



IETF 109 – Online
PCE Working Group

Carrying SID Algorithm information in PCE-based Networks

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Motivation

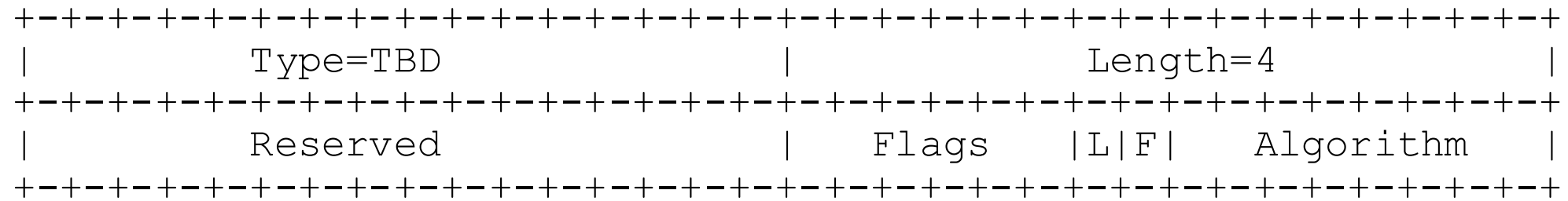
- A PCE can compute SR-TE paths using prefix SIDs with different Algorithms depending on the use-case, constraints, etc. While this information is available on the PCE, there is no method of conveying this information to the headend router
- The headend can also compute SR-TE paths using different Algorithms, and this information also needs to be conveyed to the PCE for collection or troubleshooting purposes
- An operator may also want to constrain the path computed by the PCE to a specific SID Algorithm. For example, in order to only use SID Algorithms for a low-latency path

Prefix-SID Algorithm

- Described in Segment Routing Architecture RFC
 - RFC 8402 - Section 3.1.1
 - Two algorithms defined
 - Shortest Path First (SPF)
 - Strict Shortest Path First (Strict-SPF)
- IGP Algorithm Types in IANA registry
 - Two existing algorithms and Flexible Algorithms range

TLV for the LSPA Object

- Introduced new TLV to carry the SID Algorithm constraint



- F (Fallback): If set to 1 and the PCE is unable to compute a path using only prefix SIDs with the specified Algorithm, the PCE MAY compute an alternate fallback path without constraining to the specified Algorithm.
- L (Loose): If set to 1, the PCE MAY insert prefix SIDs with a different Algorithm, but it MUST prefer the specified Algorithm whenever possible.

Next steps

- Comments and discussion are welcome
- Request WG adoption