COIN
Computing in the Network

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Interim

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Note Well

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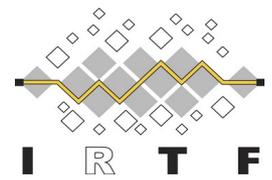
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Definitive information is in the documents listed below and other IETF BCPs. For advice, please talk to RG chairs or IRTF chair:

- 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)

This session is being recorded

Goals of the IRTF

- The Internet Research Task Force (IRTF) focuses on longer term research issues related to the Internet while the parallel organization, the IETF, focuses on shorter term issues of engineering and standards making

- **The IRTF conducts research; it is not a standards development organization**

- 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

Agenda

- **Intro and Goals** - 5 mins
    1. **Chairs - Note Well and meeting objectives -** J/E/M
- **Proposals** – papers & drafts – 20 mins each
    2. **Semantic Routing** – Adrian Farrel (Old Dog Consulting)
        - Draft: https://datatracker.ietf.org/doc/draft-farrel-irtf-introduction-to-semantic-routing
        - Draft: https://datatracker.ietf.org/doc/draft-king-irtf-challenges-in-routing
        - Draft: https://datatracker.ietf.org/doc/draft-boucadair-irtf-sdn-and-semantic-routing
        - Draft: https://datatracker.ietf.org/doc/draft-king-irtf-semantic-routing-survey
    3. **COIN RG** – Some thoughts on a way forward - Dirk Trossen (Huawei)
        - https://datatracker.ietf.org/doc/slides-interim-2022-coinrg-01-sessa-some-thoughts-on-ways-forward/
    4. **EIP: Extensible In-band Processing - Stefano Salsano (Università di Roma Tor Vergata)**
        - https://tinyurl.com/eip4coinrg
    5. **Flightplan: Dataplane Disaggregation and Placement for P4 Programs** - Nik Sultana (University of Pennsylvania)
        - https://www.usenix.org/conference/nsdi21/presentation/sultana
- **Ideas** – 5 mins each
    6. **COIN Applications** (Telecom Paris-Sud) - 10 mins

Administrivia

- Meetecho:
  - https://meetings.conf.meetecho.com/interim/?short=8130e640-55ae-4b3b-b4ed-a6569f78840b

  - Automatic Bluesheets
  - Integrated Jabber/IM/Chat
    - We will monitor both the **chat and the queue for questions**
    - Default to **audio muted** and **video off**, unless you are speaking
    - **Wear headphones if you can**

- Live Minutes:
  - CodiMD: Integrated into Meetecho   (Please collaborate!)

- Mailing list:
  - coin@irtf.org
  - To subscribe: https://www.ietf.org/mailman/listinfo/Coin

- Meeting materials:
  - https://datatracker.ietf.org/meeting/interim-2022-coinrg-01/session/coinr

Presentations and Discussions

Announcements & Future meetings

IETF 113 in Vienna
- Hybrid participation – **Mar 19-25**
- Co-chairs will be virtual

COIN Document Status

- **RG Documents**
  - draft-irtf-coinrg-use-cases : Use Cases for In-Network Computing
  - draft-kutscher-coinrg-dir: Directions for Computing in the Network (expired and needs update)
- **New draft**
  - draft-defoy-coinrg-p4-by-tenants-in-mobile-nw: Use Case for P4 Programmability by Tenants of Future Mobile Virtual Networks
- **Other Documents (update status needed from authors)**
  - draft-kunze-coinrg-transport-issues: Transport Protocol Issues of In-Network Computing Systems
  - draft-fink-coin-sec-priv: Enhancing Security and Privacy with In-Network Computing
  - draft-mcbride-edge-data-discovery-overview: Edge Data Discovery for COIN
  - draft-sarathchandra-coin-appcentres: In-Network Computing for App-Centric Micro-Services
  - draft-hsingh-coinrg-p4use: Use of P4 Programs in IETF Specifications
  - draft-hsingh-coinrg-reqs-p4com - Requirements for P4 Program Splitting for Heterogeneous Network Node
  - draft-defoy-coinrg-mobile-discovery: Impact of Mobility on Discovery in COIN
  - draft-fu-coinrg-joint-optimization-req : Requirements of computing and network joint optimization and scheduling
  - draft-li-coin-oam-framework: COIN Operation, Administration and Maintenance Framework
  - draft-liu-coin-differential-reservatio : Differential Computing Resource Reservation
  - draft-liu-coinrg-requirement: Requirement of Computing in network
  - draft-mcbride-data-discovery-problem-statement: Data Discovery Problem Statement
  - draft-mcbride-edge-data-discovery-overview: Edge Data Discovery for COIN

Milestones @ IETF-112

Date	Milestone
Dec 2019 ✓	Capture the SoTA of the COIN landscape - _partly achieved_
Sep 2020 ✓	Articulate COIN challenges - _partly achieved_
Apr 2020	Discuss/catalog COIN requirements and implications for network elements (including network services, network SW stacks, network HW design, etc.) - _on going activity_
Apr 2020 ✓	Target COIN case studies, from architecture, implementation and use case standpoints – _drafts exist – on going activity_
Apr 2020 ✓	Apr 2020 Identify COIN network-related eco-system dependencies - _partly achieved_
Nov 2020	Work toward defining a COIN scope appropriate for the IRTF, within which new research, architectures, mechanisms and protocols can be proposed – _to do_
Nov 2021	**Milestone review for next Interim(proposed)**