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.

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Finding Feature Information

Your software release may not support all the features documented in this module. For the latest caveats and feature information, see Bug Search Tool and the release notes for your platform and software release. To find information about the features documented in this module, and to see a list of the releases in which each feature is supported, see the feature information table at the end of this module.

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.

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**

<table>
<thead>
<tr>
<th>Step</th>
<th>Command or Action</th>
<th>Purpose</th>
</tr>
</thead>
<tbody>
<tr>
<td>Step 1</td>
<td><code>enable</code></td>
<td>Enables privileged EXEC mode.</td>
</tr>
<tr>
<td></td>
<td>Example:</td>
<td>• Enter your password if prompted.</td>
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<tr>
<td></td>
<td>Device&gt; enable</td>
<td></td>
</tr>
<tr>
<td>Step 2</td>
<td><code>configure terminal</code></td>
<td>Enters global configuration mode.</td>
</tr>
<tr>
<td></td>
<td>Example:</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Device# configure terminal</td>
<td></td>
</tr>
<tr>
<td>Step 3</td>
<td><code>router bgp autonomous-system-number</code></td>
<td>Enters router configuration mode for the specified routing process.</td>
</tr>
<tr>
<td></td>
<td>Example:</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Device(config)# router bgp 45000</td>
<td></td>
</tr>
<tr>
<td>Step 4</td>
<td><code>address-family ipv4 vrf vrf-name</code></td>
<td>Specifies the IPv4 address family and enters address family configuration mode.</td>
</tr>
<tr>
<td></td>
<td>Example:</td>
<td>• Use the <code>vrf</code> keyword and <code>vrf-name</code> argument to specify the name of the VRF instance to associate with subsequent IPv4 address family configuration mode commands.</td>
</tr>
<tr>
<td></td>
<td>Device(config-router)# address-family ipv4 vrf vpn1</td>
<td></td>
</tr>
</tbody>
</table>
### Purpose

**Step 5**

**Command or Action**

```
unicast-reachability [source-as | vrf-route-import] [disable]
```

**Example:**

```
Device(config-router-af)# unicast-reachability source-as disable
```

**Purpose**

Disables advertising extended communities for non-MVPN profiles.

---

**Step 6**

**Command or Action**

```
end
```

**Example:**

```
Device(config-router-af)# end
```

**Purpose**

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 10.10.1.1.1/32, version 25
Paths: (2 available, best #2, table red)
  Multipath: eBGP
  Advertised to update-groups: 1
  Refresh Epoch: 1
  Local, imported path from 10.10.1.1.1/32 (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 10.10.10.12
      mpls labels in/out 20/21
    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
```
Additional References for BGP MVPN Source-AS Extended Community Filtering

Related Documents

<table>
<thead>
<tr>
<th>Related Topic</th>
<th>Document Title</th>
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</thead>
<tbody>
<tr>
<td>Cisco IOS commands</td>
<td>Cisco IOS Master Command List, All Releases</td>
</tr>
<tr>
<td>BGP commands</td>
<td>Cisco IOS IP Routing: BGP Command Reference</td>
</tr>
<tr>
<td>BGP concepts and tasks</td>
<td>IP Routing: BGP Configuration Guide</td>
</tr>
</tbody>
</table>

Technical Assistance

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

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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.

The following command was introduced or modified: `unicast-reachability`.

<table>
<thead>
<tr>
<th>Feature Name</th>
<th>Releases</th>
<th>Feature Information</th>
</tr>
</thead>
<tbody>
<tr>
<td>BGP MVPN Source-AS Extended Community Filtering</td>
<td>Cisco IOS XE Release 3.13S</td>
<td>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. The following command was introduced or modified: <code>unicast-reachability</code>.</td>
</tr>
</tbody>
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