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

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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.
Updates on DetNet POF

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• Some editorial updates

• 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.

• Security considerations
  • Reference to security document [RFC9055]
Summary – Next Steps

• Discussion on the list:
  • Proposed changes/clarifications (thanks!): DONE
  • 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
  i. Identify the path of the received packet at the POF location
  ii. Path dependent "POFMaxDelay“:
      "POFMaxDelay_i", where "i" denotes the path.
  • Management & Control : "POFMaxDelay_i“, "POFTakeAnyTime“, path identification related
    configuration(s)