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-01

• 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.
Goals for DetNet POF
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• Solve the out-of-order delivery problem of the PRF/PEF.

• Consider the delay bound requirement of a DetNet Flow.
  • Minimal or no additional delay to the forwarding process of packets.

• Keep it simple with minimum set of states/configuration

• No time synchronization between PREOF nodes.
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
Summary – Next Steps

• Discussion on the list:
  • Proposed changes/clarifications (thanks!): DONE

• Next Steps
  • Looking for further comments
  • Asking for WG adoption
Thanks ...