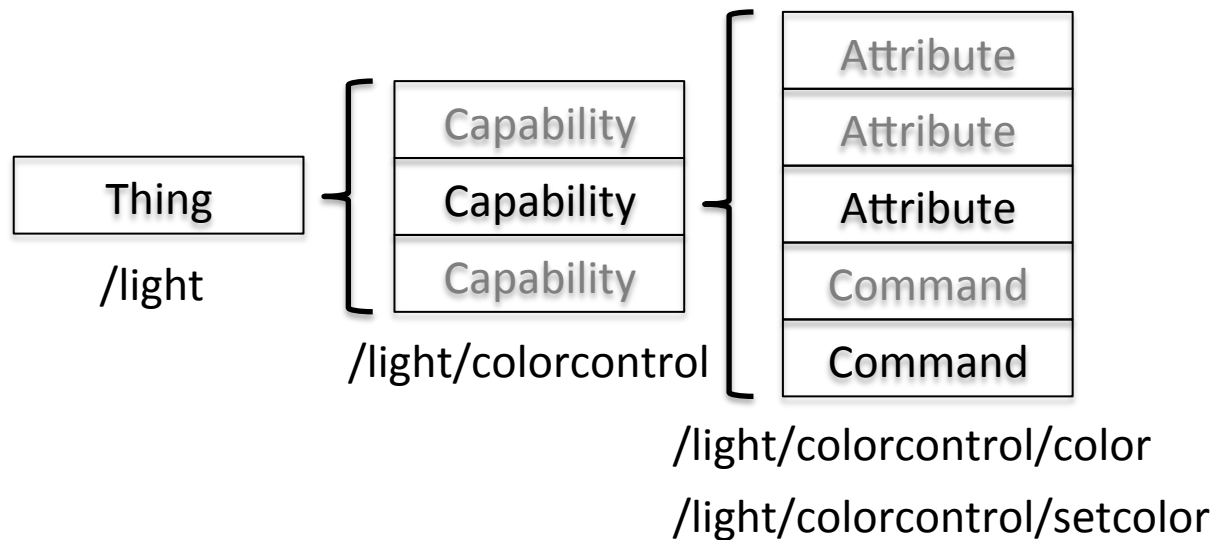


Mapping SmartThings Capabilities to the OCF Resource Model

June 16, 2016

SmartThings Capability Abstraction



Base Model Resource Class Types

ST Element	RAML	Schema
Thing	st.thing	collection
Capability	st.capability	collection
Attribute	st.attribute	domain defined
Command	st.command	domain defined
CommandInstance	st.commandinstance	domain defined
Subscription	st.subscription	st.subscription
Group	st.group	collection
Location	st.location	collection

Domain Model Resource Types

ST Element	RAML	Schema
Light	st.thing	stc.light
On/Off Switch	st.capability	stc.switch
Level Control	st.capability	stc.switchlevel
Color Temperature	st.capability	stc.colortemperature
Color Control	st.capability	stc.colorcontrol
On/Off attribute	st.attribute	stc.onoff
On Command	st.command	stc.on
Off Command	st.command	stc.off
Level Attribute	st.attribute	stc.level
Set Level Command	st.command	stc.setlevel
Hue Attribute	st.attribute	stc.hue
Saturation Attribute	st.attribute	stc.saturation

Example /oic/res/ "links" property

```
{
  "href": "/example/light/",
  "rt": ["st.thing",
         "stc.light"]
},
{
  "anchor": "/example/light/",
  "href": "switch",
  "rt": ["st.capability",
         "stc.switch"]
},
{
  "anchor": "/example/light/",
  "href": "levelcontrol",
  "rt": ["st.capability",
         "stc.switchlevel"]
},
{
  "anchor": "/example/light/",
  "href": "colortemp",
  "rt": ["st.capability",
         "stc.colortemperature"]
},
{
  "anchor": "/example/light/",
  "href": "colorcontrol",
  "rt": ["st.capability",
         "stc.colorcontrol"]
},
{
  "href": "/example/thermo/",
  "rt": ["st.thing",
         "stc.thermometer"]
}
```

Example Capability Representation

```
{
  "anchor": "/example/light/colorcontrol",
  "rel": "self",
  "href": "",
  "rt": ["st.capability", "stc.colorcontrol"]
},
{
  "href": "hue",
  "rt": ["st.attribute", "stc.hue"]
},
{
  "href": "saturation",
  "rt": ["st.attribute", "stc.saturation"]
},
{
  "href": "color",
  "rt": ["st.attribute", "stc.color"]
},
{
  "href": "setcolor",
  "rt": ["st.command", "stc.setcolor"]
}
```

Example JSON Schema

```
"title": "stc.color",
"type": "object",
"properties": {
  "hue": {
    "description": "hue",
    "type": "number",
    "minimum": 0,
    "maximum": 100
  },
  "saturation": {
    "description": "sat",
    "type": "number",
    "minimum": 0,
    "maximum": 100
  },
  "level": {
    "description": "level",
    "type": "number",
    "minimum": 0,
    "maximum": 100
  },
  "switch": {
    "description": "switch",
    "type": "string",
    "enum": ["on", "off"]
  },
  "hex": {
    "description": "hex color",
    "type": "string",
    "pattern": "^[a-fA-F0-9]{6}$"
  }
}
```

Files

<https://github.com/connectIOT/iotivity-servient/tree/master/model>

<https://github.com/connectIOT/iotivity-servient/blob/master/model/oic-res-links.json>

<https://github.com/connectIOT/iotivity-servient/blob/master/model/light.json>

<https://github.com/connectIOT/iotivity-servient/blob/master/model/switch.json>

<https://github.com/connectIOT/iotivity-servient/blob/master/model/levelcontrol.json>

<https://github.com/connectIOT/iotivity-servient/blob/master/model/colorcontrol.json>

<https://github.com/connectIOT/iotivity-servient/blob/master/model/color-schema.json>