WISHI@IETF 110

One Data Model
Progress and Status
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One Data Model (OneDM)

• Goal: Normalize IoT information models and data models across industry
• Provide for broad semantic interoperability, reuse, and convergence of models across industry
• Liaison group of SDOs started in early 2019
• Zigbee, OMA, OCF, Bluetooth Mesh, others
• The SDF prototype was the phase 1 work product
One Data Model – Status

• Currently we have about 200 sdfObject models in the playground, representing the catalogs of OCF and OMA/IPSO, plus a few Zigbee and Bluetooth examples

• Automated tools convert OCF and OMA native formats to and from SDF

• New models can be generated in SDF and converted to either ecosystem

• Models can be translated from one ecosystem to another
Semantic Proxy Demo (WIP)
Going Forward

• Re-engage across ecosystems, outreach to Zigbee and Bluetooth Mesh to work on conversions and contributions

• Follow up with new use cases and collaborations
  • Solar Energy (SunSpec)
  • Textile Manufacturing equipment
  • Electronic Data Sheets
  • ISO SC41
  • NIST (US Standards Bureau)

• Start the model convergence and adoption process
  • Parallel work tracks and broad review, 2 week cycles
Model origins

Case 1
Direct adoption (e.g., for non-contentious domain objects)

Case 2
Adoption with convergence (e.g., for basic objects)

Case 3
Playground invention (e.g., for SDF artifacts)

Ecosystem A is model responsible

"Convergence team" assigns model responsible (has people from ecosystems. Team setup is ad hoc. May be initiated by Review Board)

Designer is model responsible
Model adoption process

Roles
- **Review board** OneDM team managing adopted models (includes adoption process)
- **Model responsible** OneDM participant promoting a particular model. Has change control for that model until is adopted
- **Contributor** Entity contributing models
- **Convergence team** for Case 2 models

One Data Model

- **Playground**
  - Model contributor (Case 1 & 2)

- **Review board**
  - The Model responsible for model M promotes it to Review board for adoption
  - Model responsible
  - Review Board report on needed changes sent to Model responsible

- **Adopted models**
  - M is added to adopted models repository
  - Version assigned (1.0)
  - OneDM takes over change control

Translation to SDF
"Reasonable" initial OneDM compliance (e.g., naming and structure)

Promotion
Alignment

Github repositories
https://github.com/one-data-model/playground
https://github.com/one-data-model/TBD

Community Last Call

Community given two weeks to object to adoption, Review board decides how to handle objection. Define list of valid objection reasons

Proposed Adoption
Community Adoption

Community Last Call

Last Call

Adoption

Added Community Last Call
Model work flows

• The Playground is where models are converged and alloyed together

• Separate repositories will be set up with the OneDM CI for contributors to prepare and manage models in an individually controlled space

• Exploratory repositories are set up for testing new SDF features, mappings, and extensions
References

OneDM:

- https://onedm.org/
- https://github.com/one-data-model/playground
- https://openconnectivity.org/ocf-and-onedm/

SDF:

- https://datatracker.ietf.org/wg/asdf/about/
- https://www.ietf.org/mailman/listinfo/asdf