuator.....	35
Table 5-6 RAML example of an Resource specifying a Sensor .....	37
Table 5-7 Conditional Notification Properties .....	39
Table 5-8 RAML example of Composite Resource .....	42
Table 6-1 Alphabetical list of Resource Types .....	43