

IoT Extensions for schema.org

Community Teleconference

April 16, 2020

Agenda

- Agenda review
- Updates
- Discussion - proposal for adding a thing class
- Roadmap planning
- AOB

Updates

- WoT is now an official W3C Recommendation
 - Thing Description and Architecture documents
- WISHI Online Hackathon was March 9
 - Semantic Proxy using W3C WoT and annotation from OneDM definitions
- OneDM F2F coming up in May, 2 hour blocks
- W3C WoT F2F, June in Helsinki, feat. T2TRG
 - Now online with online plugfest

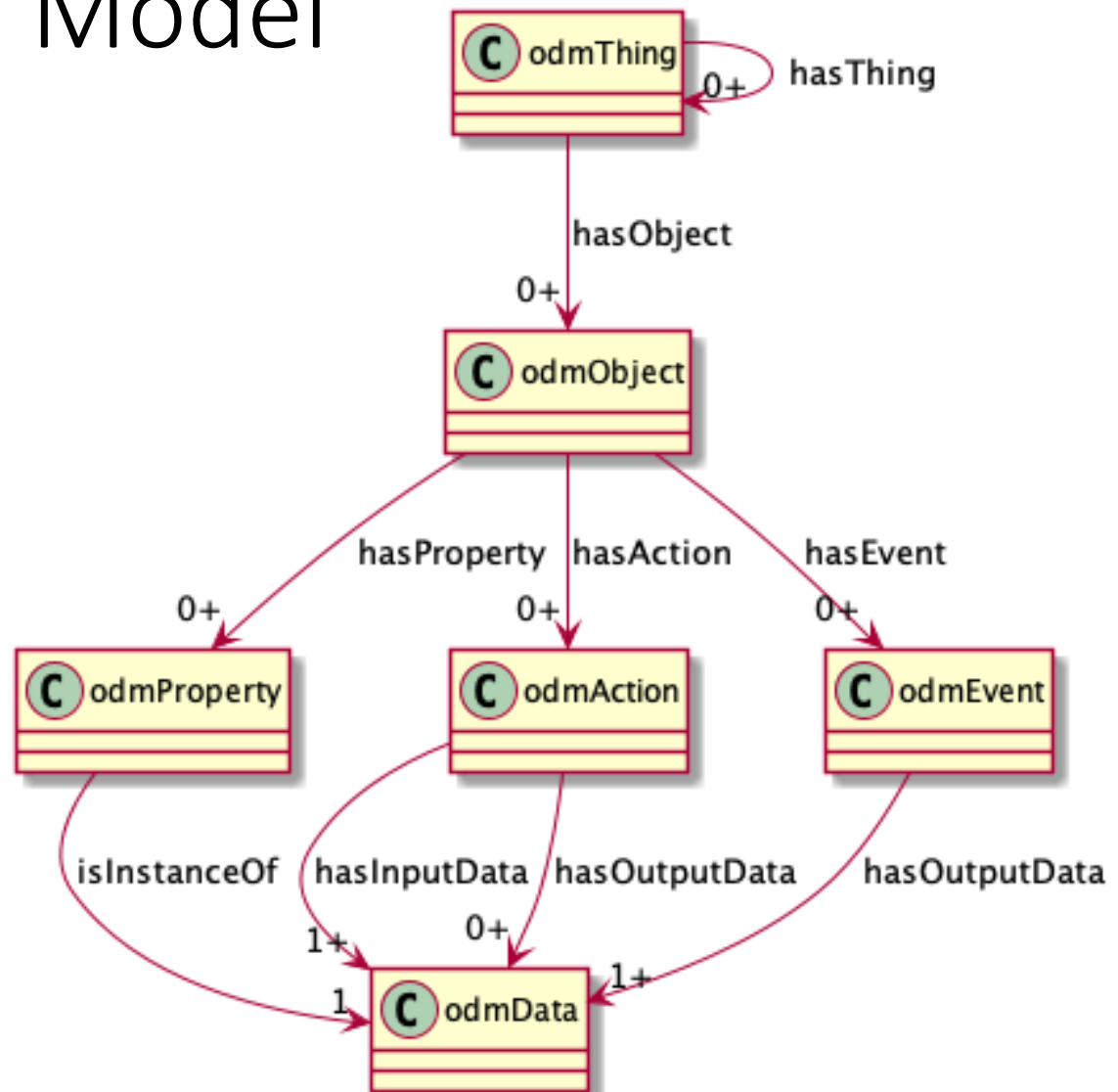
Project CHIP

- CHIP Project is scaled up and driving toward smart home certification around the end of the year 2020
- Data models drawn from Zigbee ZCL
- Focus mostly on communication protocols and device networking

One Data Model

- SDF Version 0.9
- Playground with CI tools
- Automatic conversion to/from OCF and OMA LWM2M
- Organizations adopting as the developer language
- Starting standardization in IETF
- Schema-driven editors and schema validation

One Data Model



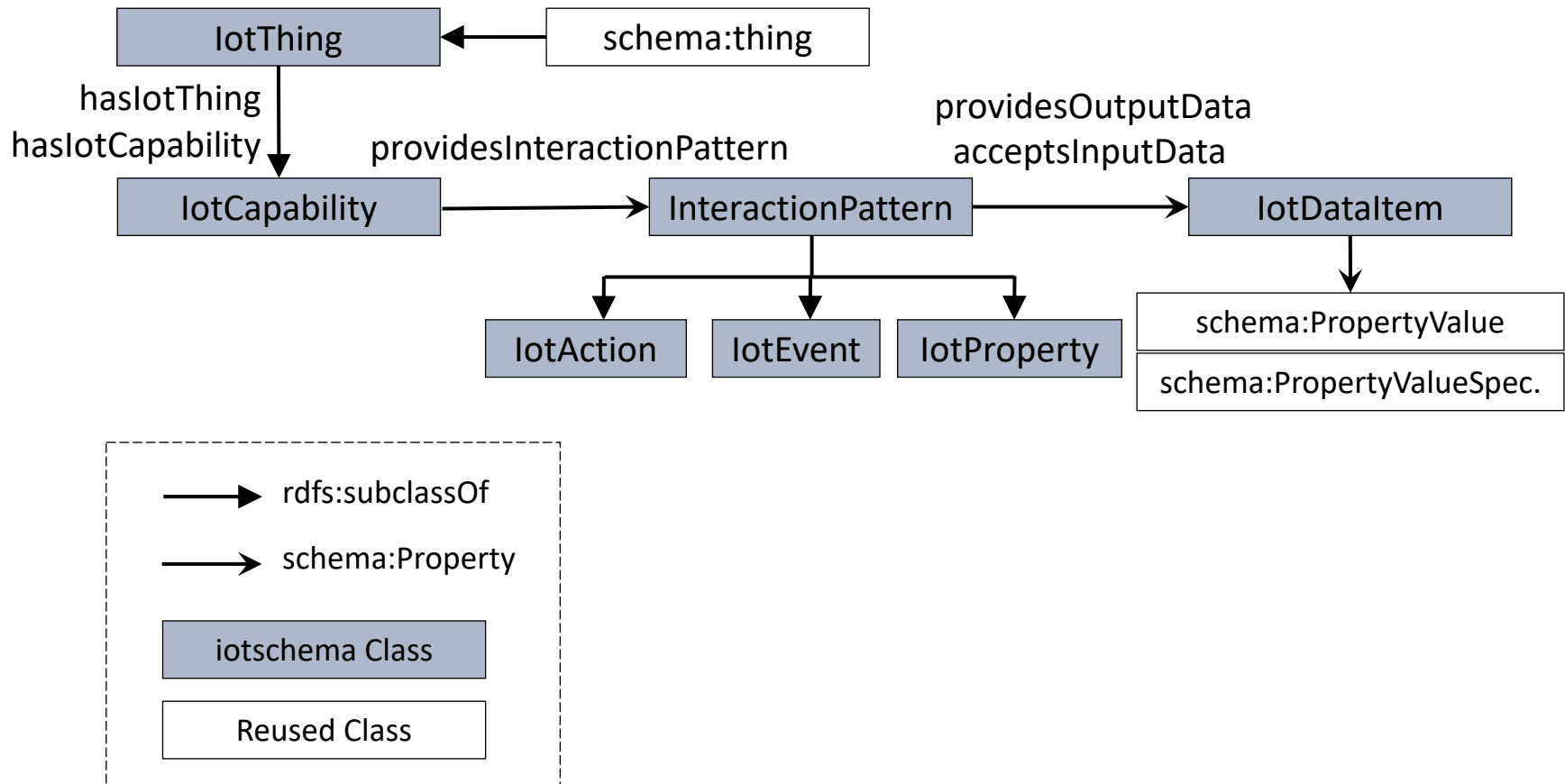
Thing Class

- Encapsulate reusable Capabilities
 - On/Off with state Property, Commands, and Events
 - Compose Air Conditioner Thing from OnOff, Mode, Speed, etc. as reusable Capabilities
- Reusable compositions of Capabilities
 - An Outlet unit for a multi-outlet strip
 - Each Outlet has OnOff, Energy Monitor, Overcurrent and Overtemperature protection Capabilities
 - Multiple Outlets are composed into an outlet strip
 - Outlet unit can be a Thing
 - Outlet Strip can also be a Thing

UML



schema.org IoT Extension Meta Model with Thing Class



Roadmap and Planning

- Ontology
- Schema.org integration
- Hosting
- Governance

Ontology

- Thing class
- Context integration, connectors to external ontologies
- Behavioral specification – state machines, rules, etc

Schema.org integration

- IoT affordance ontology classes
- Connector properties to iotschema classes
- Separate namespace for iotschema types
- Connector properties for IoT adjacent ontologies
 - BRICKschema
 - VSSschema

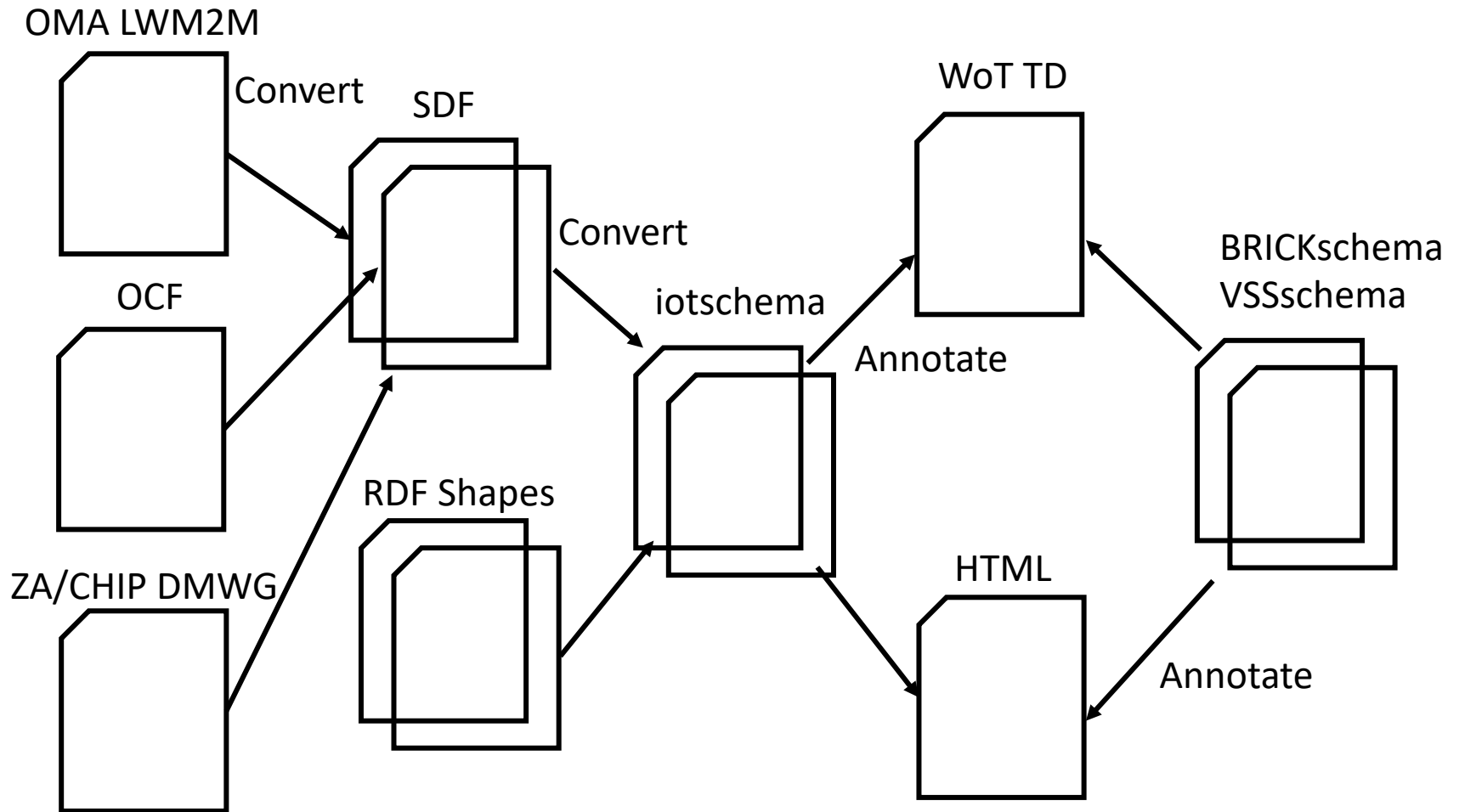
Governance

- W3C Community Group and community process
- Open source license BSD or other permissive
- W3C Evergreen process

Hosting

- Schema.org on a separate namespace
- Other options, W3C?

High Level Example Workflow



Conclusion

- Summary
- AOB