

# ICN: Baseline Scenarios

## draft-irtf-icnrg-scenarios-01

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IETF 88  
Vancouver, Canada

# Draft Goals

- Establish a common understanding about a set of scenarios that can be used as a base for ICN evaluation
- Provide equal ground for comparison, an agreed framework
- Scenarios should be general enough and “technology agnostic”, although scenario detail may vary
- Aim to get feedback from implementers, both on the scenario definition and level of detail
- All approaches need not implement all scenarios
  - but all scenarios should end up illustrated in a real demo

# Roadmap Agreed at IETF 87

## Working Meeting (short) Report

- The Scenarios draft was discussed for >2 hours last Sunday (plus in the corridor and side discussions):
- In general we had agreement that Section 2
  - meets the original goals (common ground for comparison and evaluation of approaches)
  - it's complete in terms evaluation study scenarios
  - does include a significant set of references
  - can also serve as an entry point for newcomers in this area
- Short discussion on the pros/cons of making Sec. 2 a standalone document
  - Adopt by ICNRG and “finalize” by Vancouver
  - Proceed in the RFC publication path by the end of the year

Copied from  
IETF 87 ICNRG  
Proceedings

See <http://www.ietf.org/proceedings/87/slides/slides-87-icnrg-0.pdf>, p. 13

# IETF 87 Decision: Split and Adopt

INTERNET DRAFT

ICN Baseline Scenarios

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Information-centric Networking: Baseline Scenarios  
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## Abstract

This document aims at establishing a common understanding about a set of scenarios that can be used as a base for the evaluation of different information-centric networking (ICN) approaches so that they can be tested and compared against each other while showcasing their own advantages. Towards this end, we review the ICN literature and document scenarios which have been considered in previous performance evaluation studies. We discuss a variety of aspects that an ICN solution can address. This includes general aspects, such as, network efficiency, reduced complexity, increased scalability and reliability, mobility support, multicast and caching performance, real-time communication efficacy, energy consumption frugality, and disruption and delay tolerance. We detail ICN-specific aspects as well, such as information security and trust, persistence, availability, provenance, and location independence.

# Draft Updates Towards IETF 88

- Editorial
  - Repositioning the draft after the split
  - Consistency checks and updated summary
- Code availability
  - The TelematicsLab has made sample code implementing the topologies discussed in the draft available to the community
    - See <http://telematics.poliba.it/icn-baseline-scenarios>

# Community Document

Thanks to Marica Amadeo, Hitoshi Asaeda, Claudia Campolo, Luigi Alfredo Grieco, Myeong-Wuk Jang, Ren Jing, Priya Mahadevan, Will Liu, Ioannis Psaras, Spiros Spirou, Dirk Trossen, Jianping Wang, Yuanzhe Xuan, and Xinwen Zhang for their comments, suggestions, literature pointers and short text contributions.

# Please contribute

# IETF 88 Interim: Discussion (1/2)

- Scenarios draft discussed for about 20 min.
  - Several proposals for adding sections (and getting on the author list) were received since the decision to adopt the draft
  - Some new text is to be expected in -02, but so far no indication that a full *scenario* section is missing
    - Proposed text can be accommodated in the existing document structure
    - The proposed additions delta value is (rapidly) diminishing
  - Effort can and should be directed to the Challenges and Evaluation Methodology drafts

# IETF 88 Interim: Discussion (2/2)

- Draft presented in Atlanta (IETF 85), Stockholm (Interim), Orlando (IETF 86), Berlin (IETF 87, extensive discussion and RG adoption), Vancouver (IETF 88, interim)
- The editor's opinion is that the document has reached maturity for RFC publication
  - Discussion about the document's main audience
  - Editor's call for 3 competent and critical reviewers, answered positively: Thanks to Mark, G.Q. and Juan Carlos! More folks obviously welcome!



# Comparison vs. Draft Goals (1/2)

- Establish a common understanding about a set of scenarios that can be used as a base for ICN evaluation
  - OK: sole document in the ICN literature presenting such a detailed survey of *evaluation scenarios* for several ICN approaches. This is not a survey about ICN architecture
- Provide equal ground for comparison, an agreed framework
  - OK: sole document in the ICN literature that includes the viewpoints and text (and references) of several groups of researchers working on different approaches and often following different evaluation approaches

# Comparison vs. Draft Goals (2/2)

- Scenarios should be general enough and “technology agnostic”, although scenario detail may vary
  - OK: this has been our approach from the very beginning
- Aim to get feedback from implementers, both on the scenario definition and level of detail
  - OK: the TelematicsLab has provided already a first topology implementation for ndnSim; more implementations of the scenarios highly appreciated
- All approaches need not implement all scenarios
  - but all scenarios should end up illustrated in a real demo
    - OK: all scenarios based on peer-review literature. Most scenarios considered by more than one ICN approach

# Next Steps

- Identify any scenarios that are not included so far
  - Open to suggestions
  - Keep in mind that this draft surveys existing literature
- Enhance scenario details where applicable
  - Some sections are quite detailed now
  - Other sections are not detailed, but point to early-phase peer-reviewed work in a certain direction
- Address the constructively critical reviews (to be received) on the mailing list and improve the document accordingly
- Agree that it's time to proceed in the RFC publication path

Thank You