IGP Flexible Algorithm

draft-ietf-lsr-flex-algo

IETF 105, Montreal, CA

P. Psenak, C. Filsfils, K. Talaulikar (Cisco)
S. Hegde (Juniper)
A. Gulko (Thomson Reuters)
SRv6 Dataplane

- Draft has been extended to cover SRv6 dataplane
  - “SRv6 Forwarding for Flex-Algorith” section added
  - SRv6 locator is associated with the algorithm
  - SRv6 added across the document where necessary
Flex-Algo Inter-area, Inter-domain

- Flex-Algo path only optimized inside the area
- May not be the best path end-2-end
Flex-Algo Inter-area, Inter-domain

• Per prefix –Flex-Algo metric is introduced
  – Used when leaking prefixes between areas
  – Used when redistributing prefixes between domains

• All routers need to agree whether to use the Flex-Algo prefix metric
  – Need to be part of the FAD
ISIS Flexible Algorithm
Definition Flags Sub-TLV

Flags:

0 1 2 3 4 5 6 7 ...
+----------------...+
| M | | | ... |
+----------------...+
Flexible Algorithm Definition Flags Sub-TLV

• M-flag
  – when set, Flex-Algorithm specific prefix metric MUST be used, if advertised with the prefix.
  – This flag is not applicable to prefixes advertised as SRv6 locators.

• Similarly defined for OSPF

• Flex-Algorithm Definition Flags Registry defined
ISIS Flex-Algorithm
Prefix Metric Sub-TLV

+----------------------------------------+
|      Type       |    Length     |Flex-Algorithm |
+----------------------------------------+
|                             Metric      |
+----------------------------------------+

- **ISIS FAPM Sub-TLV**
  - Optional sub-TLV of:
    - TLVs 135, 235, 236, and 237
  - Similarly defined for OSPF
Next Steps

• Multiple implementations available
• Continue to evolve the document
• Questions/Comments?
Thank you!