SRv6 Midpoint Protection

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Motivations and Goals

Motivations

• **Scenario:** When an SRv6 Endpoint failed, the existing FRR mechanism cannot be used to restore the reachability;

• **Requirement:** SRv6 E2E protection could work, but a simpler and faster local repair mechanism is also requested;

• **Existing work:** The mechanism defined in [draft-ietf-spring-segment-protection-sr-te-paths] is able to provide endpoint protection for SR MPLS network;

Goals: This document introduces a SRv6 midpoint protection mechanism: when an SRv6 endpoint fails, an SRv6 proxy forwarding node can replace the failed endpoint to perform SRv6 end function.
SRv6 Midpoint Protection Mechanism

• Scenario 1: Strictly Paths:
  • Node C is a SRv6 endpoint node, perform proxy forwarding and send packet to the next endpoint in the segment list.

• Scenario 2: Loose path:
  • Node C isn’t a SRv6 endpoint node, It Can’t perform proxy forwarding.
  • After IGP convergence, Node B deleted the FIB to D, It will trigger Fib Miss and perform the proxy forwarding action, send packet to the next endpoint in the segment list.
Comments & Update

- Collect feedback in SPRING
  - When the repair node is a transit node, it may be against RFC 8200 which won’t allow transit node to modify SRH
    - In this version, Only SRv6 endpoints can run the midpoint-protection command, and transit nodes cannot run the midpoint-protection command.
Next

Request working group adaption.
Thanks