ICNRG @ IETF-101
London

Information-Centric Networking Research Group
Tuesday, March 20th, 2018

Chairs' Slides

Dirk Kutscher
Börje Ohlman
Dave Oran

IRTF IPR Policy

The IRTF follows the IETF Intellectual Property Rights (IPR) disclosure rules. This is a summary of these rules as they relate to IRTF research group discussions, mailing lists and Internet Drafts:

- If you include your own or your employer's IPR in a contribution to an IRTF research group, then you must file an IPR disclosure with the IETF.
- If you recognize your own or your employer's IPR in someone else's contribution and you are participating in the discussions in the research group relating to that contribution, then you must file an IPR disclosure with the IETF. Even if you are not participating in the discussion, the IRTF still requests that you file an IPR disclosure with the IETF.
- Finally, the IRTF requests that you file an IPR disclosure with the IETF if you recognize IPR owned by others in any IRTF contribution.

The IRTF expects that you file IPR disclosures in a timely manner, i.e., in a period measured in days or weeks, not months. The IRTF prefers that the most liberal licensing terms possible are available for IRTF Stream documents, see RFC 5743. You may file an IPR disclosure here: http://www.ietf.org/ipr/file-disclosure

See RFC 3979 (BCP 79) for definitions of "IPR" and "contribution" and for the detailed rules (substituting "IRTF" for "IETF").

ICNRG Administrativia

- IRTF RG on Information-Centric Networking
- Mailing list: icnrg@irtf.org
- Web: http://irtf.org/icnrg
- Wiki: http://trac.tools.ietf.org/group/irtf/trac/wiki/icnrg
- Github: https://github.com/icnrg
- Chairs
  - Dirk Kutscher (Huawei)
  - Börje Ohlman (Ericsson Research)
  - Dave Oran (Network Systems Research Design)
- This meeting
  - Note takers: Marie-Jose Montpetit -- merci!
  - Etherpad: http://etherpad.tools.ietf.org/p/notes-ietf-101-icnrg
  - Meeting
    Materials: https://datatracker.ietf.org/meeting/100/session/icnrg

Tuesday Agenda

- **Welcome**, Agenda Bashing, Minutes taker, Bluesheets, Status
- **Report from the interim meeting on Sunday**
- **Defining the IPoC (IP over CCN) protocol** - Greg White
- **Breaking out of the Cloud: Local Trust Management and Rendezvous in Named Data Networking of Things?** - Alex Afanasyev and/or Lixia Zhang
- **Deployment of ICN stacks and NDN in particular by leveraging NFV** - Guillaume Doyen
- Revised draft: "**ICN Adaptation to LowPAN Networks (ICN LoWPAN)**" - Cenk Gündoğan
- Revised drafts: "**CNx Messages in TLV Format**" - Marc Mosko
- Revised draft : "**Enabling ICN in 3GPP's 5G NextGen Core Architecture**" - Ravi Ravindran
- Revised draft: "**Native Deployment of ICN in LTE, 4G Mobile Networks**" - Milan Stolic
- New draft: "**Consideration on Applying ICN to Edge Computing**" -Lei Wang
- **Wrap-up** - Chairs

RG Drafts -- Specs

- **Update on CCNx protocol documents** - revision based on IRTF review in process:
  - https://datatracker.ietf.org/doc/draft-irtf-icnrg-ccnxmessages/
  - https://datatracker.ietf.org/doc/draft-irtf-icnrg-ccnxsemantics/
  - Recent updates reflect comments from IRSG review
  - Will move on with publication after IETF-101
  - Presentation by Marc later
- **File-Like ICN Collection (FLIC)**
  - https://datatracker.ietf.org/doc/draft-irtf-icnrg-flic/
  - Describes a bare bones "index table"-approach for organizing a set of ICN data objects into a large, File-Like ICN Collection (FLIC)
  - Presented by Christian on Sunday

Recently Finished Drafts

- **Research Directions for Using ICN in Disaster Scenarios**
  - https://datatracker.ietf.org/doc/draft-irtf-icnrg-disaster/
  - Outlines some research directions for ICN wrt applying ICN approaches for coping with natural or human-generated, large-scale disasters
  - Finished last call on mailing list

Recently Adopted RG Drafts

- **ICN CCN/NDN Terminology**
  - https://datatracker.ietf.org/doc/draft-irtf-icnrg-terminology/
  - Overview of the terminology and definitions that have been used in describing concepts in CCN&NDN
- **Deployment Considerations for Information-Centric Networking (ICN)**
  - https://datatracker.ietf.org/doc/draft-irtf-icnrg-terminology/
  - Provides a number of deployment considerations in the interest of helping the ICN community move forward to the next step of live deployments

Other RG Drafts

- **Native Deployment of ICN in LTE, 4G Mobile Networks**
  - https://datatracker.ietf.org/doc/draft-irtf-icnrg-icn-lte-4g/
  - Allow ICN to be enabled natively over the current LTE stack comprising of PDCP/RLC/MAC/PHY or in a dual stack mode (along with IP) help optimize the mobile networks by leveraging the inherent benefits of ICN
  - Presentation later
- **Design Considerations for Applying ICN to IoT**
  - https://datatracker.ietf.org/doc/draft-irtf-icnrg-icniot/
  - How IoT can leverage ICN features
  - See mailing list for latest update

New Stuff

- **MAP-Me : Managing Anchorless Mobility in Content Centric Networking**
  - https://datatracker.ietf.org/doc/draft-irtf-icnrg-mapme/
  - an anchor-less solution to manage micro-mobility of content producers via a name-based CCN/NDN data plane, with support for latency-sensitive applications
  - Individual submission -- needs to be renamed
  - IPR declaration underway
  - Was presented on Sunday
- **CCNinfo: Discovering Content and Network Information in Content-Centric Networks**
  - https://datatracker.ietf.org/doc/draft-asaeda-icnrg-ccninfo/
  - Discovering information about the network topology and in-network cache in ICN
  - Was presented on Sunday
- **Consideration on Applying ICN to Edge Computing**
  - https://datatracker.ietf.org/doc/draft-wang-icnrg-icn-edge/
  - Analyzes the reasons and opportunities of applying ICN to EC

IETF-101 Hackathon Report

- Two ICN projects at Hackathon

1. ICN RIOT (Cenk, Peter)
2. ICN & Scada Network Security
   - Different industrial IoT and control networks
   - Ethernet TSN (replacing legacy fieldbuses)
   - IEC 60870-5-104

Sunday Interim -- Morning

- Welcome, Agenda Bashing, Minutes taker, Bluesheets, Status - Chairs
- **Hybrid ICN** (hICN) - Luca Muscariello
- **Map-Me: Managing Anchor-less Producer Mobility in Content-Centric Networks** - Giovanna Carofiglio
- **Map-Me implementation in hICN and applications to next generation mobile networks** - Jordan Augé
- **FD.io/CICN open source project** - update on the consumer/producer socket API and HTTP support - Mauro Sardara
- **PyCN-lite** (for IoT, running MicroPython?), and **PiCN** (for NFN) - Christian Tschudin
- **Enabling Dynamic ICN Multicast in Cellular Radio Access** - Ravi Ravindran
- New draft: (based on Contrace): "**CCNinfo: Discovering Content and Network Information in Content-Centric**" - Xun Shao
- New draft: "**Requirements for Key Management in CCN/NDN**" - Ruidong Li
- Demo: "**Deployment of ICN stacks and NDN in particular by leveraging NFV**" - Guillaume Doyen

Sunday Interim -- Afternoon

- ## New drafts
  a. **DABBER: Information-centric Routing for Opportunistic Wireless Networks** - Paulo Mendes
  b. **Architectural Considerations of ICN using NRS** - Jungha Hong
  c. **CCNinfo: Discovering Content and Network Information in Content-Centric** - Xun Shao
  d. **Requirements for Key Management in CCN/NDN** - Ruidong Li

- ## Revised Drafts
  a. **Requirements for Name Resolution Service in ICN** - Jungha Hong
  b. **CCNx Extension for Name Resolution Service** - Jungha Hong
  c. **ICN control signaling** - takeup from the Berlin meeting - Thomas C. Schmidt
  d. **Publish-Subscribe Deployment Option for NDN in the Constrained Internet of Things** - Cenk Gündoğan
  e. **Design Considerations for Applying ICN to IoT** - Ravi Ravindran
  f. **Forwarding Label support in CCN Protocol** - Ravi Ravindran
  g. **File-Like ICN Collection (FLIC)** - Christopher A. Wood & Christian Tschudin
  h. **Network Coding for Content-Centric Networking / Named Data Networking: Requirements and Challenges** - Cedric Westphal

https://datatracker.ietf.org/meeting/interim-2018-icnrg-01/session/icnrg

Now - time for today's presentations

Tuesday Agenda

- **Welcome**, Agenda Bashing, Minutes taker, Bluesheets, Status
- **Report from the interim meeting on Sunday**
- **Defining the IPoC (IP over CCN) protocol** - Greg White
- **Breaking out of the Cloud: Local Trust Management and Rendezvous in Named Data Networking of Things?** - Alex Afanasyev and/or Lixia Zhang
- **Deployment of ICN stacks and NDN in particular by leveraging NFV** - Guillaume Doyen
- Revised draft: "**ICN Adaptation to LowPAN Networks (ICN LoWPAN)**" - Cenk Gündoğan
- Revised drafts: "**CNx Messages in TLV Format**" - Marc Mosko
- Revised draft : "**Enabling ICN in 3GPP's 5G NextGen Core Architecture**" - Ravi Ravindran
- Revised draft: "**Native Deployment of ICN in LTE, 4G Mobile Networks**" - Milan Stolic
- New draft: "**Consideration on Applying ICN to Edge Computing**" -Lei Wang
- **Wrap-up** - Chairs

Wrap-Up

RIOT Summit
September 13 – 14, 2018
Meet in Amsterdam!

We already support the Summit!

RIPE NCC
RIPE NETWORK COORDINATION CENTRE

wolfSSL

Get involved too!

Call for Sponsors & Contributions

https://summit.riot-os.org/

Named Data Networking Community Meeting 2018

MEETING

📅 September 19, 2018 to September 20, 2018

📍 NIST, 100 Bureau Drive, Gaithersburg, Md 20899

ACM Conference on Information-Centric Networking 2018

News

March 16, 2018	Please check ACM **visa support letter request** policy.
March 6, 2018	**TPC Members** list published.
January 30, 2018	**Call for Tutorials** published.
January 12, 2018	**Call for Papers** published.
December 12, 2017	**Call for Supporters** published.
September 18, 2017	Web site is up.

Wrap-Up

- Future ICNRG meetings
  - ICNRG @ IETF102, Montreal, July 14-20, 2018
    - Regular?
    - Sunday Interim?
  - Interim at ACM-ICN 2018, Boston
    - Monday Sept 24, 2018?
- AOB?