



Multilink Commands on Cisco IOS XR Software

This module provides command line interface (CLI) commands for configuring multilink interfaces on the Cisco CRS-1 Router.

bundle

To create a multilink interface bundle, use the **bundle** command in the interface configuration mode. To remove a multilink interface bundle, use the **no** form of this command.

bundle *bundleID*

Syntax Description	<i>bundleID</i>	ID number of the multilink interface bundle. Range is from 1 through 1023.
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Command Default	No default behavior or values
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Command Modes	Interface configuration
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Command History

Usage Guidelines

To use this command, you must be in a user group associated with a task group that includes the proper task IDs. If you suspect user group assignment is preventing you from using a command, contact your AAA administrator.

The **bundle** command is used in mgmtmultilink controller mode to dynamically create a multilink interface. This command is similar to the **channel-group** command on the T1 controller, which dynamically creates a serial interface.

Task ID	Task ID	Operations
	sonet-sdh	read, write

Examples

The following example shows how to create a multilink interface with a bundle ID of 1:

```
RP/0//CPU0:router# configure
RP/0//CPU0:router(config)# controller mgmtmultilink 0/1/0/0
RP/0//CPU0:router(config-mgmtmultilink)# bundle 1
RP/0//CPU0:router(config-mgmtmultilink)# commit
```

Related Commands	Command	Description
	multilink	Enters the config-if-multilink submode.
	multilink group	Adds the serial interface to the multilink interface.

controller MgmtMultilink

To configure a controller for a generic multilink bundle and enter MgmtMultilink configuration mode, use the **controller MgmtMultilink** command in global configuration mode. To return to the default state, use the **no** form of this command.

controller MgmtMultilink *interface-path-id*

no controller MgmtMultilink *interface-path-id*

Syntax Description

interface-path-id Physical interface or virtual interface.

Note Use the **show interfaces** command to see a list of all interfaces currently configured on the router.

For more information about the syntax for the router, use the question mark (?) online help function.

Command Default

No default behavior or values

Command Modes

Global configuration

Command History

Release	Modification
Release 3.6.0	This command was introduced on the Cisco CRS-1 Router.
Release 3.7.0	No modification.
Release 3.8.0	No modification.
Release 3.9.0	No modification.

Usage Guidelines

To use this command, you must be in a user group associated with a task group that includes the proper task IDs. If you suspect user group assignment is preventing you from using a command, contact your AAA administrator.

For the *interface-path-id* argument, use the following guidelines:

- If specifying a physical interface, the naming notation is *rack/slot/module/port*. The slash between values is required as part of the notation. An explanation of each component of the naming notation is as follows:
 - *rack*: Chassis number of the rack.
 - *slot*: Physical slot number of the line card.
 - *module*: Module number.
 - *port*: Physical port number of the interface. The port is always 0.
- If specifying a virtual interface, the number range varies, depending on interface type.

Task ID	Task ID	Operations
	interface	read, write

Examples

The following example shows how to enter the MgmtMultilink configuration mode :

```
RP/0/RP0/CPU0:router# config
RP/0/RP0/CPU0:router(config)# controller MgmtMultilink 0/1/0/0
RP/0/RP0/CPU0:router(config-mgmtmultilink)#
```

Related Commands

Command	Description
show controllers mgmtmultilink	Displays information about a management multilink controller.

interface Multilink

To configure a multilink interface and enter multilink interface configuration mode, use the **interface multilink** command in global configuration mode. To delete the interface configuration, use the **no** form of this command. To return to the default state, use the **no** form of this command.

interface multilink *interface-path-id**bundleId*

no interface multilink *interface-path-id**bundleId*

Syntax Description

interface-path-id

Physical interface or virtual interface.

Note Use the **show interfaces** command to see a list of all interfaces currently configured on the router.

For more information about the syntax for the router, use the question mark (?) online help function.

bundleId

Bundle ID number of the multilink interface bundle.

Command Default

No interfaces are configured.

Command Modes

Global configuration

Command History

Release	Modification
Release 3.6.0	This command was introduced on the Cisco CRS-1 Router.
Release 3.7.0	No modification.
Release 3.8.0	No modification.
Release 3.9.0	No modification.

Usage Guidelines

To use this command, you must be in a user group associated with a task group that includes the proper task IDs. If you suspect user group assignment is preventing you from using a command, contact your AAA administrator.

For the *interface-path-id* argument, use the following guidelines:

- If specifying a physical interface, the naming notation is *rack/slot/module/port*. The slash between values is required as part of the notation. An explanation of each component of the naming notation is as follows:
 - *rack*: Chassis number of the rack.
 - *slot*: Physical slot number of the line card.
 - *module*: Module number. A physical layer interface module (PLIM) is always 0.
 - *port*: Physical port number of the interface.
- If specifying a virtual interface, the number range varies, depending on interface type.

Task ID	Task ID	Operations
	interface	read, write

Examples

The following example shows how to enter interface configuration mode for multilink bundle interface:

```
RP/0/RP0/CPU0:router(config)# interface Multilink 0/1/0/0/100  
RP/0/RP0/CPU0:router(config-if)#
```

Related Commands

Command	Description
show interfaces	Displays statistics for all interfaces configured on the router or for a specific node.

multilink

To enter the config-if-multilink submode, use the **multilink** command in the interface configuration mode.

multilink

Syntax Description This command has no arguments or keywords.

Command Default No default behavior or values

Command Modes Interface configuration

Command History

Usage Guidelines To use this command, you must be in a user group associated with a task group that includes the proper task IDs. If you suspect user group assignment is preventing you from using a command, contact your AAA administrator.

For multilink interfaces, the **multilink** command provides access to the config-if-multilink submode to use the **multilink fragment-size** command.

Task ID	Task ID	Operations
	hdlc	read, write

Examples

The following example shows how to enter the config-if-multilink submode:

```
RP/0//CPU0:router# config
RP/0//CPU0:router(config)# interface serial 0/1/0/0/1:0
RP/0//CPU0:router(config-if)# multilink
RP/0//CPU0:router(config-if-multilink)# group 1
RP/0//CPU0:router(config-if-multilink)# commit
```

Related Commands	Command	Description
	multilink group	Adds the serial interface to the multilink interface.

multilink group

To attach a serial interface to a multilink interface bundle, use the **multilink group** command in interface configuration mode. To remove a serial interface from a multilink interface bundle, use the **no** form of this command.

```
multilink group bundleID
```

```
no multilink group bundleID
```

Syntax Description	<i>bundleID</i>	Bundle ID number of the multilink interface, in the format <i>rack/slot/bay/controllerID/bundleID</i>
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Command Default	No default behavior or values
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Command Modes	Interface configuration
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Command History

Usage Guidelines	To use this command, you must be in a user group associated with a task group that includes the proper task IDs. If you suspect user group assignment is preventing you from using a command, contact your AAA administrator.
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Task ID	Task ID	Operations
	hdlc	read, write

Examples The following examples show how to attach a serial interface to a multilink interface bundle:

```
RP/0//CPU0:router# configure
RP/0//CPU0:router(config)# interface serial 0/1/0/0/1:0
RP/0//CPU0:router(config-if)# multilink group 1
RP/0//CPU0:router(config-if)# commit
```

or

```
RP/0//CPU0:router# configure
RP/0//CPU0:router(config)# interface serial 0/1/0/0/1:0
RP/0//CPU0:router(config-if)# multilink
RP/0//CPU0:router(config-if-multilink)# group 1
RP/0//CPU0:router(config-if-multilink)# commit
```

Related Commands	Command	Description
	multilink	Enters the config-if-multilink submenu.

■ **multilink group**

show controllers mgmtmultilink

To display information about the state and the number of bundles of a multilink controller, use the **show controller mgmtmultilink** command in EXEC mode.

show controllers mgmtmultilink *interface-path-id*

Syntax Description

interface-path-id

Physical interface or virtual interface.

Note Use the **show interfaces** command to see a list of all interfaces currently configured on the router.

For more information about the syntax for the router, use the question mark (?) online help function.

Command Default

No default behavior or values

Command Modes

EXEC

Command History

Release	Modification
Release 3.6.0	This command was introduced on the Cisco CRS-1 Router.
Release 3.7.0	No modification.
Release 3.8.0	No modification.
Release 3.9.0	No modification.

Usage Guidelines

To use this command, you must be in a user group associated with a task group that includes the proper task IDs. If you suspect user group assignment is preventing you from using a command, contact your AAA administrator.

For the *interface-path-id* argument, use the following guidelines:

- If specifying a physical interface, the naming notation is *rack/slot/module/port*. The slash between values is required as part of the notation. An explanation of each component of the naming notation is as follows:
 - *rack*: Chassis number of the rack.
 - *slot*: Physical slot number of the line card.
 - *module*: Module number. A physical layer interface module (PLIM) is always 0.
 - *port*: Physical port number of the interface.
- If specifying a virtual interface, the number range varies, depending on interface type.

■ **show controllers mgmtmultilink**

Task ID	Task ID	Operations
	interface	read

Examples

The following example shows how to display information for a management multilink controller:

```
RP/0//CPU0:Router# show controllers mgmtmultilink 0/2/0/0
```

```
Controller MgmtMultilink0/2/0/0
  State is up
  Number of bundles: 1
    Bundle 1 - Multilink0/2/0/0/1 (0x0802e400)
      Type: Full Framed T1s
      Bandwidth: 1536 kbps
      Encapsulation: PPP
      Fragment size: 0
      Number of members: 1
      Ancestor name: SONENT0/2/0/0
      Member(s):
        Serial0/2/0/0/1/1:0 (0x08023c00) Active
```

Related Commands	Command	Description
	show interfaces multilink	Displays information about a multilink interface.

show interfaces multilink

To display information about a multilink interface, use the **show interfaces multilink** command in EXEC mode.

show interfaces multilink *interface-path-id*

Syntax Description

<i>interface-path-id</i>	Physical interface or virtual interface.
Note	Use the show interfaces command to see a list of all interfaces currently configured on the router.
	For more information about the syntax for the router, use the question mark (?) online help function.

Command Default

No default behavior or values

Command Modes

EXEC

Command History

Release	Modification
Release 3.6.0	This command was introduced on the Cisco CRS-1 Router.
Release 3.7.0	No modification.
Release 3.8.0	No modification.
Release 3.9.0	No modification.

Usage Guidelines

To use this command, you must be in a user group associated with a task group that includes the proper task IDs. If you suspect user group assignment is preventing you from using a command, contact your AAA administrator.

For the *interface-path-id* argument, use the following guidelines:

- If specifying a physical interface, the naming notation is *rack/slot/module/port*. The slash between values is required as part of the notation. An explanation of each component of the naming notation is as follows:
 - *rack*: Chassis number of the rack.
 - *slot*: Physical slot number of the line card.
 - *module*: Module number. A physical layer interface module (PLIM) is always 0.
 - *port*: Physical port number of the interface.
- If specifying a virtual interface, the number range varies, depending on interface type.

show interfaces multilink

Task ID	Task ID	Operations
	interface	read

Examples

The following example shows how to display information about a multilink interface:

```
RP/0/RP0/CPU0:router# show interfaces multilink 0/1/0/0/1
Multilink0/1/0/0/1 is up, line protocol is up
  Interface state transitions: 1
  Hardware is Multilink network interface(s)
  Internet address is 10.1.1.1/24
  MTU 1504 bytes, BW 1536 Kbit
    reliability 255/255, txload 3/255, rxload 3/255
  Encapsulation PPP, loopback not set, keepalive set (10 sec)
  LCP Open
  Open: IPCP
  Last input 00:00:00, output 00:00:00
  Last clearing of "show interface" counters 02:06:24
  5 minute input rate 19000 bits/sec, 5 packets/sec
  5 minute output rate 19000 bits/sec, 5 packets/sec
    48769 packets input, 12425740 bytes, 0 total input drops
    0 drops for unrecognized upper-level protocol
  Received 0 runts, 0 giants, 0 throttles, 0 parity
  0 input errors, 0 CRC, 0 frame, 0 overrun, 0 ignored, 0 abort
  67905 packets output, 17400050 bytes, 0 total output drops
  0 output errors, 0 underruns, 0 applique, 0 resets
  0 output buffer failures, 0 output buffers swapped out
```