

DetNet Architecture WGLC Updates

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Introdcution

- This presentation summarizes the major changes made to the document during initial WGLC, and the changes planned for the expended WGLC
- Additional smaller changes have been made. They are not listed here.
- Initial WGLC on [draft-ietf-detnet-architecture-05](#)
- Extended WGLC on [draft-ietf-detnet-architecture-06](#)

Initial WGLC

In-order / Out-of-order Delivery

- New QoS attribute added: Maximum allowed misordering.
- Some DetNet applications are unable to tolerate any out-of-order delivery.
- Out-of-order delivery also influences jitter (packet delay variation)
- Can be a side effect of service protection

- (Note that similar tool can be applied for out-of-order delivery and jitter: playout buffer)

Service Protection

- Service protection is updated to be a generic term
- Addresses packet loss due to equipment failures, random media and/or memory faults
- Data often spread over multiple disjoint forwarding paths
- Various service protection methods exist, e.g., 1+1 linear protection
- This document describes the functional details of an additional method, which can be implemented, e.g.,: ietf-detnet-dp-sol-mpls to provide 1+n hitless protection

Packet Replication and Elimination

- **PRF** A Packet Replication Function (PRF) replicates DetNet flow packets and forwards them to one or more next hops in the DetNet domain.
- **PEF** A Packet Elimination Function (PEF) eliminates duplicate copies of packets
- **POF** A Packet Ordering Function (POF) re-orders packets within a DetNet flow that are received out of order.
- **PREOF** Collective name for Packet Replication, Elimination, and Ordering Functions.
- The order in which a node applies these functions to a DetNet flow is implementation specific.

Explicit Routes

- Out-of-order packet delivery can be a side effect of distributing a single flow over multiple paths especially when there is a change from one path to another when combining the flow.
- Explicit routes help to provide in-order delivery because the changes between the different explicit routes can be taken into account

Extended WGLC

Active OAM

- Add a few sentences on active OAM, e.g.,:
- Active and hybrid OAM methods require additional bandwidth to perform fault management and performance monitoring of the DetNet domain. OAM may, for instance, generate special test probes or add OAM information into the data packet.

Control Plane

- Revise control plane in 4.4.2 and 4.4.3
- Resolution is ongoing