Echo Request/Reply for Enabled In-situ OAM Capabilities

draft-ietf-ippm-ioam-conf-state-01

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Two Main Updates in this revision

• Firstly, change the format of IOAM Capabilities Query/Response from TLV to Container
  – For ICMPv6, taking example by RFC 8335, IOAM Capabilities Query is not a TLV of Echo Request, but the Echo Request itself; Response is also not a TLV, but the Echo Reply itself

• Secondly, change the format of Response Contents from Sub-TLV to Object
  – For ICMPv6, taking example by RFC 8335, the extensions contained in Echo Request/Reply are not Sub-TLVs but Objects

• In 6MAN WG, draft-xiao-6man-icmpv6-ioam-conf-state-00 has been posted to define the IOAM Capabilities’ specific extensions to ICMPv6
• IOAM Capabilities Query/Response Container Header is used to substitute Type/Length fields
  – For ICMPv6, a container header includes NOT exactly “type and length”, so this change is needed
  – For LSP/SFC/BIER Ping, the container header is also applicable
Sub-type/Length -> Object Header

- IOAM Capabilities Object Header is used to substitute Sub-type/Length fields
  - For ICMPv6, an object header includes NOT exactly “sub-type and length”, so this change is needed
  - For LSP/SFC/BIER Ping, the object header is also applicable
Other Mentionable Updates (1)

• A list of Namespace-IDs (one or more Namespace-IDs) **MUST** be included in an Echo Request
  – If no any other namespace-id than the default one (0x0000) is provisioned at the IOAM encapsulating node, then the default one MUST be included in an Echo Request
  – If other namespace-ids than the default one are provisioned at the IOAM encapsulating node, then the provisioned namespace-ids MUST be included in an Echo Request

• The precondition for the feature described in this document to work
  – Explicit path (strict or loose) **OR**
  – Only one path between the IOAM encap and decap nodes **OR**
  – Echo request experiences the same ECMP processing as data packet
Other Mentionable Updates (2)

- One W bit is borrowed from the Reserved field to indicate
  - 16-bit Egress_if_id in short format or
  - 32-bit Egress_if_id in wide format
Next steps

• Ask for more reviews and comments
• Revise this draft to improve it
• Ask for WGLC

Thank you!