

# iot.schema.org Community Update

December 14, 2017

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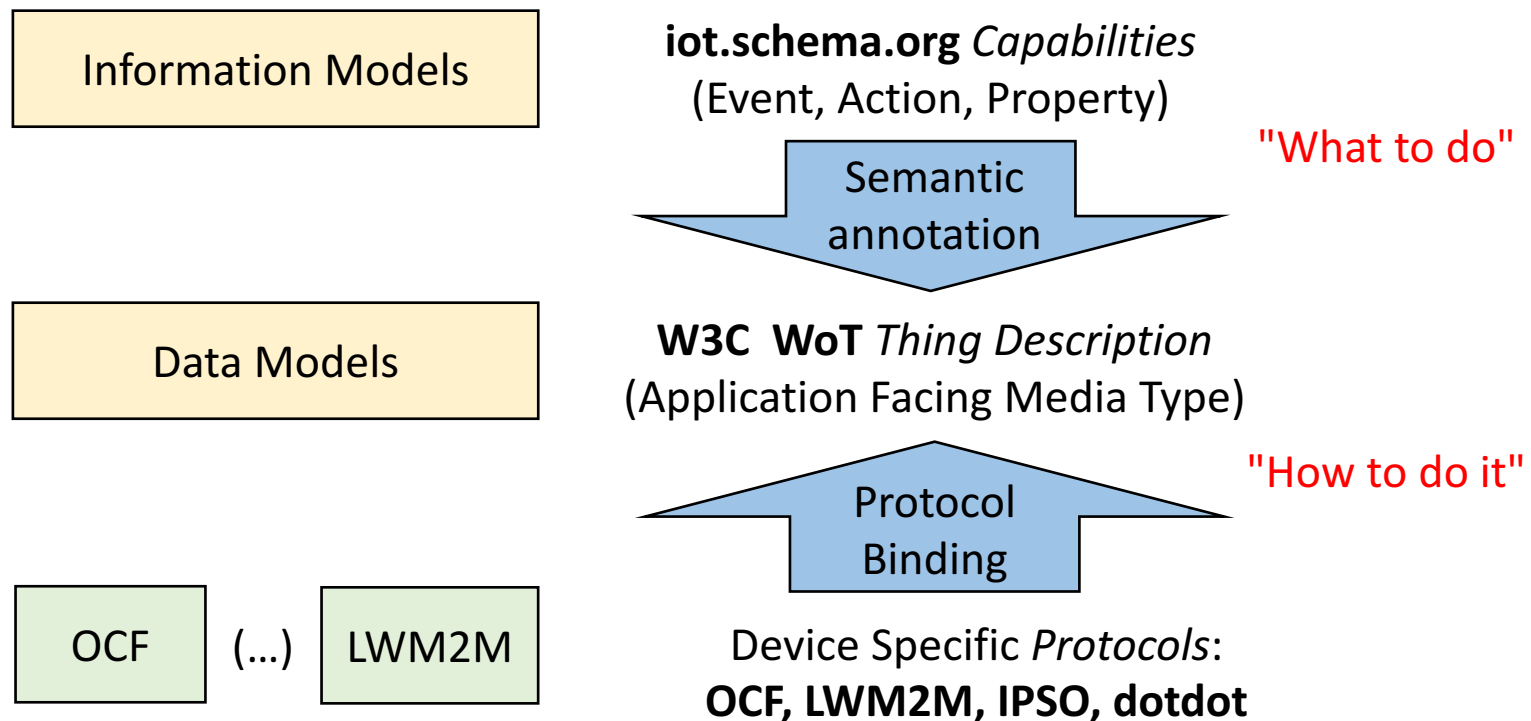
# Status Update

- Prototype website online
- Prototype capability definitions in progress
- W3C Plugfest; iotschema annotation used for semantic discovery and interoperability
  - November at TPAC, Burlingame and going forward
  - Common iotschema based semantic annotation with target-specific protocol bindings
  - Example TDs for Philips Hue light ([http/JSON](http://JSON)), IKEA Tradfri light (CoAP/IPSO), IPSO Motion Sensor([http/mqtt](http://mqtt)), OCF Motion Sensor(CoAP), etc.
  - Learning, take-aways

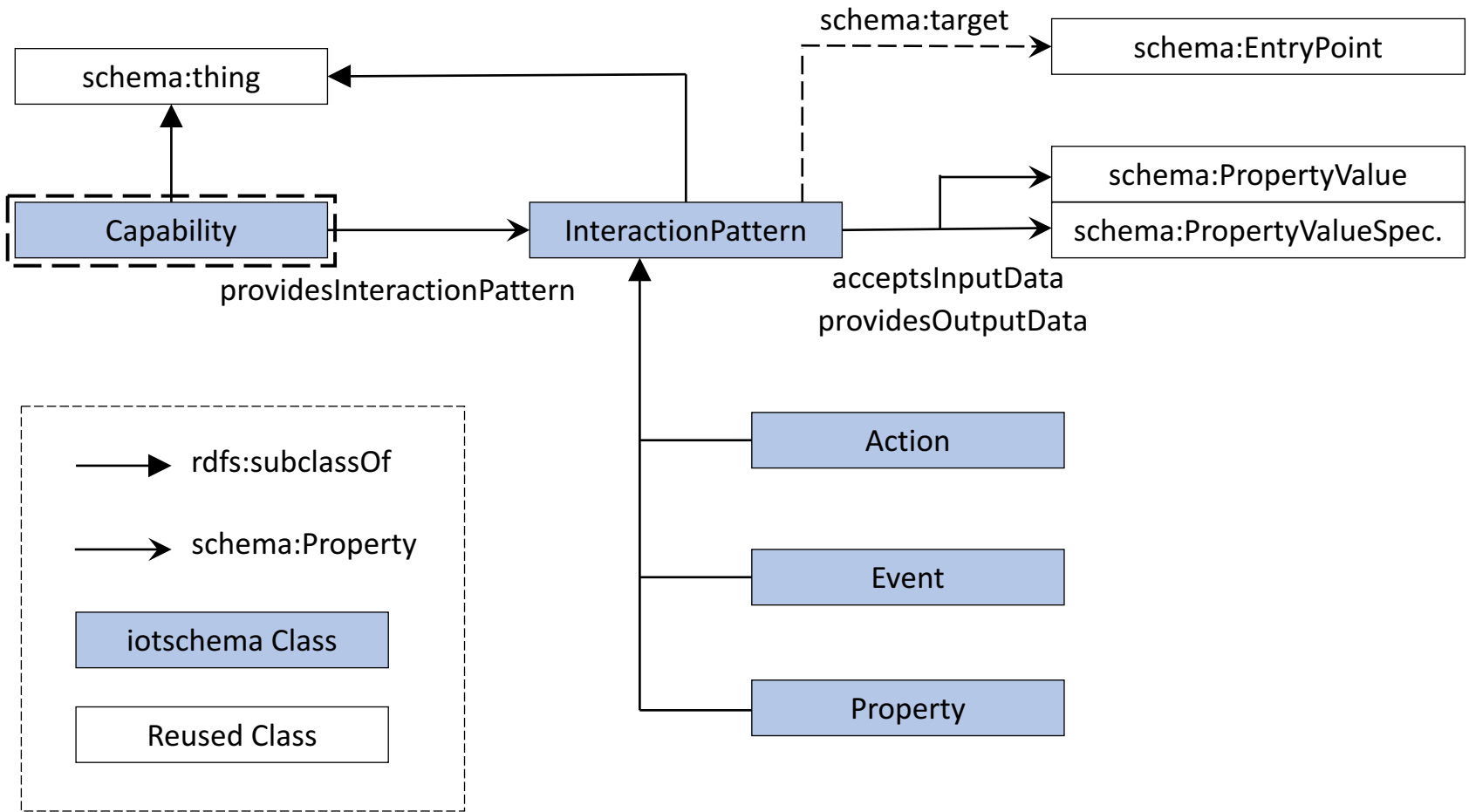
# Technical Update

- Technical review – problem being solved
  - schema.org type capability for connected things
  - Starting with common descriptions of connected things
  - What to do => how to do it, focus on "what to do"
- Design Pattern Review
  - Classes: Capability, Interaction, Data Item
  - Interaction Types: Event, Action, Property
- Examples of definitions
  - Light, motion, temperature
  - Granular capabilities for the light: switch, level, colorcontrol

# Layered Scope in Data Models and Information Models



# iot-schema Capability Pattern



# TD Example with annotation

```
{
  "@context": [
    "http://w3c.github.io/wot/w3c-wot-td-context.jsonld",
    "http://w3c.github.io/wot/w3c-wot-common-context.jsonld",
    {"iot": "http://iotschema.org/"}
  ],
  "base": "coap://example.net:5683/",
  "@type": [ "Thing", "iot:temperatureCapability" ],
  "name": "Temperature Sensor",
  "interaction": [
    {
      "name": "Temperature",
      "@type": [ "Property", "iot:temperatureProperty" ],
      "inputData": {
        "type": "object",
        "field": [
          {
            "name": "temperature",
            "@type": [ "iot:temperatureData" ],
            "type": "number",
            "minimum": -50,
            "maximum": 100,
            "unit": "Celsius"
          }
        ]
      }
    }
  ],
},
```

# Semantic Interoperability Testing

- Semantic Interops: hands-on Interoperability testing of concrete implementations
- Across diverse device ecosystems; e.g. OCF, LWM2M/IPSO, Bluetooth, BACnet, Zigbee, Vendor systems, LAN and cloud integration
- Diverse approaches to semantic annotation, adaptation, translation
- Collaboration with IRTF T2TRG WISHI
- Online and Face to Face
- IETF Hackathon events, Saturday and Sunday



# Way Forward

- W3C (Web of Things) Community Group as venue
  - Starting in January
  - Scope and charter update
  - Governance process for publication
- New workstreams
  - Core schema development and extension
  - Schema publication
  - Tools development
  - Smart Home definitions
  - Semantic Interop planning
- Monthly community teleconference for workstream sync-up – Starting January