Unified Identifier in IPv6 Segment Routing Networks

draft-mirsky-6man-unified-id-sr

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Problem statement

- Many OAM functions require identification of the SR tunnel ingress and the path traversed:
  - SRv6 by using SRH complies with the requirement
  - SR-MPLS, as well as Unified SR (SR-MPLS-over-IP), is not
- Scalability of SRv6 may be limiting factor to use strict TE paths in combination with service-based instructions
- Scalability of SR-MPLS may be higher resulting from smaller SID length
- IGP SR extensions may be used to advertise 20 bits-long and 32 bits-long SIDs

Proposed solution

- Make SRH capable to carry SIDs of lengths other than only 128 bits

- No mixing of lengths – one type of SID in SRH

- Add S field in Flags as two-bits long:
    - 0b00 – 128-bits SID
    - 0b01 - 20-bits SID
    - 0b10 - 32-bits SID
    - 0b11 - reserved for future use

- Transit SR nodes operate per Section 5.1 and 5.2 of draft-ietf-6man-segment-routing-header

- Operation of the egress SR node will be specified in the future update

Next steps

- Your comments, suggestions, questions always welcome and greatly appreciated

- Merge with IPv6 Segment Routing Header (SRH) or WG adoption?