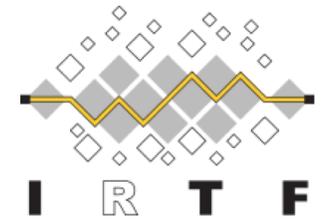# Native Deployment of ICN in 4G/LTE Mobile Networks

IETF-103 @ Bangkok, Thailand.
Sunday, November 4, 2018

Prakash Suthar, Milan Stolic, Anil Jangam (Cisco Systems)
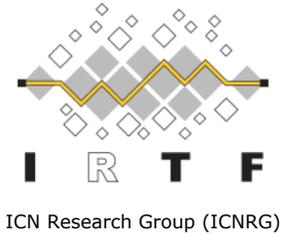
Dirk Trossen (InterDigital Inc)

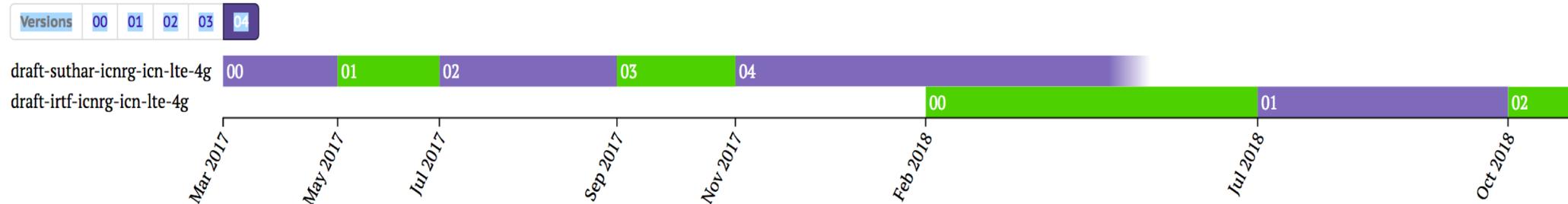Ravishankar Ravindran (Huawei Technologies)

https://www.ietf.org/id/draft-irtf-icnrg-icn-lte-4g-02.txt
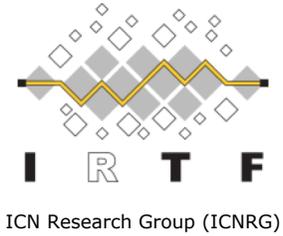
ICN Research Group (ICNRG)

Introduction

- A holistic view of native ICN deployment in 4G and LTE mobile network

- Describes the use cases of how ICN can be deployed natively in:
    - Control plane
    - User plane (data transport)
    - User equipment (UE) using dual stack (IP/ICN) and native ICN deployment models
    - Mobile edge (MEC) network e.g. eNodeB
    - Mobile core network (EPC) gateways e.g. SGW, PGW

Summary of Draft Updates

- Incorporated the review comments received from the reviewers
  - Major changes
    - Updates on test procedure
      - In addition to testing using lab setup, use of simulation modules
    - Simulation of UE/eNodeB use cases (section 4.4 & 4.5) can be done using NS3 LTE model
    - Simulate of EPC functions use cases (section 4.6) can be done using NS3 EPC model
  - Minor changes
    - Reorganized normative and informative references
    - Corrected IEEE/ACM references formatting
    - Renumbering of section/subsection, figures and cross-references

Future Plans

- ICN QoS
  - Implementation of QoS in Information-Centric Networks (outside the scope of this draft)
  - Revised proposal is being reviewed
- Potential other work items
  - Investigate the impact of CUPS and traffic offloading at the edge to optimize the user plane traffic path using ICN (page 13)
  - Investigate the realization of TCL (Transport Convergence Layer) (page 14)
  - Impact analysis of ICN on mobility management messages structures and flows (page 17)
  - Investigate how ICN-IP interworking gateway function would perform the conversion between ICN and IP primitives for data retrieval (page 25)
  - Investigate lawful interception, billing/mediation, network slicing, and provisioning APIs requirements (page 26)

Thank you!

- For your continued support and valuable feedback
- **We call for adoption of this draft as informational RFC**