



Multilayer Switching Commands

This chapter documents commands used to configure Multilayer Switching in Cisco IOS software. For guidelines on configuring Multilayer Switching, refer to the *Cisco IOS Switching Services Configuration Guide*.



Note

Beginning with Cisco IOS Release 11.3, all commands supported on the Cisco 7500 series routers are also supported on Cisco 7000 series routers.

mls rp ip

To enable Multilayer Switching Protocol (MLSP), use the **mls rp ip** global configuration command. MLSP is the protocol that runs between the switches and routers. Use the **no** form of this command to disable MLS.

mls rp ip

no mls rp ip

Syntax Description

There are no arguments or keywords for this command.

Defaults

The default is MLS disabled.

Command Modes

Global configuration

Command History

Release	Modification
11.3(3) WA4(4)	This command was introduced.

Usage Guidelines

Use this command to enable Multilayer Switching, either globally or on a specific interface.

Examples

The following example enables MLS:

```
mls rp ip
```

Related Commands

Command	Description
mls rp management-interface	Designates an interface as the management interface for MLSP packets.
mls rp nde-address	Specifies a NetFlow Data Export address.
mls rp vlan-id	Assigns a VLAN ID.
mls rp vtp-domain	Selects the router interface to be Layer 3 switched and then adds that interface to a VTP domain.
show mls rp	Displays MLS details, including specifics for MLSP.
show mls rp vtp-domain	Displays MLS interfaces for a specific VTP domain.

mls rp management-interface

To designate an interface as the management interface for MLSP packets, use the **mls rp management-interface** interface configuration command. Use the **no** version of the command to remove an interface as the management interface.

mls rp management-interface

no mls rp management-interface

Syntax Description

This command has no arguments or keywords.

Defaults

There is no default management interface.

Command Modes

Interface configuration

Command History

Release	Modification
11.3(3) WA4(4)	This command was introduced.

Usage Guidelines

Use this command to designate an interface as the MLSP management interface. You must specify a router interface as a management interface. If you do not specify an interface, MLSP packets *will not* be sent or received.

The management interface can be any MLS interface connected to the Catalyst 5000 series switch. Specifying more than one interface is not necessary.

Examples

The following example sets the current interface as the management interface:

```
mls rp management-interface
```

Related Commands

Command	Description
mls rp ip	Enables MLSP.
mls rp nde-address	Specifies a NetFlow Data Export address.
mls rp vlan-id	Assigns a VLAN ID.
mls rp vtp-domain	Selects the router interface to be Layer 3 switched and then adds that interface to a VTP domain.
show mls rp	Displays MLS details, including specifics for MLSP.
show mls rp vtp-domain	Displays MLS interfaces for a specific VTP domain.

mls rp nde-address

To specify a NetFlow Data Export address, use the **mls rp nde-address** global configuration command.

```
mls rp nde-address ip-address
```

Syntax Description	<i>ip-address</i>	NDE IP address.
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Command Modes	Global configuration
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Command History	Release	Modification
	11.3(3) WA4(4)	This command was introduced.

Usage Guidelines Use this command on an RP to specify the NetFlow Data Export address for a router. If you *do not* specify an NDE IP address for the MLS-RP, the MLS-RP automatically selects one of its interface's IP addresses and uses that IP address as its NDE IP address *and* its mls ip address.

Examples The following example sets the NDE address to 170.25.2.1:

```
mls rp nde-address 170.25.2.1
```

Related Commands	Command	Description
	mls rp ip	Enables MLSP.
	mls rp management-interface	Designates an interface as the management interface for MLSP packets.
	mls rp vlan-id	Assigns a VLAN ID.
	mls rp vtp-domain	Selects the router interface to be Layer 3 switched and then adds that interface to a VTP domain.
	show mls rp	Displays MLS details, including specifics for MLSP.
	show mls rp vtp-domain	Displays MLS interfaces for a specific VTP domain.

mls rp vlan-id

To assign a VLAN ID, use the **mls ip vlan-id** interface configuration command.

```
mls rp vlan-id vlan-id-num
```

Syntax Description	<i>vlan-id-num</i>	VLAN identification number.
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Command Modes	Interface configuration
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Command History	Release	Modification
	11.3(3) WA4(4)	This command was introduced.

Usage Guidelines	Use this command to assign a VLAN ID to an interface. RSM VLAN interfaces or ISL-encapsulated interfaces do not require the VLAN ID to be assigned.
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Examples The following example assigns a VLAN ID of 23 to the current interface:

```
mls rp vlan-id 23
```

Related Commands	Command	Description
	mls rp ip	Enables MLSP.
	mls rp management-interface	Designates an interface as the management interface for MLSP packets.
	mls rp nde-address	Specifies a NetFlow Data Export address.
	mls rp vtp-domain	Selects the router interface to be Layer 3 switched and then adds that interface to a VTP domain.
	show mls rp	Displays MLS details, including specifics for MLSP.
	show mls rp vtp-domain	Displays MLS interfaces for a specific VTP domain.

mls rp vtp-domain

To select the router interface to be Layer 3 switched and then add that interface to a VLAN Trunking Protocol (VTP) domain, use the **mls rp vtp-domain** interface configuration command.

mls rp vtp-domain *domain-name*

Syntax Description

<i>domain-name</i>	VTP domain name
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Command Modes

EXEC

Command History

Release	Modification
11.3(3) WA4(4)	This command was introduced.

Usage Guidelines

This command is required only if the Catalyst switch is in a VTP domain. For an ISL interface, you can enter this command only on the primary interface. All subinterfaces that are part of the primary interface inherit the primary's VTP domain.

Examples

The following example adds the interface to the engineering VTP domain:

```
mls rp vtp-domain engineering
```

Related Commands

Command	Description
mls rp ip	Enables MLSP.
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mls rp vlan-id	Assigns a VLAN ID.
show mls rp	Displays MLS details, including specifics for MLSP.
show mls rp vtp-domain	Displays MLS interfaces for a specific VTP domain.

show mls rp

To display MLS details, including specifics for MLSP, use the **show mls rp** EXEC command.

```
show mls rp [interface]
```

Syntax Description	<i>interface</i>	(Optional) Displays information for one interface. Without this argument, detailed view of all interfaces are displayed.
Command Modes	EXEC	
Command History	Release	Modification
	11.3(3) WA4(4)	This command was introduced.

Examples

The following is sample output for the **show mls rp** command:

```
router# show mls rp
multilayer switching is globally enabled
mls id is 00e0.fefc.6000
mls ip address 10.20.26.64
mls flow mask is ip-flow
vlan domain name: WBU
  current flow mask: ip-flow
  current sequence number: 80709115
  current/maximum retry count: 0/10
  current domain state: no-change
  current/next global purge: false/false
  current/next purge count: 0/0
  domain uptime: 13:03:19
  keepalive timer expires in 9 seconds
  retry timer not running
  change timer not running
  fcp subblock count = 7

1 management interface(s) currently defined:
  vlan 1 on Vlan1

7 mac-vlan(s) configured for multi-layer switching:

  mac 00e0.fefc.6000
  vlan id(s)
  1   10   91   92   93   95   100

router currently aware of following 1 switch(es):
  switch id 0010.1192.b5ff
```

The following is sample output for the **show mls rp** command for a specific interface:

```
router# show mls rp int vlan 10
mls active on Vlan10, domain WBU
router#
```

Related Commands	Command	Description
	mls rp ip	Enables MLSP.
	mls rp management-interface	Designates an interface as the management interface for MLSP packets.
	mls rp nde-address	Specifies a NetFlow Data Export address.
	mls rp vlan-id	Assigns a VLAN ID.
	mls rp vtp-domain	Selects the router interface to be Layer 3 switched and then adds that interface to a VTP domain.
	show mls rp vtp-domain	Displays MLS interfaces for a specific VTP domain.

show mls rp vtp-domain

To show MLS interfaces for a specific VTP domain, use the **show mls rp vtp-domain EXEC** command.

```
show mls rp vtp-domain domain-name
```

Syntax Description	<i>domain-name</i> VTP domain name.
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Command Modes	EXEC
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Command History	Release	Modification
	11.3(3) WA4(4)	This command was introduced.

Examples

The following example is sample output from the **show mls rp vtp-domain** command:

```
router# show mls rp vtp-domain WBU
vlan domain name: WBU
  current flow mask: ip-flow
  current sequence number: 80709115
  current/maximum retry count: 0/10
  current domain state: no-change
  current/next global purge: false/false
  current/next purge count: 0/0
  domain uptime: 13:07:36
  keepalive timer expires in 8 seconds
  retry timer not running
  change timer not running
  fcp subblock count = 7

  1 management interface(s) currently defined:
    vlan 1 on Vlan1

  7 mac-vlan(s) configured for multi-layer switching:

    mac 00e0.fefc.6000
      vlan id(s)
        1   10   91   92   93   95   100

  router currently aware of following 1 switch(es):
    switch id 0010.1192.b5ff
```

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Command	Description
mls rp vtp-domain	Selects the router interface to be Layer 3 switched and then adds that interface to a VTP domain.
show mls rp	Displays MLS details, including specifics for MLSP.