

MPLS VPN eBGP Multipath Support for CSC and Inter-AS MPLS VPNs

The MPLS VPN eBGP Multipath Support for CSC and Inter-AS MPLS VPNs feature enables you to configure external Border Gateway Protocol (eBGP) multipath with IPv4 labels. This creates an entry in the Multiprotocol Label Switching (MPLS) forwarding table with label information for each outgoing path installed in the routing table thereby allowing redundant connectivity and load balancing. Without this feature, the MPLS forwarding table contains the labels only for the BGP best path even though the routing table has more than one path for the prefix.

- Finding Feature Information, page 1
- Prerequisites for MPLS VPN eBGP Multipath Support for CSC and Inter-AS MPLS VPNs, page 2
- Restrictions for MPLS VPN eBGP Multipath Support for CSC and Inter-AS MPLS VPNs, page 2
- Information About MPLS VPN eBGP Multipath Support for CSC and Inter-AS MPLS VPNs, page
- How to Configure MPLS VPN eBGP Multipath Support for CSC and Inter-AS MPLS VPNs, page 4
- Configuration Examples for MPLS VPN eBGP Multipath Support for CSC and Inter-AS MPLS VPNs, page 12
- Additional References, page 13
- Feature Information for MPLS VPN eBGP Multipath Support for CSC and Inter-AS MPLS VPNs, page 14

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.

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.

Prerequisites for MPLS VPN eBGP Multipath Support for CSC and Inter-AS MPLS VPNs

Ensure that your Multiprotocol Label Switching (MPLS) virtual private network (VPN) network, including MPLS VPN interautonomous system (Inter-AS) or Carrier Supporting Carrier (CSC), is configured and working properly.

Restrictions for MPLS VPN eBGP Multipath Support for CSC and Inter-AS MPLS VPNs

The MPLS VPN eBGP Multipath Support for CSC and Inter-AS MPLS VPNs feature is not supported on Multiprotocol Label Switching (MPLS) virtual private network (VPN) interautonomous system (Inter-AS) with Autonomous System Boundary Routers (ASBRs) that exchange VPNv4 routes.

When you configure static routes in an MPLS or MPLS virtual private network (VPN) environment, some variations of the **ip route** and **ip route vrf** commands are not supported. These variations of the commands are not supported in Cisco software releases that support the Tag Forwarding Information Base (TFIB. The TFIB cannot resolve prefixes when the recursive route over which the prefixes travel disappears and then reappears. However, the command variations are supported in Cisco software releases that support the MPLS Forwarding Infrastructure (MFI). Use the following guidelines when configuring static routes.

Supported Static Routes in an MPLS Environment

The following ip route command is supported when you configure static routes in an MPLS environment:

• ip route destination-prefix mask interface next-hop-address

The following **ip route** commands are supported when you configure static routes in an MPLS environment and configure load sharing with static nonrecursive routes and a specific outbound interface:

- ip route destination-prefix mask interface1 next-hop1
- ip route destination-prefix mask interface2 next-hop2

Unsupported Static Routes in an MPLS Environment That Uses the TFIB

The following **ip route** command is not supported when you configure static routes in an MPLS environment:

• ip route destination-prefix mask next-hop-address

The following **ip route** command is not supported when you configure static routes in an MPLS VPN environment and enable load sharing where the next hop can be reached through two paths:

• ip route destination-prefix mask next-hop-address

The following **ip route** command is not supported when you configure static routes in an MPLS VPN environment and enable load sharing where the destination can be reached through two next hops:

• ip route destination-prefix mask next-hop1

• ip route destination-prefix mask next-hop2

Use the *interface* and *next-hop* arguments when specifying static routes.

Supported Static Routes in an MPLS VPN Environment

The following **ip route vrf** commands are supported when you configure static routes in an MPLS VPN environment, and the next hop and interface are associated with the same virtual routing and forwarding (VRF) instance:

- ip route vrf vrf-name destination-prefix mask next-hop-address
- ip route vrf vrf-name destination-prefix mask interface next-hop-address
- ip route vrf vrf-name destination-prefix mask interface1 next-hop1
- ip route vrf vrf-name destination-prefix mask interface2 next-hop2

The following **ip route vrf** commands are supported when you configure static routes in an MPLS VPN environment, and the next hop is in the global table in the MPLS cloud in the global routing table. For example, these commands are supported when the next hop is pointing to the internet gateway.

- ip route vrf vrf-name destination-prefix mask next-hop-address global
- ip route vrf vrf-name destination-prefix mask interface next-hop-address (This command is supported when the next hop and the interface are in the core.)

The following **ip route** commands are supported when you configure static routes in an MPLS VPN environment and enable load sharing with static nonrecursive routes and a specific outbound interfaces:

- ip route destination-prefix mask interface1 next-hop1
- ip route destination-prefix mask interface2 next-hop2

Unsupported Static Routes in an MPLS VPN Environment That Uses the TFIB

The following **ip route** command is not supported when you configure static routes in an MPLS VPN environment, the next hop is in the global table in the MPLS cloud within the core, and you enable load sharing where the next hop can be reached through two paths:

• ip route vrf destination-prefix mask next-hop-address global

The following **ip route** commands are not supported when you configure static routes in an MPLS VPN environment, the next hop is in the global table in the MPLS cloud within the core, and you enable load sharing where the destination can be reached through two next hops:

- ip route vrf destination-prefix mask next-hop1 global
- ip route vrf destination-prefix mask next-hop2 global

The following **ip route vrf** commands are not supported when you configure static routes in an MPLS VPN environment, and the next hop and interface are in the same VRF:

- ip route vrf vrf-name destination-prefix mask next-hop1
- ip route vrf vrf-name destination-prefix mask next-hop2

Supported Static Routes in an MPLS VPN Environment Where the Next Hop Resides in the Global Table on the CE Device

The following **ip route vrf** command is supported when you configure static routes in an MPLS VPN environment, and the next hop is in the global table on the customer edge (CE) side. For example, the following command is supported when the destination-prefix is the CE device's loopback address, as in external Border Gateway Protocol (eBGP) multihop cases.

• ip route vrf vrf-name destination-prefix mask interface next-hop-address

The following **ip route** commands are supported when you configure static routes in an MPLS VPN environment, the next hop is in the global table on the CE side, and you enable load sharing with static nonrecursive routes and a specific outbound interfaces:

- ip route destination-prefix mask interface1 nexthop1
- ip route destination-prefix mask interface2 nexthop2

Information About MPLS VPN eBGP Multipath Support for CSC and Inter-AS MPLS VPNs

Overview of MPLS VPN eBGP Multipath Support for CSC and Inter-AS MPLS VPNs

When a device learns two identical external Border Gateway Protocol (eBGP) paths for a prefix from a neighboring autonomous system, it chooses the path with the lower route ID as the best path. This best path is installed in the IP routing table. You can enable eBGP multipath, which installs multiple paths in the IP routing table (instead of picking one best path) when the eBGP paths are learned from a neighboring autonomous system.

During packet switching, depending on the switching mode, either per-packet or per-destination load sharing is performed among the multiple paths. The **maximum-paths** router configuration command controls the number of paths allowed. By default, BGP installs only one path to the IP routing table.

How to Configure MPLS VPN eBGP Multipath Support for CSC and Inter-AS MPLS VPNs

Configuring MPLS VPN eBGP Multipath Load Sharing with Inter-AS MPLS VPNs

Perform this task on the Autonomous System Boundary Routers (ASBRs) to configure external Border Gateway Protocol (eBGP) multipath for Multiprotocol Label Switching (MPLS) virtual private network (VPN) interautonomous systems with ASBRs exchanging IPv4 routes and MPLS labels.

SUMMARY STEPS

- 1. enable
- 2. configure terminal
- **3.** router bgp as-number
- **4. neighbor** {*ip-address* | *peer-group-name*} **remote-as** *as-number*
- 5. address-family ipv4 [multicast | unicast | vrf vrf-name]
- **6.** maximum-paths number-paths
- 7. **neighbor** {*ip-address* | *peer-group-name*} **activate**
- 8. neighbor ip-address send-label
- 9. exit-address-family
- 10. end

DETAILED STEPS

	Command or Action	Purpose
Step 1	enable	Enables privileged EXEC mode.
	Example:	• Enter your password if prompted.
	Device> enable	
Step 2	configure terminal	Enters global configuration mode.
	Example:	
	Device# configure terminal	
Step 3	router bgp as-number	Configures a BGP routing process and places the device in router configuration mode.
	Example: Device(config)# router bgp 100	• The <i>as-number</i> argument indicates the number of an autonomous system that identifies the device to other BGP routers and tags the routing information passed along. The range is 0 to 65535. Private autonomous system numbers that can be used in internal networks range from 64512 to 65535.
Step 4	neighbor {ip-address peer-group-name} remote-as as-number Example: Device(config-router) # neighbor 10.0.0.1 remote-as 200	 Adds an entry to the BGP or multiprotocol BGP neighbor table. The <i>ip-address</i> argument specifies the IP address of the neighbor. The <i>peer-group-name</i> argument specifies the name of a BGP peer group. The <i>as-number</i> argument specifies the autonomous system to which the neighbor belongs.
Step 5	address-family ipv4 [multicast unicast vrf vrf-name]	Enters address family configuration mode for configuring routing sessions such as BGP that use standard IPv4 address prefixes.

	Command or Action	Purpose
		The multicast keyword specifies IPv4 multicast address prefixes.
	Example:	• The unicast keyword specifies IPv4 unicast address prefixes.
	Device(config-router)# address-family ipv4	The vrf vrf-name keyword and argument specify the name of the VRF to associate with subsequent IPv4 address family configuration mode commands.
Step 6	maximum-paths number-paths	(Optional) Controls the maximum number of parallel routes an IP routing protocol can support.
	Example:	• The <i>number-paths</i> argument specifies the maximum number of
	Device(config-router-af)# maximum-paths 2	parallel routes an IP routing protocol installs in a routing table.
Step 7	neighbor {ip-address peer-group-name}	Enables the exchange of information with a neighboring device.
	activate	• The <i>ip-address</i> argument specifies the IP address of the neighbor.
	Example:	• The <i>peer-group-name</i> argument specifies the name of a BGP peer
	Device(config-router-af)# neighbor 10.0.0.1 activate	group.
Step 8	neighbor ip-address send-label	Enables a BGP device to send MPLS labels with BGP routes to a neighboring BGP device.
	Example:	The <i>ip-address</i> argument specifies the IP address of the neighboring
	Device(config-router-af)# neighbor 10.0.0.1 send-label	device.
Step 9	exit-address-family	Exits address family configuration mode.
	Example:	
	<pre>Device(config-router-af)# exit-address-family</pre>	
Step 10	end	(Optional) Exits to privileged EXEC mode.
	Example:	
	Device(config-router-af)# end	

Configuring MPLS VPN eBGP Multipath Load Sharing with Carrier Supporting Carrier on the CSC-PE Devices

Perform this task to configure external Border Gateway Protocol (eBGP) multipath load sharing on the carrier supporting carrier-provider edge (CSC-PE) devices that distribute BGP routes with Multiprotocol Label Switching (MPLS) labels.

SUMMARY STEPS

- 1. enable
- 2. configure terminal
- **3. router bgp** *as-number*
- 4. address-family ipv4 [multicast | unicast | vrf vrf-name]
- **5.** maximum-paths number-paths
- **6. neighbor** {*ip-address* | *peer-group-name*} **remote-as** *as-number*
- 7. neighbor {ip-address | peer-group-name} activate
- 8. neighbor ip-address as-override
- 9. neighbor ip-address send-label
- 10. exit-address-family
- 11. end

DETAILED STEPS

	Command or Action	Purpose
Step 1	enable	Enables privileged EXEC mode.
	Example:	• Enter your password if prompted.
	Device> enable	
Step 2	configure terminal	Enters global configuration mode.
	Example:	
	Device# configure terminal	
Step 3	router bgp as-number	Configures a BGP routing process and enters router configuration mode.
	<pre>Example: Device(config) # router bgp 100</pre>	• The <i>as-number</i> argument indicates the number of an autonomous system that identifies the device to other BGP routers and tags the routing information passed along. The range is 0 to 65535. Private autonomous system numbers that can be used in internal networks range from 64512 to 65535.
Step 4	address-family ipv4 [multicast unicast vrf vrf-name]	Specifies the IPv4 address family type and enters address family configuration mode.

	Command or Action	Purpose
		• The multicast keyword specifies IPv4 multicast address prefixes.
	Example:	• The unicast keyword specifies IPv4 unicast address prefixes.
	<pre>Device(config-router) # address-family ipv4 vrf vpn1</pre>	• The vrf <i>vrf</i> - <i>name</i> keyword and argument specify the name of the VRF to associate with subsequent IPv4 address family configuration mode commands.
Step 5	maximum-paths number-paths	(Optional) Controls the maximum number of parallel routes an IP routing protocol can support.
	<pre>Example: Device(config-router-af)# maximum-paths</pre>	• On the CSC-PE device, this command is enabled in address family configuration mode.
	2	• The <i>number-paths</i> argument specifies the maximum number of parallel routes an IP routing protocol installs in a routing table.
Step 6	neighbor {ip-address peer-group-name}	Adds an entry to the BGP or multiprotocol BGP neighbor table.
	remote-as as-number	• The <i>ip-address</i> argument specifies the IP address of the neighbor.
	Example:	• The <i>peer-group-name</i> argument specifies the name of a BGP peer group.
	Device(config-router-af)# neighbor 10.0.0.1 remote-as 200	• The <i>as-number</i> argument specifies the autonomous system to which the neighbor belongs.
Step 7	neighbor {ip-address peer-group-name} activate	Enables the exchange of information with a neighboring BGP device.
	activate	• The <i>ip-address</i> argument specifies the IP address of the neighbor.
	Example:	• The <i>peer-group-name</i> argument specifies the name of a BGP peer
	Device(config-router-af)# neighbor 10.0.0.1 activate	group.
Step 8	neighbor ip-address as-override	Configures a PE device to override the autonomous system number (ASN) of a site with the ASN of a provider.
	Example:	• The <i>ip-address</i> argument specifies the IP address of the device that
	Device(config-router-af)# neighbor 10.0.0.1 as-override	is to be overridden with the ASN provided.
Step 9	neighbor ip-address send-label	Enables a BGP device to send MPLS labels with BGP routes to a neighboring BGP device.
	Example:	• The <i>ip-address</i> argument specifies the IP address of the neighboring
	Device(config-router-af)# neighbor 10.0.0.1 send-label	device.

	Command or Action	Purpose
Step 10	exit-address-family	Exits address family configuration mode.
	Example:	
	Device(config-router-af)# exit-address-family	
Step 11	end	(Optional) Exits to privileged EXEC mode.
	Example:	
	Device(config-router)# end	

Configuring MPLS VPN eBGP Multipath Load Sharing with Carrier Supporting Carrier on the CSC-CE Devices

Perform this task to configure external Border Gateway Protocol (eBGP) multipath load sharing on the carrier supporting carrier-customer edge (CSC-CE) devices.

SUMMARY STEPS

- 1. enable
- 2. configure terminal
- **3. router bgp** *as-number*
- 4. maximum-paths number-paths
- 5. address-family ipv4 [multicast | unicast | vrf vrf-name]
- 6. redistribute protocol
- 7. **neighbor** {*ip-address* | *peer-group-name*} **remote-as** *as-number*
- **8. neighbor** {*ip-address* | *peer-group-name*} **activate**
- 9. neighbor ip-address send-label
- 10. exit-address-family
- **11**. end

DETAILED STEPS

	Command or Action	Purpose
Step 1	enable	Enables privileged EXEC mode.
	Example:	• Enter your password if prompted.
	Device> enable	

	Command or Action	Purpose
Step 2	configure terminal	Enters global configuration mode.
	Example: Device# configure terminal	
Step 3	<pre>router bgp as-number Example: Device(config) # router bgp 200</pre>	Configures a BGP routing process and enters router configuration mode. • The <i>as-number</i> argument indicates the number of an autonomous system that identifies the device to other BGP routers and tags the routing information passed along. The range is 0 to 65535. Private autonomous system numbers that can be used in internal networks range from 64512 to 65535.
Step 4	<pre>maximum-paths number-paths Example: Device(config-router) # maximum-paths 2</pre>	 (Optional) Controls the maximum number of parallel routes an IP routing protocol can support. On the CSC-CE routers, this command is issued in router configuration mode. The <i>number-paths</i> argument specifies the maximum number of parallel routes an IP routing protocol installs in a routing table.
Step 5	address-family ipv4 [multicast unicast vrf vrf-name] Example: Device (config-router) # address-family ipv4	Specifies the IPv4 address family type and enters address family configuration mode. • The multicast keyword specifies IPv4 multicast address prefixes. • The unicast keyword specifies IPv4 unicast address prefixes. • The vrf vrf-name keyword and argument specify the name of the VRF to associate with subsequent IPv4 address family configuration mode commands.
Step 6	redistribute protocol Example: Device (config-router-af) # redistribute static	Redistributes routes from one routing domain into another routing domain. • The <i>protocol</i> argument specifies the source protocol from which routes are being redistributed. It can be one of the following keywords: bgp, connected, egp, igrp, isis, mobile, ospf, rip, and static [ip]. • The static [ip] keyword redistributes IP static routes. Note The optional ip keyword is used when you redistribute static routes into Intermediate System- to-Intermediate System (IS-IS). • The connected keyword refers to routes that are established automatically when IP is enabled on an interface. • For routing protocols such as Open Shortest Path First (OSPF) and Intermediate System-to-Intermediate System (IS-IS), these routes are redistributed as external to the autonomous system.

	Command or Action	Purpose
Step 7	neighbor {ip-address peer-group-name} remote-as as-number	Adds an entry to the BGP or multiprotocol BGP neighbor table. • The <i>ip-address</i> argument specifies the IP address of the neighbor.
	Example:	• The <i>peer-group-name</i> argument specifies the name of a BGP peer group.
	Device(config-router-af)# neighbor 10.0.0.2 remote-as 100	• The <i>as-number</i> argument specifies the autonomous system to which the neighbor belongs.
Step 8	neighbor {ip-address peer-group-name}	Enables the exchange of information with a neighboring BGP device.
	activate	• The <i>ip-address</i> argument specifies the IP address of the neighbor.
	Example:	• The <i>peer-group-name</i> argument specifies the name of a BGP peer group.
	Device(config-router-af)# neighbor 10.0.0.2 activate	
Step 9	neighbor ip-address send-label	Enables a BGP device to send Multiprotocol Label Switching (MPLS) labels with BGP routes to a neighboring BGP device.
	Example:	• The <i>ip-address</i> argument specifies the IP address of the neighboring
	Device(config-router-af)# neighbor 10.0.0.2 send-label	device.
Step 10	exit-address-family	Exits address family configuration mode.
	Example:	
	<pre>Device(config-router-af)# exit-address-family</pre>	
Step 11	end	(Optional) Exits to privileged EXEC mode.
	Example:	
	Device(config-router)# end	

Configuration Examples for MPLS VPN eBGP Multipath Support for CSC and Inter-AS MPLS VPNs

Example: Configuring MPLS VPN eBGP Multipath Load Sharing with MPLS VPN Inter-AS

The following example shows how to configure external Border Gateway Protocol (eBGP) multipath for Multiprotocol Label Switching (MPLS) virtual private network (VPN) interautonomous systems with Autonomous System Boundary Routers (ASBRs) exchanging IPv4 routes and MPLS labels:

```
Device# configure terminal
Device(config)# router bgp 100
Device(config-router)# neighbor 10.0.0.1 remote-as 200
Device(config-router)# address-family ipv4
Device(config-router-af)# maximum-paths 2
Device(config-router-af)# neighbor 10.0.0.1 activate
Device(config-router-af)# neighbor 10.0.0.1 send-label
Device(config-router-af)# exit-address-family
Device(config-router-af)# end
```

Example: Configuring MPLS VPN eBGP Multipath Load Sharing with MPLS VPN Carrier Supporting Carrier on the CSC-PE Devices

The following example shows how to configure external Border Gateway Protocol (eBGP) multipath load sharing on the carrier supporting carrier-provider edge (CSC-PE) devices that distribute BGP routes with Multiprotocol Label Switching (MPLS) labels:

```
Device# configure terminal
Device(config)# router bgp 100
Device(config-router)# address-family ipv4 vrf vpn1
Device(config-router-af)# maximum-paths 2
Device(config-router-af)# neighbor 10.0.0.1 remote-as 200
Device(config-router-af)# neighbor 10.0.0.1 activate
Device(config-router-af)# neighbor 10.0.0.1 as-override
Device(config-router-af)# neighbor 10.0.0.1 send-label
Device(config-router-af)# exit-address-family
Device(config-router)# end
```

Example: Configuring MPLS VPN eBGP Multipath Load Sharing with MPLS VPN Carrier Supporting Carrier on the CSC-CE Devices

The following example shows how to configure external Border Gateway Protocol (eBGP) multipath load sharing on the carrier supporting carrier-customer edge (CSC-CE) devices:

```
Device# configure terminal
Device(config)# router bgp 200
Device(config-router)# maximum-paths 2
Device(config-router)# address-family ipv4
Device(config-router-af)# redistribute static
```

```
Device(config-router-af) # neighbor 10.0.0.2 remote-as 100
Device(config-router-af) # neighbor 10.0.0.2 activate
Device(config-router-af) # neighbor 10.0.0.2 send-label
Device(config-router-af) # exit-address-family
Device(config-router) # end
```

Additional References

Related Documents

Related Topic	Document Title
Cisco IOS commands	Cisco IOS Master Command List, All Releases
MPLS commands	Cisco IOS Multiprotocol Label Switching Command Reference
Configuring MPLS VPN CSC with BGP	"MPLS VPN Carrier Supporting Carrier with BGP" module in the MPLS: Layer 3 VPNs: Inter-AS and CSC Configuration Guide
Configuring BGP	"Configuring BGP" module in the <i>IP Routing: BGP Configuration Guide</i>
Configuring BGP Multipath Load Sharing for Both eBGP and iBGP in an MPLS VPN	"BGP Multipath Load Sharing for Both eBGP and iBGP in an MPLS VPN" module in the <i>IP Routing:</i> BGP Configuration Guide

RFCs

RFC	Title
RFC 1164	Application of the Border Gateway Protocol in the Internet
RFC 1171	A Border Gateway Protocol 4
RFC 1700	Assigned Numbers
RFC 1966	BGP Route Reflection: An Alternative to Full Mesh IBGP
RFC 2283	Multiprotocol Extensions for BGP-4
RFC 2373	IP Version 6 Addressing Architecture
RFC 2547	BGP/MPLS VPNs
RFC 2842	Capabilities Advertisement with BGP-4

RFC	Title
RFC 2858	Multiprotocol Extensions for BGP-4
RFC 3107	Carrying Label Information in BGP-4

Technical Assistance

Description	Link
The Cisco Support and Documentation website provides online resources to download documentation, software, and tools. Use these resources to install and configure the software and to troubleshoot and resolve technical issues with Cisco products and technologies. Access to most tools on the Cisco Support and Documentation website requires a Cisco.com user ID and password.	

Feature Information for MPLS VPN eBGP Multipath Support for CSC and Inter-AS MPLS VPNs

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 MPLS VPN eBGP Multipath Support for CSC and Inter-AS MPLS VPNs

Feature Name	Releases	Feature Information
MPLS VPN eBGP Multipath Support for CSC and Inter-AS MPLS VPNs	12.0(27)S	The MPLS VPN eBGP Multipath Support for CSC and Inter-AS MPLS VPNs feature installs multiple paths in the IP routing table when the eBGP paths are learned from a neighboring Autonomous System (AS), instead of picking one best path.
	12.2(30)S	
	12.2(33)SRA	
	12.2(33)SXH	
	Cisco IOS XE Release 2.2	
		In Cisco IOS Release 12.0(27)S, this feature was introduced.
		In Cisco IOS Release 12.2(30)S, 12.2(33)SRA, and 12.2(33)SXH, this feature was integrated.
		In Cisco IOS XE Release 2.2, this feature was implemented on the Cisco ASR 1000 Series Routers.
		No commands were introduced or modified.

Feature Information for MPLS VPN eBGP Multipath Support for CSC and Inter-AS MPLS VPNs