

# Coding for efficient NetWork Communications Research Group (NWCRG)

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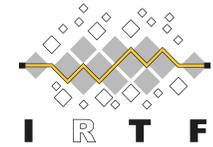
# Welcome!

- Our goal:

**Foster research in network and application layer coding to improve network performance**

- Codes and coding libraries
- Protocols to facilitate the use of coding in existing systems
- Real-world use cases and work in progress

# Note Well – Intellectual Property



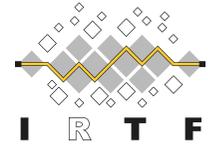
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# Goals of the IRTF



- 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

- **Charter and documents**

- <https://datatracker.ietf.org/group/nwcrp/charter/>

- **Github**

- <https://github.com/irtf-nwcrp/rg-materials>

- **Mailing list**

- subscription: <https://www.irtf.org/mailman/listinfo/nwcrp>

- **Today's slides**

Github repository or IETF datatracker:

- <https://datatracker.ietf.org/meeting/106/session/nwcrp/>

- **Remote participation**

- Meetecho: <http://www.meetecho.com/ietf106/nwcrp>

- about...

<http://ietf.org/how/meetings/106/remote/>

# Agenda (1)

00- Welcome, administrative and general matters  
(Chairs) (10+5')

01- Sliding Window FEC (SWiF) codec hackathon feedback  
(Vincent Roca) (5+5')

02- Update of the "Coding techniques for satellite  
systems" I-D  
(Nicolas Kuhn) (5+5')  
(draft-irtf-nwcrp-network-coding-satellites)

03- "Update of the deployment of BATS code"  
(Raymond W. Yeung) (10+5')  
(<https://datatracker.ietf.org/doc/draft-yang-nwcrp-bats/>)

04- Update of the "RLC FEC Scheme for QUIC" I-D  
(Vincent Roca) (5+5)  
(draft-roca-nwcrp-rlc-fec-scheme-for-quic)

## Agenda (2)

05- "Coding and congestion control in transport" I-D  
(Nicolas Kuhn) (10+5')  
(<https://datatracker.ietf.org/doc/html/draft-kuhn-coding-congestion-transport>)

06- Getting and Exchanging Decoding State Information  
(Cedric Adjih) (10+5')

07- About LOOPS (Local Optimizations on Path Segments)  
(Carsten Bormann) (10+5')  
(<https://datatracker.ietf.org/doc/draft-welzl-loops-gen-info>)

08- Network coding and critical events in IoT and  
industrial processes  
(Marie-Jose Montpetit) (5')

# Our group I-D news

- "NC for CCN/NDN: Requirements and Challenges"
  - @IETF104, DaveO (ICNRG hat):  
"Give ICNRG a chance to review the next version, then we'll have advice about readiness for NWCRG Last Call."
  - need to go forward now.
- "RLNC-related" I-Ds
  - update of "RLNC symbol representation" I-D
  - the other I-D expired
  - Question: what do we (as group) and the authors want to do with these two I-Ds?

Please read and send feedback to authors.

# Related I-D news

- “FECFRAME extension to sliding window codes” still in the RFC Editors’s waiting queue
  - A final issue to agree on. It’s a matter of days...
- “RLC”/RFC8681 and “TinyMT32”/RFC8682 are ready
  - but not yet published

Stream:	Internet Engineering Task Force (IETF)
RFC:	<a href="#">8681</a>
Category:	Standards Track
Published:	November 2019
ISSN:	2070-1721
Authors:	V. Roca   B. Teibi <i>INRIA   INRIA</i>

**RFC 8681**  
**Sliding Window Random Linear Code (RLC) Forward Erasure Correction (FEC) Schemes for FECFRAME**

Stream:	Internet Engineering Task Force (IETF)
RFC:	<a href="#">8682</a>
Category:	Standards Track
Published:	November 2019
ISSN:	2070-1721
Authors:	M. Saito   M. Matsumoto   V. Roca, Ed.   E. Baccelli <i>Hiroshima University   Hiroshima University   INRIA   INRIA</i>

**RFC 8682**  
**TinyMT32 Pseudorandom Number Generator (PRNG)**

## *Future meetings*

- Interim?
- Hackathon will be held during IETF107
- NWCRG will meet during IETF 107, Vancouver