ICN IoT Discussion Summary IRTF/ICN-RG (IETF-89)

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ICN-IoT Presentation Summary: "draft-zhang-iot-icn-architecture-00"

- **Presented "ICN based Architecture for IoT" draft.**
  - Covers general IoT Requirements, current status-quo
  - Proposes a ICN based framework unifying heterogenous IoT systems
  - Example based on location context service based on MobilityFirst platform

Discussion (taken from the minutes):

- Relevance of Services to ICN architecture
  - ICN Services is about leveraging ubiquitous Computing at various levels, local, Network Edge, or Data Center.

- Controlling Actuators using Push based events.
  - Published Service Profile as a service object, for more contextual discovery could be handled by ICN control protocols.

- Is Context Naming Really ICN ?
  - Depends on the scenario, context naming makes sense in ad hoc setting which scopes the content to that context.

- Assumption on underlying ICN Protocols
  - The draft proposes the architecture at ICN level, not considering specific protocol.

Extending this draft

- Alfredo Grieco (Politecnico di Bari)

  - Alfredo Grieco et al "**Architecting Information-centric ETSI-M2M Systems**", PERCOM, 2014

  – Proposal to scale M2M systems

- Daniel Curujo ?

  – Impact of Content Freshness and Caching for IoT applications

  – Crucial to capture these requirements.

- Others

Contextualized Information-Centric HomeNets (draft-ravindran-cibus-01.txt)

- Homenets a good ecosystem where heterogeneous systems, users, and devices interact in context and policy sensitive manner.

- Opportunity for ICN as a homegenous platform to integrate BAN/PAN/LAN/WAN systems.

- Proposes a CIBUS service layer for Name Management, Context Processing/Monitoring, Service management, and Policy based Routing/forwarding

Discussion Summary

[Taken from MM]

- Why Homenets ?
  - A scenario that affects everybody
  - Simpler case compared to industrial automation
- How can ICN deliver better experience ?
  - Configuration less, Service Composition, Policy Management..
- What is service discovery, why do we want it ?
  - Service discovery that is contextual and policy based, required for ad hoc settings
- Energy Efficiency – battery life
- Is policy configuration important in HN ?
- HN is multi-stakeholder environment

Draft Contributions are Welcome

- Folks who have researched this area can contribute.
- Help identifying point problems that ICN can address from the experience perspective
- Relevancy of contexts and policies to home networks
- Handling heterogeneity : CIBUS API for name management, context monitoring, service management, policy based routing and forwarding, and heterogeneous radios.
- Interaction of CIBUS with other smart ecosystems outside the HN
- …

Thank You