# Deployment Considerations for ICN

Akbar Rahman, Dirk Trossen, Dirk Kutscher, Ravi Ravindran


IETF-102 (Montreal), July 2018

https://tools.ietf.org/html/draft-irtf-icnrg-deployment-guidelines-03

# Introduction


- The ICNRG charter identifies deployment guidelines as an important topic area for the ICN community

- Specifically, the charter states that defining concrete migration paths for ICN deployments which avoid forklift upgrades, and defining practical ICN interworking configurations with the existing Internet paradigm, are key topic areas that require further investigation

- This draft attempts to addresses this topic

# Key Take-Aways (1/2)


- Classified deployment configurations into 5 meta classes:
  - Clean-slate ICN
  - ICN-as-an-Overlay
  - ICN-as-an-Underlay
  - ICN-as-a-Slice
  - Composite-ICN Approach
- Summarized key trial experiences:
  - ICN-as-an-Overlay
    - FP7 Projects (Pursuit, SAIL), NDN Testbed, ICN2020
  - ICN-as-an-Underlay
    - H2020 Projects (POINT, RIFE, FLAME), CableLabs Content Delivery Systems, NDN-IoT, NREN ICN, Doctor Testbed
  - Composite-ICN Approach
    - Hybrid ICN (H-ICN)

# Key Take-Aways (2/2)


- Identified approaches for deployment migration paths for:
  - Application and Service migration
  - CDN migration
  - Edge Network migration
  - Core Network migration
- Identified deployment issues requiring further standardization (to aid in interoperability):
  - E.g. ICN mapping to HTTP exchanges, Dynamic naming, Routing interactions, etc.
- Summary
  - Synthesis of key points for any organization looking to deploy ICN technology (including Security Considerations)

# Table of Contents of Draft

# Revision History


- Individual Draft Updates:
  - Rev-00: IETF-98 (Chicago)
  - ...
  - Rev-05: IETF-100 (Singapore)

- WG Draft Updates:
  - Rev-00: IETF-101 (London)
  - Requested reviews and more input to Deployment Trial Experiences as per suggestion from Chair (Börje)
  - Rev-01, Rev-02: Got good input from
    - Michael Kowal (NREN ICN Testbed)
    - Luca Muscariello (H-ICN)
    - Guillaume Doyen (Doctor Project)

# Next Steps

- Any other ICN Deployment Trial experience that we should add to the document?
- Are we ready for RG Last Call?