

T2TRG WISHI

17.6.2021

Draft agenda

- WISHI activities
- Azure DTDL and [SDF](#) follow-up (Brian, Ari, all, ~60 mins)
- IoT Information-Model Standards Description / IoT landscape [document](#) (Milan, all, ~20 mins)
- W3C WoT Thing Model (Sebastian, ~10 mins)

WISHI activities going forward

- Week of July 19th in the IETF hackathon
 - Will look at converters (YANG-SDF, etc.)
 - <http://sdf-yang-converter.org/>
 - Details to be announced at the T2TRG list
- Will return to usual cadence around September

DTDL updates?

DTD L SDF discussion

WISHI meeting

17.6.2021

Ari Keränen

SDF – DTDL conversion experiments

- Implementations
 - SDF -> DTDL: quite complete conversion of SDF features
 - DTDL -> SDF: early implementation
 - See examples: <https://github.com/t2trg/wishi/tree/master/examples/sdf-dtdl>
 - Demo web service at: <http://wishi.nomadiclab.com:8083/odm2dtdl>
 - `curl -d @sdfobject-ipso-temperature.sdf.json`
`http://wishi.nomadiclab.com:8083/odm2dtdl`
- Some information lost in translation

DTDL/SDF Units

- SDF and DTDL share most (SI) units
 - Missing SI units can be registered to the SenML registry SDF is using
- DTDL has some non-SI units
 - E.g. "slug"
 - Probably not suitable for the SenML registry
- Suggestion: SDF units with full URI
 - For example: "https://github.com/Azure/opendigitaltwins-dtdl/blob/master/DTDL/v2/dtdlv2.md#slug"
 - What would be good "DTDL units" namespace URI?
 - Is there more generic URI for these units?

Unit conversion config

```
{
  "m/s2": {
    "unit": "metrePerSecondSquared",
    "type": "Acceleration"
  },
  "rad": {
    "unit": "radian",
    "type": "Angle"
  },
  "m2": {
    "unit": "squareMetre",
    "type": "Area"
  }
}
...
```


DTDL -> SDF conversion missing information

- Relationships

- Proposal: adding sdfRelations to SDF

- Draft example:

```
"sdfRelations": {  
  "containedIn" : {  
    "type" : "saref:isContainedIn",  
    "target" : "ex:#/sdfObject/Room",  
    "properties" : {  
      "foo" : 42  
    }  
  }  
}
```

SDF -> DTDL conversion missing information

- SDF info block contents: copyright, license, title, etc.
 - Could be embedded to description element?
 - Could extend DTDL for easier conversions?
 - IETF standardization potential
 - [draft-lear-opsawg-ol](#)
- Data shape qualities
 - Min/max values
 - Min/max length and patterns for strings
 - Default/constant values

Way forward

- Who is doing DTDL models?
 - Call for action for contributing those models?
- Evolving SDF to improve support for DTDL models?
- Week of July 19th IETF hackathon activity on DTDL?
- Converting playground models to DTDL
 - Improve converters and SDF based on experiences