

LSP Ping/Traceroute for Enabled In-situ OAM Capabilities

draft-xiao-mpls-lsp-ping-ioam-conf-state-00

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Background of this draft

- draft-ietf-ippm-ioam-conf-state defines a general method of IOAM Capabilities Discovery, including IOAM Capabilities formats
 - Echo Request/Reply is used for IOAM Capabilities Discovery, through which the IOAM encapsulating node can discover the IOAM Capabilities of each IOAM transit and decapsulating node along the LSP
 - This draft defines LSP Ping/Traceroute extensions to achieve IOAM Capabilities Discovery in MPLS networks

MPLS IOAM Echo Request/Reply

```

0                               1                               2                               3
0 0 1 2 3 4 5 6 7 8 9 0 1 2 3 4 5 6 7 8 9 0 1 2 3 4 5 6 7 8 9 0 1
+-----+-----+-----+-----+-----+-----+-----+-----+
| IOAM Capa. Query Type (TBA1) |                               Length |
+-----+-----+-----+-----+-----+-----+-----+-----+
.                               IOAM Capabilities Query Container Payload
.                               as specified in
.                               Section 3.1 of draft-ietf-ippm-ioam-conf-state
+-----+-----+-----+-----+-----+-----+-----+-----+

```

IOAM Capabilities Query TLV
in Echo Request

```

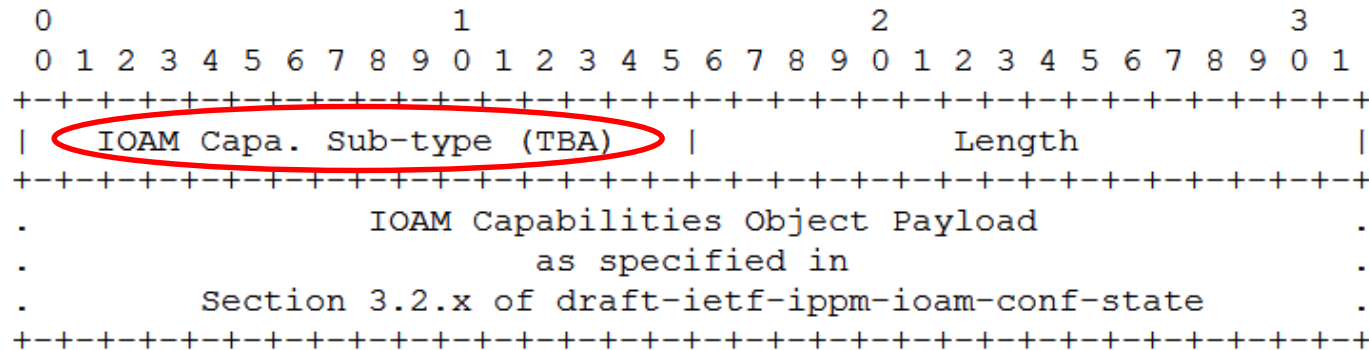
0                               1                               2                               3
0 0 1 2 3 4 5 6 7 8 9 0 1 2 3 4 5 6 7 8 9 0 1 2 3 4 5 6 7 8 9 0 1
+-----+-----+-----+-----+-----+-----+-----+-----+
| IOAM Capa. Response Type (TBA2) |                               Length |
+-----+-----+-----+-----+-----+-----+-----+-----+
.                               IOAM Capabilities Response Container Payload
.                               as specified in
.                               Section 3.2 of draft-ietf-ippm-ioam-conf-state
+-----+-----+-----+-----+-----+-----+-----+-----+

```

IOAM Capabilities Response TLV
in Echo Reply

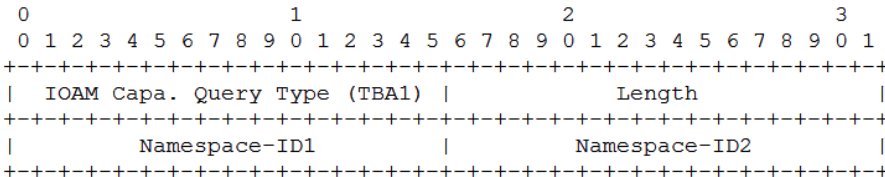
- This draft defines two new LSP Ping TLVs, one for Echo Request, another for Echo Reply
- A new Return Code “No Matched Namespace-ID”

IOAM Capabilities sub-TLVs

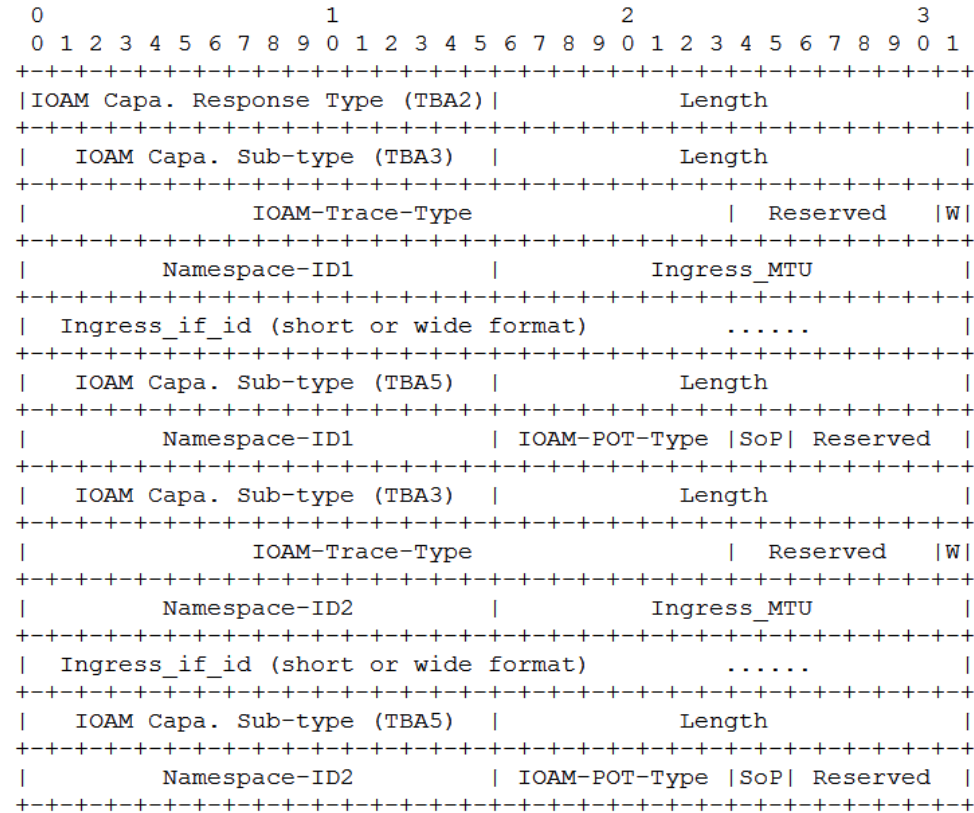


- For IOAM Capabilities Response TLV , six IOAM Capabilities sub-TLVs are defined as follows:
 - IOAM Pre-allocated Tracing Capabilities sub-TLV
 - IOAM Incremental Tracing Capabilities sub-TLV
 - IOAM Proof-of-Transit Capabilities sub-TLV
 - IOAM Edge-to-Edge Capabilities sub-TLV
 - IOAM DEX Capabilities sub-TLV
 - IOAM End-of-Domain sub-TLV

IOAM Capabilities Query/Response TLV Example



IOAM Capabilities Query TLV



IOAM Capabilities Response TLV

Next steps

- Review, Comments, Collaboration are always welcome
- Revise this draft to improve it
- Request for WG adoption

Thank you!