



IETF 105 – Montreal
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LSR Working Group

draft-ketant-lsr-ospf-l2bundles-00

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Problem Statement

- OSPF runs over Layer 3 interfaces which comprises of a bundle of individual Layer 2 links – LAG (IEEE802.1AX) in many deployments
- In certain specific deployments, new use-cases have arisen which require information of these member links to be advertised as part of the OSPF topology
 - Controlling steering of flows over individual links based on their characteristics or for bandwidth management (e.g. using SR adj-SIDs associated with each member link)
 - Performing OAM validation for member links by steering probes over them individually
- Description of Layer 2 member links as part of a Layer 3 link object of the OSPF topology enables existing applications (e.g. PCE and other controllers) for supporting these use-cases

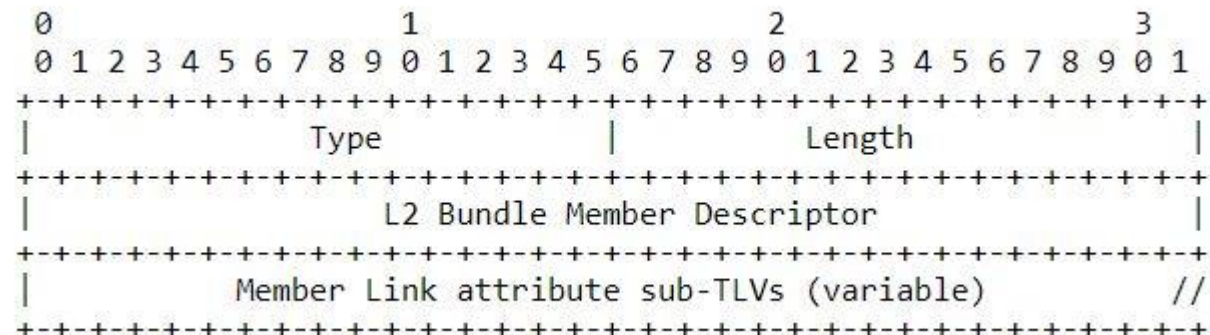
What does this draft propose?

- When enabled for this feature, an OSPF router includes information of layer 2 member links of Layer 3 bundle interface as part of its topology advertisements
 - Description of the layer 2 member link
 - Specific attributes of that layer 2 member link
- This applies to both OSPFv2 & OSPFv3
- The Layer 2 member links are not used for OSPF SPF computation and does not impact OSPF route computation procedures

- draft-ietf-isis-l2bundles specifies similar extensions for IS-IS

How is this done?

- Layer 3 links in OSPF are advertised along with their attributes via
 - OSPFv2 Extended Link TLV of the OSPFv2 Extended Link Opaque LSA (RFC7684)
 - Router Link TLV of the OSPFv3 E-Router LSA (RFC8362)
- This draft proposes a new L2 Bundle Member Attributes sub-TLV for the OSPFv2/v3 TLVs above
 - The new sub-TLV carries the descriptor (link local identifier e.g. ifIndex) of the Layer 2 member link
 - Sub-TLVs where existing Link Attribute sub-TLVs of OSPFv2/v3 can be used to advertise attributes of that Layer 2 member link



Link Attributes of Layer 2 member links

- No new link attribute sub-sub-TLV is defined for Layer 2 member
 - Existing link attribute sub-TLVs defined for Layer 3 links are reused
- Draft specifies the link attributes which are applicable for Layer 2 member links e.g.
 - Adj-SID
 - Maximum Link Bandwidth
- And others that are not applicable e.g.
 - Remote Address
 - Local/Remote Identifiers

Next Steps ...

- Request review and feedback from WG