

Post

M2M General

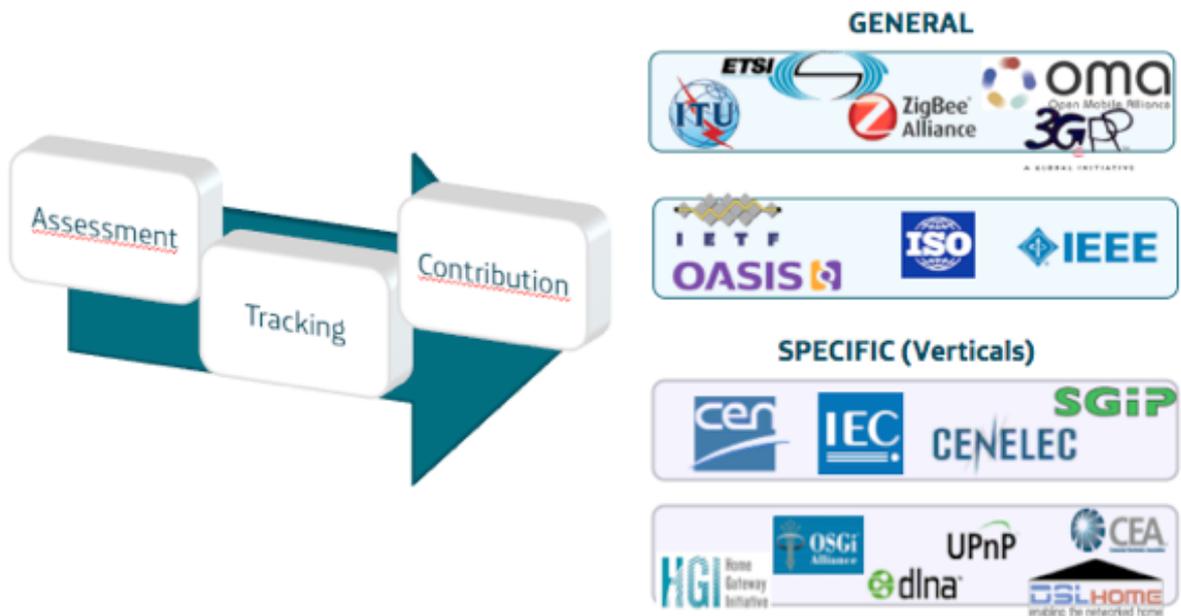


M2M Standardization: How complex is it?

Thursday, 25 October 2012



Interoperability between all layer elements and protocols is a critical part of the M2M industry because M2M takes on board most of the networking technologies: from all the mobile data connections and fixed broadband technologies, down to networking control technologies.



In order to understand how complex is the standardization activities in M2M, we can take the Smart Energy/Utility vertical as an example:



Smart Energy and Smart Grids and their relationship with the [Future Internet](#), which will be driven by the M2M communications, have motivated and addressed a very significant number of international and European standardization bodies:

- [IEC](#), the leading international body for electro-technical standardization, works on a high level architecture, uses cases and requirements at a system level, Smart Meter and loads control communication, sensing and measurement devices for Smart Grid, distribution management, and charging infrastructure for EVs, among other technical bodies.
- [ISO](#) is working on charging infrastructure for EVs including the EV-to-grid communication and building automation. A Joint Technical Committee (JTC1) of ISO and IEC deals with Smart Grid market requirements, sensor networks and electronic systems for home networking and control.
- [ITU-T](#) has started work on Smart Grid communication use cases, requirements and a high level architecture (FG Smart Grid). They define future communication networks for all kind of usage areas and communication relationships (SG 13), various wireline communication technologies including a home network solution for Smart Meter, energy management and EV applications (SG15) and consider communication and application security issues in general (SG17).
- [IETF](#) review and coordinate the use of Internet protocols for Smart Grid, work on application and network layer solutions for the support of constraint devices and energy consumption monitoring and energy management for IP network devices.
- CEN has activities on building automation ([TC247](#)), on communication for Smart Meters with the focus on non electricity meters ([TC294](#)) and on EVs and their charging infrastructure ([TC301](#)).
- CENELEC has activities on home and building electronic systems (TC205), system aspects of electrical energy supply (TC8x) and equipment for electrical energy measurement and load control (TC13).
- [ETSI](#) is working on machine-to-machine communication with Smart Meters and Smart Grids in many of its technical areas.

[CEN/CENELEC](#) and ETSI work together on European standards for Smart Metering in the Smart Meter Coordination group based on a mandate from the EU Commission ([M/441](#)). A mandate on standardization for charging of EV ([M/468](#)) was issued in summer 2010. A standardization mandate for Smart Grid ([M/490](#)) was issued on March 2011. They also initiated focus groups on standardization of Smart Grids and Electrical Vehicles to define European standardization roadmaps for these areas.



Telefónica has been pushing prominently the standardization activities within the GSMA and ETSI. We have also joined forces with [G&D](#), our operators Movistar and O2, and MNO partners such as [China Unicom](#). There is a common demonstration platform that shows how M2M embedded SIMs mobile subscriptions can be securely handled over the air (activated, swapped, transferred, deleted...) depending on the business needs and rules carefully designed.

Standardization in M2M involves such an incredible number of technologies that carefully chosen activities have to be addressed in the future to really push forward the business opportunities.



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