IETF SFC: Service Chain Header

draft-zhang-sfc-sch-01

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Rationale

- First Draft of SCH in March, 2014
  - Now at -01, May, 2014

- Written as an alternative to draft-quinn-nsh to address perceived shortcomings:
  - Eliminate mandatory fixed-sized metadata
  - Add variable length metadata
  - Add organizationally defined metadata
  - Add version field

- Draft-Quinn-nsh since revised
  - Now at -03, July 3, 2014
  - Adds optional variable length metadata to existing fixed format mandatory metadata
  - Adds version fields

Key Differences between SCH and NSH

- Metadata
  - SCH proposes TLV metadata when required
  - NSH requires 4-32 bit general purpose metadata fields in every packet and allows additional optional TLV metadata

- TLV 'Type' Authority for Metadata
  - SCH recommends IANA registry for 'standard' types plus use of 24-bit IEEE OUI for Vendor Specific types
  - NSH does not support 'standard' types; uses new 16-bit IANA registered organizational ID for Vendor Specific types

- Next protocol indication
  - SCH uses 16-bit IEEE ethertype (Transparent Ethernet Bridging to indicate Ethernet)
  - NSH uses 8-bit enumerated type (i.e., v4, v6, Ethernet)

- Other minor differences
  - NSH has a Critical attention bit
  - SCH uses 8 bit total length and metadata length vs 5 bit in NSH

- Applicability -- SCH text describes usage to optionally carry only chain forwarding information; only metadata; or both

Recommendations

- Merge NSH and SCH:
  - Resolve major differences
    - Mandatory fixed-size metadata in NSH vs. none in SCH
    - IANA registered 'standard' metadata types in SCH vs. none in NSH
    - Next protocol information enumerated in NSH vs. ethertype in SCH
  - Resolve multiple minor differences
  - Common
    - Thread consensus on chain id vs. path id
    - Explanatory language
    - Etc.