

# **ICNRG @ IETF-105**

## **Montreal**

**Information-Centric Networking Research Group**  
**Tuesday, July 23rd, 2019**

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:

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

# ICNRG Administrativa

- IRTF RG on Information-Centric Networking
- Mailing list: [icnrg@irtf.org](mailto:icnrg@irtf.org)
- Web: <http://irtf.org/icnrg>
- Wiki: <http://trac.tools.ietf.org/group/irtf/trac/wiki/icnrg>
  
- Chairs
  - Dirk Kutscher (University of Emden)
  - Börje Ohlman (Ericsson Research)
  - Dave Oran (Network Systems Research & Design)
  
- This meeting
  - Notes taker:
  - Etherpad: <https://etherpad.tools.ietf.org/p/notes-ietf-105-icnrg>
  - Meeting
    - Materials: <https://datatracker.ietf.org/meeting/105/session/icnrg>

# Agenda

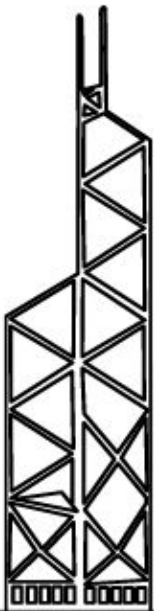
- Welcome & Updates (Chairs)
- ICN in Wireless Edge Networks (ICN-WEN) Update (Dave Oran)
- 'ICN over 5G' - Dirk Trossen
  - [draft-ravi-icnrg-5gc-icn](#)
- 'IP-over-ICN-5GLAN' - Dirk Trossen
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- Update to the CCNinfo draft - Hitoshi Asaeda
  - [draft-irtf-icnrg-ccninfo](#)
- ICNLoWPAN: Ready for RG Last Call? - Cenk Gündoğan
  - [draft-irtf-icnrg-icnlowpan](#)
- NRS documents: Ready for RG Last Call? - Jungha Hong
  - [draft-irtf-icnrg-nrs-requirements](#)
  - [draft-irtf-icnrg-nrsarch-considerations](#)
- Wrap-up

# Recent Interims

- IETF-105 (last Sunday)
  - <https://datatracker.ietf.org/meeting/interim-2019-icnrg-03/session/icnrg>

# Sunday Interim

- **“Push it - update 1”** - Christian Tschudin
- **ICN Selectors & Discovery** - Marc Mosko
- **Internet Protocol Tunneling over Content Centric Mobile Networks** - Greg White
- **Hop-by-Hop Authentication** - Ruidong Li
- **ICN & QoS**
- **IoT QoS draft: Update and some experimental results** - Thomas C. Schmidt

ACM  CN

2019

HongKong

September 24 -- 26

Call for Posters/Demos

# Touching the Future Internet

Creating Distributed Media Experiences with  
TouchDesigner and NDN

23 September 2019, 10am-4pm

School of Creative Media

City University of Hong Kong





# ACM ICN-2020

- Hosting opportunities
- See solicitation for hosting proposals on ICNRG mailing list

# ICNRG Specs in a Nutshell

Apps (Web, RTC, AR/VR, Edge Computing),  
APIs

Mobility  
Support  
Schemes

Name  
Resolution

Extensions  
(RICE etc)

Flow  
Classificati  
on, QoS

Management  
Tools,  
Telemetry

Core Protocol Specs

Underlays, Embeddings, Convergence Layers

# New Experimental RFCs

Two CCNx protocol RFCs have now been published

- [RFC 8569](#)  
***Content-Centric Networking (CCNx) Semantics***
  - This document describes the core concepts of the Content-Centric Networking (CCNx) architecture and presents a network protocol based on two messages: Interests and Content Objects
- [RFC 8609](#)  
***Content-Centric Networking (CCNx) Messages in TLV Format***
  - This document specifies the encoding of CCNx messages in a TLV packet format, including the TLV types used by each message element and the encoding of each value.

# ICNRG RFCs

<a href="#">RFC 7476</a> <i>(was draft-irtf-icnrg-scenarios)</i> <b>Information-Centric Networking: Baseline Scenarios</b>	2015-03 45 pages	Informational RFC
<a href="#">RFC 7927</a> <i>(was draft-irtf-icnrg-challenges)</i> <b>Information-Centric Networking (ICN) Research Challenges</b>	2016-07 38 pages	Informational RFC
<a href="#">RFC 7933</a> <i>(was draft-irtf-icnrg-videostreaming)</i> <b>Adaptive Video Streaming over Information-Centric Networking (ICN)</b>	2016-08 40 pages	Informational RFC
<a href="#">RFC 7945</a> <i>(was draft-irtf-icnrg-evaluation-methodology)</i> <b>Information-Centric Networking: Evaluation and Security Considerations</b>	2016-09 38 pages	Informational RFC
<a href="#">RFC 8569</a> <i>(was draft-irtf-icnrg-ccnxsemantics)</i> <b>Content-Centric Networking (CCNx) Semantics</b>	2019-07 40 pages <span>New</span>	Experimental RFC
<a href="#">RFC 8609</a> <i>(was draft-irtf-icnrg-ccnxmessages)</i> <b>Content-Centric Networking (CCNx) Messages in TLV Format</b>	2019-07 46 pages <span>New</span>	Experimental RFC

# RG Drafts

<a href="#">draft-irtf-icnrg-ccninfo-02</a> <b>CCNinfo: Discovering Content and Network Information in Content-Centric Networks</b>	2019-07-08 32 pages	I-D Exists Active RG Document: Experimental
<a href="#">draft-irtf-icnrg-deployment-guidelines-06</a> <b>Deployment Considerations for Information-Centric Networking (ICN)</b>	2019-05-02 38 pages	I-D Exists In IRSG Poll: Informational
<a href="#">draft-irtf-icnrg-disaster-07</a> <b>Research Directions for Using ICN in Disaster Scenarios</b>	2019-06-02 19 pages	I-D Exists Waiting for IRTF Chair: Informational
<a href="#">draft-irtf-icnrg-icn-lte-4g-03</a> <b>Native Deployment of ICN in LTE, 4G Mobile Networks</b>	2019-03-10 37 pages	I-D Exists Active RG Document: Informational
<a href="#">draft-irtf-icnrg-icniot-03</a> <b>Design Considerations for Applying ICN to IoT</b>	2019-05-02 51 pages	I-D Exists Active RG Document: Informational
<a href="#">draft-irtf-icnrg-icnlowpan-04</a> <b>ICN Adaptation to LowPAN Networks (ICN LoWPAN)</b>	2019-07-22 43 pages <span>New</span>	I-D Exists Active RG Document: Experimental
<a href="#">draft-irtf-icnrg-mapme-03</a> <b>MAP-Me : Managing Anchorless Mobility in Content Centric Networking</b>	2019-04-25 21 pages	I-D Exists IRTF stream
<a href="#">draft-irtf-icnrg-nrs-requirements-02</a> <b>Design Guidelines for Name Resolution Service in ICN</b>	2019-07-08 20 pages	I-D Exists Active RG Document: Informational
<a href="#">draft-irtf-icnrg-nrsarch-considerations-02</a> <b>Architectural Considerations of ICN using Name Resolution Service</b>	2019-07-08 10 pages	I-D Exists Active RG Document: Informational
<a href="#">draft-irtf-icnrg-terminology-04</a> <b>Information-Centric Networking (ICN): CCN and NDN Terminology</b>	2019-06-08 18 pages	I-D Exists Waiting for IRTF Chair: Informational

# RG Drafts -- Specs

- **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)
  - Currently expired -- planning to resurrect it soon (Marc, Christian, Dave)

**Now - time for today's presentations**

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# Wrap-Up

- **Future ICN Events**

- NDN Community Meeting: September 5-6 in Gaithersburg, MD
- TouchNDN: September 23 in Hong Kong
- ACM ICN 2019: September 24-26 in Hong Kong

- **Future ICNRG meetings**

- Interim meeting at ACM ICN-2019 on September 27 (Friday)
- Planning for IETF-106 (Singapore) in progress