

DetNet Interim

1/31/2018

Detnet working group, January 2018 interim

Jouni Korhonen

Reminder from last round..

DetNet dataplane decisions

- #1 On-wire formats:
 - ✓ Both MPLS and IPv6-based data planes have their own encapsulation formats.
- #2 Split of data plane documents:
 - Both MPLS and IPv6-based data planes will have their own documents.
 - ✓ Document structured in a way that MPLS and IPv6 are clearly separated!

DetNet data plane decisions cont'd

- #3 Sequence numbering:
 - ✓ Rough consensus with zero nibble + 28 bits of SN.. Current text makes the effective size configurable.
- #4 Data plane solution:
 - ✓ “DetNet Data plane” -> systematic PW carve out started.
 - ✓ Describe “all” including data plane encapsulation, and node semantics where needed (e.g., DetNet relay functionality) -> initiated but a lot to do.

PREF decisions

- #5 Multiple layers of PREF e.g., for aggregation purposes. (rather a statement) -> not done.
- ✓ #6 Both ring and ladder deployments have to work. (rather a statement) -> implicitly supported.
- #7 Describe Packet R & E functions at a box level (normative). Internal behavior may be described for reference (informative).
 - Initiated but discussion ongoing.. Editor is confused about the current state of the “rough consensus”, if any.

Intermediate summary

- Heavy document restructuring done -> MPLS & IPv6 split preparation.
- Systematic terminology alignment with DetNet Architecture draft.
- MPLS-based DetNet data plane -> no PWs, simplified label stack with just DetNet CW (=SN), S-label and T-labels.
- Sequence Number format fixed -> 28 bits.
- Heavy restructuring on IPv6 side of the DetNet data plane
- PREF text is few and likely broken.
- DetNet node descriptions and considerations text is few and likely broken.

Big questions from the editor

- PREF details obviously.. <- Packet Replication & Elimination Function_s_
 - How much in details we can go?
 - Is a node level description adequate i.e., specific input produces specific output and stop details there.
- IPv6 in general..
 - Now flow identification is based on Source Address + Flow label -> everybody OK?
 - Current text proposes a solution based on Destination Option for Sequence Numbers -> that has certain implications when and how the DetNet Service layer functions can be applied (see RFC8200 extension handling guidance).
 - Explicit routes -> Use of Destination Option suggests the use of source routing headers.
 - Extension headers add/remove along path uses tunneling approach -> Do we actually want to enforce this RFC8200 rule.
 - Look into draft-xu-mpls-unified-source-routing-intruction-00, bryant-mpls-unified-ip-sr-00
 - Move away from SR? 5-tuple mapping..

Cont'd

- MPLS DetNet data plane..
 - Current approach OK?

Thank you!