T2TRG: Thing-to-Thing Research Group
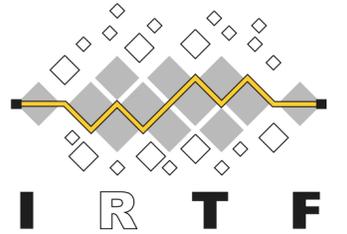
IETF 110, March 11, 2021

Chairs: Carsten Bormann & Ari Keränen

# Note Well

- You may be recorded

- Be nice

- The IPR guidelines of the IETF apply:
  see **http://irtf.org/ipr** for details.

# Note Well – Intellectual Property

- **The IRTF follows the IETF Intellectual Property Rights (IPR) disclosure rules**

- By participating in the IRTF, you agree to follow IRTF processes and policies:

  - If you are aware that any IRTF contribution is covered by patents or patent applications that are owned or controlled by you or your sponsor, you must disclose that fact, or not participate in the discussion

  - The IRTF expects that you file such IPR disclosures in a timely manner – in a period measured in days or weeks, not months

  - The IRTF prefers that the most liberal licensing terms possible are made available for IRTF Stream documents – see RFC 5743

  - Definitive information is in RFC 5378 (Copyright) and RFC 8179 (Patents, Participation), substituting IRTF for IETF, and at https://irtf.org/policies/ipr

Note Well – Privacy & Code of Conduct
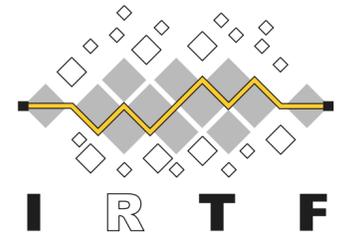
- As a participant in, or attendee to, any IRTF activity you acknowledge that written, audio, video, and photographic records of meetings may be made public

- Personal information that you provide to IRTF will be handled in accordance with the Privacy Policy at https://www.ietf.org/privacy-policy/

- As a participant or attendee, you agree to work respectfully with other participants; please contact the ombudsteam (https://www.ietf.org/contact/ombudsteam/) if you have questions or concerns about this

- See RFC 7154 (Code of Conduct) and RFC 7776 (Anti-Harassment Procedures), which also apply to IRTF

Goals of the IRTF
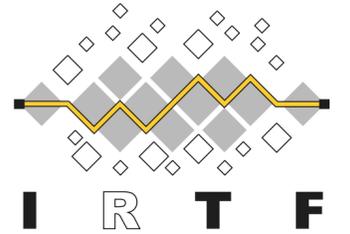
- The Internet Research Task Force (IRTF) focuses on longer term research issues related to the Internet while the parallel organisation, the IETF, focuses on shorter term issues of engineering and standards making

- **The IRTF conducts research; it is not a standards development organisation**

- While the IRTF can publish informational or experimental documents in the RFC series, its primary goal is to promote development of research collaboration and teamwork in exploring research issues related to Internet protocols, applications, architecture, and technology

- See "An IRTF Primer for IETF Participants" – RFC 7418

Administrivia (I)

- (Blue sheets maintained by meetecho)

- Note-takers: **https://codimd.ietf.org/notes-ietf-110-t2trg**

- Jabber (= Meetecho chat)

  - **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/2021-ietf110**

Agenda

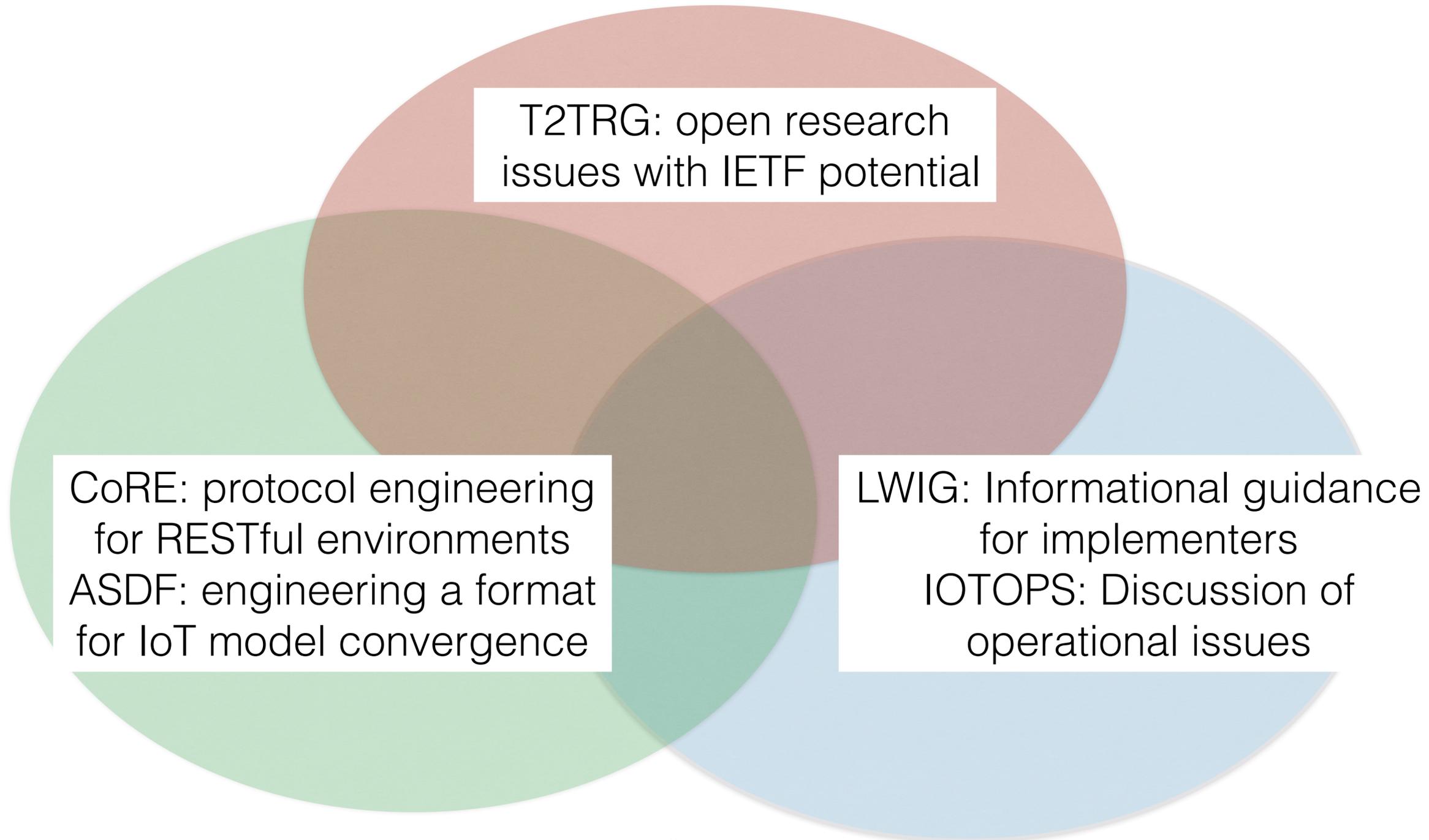| Time (UTC)	Who	Subject	Docs
16:00	Chairs	Intro, RG status, upcoming meetings and activities	
16:05	Chairs, various	Reports from WISHI, WISHI-hackathon,...	
16:20	Michael McCool	W3C WoT update	
16:35	Michael Koster	OneDM update	
16:50	Michael Richardson	A taxonomy of Operational security of manufacturer installed keys and anchors	draft-richardson-t2trg-idevid-considerations
17:10	Xavier de Foy	IoT Edge Challenges and Functions	draft-irtf-t2trg-iot-edge
17:20	Mohit Sethi	Bootstrapping terminology	draft-sarikaya-t2trg-sbootstrapping
17:30		(flextime for discussion overflow)	
17:50	Chairs	Wrap-up	

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

IRTF and IETF

IRTF
(Research)

IETF
(Engineering)

T2TRG: open research
issues with IETF potential

CoRE: protocol engineering
for RESTful environments
ASDF: engineering a format
for IoT model convergence

LWIG: Informational guidance
for implementers
IOTOPS: Discussion of
operational issues

Next meetings

- Regular <u>WISHI</u> calls (~ monthly)

- Online meetings with OCF / OMA SpecWorks (LwM2M&IPSO)/W3C WoT?

- IETF 111?

- "Online co-locating" with academic conferences?

- Physical meeting before IETF 112 (Madrid)?

RG Doc Status

- "RESTful Design for IoT" (Terminology updated, one more pass TBD)

- Edge & IoT (discuss today, ready for publication? ➜ reviews needed)

- Secure Bootstrapping for IoT (discuss today, ready for adoption?)

- Ramping up: WISHI notes (see <u>WISHI wiki</u>, e.g. terminology rosetta stone)

- (New submissions: discuss draft-richardson-t2trg-idevid-considerations today)

Work on IoT Semantic/Hypermedia Interoperability (WISHI)

- Recently focused on OneDM/ASDF topics

- Ongoing work on describing IoT standards

- One online meeting since last IETF

  - ASDF/WISHI hackathon, semantic tech landscape, WISHI way forward

ASDF/WISHI Hackathon

- validate SDF1.1, move tools and models up to SDF1.1

  - Testing with MJK's MODBUS example (via node-red)

  - Defined fragment identifier considerations (PR #20)

  - Identified scaleMinimum/scaleMaximum problem: digital vs. physical facet of a model

  - Tangible result: draft-bormann-asdf-sdf-compact-00, SDF compact notation

- continue work on the "semantic proxy"
  (connect OMA and OCF clients/servers guided by common SDF)

  - IPSO/SDF converter, IPSO mapping file example, Demo LWM2M device + WoT TD

- SDF Thingmaker (Petri Laari) — assemble sdfThings out of sdfObject models

- continue development of the "mapping file" concept for:

  - ecosystem specific mapping files (IPSO above, ZCL example in repo)

  - Protocol bindings in mapping files (+ Jan Romann's pointer reversal proposal)

IETF 110 T2TRG Activity Update: Describing IoT Standards

Milan Milenkovic

iotsense.com
Mar 11, 2021

IoT Standards Description - Background

- Discussions in T2TRG/WISHI meetings to

- Create a paper (informational RFC) that describes key attributes of IoT standards for information models in a consistent manner
  - For better landscape understanding and comparisons, selections
  - High-level description of intent, purpose, scope, and approach
  - … terms defined, concepts and assumptions articulated
  - NOT details of the inner workings (spec rehash)

- "IoT info stds labeling guide" – akin to FDA, EU food/nutrition labels

- Stretch goal: Get important ongoing standards described in that manner – contributions from SDO participants

IoT Standards Description - Status

- Strawman of common description criteria discussed in 6/2020 mtg
  - https://github.com/t2trg/wishi/blob/master/slides/2020-06-30-Describing-IoT-Stds-2016-06-30MM.pdf
  - Comments, suggestions are welcome

- Outline of problem statement, common concepts and criteria is being drafted – rough draft planned in 6-8 weeks

- Will be made available for review and comments, initially in T2TRG

- Contributors sought, now (milan@iotsense.com) and after first draft
  - Contributors and coauthors are solicited
  - Prior comparisons of applicable standards, participants in ongoing, SDOs
  - Michael Koster and Michael McCool have some related analyses