

# DetNet Data Plane

PREOF for DetNet IP

[draft-varga-detnet-ip-preof](#)

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# DetNet Data Plane

## PREOF for DetNet IP

- Intended status:
  - Informational
- Actual version:
  - draft-varga-detnet-ip-preof-01
- Abstract:
  - This document describes how DetNet IP data plane can support the Packet Replication, Elimination, and Ordering Functions (PREOF) based on [RFC9025].

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# Updates on DetNet IP PREOF

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- Some editorial updates
  - Typos, grammar
- Clarification added based on comments
  - The solution creates a set of underlay UDP/IP tunnels between an overlay set of DetNet relay nodes.
  
- Text is stable.

# Summary & Next Steps

- Summary

- This draft leverages existing DetNet Data Plane “building blocks”
- No new header fields are specified
- Generic IP solution
- It is already available, both for IPv6 and IPv4
- Defines PREOF at the DetNet service sub-layer, where it belongs to
- Applicable irrespective of what routing technique is used “underneath” (i.e., at the DetNet forwarding sub-layer)
  - Any IP routing technique can be applied, e.g., SRv6
- Does NOT require any additional processing on transit nodes ...

- Next Steps

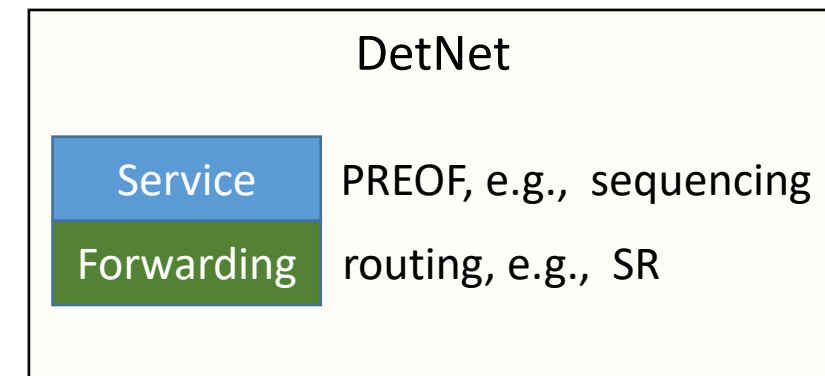
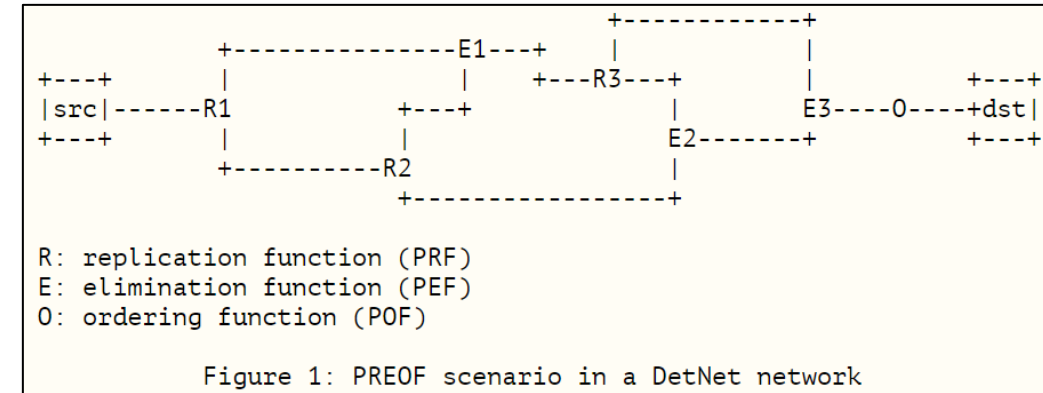
- Asking for WG adoption

Thanks ...

# DetNet IP PREOF Goals

## [draft-varga-detnet-ip-preof](#)

- Add PREOF to DetNet IP
- Reuse existing DetNet data plane (e.g., [RFC8939] & [RFC9025] (\*) [RFC8964])
- ➔ Provide DetNet service sub-layer for IP with minimal effort; minimal standardization and implementation effort
- Maintain DetNet service sub-layer and DetNet forwarding sub-layer characteristics
  - Service sub-layer includes PREOF functions, e.g., sequencing
  - Forwarding sub-layer includes routing functions, e.g., explicit routing provided by, e.g., Segment Routing (SR)
- ➔ Enable seamless use of existing routing techniques, e.g., SR (SRv6 in case of IPv6)



# DetNet IP PREOF

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- Basic Concept
  - "UDP tunneling" between relay nodes
  - Maintain the 6-tuple-based DetNet flow identification in DetNet transit nodes
  
- Provides
  - Encapsulation,
  - Packet Processing
  - Flow aggregation
  - PREOF procedures
  - Control and management parameters

