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| Work Item | |
| Work Item Title:\* | Group Operation Enhancement |
| Document Number\* | WI-00xx-Group\_Operation\_Enhancement-V0\_0\_1 |
| Supporting Members or Partner type 2\* | Huawei Technologies |
| Date:\* | 2015-03-14 |
| Abstract:\* | Proposal of a work item to deliver CRs to enhance the group operation in oneM2M. |

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Title

Group Operation Enhancement

Output

Change Requests:

* CRs to correct the currently existing inconsistencies and mistakens.
* CRs to bring new group operation features based on new use cases and requirements.

Impact

Impact on other Technical Specifications and Technical Reports

TR0001will be impacted with new use cases.

TS0002 will be impacted with new group related requirements.

TS0001 and TS0004 may be impacted with new resource types and procedures.

TR0012 may be impacted if according the investigation in SEC WG, group operation may be needed to perfrom group authentication. There is a potential impact on TR0012 by the proposed WI that CRs may be brought to TR0012 to define necessary contents on how to use group operation for group authentication.

Impact on other oneM2M Work Items;

WI0016 – The proposed work item focuses on how to enhancing group operations, which potentially have dependencies on group authentication methods. If needed, WG4 will also be involved for discussion on this topic.

Scope

Justification:

In the current TS0001 and TS0004, group for oneM2M is defined for fan out operations of all kinds of CSEs to multiple devices one by one using unicast. But group can be used in many other ways as well. In M2M system, as the amount of device connected with the system is very large, group is very important to organize devices that are intended with the same functionality together.

According to the solution delivery experience, group operation is of great importance for M2M system. And there are new use cases and requirements pertaining to group operations.

For example, currently oneM2M can only fan out group operation one by one using unicast. But some underlying network (e.g. 3GPP, IETF etc) provides multicast or broadcast method. For efficiency consideration, how to utilize the underlying network for broadcasting/ multicasting? Is it possible to use capabilities offered by the underlying network over Mcn for affecting (communicating with, receiving information about …) a group of AEs? Another example is that in oneM2M, if we need to grant access priviledge to multiple AEs which have the same role to multiple places, we need to repeat the same access control rule multiple times with just the accessControlOriginators different. And it is not convient to modify the priviledge. Is it possible to use group to grant access privilege to multiple AEs that has the same role? And so on.

Objectives may include:

* Study (and standardize) the mechanism for group based communication by leveraging underlying network service capabilities over Mcn, such as, broadcast or multi-cast based mechanisms,
* Study (and standardize) the mechanism for granting access previledge to a group of entities,
* Other features related to group operation.

As a result, the scope of the proposed new WI includes:

* Call for and analyse use cases and requirements on group operations.
* Analyse if the current oneM2M group mechanism can fulfil the use cases and requirements.
* Analyse the potential group related new features to be brought to oneM2M.
* Change Requests to architecture and protocol specification to contribute the new features needed.

Schedule

Provide the schedule of tasks to be performed;

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| Doc  Type | Spec Number | Title | Milestone dates | | | | Primary Responsible | Notes |
| Start | Change Control | Freeze | Approval |
| TS | 0002 | Requirements | N/A | N/A | N/A | N/A | WG1 | CRs to bring in new requirements  WG4 secondary |
| TS | 0001 | Functional Architecture | N/A | N/A | N/A | N/A | WG2 | CRs to bring in new resource types, attributes and related procedures |
| TS | 0004 | Service Layer Core Protocol | N/A | N/A | N/A | N/A | WG3 | CRs to bring in data types, procedure description etc related to architecture. |
| TR | 0001 | Use Cases Collection | N/A | N/A | N/A | N/A | WG1 | CRs to bring in new use cases |
| TR | 0012 | End-to-End-Security\_and\_Group\_Authentication | N/A | N/A | N/A | N/A | WG4 | CRs related to group authentication |

Supporters

Huawei Technologies Co., Ltd.; InterDigital; KETI; China Unicom

Work Item Rapporteurs.

Jiaxin Yin (Huawei Technologies Co., Ltd.)

History

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| **Document history** | | |
| <Version> | <Date> | <Milestone> |
| V0.0.1 | 14 March 2015 | Initial proposal |