draft-ali-6man-spring-srv6-oam-03.txt

SRv6 OAM

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History of the Draft

- **draft-ali-6man-srv6-oam-00** was published in July 2017.
  - Main draft describing use-cases including classic ping and traceroute in SRv6 networks.

- **draft-ali-6man-srv6-oam-01** was published in October 2017.
  - Revision with editorial changes.

- **draft-ali-spring-srv6-oam-00.txt** was published in Feb 2018.
  - Added SRv6 ping and traceroute.
  - Added SRv6 segment-by-segment ping and overlay traceroute.

- **draft-ali-spring-srv6-oam-01.txt** was published in July 2018.
  - Moved O-bit from SRH draft to this draft.
  - Presented in 6man at IETF102.

- **draft-ali-spring-srv6-oam-02.txt** was published in October 2018.
  - Presented at IETF103 (6man and Spring).

- **draft-ali-6man-spring-srv6-oam-00.txt**
  - Presented at IETF104 (6man) in March 2018

- Addressed all comments received in the latest revision.
Deployment Status

- Deployed in a nation-wide network at Softbank.
- Deployed in a multi-city network at China Telecom.
- Deployed in a nationwide SRv6 network at Iliad.
- Additional deployments are in preparation.

Source: draft-matsushima-spring-srv6-deployment-status
Implementation and Interoperability Status

• Supported by at least 10 platforms with shipping implementation:
  – Cisco ASR 9000 running IOS XR shipping code
  – Cisco NCS 5500 running IOS XR shipping code
  – Cisco NCS 540 running IOS XR shipping code
  – Cisco ASR 1000 running IOS XE engineering code
  – Huawei ATN with VRPV8 shipping code
  – Huawei CX600 with VRPV8 shipping code
  – Huawei NE40E with VRPV8 shipping code
  – Huawei ME60 with VRPV8 shipping code
  – Huawei NE5000E with VRPV8 shipping code
  – Huawei NE9000 with VRPV8 shipping code
  – Huawei NG-OLT MA5800 with VRPV8 shipping code

• Additional known implementations.

Source: draft-matsushima-spring-srv6-deployment-status
Implementation and Interoperability Status

- In March 2018, the European Advanced Networking Test Center (EANTC) successfully validated multiple implementations of the drafts.

- Results for Multi-vendor Interoperability Testing was showcased at MPLS World congress in April 2019.

- Authors are aware of additional private interoperability testing between different vendors.

Source: draft-matsushima-spring-srv6-deployment-status
Draft Summary

• The document describes how existing ICMP mechanisms can be used in SRv6 Network.

• The document defines SRH.Flags.O-bit
  – The O-bit is used to implement “timestamp, punt and forward” behavior.
  – SRH.Flags.O-bit was originally defined in SRH draft (added in March 2016).

• The document defines two OAM SIDs for programmable OAM:
  – END.OP (OAM Endpoint with Punt)
  – END.OTP (OAM Endpoint with Timestamp and Punt)
Use Cases (I-D illustrations)

• Ping
  – End-to-end
  – Segment-by-segment

• Traceroute
  – Hop-by-hop
  – Segment-by-Segment (Overlay Traceroute)

• SRv6 Paths Monitoring
  – Applicability of RFC8403 to SRv6 Networks
Next Steps

• Draft has been deployed in multiple production networks.
• Multiple interoperable implementations exist.
• The authors like to request the WG for adoption of this work.