

Hydra: A Vocabulary for Hypermedia-Driven Web APIs

W3C WoT IG TF-TD Web Meeting, Victor Charpenay, 01/07/2015

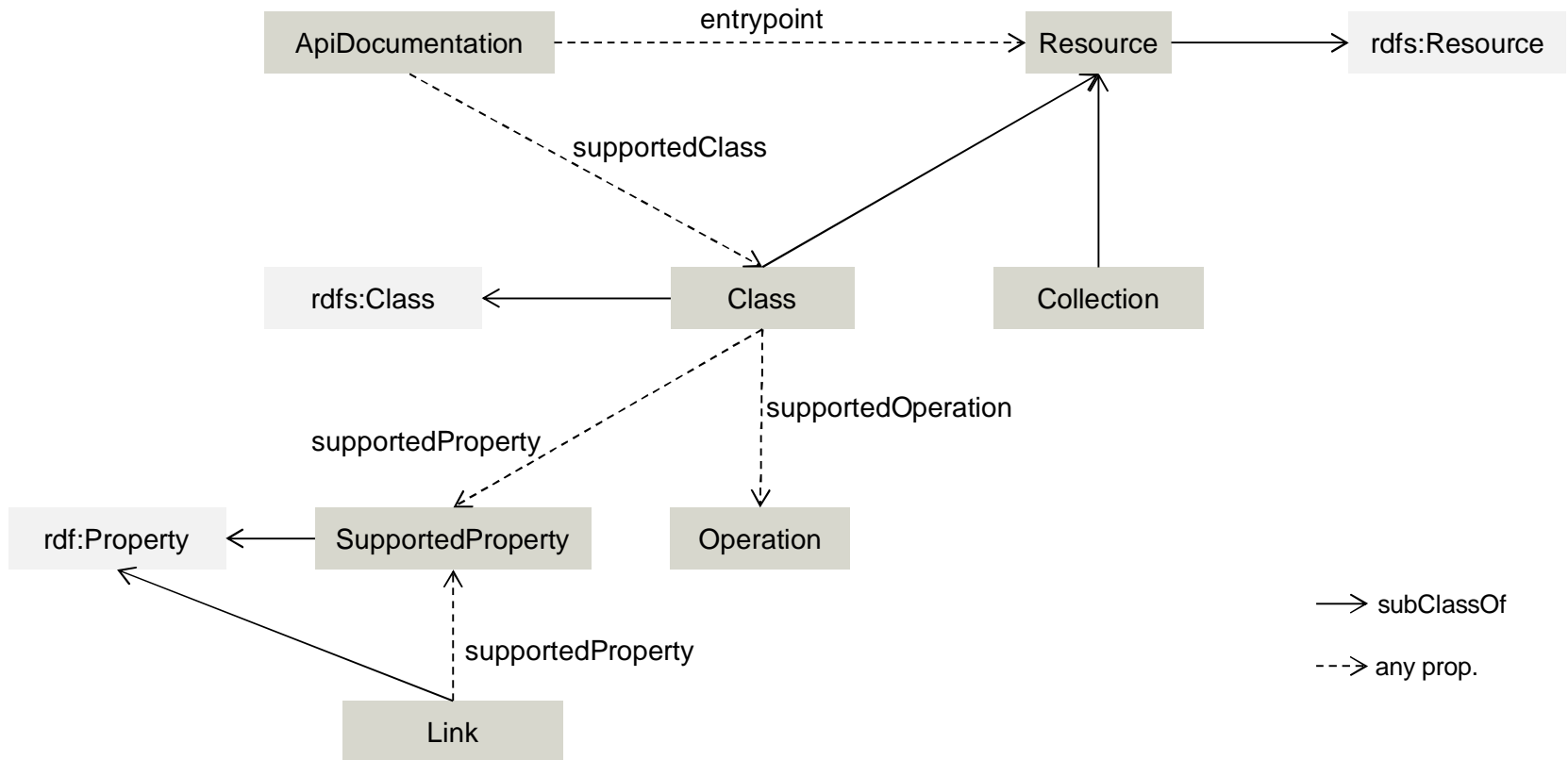
In one Word

What is Hydra Vocabulary?

- An RDFS vocabulary...
- ...to specify RESTful APIs

- Hydra Community Group started in June 2013
 - Unofficial Draft from January 2015

Specification



Example

```
coap: //example.org/temp1/name
coap: //example.org/temp1/quantities/
```

```
{
  @context: ...
  @type: EntryPoint,
  supportedClass: [{
    @id: app:Sensor,
    supportedProperty: [{
      @id: app:Sensor/quantities,
      supportedOperation: ...
    }, {
      @id: app:Sensor/name,
      supportedOperation: ...
    }], ...
  ]],
  supportedOperation: [{
    @id: _:retrieve,
    method: GET,
    expects: ...,
    returns: ...
  }
  ]
}
], {
  @id: temp1,
  @type: app:Sensor
}
}
```

Application

What is it used for?

- It enables:
 - Automatic documentation
 - Semantic validation
 - Adaptive client
- Very similar to **Swagger**
 - Using JSON-LD instead of JSON Schema
- Not designed specifically for the WoT
 - Any kind of semantic Web services
- Existing Hydra tools
 - A [dynamic client](#)
 - A PHP (Symfony) bundle for server-side implementation

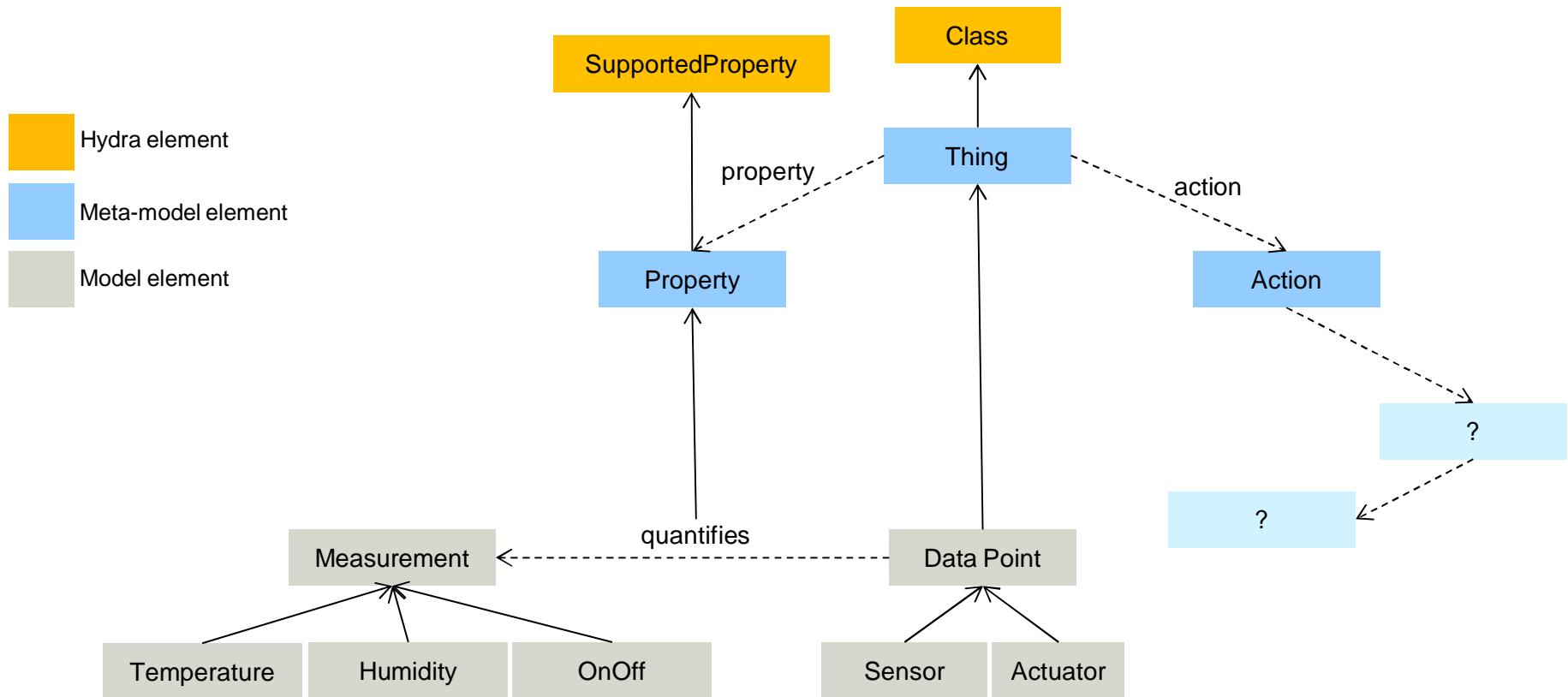
Hydra & the Web of Thing

What to do with it?

- Not directly related to the Thing Description Task Force
 - Of interest in the discovery task force (TF-DI)
 - And in the API and protocol task force (TF-AP)
- Unless it is integrated in the Thing meta-model (?)
 - Pre-defined API skeleton
 - Implicit model
 - Tells which URIs are dereferenceable

Hydra & the Web of Thing

coap: //example.org/temp1/name
 coap: //example.org/temp1/quantifies/



Thanks

Discussion

References

- (1) Lanthaler, Markus, "Hydra Core Vocabulary: A Vocabulary for Hypermedia-Driven Web APIs." <http://www.hydra-cg.com/spec/latest/core/>, accessed June, 30th 2015.
- (2) Swagger, "Swagger RESTful API Documentation Specification." <https://github.com/swagger-api/swagger-spec/blob/master/versions/2.0.md>, accessed June, 30th 2015.
- (3) Public W3C Web of Things Interest Group Mailing List, public-wot-ig@w3.org, June 2015.
- (4) "IoTDB: The Internet of Things Database." <https://iotdb.org/>, accessed June, 30th 2015.