INCITS Study Group
Internet of Things

INCITS Plenary Report – April 18, 2013

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InterNational Committee for Information Technology Standards
Where IT all begins

Internet of Things – A Definition

The Internet of Things (IoT) is a global network infrastructure, linking physical and virtual objects through the use of interoperable data capture and communication methods.

Standards-based object identification, sensor and connection capability provide for the development of independent cooperative services and applications characterized by a user-defined degree of autonomy.

Internet of Things JTC1 Special Working Group Charter and Responsibilities

Identify market requirements and standardization gaps for IoT

Encourage JTC 1 SCs and WGs to address the need for ISO/IEC IoT standards

Facilitate cooperation across JTC 1 entities

Promote JTC 1 developed standards for IoT and encourage these standards to be recognized and utilized by industry and other standards setting organizations

Facilitate the coordination of JTC 1 IoT activities with IEC, ISO, ITU and other organizations that are developing standards for IoT

Periodically report results and recommendations to JTC 1/SWG on Planning

Provide a written report of activities and recommendations to JTC 1 in advance of each JTC 1 Plenary meeting.

Accomplishments

- INCITS / SG-IoT initiated its organizational phase – First meeting on February 27, 2013.
  - A call for INCITS/SG-IoT Chair has been issued which closes on March 29, 2013.
  - Provided the US contribution for the JTC 1/SWG 5 agenda that related for IoT definition
  - Developed an initial slate of stakeholders that would be involved in addressing IoT requirements.
  - Established delegation

- INCITS / SG-IoT was well represented at the March 6-8 JTC1 Berlin Meeting
  - US delegates led the JTC 1/SWG 5 discussions on technology definitions and market related requirements.
  - The US delegation attending the JTC 1/SWG 5 Berlin meeting has committed to support the recommendations and resulting international work efforts
  - US delegates assumed positions of leader (or co-leader) for the three ad hoc groups created in Berlin.
  - The INCITS/SG-IoT has provided an provisional invitation to host the next JTC 1/SWG 5 meeting.

- INCITS / SG-IoT has initiated next steps
  - Planning for the expansion of INCITS/SG-IoT participation has been initiated.
  - JTC1 SWG Ad Hocs first meetings set in April
  - INCITS SG-IoT next meeting planned in April
  - Preparation for upcoming JTC1 SWG meeting in August

Challenges

- The work scope and breadth of liaisons across the international standards community will be extensive.

- Increased participation in the INCITS study group from within US industry will be necessary to integrate the scope of global requirements and existing standards activities necessary to support the IoT activity

- Broad stakeholder community involvement will be important.

INCITS IoT Study Group
Initial Participation

- Evanhoe and Associates
- Futurewei
- High Tech Aid
- NIST

- Raytheon, TIA, American Express
  - Participated as guests at initial meeting

- SRA International and CDO Technologies have forwarded membership fees and will initiate attendance.

JTC1 / SWG 5 Meeting in Berlin

- Three day JTC 1/SWG 5 initial meeting in Berlin, represented by 30 participants, from 11 delegations
  - INCITS had four participating members
  - Korea, Germany, USA, China, UK, Canada,, Singapore, Austria, Japan, SC 31, TC 122
- Nine Recommendations established
- Three Ad Hocs initiated

JTC1 SWG 5 Recommendations

- Ad Hocs
  - Develop a Common Understanding of IoT (Ad-hoc Group 1)
  - Identify Market Requirements for IoT (Ad-hoc Group 2)
  - Identify Standardization Gaps and Develop a Standards Roadmap for IoT (Ad-hoc Group 3)

- Outreach Letters re Activities / Interest / Participation Interest
  - JTC1 Internal Outreach
  - SDO External Outreach
  - External Outreach to ISO TMB and IEC SMB

- Liaison Requests
  - **ITU-T JCA-IoT**
  - **CEN TC 225**

April INCITS SG-IoT Meeting

- Debrief from JTC1 organizational meeting
- Address challenges, schedules, work products
  - Status of JTC1 Ad Hocs
  - Proposed JTC 1/SWG 5 work scope.
  - US industry participation
- Prepare for upcoming meetings
  - JTC1 June teleconference
  - JTC1 August US meeting
- Develop INCITS SG IoT 2013 meeting schedule
- Develop INCITS SG-IoT organization / teams

Call for Broader Industry Participation

- IoT will require a broad cross industry focus over the next decade
  - IoT is a full technology stack focus – from physical to application level
  - IoT paradym will require technology and application level involvement as well as cross SDO coordination
  - IoT will be pursued from both a technology evolution perspective and from a market requirements perspective.
  - IoT provides an umbrella for technology / applications integration and stakeholder integration.
  - Requirements will be defined from both a technology (vertical) and applications (horizontal) perspective

- **Broad industry participation will be necessary for long term success**

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US Proposed Hosting
Upcoming JTC1 SWG – IoT Meeting

- At the first JTC1 Plenary (Berlin) the US provisionally offered to host the next JTC1 meeting
  - Meeting plan is for August 2013
- Propose to hold meeting at INCITS in Washington, DC
  - Base funding for the meeting (breaks, meeting room etc) has been committed by current members
  - Further funding for dinner, lunch etc. will be researched from potential sponsors

- **Request INCITS Executive Board support to formalize meeting proposal**

Appendix

Recommendation 1: Establishment of an Ad-hoc Group to Develop a Common Understanding of IoT (Ad-hoc Group 1)

- ISO/IEC JTC 1/SWG 5 notes that IoT has diverse applications and encompasses many technical and non-technical disciplines, including, but not limited to, physical connectivity, data manipulation, application interfaces, regulatory issues, and cyber security. Therefore, SWG 5 agrees to develop a common understanding of IoT with an IoT Mind Map that would be essential to the work it has undertaken.

- Nader Moayeri (Co-Convenor), Faud Khan (Co-Convenor)

- US Involvement
  - Nader Moayeri, Chuck Evanhoe, Steve Halliday, Chuck Adams

Recommendation 2: Establishment of an Ad-hoc Group to Identify Market Requirements for IoT (Ad-hoc Group 2)

- ISO/IEC JTC 1/SWG 5 notes that the Terms of Reference establishing SWG 5 outlines the expectation for the SWG to identify Market Requirements for IoT
- Chuck Evanhoe (Convenor)
- US Involvement
  - Nader Moayeri, Chuck Evanhoe, Steve Halliday, Chuck Adams

Recommendation 3: Establishment of an Ad-hoc Group to Identify Standardization Gaps and Develop a Standards Roadmap for IoT (Ad-hoc Group 3)

- ISO/IEC JTC 1/SWG 5 notes that the Terms of Reference establishing SWG 5 outlines the expectation for the SWG to identify Standardization Gaps and Standards Roadmap for IoT taking into account inputs from relevant stakeholders.

- Steve Halliday (Convenor)

- US Involvement
  - Nader Moayeri, Chuck Evanhoe, Steve Halliday, Chuck Adams

Thank-you