IEEE P2413 - Standard for an Architectural Framework for the Internet of Things (IoT)

Meeting report - September 2014

The September 2014 meeting of the IEEE P2413 Working Group was held on 16-17 September in Santa Clara CA at STMicroelectronics offices located at 2525 Augustine Drive, Santa Clara, 95054 CA. 27 representatives from 20 companies attended the meeting.

The members of the group developed the presentation that is available on the public web page of the working group (http://grouper.ieee.org/groups/2413/Intro-to-IEEE-P2413.pdf). This presentation also lists goals set by the working group for the P2413 project during this meeting:

- Accelerate the growth of the IoT Market by enabling cross-domain interaction and platform unification through increased system compatibility, interoperability and functional exchangeability;
- Define an IoT architecture framework that covers the architectural needs of the various IoT Application Domains;
- Increase the transparency of system architectures to support system benchmarking, safety, and security assessments;
- Reduce industry fragmentation and create a critical mass of multi-stakeholder activities around the world;
- Leverage the existing body of work.

The group discussed potential methodology for the development of the standard and decided to adopt the following:

- Identify commonalities within verticals and potentially among certain verticals.
- Start addressing relationships among security requirements, energy efficiency during data transmission (communication), service requirements, application aware routing (including security requirements), versus underlying network technologies.
- The group discussed whether to take top down or bottom up approach. Specific features in existing standards should be linked to the top-down view of relevant IoT aspects, features and components, which form part of an IoT architectural framework. On this basis, different design choices for each of these IoT features can be identified. Finally, for the definition of profiles, the requirements within a specific domain can then be matched to the design choices, choosing the most relevant one.
- Possibly structure document with per domain profiles, and potentially liaise with vertical standards groups to detail (data models for example)
- Bridge and leverage standardization landscape Sub-working Group output to identify relevant features and functionalities in other standardization related activities.
The group agreed to leverage external interactions in the development of this project and set the following course of actions:

- For a unified IoT Architectural Framework it is essential to interact with standardization activities for IoT-based vertical applications to cover the various applications, their requirements and specific IoT functionalities in the IoT Architectural Framework, and to ensure that the framework can be referenced by these standardization activities.
- Besides interactions with standardization activities within IEEE, P2413 will strive to establish liaisons with other standardization bodies.
- An initial set of liaisons will include IEEE 802.24, IEC SG8, and oneM2M.

The members discussed the organization of the working group.

To accelerate the development process P2413 has launched a number of Sub-Working Groups and Ad Hocs:

- **Sub-Working Groups**
  - Scope and Applicability
  - Standardization Landscape
  - Networking
- **Ad Hocs**
  - oneM2M review

The timeline for the completion of the work is 2016.

**Other highlights from the meeting include:**

- The WG approved unanimously the WG Operations Manual and Development Process documents.
- The WG approved unanimously the draft working document. That is an important milestone for the Working Group.
- Launch of the ad hoc (oneM2M review) aiding in the submission of comments to oneM2M on their Candidate Release Specifications.
- Presentation opportunities at:
  - IEEE-SA IoT Workshop in Mountain View, September 18-19, 2014 (presented by Oleg Logvinov, P2413 Chair)
  - Innovation Day 2014, Milano, 25 September 2014 (presented by Francesco Russo, IBD)
  - ITU Global Standards Initiative on Internet of Things (IoT-GSI), 13 November 2014 (presented by Juergen Heiles, Siemens)
  - ETSI M2M Workshop, 10-11 December 2014 (presented by Philippe Nappey, Schneider Electric)
  - Globecom workshop on the Internet of Things and Services, 8 December 2014 (presented by Chuck Adams, Huawei)

**The following Working Meeting dates are currently planned:**

- 22-23 January 2015 in Taipei
- 27-28 April 2015 in Europe
• first week of August 2015 in the USA.