

DetNet

Packet Ordering Function (POF)

[draft-ietf-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-ietf-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.

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History

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- Many discussions on the mailing list during 2021 (April-Nov)
 - Thanks: Mohammadpour Ehsan, Ludovic Thomas, Greg Mirsky, Jeong-dong Ryoo, Shirley Yangfan, Toerless Eckert, Norman Finn, Ethan Grossman
 - Created a very stable technical content for the adopted draft
- Clarification on
 - Parameters, Use cases, Algorithms, Relations to PRF/PEF, Possible delay variation caused by POF
- 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 since IETF 113
- Next Steps
 - Asking for WG Last Call

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
 - Identify the path of the received packet at the POF location
 - Path dependent "POFMaxDelay": "POFMaxDelay_i", where "i" denotes the path.
 - Management & Control : "POFMaxDelay_i", "POFTakeAnyTime", path identification related configuration

