

# **BGP-LS-SPF Extensions for SRv6 Policy State Synchronization**

<draft-xu-lsvr-bgp-ls-spf-srv6-policy-state-00>

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# Problem Statement & Solution Overview

## Problem Statement:

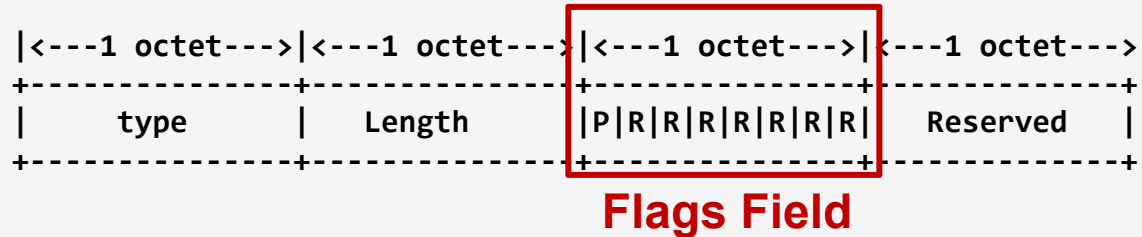
- BGP-LS-SPF can distribute SRv6 SID information, but it lacks the ability to indicate whether a particular SID is actively being used in an SR policy

## Solution Overview:

- Defines a new optional Sub-TLV for the SRv6 End.X SID TLV that carries policy state information.
- Using the sub-TLV, it could improve convergence during policy changes by providing real-time visibility into SID activation states. SPF computation takes SRv6 policies into account to generate compliant paths

# Design of SRv6 Policy State Sub-TLV

## SRv6 Policy State Sub-TLV



Type: 1 octet (TBA)

Length: 1 octet

Flags: 1 octet of flags

Reserved: 1 octet

- **The Sub-TLV provides a mechanism to indicate whether an SRv6 SID is currently active in one or more SR policies**

## Flags Field



- **P flag (Policy Active)** : Bit 0. When set to 1, indicates that the SRv6 SID is currently active in one or more SR policies. When set to 0, indicates that the SID is not active in any SR policy or the policy state is unknown
- **R flags (Reserved)** : Bits 1-7. Reserved for future use. SHOULD be set to zero on transmission and SHOULD be ignored on receipt

# Operational Considerations

## ➤ Policy State Advertisement

- The SRv6 Policy State Sub-TLV is included in the SRv6 End.X SID TLV when the advertising node has knowledge of the SR policy state for the corresponding SID.
- When the policy state of an SRv6 SID changes, the advertising node SHOULD update the corresponding SRv6 End.X SID TLV with the current policy state information.

## ➤ BGP-LS-SPF Route Computation

- BGP-LS-SPF implementations that support this extension MAY use the policy state information during SPF computation to prefer paths containing active SR policy SIDs.

## ➤ Backward Compatibility

- The SRv6 Policy State Sub-TLV is optional. Implementations which do not support this extension, will silently ignore the Sub-TLV.

# Thanks!

Questions and suggestions are welcomed

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