# Label Information for BGP FlowSpec

## draft-liang-idr-bgp-flowspec-label-01

Qiandeng Liang (liangqiandeng@huawei.com)
Jianjie You (youjianjie@huawei.com)
Robert Raszuk (robert@raszuk.net)
Dan Ma (danma@cisco.com)

# 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.

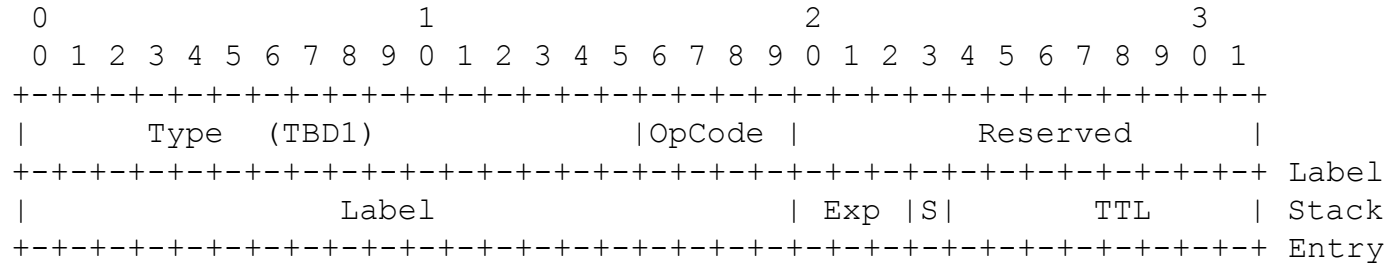
- The update compared to v-00
  - Label encoded in ACTIONS section of RFC5575
  - Extend the match criteria to the label within the packet header

# FlowSpec Label Action

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

| type | extended community | encoding |
|---|---|---|
| TBD1 | label-action | MPLS tag |

Label-action is described below:




- 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.

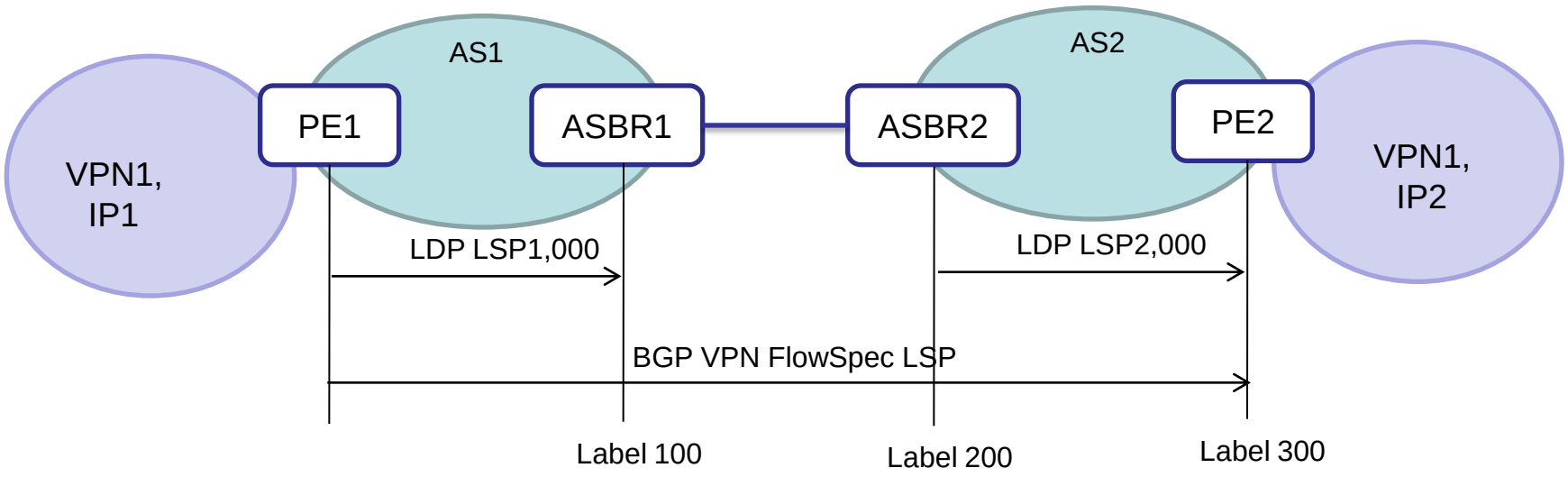
# Next Step

- 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