Web of Things

T2TRG Summary Meeting at IETF 97
Seoul, Republic of Korea, 2016
W3C WoT Mission

Not to be yet another standard

“enable easy integration across IoT platforms and application domains”
“complementing available standards”
Semantic Metadata for Interoperability

Platform A
API A
Applications

Semantic Metadata

Platform B
API B
Applications
Portable IoT Applications

Runtime Environment
Applications
API
Platform A

Semantic Metadata

Runtime Environment
Applications
API
Platform B

The diagram illustrates the concept of portable IoT applications across different platforms, denoted as Platform A and Platform B. The applications are integrated through a semantic metadata layer, allowing for interoperability and compatibility between the platforms.
W3C WoT Building Blocks

**WoT Scripting API:**
A standardized API to simplify IoT application development and enable portable scripts across vendors and device, gateway, and cloud platforms. The API allows to expose and consume Things according to the TD Interaction Model.

**WoT Thing Description (TD):**
Provides metadata of the interactions, data model, communication, as well as security mechanisms of the Thing. Using JSON-LD, the TD can be consumed by classic JSON parsers, but provides extension points for optional rich semantic tooling.

**WoT Protocol Mappings:**
The TD also describes the usage of protocols. A vanilla protocol stack can be configured at runtime to produce message that will be understood by the targeted Thing (cf. different HTTP APIs or OCF, oneM2M, and LWM2M dialects of CoAP).

**Security & Privacy:**
W3C WoT does not invent new mechanisms, but ensures that all building blocks provide means to describe the security and privacy mechanisms used in a specific platform and provides adversary testing of Things.
WoT Interest Group

• Exploration and collaboration

• Since April 2015, re-chartered in August 2016
  – https://www.w3.org/2016/07/wot-ig-charter.html

• 210 participants

• 7 face-to-face meetings
  – April 2015, Munich, Germany
  – July 2015, Sunnyvale, CA, USA          Joint T2TRG (Prague IETF 93)
  – October 2015, Sapporo, Japan          Joint T2TRG (Yokohama IETF 94)
  – January 2016, Nice, France            Joint T2TRG
  – April 2016, Montreal, Canada
  – July 2016, Beijing, China
  – September 2016, Lisbon, Portugal      Joint T2TRG
(Proposed) WoT Working Group

• Normative standardization work

• Proposed Charter
  – https://www.w3.org/2016/09/wot-wg-charter.html

• AC Review September 2016
  – 49 support as is
  – 4 comments, but support anyway
  – 2 comments, formally object if not changed

• Resolving comments
  – RDF dependency / complexity of semantic frameworks
  – Scope
  – Security
W3C WoT Online Resources

• W3C WoT Interest Group
  – https://www.w3.org/2016/07/wot-ig-charter.html
  – https://www.w3.org/WoT/IG/
  – https://lists.w3.org/Archives/Public/public-wot-ig/ (subscribe to list)

• (Proposed) W3C WoT Working Group
  – https://www.w3.org/2016/09/wot-wg-charter.html

• Technical work: GitHub
  – https://github.com/w3c/wot

• Organizational work: Wiki
  – https://www.w3.org/WoT/IG/wiki/Main_Page