

BGP Flow Specification for SRv6

draft-ietf-idr-flowspec-srv6-06

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Introduction

- This document specifies one new BGP Flow Specification (FS) component type to support Segment Routing over IPv6 data plane (SRv6) filtering for BGP Flow Specification Version 2.

The Flow Specification Encoding for SRv6 (1)

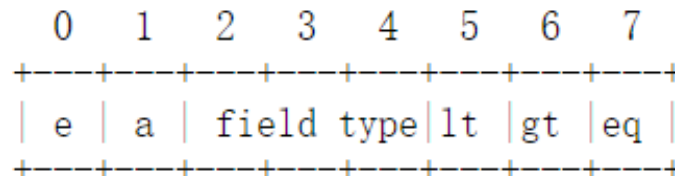
- The Flow Specification NLRI-type consists of several optional components, each of which begins with a type field (1 octet) followed by a variable length parameter. 13 component types are defined in [RFC8955] and [RFC8956] for IPv4 and IPv6. This document defines one component type for SRv6.
- [RFC8986] defines the format of SID is LOC:FUNCT:ARG::. In some scenarios, traffic packets can just match Locator, Function ID, Arguments or some combinations of these different fields. In order to match a part of SID, its prior parts need to be examined and matched first. For example, in order to match the Function ID (FUNCT), the Locator (LOC) needs to be examined and matched first. The new component type TBD1 defined below is for matching some parts of SID.

The Flow Specification Encoding for SRv6 (2)

Encoding: <type, LOC-Len, FUNCT-Len, ARG-Len, [op, value]+>

- type (1 octet): This indicates the new component type (TBD1, which is to be assigned by IANA).
- LOC-Len (1 octet): This indicates the length in bits of LOC in SID.
- FUNCT-Len (1 octet): This indicates the length in bits of FUNCT in SID.
- ARG-Len (1 octet): This indicates the length in bits of ARG in SID.
- [op, value]+: This contains a list of {operator, value} pairs that are used to match some parts of SID.

The operator (op) byte is encoded as:



Next Step

- Coordinate with BGP Flow Specification Version 2 work
- Solicit with comments and refine draft.

Flowspec Indirection-id Redirect for SRv6

draft-ietf0-idr-srv6-flowspec-path-redirect-12

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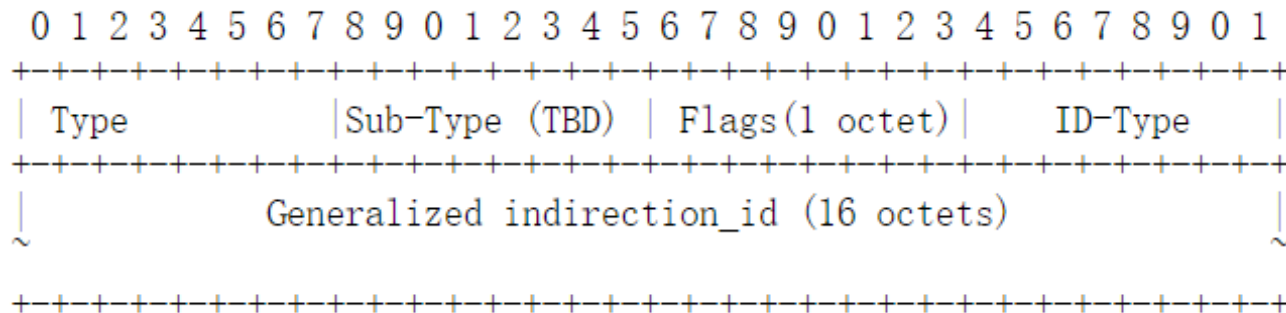
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Introduction

- This document defines extensions to "FlowSpec Redirect to indirection-id Extended Community" for SRv6. This extended community can trigger advanced redirection capabilities to flowspec clients for SRv6. When activated, this flowspec extended community is used by a flowspec client to retrieve the corresponding next-hop and encoding information within a localised indirection-id mapping table.

Redirect to indirection-id Community (1)

- This document defines a new sub-type value for SRv6 in "FlowSpec Redirect to indirection-id Extended Community". The format of this extended community with the new sub-type value is show below:



Redirect to indirection-id Community (2)

ID-Type: 1 octet value. This draft defines following Context Types:

- 0 - Localised ID (The flowspec client uses the received indirection-id to lookup forwarding information within the localised indirection-id table.)
- 1 - Node ID with SID/index in MPLS-based Segment Routing (This means the indirection-id is mapped to an MPLS label using the index as a global offset in the SID/label space)
- 2 - Node ID with SID/label in MPLS-based Segment Routing (This means the indirection-id is mapped to an MPLS label using the indirection-id as global label)
- 3 - Binding Segment ID with SID/index in MPLS-based Segment Routing (This means the indirection-id is mapped to an MPLS binding label using the indirection-id as index for global offset in the SID/label space).
- 4 - Binding Segment ID with SID/label in MPLS-based Segment Routing (This means indirection-id is mapped to an MPLS binding label using the indirection-id as global label).
- 5 - Tunnel ID (Tunnel ID is within a single administrative domain a globally unique tunnel identifier.)
- 6 - Node ID with SID/index in SRv6 (This means the indirection-id is mapped to an SRv6 SID using the indirection-id as global SRv6 SID or index)
- 7 - Binding Segment ID with SID/index in SRv6 (This means the indirection-id is mapped to an SRv6 binding SID using the indirection-id as index for global offset in the SID space).
- 8 - Binding Segment ID with SID/index in SRv6 (This means indirection-id is mapped to an SRv6 binding SID using the indirection-id as global SRv6 SID).

Next Step

- Solicit with comments and refine draft.
- Request for WG adoption.

Thanks