OSPFv2 Autoroute Exclude

The OSPFv2 Autoroute Exclude feature allows specific destinations and prefixes to avoid Traffic Engineering (TE) tunnels for the packet transport. The rest of the prefixes can still be set to use TE tunnels. Prefixes that are excluded do not use a TE tunnel path. Only native non-TE paths are downloaded to RIB for such routes. This module describes how to configure the OSPFv2 Autoroute Exclude feature.

Prerequisites for OSPFv2 Autoroute Exclude

- Open Shortest Path First (OSPF) must be configured in your network.
- Cisco Express Forwarding (CEF) must be enabled.
- Multiprotocol Label Switching (MPLS) TE tunnels must be configured.

Information About OSPFv2 Autoroute Exclude

Overview of OSPFv2 Autoroute Exclude

The Autoroute feature is an IP routing method that forces OSPF to use MPLS TE tunnels to build paths for IP traffic routes.

The Autoroute feature enables all routes to use TE Tunnels, even if there is an alternate non-TE path available for that route.

The OSPFv2 Autoroute Exclude feature allows specific destinations or prefixes to avoid TE tunnels, while other prefixes can still be configured to use TE tunnels. Prefixes that are excluded do not use a TE tunnel path. Only native non-TE paths are downloaded to RIB for such routes.

The auto route exclude option is configured under the router OSPF configuration mode by using a prefix list. IP addresses and prefixes that are members of this prefix list are excluded from TE tunnels, even when the auto route is enabled on them. If the IP addresses or prefixes are added to the prefix list, they are dynamically

routed without passing through the TE tunnel. If the IP addresses or prefixes are removed from the prefix list, they are dynamically rerouted back on the TE tunnel path.

How to Configure OSPFv2 Autoroute Exclude

Configuring OSPFv2 Autoroute Exclude

SUMMARY STEPS

1. **enable**
2. **configure terminal**
3. **router ospf** *process-ID*
4. **router-id** *ip-address*
5. **mpls traffic-eng router-id** *interface-name*
6. **mpls traffic-eng area***number*
7. **mpls traffic-eng autoroute-exclude prefix-list** *prefix-list-name*
8. **exit**

DETAILED STEPS

Procedure

	Command or Action	Purpose
Step 1	**enable** **Example:** `Device> enable`	Enables privileged EXEC mode. • Enter your password if prompted.
Step 2	**configure terminal** **Example:** `Device# configure terminal`	Enters global configuration mode.
Step 3	**router ospf** *process-ID* **Example:** `Device(config)# router ospf 18`	Configures OSPF routing process and enters OSPF router configuration mode.
Step 4	**router-id** *ip-address* **Example:** `Device(config-router)# router-id 10.1.1.1`	Enables to use a fixed router ID in router configuration mode.
Step 5	**mpls traffic-eng router-id** *interface-name* **Example:** `Device(config-router)# mpls traffic-eng router-id Loopback0`	Specifies the traffic engineering router identifier for the node and the IP address associated with a given interface.

	Command or Action	Purpose
Step 6	**mpls traffic-eng area**_number_ **Example:** `Device(config-router)# mpls traffic-eng area 0`	Configures a router running OSPF MPLS so that it floods traffic engineering for the indicated OSPF area.

Step 7	**mpls traffic-eng autoroute-exclude prefix-list** _prefix-list-name_
	
	Example:
	
	`Device(config-router)# mpls traffic-eng`
	`autoroute-exclude prefix-list kmd`
		Allows specific destinations and prefixes to avoid routing through TE tunnels.
		
		    • Prefixes that are excluded do not use a TE tunnel path.

Step 8	**exit** **Example:** `Device(config-router)# exit`	Exits router configuration mode and returns to privileged EXEC mode.

Configuration Examples for OSPFv2 Autoroute Exclude

Example: Configuring OSPFv2 Autoroute Exclude

```
!
router ospf 1
 router-id 3.3.3.3
 mpls traffic-eng router-id Loopback0
 mpls traffic-eng area 0
 mpls traffic-eng autoroute-exclude prefix-list XX

!
```

Additional References for OSPFv2 Autoroute Exclude

Related Documents

Related Topic	Document Title
Cisco IOS commands	Cisco IOS Master Command List, All Releases
Configuring OSPF	_IP Routing: OSPF Configuration Guide_
Configuring Basic Cisco Express Forwarding	_IP Switching: Cisco Express Forwarding Configuration Guide_
MPLS Traffic Engineering Tunnel Source	_MPLS Traffic Engineering Path Calculation and Setup 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. 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. 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 OSPFv2 Autoroute Exclude

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 OSPFv2 Autoroute Exclude

Feature Name	Releases	Feature Information
OSPFv2 Autoroute Exclude	Cisco IOS XE 3.13S	The OSPFv2 Autoroute Exclude feature allows specific destinations and prefixes to avoid TE tunnels for the packet transport. The following commands were introduced or modified: **mpls traffic-eng autoroute-exclude prefix list**.

Table 2: Feature Information for OSPFv2 Autoroute Exclude

Feature Name	Releases	Feature Information
OSPFv2 Autoroute Exclude	Cisco IOS XE 17.4	This feature was introduced.