

Echo Request/Reply for In-situ OAM Capabilities

draft-xiao-ippm-ioam-conf-state-04

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Intention of this draft

- Provides a method for the IOAM encapsulating node to discover the IOAM capabilities of the downstream nodes
 - The assumption is that In-situ OAM can be deployed in an environment where NO centralized controller being used, i.e., the IOAM encapsulating node can't construct the IOAM header by querying the centralized controller
 - The method is a complementary IOAM tool, it may not cover all IOAM deployment scenarios, but it makes IOAM deployment more flexible

Updates since v.01

- Title and scope to make the intention more clear and more accurate:
 - Changed from “IOAM Configuration Data” to “IOAM Capabilities” since the former is too associated with NETCONF/YANG
 - Identified three use case environments: SR-MPLS, SRv6 and SFC. This method is potentially restricted to Explicit Path
 - The defined TLVs/Sub-TLVs aim to extend LSP-Ping, ICMPv6 or SFC-Ping, for which separate drafts are planned, so IANA actions removed

Updates since v.01 (cont.)

- The defined TLVs/Sub-TLVs are reclassified, and the relevant TLV/Sub-TLV definition adjusted:
 - TLV in Echo Request and TLV in Echo Reply are divided into two separate sections, “List of Sub-TLVs” removed from TLV in Echo Request
 - Tracing Capabilities sub-TLV is divided into Pre-allocated Tracing Capabilities sub-TLV and Incremental Tracing Capabilities sub-TLV, F bit removed from Tracing Capabilities sub-TLV, and Egress_MTU field extended from 14bits to 16bits

Updates since v.01 (cont.)

- Some technical changes following updated draft-ietf-ippm-ioam-data, and enhanced operational guide:
 - Add “List of Namespace-IDs” field into TLV in Echo Request. Add respective Namespace-ID into respective sub-TLV in Echo Reply
 - IOAM-Trace-Type field extended from 16bits to 24 bits
 - In Operational Guide section, add one alternative for the IOAM encapsulating node to send echo request to each IOAM transit/decapsulating node directly, without TTL expiration

History of this draft

- 00 version was presented at IETF #100
- 01 version was presented at IETF #103, some concerns and questions received from Frank
- 02 version was discussed on the mailing list, some good comments received from Tianran
- 03 version resolves all comments and concerns received so far, in the authors' opinion
- 04 version (with editorial changes on 03 version) is the presented version

Next steps

- Comments are welcome
- Ask for WG adoption