

T2TRG: Thing-to-Thing Research Group

T2TRG/OCF meeting
March 09/10, 2017, Amsterdam, NL

Chairs: Carsten Bormann & Ari Keränen

Note Well

- You may be recorded
- The IPR guidelines of the IETF apply:
see **<http://irtf.org/ipr>** for details.

Administrivia (I)

- Pink Sheet
- Note-Takers
- Off-site (Jabber, Hangout?)
 - **<xmpp:t2trg@jabber.ietf.org?join>**
- Mailing List: **t2trg@irtf.org** — subscribe at:
<https://www.ietf.org/mailman/listinfo/t2trg>
- Repo: **<https://github.com/t2trg/2017-03-ocf>**

Agenda

Day 1 (9th of March): T2TRG work meeting

Time	Topic
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10:00	Welcome and intro
10:15	Work item bashing
10:30	Breakout sessions
12:00	Lunch
13:30	Breakout sessions
~16:00	Done for the day

Agenda

Day 2 (morning; 10th of March): Joint meeting with OCF

Time	Topic
8:00	Welcome and intro
8:10	IoT at IETF/IRTF; status and direction
8:35	OCF status and direction
9:00	Security <ul style="list-style-type: none">- Application layer security protocols for IoT- IoT Device Lifecycle Management
9:40	RESTful Interaction <ul style="list-style-type: none">- Semantics- Interaction models- Links and forms for IoT
10:10	Break
10:30	Connectivity and Reachability <ul style="list-style-type: none">- Ubiquitous reachability of things- CoAP over TCP
11:10	Best Practices <ul style="list-style-type: none">- Design patterns- Taxonomy and terminology
11:40	Closing recap and summary of next steps
12:00	Meeting ends. Lunch.

T2TRG scope & goals

- Open research issues in turning a true "Internet of Things" into reality
 - Internet where low-resource nodes ("things", "constrained nodes") can communicate among themselves and with the wider Internet
- Focus on issues with opportunities for IETF standardization
 - Start at the IP adaptation layer
 - End at the application layer with architectures and APIs for communicating and making data and management functions, including security

Done so far

- Chartered in December 2015. Multiple meetings before official chartering co-located with IETF meetings and with W3C Web of Things (WoT) group
- 2016: RG meetings at Nice and Lisbon co-located with W3C WoT, at San Jose co-located with IAB IoT**SI** WS, at Buenos Aires and Berlin with the IETF meetings; participated in Dublin IAB IoT**SU** WS; RIOT summit in Berlin; Implementers' meeting in Ludwigsburg (Stuttgart); joint meeting with ICNIRG in Seoul
- Three RG deliverable documents in progress on REST and security; multiple new documents on REST interaction
- Outreach (e.g., organizations like OCF and Bluetooth SIG)

Where are we going

- Work on RG deliverables and outreach continues
- Future meetings co-located with good research venues (2017)
- Meetings co-located with open source activity
 - RIOT summit in Berlin (July)
 - Eclipse IoT meeting (October)
- Benchmark/reference scenarios
 - Initial discussion in various drafts and slides
 - More elaborate documentation by end of 2016

Next meetings

- IETF98 (March 2017, Chicago):
 - Space on the ICNRRG Agenda (Sunday)
 - “Summary Meeting”
(actually, more about discovery of topics)
- 2017 planning TBD
 - W3C Web of Things Düsseldorf before/after Prague
 - Something colocated to RIOT and ACM ICN W39

Cooperating between ICNRG and T2TRG

- ICNRG has been working on IoT topics from an ICN perspective ("IoT over ICN") for a while
- T2TRG has been discovering issues in IP based IoT protocols (e.g., on naming of endpoints and security) where ICN mechanisms or thinking could be useful
- Workshop: several ICN IoT projects were presented and concepts of endpoints, naming, semantics, security and IP Internet interworking were discussed
- Joint activity seemed useful and collaboration between the two groups will continue e.g., with cross review of documents → space on IETF98 ICNRG agenda

Breakout topics

Choose one now
Choose (another) one
later

- (A) RESTful design and security
- (B) end-to-end security in a heterogeneous world
- (C) security: identity, endpoints, etc.
- (D) RESTful design (+ data formats, linking, ...)
- (E) Continuum between tightly and loosely coupled
- (F) Self-description: MUD, TD, /.well-known/core, ?
- (G) _____