

Signaling MSD (Maximum SID Depth) using BGP-LS

draft-tantsura-idr-bgp-ls-segment-routing-msd-04

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Signaling MSD Using BGP-LS

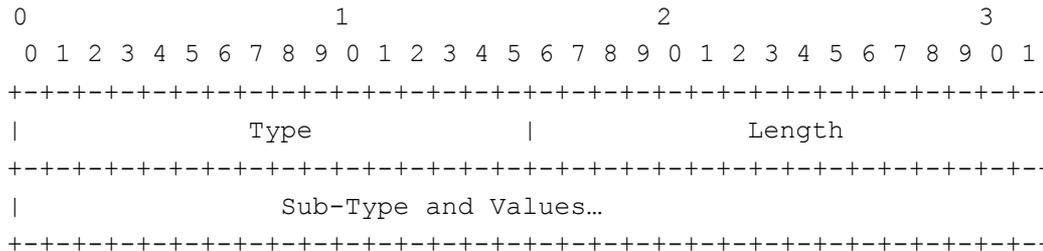
- For a controller/PCE to know various nodes/links MSD "Maximum SID Depth" of the node or link where SR tunnel exits over – ingress node/node expanding binding SID
- A controller/PCE should never use a tunnel with a label depth exceeding that supported by a node/link
 - Ingress node != BGP-LS or PCEP 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
- MSD values are advertised through OSPF/ISIS as defined in <https://tools.ietf.org/html/draft-ietf-isis-segment-routing-msd-03>
<https://tools.ietf.org/html/draft-ietf-ospf-segment-routing-msd-04>
- Do not confuse with RLD - Readable Label Depth as defined in [[I-D.ietf-mpls-spring-entropy-label](#)]

How?

Through new TLV in BGP-LS (RFC 7752) Node NLRI and Link NLRI

- MSD Supported by Node

- Node MSD is encoded in a new Node Attribute TLV, as defined in [RFC7752]



Node MSD TLV

- Type: from BGP-LS Node Descriptor, Link Descriptor, Prefix Descriptor, and Attribute TLVs registry

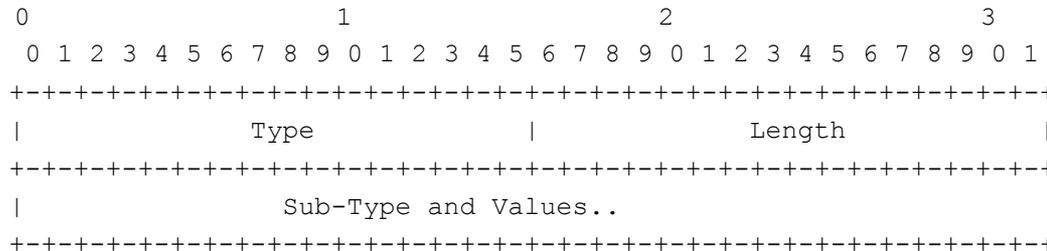
Code Point (TBD) Suggested Value 1050 (To be assigned by IANA)

- Value: Contains

- Sub-Types (as defined in IGP drafts) with Sub-Type 1 as Base MSD
 - Value represented SHOULD be the lowest value that node can support
- Future sub-types to characterize the MSD type would be added later

■ MSD Supported on a Link

- Link MSD is encoded in a New Link Attribute TLV [RFC 7752]



Link MSD TLV

- Type: from BGP-LS Node Descriptor, Link Descriptor, Prefix Descriptor, and Attribute TLVs registry
Code Point (TBD) Suggested Value 1110 (To be assigned by IANA)
- Value: 0-254.
 - Sub-Types (as defined in IGP drafts) with Sub-Type 1 as Base MSD
 - Future sub-types to characterize the MSD type would be added later
- This sub-TLV is optional



Next Steps:

- IGP drafts are working group documents in respective WG's and we plan to request WGLC
- Requested early allocation to IANA
- Request WG Adoption for BGP draft

Thank you!