BGP Flowspec
Redirect Load Balancing Group Community

draft-wu-idr-flowspec-redirect-group-01

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Overview

- Recapitulation on motivation and problem statement.
  - Defines a new BGP Community Container Attribute
- Updates since IETF 113
  - Re-phrasing on Atoms (Sub-tlvs)
  - Inter-action with other redirect actions
  - Adding sections about validation procedure
  - Thinking compatibility with flowspec-v2
Motivation & Problem Statement

- BGP Flow Specification allows flow routes that carry traffic policies to steer traffic.
- In some scenarios, we need to steer traffic to a load balancing group, either ECMP or UCMP.

- For the 50G traffic to R1 from R0, we may want to steer traffic to R2, R3 and R4 in a 1:2:2 ratio.
- The ratio could be changing according to network running status.
- Routers may be deployed in IP, MPLS or SRv6 networks.
- Current set of mechanisms can hardly support neither ECMP of SRv6 tunnels nor UCMP of either types.
Redirect Load Balancing Group Community

- New Type of BGP Wide Community
- Extension to "BGP Community Container Attribute" [draft-ietf-idr-wide-bgp-communities]
- General formats comply with "BGP Community Container Attribute"
- New Community Value: **Redirect Load Balancing Group (TBD)**, require IANA reregistration
- **MUST** contain only 1 Parameter TLV(subtype 3)
- Parameter TLV contains a list of atoms, each represents a redirection action
- Each redirection action complies with wide community atom format(1 byte type, 2 bytes len)

![Figure 1: Redirect Load Balancing Group Community Format](image-url)
Updates since IETF 113

- Re-phrasing on Atoms(Sub-tlvs)
  - Using “Path-tlv” for a redirection action instead of “Atom”
- Inter-action with other redirect actions
  - Configuration Control
  - Extended Community actions MAY take precedence by default
- Adding validation procedure
  - Each Path-tlv SHOULD be validated separately
  - Redirect Group is considered verified only after all path-tlvs are verified
- Thinking compatibility with flowspec-v2
  - Mainly designed for flowspec-v1 scenario
  - Not conflict with FS-v2-actions wide-community
Next step

• Welcome more comments and discussion

Thank you!