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F Commands

This chapter describes the Cisco NX-OS Multiprotocol Label Switching commands that begin with F.

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fast-reroute (TE interface configuration mode)

To enable an Multiprotocol Label Switching (MPLS) traffic engineering (TE) tunnel to request a backup tunnel to protect against a link or node failure, use the **fast-reroute** command. To restore the system to its default condition, use the **no** form of this command.

fast-reroute [bw-protect] [node-protect]

no fast-reroute

Syntax Description	bw-protect	(Optional) Sets the bandwidth protection desired bit so that backup bandwidth protection is requested at each hop that the label switched path (LSP) traverses.
	node-protect	(Optional) Sets the node protection desired bit so that node protection is requested at each hop the LSP traverses.

Defaults None

Command Modes TE interface configuration mode

Supported User Roles network-admin
vdc-admin

Command History	Release	Modification
	5.2(1)	This command was introduced.

Usage Guidelines This command requires the MPLS Services license.

Examples This example shows how to specify bandwidth protection:

```
switch# configure terminal
switch(config)# interface tunnel-te 1000
switch(config-if-te)# fast-reroute bw-protect
switch(config-if-te)#
```

This example shows how to specify node protection:

```
switch# configure terminal
switch(config)# interface tunnel-te 1000
switch(config-if-te)# fast-reroute node-protect
switch(config-if-te)#
```

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Related Commands	Command	Description
	interface tunnel-te	Configures the traffic engineering (TE) interface.

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fast-reroute backup-prot-preempt optimize-bw

To change the backup protection preemption algorithm from minimizing the number of label switched paths (LSPs) that are demoted to minimizing the amount of bandwidth that is wasted, use the **fast-reroute backup-prot-preempt** command.

fast-reroute backup-prot-preempt optimize-bw

Syntax Description This command has no arguments or keywords.

Defaults A minimum number of LSPs are preempted

Command Modes MPLS traffic engineering global configuration mode

Supported User Roles network-admin
vdc-admin

Command History	Release	Modification
	5.2(1)	This command was introduced.

Usage Guidelines This command requires the MPLS Services license.

Examples This example shows how to change the backup protection preemption algorithm from minimizing the number of LSPs that are demoted to minimizing the amount of bandwidth that is wasted:

```
switch# configure terminal
switch(config)# mpls traffic-eng configuration
switch(config-te)# fast backup-prot-preempt optimize-bw
switch(config-te)#
```

Related Commands	Command	Description
	mpls traffic-eng configuration	Configures the Multiprotocol Label Switching (MPLS) Traffic Engineering protocol (MPLS-TE).

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fast-reroute timers promotion

To specify how often the router considers switched a label switching path (LSP) to a new (better) backup tunnel if additional backup bandwidth becomes available, use the **fast-reroute timers promotion** command. To restore the system to its default condition, use the **no** form of this command.

fast-reroute timers promotion *sec*

no fast-reroute timers promotion

Syntax Description	<i>sec</i>	(Optional) Sets the interval, in seconds, between scans to determine if an LSP should use a new, better backup tunnel. Valid values are from 0 to 604800. A value of 0 disables promotions to a better LSP.
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Defaults	The timer is running and is set to a frequency of every 300 seconds (5 minutes)
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Command Modes	TE configuration mode
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SupportedUserRoles	network-admin vdc-admin
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Command History	Release	Modification
	5.2(1)	This command was introduced.

Usage Guidelines	This command requires the MPLS Services license.
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Examples This example shows how to configure how often to scan for LSP backup promotion:

```
switch# configure terminal
switch(config)# mpls traffic-eng configuration
switch(config-te)# fast-reroute timer promotion 10
switch(config-te)#
```

Related Commands	Command	Description
	mpls traffic-eng configuration	Configures the Multiprotocol Label Switching (MPLS) Traffic Engineering protocol (MPLS-TE).

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feature bfd

To enable Bidirectional Forwarding Detection (BFD) on the router Multiprotocol Label Switching (MPLS) traffic engineering (TE) link and node protection, use the **feature bfd** command. To disable the system to its default condition, use the **no** form of this command.

feature bfd

no feature bfd

Syntax Description This command has no arguments or keywords.

Defaults None

Command Modes Global configuration mode

SupportedUserRoles network-admin
vdc-admin

Command History	Release	Modification
	5.2(1)	This command was introduced.

Usage Guidelines This command requires the MPLS Services license.

Examples This example shows how to enable BFD on the device:

```
switch# configure terminal
Enter configuration commands, one per line. End with CNTL/Z.
switch(config)# feature bfd
Please disable the ICMP redirects on all interfaces
running BFD sessions using the command below

'no ip redirects '
switch(config)#
```

Related Commands	Command	Description
	mpls ldp configuration	Configures the Multiprotocol Label Switching (MPLS) Label Distribution Protocol (LDP).

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feature bgp

To enable the Border Gateway Protocol (BGP) feature, use the **feature bgp** command. To return to the default setting, use the **no** form of this command.

feature bgp

no feature bgp

Syntax Description This command has no arguments or keywords.

Defaults None

Command Modes Global configuration mode

SupportedUserRoles network-admin
vdc-admin

Command History	Release	Modification
	5.2(1)	This command was introduced.

Usage Guidelines This command requires the MPLS Services license.

Examples This example shows how to enable BGP:

```
switch# configure terminal
switch(config)# feature bgp
switch(config)#
```

Related Commands	Command	Description
	mpls ldp configuration	Configures the Multiprotocol Label Switching (MPLS) Label Distribution Protocol (LDP).

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feature isis

To enable the Intermediate System-to-Intermediate System (IS-IS) feature, use the **feature isis** command. To return to the default setting, use the **no** form of this command.

feature isis

no feature isis

Syntax Description This command has no arguments or keywords.

Defaults Enable

Command Modes Global configuration mode

SupportedUserRoles network-admin
vdc-admin

Command History	Release	Modification
	5.2(1)	This command was introduced.

Usage Guidelines This command requires the MPLS Services license.

Examples This example shows how to enable the IS-IS feature:

```
switch(config-ldp)# configure terminal
switch(config)# feature isis
switch(config)#
```

Related Commands	Command	Description
	mpls ldp configuration	Configures the Multiprotocol Label Switching (MPLS) Label Distribution Protocol (LDP).

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feature mpls l3vpn

To enable the Multiprotocol Label Switching (MPLS) Layer 3 virtual private networks, use the **feature mpls l3vpn** command. To return to the default setting, use the **no** form of this command.

feature mpls l3vpn

no feature mpls l3vpn

Syntax Description This command has no arguments or keywords.

Defaults Per VDC

Command Modes Global configuration mode

Supported User Roles network-admin
vdc-admin

Command History	Release	Modification
	5.2(1)	This command was introduced.

Usage Guidelines This command requires the MPLS Services license.

Examples This example shows how to enable the MPLS Layer 3 virtual private networks:

```
switch# configure terminal
switch(config)# install feature-set mpls
switch(config)# feature-set mpls
switch(config)# feature mpls l3vpn
```

Related Commands	Command	Description
	mpls ldp configuration	Configures the Multiprotocol Label Switching (MPLS) Label Distribution Protocol (LDP).

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feature mpls ldp

To enable the Multiprotocol Label Switching (MPLS) Label Distribution Protocol (LDP) feature on the device, use the **feature mpls ldp** command. To return to the default setting, use the **no** form of this command.

feature mpls ldp

no feature mpls ldp

Syntax Description This command has no arguments or keywords.

Defaults Per VDC

Command Modes Global configuration mode

Supported User Roles network-admin
vdc-admin

Command History	Release	Modification
	5.2(1)	This command was introduced.

Usage Guidelines When you disable MPLS LDP on the device, no LDP commands are available.
This command requires the MPLS Services license.

Examples This example shows how to enable IP over MPLS:

```
switch(config)# install feature-set mpls
switch(config)# feature-set mpls
switch(config)# feature mpls ldp
LAN_ENTERPRISE_SERVICES_PKG license not installed. ldp feature will be shut down
after grace period of approximately 115 day(s).
switch(config)#
```

Related Commands	Command	Description
	mpls ldp configuration	Configures the Multiprotocol Label Switching (MPLS) Label Distribution Protocol (LDP).

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feature mpls traffic-engineering

To enable Multiprotocol Label Switching (MPLS) traffic engineering (TE) on the device, use the **feature mpls traffic-engineering** command. To return to the default setting, use the **no** form of this command.

feature mpls traffic-engineering

no feature mpls traffic-engineering

Syntax Description This command has no arguments or keywords.

Defaults Per VDC

Command Modes Global configuration mode

SupportedUserRoles network-admin
vdc-admin

Command History	Release	Modification
	5.2(1)	This command was introduced.

Usage Guidelines Unless you enable MPLS TE on the device, no TE commands are available.
The user has to enter **feature** command to enable TE.
This command requires the MPLS Services license.

Examples This example shows how to enable MPLS TE:

```
switch(config)# install feature-set mpls
switch(config)# feature-set mpls
switch(config)# feature mpls traffic-engineering
switch(config)#
```

Related Commands	Command	Description
	interface tunnel-te	Configures the traffic-engineering (TE) interface.

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feature mvpn

To enable the Multiprotocol Label Switching (MPLS) multicast virtual private network (MVPN) feature on the device, use the **feature mvpn** command. To return to the default setting, use the **no** form of this command.

feature mvpn

no feature mvpn

Syntax Description This command has no arguments or keywords.

Defaults Enabled

Command Modes Global configuration mode

SupportedUserRoles network-admin
vdc-admin

Command History	Release	Modification
	5.2(1)	This command was introduced.

Usage Guidelines This command requires the MPLS Services license.

Examples This example shows how to enable MVPN feature on the device:

```
switch(config)# feature mvpn
switch(config)#
```

Related Commands	Command	Description
	mpls ldp configuration	Configures the Multiprotocol Label Switching (MPLS) Label Distribution Protocol (LDP).

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feature ospf

To enable the Open Shortest Path First (OSPF) feature, use the **feature ospf** command. To disable this feature, use the **no** form of this command.

feature ospf

no feature ospf

Syntax Description This command has no arguments or keywords.

Defaults Enable

Command Modes Global configuration mode

SupportedUserRoles network-admin
vdc-admin

Command History	Release	Modification
	5.2(1)	This command was introduced.

Usage Guidelines This command requires the MPLS Services license.

Examples This example shows how to enable information about the OSPF configuration:

```
switch(config)# feature ospf
switch(config)#
```

Related Commands	Command	Description
	mpls ldp configuration	Configures the Multiprotocol Label Switching (MPLS) Label Distribution Protocol (LDP).

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feature-set mpls

To enable the feature set Multiprotocol Label Switching (MPLS) information, use the **feature-set mpls** command. To disable this feature, use the **no** form of this command.

feature-set mpls

no feature-set mpls

Syntax Description This command has no arguments or keywords.

Defaults Per VDC

Command Modes Global configuration mode

SupportedUserRoles network-admin
vdc-admin

Command History	Release	Modification
	5.2(1)	This command was introduced.

Usage Guidelines This command requires the MPLS Services license.

Examples This example shows how to enable the MPLS feature set information:

```
switch(config)# feature-set mpls
switch(config)#
```

Related Commands	Command	Description
	mpls ldp configuration	Configures the Multiprotocol Label Switching (MPLS) Label Distribution Protocol (LDP).

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forwarding-adjacency

To advertise a traffic engineering (TE) tunnel as a link in an Interior Gateway Protocol (IGP) network, use the **forwarding-adjacency** command. To return to the default setting, use the **no** form of this command.

forwarding-adjacency [**holdtime** *value*]

no forwarding-adjacency

Syntax Description	holdtime	(Optional) Specifies the time, in milliseconds, that a TE tunnel waits after going down before informing the network.
	<i>value</i>	(Optional) Hold time. The range is from 0 to 4294967295.

Defaults Default value is 0

Command Modes TE tunnel configuration mode

Supported User Roles network-admin
vdc-admin

Command History	Release	Modification
	5.2(1)	This command was introduced.

Usage Guidelines This command requires the MPLS Services license.

Examples This example shows how to advertise the TE tunnel as a link in an IGP network:

```
switch# configure terminal
switch(config)# interface tunnel-te 1
switch(config-if-te)# forwarding-adjacency holdtime 1
switch(config-if-te)#
```

Related Commands	Command	Description
	interface tunnel-te	Configures the traffic engineering (TE) interface.

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from

To map the value from one number to another, use the **from** command.

from *number to number*

Syntax Description	<i>number</i>	Map number. The range is from 0 to 63.
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Defaults	None
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Command Modes	Table map configuration mode
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Supported User Roles	network-admin vdc-admin
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Command History	Release	Modification
	5.2(1)	This command was introduced.

Usage Guidelines	This command requires the MPLS Services license.
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Examples	This example shows how to map the value from one number to another (you can repeat this command up to 64 times):
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```
switch# configure terminal
switch(config)# table-map tablemap1
switch(config-tmap)# from 1 to 1
switch(config-tmap)# from 2 to 1
switch(config-tmap)# from 3 to 2
switch(config-tmap)# from 4 to 2
switch(config-tmap)# exit
```

Related Commands	Command	Description
	mpls ldp configuration	Configures the Multiprotocol Label Switching (MPLS) Label Distribution Protocol (LDP).