CCNx Technical Working Group

Meeting Minutes

11/11/15

Overview

Attendees: Jim Gibson, Dirk Kutscher, Ilya Moiseenko, Börje Ohlman, Dave Oran, Mark Stapp, Christian Tschudi, Ravi Ravindran, Greg Rutz, Christopher Wood

Scribe: Christopher Wood

Agenda

1. IETF recap.
2. Quickly discuss the updated static Manifest requirements.
3. Review the Manifest use case document.
4. Identify the next steps for the Manifest.
5. Assess the CCNx Message Metadata proposal.

Related Material

- CCNx Manifest Requirements (draft-wood-icnrg-ccnxmanifestreqs.txt)
- CCNx Manifest Use Cases (draft-wood-icnrg-manifestusecases.txt)
- CCNx Message Metadata (draft-wood-icnrg-ccnxmessagemetadata.txt)

1) IETF Overview

- Recap and summary of the meeting.
- Most likely the interim meeting in January will be 1.5 days from Thursday 1/14/16 to Friday (morning) 1/15/16.
    - The format will be similar to the interim meeting in Yokohama, including breakout groups for topics and then technical (protocol oriented) topics.

2) Discuss the updated static Manifest requirements

- Dave: Should forwarders check that the type of pointer matches the resulting

message?
- Nacho: Only the consumer should, else it's a DoS attack.
- Dave: Is it a requirement that a tree be traversable starting anywhere in the Manifest tree?
- Nacho: No.
- Dave: Should the requirements specify if it's allowed to represent DAGs or only trees?
- Nacho: Manifest tree shape should not be a requirement.
- Dave: Disagrees. Needs more convincing.
- Nacho: Wants a requirement that does not mean it's a tree.
- Ravi: Nacho seems to be implying there a relationship between the data itself and the Manifest structure?
- Nacho: Wants requirement that it should not be a tree.
- Dave: Is not convinced that all digraph traversals can be done by a "robot," or an automated piece of software below the application.
- Mark: Believes there should be one requirement--we want to have a way to experiment with Manifests. The point is to help people do experiments to answer these questions.
- Ilya: LINKs in the introduction is misleading--does this mean that the pointer should be a LINK?
- Chris: No, it's just an example.
- Dirk: Specifies the minimal set of what Manifests should support, right?
- Nacho: Yes, and there will be multiple designs that attempt to satisfy these requirements.
- Jim: Where did the "loop freedom" requirement go?
- Nacho: They went away since we don't want to restrict designs.
- Ravi: What is a good example of a digraph Manifest?
- Nahco: Don't have one. I was referring to a tree-based Manifest in the hard-disk example.
- Mark: Should we also leverage this to build collections and singletons?
- Nacho: I want this to represent a single object that must be reassembled.
- Mark: Need to write down the assumptions about entities that can process these Manifests. This is completely omitted from the current draft.
- Chris: Collection vs Singleton was a discussion we had, but we decided to simplify and settle on the single data case.
- Ravi: Is reconstruction an application decision?
- Dirk: We're saying that this is a network-layer thing that applications do not see. We should consider a different Manifest for collections.
- Ravi: Collections vs Singletons is application layer knowledge.
- Nacho: This distinction needs to be conveyed somehow, i.e., application level data, flags in pointers, etc.
- Chris: I can add back the extensibility argument for the simple Manifest.
- Dave: Call this a single-object Manifest, and the next iteration the Multi-Object Manifest. Static doesn't convey the right thing.
- Nacho: Immutable Single Object Manifest?
- Dave: You can use the same structure for mutable or immutable things.

Action Items

- Update the terminology in the static CCNx Manifest requirements document. [Chris]
- Review and provide feedback on the Manifest use case document. [All]
- Prepare and distribute designs for the static CCNx Manifest. Engage in discussions on the mailing list. [All]
- Update the metadata document based on offline feedback. [Chris]

Questions Raised

- Should Interests also support a "type" restriction? For example, an interest for a message of type T_OBJECT could carry that flag (as a restriction) and forwarders could enforce this restriction on the reverse path.

Next Meeting

Date & Time: 11/25/15 at 11am PST

Tentative agenda:

- Review highlights of the submitted design(s) for the static CCNx Manifest.
- Renew discussion and assessment of the Manifest use case document.
- Status update on the CCNx message metadata document(s).
- Discuss the minimalist CCNx over UDP draft.