

Definition of an IS-IS Link Attribute sub-TLV

draft-vasseur-isis-link-attr-01.txt

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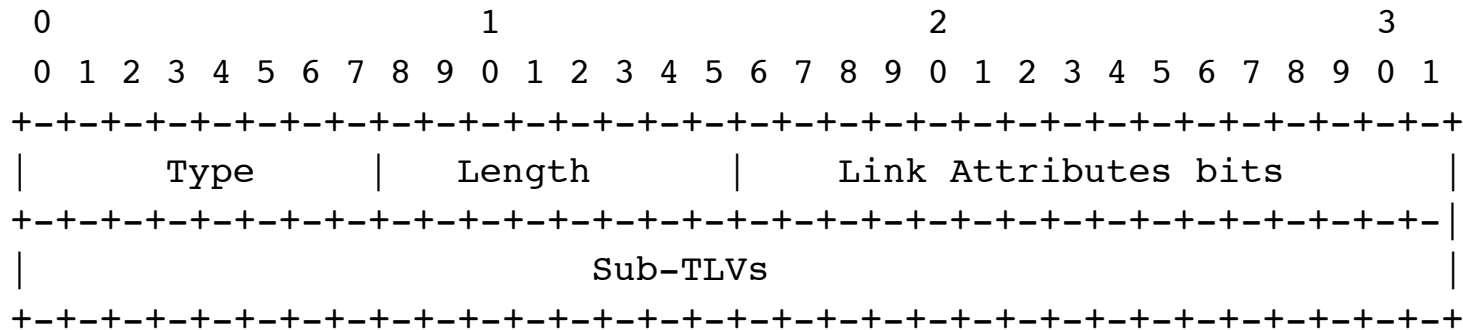
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Summary

- Goal:
 - Propagate link characteristic in ISIS adjacency advertisement (TLV-22)
- Purpose:
 - TE
 - Constrain TE computation to protected links
 - Fast Reroute
 - Exclude links from being used in protection paths
 - Convergence/Microloop Avoidance

Link Attribute Sub-TLV

- Type: 19 (to be assigned by IANA)
- Length: 2 + SubTLVs length (if any)
- Content
 - 2 bytes: flags
 - Sub-TLVs



Link Attribute Sub-TLV

Proposed flag values

- 0x01
 - Local Protection Available. When set, this indicates that the link is protected by means of some local protection mechanism (e.g: FRR).
- 0x02
 - Link excluded from local protection path. When set, this link should not be included in any computation of a repair path by any other router in the routing area.
- 0x04
 - Local maintenance required. When set, this indicates that the link will be put out of service and will consequently be shortly unavailable.

Link Attribute Sub-TLV

- No sub-TLVs defined so far
- The triggers for setting up these bits are out of the scope of this document.
- The set of actions triggered by other nodes is out of the scope of this document.
- A router not supporting the link-attribute sub-TLV **MUST** just silently ignore this sub-TLV.

Link Attribute Sub-TLV and SPF

- For fast convergence purposes, a router may run a microloop avoidance algorithm in order to reduce/eliminate microloop effects during convergence.
- Such algorithms may imply delays in SPF computations.
- Microloop avoidance algorithms for link failures convergence makes sense only if the failed link is protected.

Link Attribute Sub-TLV and SPF

- Where the information in the link attributes sub-TLV is used to affect the IS-IS SPF calculation, additional information indicating which routers are using this information is required to insure such usage does not result in loops or black holes. How this additional information is conveyed is outside the scope of this document.

Next Step...

- Implementation exists
- No outstanding issues
- No major changes expected
- WG document ?