

Native Deployment of ICN in 4G/LTE Mobile Networks

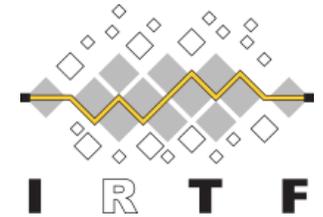
IETF-102 @ Montreal, QC, Canada.
Tuesday, July 17, 2018

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<https://www.ietf.org/id/draft-irtf-icnrg-icn-lte-4g-01.txt>



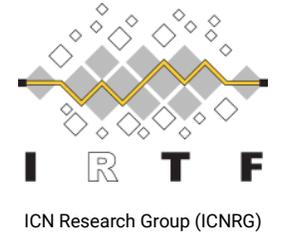
ICN Research Group (ICNRG)

Introduction



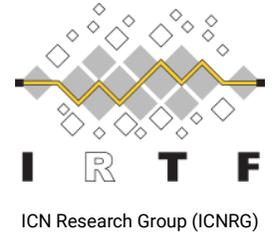
- A holistic view of native ICN deployment in 4G and LTE mobile network
- Describes the use cases of how ICN can be deployed natively in:
 - Control plane
 - User plane (data transport)
 - User equipment (UE) using dual stack (IP/ICN) and native ICN deployment models
 - Mobile edge (MEC) network e.g. eNodeB
 - Mobile core network (EPC) gateways e.g. SGW, PGW

Summary of Draft Updates



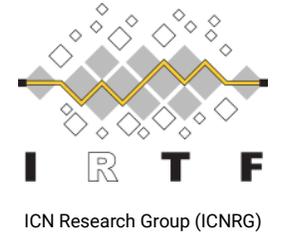
- The draft has now become a WG draft
 - Thanks to the chairs, all reviewers and ICN community at large for their votes
- Implemented updates
 - Incorporated the review comments received from the reviewers
 - Further QoS problem definitions and clarifications
 - Further CUPS implementation discussion
 - Lab setup description
 - Paraphrasing of some of the text and updated/added new references

Draft Changes



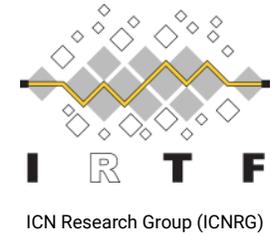
- QoS
 - Comment on the research done so far
 - Necessity to handle QoS in data packets
- CUPS
 - Implication on Publisher placement
 - Implication on UPF capabilities
 - Implication on Interworking gateway
- Lab
 - Setup in progress
 - Testbed diagram

Future Plans



- The draft proposals are currently being implemented and tested in the lab
 - Future draft versions shall have updates based on the results from the lab trials
- Areas for future draft updates and/or new experimental drafts
 - Further 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 look forward to further comments and suggestions for improvements