Status of this I-D

◆ First presented in IETF 93, Prague meeting
  ➢ Would “link FlowSpec to RFC3107” satisfy the requirements?
    Though FlowSpec rule could use the label(s) bound with the best-match route to the target IP in the 'redirect to IP' action, in order to differentiate FlowSpec rules, each rule needs to be assigned a unique IP address. This would consume too much IP address resources.

◆ The update compared to v-00
  ➢ Label encoded in ACTIONS section of RFC5575
  ➢ Extend the match criteria to the label within the packet header
FlowSpec Label Action

A new label-action is defined as BGP extended community value based on Section 7 of [RFC5575].

<table>
<thead>
<tr>
<th>type</th>
<th>extended community</th>
<th>encoding</th>
</tr>
</thead>
<tbody>
<tr>
<td>TBD1</td>
<td>label-action</td>
<td>MPLS tag</td>
</tr>
</tbody>
</table>

Label-action is described below:

```
+--+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+
| Type (TBD1) | OpCode | Reserved |
+--+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+
     +--------------------------+
     | Label                   |
     +--------------------------+
     | Exp | S | TTL | Stack |
     +--------------------------+
```

- **Type**: indicates the label action
- **OpCode**: operation code; 0: Push; 1: Pop; 2: Swap; 3-15: Reserved
- **Label Stack Entry**: the same as defined in RFC3032
FlowSpec Label Action

- If the BGP router allocates a label for a FlowSpec rule and disseminates the labeled FlowSpec rule to the upstream peers, it can use the label to match the traffic identified by the FlowSpec rule in the forwarding plane.

- A FlowSpec rule MAY include one or more ordering label-action(s). The arrival order of the label-actions decides the action order.
Next Step

• Accepted as WG doc?

• Solicit more comments and suggestions on the mailing list
Thank You!
Scenario

- **FlowSpec Rule 1 (injected in PE2)**
  - Filters: Destination IP prefix: IP2/32; Source IP prefix: IP1/32
  - Actions: traffic-marking: 1 (DSCP value)

- **Forwarding Process on PE1 when receiving traffic from IP1 to IP2**
  - PE1: Push 1,000 and 100
  - ASBR1: Pop 1,000, and then swap 100 to 200
  - ASBR2: swap 200 to 300, and then push 2,000
  - PE2: Pop all labels

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