ICN Harmonization Activity Update

Paul Polakos
Dirk Kutscher

ICNRTG Interim Meeting
Sep 29, 2016
Kyoto, Japan
From Meeting at IETF 96 (Berlin)

• Point raised that the broader community would benefit from an effort to harmonize the currently incompatible sets of ICN specifications.
• Idea: Start a collaborative effort in ICNRG to directly address this issue
• Proposed way forward:
  • Step 1: Understand and document current differences
    • Kick-off a focused team that frequently reports to and collects feedback from ICNRG
    • Study would include not only syntax and mechanisms – also semantics and motivation for design decisions
  • Step 2: Try to resolve differences with goal to:
    • Lay groundwork that would enable one set of specifications
    • Allow for evolvability for new ideas in the future
Harmonization Activity Update

• Preliminary list of difference areas created
• Weekly calls to successively discuss each area individually
  • 5 calls held since ICNRG Berlin –
  • minutes, materials and recordings posted on ICNRG
  • [https://trac.tools.ietf.org/group/irtf/trac/wiki/icnrg/convergence/meetings](https://trac.tools.ietf.org/group/irtf/trac/wiki/icnrg/convergence/meetings)
  • Discussions focused simply on understanding and documenting differences
  • Raw material from difference discussions needs to be distilled into a coherent summary
  • Some areas yet to be discussed; others to be revisited
Topics

• Naming
• Referencing (Data Retrieval)
• Interest payloads - Carrying data in an interest packet
• Packet encoding
• Packet Structure
• Link and Network Adaptation
• Forwarding / Interest Looping
• Interest Aggregation
• Data Centric Security
• Data Digest
• Name Discovery, Interest Refinement (& Selectors)
• Cache Verification
• Cache Control
• Fragmentation

Black topics discussed at high level; some need revisiting – all need coherent summary
Harmonization Activity Update

• Proposed way forward:
  • Pre-IETF Seoul (Nov 19)
    • Continue weekly calls to complete discussion of differences
    • Document (RFC?) to ICNRG; draft ready by Seoul
    • Present technical summary of differences at ICNRG Seoul
  • Post-IETF Seoul
    • Identify and document potential harmonization paths for significant difference areas
    • Decide about next steps