

Destination-IP-Origin-AS Filter for BGP Flow Specification

draft-wang-idr-flowspec-dip-origin-as-filter

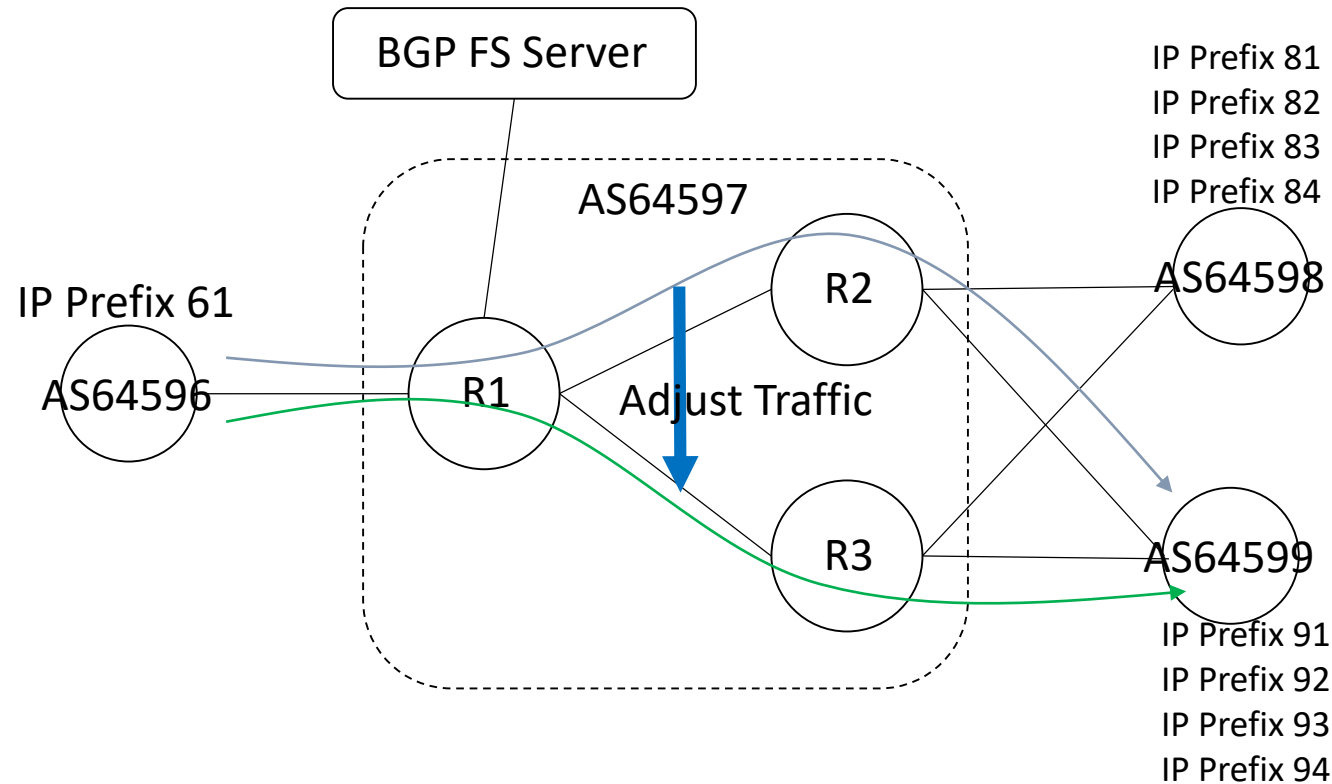
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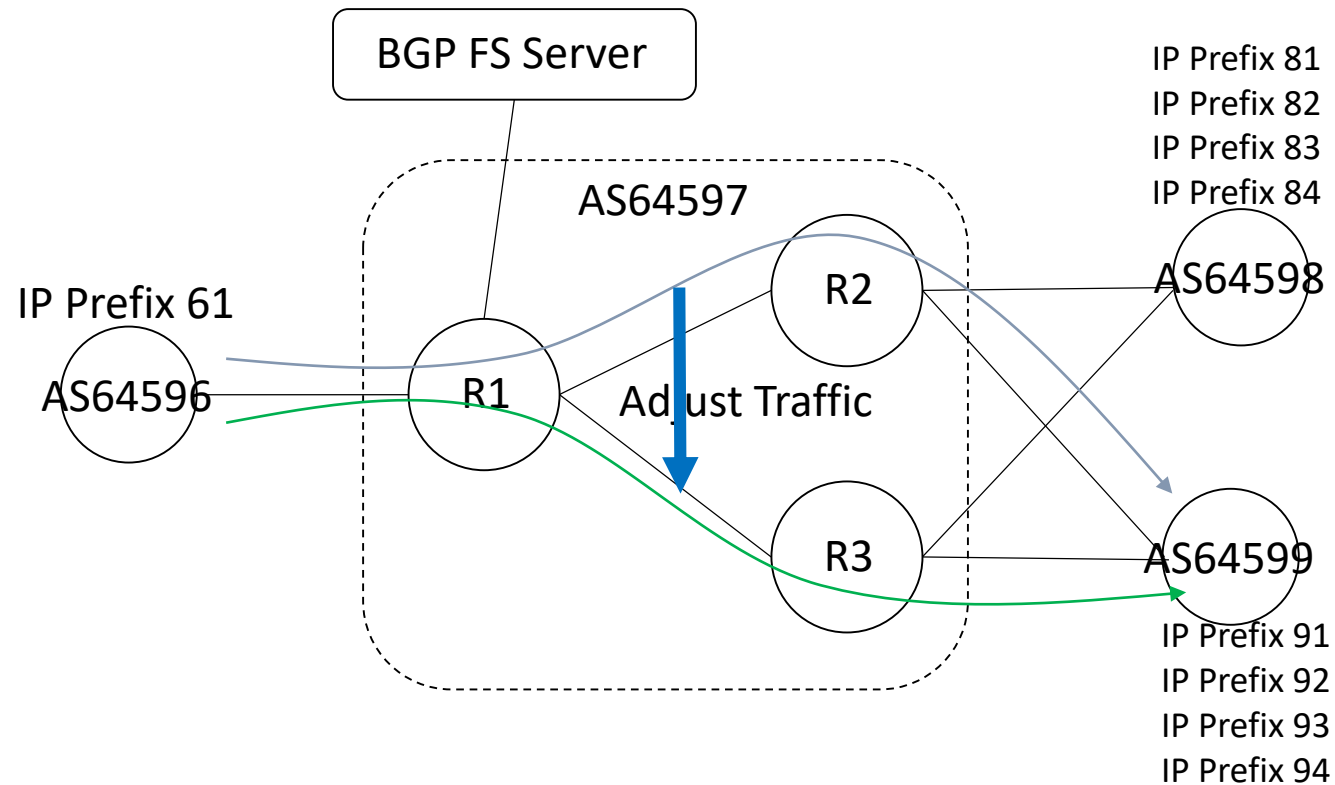
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Why need Dest-IP-Origin-AS rule



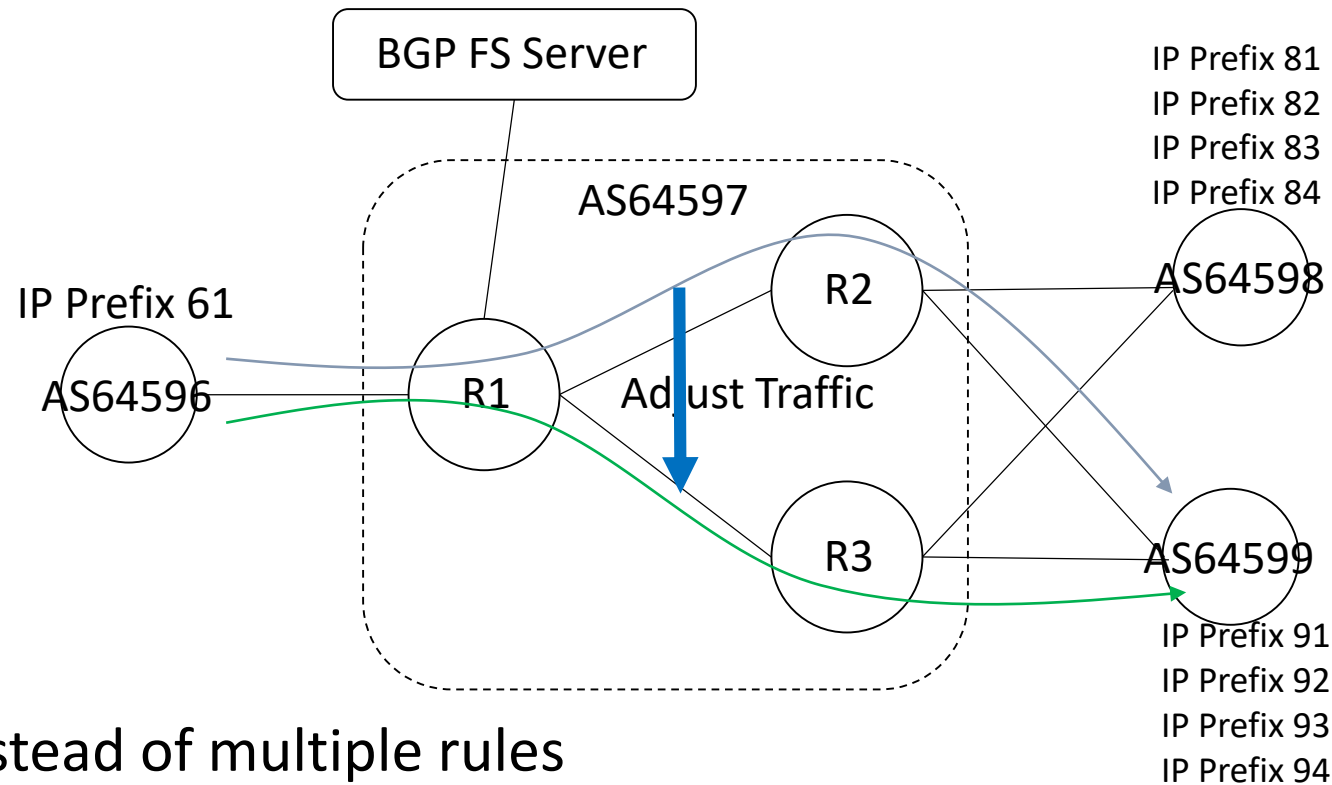
- Purpose: Adjust traffic(AS64596 IP61 to AS64599), from R2 to R3
 - Requirement received from some operators

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 😊