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 14 bits to 16 bits
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