CCNx Technical Working Group

Meeting Minutes

3/16/16

Overview

Attendees: Jim Gibson, Ilya Moiseenko, Marc Mosko, Greg Rutz, Glenn Scott, Nacho Solis, Mark Stapp, Christopher Wood, and others

Scribe: Christopher Wood

Agenda

1. Revisit the advanced manifest use case document and target features to be implemented [1].
2. Talk about ideas for network stack improvements and ways to improve the code as a community going ahead.
3. Discuss application and privacy requirements, e.g., what "type of privacy" is needed or acceptable for "real-ish" applications?

Related Material

[1] ICN Advanced Manifest Use Cases (https://github.com/chris-wood/icn-manifest-requirements-rfc/blob/master/draft-wood-icnrg-manifestusecases-00.txt)

Notes

- Cedric and Chris are still updating the Manifest document. No comments were added. This item was skipped.
- People are still using Metis for some reasons.
    - Misunderstanding to future of the CCNx forwarders.
    - Some metis pull requests were made.
- Libparc used heavily for a CableLabs project that's to be released (soon?).
- People need Ethernet fragmentation in Athena.
- Q: What is the performance difference between Metis and Athena?
    - Measured to be within less than 10% of Metis.
    - Under heavy load, Metis drops packets but doesn't slow down, whereas Athena will queue all of them and then slow down.
- Q: What types of connection are supported for the forwarder connection?
    - Currently only TCP but we are planning on pushing it out.
    - Other IPC mechanisms are possible, e.g., shared memory.
    - People would prefer UDP or SCTP.

- Q: Is the use of TCP done to connect applications to remote forwarders?
  - ○ No, it was chosen to expedite the process.
  - ○ Not trying to push for remote forwarders -- just asking the question.
- TCP (anywhere in the system) introduces transport problems such as HOL blocking.
  - ○ Even if on the same system?
- Connecting a stack to a remote forwarder introduces behavior that is independent of the protocol, e.g., delays introduced by intermediate nodes.
- Remote forwarders are problematic because there is an implied privilege between the application and the forwarder, e.g., the right to register prefixes and modify the forwarder.
- Is there a plan for an Ethernet discovery (or automatic connection) protocol for other forwarders?
  - ○ This is to easily run CCN natively without having to enter a bunch of commands.
  - ○ "Most correct" answer: This should be the job of the router.
  - ○ Broadcast name resolution is difficult to do correctly (and securely).
- PARC uses an implementation of DCR internally. We are working on getting a specification of that out to the world.
- Manifest code will be released this week with a single-file repository.
- Privacy question is still unanswered and we need consensus (CCN and ICNRG).
- Customers will probably want "functionality" that is equivalent to what's provided today.
  - ○ Does this functionality refer to end-to-end latency, privacy, or both?
- CCNxKE supports native CDN support by separating authentication and authorization from the actual data encryption.
- Is the lack of ICN popularity because it's perceived as a different type of CDN? (Something we've already solved.)
  - ○ Possibly
  - ○ Differences in architectures (NDN and CCN) may also turn away people
- Cable customers might be uncomfortable with a lack of privacy.

Action Items

- Start a writeup for ICN privacy. [Chris]
- Overview of CDN and CCNx-KE sample usage. [Chris]
- CCNx-KE specification update. [Chris and Marc]

Next Meeting

Date & Time: 3/30/16 at 11am PST

Tentative agenda:
- CCN goals discussion.
- Identify work up the stack and discuss how to work on transport protocols.
- ICNRG preparation.