DetNet
Packet Ordering Function (POF)
draft-varga-detnet-pof

Balázs Varga, János Farkas, Stephan Kehrer, Tobias Heer
DetNet WG
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DetNet Service sub-layer
Packet Ordering Function (POF)

• Intended status:
  • Informational

• Actual version:
  • draft-varga-detnet-pof-02

• Abstract:
  • Replication and Elimination functions of DetNet [RFC8655] may result in out-of-order packets, which may not be acceptable for some time-sensitive applications. The Packet Ordering Function (POF) algorithm described herein enables to restore the correct packet order when replication and elimination functions are used in DetNet networks.
Clarification on DetNet POF
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• Clarification on possible delay variation caused by POF
  • It is out-of-scope: to eliminate the delay variation caused by the packet ordering.
  • Dealing with delay variation is a DetNet forwarding sub-layer target and it can be achieved for example by placing a de-jitter buffer or flow regulator (e.g., shaping) function after the POF functionality.

• DetNet functions are defined as building blocks to achieve a given target. Several of these building blocks may be needed to ensure the envisioned deterministic end2end characteristics, required by an application.
Summary – Next Steps

• Discussion on the list:
  • Content is stable

• Next Steps
  • Asking for WG adoption
Thanks ...
Two POF Algorithms Defined
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- Basic algorithm
  - Max incremental packet delay: "POFMaxDelay" time.
  - In-order packets are not delayed.
  - Applicable to all scenarios where the delay budget of a flow allows "POFMaxDelay" time for ordering.
  - Management & Control: "POFMaxDelay", "POFTakeAnyTime"

- Advanced algorithm adds the following extensions to the basic algorithm
  1. Identify the path of the received packet at the POF location
  2. Path dependent "POFMaxDelay": "POFMaxDelay_i", where "i" denotes the path.
  - Management & Control : "POFMaxDelay_i", "POFTakeAnyTime", path identification related configuration"