

I E T F[®]

6MAN WG

Segment Routing IPv6

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Segment Routing Header

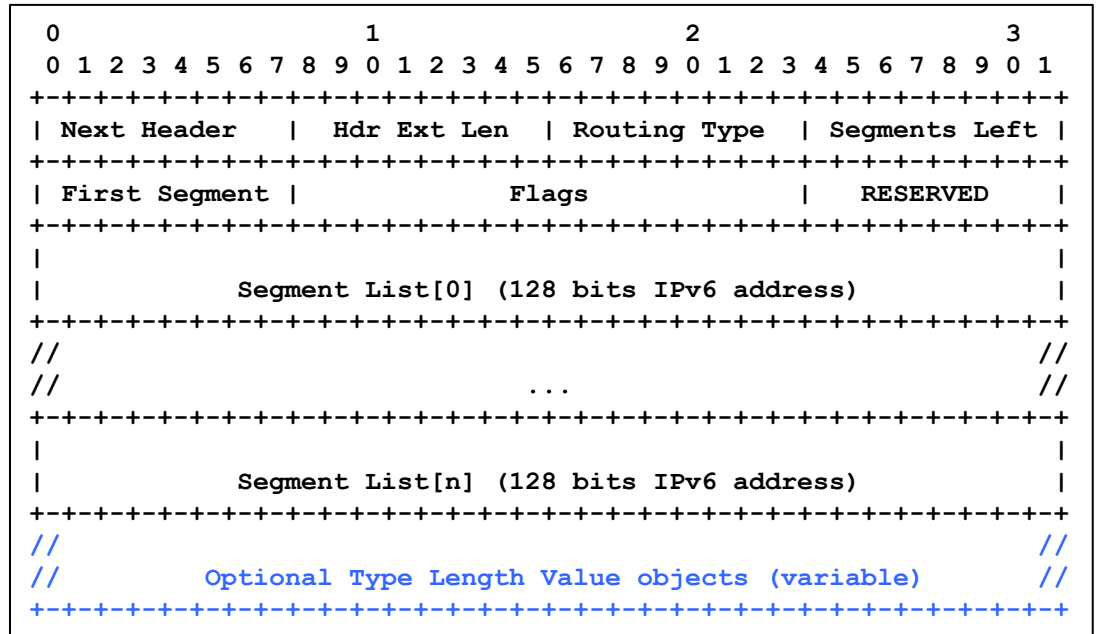
draft-ietf-6man-segment-routing-header

- Version -01
- Simplified header format
 - Removed Policy List
 - Moved HMAC into an optional TLV
 - Defined other (new) optional TLVs
 - Ingress
 - Egress
 - Opaque
 - Added Flags

Segment Routing Header

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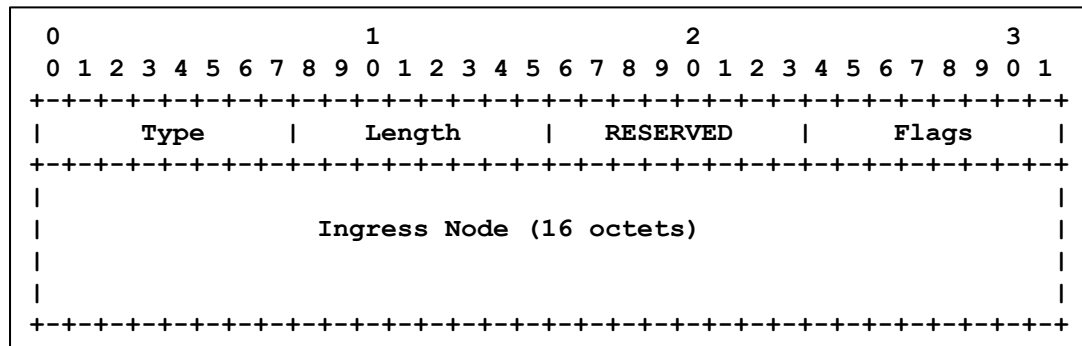
- Removal of Policy List
- Added optional TLVs
- Ease future extensions
- TLVs are optional and may be skipped if not known
- Routing is NOT based on TLVs



Segment Routing Header

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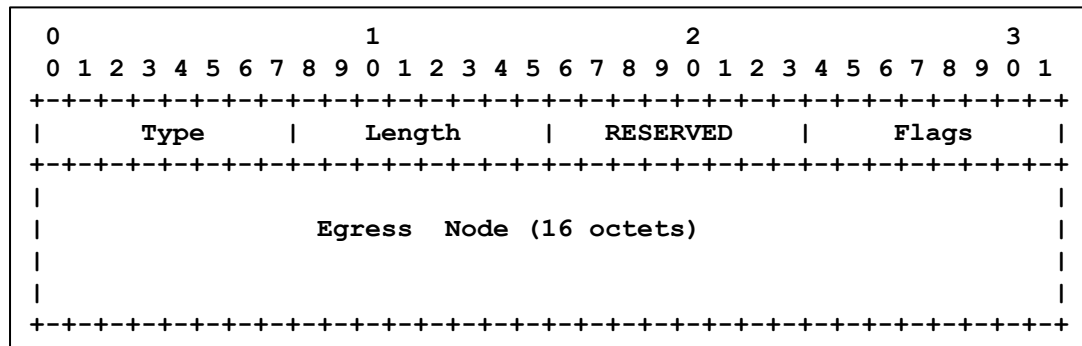
- Ingress Node TLV: identifies the node where the packet entered the SR domain



Segment Routing Header

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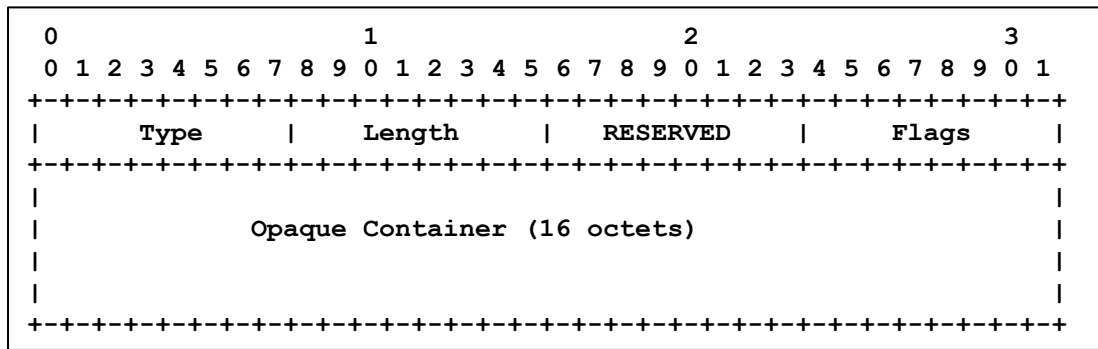
- Egress Node TLV: identifies the node where the packet should exit the SR domain



Segment Routing Header

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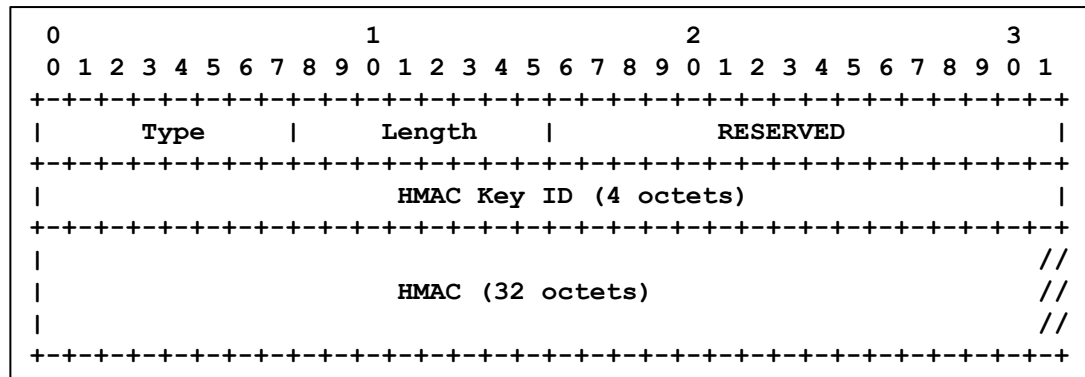
- Opaque Container TLV: experimental use



Segment Routing Header

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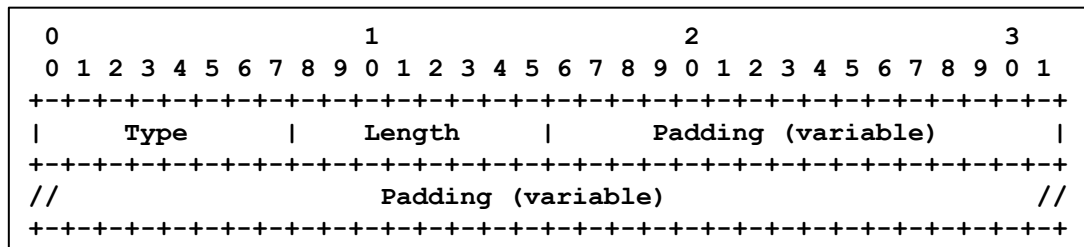
- HMAC TLV: contains HMAC Key ID and HMAC
- As all other TLVs, HMAC TLV is optional
- If present, it MUST be encoded as the last TLV of the SRH
 - Access to HMAC TLV is done by reading last 36 SRH octets



Segment Routing Header

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- Padding TLV: used in order to align the SRH on the 8 octet boundary
- Note: as of today it is not needed (all TLVs are 8 octet aligned)
- Allows future extensions other than 8 octet
- When present, the Padding TLV must be the last TLV but before HMAC TLV (if present)
- No need to inspect the padding TLV (length field is irrelevant)



Segment Routing Header

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- New SRH flags

```
 0 1 2 3 4 5 6 7 8 9 0 1 2 3 4 5
+++++
|C|P|O|A|H|      Unused      |
+++++
```

C-flag: Clean-up flag. Set when the SRH has to be removed from the packet when the packet reaches the last segment.

P-flag: Protected flag. Set when the packet has been rerouted through FRR mechanism by an SR endpoint node.

O-flag: OAM flag. When set, it indicates that this packet is an operations and management (OAM) packet.

A-flag: Alert flag. If present, it means important Type Length Value (TLV) objects are present. See Section 3.1 for details on TLVs objects.

H-flag: HMAC flag. If set, the HMAC TLV is present and is encoded as the last TLV of the SRH. In other words, the last 36 octets of the SRH represent the HMAC information. See Section 3.1.5 for details on the HMAC TLV.

Questions?

Thanks!