

Signaling MSD (Maximum SID Depth) using OSPF

draft-tantsura-ospf-segment-routing-msd-00

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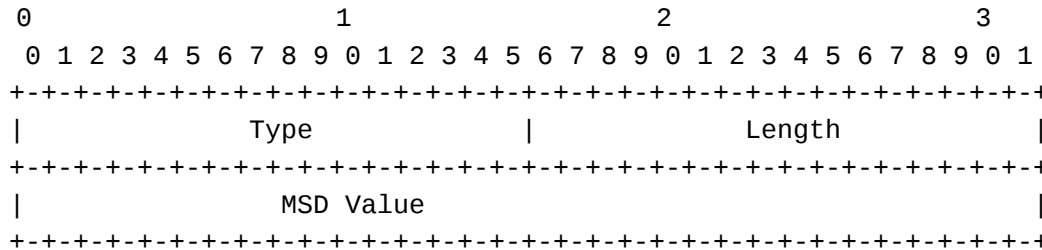
Signaling MSD Using OSPF

- For a controller/PCE to know various nodes/links MSD "Maximum SID Depth" of the node or link where SR tunnel exits over – ingress node/node expanding binding SID
- A controller/PCE should never use a tunnel with a label depth exceeding that supported by a node/link
 - Ingress node != BGP-LS or PCEP speaker
- PCEP SR extensions [[I-D.ietf-pce-segment-routing](#)] has defined MSD, to signal in SR PCE Capability TLV, METRIC Object, however requires:
 - PCEP session with the node
 - Signals only node MSD
- With MSD values present in LSDB it's advertised through BGP-LS as defined in [[I-D.tantsura-idr-bgp-ls-segment-routing-msd](#)]
- Similar solution for isis is described in [[I-D.tantsura-isis-segment-routing-msd](#)]
- Do not confuse with RLD - Readable Label Depth as defined in [[I-D.ietf-mpls-spring-entropy-label](#)]

How?

Through new TLV in OSPF (OSPFv2, OSPFv3) RI Opaque LSA [RFC 7770]

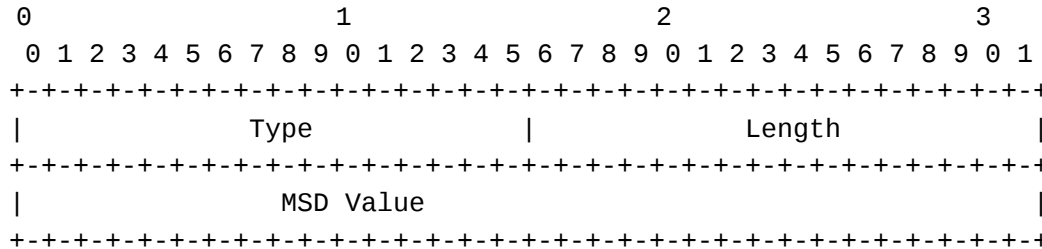
- Node MSD TLV



Node MSD TLV

- Type: request to IANA to allocate a TLV type code from OSPF Router Information (RI) TLVs Registry defined by [\[RFC7770\]](#)
- Value: 0-254.
 - 0 $\underline{\text{xx}}$ Lack of ability to push MSD of any depth
 - Value represented SHOULD be the lowest value that node can support

■ Link MSD sub-TLV



Link MSD TLV

- Type: request to IANA to allocate a optional sub-TLV type code from
 - OSPFv2 Extended Link TLV Registry as defined in [RFC76804]
 - OSPFv3 Router-Link TLV as defined in [[I-D.ietf-ospf-ospfv3-lsa-extend](#)]
- Value: 0-254.
 - 0 xx Lack of ability to push MSD of any depth
- This sub-TLV is optional



Next Steps:

- WG Adoption?

Thank you!