Coding for efficient NetWork Communications Research Group (NWCRG)

Marie-José Montpetit, Vincent Roca
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- **Charter and documents**
  - [https://datatracker.ietf.org/group/nwcrg/charter/](https://datatracker.ietf.org/group/nwcrg/charter/)

- **Wiki**
  - [https://trac.ietf.org/trac/irtf/wiki/nwcrg](https://trac.ietf.org/trac/irtf/wiki/nwcrg)

- **Mailing list**
  - subscription: [https://www.irtf.org/mailman/listinfo/nwcrg](https://www.irtf.org/mailman/listinfo/nwcrg)

- **Today’s slides**
  - [https://datatracker.ietf.org/meeting/100/session/nwcrg/](https://datatracker.ietf.org/meeting/100/session/nwcrg/)

- **Remote participation**
  - Meetecho: [http://www.meetecho.com/ietf100/nwcrg](http://www.meetecho.com/ietf100/nwcrg)
  - other means: [http://ietf.org/meeting/100/remote-participation.html](http://ietf.org/meeting/100/remote-participation.html)
Agenda v5

- 00- Welcome, administrative and general matters, information for new participants (chairs) (5’)
- 01- Interim meeting: quick feedbacks (Chairs) (5’)

PART I: Coding aspects (start: 16:00)
- 02- Existing network codes/protocols (Chairs) (10’)
  Includes a "NC for newbies"
- 03- Generic, common NC API (Vincent Roca) (10’)
  draft-roca-nwcrg-generic-fec-api-00

PART II: Use-cases where NC could be beneficial (start: 16:20)
- NC for satellite communications (start 16:20)
  - 04- "Network coding and satellites" (Nicolas Kuhn) (10’)
    draft-kuhn-nwcrg-network-coding-satellites-01
  - Discussions: what's next and where do we want to go? (5’)
- NC for ICN/CCN (start 16:35)
  - 05- "NC and ICN/CCN research challenges" (Hitoshi Asaeda/Kazuhisha Matsuzono/Cedric Westphal) (10’)
    - Discussions: what's next and where do we want to go? (5’)
- NC and QUIC (start 16:50)
  - 06- "FEC codes and QUIC" (Ian Swett) (10’)
  - Discussions: what's next and where do we want to go? (5’)

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PART III: Research Project Updates (start: 17:05)

- 07- "On the joint use of TCP and network coding" (Emmanuel Lochin) (10’)
- 08- "NC and Congestion Control: problem statement, potential approaches, status" (10’)
- Discussions: what's next and where do we want to go? (5’)

- 09- "Network coding and Multihop Wireless Networks" (Cedric Adjih) (10’)

- Time balance: 10’
- Total time: 120’
Quick status about active Internet-Drafts

● WG-item I-D
  ● draft-irtf-nwcrг-network-coding-taxonomy-05
    • submitted for IRSG last call (2017/07/18)
    • still awaiting end of IRSG review…

● Individual I-Ds
  ● Network coding and satellites
    • draft-kuhn-nwcrг-network-coding-satellites-01
  ● Network Coding for Content-Centric Networking / Named Data Networking: Requirements and Challenges
    • draft-matsuzono-nwcrг-nwc-ccn-reqs-00
  ● Generic Application Programming Interface (API) for Window-Based Codes
    • draft-roca-nwcrг-generic-fec-api-00
  ● Network Layer Coding for QUIC: Requirements
    • draft-quic-coding-00  (NB: bad name, will be fixed)
Welcome!

- What’s new in nwcrg?
  - New name:
    - Coding for efficient NetWork Communications RG
    - (was network coding research group)
  - New charter
    - [https://datatracker.ietf.org/group/nwcrg/charter/](https://datatracker.ietf.org/group/nwcrg/charter/)
  - New milestones
    - [https://datatracker.ietf.org/group/nwcrg/milestones/](https://datatracker.ietf.org/group/nwcrg/milestones/)

- Goal:
  - Reflect the current status of the NC research across different use cases
  - Focus on use cases, protocols, implementation issues and connections with other WG/RG outputs
01- Interim Meeting

- Sept. 19th in Boston
- More than 20 participants
  - 10-12 local depending on time
  - 10+ online

- Goals:
  - Define the major goals for the group in the years to come
  - Identify common issues/challenges to achieve these goals

- Outcomes:
  - Proposal for a new charter and new milestones
  - Identified activities and first volunteers
Charter and Milestones

- **Milestones**
  - document Existing NC solutions (code + basic protocol if applicable)
  - NC and QUIC use-case
  - NC and satellite use-case: an overview and associated research challenges
  - Common coding API
  - NC adoption challenges
  - NC and Congestion Control
  - NC and ICN use-case: an overview and associated research challenges
  - NC and robust tunnelling use-case