draft-ietf-ospf-segment-routing-extensions-05

draft-ietf-ospf-ospfv3-segment-routing-extensions-03

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OSPF SR Drafts Evolution

- Originally posted in June 2013 – before IETF 87

- Drafts went through several rounds of updates

- Presented in IETF 88, IETF 90, IETF91, IETF92

- OSPFv2/v3 SR drafts are in sync

Changes since last IETF (v2 & v3)

- Strict Shortest Path First (SPF) algorithm
  - Used to enforce path over the SPT tree.
  - Prevents traffic to be policed out of the SPT tree.
- PHP behavior for SRMS advertised SIDs
  - SRMS does not specify the originator of the prefix
  - Use other methods to decide whether the next-hop is an owner of the prefix
  - Simple for intra-area prefix
  - A-flag in Extended Prefix TLVis used for inter-area external prefixes

Changes since last IETF (v2 & v3)

- B-Flag in Adj-SID and LAN Adj-SID Sub-TLVs
  - Semantic changed from "being protected" to "being eligible for protection"

Changes since last IETF (v3 only)

- SR-Forwarding Capabilities
  - Data-plane capabilities are advertised in OSPF Router Informational Capabilities TLV
  - Bit-6 - MPLS IPv6 flag - If set, then the router is capable of processing SR MPLS encapsulated IPv6 packets on all interfaces.
  - Bit-7 - If set, then the router is capable of processing the IPv6 Segment Routing Header on all interfaces (previdi-6man-segment-routing-header)
  - Area flooding scope required

Status

- Multiple OSPFv2 SR implementations available
- Interoperability testing with OSPFv2 SR has been performed
- No OSPFv3 SR implementations (?)
- No major churns in encodings are expected
- Temporary IANA Allocations
    - OSPF Router Information (RI) TLVs
        - SR-Algorithm TLV (8)
        - SID/Label Range TLV (9)
        - registered 2014-06-26, renewed once already, will expire 2016-06-26
- Ready for WG LC for OSPFv2 SR?