



TECHNICAL REPORT

oneM2M Use Case collection

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Foreword

This Technical Report (TR) has been produced by ETSI Partnership Project oneM2M (oneM2M).

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1 Scope

The present document includes a collection of use cases from a variety of M2M industry segments (listed in table 1.1). Each use case may include a description, source, actors, pre-conditions, triggers, normal and alternative flow of sequence of interactions among actors and system, post-conditions, illustrations and potential requirements. The potential requirements provide an initial view of what oneM2M requirements could arise from the Use Case as seen by the contributor. These are intended to help the reader understand the use case's needs. These potential requirements may have been subsequently submitted by the contributor for consideration as candidate oneM2M requirements, which may or may not have been agreed as a oneM2M requirement (often after much editing). As such, there may not be a direct mapping from the potential requirements to agreed oneM2M requirements [i.14].

Table 1.1

Industry Segment	oneM2M Use Cases								
Agriculture									
Energy	Wide area Energy related measurement/control system for advanced transmission and distribution automation	Analytics for oneM2M	Smart Meter Reading	Environmental Monitoring for Hydro-Power Generation using Satellite M2M	Oil and Gas Pipeline Cellular /Satellite Gateway				
Enterprise	Smart building								
Finance									
Healthcare	M2M Healthcare Gateway	Wellness services	Secure remote patient care and monitoring						
Industrial									
Public Services	Street Light Automation	Devices, Virtual devices and Things	Car/Bicycle Sharing Services	Smart parking	Information Delivery service in the devastated area				
Residential	Home Energy Management	Home Energy Management System	Plug-In Electrical Charging Vehicles and power feed in home scenario	Real-time Audio/Video Communication	Event Triggered Task Execution	Semantic Home Control	Semantic Device Plug and Play		
Retail									
Transportation	Vehicle Diagnostic & Maintenance Report	Remote Maintenance services	Neighbourhood Alerting on Traffic Accident	Fleet management service using Digital Tachograph					
Other	Extending the M2M Access Network using Satellites	M2M data traffic management by underlying network operator	Optimizing connectivity management parameters with mobile networks	Optimizing mobility management parameters with mobile networks	Sleepy nodes	Collection of M2M system data	Leveraging Broadcasting/Multicasting Capability of Underlying Networks	Service Provisioning for Equipment with Built-in Device	

2 References

2.1 Normative references

References are either specific (identified by date of publication and/or edition number or version number) or non-specific. For specific references, only the cited version applies. For non-specific references, the latest version of the reference document (including any amendments) applies.

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NOTE: While any hyperlinks included in this clause were valid at the time of publication, ETSI cannot guarantee their long term validity.

The following referenced documents are necessary for the application of the present document.

Not applicable.

2.2 Informative references

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NOTE: While any hyperlinks included in this clause were valid at the time of publication, ETSI cannot guarantee their long term validity.

The following referenced documents are not necessary for the application of the present document but they assist the user with regard to a particular subject area.

[i.1] oneM2M Drafting Rules.

NOTE: Available at http://ftp.onem2m.org/Others/Rules_Pages/oneM2M-Drafting-Rules-V1_0.doc.

[i.2] ETSI TR 102 935 (V2.1.1): "Machine-to-Machine communications (M2M); Applicability of M2M architecture to Smart Grid Networks; Impact of Smart Grids on M2M platform".

[i.3] ETSI TS 102 689 (V1.1.1): "Machine-to-Machine communications (M2M); M2M service requirements".

[i.4] ETSI TR 102 732: "Machine-to-Machine Communications (M2M); Use Cases of M2M applications for eHealth".

[i.5] HGI-GD017-R3: "Use Cases and Architecture for a Home Energy Management Service".

[i.6] ISO/IEC 15118: "Road vehicles -- Vehicle to grid communication interface".

[i.7] Mandate 486: "Mandate for programming and standardisation addressed to the European Standardisation Bodies in the field of Urban Rail".

[i.8] DIN specification 70121: "Electromobility - Digital communication between a d.c. EV charging station and an electric vehicle for control of d.c. charging in the Combined Charging System".

[i.9] ETSI TR 102 638: "Intelligent Transport Systems (ITS); Vehicular Communications; Basic Set of Applications; Definitions".

[i.10] ETSI TS 122 368: "Digital cellular telecommunications system (Phase 2+); Universal Mobile Telecommunications System (UMTS); LTE; Service requirements for Machine-Type Communications (MTC); Stage 1 (3GPP TS 22.368)".

[i.11] ETSI TS 123 682: "Digital cellular telecommunications system (Phase 2+); Universal Mobile Telecommunications System (UMTS); LTE; Architecture enhancements to facilitate communications with packet data networks and applications (3GPP TS 23.682)".

- [i.12] 3GPP TR 23.887: "Study on Machine-Type Communications (MTC) and other mobile data applications communications enhancements".
- [i.13] Communications Guidelines defined in Continua Health Alliance, The Continua Version 2012 Design Guidelines.
- [i.14] oneM2M-TS-0002: "Requirements Technical Specification".
- [i.15] ETSI TS 103 383: "Smart Cards; Embedded UICC; Requirements Specification".
- [i.16] IEC 61850: "Communication networks and systems in substations".

3 Abbreviations

For the purposes of the present document, the following abbreviations apply:

3GPP	3rd Generation Partnership Project
A/C	Air Conditioner
AHD	Application Hosting Device
AL	Authorization Level
ALU	Alcatel Lucent
AMI	Advanced Metering Infrastructure
AP	Applications Provider
API	Application Programming Interface
ARIB	Association of Radio Industries and Business
ARPU	Average Revenue Per User
BMS	Building Management System
BTS	Bus Ticket System
CCSA	China Communications Standards Association
CCTV	Closed Circuit Television
CEN	Comité Européen de Normalisation
CIS	Customer Information System
CL	Criticality Level
CMS	Cryptographic Message Syntax
CP	Care Provider
CPU	Central Processing Unit
DAP	Data Aggregation Point
DB	DataBase
DER	Distributed Energy Resources
DIN	Deutsches Institut für Normung
DP	Device Provider
DR	Demand Response
DRX	Discontinuous reception
DSO	Distribution System Operator
DSRC	Dedicated Short Range Communications
DTG	Digital TachoGraph
DVR	Digital Video Recorder
EGW	Energy GateWay
EHR	Electronics Health Record
EP	Equipment Provider
EPBA	Equipment Provider Back-end Application
ETRI	Electronics and Telecommunications Research Institute
ETWS	Earthquake and Tsunami Warning System
EU	Equipment User
eUICC	Embedded Universal Integrated Circuit Card
EV	Electric Vehicle
EVC	Electric Vehicle Charging
EVCE	Electric Vehicle Charging Equipment
EVC-SP	Electric Vehicle Charging Service Provider
FFS	For Further Study
FMS	Fleet Management Service
GPS	Global Positioning System