



Coding for efficient NetWork Communications Research Group (NWCRG)

Marie-José Montpetit, Vincent Roca

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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 (IRTF)

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. The IRTF follows the IETF's policies.

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Definitive information is in the documents listed below and other IETF BCPs. For advice, please talk to the RG Chairs or IRTF Chair:

- 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)



Administrivia

- **Charter and documents**

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

- **Wiki**

- <https://trac.ietf.org/trac/irtf/wiki/nwcrq>

- **Mailing list**

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

- **Today's slides**

- <https://datatracker.ietf.org/meeting/101/session/nwcrq/>

- **Remote participation**

- Meetecho: <http://www.meetecho.com/ietf101/nwcrq>
- about...
<http://ietf.org/meeting/101/remote-participation.html>

Agenda

- 00- Welcome, administrative and general matters, information for new participants (chairs) (10')

PART I: NC building blocks (start: 13:40)

- 01- "Tetrys, an On-the-Fly Network Coding protocol" (Jonathan Detchart) (10+5')
draft-detchart-nwcr-g-tetrys-04
- 02- "Random Linear Network Coding (RLNC)-Based Symbol Representation" (Muriel Medard) (10+5')
draft-heide-nwcr-g-rlnc-00
- 03- "Generic, common NC API" (Vincent Roca) (10+5')
draft-roca-nwcr-g-generic-fec-api-01
- 04- "Network Coding and Congestion Control" (Nicolas Kuhn) (5')

PART II: Use-cases for NC (start: 14:30)

- 05- "Coding for QUIC" (Ian Swett) (10+5')
draft-swett-nwcr-g-coding-for-quic-00
- 06- "Progress on the network coding and satellites draft" (Nicolas Kuhn) (10+5')
draft-kuhn-nwcr-g-network-coding-satellites-02
- 07- "NC and ICN/CCN research challenges" (Kazuhisa Matsuzono) (10+5')
draft-matsuzono-nwcr-g-nwc-ccn-reqs-01
- 08- "Softwarisation and Virtualisation of Network Coding Function and link between NWCRG-NFVRG"
(Ángeles Vázquez-Castro) (10+5')

Quick status about active I-Ds

- "IESG review" status:

- `draft-irtf-nwcrp-network-coding-taxonomy-05`

- Individual I-Ds:

- **Tetrys**

- `draft-detchart-nwcrp-tetrys-04`

- **RLNC**

- **Network Coding and Satellites**

- `draft-kuhn-nwcrp-network-coding-satellites-02`

- **Network Coding for Content-Centric Networking / Named Data Networking: Requirements and Challenges**

- `draft-matsuzono-nwcrp-nwc-ccn-reqs-01`

- **Generic Application Programming Interface (API) for Window-Based Codes**

- `draft-roca-nwcrp-generic-fec-api-01`

- **Network Layer Coding for QUIC**

- `draft-swett-nwcrp-coding-for-quic-00`

Charter and Milestones

● Milestones

- Document existing NC solutions (code + basic protocol if applicable)
 - **Update to Tetrys**
 - **RLNC initial draft**
- NC and QUIC use-case
 - **Initial draft exists**
- NC and satellite use-case: an overview and associated research challenges
 - **Update**
- NC and ICN use-case: an overview and associated research challenges
 - **Update**
- Common coding API
 - **Update**
- NC adoption challenges
- NC and Congestion Control
- NC and robust tunnelling use-case

Future meetings

- NWCRG will meet during IETF 102, Montreal
- We're planning to held an interim meeting
 - tentative date: **Tuesday Sept. 25th, 2018**
 - location: Boston area