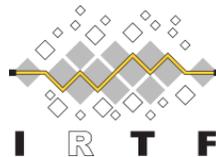


57th NMRG Meeting

IETF 106, Singapore

Session 1

Chairs: Laurent Ciavaglia, Jérôme François
Secretaries: Jéferson Campos Nobre, Pedro Martinez-Julia



Goals of the IRTF

The IRTF conducts research; it is not a standards development organization

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

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](#)

IRTF follows IETF policies

This is a reminder of IETF policies in effect on various topics such as patents or code of conduct.

It is only meant to point you in the right direction. Exceptions may apply. The IETF's patent policy and the definition of an IETF "contribution" and "participation" are set forth in BCP 79; please read it carefully.

As a reminder:

- By participating in the IETF, you agree to follow IETF processes and policies.
- If you are aware that any IETF 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.
- As a participant in or attendee to any IETF activity you acknowledge that written, audio, video, and photographic records of meetings may be made public.
- Personal information that you provide to IETF will be handled in accordance with the IETF Privacy Statement.
- 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.

Definitive information is in the documents listed below and other IETF BCPs. For advice, please talk to WG chairs or ADs:

- BCP 9 (Internet Standards Process)
- BCP 25 (Working Group processes)
- BCP 25 (Anti-Harassment Procedures)
- BCP 54 (Code of Conduct)
- BCP 78 (Copyright)
- BCP 79 (Patents, Participation)
- <https://www.ietf.org/privacy-policy/> (Privacy Policy)

Volunteers ?!

Minutes taker(s): ???

please use Etherpad: <https://etherpad.ietf.org/p/notes-ietf-106-nmrg>

Meetecho scribe(s): ???

Blue Sheets!

Please fill the **Blue Sheets**
and circulate them through the room

This is important to measure participation and plan proper
room size at future meetings

NMRG @ IETF 106 week

Session 1 - Intent Based Networking activity

- Thursday, Nov. 21st

Session 2 - New charter and Network AI activity

- Friday, Nov. 22nd

Two full agendas!

- Presenters: please stick to your time
- Participants: please be to the point with your comments

Side meeting on Network AI

- Tuesday 19 November 8:30-9:45 at the Code Lounge (Moor/Morrison)

Session 1 - Agenda

1. Introduction + RG information, Chairs, 5 min.
2. Quick report on October interim meeting on practical aspects of IBN and follow-ups, Chairs, 5 min. + 5min. Q&A
3. Status and progress of active I-Ds
 - 3.1 Update on Intent Classification, Olga Havel, 10 min. + 5min. Q&A
 - 3.2 Update on IBN Concepts and Overview, Alex Clemm, 10 min. + 5min. Q&A
4. Technical presentations and discussion
 - 4.1 IBN for network slicing in 5G-EVE project, Luis M. Contreras, 10 min. + 5min. Q&A
 - 4.2 A Solution for Goal-oriented Policy Refinement in NFV Management and Orchestration Systems, Michel Sales Bonfim, 10 min. + 5min. Q&A
 - 4.3 Intent-based networking for OTT applications: concepts, lifecycle and challenges, Sabine Randriamasy, 10 min. + 5min. Q&A
 - 4.4 Service Assurance for Intent-based Networking Architecture, Benoît Claise, 10 min. + 5min. Q&A
 - 4.5 Framework for Use of ECA (Event Condition Action) in Network Self-Management, Daniel King, 10 min. + 5min. Q&A
 - 4.6 Next steps on architecture and functionalities, use cases and techniques
5. AOB

Charter update

- Draft version will be available at:
<https://docs.google.com/document/d/14eHQALG95VHE5N-YIAwH6vriKFG2WvI8d63TtugZLgU/edit?usp=sharing>
- Umbrella text on the research agenda
 - Covering main research directions and their relationships
- One more detailed section on IBN topic incl. work plan refinement
 - Milestones will be added on the NMRG datatracker page
- Target approval by end 2019
- Your comments and feedback are most welcome!
 - Talk/write to the chairs, post on the mailing list...
- A bit more details in Session 2 on Friday

Procedure for adopting RG documents

0) Precondition: Update individual drafts as usual

- Retrieve comments from the group (mailing lists, meetings)
- Address comments and give feedbacks about comments (mailing lists, meetings)

..... Starts Here

1) Check criteria for adoption (clarity and value of the proposal)

- What?
 - Purpose / scope of the draft need to be clear (cannot be changed once adopted)
 - Scientific quality and impact
 - The current content must enough mature
- How to continue the effort?
 - Content of the draft: evolution of the document must be already planned (based on received comment for example).
 - Workplan and milestones
- Who will work on the draft?
 - commitment from existing authors

2) Request adoption

- Step 1: Present scope, content and workplan of the document + ask for support at meeting or on the mailing list
- Step 2: Chairs will issue a “formal” call for adoption support on the mailing list and make the final decision

IBN Resource Hub project

- Gather relevant documentation and tools in one place
 - Open to all ⇒ user-friendly interface
 - External resources: articles, standards, projects, tools, blogs...
 - Pointers to NMRG docs/outcomes
 - Website + Git repository..?
 - Most suitable option still being investigated

Hackathon project

- Grow IBN activity on practical aspects of with tools, PoCs...
- Target IETF 108, Madrid
- Leverage the EU location of the IETF meeting to engage EU/worldwide organizations (academia and industry), EU-funded projects and teams to take part in the hackathon.
- Build on NMRG56 meeting outcome
 - Code repository, Tool data sheet, Overall IBN tools view...
 - Tools extensions and interconnections

Network AI Challenge project

- Work items
 - WI1: use cases definition
 - WI2: identification of the datasets and/or experimental platforms
 - WI3: challenge publication
- More details in Session 2 on Friday.

2020 meetings plan

- March, IETF 107, Vancouver
- April, Budapest
 - Co-located with IEEE NOMS 2020 <https://noms2020.ieee-noms.org/>
- (TBC) May, Tokyo or Rio De Janeiro
 - Co-located with iPOP 2020 or SBRC 2020
- July, IETF 108, Madrid
 - **Hackathon !**
- November, IETF 109, Bangkok
- Monthly virtual meetings
 - Next one mid-end of January – unless clear need for one in December...?
- Purpose of the meetings
 - Educate (tutorials), Inform (awareness and newcomers), NMRG meetings, scientific workshops...

Practical aspects of IBN

Quick report on October interim meeting (NMRG56)

October interim meeting – Quick report

- October 3-4, 2019, Roma, co-located with NoF conference
- Joint demo session + meeting
 - Tutorial on IBN, two IBN drafts, four IBN demos, mapping exercise, etc.
- The full report is available at <https://datatracker.ietf.org/meeting/interim-2019-nmrg-10/materials/slides-interim-2019-nmrg-10-sessa-report-nof-nmrg-demo-session> and soon on IEEEXplore with the conference proceedings.
- Materials: <https://datatracker.ietf.org/meeting/interim-2019-nmrg-10/session/nmrg>
- Very useful and *different* meeting
 - Learning from the implementations
 - Confronting theory and practice
 - Generating further ideas for the hackathon project

October interim meeting – Quick report

Future directions

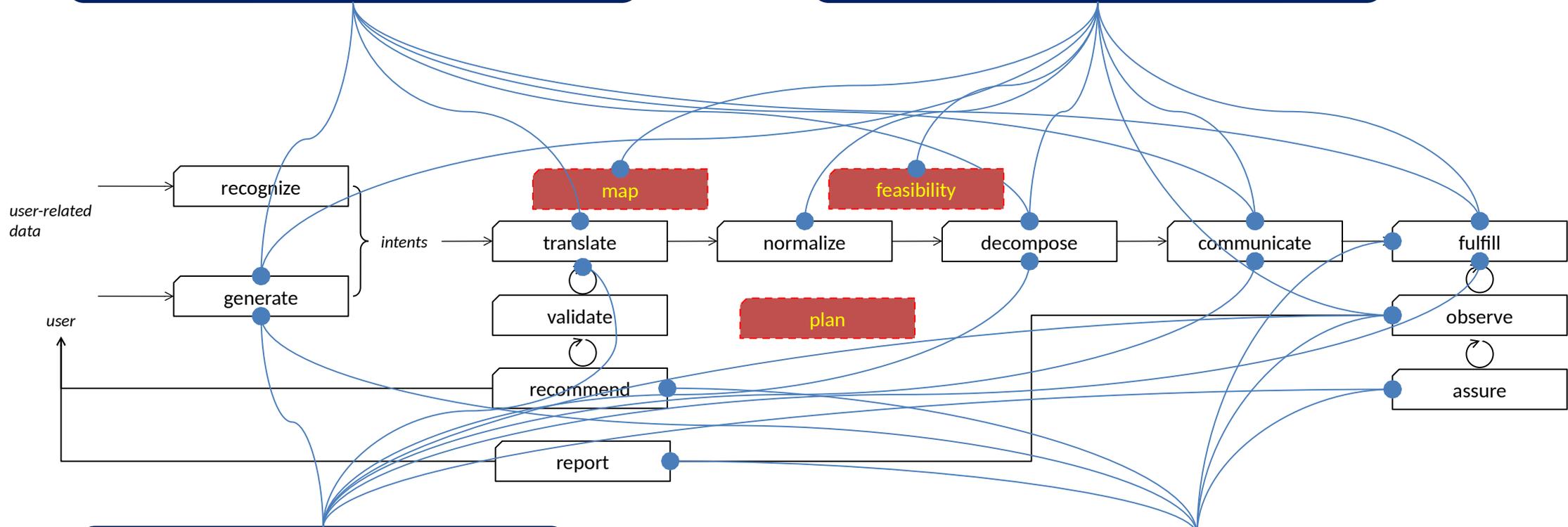
- Creation of a code repository including tools/demos description and installation/use guides.
- Definition of an *IBN tool data sheet* and commitment of the meeting participants to provide documented tool data sheets for their demos. Additional tools and proof of concepts have already been identified.
- Proposition of a *Mapping table* and population based on the available use cases and demos.
- Maintenance and updates to the *Overall IBN tools view* .
- Creation of an *IBN Resource Hub* to gather scientific publications, standards and industry documentation, and pointers to projects, events and useful resources on IBN.
- Follow-up interactions and further joint development or interconnection between tools presented at the meeting and new ones.
- IETF 108 Hackathon, July 2020, Madrid on the topic of intent based networking

Intent-based Service Function Chaining

Borsatti et al.

Intent-Based Network Slice Deployment

Aklamanu et al.



Multi-layer IBN in NFV ecosystem

Martini et al.

Self-Generated Intent-Based System

Bezahaf et al.