T2TRG: Thing-to-Thing Research Group

IETF 101
March 22, 2018, London

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/2018-ietf101
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<th>Time</th>
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<tr>
<td>15:50</td>
<td>Chairs</td>
<td>Intro, RG Status</td>
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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
Recent activities

• Work on IoT/Semantic Hypermedia Interoperability (WISHI)

• Finalizing “State-of-the-Art and Challenges for the IoT Security” draft

• NDSS Workshop on Decentralized IoT Security and Standards (DISS)

• Side meeting on network coexistence at IETF 101

• Joint WebEx session with OCF on security and ACE
• Network and Distributed System Security Symposium (NDSS) is a premier security conference

• Workshop on Decentralized IoT Security and Standards (DISS, 2018-02-18) combined:
  • Non-centralized approaches to IoT security
  • Standardization of IoT security

• 12 papers, from a security analysis of current IETF work to much more speculative ideas (yes, with blockchain)

• Later in this meeting: Updated version of one of the talks, “Secure Computations in Decentralized Environments”
Next meetings

- OCF-W3C WoT joint meeting in Prague tomorrow
- Regular WISHI calls (~ monthly)
- WebEx meetings with OCF
- F2F with OCF?
- Montreal IETF 102
  - More WISHI? Distributed discovery? TBD
RG Doc Status

• “State-of-the-Art and Challenges for the IoT Security” in IRSG review

  • Thorough reviews in particular from Jim & Stephen (thank you!); lots of list discussion

• “RESTful Design for IoT”

  • New hypermedia design guidance PR in review

• PATCH & FETCH guidance TBD
Network co-existence

• Side meeting Monday, ~ 30 attendees (draft-weeney-t2trg-inter-network-01)

• Main ideas
  • diverse, administratively unrelated networks experience radio interference
  • recent research results suggest that protocol-level interactions lead to episodes of severe performance degradation

• Discussion
  • performance evaluation: hackathon, tests, simulation...set expectations
  • touches many IETF protocols
  • IETF/IEEE border: MAC has to do most of the work, but limited by independence between networks
  • various possibility of active / explicit coordination at high level (synchronization, database as for whitespace spectrum)
## Agenda

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Meeting planning
OCF-T2TRG-W3C WoT meeting topics

- Status update of IETF/OCF coordination action items
- WISHI activities report
- Representation format of forms for IoT devices
- Model interoperability: WoT Thing Descriptions with OCF and IPSO models
- Push Models for Device data (pub/sub, non-traditional responses, ...)
- Links, Bindings, Interfaces, and Resource Representations
- "Base" CoAP (New Response Codes, RD alignment)
- ACE discussion continuation (multipoint security, etc.)
- Reference implementations and test case (CoAP, CoAP TCP, CBOR, ...)

- Repo: https://github.com/t2trg/2018-03-ocf-wot