Topology ID In Ipv6 EH

draft-li-6man-topology-id-00

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Background

• Currently MT/Flex-Algos are mainly identified using different IP addresses in data packet
  • There is no generic approach for different MT/Flex-Algos using shared IP addresses
• The application of network slicing increases the number of MT/Flex-Algo in the network, the deployment complexity would also increase due to the management and configuration of per MT/Flex-Algo IP addresses
• An interface may belong to multiple MT/flexalogo, this problem cannot be solved by associating separate interfaces with different MT/Flexalgos
• Goals:

This document introduces a generic approach to allow different MT/Flex-Algos to share IP addresses
  – A new Hop-by-Hop option of IPv6 extension header is defined to carry the topology identifier, which is used to identify the forwarding table instance created for MT or Flex-Algo
An example:

- Links with different colors belong to different Flex-Algos.  
  - Flex-Algo 128, Flex-Algo 129 and Flex-Algo 130
- All Flex-Algos share the same node IP address
- For each Flex-Algo, each node calculates an SPF tree independently and generates an independent RIB/FIB.
Topo ID associated with Flex-Algo is encapsulated on the head node.

The middle node makes the forwarding table selection based on the topology ID. Then forwards packets according to the corresponding forwarding table.
Next Steps

- Collect comments and feedbacks
- Revise the draft accordingly
Thank You