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oneM2M / OMA 3GPP Interworking

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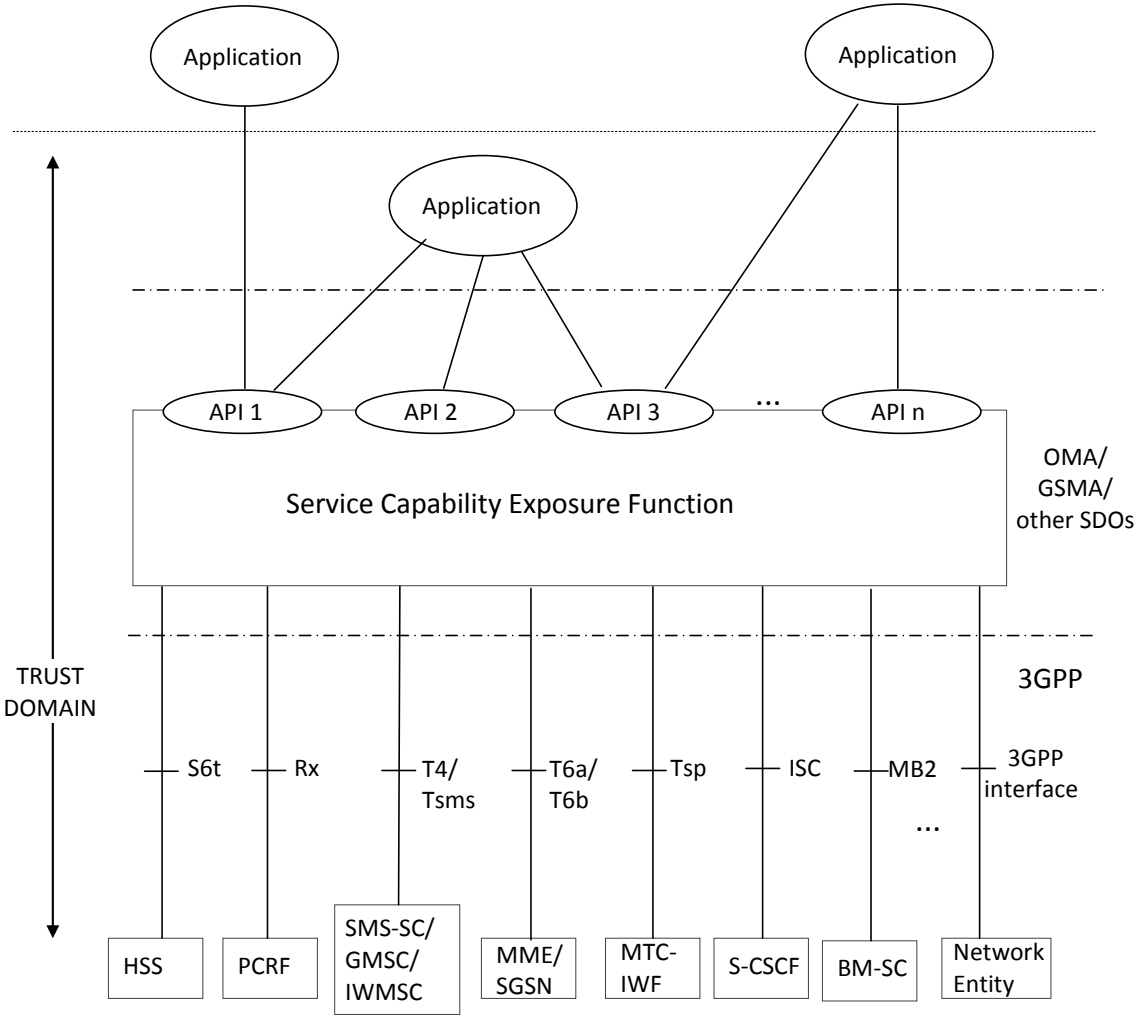
Background and History

- Devices in oneM2M are expected to use wireless networks like 3GPP to a large extent.
- Traffic characteristics of oneM2M (IoT) devices may be considerably different to current (human-to-human) traffic.
  - E.g. devices may be not moving, or moving only in certain areas, only communicating at certain times, turned off for long periods…
  - Mobile networks may benefit from being informed on such device characteristics and optimize their resources accordingly.
- oneM2M identified that there is a need for exchange of IoT device related information between oneM2M nodes and entities of underlying networks (e.g. 3GPP) to enable such optimization.

What happened in 3GPP …

- Already back in 2013 oneM2M (REQ-2013-0312) liaised with 3GPP SA1 to request interfaces for such information transfer.
- 3GPP specified in Rel-13 “Service exposure with 3rd party service providers” features.
  - 3GPP defined a Service Capability Exposure Function (SCEF), but 3GPP does not specify the APIs exposing these functions
- API specification via a Service Capability Exposure Function (SCEF) was left to other SDOs like OMA.

3GPP Release 13 architecture



Handling of SCEF in oneM2M

Two – non exclusive – implementation tracks of the SCEF are currently being pursued:

- Track#1 – oneM2M interfaces directly with the 3GPP network and provides SCEF functionality internally to the oneM2M System
- Track #2 – OMA provides SCEF functionality and interfaces with the 3GPP network
  - oneM2M uses OMA defined APIs

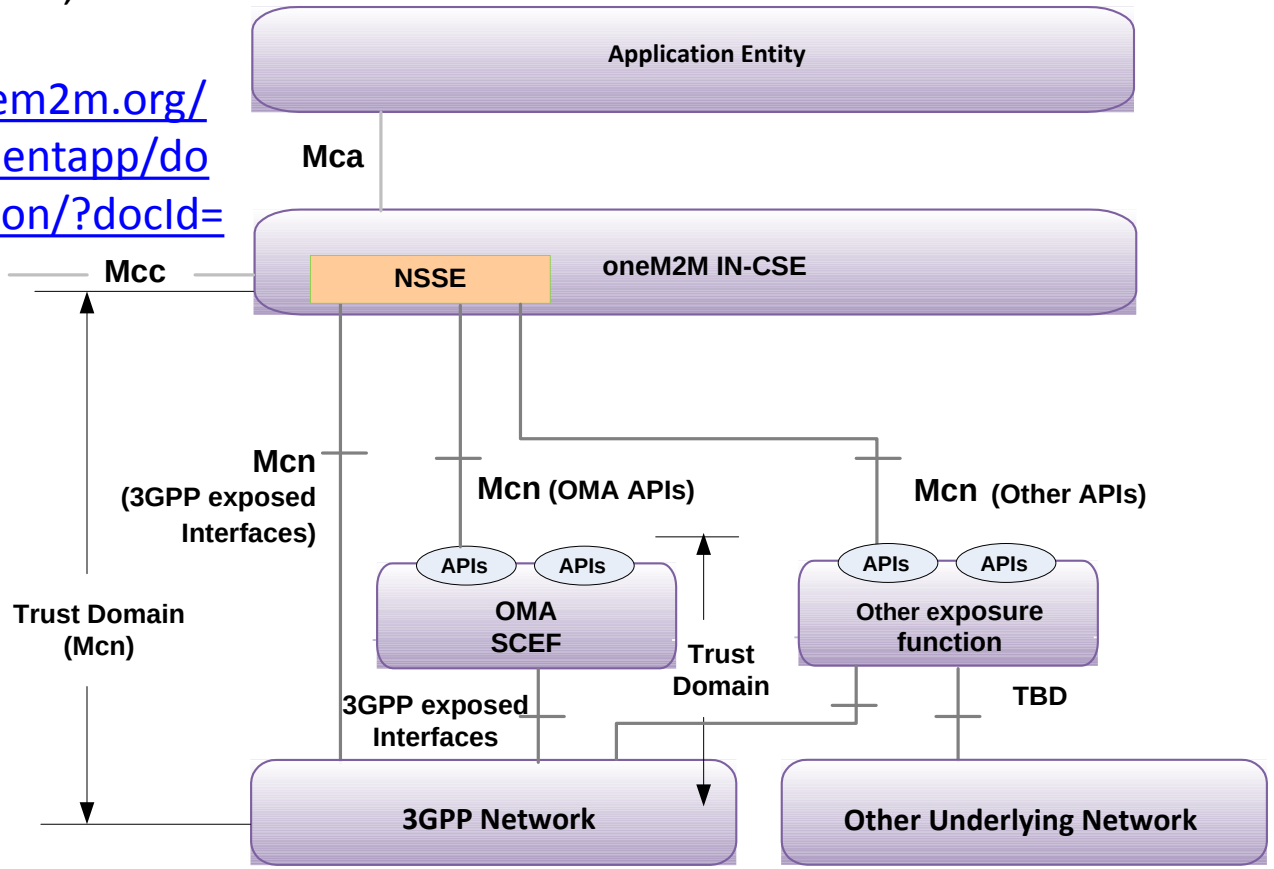
… or a combination of the above

3GPP functionality offered via SCEF

- As described in 3GPP TS 23.682 the SCEF covers services such as
  - ability to configure device communication patterns,
  - configure the QoS of a data flow,
  - sponsor a data flow,
  - scheduling data transfers,
  - monitor a device's state,
  - optimizing a device's communication patterns for high latency applications,
  - receive reports about the condition of the mobile core network,
  - trigger devices, and send group messages via MBMS

3GPP IWK options for oneM2M Rel-2

See oneM2M TR-0024, clause 6 http://member.onem2m.org/Application/documentapp/downloadLatestRevision/?docId=13085



NSSE: Network Service Exposure, Service Execution and Triggering

Way forward

- oneM2M will pursue both tracks
  - For oneM2M Rel-2 only track 1 (direct interworking) is being specified.
  - When OMA takes up related work it is anticipated that OMA could benefit from experiences in oneM2M.
  - oneM2M and OMA Should keep each other informed on the topic.