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| Work Item | |
| Work Item Title: | oneM2M and SensorThings API |
| Document Number | WI-0100 |
| Supporting Members or Partner type 2 | Deutsche Telekom, ORANGE, Nokia, Convida Wireless, IBM |
| Date: | 2024-03-14 |
| Abstract: | Propose a work item to study and specify the interworking between oneM2M and OGC / SensorThings API. |
| 'Template Version: January 2019 (do not modify) | |

oneM2M Copyright statement

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1 Title (abbreviation)

oneM2M and SensorThings API

2 Justification

SensorThings API (STA) is an Open Geospatial Consortium (OGC) standard providing an open and unified framework to interconnect sensing IoT devices, data, and applications over the Internet. Among others, STA is going to become an important standard in Smart City.

Usualy cities have already experience with OGC standards because they have to chart areas and properties. So the usage of STA is a logic consequence because its also an OGC standard. STA is easy to implement, open source software is available. STA is going to be used in large deployments in several European cities (e.g. City of Hamburg).

The interworking with oneM2M broadens the reach of those platforms because OGC/STA-based platforms then can be connected with an oneM2M-based Sensor- or Actuator Systems. And a oneM2M CSE can also be used to interwork with STA-enabled Sensors. The interworking enables heterogeneous architectures within a city that are combining the capabilities and advantages of both standards. In IoT as well as in Smart City there won’t be somethings like “the one standard” so connecting elements between different standards becomes more important for future Smart City Infrastructures.

3 Intended Output

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| Tick all the appropriate cases |  |
| X | Change request(s) to existing Technical Specification(s) |
|  | Change request(s) to existing Technical Reports(s) |
| X | New Normative Technical Specifications(s) |
| X | New Permanent Technical Reports(s) |
|  | New Temporary Technical Reports(s) |

4 Impact

4.1 oneM2M Work Items

The current work item may have impact on TS-0023 (WI-0084). There might be additional impact discovered during further work.

5 Scope

The scope of the work item is to define an interworking of both standards oneM2M and OGC SensorThings API.

The interworking solution shall be designed and follow the principles applied too- and in alignment with, already existing interworking solution in oneM2M,

The objectives of the work item are structured as followed:

* Describing interworking scenarios that are relvant but not exclusive for Smart City (there are also examples from other areas and verticals as well)
* Technical comparison of oneM2M and OGC / STA
* Describing a technical solution for interworking of both standards; there might be interworking on different level:
  + opaque data routing
  + data model mapping between oneM2M-SDT and OGC ISO 19156
* Developing test cases for interworking between oneM2M and OGC SensorThings API

Provide corresponding change requests if impacts on existing oneM2M Technical Specifications are identified.

6 Schedule and impacted specifications

Provide the schedule of tasks to be performed;

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| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| New Specifications (if any) | | | | | | | | | |
| Document  Type | Document  Number\* | Title | Schedule (TP No.) | | | | Lead WG | Impacted WGs | Comments |
| Start | Change Control | Freeze | Approval |
| TR | [TR-0065](http://member.onem2m.org/Application/documentapp/downloadLatestRevision/default.aspx?docID=32023) | Study of SensorThings API Interworking | TP 45 | TP 60 | TP 61 | TP 62 | WG2 | WG1 |  |
| TS | TS-0041 | TS-0041 – SensorThings Interworking | TP62 | TP66 | TP69 | TP69 | WG2 | WG1,  WG3 |  |

\* The first versions will be assigned by the secretariat (WPM Secretary)

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| CRs to existing specifications (if any) | | | | | |
| Impacted  TS/TR |  | Subject of the CR | Approved at plenary# | Impacted WGs | Comments |
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| TS/ TR |  |  |  |  |  |

7 Work Item Rapporteur(s)

Ingo Friese, Deutsche Telekom, [ingo.friese@telekom.de](mailto:ingo.friese@telekom.de); Andreas Neubacher, Deutsche Telekom, [andreas.neubacher@magenta.at](mailto:andreas.neubacher@magenta.at)

8 History

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| Document history | | |
| V0.0.1 | 2020-01-27 | Initial proposal |
| 2020-02-27 | Uploaded as a permanent document following approval of TP-2020-0020R02 |
| V0.0.2 | 2020-12-02 | Update time schedule |
|  | 2021-01-04 | Uploaded as a permanent document following approval of TP-2020-0126 |
| V0.0.3 | 2021-11-29 | Update time schedule |
|  | 2021-11-29 | Uploaded as a permanent document following approval of TP-2021-0100 |
| V0.0.4 | 2023-03-28 | Update time schedule |
| 2023-04-18 | Uploaded as a permanent document following approval of TP-2023-0028 |
| V0.0.5 | 2024-02-29 | Update time schedule |
| 2024-03-14 | Uploaded as a permanent document following approval of TP-2024-0003R01 |

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