# BGP MVPN Source-AS Extended Community Filtering

The BGP MVPN Source-AS Extended Community Filtering feature enables the provider edge (PE) device to suppress attaching the multicast VPN (MVPN)-related extended communities to routes learned from a customer edge (CE) device or redistributed in a virtual routing and forwarding (VRF) instance for a specified neighbor.

# Information About BGP MVPN Source-AS Extended Community Filtering

## Overview of BGP MVPN Source-AS Extended Community Filtering

VPN routes carry special extended communities (source autonomous system [AS] extended community and virtual routing and forwarding [VRF] route import extended community) to support multicast VPN (MVPN). Legacy provider edge (PE) devices interpret the source AS extended community as old style multicast distribution tree (MDT). You can attach the extended communities when the prefix is created. After the BGP MVPN Source-AS Extended Community Filtering feature is enabled, this allows the PE device to suppress these extended communities. You can use this functionality to suppress extended communities from being sent for Subsequent Address Family Identifier (SAFI) 128 routes and instead use SAFI 129. Devices with SAFI 129 must be able to identify the source AS extended community correctly.

# How to Configure BGP MVPN Source-AS Extended Community Filtering

## Configuring BGP MVPN Source-AS Extended Community Filtering

**SUMMARY STEPS**

1. **enable**
2. **configure terminal**
3. **router bgp** *autonomous-system-number*
4. **address-family ipv4 vrf** *vrf-name*
5. **unicast-reachability** [**source-as** | **vrf-route-import**] [**disable**]
6. **end**

**DETAILED STEPS**

| | Command or Action | Purpose |
|---|---|---|
| **Step 1** | **enable**<br><br>**Example:**<br><br>`Device> enable` | Enables privileged EXEC mode.<br><br>• Enter your password if prompted. |
| **Step 2** | **configure terminal**<br><br>**Example:**<br><br>`Device# configure terminal` | Enters global configuration mode. |
| **Step 3** | **router bgp** *autonomous-system-number*<br><br>**Example:**<br><br>`Device(config)# router bgp 45000` | Enters router configuration mode for the specified routing process. |
| **Step 4** | **address-family ipv4 vrf** *vrf-name*<br><br>**Example:**<br><br>`Device(config-router)# address-family ipv4 vrf vpn1` | Specifies the IPv4 address family and enters address family configuration mode.<br><br>• Use the **vrf** keyword and *vrf-name* argument to specify the name of the VRF instance to associate with subsequent IPv4 address family configuration mode commands. |
| **Step 5** | **unicast-reachability** [**source-as** | **vrf-route-import**] [**disable**]<br><br>**Example:** | Disables advertising extended communities for non-MVPN profiles. |

| | Command or Action | Purpose |
|---|---|---|
| | `Device(config-router-af)# unicast-reachability source-as disable` | |
| **Step 6** | **end**<br><br>**Example:**<br><br>`Device(config-router-af)# end` | Exits address family configuration mode and enters privileged EXEC mode. |

# Configuration Examples for BGP MVPN Source-AS Extended Community Filtering

## Example: Configuring BGP MVPN Source-AS Extended Community Filtering

The following example configures BGP MVPN source-AS extended community filtering:

```
Device# configure terminal
Device(config)# router bgp 45000
Device(config)# address-family ipv4 vrf vpn1
Device(config-router-af)# unicast-reachability source-as disable
Device(config-router-af)# exit
```

The following example shows summary output for the **show ip bgp vpnv4 vrf vpn1** command.

```
Device# show ip bgp vpnv4 vrf vpn1

BGP routing table entry for 10:10:1.1.1.1/32, version 25
Paths: (2 available, best #2, table red)
Multipath: eiBGP
  Advertised to update-groups:
     1
  Refresh Epoch 1
  Local, imported path from 10:11:1.1.1.1/32 (global)
    1.1.1.2 (metric 11) (via default) from 1.1.1.5 (1.1.1.5)
      Origin incomplete, metric 11, localpref 100, valid, internal
      Extended Community: RT:1:1 OSPF DOMAIN ID:0x0005:0x000000C80200
        MVPN AS:55:0.0.0.0 MVPN VRF:1.1.1.2:2 OSPF RT:0.0.0.0:2:0
        OSPF ROUTER ID:10.10.20.2:0
      Originator: 1.1.1.2, Cluster list: 1.1.1.5
      Connector Attribute: count=1
       type 1 len 12 value 10:11:1.1.1.2
      mpls labels in/out 20/21
      rx pathid: 0, tx pathid: 0
  Refresh Epoch 1
  Local
    10.10.10.100 (via vrf red) from 0.0.0.0 (1.1.1.1)
      Origin incomplete, metric 11, localpref 100, weight 32768, valid, sourced, best
      Extended Community: RT:1:1 OSPF DOMAIN ID:0x0005:0x000000C80200
        MVPN VRF:1.1.1.1:1 OSPF RT:0.0.0.0:2:0 OSPF ROUTER ID:10.10.10.1:0
      mpls labels in/out 20/nolabel
      rx pathid: 0, tx pathid: 0x0
```

# Additional References for BGP MVPN Source-AS Extended Community Filtering

**Related Documents**

| Related Topic | Document Title |
|---|---|
| Cisco IOS commands | Cisco IOS Master Command List, All Releases |
| BGP commands | Cisco IOS IP Routing: BGP Command Reference |
| BGP concepts and tasks | *IP Routing: BGP Configuration Guide* |

**Technical Assistance**

| Description | Link |
|---|---|
| The Cisco Support website provides extensive online resources, including documentation and tools for troubleshooting and resolving technical issues with Cisco products and technologies. <br><br> To receive security and technical information about your products, you can subscribe to various services, such as the Product Alert Tool (accessed from Field Notices), the Cisco Technical Services Newsletter, and Really Simple Syndication (RSS) Feeds. <br><br> Access to most tools on the Cisco Support website requires a Cisco.com user ID and password. | http://www.cisco.com/support |

# Feature Information for BGP MVPN Source-AS Extended Community Filtering

The following table provides release information about the feature or features described in this module. This table lists only the software release that introduced support for a given feature in a given software release train. Unless noted otherwise, subsequent releases of that software release train also support that feature.

Use Cisco Feature Navigator to find information about platform support and Cisco software image support. To access Cisco Feature Navigator, go to www.cisco.com/go/cfn. An account on Cisco.com is not required.

*Table 1: Feature Information for BGP MVPN Source-AS Extended Community Filtering*

| Feature Name | Releases | Feature Information |
|---|---|---|
| BGP MVPN Source-AS Extended Community Filtering | | The BGP MVPN Source-AS Extended Community Filtering feature enables the provider edge (PE) device to suppress attaching the multicast VPN (MVPN)-related extended communities to routes learned from a customer edge (CE) device or redistributed in a virtual routing and forwarding (VRF) instance for a specified neighbor.<br><br>The following command was introduced or modified: **unicast-reachability**. |