Thing-to-Thing proposed Research Group + W3C IG WoT

Thing-to-Thing pRG (T2TRG) + W3C IG WoT joint meeting

Praha, CZ, 2015-07-18..-19

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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**

  - **https://plus.google.com/hangouts/_/_____**

- Mailing List: **t2trg@irtf.org** — subscribe at: **https://www.ietf.org/mailman/listinfo/t2trg**

- Repo: **https://github.com/t2trg/2015-ietf93**

Thing-to-Thing Research Group (T2TRG)

- Investigate open research issues in:

    - turning a true "Internet of Things" into reality,

    - an Internet where low-resource nodes ("Things", "Constrained Nodes") can communicate among themselves and with the wider Internet, in order to partake in permissionless innovation.

- Focus: issues that touch opportunities for standardization in the IETF

    - start at the adaptation layer connecting devices to IP, and

    - end at the application layer with architectures and APIs for communicating and making data and management functions (including security functions) available.

W3C IG WoT

- W3C: The people who make the Web work

- IG: Interest Group

- WoT: Web of Things

- Introduction in a couple of minutes

Why a Research Group now?

- First wave of IoT standards completed by the IETF

- IoT Consortia now forming to build infrastructure and industry agreements around those

➔ New requirements for research:
  based on actual usage of the standards now available

Areas of Interest
(to be discussed in formal chartering)

- Understanding and managing the motivation for single-purpose silos and gateways; facilitating a move towards small pieces loosely joined (hence "thing-to-thing"); scaling the number of applications in a single network

- Deployment considerations; scaling considerations; cost of ownership

- Management and Operation of Things

- Lifecycle aspects (including, but not limited to, security considerations)

- Cooperation with W3C, e.g. on data formats and semantics

Areas of Interest (more explorative)

- Operating Things that have multiple masters/stakeholders (including understanding role definitions of devices, owners, operators etc.)

- Exploring the duality of state- and event-based approaches

- Aspects of distribution (cf. "fog computing"); reliability and scalability considerations

- Containerization and other forms of mobile code

Other objectives

- Definition of "Benchmark" or Reference Environments:

  - to enable regular plugfests, and

  - as a basis for repeatable, comparable research.

- Description of practical, real world, cross domain applications of connected Things

- Taxonomy, technology survey and best practice documents

- Fostering collaboration with industry fora and other organizations on networking of things

Relationship to IETF WGs

- These objectives will be achieved making use of a close involvement between the IETF community and the T2TRG.

- For the IETF, some RG documents may simplify the generation of (or even serve as) use case documents or other informational references.

- Close contact will be maintained with the IETF's IoT-related WGs and its IoT directorate.

Relationship to IAB

- IAB workshops can be very successful in breaking ground

- 2011: Smart Object Workshop (Prague). RFC 6574

  - Also seminal for RFC 7228

- 2012: Smart Object Security (Paris). RFC 7397

  - Not an official IAB workshop

- Expect good cooperation with further IAB activities

Name, organization

- "Thing-to-Thing" is a homage to "end-to-end" RG

  - Not excluding device-to-cloud models

- Open membership

  - emulate DTNRG or ICNRG as a model

This meeting

- Work together with W3C IG WoT:

    (A) "REST as we know it" ➜ "Beyond REST"

    (B) Security and Lifecycle aspects in constrained nodes

- Focus on **common discussion**

- Do RG administrative things next time

Busy IETF weekend

- Fri/Sat: 6TiSCH/plugtest; Sun: 6TiSCH/**Hackathon**

- Sat/Sun: **Hackathon** (Chez Louis Room)

- Other RG meetings (Sun: ICNRG), ACM TPC, …

- Sun afternoon: IETF tutorials, …

Agenda

Sat
- 10:00–13:00 Overview, Talks

- 13:00–18:00 Breakouts (A/B), start with Lunch

Hackathon invasions

Insert dinner here

Sun
- 09:00–10:00 Wrapup Breakouts

- 10:00–11:00 Talks

- 11:00–13:00 Breakouts (i/ii)

- 14:00–16:00 Wrapup, outlook, planning

Mon
- 15:20–17:20 Summary meeting (+ consortia)