SFC Path Consistency OAM

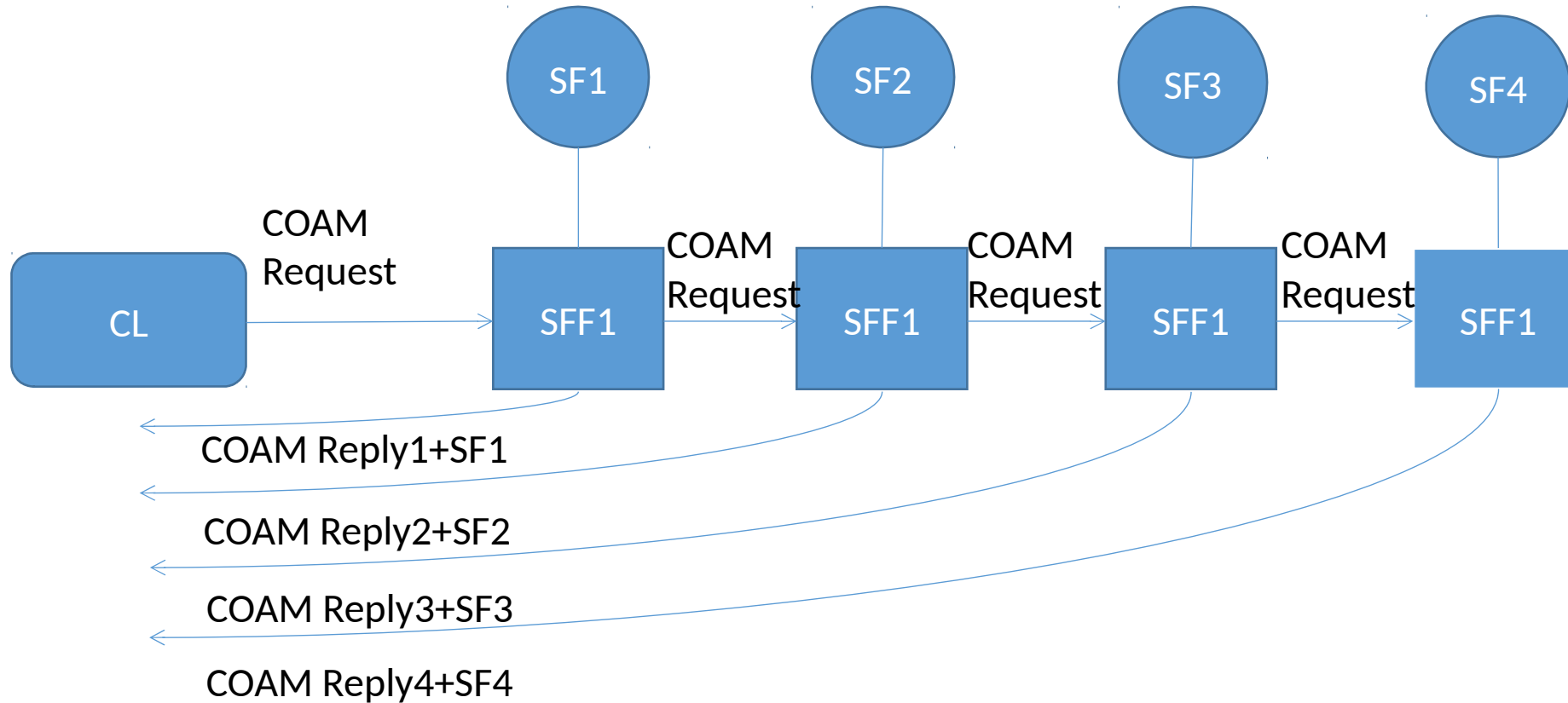https://tools.ietf.org/html/draft-ao-sfc-oam-path-consistency-03
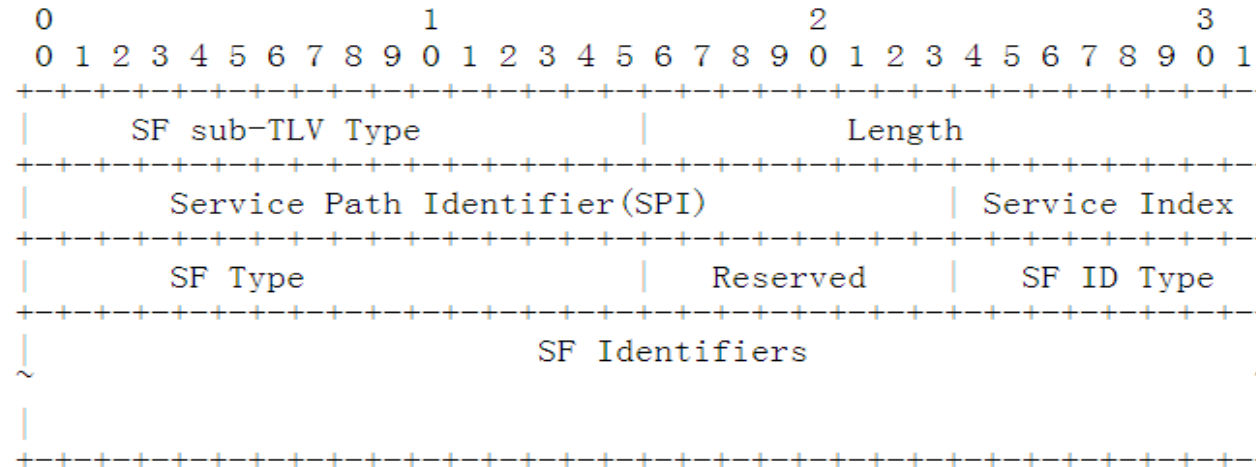
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Theory of Operation in COAM

- With collecting COAM Reply1,COAM Reply2,COAM Reply3 and COAM Reply4, the path of the chain: SF1->SF2->SF3->SF4 is confirmed.

Theory of Operation in COAM(Con't)

```
 0                   1                   2                   3
 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
+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+
|      SF sub-TLV Type          |             Length            |
+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+
|      Service Path Identifier(SPI)          | Service Index    |
+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+
|      SF Type                  |   Reserved    |   SF ID Type  |
+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+
|                         SF Identifiers                        |
~                                                               ~
|                                                               |
+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+
```

- Based on the draft: draft-ietf-sfc-multi-layer-oam
- Define a SF information sub-TLV in the COAM Reply Message
  - SPI: The identifier of SFP to which all the SFs in this sub-TLV belong.
  - SF Type: To indicate the type of SF
  - SF ID Type: To indicate new sub-registry SF Identifier Types
  - SF Identifier: An identifier of the SF.

Update from -02

- Comments received from the last presentation
  - Consider the scenario in Load Balance of multiple SFs

- Multiple SFs for load balance
  - Multiple SFs are for load balance, that means that the particular tr affic flow will transit only one SF:
    - These SFs have the same Service Function Type, Service Index.
    - We suggest carrying a Flow ID(defined in ietf-sfc-nsh-tlv) in COA M request.
    - SFF receiving the COAM Request with Flow ID will distribute the SFC traffic flow to a given SF according to the Flow ID.

Return Path in SFC OAM

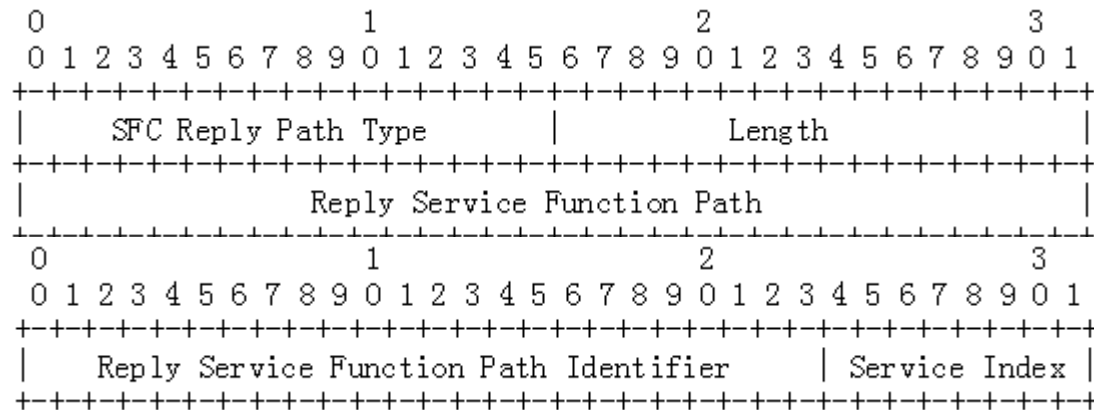https://tools.ietf.org/html/draft-ao-sfc-oam-return-path-specified-02

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Specified SFP reply mode in SFC OAM

- Motion: For SFC, some SFs is required to be traversed by the reverse traffic.

- Action: Specify a certain SFP as a return path of Echo Reply
    - Define a new TLV: Reply Service Function Path TLV in Echo Request to indicate the specified return SFP.

```
 0                   1                   2                   3
 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
+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+
|       SFC Reply Path Type       |              Length         |
+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+
|                  Reply Service Function Path                  |
+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+
 0                   1                   2                   3
 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
+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+
|      Reply Service Function Path Identifier     | Service Index |
+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+
```

Reply SFPID: the identifier of the Reverse SFP
Service Index: Used in Reverse SFP for forwarding

- Echo Reply should use the SFPID and SI as its NSH header
    - If the return SFP cannot be found, the Echo Reply should include "Reply SFP was not found" in Return Code.

Ask for WG adoption?

- We think till now, both drafts have already been ready for WG adopti on.

- Any comments, questions are always welcome and greatly appreciate d.