Next steps for draft-zhang-icnrg-icniot-02.txt

Ravi Ravindran
(ravi.ravindran@huawei.com)
IETF/IRTF/ICNRG-97, Seoul
History and Draft Objectives

- Draft first proposed in IETF-89
  - draft-zhang-iot-icn-architecture
  - We split this into two in IETF-90 to increase participation
    - Separated Challenges from Architecture
- Later combined with another challenges drafts
  - draft-Lindgren-icnrg-efficientiot

**Draft Objectives**

- Identify research challenges on realizing heterogeneous IoT services over ICN.
  - We call it a unified ICN-IoT platform.
- Understand IoT requirements to achieve a unified ICN-IoT infrastructure
- Discuss suitability of ICN for IoT
  - This is considering that, today these are looked in specific application context.
- ICN challenges to meet the IoT requirements.
- Provide discussion on IoT scenarios, challenges and challenges within the specific scenarios.
Recent Call for Adoption and Mailing List Comments

• Going from 00 to 01 version of the draft, several comments were addressed, when call for comments was made by the Chairs.

• More comments since call for Adoption

• Lixia Zhang
  • Security is not well discussed, should be promoted in Section 2
  • In Section 4 on ICN advantages, Security has no mention
  • Too general at this point, need more specific examples

• Marie-Jose
  • More Security Discussion
  • Why ICN-IoT is more useful than IP-IoT ?, we have many IoT systems today
  • Use case scenarios
Mailing List Comments

• Hassana Moustafa
  • Handling delay sensitive applications
  • How ICN can be a better solution for IoT?

• Dirk Kutcher
  • Discuss more on technical solutions, considering the recent works
  • Lessons learnt, challenges etc.

• Borje Ohlman
  • Section 2.1 on Clarifying the usage of Names, time dependency, relationship to contexts
  • Advantages over host based naming as in IP
  • IoT device classification (Type 1/2/3)
  • Clarifying Sect 5.3 on Caching
  • Section 5.4 on Mobility - Separate Static versus Dynamic Binding, clarify the use of SDN for Mobility
  • Section 5.7 on Security and Privacy – Refrain from specific examples
  • Section 5.10 on Energy Efficiency needs more concrete discussion.
More Comments

• Dave Oran
  • Propose to re-title the document as “design considerations in applying ICN approaches to the Internet of Things”
  • Material too general at this point
  • Section 2.9 - clarifying the need for rich communication patterns like mesh routing compared to tree based routing that ROLL proposes.
  • Section 2.11 – Infrastructure versus Ad-hoc classification
  • Section 4 – provide discussion related to DTN
  • Revisit Section 3.2.1 on Overlay deployment Weakness
  • Section 5.3 on caching/storage needs more examples
  • Section 5.7 on security and privacy, threat related discussion
  • Revisit Section 5.9 on realiability – more concrete discussions
  • Section 6 requires review by experts in those scenarios.
Proposed Revisions to the Document

Retitle “design considerations in applying ICN approaches to the Internet of Things”?

Proposed New Section
• Discussion on concrete use case scenarios which brings out ICN unique value

Re-ordering/Clarifying/ More details to current Sections
• Promote Security and Privacy discussions in Section 2/4/5
• Section 4 on benefits of ICN - cite recent works with more discussions
• Make Section 2 shorter and address comments in:
  • Section 2.9 (Communication Reliability)
  • Section 2.11 (Support for Infrastructure and Adhoc)
  • Section 2.12 on OpenAPIs
• Section 3, clarify discussion in:
  • 3.2.1 on overlay efficiency as currently discussed in the document
• Section 5, address comments in:
  • 5.3 on Caching and Storage
  • 5.4 on Mobility
  • 5.7 on Security and Privacy
  • 5.9 on Communication Reliability
  • 5.10 on Energy efficiency
• Section 6, review:
  • Scenario discussions needs expert review