

# FlowSpec Extensions for Routing Policy Distribution

draft-li-idr-flowspec-rpd-03

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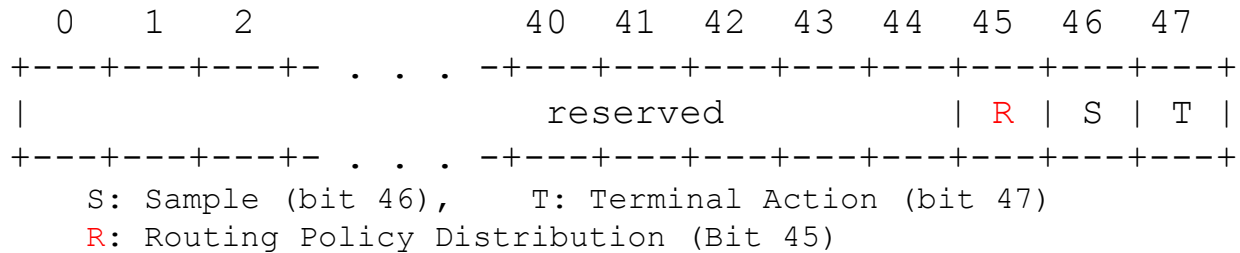
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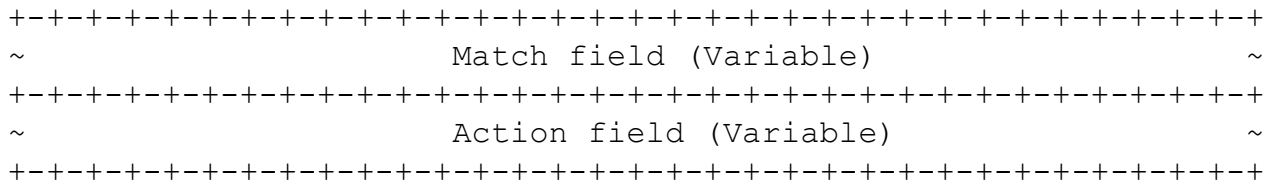
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# Overview

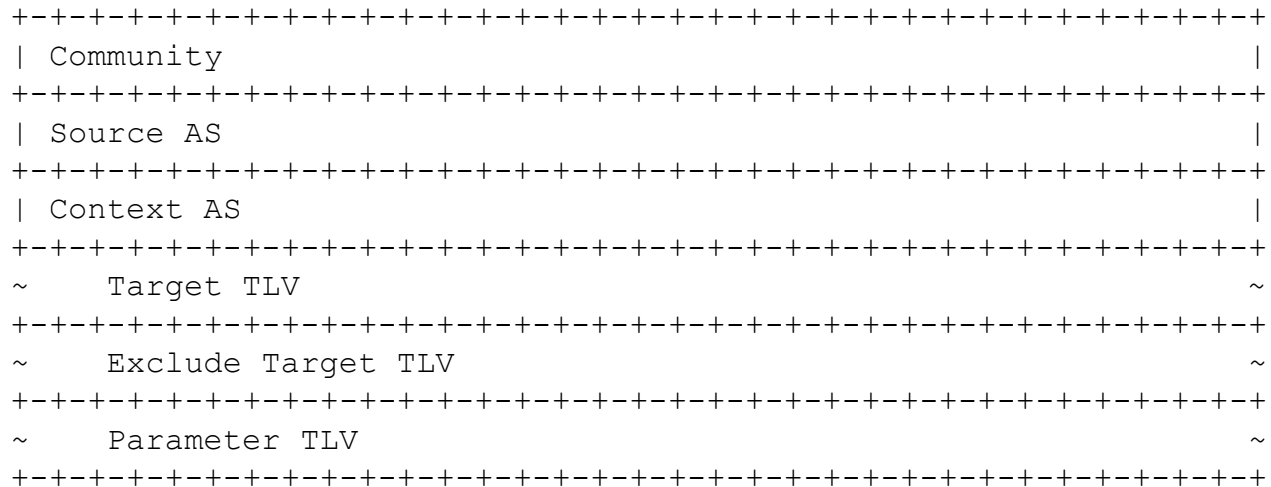
## ➤ Traffic-action extended community:



## ➤ Option 1: BGP Policy Attribute:



## ➤ Option 2: BGP Wide Community (Container)



# Updates on Option 2: BGP Wide Community (1/2)

## ➤ New Wide Community Atoms:

Type	Description	
1	Autonomous System Number List	---
2	IPv4 Prefix (1 octet prefix length + prefix) List	
.	.	} Exiting
:	:	
8	UTF-8 String	---
TBD1	BGP IPv4 Session (local address and remote address)	Previous
TBD2	BGP IPv6 Session (local address and remote address)	Version
TBD3	IPv4 Prefix Range	---+
TBD4	IPv6 Prefix Range	
TBD5	AS Path	
TBD6	Communities	} This
TBD7	Add AS-Path	Version
TBD8	Change MED	
TBD9	Deny	---+

## ➤ New Wide Community Actions

Value	Description	
1	BLACKHOLE	---
2	SOURCE FILTER	
.	.	} Exiting
:	:	
24	FREE POOL	---
TBD11	change attributes	This
TBD12	no advertise	Version

# Updates on Option 2: BGP Wide Community (2/2)

## ➤ Application Example: Change Attributes

Matching criteria:

- o match 20.20.15.0/20 to 20.20.15.0/24
- o match as-path 6553601 6553601

Actions:

- o apply MED = MED + 12345
- o apply add as-path 6553602, 6553602, 6553602, 6553602

```
+-----+
| Community: Change Attributes          TBD11 |
+-----+
| Source AS                             64496 |
+-----+
| Context AS                             64496 |
+-----+
| Target TLV: 1 | Length:                18 |
+-----+
| PrefixRange: TBD3 | Length:             6 | Flags (0) |
+-----+
| MaskLen: 20 | LeMaskLen: 24 | IPv4 Prefix: 20.20. |
+-----+
|.15 |
+-----+
| AS Path: TBD5 | Length:                 6 | OP:      1 |
+-----+
| AS           6553601 |
+-----+
| Count        2 |
+-----+
| ExcTargetTLV: 2 | Length:                0 |
+-----+
| Param TLV:     3 | Length:                32 |
+-----+
| ChangeMED: TBD8 | Length:                 5 | OP:      2 |
+-----+
| Value:                            12345 |
+-----+
| AddASPath: TBD7 | Length:                11 | OP:      1 |
+-----+
| AS           123456 |
+-----+
| Count        1 |
+-----+
| AS           6553602 |
+-----+
| Count        4 |
```

# Updates on Option 1: BGP Policy Attribute (1/2)

## ➤ Match Field containing Sub-TLVs:

Type	Description	
TBD1	BGP IPv4 Session (local address and remote address)	Previous
TBD2	BGP IPv6 Session (local address and remote address)	Version
TBD3	IPv4 Prefix Range	---+
TBD4	IPv6 Prefix Range	This
TBD5	AS Path	} Version
TBD6	Communities	

## ➤ Action Field containing Sub-TLVs:

Type	Description	
TBD7	Add AS-Path	This
TBD8	Change MED	Version
TBD9	Deny	Previous

# Updates on Option 1: BGP Policy Attribute (2/2)

## ➤ Application Example: Change Attributes

Matching criteria:

- o match 20.20.15.0/20 to 20.20.15.0/24
- o match as-path 6553601 6553601

Actions:

- o apply MED = MED + 12345
- o apply add as-path 6553602, 6553602, 6553602, 6553602

```
+++++
| MatchType:          1 | Length:          20 |
+++++
| PrefixRange:TBD3    | Length:          6 |
+++++
| Flags (0)          | MaskLen: 20 | LeMaskLen: 24 | IPv4 Prefix:20. |
+++++
| 20.15              |
+++++
| AS Path: TBD5      | Length:          6 |
+++++
| OP:                1 | AS              6553601 |
+++++
| AS-Contiue        | Count          2 |
+++++
| ActionType:        3 | Length:          24 |
+++++
| Change MED: TBD8   | Length:          5 |
+++++
| OP:                2 | Value:          12345 |
+++++
| Value-Contiue     |
+++++
| Add AS Path: TBD7  | Length:          11 |
+++++
| OP:                1 | AS              123456 |
+++++
| AS-Contiue        | Count          1 |
+++++
| AS                6553602 |
+++++
| Count             4 |
+++++
```

# Next Step

Request for adoption