Diagnostics Commands on the Cisco IOS XR Software

This module provides command line interface (CLI) commands for configuring diagnostics on your router.

diagnostic load

To load an offline diagnostic image for integrated field diagnostics, use the **diagnostic load** command in administration EXEC mode.

diagnostic load location *node-id* [**autostart** {**all**| **basic**}]

Syntax Description

location *node-id*	Loads an offline diagnostic image for a specified location. The *node-id* argument is entered in the *rack/slot/module* notation. All modules in the specified slot are loaded with the offline diagnostic image.
autostart {**all** | **basic**}	(Optional) Starts running the diagnostic tests after the image has loaded. The following options are available: • **all—**Runs all tests. • **basic—**Runs basic tests

Command Default

None

Command Modes

Administration EXEC

Command History

Release	Modification
Release 3.4.0	This command was introduced.

Usage Guidelines

Use the **diagnostic load** command to load an offline diagnostic image used for integrated field diagnostics. Loading a diagnostic image places the specified card out of service.

The time it takes to load a diagnostic image varies depending on the card. Use the **show platform** command to determine if the image has been loaded and if the card has been placed out of service.

Note The distributed route processor (DRP) does not support the automatic running of tests when the image is loaded for CPU0 and CPU1. After the diagnostic image is loaded, use the **diagnostic start location** *node-id* **test** {*id* | **all** | **basic** | **non-disruptive**} command to execute the tests.

For more information about running Cisco IOS XR diagnostics, refer to *Cisco IOS XR Diagnostics.*

Task ID

Task ID	Operations
diag	execute

Examples

The following example shows how to load an offline diagnostic image:

```
RP/0/RP0/CPU0:router# admin

RP/0/RP0/CPU0:router(admin)# diagnostic load location 0/0/CPU0 autostart basic

diagnostic load will bring requested slot out of service. [confirm(y/n)] y
User has confirmed diagnostic load request
Preparing UUT for Diagnostics software.
Downloading IDS diagnostics image /pkg/ucode/hfr-diag-l3sp-fdiags
Downloading IDS diagnostics image /pkg/ucode/hfr-diag-l3-fdiags
Please wait for UUT image downloading ...
diagnostic load in progress.
```

Related Commands

Command	Description
show platform	Displays information and status of each node in the system.

diagnostic monitor

To configure the health-monitoring diagnostic testing for a specified location, use the **diagnostic monitor** command in administration configuration mode. To remove the specified command from the configuration file and restore the system to its default condition, use the **no** form of this command.

diagnostic monitor location *node-id* **test** {*id*| *test-name*} **[disable]**

no diagnostic monitor location *node-id* **test** {*id*| *test-name*} **[disable]**

Syntax Description

node-id	Location to enable diagnostic monitoring. The *node-id* argument is entered in the *rack/slot/module* notation.
test {*id* | *test-name*}	Specifies diagnostic test selection. The following test selections are available: • *id*—Test ID . • *test-name*—Name of the test. Use the **show diagnostic content** command in administration EXEC mode to see a list of test names and their associated IDs.
disable	Disables diagnostic monitoring for a specified location.

Command Default

To view the default value for each test, use the **show diagnostic content** command in administration EXEC mode when the diagnostic image is first installed. The default may be different for each test.

Command Modes

Administration configuration

Command History

Release	Modification
Release 3.4.0	This command was introduced.

Usage Guidelines

Use the **diagnostic monitor** command to enable or disable health-monitoring diagnostic testing for a specified test at the specified location.

Use the **disable** keyword to disable a health-monitoring diagnostic test that is enabled by default. For example, if test 1 is enabled by default, the **disable** keyword disables the diagnostic test. If the **no** form of the command is used, the test is set to the default condition, which is enabled.

Task ID

Task ID	Operations
diag	read, write

Examples

The following example shows how to enable health-monitoring diagnostic testing for 0/1/cpu0:

```
RP/0/0/CPU0:router(admin-config)# diagnostic monitor location 0/1/cpu0 test 1
```

Related Commands

Command	Description
show diagnostic content, on page 32	Displays test information including test ID, test attributes, and supported coverage test levels for each test and for all components.

diagnostic monitor interval

To configure the health-monitoring diagnostic testing for a specified interval for a specified location, use the **diagnostic monitor interval** command in administration configuration mode. To remove the specified command from the configuration file and restore the system to its default condition, use the **no** form of this command.

diagnostic monitor interval location *node-id* **test** {*id*| *test-name*} *number-of-days hour* : *minutes* : *seconds* . *milliseconds*

no diagnostic monitor interval location *node-id* **test** {*id*| *test-name*} *number-of-days hour* : *minutes* : *seconds* . *milliseconds*

Syntax Description

location *node-id*	Specifies a location. The *node-id* argument is entered in the *rack/slot/module* notation.
test {*id* | *test-name*}	Specifies diagnostic test selection. The following test selections are available: • *id*—Test ID. • *test-name*—Test name . Use the **show diagnostic content** command in administration EXEC mode to see a list of test names and their associated IDs.
number-of-days *hour*:*minutes*:*seconds*.*milliseconds*	Interval between each test run. The *number-of-days* argument specifies the number of days between testing. The range is from 0 through 20. The *hour:minutes:seconds.milliseconds* argument specifies the interval, where *hour* is a number in the range from 0 through 23, *minutes* is a number in the range from 0 through 59, *seconds* is a number in the range from 0 through 59, and *milliseconds* is a number in the range from 0 through 999.

Command Default

To view the default value for each test, use the **show diagnostic content** command in administration EXEC mode when the diagnostic image is first installed. The default may be different for each test.

Command Modes

Administration configuration

Command History

Release	Modification
Release 3.4.0	This command was introduced.

Usage Guidelines

Use the **diagnostic monitor interval** command to set the health-monitoring interval of a specified test at the specified location. The **no** version of the command resets the interval to the default setting. The **diagnostic monitor** command is used to enable health-monitoring.

Task ID

Task ID	Operations
diag	read, write

Examples

The following example shows how to set the health-monitoring diagnostic testing at an interval of 1 hour, 2 minutes, 3 seconds, and 4 milliseconds for 0/1/cpu0:

```
RP/0/0/CPU0:router(admin-config)# diagnostic monitor interval location 0/1/cpu0 test 1 0
1:2:3.4
```

Related Commands

Command	Description
diagnostic monitor, on page 4	Configures the health-monitoring diagnostic testing for a specified location.
show diagnostic content, on page 32	Displays test information including test ID, test attributes, and supported coverage test levels for each test and for all components.

diagnostic monitor syslog

To enable the generation of a syslog message when any health monitoring test fails, use the **diagnostic monitor syslog** command in administration configuration mode. To remove the specified command from the configuration file and restore the system to its default condition, use the **no** form of this command.

diagnostic monitor syslog

no diagnostic monitor syslog

Syntax Description

This command has no keywords or arguments.

Command Default

Syslog is disabled.

Command Modes

Administration configuration

Command History

Release	Modification
Release 3.4.0	This command was introduced.

Usage Guidelines

Use the **diagnostic monitor syslog** command to enable the generation of a syslog message when a health-monitoring test fails.

Task ID

Task ID	Operations
diag	read, write

Examples

The following example shows how to enable the generation of syslog messages:

```
RP/0/0/CPU0:router(admin-config)# diagnostic monitor syslog
```

Related Commands

Command	Description
show diagnostic content, on page 32	Displays test information including test ID, test attributes, and supported coverage test levels for each test and for all components.

diagnostic monitor threshold

To configure the health-monitoring diagnostic testing failure threshold, use the **diagnostic monitor threshold** command in administration configuration mode. To remove the specified command from the configuration file and restore the system to its default condition, use the **no** form of this command.

diagnostic monitor threshold location *node-id* **test** {*id*| *test-name*} **failure count** *failures*

no diagnostic monitor threshold location *node-id* **test** {*id*| *test-name*} **failure count** *failures*

Syntax Description

location *node-id*	Specifies a location. The *node-id* argument is entered in the *rack/slot/module* notation.
test {*id* | *test-name*}	Specifies diagnostic test selection. The following test selections are available: • *id*—Test ID. • *test-name*—Test name . Use the **show diagnostic content** command in administration EXEC mode to see a list of test names and their associated IDs.
failure count *failures*	Specifies the number of allowable test failures. Range is 1 to 99.

Command Default

To view the default value for each test, use the **show diagnostic content** command in administration EXEC mode when the diagnostic image is first installed. The default can be different for each test.

Command Modes

Administration configuration

Command History

Release	Modification
Release 3.4.0	This command was introduced.

Usage Guidelines

Use the **diagnostic monitor threshold** command to specify health-monitoring diagnostic testing failure threshold.

Task ID

Task ID	Operations
diag	read, write

Examples

The following example shows how to set the failure threshold to 35 test failures for all tests for 0/1/cpu0:

```
RP/0/0/CPU0:router(admin-config)# diagnostic monitor threshold location 0/1/cpu0 test all
failure count 35
```

Related Commands

Command	Description
show diagnostic content, on page 32	Displays test information including test ID, test attributes, and supported coverage test levels for each test and for all components.

diagnostic ondemand action-on-failure

To set when to stop test execution for a **diagnostic start** command, use the **diagnostic ondemand action-on-failure** command in administration EXEC mode. This command is used in conjunction with the **diagnostic ondemand iteration** command.

diagnostic ondemand action-on-failure {**continue** [*failure-count*]| **stop**}

Syntax Description

continue	Specifies that test execution continues until all iterations are complete, no matter how many failures are encountered.
failure-count	(Optional) Specifies that test execution continues until the number of failures reaches the specified *failure-count*. Range is 0 to 65534. A *failure-count* of 0 indicates to not stop execution until all iterations are complete, no matter how many failures are encountered.
stop	Stops execution immediately when the first test failure occurs.

Command Default

failure-count: 0

Command Modes

Administration EXEC

Command History

Release	Modification
Release 3.5.0	This command was introduced.

Usage Guidelines

Use the **diagnostic ondemand action-on-failure** command to specify whether or when to stop test execution if a test fails. This command is used in conjunction with the **diagnostic ondemand iterations** command.

Task ID

Task ID	Operations
diag	execute

Examples

The following example shows how to set the test failure action to stop:

```
RP/0/0/CPU0:router(admin)# diagnostic ondemand action-on-failure stop
```

Related Commands

Command	Description
diagnostic ondemand iterations, on page 13	Sets the number of times to repeat execution of the diagnostic test.
diagnostic start, on page 16	Runs a specified diagnostic test.

diagnostic ondemand iterations

To set the number of times to repeat execution of the tests specified by the **diagnostic start** command, use the **diagnostic ondemand iterations** command in administration EXEC mode.

diagnostic ondemand iterations *count*

Syntax Description

count	Number of times to repeat the specified on-demand tests. Range is 1 to 999.

Command Default

count: 1

Command Modes

Administration EXEC

Command History

Release	Modification
Release 3.5.0	This command was introduced.

Usage Guidelines

Use the **diagnostic ondemand iterations** command to specify the number of times the specified on-demand tests run. The on-demand tests are specified using the **diagnostic start** command.

Task ID

Task ID	Operations
diag	execute

Examples

The following example shows how to set the number of iterations to 12:

```
RP/0/0/CPU0:router(admin)# diagnostic ondemand iterations 12
```

Related Commands

Command	Description
diagnostic ondemand action-on-failure, on page 11	Sets when to stop test execution for a diagnostic test.
diagnostic start, on page 16	Runs a specified diagnostic test.

diagnostic schedule

To configure a diagnostic schedule, use the **diagnostic schedule** command in administration configuration mode. To disable the diagnostic schedule, use the **no** form of this command.

diagnostic schedule location *node-id* **test** {*id*| *test-name*| **all**| **basic**| **complete**| **minimal**| **non-disruptive**| **per-device**} [**device** *number*| **all**] {**daily**| **on** *month day year*| **weekly** *day-of-week*} *hour*:*minute*

no diagnostic schedule location *node-id* **test** {*id*| *test-name*| **all**| **basic**| **complete**| **minimal**| **non-disruptive**| **per-device**} [**device** *number*| **all**] {**daily**| **on** *month day year*| **weekly** *day-of-week*} *hour*:*minute*

Syntax Description

location *node-id*	Schedules a diagnostic test for a specified location. The *node-id* argument is entered in the *rack/slot/module* notation.
test	Specifies a specific diagnostic test, or all diagnostic tests.
id	Specifies a test ID or list of test IDs. Use the **show diagnostic content** command in administration EXEC mode to see a list of test names and their associated IDs. Multiple tests can be listed if separated by semicolons (;) as follows: • x;y-z (for example: 1; 3-4 or 1;3;4)
test-name	Specifies the name of a test. Use the **show diagnostic content** command in administration EXEC mode to see a list of test names.
all	Specifies all tests.
basic	Specifies the basic on-demand test suite [Attribute = B].
complete	Specifies the complete bootup test suite [Attribute = C].
minimal	Specifies the minimal bootup test suite [Attribute = M].
non-disruptive	Specifies the non-disruptive test suite [Attribute = N].
per-device	Specifies the per-device test suite [Attribute = V].
device *number* | **all**	**Note** This string works only with the **all**, **basic**, **complete**, **minimal**, **non-disruptive**, and **per-device** keywords. (Optional) Specifies the devices on which the diagnostic tests should run. The following options are available: • *number*—Runs tests on one or more devices. The range is 1 through 8. To specify multiple devices, you can use hyphens (-) and semicolons (;); for example, 1; 3-4 or 1;3;4). • **all**—Runs tests on all devices.
daily	Specifies a daily schedule.

on *month day year*	Schedules an exact date.
weekly *day-of-week*	Specifies a weekly schedule with a set day of the week. Enter the name of a day of the week or a number that specifies a day of the week in the range from 0 through 6.
hour:*minute*	Scheduled start time, where *hour* is a number in the range from 0 through 23, and *minute* is a number in the range from 0 through 59.

Command Default

No default behavior or values

Command Modes

Administration configuration

Command History

Release	Modification
Release 3.3.0	This command was introduced.

Usage Guidelines

For more information about running Cisco IOS XR diagnostics, refer to *Cisco IOS XR Diagnostics*.

Task ID

Task ID	Operations
diag	read, write

Examples

The following example shows how to schedule all diagnostic tests for location 0/0/CPU0 every day at 12:30 pm:

```
RP/0/0/CPU0:router# admin
RP/0/0/CPU0:router(admin)# configure
RP/0/0/CPU0:router(admin-config)# diagnostic schedule location 0/0/CPU0 test all daily 12:30
```

The following example shows how to schedule all bootup tests for device 1 every Sunday at 12:30 pm:

```
RP/0/0/CPU0:router# admin
RP/0/0/CPU0:router(admin)# configure
RP/0/0/CPU0:router(admin-config)# diagnostic schedule location 0/0/CPU0 test all daily
complete device 1 weekly 12:30
```

Related Commands

Command	Description
show diagnostic schedule, on page 39	Displays the current scheduled diagnostic tasks.

diagnostic start

To run a specified diagnostic test, use the **diagnostic start** command in administration EXEC mode.

diagnostic start location *node-id* **test** {*id*| *test-name*| **all**| **basic**| **complete**| **minimal**| **non-disruptive**| **per-device**} [**device** *number*| **all**]

Syntax Description

location *node-id*	Runs diagnostic testing for a specified location. The *node-id* argument is entered in the *rack/slot/module* notation.
test	Specifies a specific diagnostic test, or all diagnostic tests.
id	Test ID or list of test IDs. Use the **show diagnostic content** command in administration EXEC mode to see a list of test names and their associated IDs. Multiple tests can be listed if separated by semicolons (;) as follows: • x;y-z (for example: 1; 3-4 or 1;3;4)
test-name	Name of the test. Use the **show diagnostic content** command in administration EXEC mode to see a list of test names.
all	Specifies all tests.
basic	Specifies the basic on-demand test suite [Attribute = B].
complete	Specifies the complete bootup test suite [Attribute = C].
minimal	Specifies the minimal bootup test suite [Attribute = M].
non-disruptive	Specifies the nondisruptive test suite [Attribute = N].
per-device	Specifies the per-device test suite [Attribute = V].
device *number* | **all**	**Note** This string works only with the **all**, **basic**, **complete**, **minimal**, **non-disruptive**, and **per-device** keywords. (Optional) Specifies the devices on which the diagnostic tests should start. The following options are available: • *number*—Start tests on one or more devices. The range is 1 through 8. To specify multiple devices, you can use hyphens (-) and semicolons (;); for example, 1; 3-4 or 1;3;4). • **all**—Starts tests on all devices.

Command Default

No default behavior or values

Command Modes

Administration EXEC

Command History

Release	Modification
Release 3.3.0	This command was introduced.
Release 3.5.0	The **per-device** keyword was added.

Usage Guidelines

Use the **diagnostic start** command to run a diagnostic test on a specified card.

For more information about running Cisco IOS XR diagnostics, refer to *Cisco IOS XR Diagnostics*.

Task ID

Task ID	Operations
diag	execute

Examples

The following example shows how to start a suite of basic diagnostic tests for a specified location:

```
RP/0/0/CPU0:router# admin
RP/0/0/CPU0:router(admin)# diagnostic start location 0/0/CPU0 test basic
```

The following example shows how to start a suite of minimal bootup tests for devices 1 through 7 at the specified location:

```
RP/0/0/CPU0:router# admin
RP/0/0/CPU0:router(admin)# diagnostic start location 0/0/CPU0 test minimal devices 1-7
```

Related Commands

Command	Description
diagnostic stop, on page 18	Stops the diagnostic testing in progress on a node.

diagnostic stop

To stop the diagnostic testing in progress on a node, use the **diagnostic stop** command in administration EXEC mode.

diagnostic stop location *node-id*

Syntax Description

location *node-id*	Stops diagnostic testing for a specified location. The *node-id* argument is entered in the *rack/slot/module* notation.

Command Default

No default behavior or values

Command Modes

Administration EXEC

Command History

Release	Modification
Release 3.3.0	This command was introduced.

Usage Guidelines

Use the **diagnostic stop** command to stop a diagnostic test on a specified node. The command is used for scheduled tests, a test that is causing errors, or a test that does not finish.

For more information about running Cisco IOS XR diagnostics, refer to *Cisco IOS XR Diagnostics*.

Task ID

Task ID	Operations
diag	execute

Task ID

Examples

The following example shows how to stop the diagnostic test process:

```
RP/0/0/CPU0:router# admin
RP/0/0/CPU0:router(admin)# diagnostic stop location 0/0/CPU0
```

Related Commands

Command	Description
diagnostic start, on page 16	Runs a specified diagnostic test.

diagnostic unload

To unload an offline diagnostic image, use the **diagnostic unload** command in administration EXEC mode.

diagnostic unload location *node-id*

Syntax Description

location *node-id*	Unloads an offline diagnostic image for a specified location. The *node-id* argument is entered in the *rack/slot/module* notation. The diagnostic image is unloaded for all modules in the specified slot.

Command Default

No default behavior or values

Command Modes

Administration EXEC

Command History

Release	Modification
Release 3.3.0	This command was introduced.

Usage Guidelines

Use the **diagnostic unload** command to unload an offline diagnostic image used for integrated field diagnostics. Unloading the image returns the specified card to service.

Use the **show platform** command to determine if the card has been placed back into service.

For more information about running Cisco IOS XR diagnostics, refer to *Cisco IOS XR Diagnostics*.

Task ID

Task ID	Operations
diag	execute

Examples

The following example shows how to unload a diagnostic image:

```
RP/0/0/CPU0:router# admin
RP/0/0/CPU0:router(admin)# diagnostic unload location 0/0/CPU0
```

Related Commands

Command	Description
diagnostic load, on page 2	Loads a diagnostic test.

Command	Description
show platform	Displays information and status of each node in the system.

ping (administration EXEC)

To send internal echo messages from one node to another, use the **ping** command in administration EXEC mode.

ping {**control-eth**| **fabric**} {**fgid** *id*| **location node-id**} [**count** *pings*] **[debug]** [**interval** *milliseconds*] [**pattern random**] [**queue** *priority*] [**retries** *number*] [**size** *payload_size*] [**timeout seconds**] [**tlate** *seconds*] **[uc] [via-egressq] [via-fabricq-1]**

Syntax Description

control-eth	Specifies a control ethernet ping test.
fabric	Specifies a fabric ping test.
fgid *id*	Specifies that a multicast ping is sent over a fabric to nodes with the fabric group identifier (FGID) of 1024 through 1000000. Nodes that receive the ping respond with a unicast packet.
location *node-id*	Specifies that a unicast ping is sent a node. The *node-id* argument is entered in the *rack/slot/module* notation.
count *pings*	(Optional) Number of pings to send each time the command is run. The test reports results and statistics after all pings have been sent and received (or timed out). Range is from 0 through 4294967295. The default is 1.
debug	**Note** This keyword is available only if you specified the **fgid** keyword. (Optional) Specifies verbose debugging of the multicast ping utility.
interval *milliseconds*	(Optional) Hold-off time between each ping in milliseconds. Range is from 0 through 4294967295. The total test time is as follows: (count-1) * (RTT + interval) + RTT RTT = Round Trip Time for the ping.
pattern random	(Optional) Specifies a data pattern for the ping packet payload.
queue *priority*	**Note** This keyword is available only if you specified the **fgid** keyword. (Optional) Specifies the priority of the queue. The priority can be 0 or 1.
retries *number*	(Optional) Maximum number of times a failed ping transmission is sent before the packet transmission is considered a failure. Range is from 0 through 4294967295. **Note** Packet transmission failure is usually an indication of a server software transient. In this case, we recommend that you run the **ping** command again.
size *payload_size*	(Optional) Specifies the payload size for each ping packet size. Range is from 0 through 4294967295 bytes. The maximum payload size allowed may be limited, depending on the transport type that is used (fabric or control-ethernet).

timeout *seconds*	(Optional) Specifies the maximum time to wait for response to a ping. Range is from 0 through 4294967295 seconds. If a ping does not receive a response before the configured timeout expires, the ping statistics reflect it as a discrepancy between the "Sent:" and "Rec'd:" packet count, and the test is considered failed. Because of this, we recommend that you do not set the timeout to 0.
tlate *seconds*	**Note** This keyword is available only if you specified the **fgid** keyword. (Optional) Specifies the amount of time to wait for a response to a multicast ping. The amount of time you specify must be less than the value of the **timeout** keyword. Range is from 0 through 4294967295 seconds.
uc	**Note** This keyword is available only if you specified the **fgid** keyword. (Optional) Specifies that unicast pings (instead of multicast pings) are sent to nodes with the specified FGID.
via-egressq	(Optional) Specifies that a unicast or multicast ping packet is routed to the first fabricq ASIC (instance 0); then, to the egressq ASIC, and finally to the destination CPU. By default, a unicast ping is routed to the first fabricq ASIC (instance 0), then to the destination CPU. A multicast ping is routed to the constituent fabricq ASIC instances, then to the destination CPU.
via-fabricq-1	**Note** This keyword is available if you specified the **location** keyword, or both the **fgid** and **uc** keywords. (Optional) Specifies that a unicast ping is routed to the current fabricq ASIC (instance 1), then to the egressq ASIC, and finally, to the destination CPU. By default, a unicast ping is routed to the first fabricq ASIC (instance 0), then to the destination CPU.

Command Default

No default behavior or values

Command Modes

Administration EXEC

Command History

Release	Modification
Release 3.3.0	This command was introduced.
Release 3.6.0	The **fgid** keyword was added.
Release 3.8.0	The **via-egressq** and **via-fabricq-1** keywords were added.

Usage Guidelines

When you enter the **ping** command, a ping is sent to the node at the specified location or to nodes with the specified FGID. The received response is compared byte-by-byte to the sent packet. If a ping response is not received before the specified time-out, or if the ping response does not match the transmitted ping, the ping is considered failed.

A node that is unreachable or intermittently working impacts the total run time for the test as follows:

```
(received_packet_count * RTT + lost_packet_count * timeout + (count-1) * interval)
```

Line cards have two fabricq ASICs and an egressq ASIC. From the first fabricq ASIC (instance 0), the CPU can be reached directly or via the egressq ASIC. From the second fabricq ASIC (instance 1), the CPU can be reached only via the egressq ASIC. In other words, no direct packet path exists between instance 1 and the CPU.

The route processor (RP) and distributed route processor (DRP) cards have only one fabricq ASIC per node (CPU) and no egressq ASIC. Therefore, a fabric ping on an RP or DRP destination specified with the **via-egressq** or **via-fabricq-1** keyword fails.

Task ID

Task ID	Operations
diag	execute

Examples

The following example shows sample output from a control-ethernet ping to an SP node in slot 0/0:

```
RP/0/0/CPU0:router# admin
RP/0/0/CPU0:router(admin)# ping control-eth location 0/0/SP count 5

Src node:        529  :  0/RP0/CPU0
Dest node:         0  :  0/0/SP
Local node:      529  :  0/RP0/CPU0
Packet cnt:        5  Packet size:   128  Payload ptn type: default (0)
Hold-off (ms):   300  Time-out(s):     2  Max retries: 5
Destination node has MAC addr 5246.4800.0000

Running CE node ping.
Please wait...
Src: 529:, Dest: 0, Sent: 5, Rec'd: 5, Mismatched: 0
Min/Avg/Max RTT: 0/200/1000
CE node ping succeeded for node: 0
```

The following example shows a fabric ping from the active RP to the active RP. In this example, the ping contains 72 packets of 1 kilobyte each. This command performs a good coverage test of the entire switch fabric:

```
RP/0/0/CPU0:router# admin
RP/0/0/CPU0:router(admin)# ping fabric location 0/RP0/CPU0 count 72 size 1024

Src node:        529  :  0/RP0/CPU0
Dest node:       529  :  0/RP0/CPU0
Local node:      529  :  0/RP0/CPU0
Packet cnt:       72  Packet size:  1024  Payload ptn type: default (0)
Hold-off (ms):   300  Time-out(s):     2  Max retries: 5

Running Fabric node ping.
Please wait...
```

```
Src: 529:, Dest: 529, Sent: 72, Rec'd: 72, Mismatched: 0
Min/Avg/Max RTT: 3000/3013/4000
Fabric node ping succeeded for node: 529
```

The following example shows a ping to a control Ethernet node that has a problem or does not exist:

```
RP/0/0/CPU0:router# admin
RP/0/0/CPU0:router(admin)# ping control-eth location 0/1/CPU0 count 3

Src node:        529  :  0/RP0/CPU0
Dest node:        17  :  0/1/CPU0
Local node:      529  :  0/RP0/CPU0
Packet cnt:        3  Packet size:   128  Payload ptn type: default (0)
Hold-off (ms):   300  Time-out(s):     2  Max retries: 5
Destination node has MAC addr 5246.4800.0011

Running CE node ping.
Please wait...
Src: 529:, Dest: 17, Sent: 3, Rec'd: 0, Mismatched: 0
Requested ping failed for node: 17
```

The following example shows how to send a multicast fabric ping to nodes with the FGID of 1024. The node that sent the multicast ping waits 1 second for a response from each node.

```
RP/0/0/CPU0:router# admin
RP/0/0/CPU0:router(admin)# ping fabric fgid 1024 tlate 1

Src node:        513  :  0/RP0/CPU0
fgid:           1024
Local node:      513  :  0/RP0/CPU0
Packet cnt:        1  Packet size:   128  Payload ptn type: default (0)
Hold-off (ms):     1  Time-out(s):     2  Max retries: 5
DelayTimeout:      1  Priority:     High
Running Fabric node ping.
Please wait...

Multicast (Pinging fgid) ...

                Node                                Sent    Rcv.    Late    Lost
          ------------------------------------------------------------------------
            0/1/CPU0 (0x11:17)                      1       1       0       0
            0/4/CPU0 (0x41:65)                      1       1       0       0
            0/4/CPU1 (0x42:66)                      1       1       0       0
            0/6/CPU0 (0x61:97)                      1       1       0       0
          0/RP0/CPU0 (0x201:513)                    1       1       0       0
          0/RP1/CPU0 (0x211:529)                    1       1       0       0
diag_ping: All 6 nodes responded to all 1 pings
```

The following example shows how to send a multicast fabric ping to nodes with the FGID of 1024. The ping packets are routed from the first fabricq ASIC (instance 0) to the destination CPU via the egressq ASIC. The pings to the two line cards (0/1/CPU0 and 0/6/CPU0) succeeded, while the pings to the RPs (0/RP0/CPU0 and 0/RP1/CPU0) and DRPs (0/4/CPU0 and 0/4/CPU1) failed because they do not have an egressq ASIC.

```
RP/0/0/CPU0:router# admin
RP/0/0/CPU0:router(admin)# ping fabric fgid 1024 count 10 via-egressq

Src node:        513  :  0/RP0/CPU0
fgid:           1024
Local node:      513  :  0/RP0/CPU0
Packet cnt:       10  Packet size:   128  Payload ptn type: default (0)
Hold-off (ms):     1  Time-out(s):     2  Max retries: 5
DelayTimeout:      1  Priority:     High
Reaching destination CPUs via egressq

Running Fabric node ping.
Please wait...

Multicast (Pinging fgid) ...
```

```
                Node                                Sent    Rcv.    Late    Lost
        ------------------------------------------------------------------------
          0/1/CPU0 (0x11:17)                        10      10      0       0
          0/4/CPU0 (0x41:65)                        10      0       0       10
          0/4/CPU1 (0x42:66)                        10      0       0       10
          0/6/CPU0 (0x61:97)                        10      10      0       0
        0/RP0/CPU0 (0x201:513)                      10      0       0       10
        0/RP1/CPU0 (0x211:529)                      10      0       0       10
diag_ping: Out of 6 node(s), 2 node(s) responded to all 10 pings, 4 node(s) hads
```

The following example shows how to send a unicast ping to nodes with the FGID of 1024. The ping packets are routed from the second fabricq ASIC (instance 1) to the destination CPU via the egressq ASIC. The pings to the two line cards (0/1/CPU0 and 0/6/CPU0) succeeded, while the pings to the RPs (0/RP0/CPU0 and 0/RP1/CPU0) and DRPs (0/4/CPU0 and 0/4/CPU1) failed because they do not have a second fabricq ASIC nor an egressq ASIC.

```
RP/0/0/CPU0:router# admin
RP/0/0/CPU0:router(admin)# ping fabric fgid 1024 count 10 uc via-fabricq-1

Src node:        513  :  0/RP0/CPU0
fgid:           1024
Local node:      513  :  0/RP0/CPU0
Packet cnt:       10  Packet size:   128  Payload ptn type: default (0)
Hold-off (ms):     1  Time-out(s):     2  Max retries: 5
DelayTimeout:      1  Priority:     High
Using other fabricq instance

Running Fabric node ping.
Please wait...

Multicast (Pinging Individual Sponge Ids) ...

                Node                                Sent    Rcv.    Late    Lost
        ------------------------------------------------------------------------
          0/1/CPU0 (0x11:17)                        10      10      0       0
          0/4/CPU0 (0x41:65)                        10      0       0       10
          0/4/CPU1 (0x42:66)                        10      0       0       10
          0/6/CPU0 (0x61:97)                        10      10      0       0
        0/RP0/CPU0 (0x201:513)                      10      0       0       10
        0/RP1/CPU0 (0x211:529)                      10      0       0       10
diag_ping: Out of 6 node(s), 2 node(s) responded to all 10 pings, 4 node(s) hads
```

show diag

To display details about the hardware and software on each node in a router, use the **show diag** command in the appropriate mode.

show diag [*node-id*] [**chassis-info**| **details**| **summary**]

Syntax Description

details	(Optional) Displays detailed hardware and diagnostics information. **Note** Specifying the **details** keyword displays EEPROM information for the chassis or specified node.
summary	(Optional) Displays a summary of the installed hardware.
node-id	(Optional) Identifies the node for which you want to display information. The *node-id* argument is expressed in the *rack/slot/module* notation.
chassis-info	(Optional) Displays information about the chassis.

Command Default

Hardware and software information for all nodes installed in the router is displayed

Command Modes

EXEC

Administration EXEC

Command History

Release	Modification
Release 2.0	This command was introduced.
Release 3.3.0	The **chassis-info** keyword was introduced.

Usage Guidelines

The **show diag** command displays detailed information on the hardware components for each node, and on the status of the software running on each node.

Task ID

Task ID	Operations
sysmgr	read

Examples

```
RP/0/5/CPU0:router# show diag details
```

```
SLOT 0 (RP/LC 0): Cisco 12000 Series - Multi-Service Blade
MAIN: type 150, 800-25972-02 rev A0 dev 0
HW config: 0x00 SW key: 00-00-00
PCA: 73-9289-04 rev A0 ver 3
HW version 1.0 S/N SAD11360218
MBUS: Embedded Agent
Test hist: 0x00 RMA#: 00-00-00 RMA hist: 0x00
DIAG: Test count: 0x00000000 Test results: 0x00000000
EEPROM contents (hex):
Release Modification
Release 3.3.0 The chassis-info keyword was added to the show diags command on the
Cisco XR 12000 Series Router.
Task ID Operations
sysmgr read
00: 01 00 0C 00 00 00 00 00 00 00 00 00 00 00 00 00
10: 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00
20: 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00
30: 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00
40: 00 96 01 00 00 49 00 24 49 04 50 03 FE 01 00 03
50: 03 20 00 65 74 02 50 00 00 00 00 0A 01 00 00 00
60: 53 41 44 31 31 33 36 30 32 31 38 00 00 00 00 00
70: 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00
80: 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00
90: 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00
A0: 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00
B0: 00 00 00 00 00 00 00 00 00 00 00 00 00 DA 00 00
C0: 58 52 2D 31 32 4B 2D 4D 53 42 00 00 00 00 00 00
D0: 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00
E0: 02 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00
F0: 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00
FRU: Linecard/Module: 12000-ServEngCard
L3 Engine: Service Engine - ISE OC192 (10 Gbps)
MBUS Agent Software version 4.4 (RAM) (ROM version is 4.4)
Using CAN Bus A
ROM Monitor version 1.3
Fabric Downloader version used 3.2 (ROM version is 3.2)
Primary clock is CSC0
Board State is IOS-XR RUN
Last Reset Reason: Card graceful reboot
Insertion time: Fri Oct 10 22:34:58 2008 (4w2d ago)
DRAM size: 2147483648 bytes
FrFab SDRAM size: 1610612736 bytes
ToFab SDRAM size: 268435456 bytes
0 resets since restart/fault forgive
...
SLOT 2 (RP/LC 2): Cisco 12000 Series SPA Interface Processor- 601
MAIN: type 149, 68-2647-01 rev A0 dev 85437
HW config: 0x20 SW key: 00-00-00
PCA: 73-9607-04 rev A0 ver 4
HW version 1.0 S/N SAD10330441
MBUS: Embedded Agent
Test hist: 0x00 RMA#: 00-00-00 RMA hist: 0x00
DIAG: Test count: 0x00000000 Test results: 0x00000000
EEPROM contents (hex):
00: 01 00 0C 00 00 00 00 00 00 00 00 00 00 00 00 00
10: 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00
20: 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00
30: 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00
40: 00 95 01 00 00 49 00 25 87 04 50 04 FE 01 00 00
50: 00 44 00 0A 57 01 50 01 4D BD 20 09 01 00 00 00
60: 53 41 44 31 30 33 33 30 34 34 31 00 00 00 00 00
70: 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00
80: 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00
90: 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00
A0: 00 01 40 98 00 00 00 00 00 00 00 00 00 00 00 00
B0: 00 00 00 00 00 00 00 00 00 00 00 00 00 DA 00 00
C0: 31 32 30 30 30 2D 53 49 50 2D 36 30 31 00 00 00
D0: 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00
E0: 01 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00
F0: B8 07 A4 1F 8A 52 6D 1F 9A CE AE CF BF F4 00 00
FRU: Linecard/Module: 12000-SIP-601
Route Memory: MEM-LC5-2048=
Packet Memory: MEM-LC5-PKT-512=
```

```
L3 Engine: 5 (MultiRate) - ISE OC192 (10 Gbps)
Operational rate mode: 10 Gbps
MBUS Agent Software version 4.4 (RAM) (ROM version is 4.2)
Using CAN Bus A
ROM Monitor version 17.1
Fabric Downloader version used 4.7 (ROM version is 4.7)
Primary clock is CSC0
Board State is IOS-XR RUN
Last Reset Reason: Reload initiated by user
Insertion time: Wed Nov 5 17:39:51 2008 (5d01h ago)
DRAM size: 2147483648 bytes
FrFab SDRAM size: 268435456 bytes
ToFab SDRAM size: 268435456 bytes
0 resets since restart/fault forgive
SPA Information:
subslot 0/2/0: SPA-4XOC3-POS-V2 (0x526), status is ok
subslot 0/2/1: SPA-IPSEC-2G-2 (0x549), status is ok
subslot 0/2/2: SPA-8X1FE (0x4c5), status is ok
subslot 0/2/3: Empty
...
SLOT 5 (RP/LC 5): Cisco 12000 Series Performance Route Processor 2
MAIN: type 96, 800-23469-06 rev A0 dev 84610
HW config: 0x10 SW key: 00-00-00
PCA: 73-8812-09 rev A0 ver 7
HW version 0.0 S/N SAD103003M7
MBUS: MBUS Agent (1) 73-8048-07 rev A0 dev 0
HW version 0.1 S/N SAL1026THV9
Test hist: 0x00 RMA#: 00-00-00 RMA hist: 0x00
DIAG: Test count: 0x00000000 Test results: 0x00000000
EEPROM contents (hex):
00: 01 00 01 00 49 00 1F 70 07 50 00 00 00 00 00 00
10: 53 41 4C 31 30 32 36 54 48 56 39 00 00 00 00 00
20: 00 01 00 00 00 00 00 00 00 00 00 00 00 00 00 00
30: 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00
40: 00 60 00 00 00 49 00 22 6C 09 50 07 00 02 00 00
50: 03 20 00 5B AD 06 50 01 4A 82 10 00 01 00 00 00
60: 53 41 44 31 30 33 30 30 33 4D 37 00 00 00 00 00
70: 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00
80: 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00
90: 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00
A0: 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00
B0: 00 00 00 00 00 00 00 00 00 00 00 00 32 DA 00 00
C0: 50 52 50 2D 32 00 00 00 00 00 00 00 00 00 00 00
D0: 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00
E0: 04 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00
F0: 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00
FRU: Linecard/Module: PRP-2
Route Memory: MEM-PRP/LC-2048=
MBUS Agent Software version 4.4 (RAM) (ROM version is 4.2)
Using CAN Bus A
ROM Monitor version 1.16dev(0.1)
Primary clock is CSC0
Board State is IOS-XR RUN
Insertion time: Fri Oct 10 21:19:10 2008 (4w2d ago)
DRAM size: 2147483648 bytes
0 resets since restart/fault forgive
```

The output displayed for the **show diag details** command is the most comprehensive output displayed for **show diag** command variations. All other variations show a subset of the fields displayed except for the **show diag details chassis-info** and **show diag summary chassis-info** commands, which show different information.

Table 1: show diags Field Descriptions

Field	Description
SLOT	Physical slot number of the line card.
MAIN	General information about the hardware.

Field	Description
PCA	Cisco Protection Channel Access (PCA) hardware and revision number.
MBUS	Provides version information for the Mbus agent.
DIAG	Results of the last diagnostics test, in hexadecimal format.
EEPROM contents	EEPROM contents, in hexadecimal, of the component.
FRU	Information about the Field-replaceable Units (FRUs) associated with the nodes that are installed in the router.
MBUS Agent Software version	Mbus agent software version currently running on the router.
ROM Monitor version	Version of monitor library used by ROMMON.
Fabric Downloader version	Version of fabric downloader used.
Primary clock	Primary clock source configured on the router.
Board State	Current software on the board, and whether or not the board is running.
Last Reset Reason	Reason the card was last reset.
Insertion time	Time at which the last diagnostics test was executed.
DRAM size	Dynamic Random-Access Memory (DRAM) size in bytes.
number resets since restart/fault forgive	Number of resets since the card was last restarted.
SPA Information	Subslot in which SPA is installed, name of SPA, and current status of SPA.

The following example shows how to display detailed information for a chassis:

```
RP/0/5/CPU0:router# show diag details chassis-info

Backplane NVRAM [version 0x20] Contents -
  Chassis: type 12406 Fab Ver: 2
    Chassis S/N: TBM10421465
  PCA: 73-5796-2  rev: C0  dev: 0  HW ver: 1.0
    Backplane S/N: TBM10402356
  MAC Addr: base 0019.aaa3.3a00  block size: 1024
  RMA Number: 0x00-0x00-0x00  code: 0x00  hist: 0x00
```

```
Backplane NVRAM (hex)
00: 20 00 00 49  16 a4 00 02  00 60 00 02  01 00 00 07
10: 54 42 4d 31  30 34 30 32  33 35 36 00  00 00 00 00
20: 00 00 00 00  00 00 00 00  00 00 00 00  00 00 00 00
30: 54 42 4d 31  30 34 32 31  34 36 35 00  00 00 00 00
40: 00 19 aa a3  3a 00 04 00  00 00 00 00  00 00 00 00
50: 00 00 00 00  00 00 00 00  00 00 00 00  00 00 00 00
60: 00 00 00 00  00 00 00 00  00 00 00 00  00 00 00 00
70: 00 00 00 00  00 00 00 00  00 00 00 00  00 00 00 00
```

Table 2: show diags details chassis-info Field Descriptions

Field	Description
Chassis	Type and fabrication version of the chassis.
Chassis S/N	Serial number of the chassis.
PCA	Cisco Protection Channel Access (PCA) hardware and revision number.
Backplane S/N	Serial number of the backplane.
MAC Addr	MAC address and block size of the chassis.
RMA Number	RMA information for the chassis.
Backplane NVRAM	Contents of the backplane NVRAM, in hexadecimal.

Related Commands

Command	Description
show platform	Displays information and status for each node in the system.
show version	Displays details on the hardware and software status of the system.

show diagnostic bootup level

To display the current diagnostic bootup level, use the **show diagnostic bootup level** command in administration EXEC mode.

show diagnostic bootup level location *node-id*

Syntax Description

location *node-id*	Specifies a card. The *node-id* argument is entered in the *rack/slot/module* notation.

Command Default

No default behavior or values

Command Modes

Administration EXEC

Command History

Release	Modification
Release 3.4.0	This command was introduced.

Usage Guidelines

Use the **show diagnostic bootup level** command to display the current diagnostic bootup level for a specified card.

Task ID

Task ID	Operations
diag	read

Examples

The following example shows how to display the current diagnostic bootup level for 0/1/cpu0:

```
RP/0/0/CPU0:router(admin)# show diagnostic bootup level location 0/1/cpu0
Current bootup diagnostic level for LC 0/1/CPU0: minimal
```

Related Commands

Command	Description
diagnostic bootup level	Configures the diagnostic for booting a card.

show diagnostic content

To display test information including test ID, test attributes, and supported coverage test levels for each test and for all components, use the **show diagnostic content** command in administration EXEC mode.

show diagnostic content location *node-id*

Syntax Description

location *node-id*	Displays the diagnostic content for a specified location. The *node-id* argument is entered in the *rack/slot/module* notation.

Command Default

No default behavior or values

Command Modes

Administration EXEC

Command History

Release	Modification
Release 3.3.0	This command was introduced.

Usage Guidelines

Use the **show diagnostic content** command to display diagnostic test information for a specific location. The test information includes the supported tests and attributes.

For more information about running Cisco IOS XR diagnostics, refer to *Cisco IOS XR Diagnostics*.

Task ID

Task ID	Operations
diag	read

Examples

The following example shows how to display the test information for a specified location:

For a route processor:

```
RP/0/0/CPU0:router(admin): show diagnostic content
location 0/0/cpu0

Diagnostics test suite attributes:
    M/C/* - Minimal bootup level test / Complete bootup level test / NA

      B/* - Basic ondemand test / NA
    P/V/* - Per port test / Per device test / NA

    D/N/* - Disruptive test / Non-disruptive test / NA
```

```
    S/* - Only applicable to standby unit / NA
    X/* - Not a health monitoring test / NA
    F/* - Fixed monitoring interval test / NA
    E/* - Always enabled monitoring test / NA
    A/I - Monitoring is active / Monitoring is inactive
                                                        Test Interval    Thre-
ID   Test Name                           Attributes     (day hh:mm:ss.ms shold)

==== ================================== ============ ================= =====
  1) ControlEthernetPingTest ---------> *B*N*X**I       001 00:00:00.000 1
  2) SelfPingOverFabric --------------> *B*N*X**I       001 00:00:00.000 1
  3) FabricPingTest ------------------> *B*N*X**I       001 00:00:00.000 1
  4) ControlEthernetInactiveLinkTest -> *B*NS***I       001 00:00:00.000 1
  5) RommonRevision ------------------> *B*N*X**I       001 00:00:00.000 1
  6) FabricDiagnosisTest -------------> *B*NS***I       000 00:02:00.000 1
  7) FilesystemBasicDisk0 ------------> *B*N****I       003 00:00:00.000 1
  8) FilesystemBasicDisk1 ------------> *B*N****I       003 00:00:00.000 1
  9) FilesystemBasicHarddisk ---------> *B*N****I       003 00:00:00.000 1
 10) ScratchRegisterTest -------------> CBVN****I       001 00:00:00.000 1
 11) FabricMcastTest -----------------> *B*NS***I       000 00:02:00.000 1
 12) ControlEthernetIntraSwitchTest --> *B*N****I       000 00:00:02.000 3
 13) FabricUcastMcastTest ------------> *B*N****A       000 00:01:00.000 1

RP/0/0/CPU0:router(admin)# show diagnostic content location 0/1/cpu0


Wed Feb 16 09:27:01.424 PST

MSC 0/1/CPU0:

  Diagnostics test suite attributes:
    M/C/* - Minimal bootup level test / Complete bootup level test / NA
      B/* - Basic ondemand test / NA
    P/V/* - Per port test / Per device test / NA
    D/N/* - Disruptive test / Non-disruptive test / NA
      S/* - Only applicable to standby unit / NA
      X/* - Not a health monitoring test / NA
      F/* - Fixed monitoring interval test / NA
      E/* - Always enabled monitoring test / NA
      A/I - Monitoring is active / Monitoring is inactive

                                                        Test Interval    Thre-
  ID   Test Name                           Attributes     (day hh:mm:ss.ms shold)

  ==== ================================== ============ ================= =====
    1) ControlEthernetPingTest ---------> *B*N*X**I       001 00:00:00.000 1
    2) SelfPingOverFabric --------------> *B*N*X**I       001 00:00:00.000 1
    3) RommonRevision ------------------> *B*N*X**I       001 00:00:00.000 1
    4) ScratchRegisterTest -------------> CBVN****I       001 00:00:00.000 1
    5) TcamFullScanTest ----------------> *BVN****I       001 00:00:00.000 1
    6) EgressqMemoryBISTTest -----------> **VD*X**I       001 00:00:00.000 1
    7) IngressqMemoryBISTTest ----------> **VD*X**I       001 00:00:00.000 1
    8) FabricqMemoryBISTTest -----------> **VD*X**I       001 00:00:00.000 1
```

Table 3: show diagnostic content Field Descriptions, on page 33 describes the significant fields shown in the display.

Table 3: show diagnostic content Field Descriptions

Field	Description
M/C/* - Minimal bootup level test / Complete bootup level test / NA	Minimal bootup test or complete bootup test.
B/* - Basic ondemand test / NA	Basic on-demand test.

Field	Description
P/V/* - Per port test / Per device test / NA	Test is per port or device.
D/N/* - Disruptive test / Non-disruptive test / NA	Test is disruptive or nondisruptive.
S/* - Only applicable to standby unit / NA	Test is available for standby node only.
X/* - Not a health monitoring test / NA	Test is not a health-monitoring test.
F/* - Fixed monitoring interval test / NA	Test is a fixed monitoring interval test.
E/* - Always enabled monitoring test / NA	Test is an always enabled monitoring test.
A/I - Monitoring is active / Monitoring is inactive	Test is active or inactive.
ID	ID of the test.
Test Name	Name of the test.
Attributes	Attributes for the test.
Test Interval	Interval of the test.
Threshold	Failure threshold of the text.

Related Commands

Command	Description
diagnostic bootup level	Configures the diagnostic for booting a card.
diagnostic load, on page 2	Loads an offline diagnostic image for integrated field diagnostics.
diagnostic monitor interval, on page 6	Configures the health-monitoring diagnostic testing for a specified interval for a specified location.
diagnostic schedule, on page 14	Configures a diagnostic schedule.
diagnostic start, on page 16	Runs a specified diagnostic test.
diagnostic unload, on page 19	Unloads an offline diagnostic image.

show diagnostic ondemand settings

To display the current on-demand settings, use the **show diagnostic ondemand settings** command in administration EXEC mode.

show diagnostic ondemand settings

Syntax Description

This command has no keywords or arguments.

Command Default

No default behavior or values

Command Modes

Administration EXEC

Command History

Release	Modification
Release 3.5.0	This command was introduced.

Usage Guidelines

Task ID

Task ID	Operations
diag	read

Examples

The following example shows how to display the on-demand settings:

```
RP/0/0/CPU0:router(admin)# show diagnostic ondemand settings

Test iterations = 45
Action on test failure = continue until test failure limit reaches 25
```

show diagnostic result

To display diagnostic test results, use the **show diagnostic result** command in administration EXEC mode.

show diagnostic result location *node-id*[**test** {*id*| *test-name*| **all**}] **[detail]**

Syntax Description

location *node-id*	Displays the diagnostic test results for a specified location. The *node-id* argument is entered in the *rack/slot/module* notation.
test {*id* | *test-name* | **all**}	(Optional) Specifies diagnostic test selection. The following test selections are available: • *id*—Test ID or list of test IDs . Multiple tests can be listed if separated by semicolons (;) as follows: ◦ x;y-z (for example: 1; 3-4 or 1;3;4) • *test-name*—Test name. • **all**—Specifies all tests. Use the **show diagnostic content** command in administration EXEC mode to see a list of test names and their associated IDs.
detail	(Optional) Specifies detailed results.

Command Default

No default behavior or values

Command Modes

Administration EXEC

Command History

Release	Modification
Release 3.3.0	This command was introduced.

Usage Guidelines

Use the **show diagnostic result** command to display diagnostic results for a specific location.

For more information about running Cisco IOS XR diagnostics, refer to *Cisco IOS XR Diagnostics.*

Task ID

Task ID	Operations
diag	read

Examples

The following example shows how to display detailed diagnostic test results:

```
RP/0/0/CPU0:router(admin)# show diagnostic result location 0/3/CPU0 test 1 detail

Test results: (. = Pass, F = Fail, U = Untested)
_____________________________________________________________________________
1 ) Control Ethernet Ping Test ------> .
Error code ------------------> 0 (DIAG_SUCCESS)
Total run count -------------> 1
Last test execution time ----> Thu Aug 11 18:13:38.918 2005
First test failure time -----> n/a
Last test failure time ------> n/a
Last test pass time ---------> Thu Aug 11 18:13:38.918 2005
Total failure count ---------> 0
Consecutive failure count ---> 0
```

Table 4: show diagnostic result Field Descriptions

Field	Description
Test results :	Test result options: • .—Pass • F—Fail • U—Untested
Error code	Code for the error. DIAG_SUCCESS is indicated if there were no code errors. DIAG_FAILURE is indicated for any failure. DIAG_SKIPPED is indicated if the test was stopped.
Total run count	Number of times the test has run.
Last test execution time	Last time the test was run.
First test failure time	First time the test failed.
Last test failure time	Last time the test failed.
Last test pass time	Last time the test passed.
Total failure count	Number of times the test has failed.
Consecutive failure count	Number of consecutive times the test has failed.

Related Commands

Command	Description
diagnostic load, on page 2	Loads an offline diagnostic image for integrated field diagnostics.
diagnostic schedule, on page 14	Configures a diagnostic schedule.
diagnostic start, on page 16	Runs a specified diagnostic test.

show diagnostic schedule

To display the current scheduled diagnostic tasks, use the **show diagnostic schedule** command in administration EXEC mode.

show diagnostic schedule location *node-id*

Syntax Description

location *node-id*	Displays the diagnostic schedule for a specified location. The *node-id* argument is entered in the *rack/slot/module* notation.

Command Default

No default behavior or values

Command Modes

Administration EXEC

Command History

Release	Modification
Release 3.3.0	This command was introduced.

Usage Guidelines

Use the **show diagnostic schedule** command to display scheduled diagnostic tasks for a specific location.

For more information about running Cisco IOS XR diagnostics, refer to *Cisco IOS XR Diagnostics*.

Task ID

Task ID	Operations
diag	read

Examples

The following example shows how to display scheduled diagnostic tasks:

```
RP/0/0/CPU0:router# admin
RP/0/0/CPU0:router(admin)# show diagnostic schedule location 0/3/CPU0

Current Time = Tue Sep 27 12:41:24 2005
Diagnostic for LC 0/3/CPU0:

Schedule #1:
        To be run daily 14:40
        Test ID(s) to be executed: 1 .
```

Table 5: show diagnostic schedule Field Descriptions

Field	Description
Current Time	Current system time.
Diagnostic for	Card for which the diagnostic is scheduled.
Schedule	Schedule number.
To be run	Time at which the diagnostics are scheduled to run.
Test ID(s) to be executed	Tests to be run at scheduled time.

Related Commands

Command	Description
diagnostic schedule, on page 14	Configures a diagnostic schedule.

show diagnostic status

To display the current running tests, use the **show diagnostic status** command in administration EXEC mode.

show diagnostic status

Syntax Description

This command has no keywords or arguments.

Command Default

No default behavior or values

Command Modes

Administration EXEC

Command History

Release	Modification
Release 3.5.0	This command was introduced.

Usage Guidelines

Task ID

Task ID	Operations
diag	read

show run diagnostic monitor

To display the card type of a line card or a Shared Port Adapter (SPA), use the **show run diagnostic monitor** command in the administration configuration mode.

show run diagnostic monitor

Syntax Description

This command has no keywords or arguments.

Command Default

No default behavior or values

Command Modes

Administration configuration

Command History

Release	Modification
Release 3.8.0	This command was introduced.

Usage Guidelines

You need to be aware of the card type when you configure a slot or swap a card, and the configuration must re-apply. If the card type is different, the configuration does not re-apply. You can display the card type using the **show run diagnostic monitor** command in the administration configuration mode.

Task ID

Task ID	Operations
diag	read, write

Examples

```
RP/0/0/CPU0:router#admin
RP/0/0/CPU0:router(admin)# config
RP/0/0/CPU0:router(admin-config)# diagnostic monitor location 0/RP1/CPU0 test
FabricDiagnosisTest
RP/0/0/CPU0:router(admin-config)# commit
RP/0/0/CPU0:router(admin-config)# end
RP/0/0/CPU0:router(admin)# show run diagnostic monitor

diagnostic monitor location 0/RP1/CPU0 test FabricDiagnosisTest card-type 100006
```