Destination-IP-Origin-AS Filter for BGP Flow Specification
draft-wang-idr-flowspec-dip-origin-as-filter

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Why need Dest-IP-Origin-AS rule

• Purpose: Adjust traffic (AS64596 IP61 to AS64599), from R2 to R3
  • Requirement received from some operators
Current method

- Current: FS server send multiple flowspec rules to R1
  - Rule 1: SIP IP61, DIP IP91, Action: redirect to R3
  - Rule 2: SIP IP61, DIP IP92, Action: redirect to R3
  - ... and continue for all IP belong to AS64599
Proposed method

- One rule instead of multiple rules
  - Rule: SIP IP61, DAS AS64599, Action: redirect to R3
- Benefit:
  - Easier for operation
  - Reduce messages from server to router
  - May reduce numbers of flowspec table entries (based on device implementation)
New component type for DAS

• Add new component for NLRI:
  • Type TBD1 - Destination-IP-Origin-AS
  • Encoding: <type (1 octet), [op, value]+>
  • Op: 0 1 2 3 4 5 6 7
  • | e | a | len | 0 |lt |gt |eq |
  • Value : four octets ASN

• Suggested method:
  • Lookup FIB to get the DIP’s Origin AS(called DAS)
  • Use the DAS to match this rule

• Another option:
  • Expand DAS to multiple DIP based rules
Application and evolution

• Combine with existing flowspec components for traffic matching

• More new types could be introduced
  • Source IP origin AS
  • Destination IP Community
  • Source IP Community
  • and others...
Comments received

- There was some discussion about this usage:
  - https://mailarchive.ietf.org/arch/msg/idr/x6xoTdJ9vBVDaqh2dv5NshMJ8Go

- Security Considerations
  - Capability negotiation for directly connection between routers and flowspec servers
  - May use BMP to collect the routers capability, whether support this component type
  - May use node target to control which router to use(draft-dong-idr-node-target-ext-comm-01)

- Whether use new SAFI for this component type
  - The new component type also provides a match criteria under flowspec architecture
  - The new component type may be used together with existing component types
Next step

- Keep on updating and welcome comments
- Thank you😊