



Diagnostics Commands

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

To use commands of this module, you must be in a user group associated with a task group that includes appropriate task IDs. If the user group assignment is preventing you from using any command, contact your AAA administrator for assistance.

The command modes mentioned in this chapter is applicable for Cisco IOS XR. If you are running Cisco IOS XR 64 bit, which is supported from Release 6.1.1 onwards, then the command modes has to be changed from Admin EXEC mode to XR EXEC mode, and Administration configuration mode to XR Config mode respectively.

For example,

Command Name	Cisco IOS XR	Cisco IOS XR 64 bit
diagnostic monitor	Administration configuration mode	XR Config mode
diagnostic start	Admin EXEC mode	XR EXEC mode



Note Online diagnostics for Ethernet Out of Band Channel (EOBC) is not supported on Cisco IOS XR 64 bit.

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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 {idtest-name} [disable]
no diagnostic monitor location node-id test {idtest-name} [disable]
```

Syntax Description	node-id Location to enable diagnostic monitoring. The <i>node-id</i> argument is entered in the <i>rack/slot/module</i> notation.				
	test {id test-name} Specifies diagnostic test selection. The following test selections are available: <ul style="list-style-type: none"> • <i>id</i>—Test ID, as shown in the show diagnostic content command . • <i>test-name</i>—Name of the test. 				
	disable Disables diagnostic monitoring for a specified location.				
Command Default	To view the default value for each test, use the show diagnostic content command when the diagnostic image is first installed. The default may be different for each test.				
Command Modes	Administration configuration				
Command History	<table border="1"> <thead> <tr> <th>Release</th> <th>Modification</th> </tr> </thead> <tbody> <tr> <td>Release 3.4.0</td> <td>This command was introduced.</td> </tr> </tbody> </table>	Release	Modification	Release 3.4.0	This command was introduced.
Release	Modification				
Release 3.4.0	This command was introduced.				
Usage Guidelines	<p>Use the diagnostic monitor command to enable or disable health-monitoring diagnostic testing for a specified test at the specified location.</p> <p>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.</p>				
	 Note To specify a node using the <i>node-id</i> argument, use the <i>rack/slot/module</i> notation. For example, 0/0/CPU0 is a fully qualified location specification for a line card, 0/2/CPU0 is a fully qualified location specification for a line card, 0/7/CPU0 is a fully qualified location specification for a line card, 0/RSP0/CPU0 is a fully qualified location specification for a Route Switch Processor.				
Task ID	<table border="1"> <thead> <tr> <th>Task ID</th> <th>Operations</th> </tr> </thead> <tbody> <tr> <td>diag</td> <td>read, write</td> </tr> </tbody> </table>	Task ID	Operations	diag	read, write
Task ID	Operations				
diag	read, write				

Examples

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

```
RP/0/RSP0/CPU0:router(admin-config)# diagnostic monitor location 0/1/cpu0 test 1
```

Related Commands	Command	Description
	show diagnostic content, on page 21	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	<p>location node-id Specifies a location. The <i>node-id</i> argument is entered in the <i>rack/slot/module</i> notation.</p> <p>test {id test-name} Specifies diagnostic test selection. The following test selections are available:</p> <ul style="list-style-type: none"> • <i>id</i>—Test ID. • <i>test-name</i>—Test name , as shown in the show diagnostic content command.. 				
	<p><i>number-of-days</i> Interval between each test run.</p> <p><i>hour:minutes:seconds.milliseconds</i> The <i>number-of-days</i> argument specifies the number of days between testing.</p> <p>The <i>hour:minutes:seconds.milliseconds</i> argument specifies the interval, where <i>hour</i> is a number in the range from 0 through 23, <i>minutes</i> is a number in the range from 0 through 59, <i>seconds</i> is a number in the range from 0 through 59, and <i>milliseconds</i> is a number in the range from 0 through 999.</p>				
Command Default	To view the default value for each test, use the show diagnostic content command when the diagnostic image is first installed. The default may be different for each test.				
Command Modes	Administration configuration				
Command History	<table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="text-align: left; padding: 2px;">Release</th> <th style="text-align: left; padding: 2px;">Modification</th> </tr> </thead> <tbody> <tr> <td style="text-align: left; padding: 2px;">Release 3.7.2</td> <td style="text-align: left; padding: 2px;">This command was introduced.</td> </tr> </tbody> </table>	Release	Modification	Release 3.7.2	This command was introduced.
Release	Modification				
Release 3.7.2	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.				

diagnostic monitor interval

Note To specify a node using the *node-id* argument, use the *rack/slot/module* notation. For example, 0/0/CPU0 is a fully qualified location specification for a line card, 0/2/CPU0 is a fully qualified location specification for a line card, 0/7/CPU0 is a fully qualified location specification for a line card, 0/RSP0/CPU0 is a fully qualified location specification for a Route Switch Processor, and 0/RSP0/CPU0 is also a fully qualified location specification for a Route Switch Processor.

Task ID	Task Operations ID
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/RSP0/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 3	Configures the health-monitoring diagnostic testing for a specified location.
	show diagnostic content, on page 21	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 3.7.2	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/RSP0/CPU0:router(admin-config) # diagnostic monitor syslog
```

Related Commands	Command	Description
	show diagnostic content, on page 21	Displays test information including test ID, test attributes, and supported coverage test levels for each test and for all components.

diagnostic monitor threshold

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 <i>node-id</i> argument is entered in the <i>rack/slot/module</i> notation. test {id test-name} Specifies diagnostic test selection. The following test selections are available: <ul style="list-style-type: none"> • <i>id</i>—Test ID. • <i>test-name</i>—Test name , as shown in the show diagnostic content command . 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 when the diagnostic image is first installed. The default can be different for each test.				
Command Modes	Administration configuration				
Command History	<table border="1" style="width: 100%;"> <thead> <tr> <th style="text-align: left; padding-right: 20px;">Release</th> <th style="text-align: left;">Modification</th> </tr> </thead> <tbody> <tr> <td style="padding-top: 10px;">Release 3.7.2</td> <td>This command was introduced.</td> </tr> </tbody> </table>	Release	Modification	Release 3.7.2	This command was introduced.
Release	Modification				
Release 3.7.2	This command was introduced.				
Usage Guidelines	Use the diagnostic monitor threshold command to specify health-monitoring diagnostic testing failure threshold.				



Note

To specify a node using the *node-id* argument, use the *rack/slot/module* notation. For example, 0/0/CPU0 is a fully qualified location specification for a line card, 0/2/CPU0 is a fully qualified location specification for a line card, 0/7/CPU0 is a fully qualified location specification for a line card, 0/RSP0/CPU0 is a fully qualified location specification for a Route Switch Processor, and 0/RSP0/CPU0 is also a fully qualified location specification for a Route Switch Processor.

Task ID	Task ID	Operations
	diag	read, write

Examples

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

```
RP/0/RSP0/CPU0:router(admin-config)# diagnostic monitor threshold location 0/1/cpu0 test 1  
failure count 35
```

Related Commands	Command	Description
	show diagnostic content, on page 21	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 Admin 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 failure-count Specifies that test execution continue until the number of failures reaches the specified <i>failure-count</i> . Range is 0 to 65534. A <i>failure-count</i> 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	<i>failure-count</i> : 0						
Command Modes	Admin EXEC mode						
Command History	<table> <thead> <tr> <th>Release</th><th>Modification</th></tr> </thead> <tbody> <tr> <td>Release 3.7.2</td><td>This command was introduced.</td></tr> </tbody> </table>	Release	Modification	Release 3.7.2	This command was introduced.		
Release	Modification						
Release 3.7.2	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	<table> <thead> <tr> <th>Task ID</th><th>Operations</th></tr> </thead> <tbody> <tr> <td>diag</td><td>read, write</td></tr> </tbody> </table>	Task ID	Operations	diag	read, write		
Task ID	Operations						
diag	read, write						
Examples	The following example shows how to set the test failure action to stop:						
	<pre>RP/0/RSP0/CPU0:router(admin) # diagnostic ondemand action-on-failure stop</pre>						
Related Commands	<table> <thead> <tr> <th>Command</th><th>Description</th></tr> </thead> <tbody> <tr> <td>diagnostic ondemand iterations, on page 11</td><td>Sets the number of times to repeat execution of the diagnostic test.</td></tr> <tr> <td>diagnostic start, on page 14</td><td>Runs a specified diagnostic test.</td></tr> </tbody> </table>	Command	Description	diagnostic ondemand iterations, on page 11	Sets the number of times to repeat execution of the diagnostic test.	diagnostic start, on page 14	Runs a specified diagnostic test.
Command	Description						
diagnostic ondemand iterations, on page 11	Sets the number of times to repeat execution of the diagnostic test.						
diagnostic start, on page 14	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 Admin EXEC mode.

diagnostic ondemand iterations *count*

Syntax Description	<i>count</i> Number of times to repeat the specified on-demand tests. Range is 1 to 999.	
Command Default	<i>count</i> : 1	
Command Modes	Admin EXEC mode	
Command History	Release	Modification
	Release 3.7.2 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	read, write
Examples	The following example shows how to set the number of iterations to 12:	
	<pre>RP/0/RSP0/CPU0:router(admin)# diagnostic ondemand iterations 12</pre>	
Related Commands	Command	Description
	diagnostic ondemand action-on-failure, on page 10	Sets when to stop test execution for a diagnostic test.
	diagnostic start, on page 14	Runs a specified diagnostic test.

diagnostic schedule

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

```
diagnostic schedule location node-id test {id | all | non-disruptive} {daily | on month day year | weekly day-of-week} hour:minute
no diagnostic schedule location node-id test {id | all} {daily | on month day year | weekly day-of-week} hour:minute
```

Syntax Description	<p>location node-id Schedules a diagnostic test for a specified location. The <i>node-id</i> argument is entered in the <i>rack/slot/module</i> notation.</p> <p>test Specifies a specific diagnostic test, or all diagnostic tests.</p> <p>id Test ID or list of test IDs, as shown in the show diagnostic content command. Multiple tests can be listed if separated by semicolons (;) and a range of dates can be listed if separated by a hyphen (-), as follows:</p> <ul style="list-style-type: none"> • x;y-z (for example: 1; 3-4 or 1;3;4) <p>all Specifies all tests.</p> <p>non-disruptive Specifies the nondisruptive test suite [Attribute = N].</p> <p>daily Specifies a daily schedule.</p> <p>on month day year Schedules an exact date.</p> <p>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, where 0 is today.</p> <p>hour:minute Scheduled start time, where <i>hour</i> is a number in the range from 0 through 23, and <i>minute</i> is a number in the range from 0 through 59.</p>				
Command Default	No default behavior or values				
Command Modes	Admin Configuration mode				
Command History	<table border="1"> <thead> <tr> <th>Release</th> <th>Modification</th> </tr> </thead> <tbody> <tr> <td>Release 3.7.2</td> <td>This command was introduced.</td> </tr> </tbody> </table>	Release	Modification	Release 3.7.2	This command was introduced.
Release	Modification				
Release 3.7.2	This command was introduced.				

Usage Guidelines

Note To specify a node using the *node-id* argument, use the *rack/slot/module* notation. For example, 0/0/CPU0 is a fully qualified location specification for a line card, 0/2/CPU0 is a fully qualified location specification for a line card, 0/7/CPU0 is a fully qualified location specification for a line card, 0/RSP0/CPU0 is a fully qualified location specification for a Route Switch Processor, and 0/RSP0/CPU0 is also a fully qualified location specification for a Route Switch Processor.

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 a diagnostic test:

```
RP/0/RSP0/CPU0:router# admin
RP/0/RSP0/CPU0:router(admin)# configure
RP/0/RSP0/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 29	Displays the current scheduled diagnostic tasks.

diagnostic start

diagnostic start

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

diagnostic start location node-id test {id | all | non-disruptive}

Syntax Description	location Runs diagnostic testing for a specified location. The <i>node-id</i> argument is entered in the <i>rack/slot/module</i> notation. test Specifies a specific diagnostic test, or all diagnostic tests. id Test ID or list of test IDs, as shown in the show diagnostic content command. Multiple tests can be listed if separated by semicolons (;) a range of dates can be listed if separated by a hyphen (-), as follows: <ul style="list-style-type: none"> • x;y-z (for example: 1; 3-4 or 1;3;4)
	all Specifies all tests. non-disruptive Specifies the nondisruptive test suite [Attribute = N].

Command Default No default behavior or values

Command Modes Admin EXEC mode

Command History **Release** **Modification**

Release 3.7.2 This command was introduced.

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



Note To specify a node using the *node-id* argument, use the *rack/slot/module* notation. For example, 0/0/CPU0 is a fully qualified location specification for a line card, 0/2/CPU0 is a fully qualified location specification for a line card, 0/7/CPU0 is a fully qualified location specification for a line card, 0/RSP0/CPU0 is a fully qualified location specification for a Route Switch Processor, and 0/RSP0/CPU0 is also a fully qualified location specification for a Route Switch Processor.

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 run a complete suite of diagnostic tests for a specified location:

```
RP/0/RSP0/CPU0:router# admin  
RP/0/RSP0/CPU0:router(admin)# diagnostic start location 0/0/CPU0 test all
```

Related Commands

Command	Description
diagnostic stop, on page 16	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 Admin EXEC mode.

diagnostic stop location *node-id*

Syntax Description	location <i>node-id</i>	Stops diagnostic testing for a specified location. The <i>node-id</i> argument is entered in the <i>rack/slot/module</i> notation.
Command Default	No default behavior or values	
Command Modes	Admin EXEC mode	
Command History	Release	Modification
	Release 3.7.2 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.	
	 Note To specify a node using the <i>node-id</i> argument, use the <i>rack/slot/module</i> notation. For example, 0/0/CPU0 is a fully qualified location specification for a line card, 0/2/CPU0 is a fully qualified location specification for a line card, 0/7/CPU0 is a fully qualified location specification for a line card, 0/RSP0/CPU0 is a fully qualified location specification for a Route Switch Processor, and 0/RSP0/CPU0 is also a fully qualified location specification for a Route Switch Processor.	
Task ID		
Examples	The following example shows how to stop the diagnostic test process:	
Related Commands	Command	Description
	diagnostic start, on page 14	Runs a specified diagnostic test.

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.

EXEC Mode

show diag [node-id] [{details | eeprom-info | power-reg | summary}]

Administration EXEC Mode

show diag [node-id] [{chassis | fans | power-supply}] [{details | eeprom-info | power-reg | summary}]

Syntax Description	<p>node-id (Optional) Identifies the node whose information you want to display. The <i>node-id</i> argument is expressed in the <i>rack/slot/module</i> notation.</p> <p>Follow the <i>node-id</i> argument with one of the following optional keywords to specify specific test results:</p> <ul style="list-style-type: none"> • details • eeprom-info • power-reg • summary <hr/> <p>details (Optional) Displays detailed diagnostics information for the current node.</p> <hr/> <p>eeprom-info (Optional) Displays field diagnostics results from the EEPROM.</p> <hr/> <p>power-reg (Optional) Displays field diagnostics results from the power registers.</p> <hr/> <p>summary (Optional) Displays summarized diagnostics results for all nodes in the system.</p> <hr/> <p>chassis-info (Optional) Displays information about the chassis.</p> <hr/> <p>fans (Optional) Displays information about the fans tray.</p> <hr/> <p>power-supply (Optional) Displays information about the power supply.</p>				
Command Default	Diagnostics for all nodes installed in the router are displayed.				
Command Modes	<p>EXEC</p> <p>Administration EXEC</p>				
Command History	<table border="1"> <thead> <tr> <th>Release</th> <th>Modification</th> </tr> </thead> <tbody> <tr> <td>Release 3.7.2</td> <td>This command was introduced.</td> </tr> </tbody> </table>	Release	Modification	Release 3.7.2	This command was introduced.
Release	Modification				
Release 3.7.2	This command 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.				

show diag

Task ID	Task Operations ID
	sysmgr read

Examples

The following example shows excerpts of output from the **show diag details** command:

```
RP/0/RSP0/CPU0:router# show diag details

NODE module 0/RSP0/CPU0 : ASR9K Fabric, Controller, 4G memory
MAIN board type 0x100302 S/N: FOC1229801R
Top Assy. Number68-3160-04PID A9K-RSP-4GUDI_VIDHwRev: V4.8New Deviation NumberCLEI
TBDTBDBoard State IOS XR RUNBoard State IOS XR RUN PLD: Motherboard: N/A, Processor:
0x8004 (rev: 2.2), Power: N/A
MONLIBQNXFFS Monlib Version 32ROMMONVersion 1(20081208:173612) [ASR9K ROMMON] Board
FPGA/CPLD/ASIC Hardware Revision:
CompactFlash V1.0XbarSwitch0 V1.3 XbarSwitch1 V1.3 XbarArbiter V1.0XbarInterface
V18.4IntCtrl V114ClkCtrl V1.13PuntFPGA V1.4HD V3.USB0 V17.USB1 V17CPUCtrl V1.17UTI
V1.6LIU V1.MLANSwitch V0.EOBCSwitch V2CBC (active partition) v1.1CBC (inactive
partition) v1.More--
```

This table describes the significant fields shown in the display.

Table 1: show diag Field Descriptions

Field	Description
MAIN	Provides the following general information about the hardware: <ul style="list-style-type: none"> • Board type • Revision • Device identifier • Serial number
PCA	Cisco printed circuit assembly (PCA) hardware and revision number.
PID	Displays the product identifier (PID) revision for the specified node.
VID	Displays the version identifier (VID) for the specified node.
CLEI	Displays the common language equipment identifier (CLEI) for the specified node.
ECI	Displays the equipment catalog item (ECI) for the specified node.
Board State	Displays the current software on the board and whether or not the board is running.
PLD	Displays the information about the following programmable logic device (PLD) components on the current module: <ul style="list-style-type: none"> • Processor • Power • MONLIB

Field	Description
SPEED	Displays speed information for the various components of the specified node, in megahertz.
MEM Size	Displays the memory size of the specified node, in megabytes.
RMA	Displays returned material adjustment (RMA) information for the specified node.
DIAGNOSTICS RESULTS	<p>Provides the following information about the last diagnostics test that was run on the specified node:</p> <ul style="list-style-type: none"> • ENTRY 1 • TIMESTAMP—Time stamp for the last diagnostic test that was run on the node. • VERSION • PARAM1 • PARAM2 • TESTNUM—Identifies the test that was run on the node. • RESULT—Displays whether the last diagnostic test passed or failed. • ERRCODE

The following example shows how to display EEPROM information:

```
RP/0/RSP15/CPU0:router# show diag chassis eeprom-info

Rack 0 - ASR-9010 Chassis, Includes Accessories
Controller Family HW config: 0x20 SW key: ef Controller Type
: 2fePID ASR9010AC Version Identifier : 0UDI Name
chassis ASR-9010-ACUDI Description ASR9010, AC Chassis Part Number (68-bbbb-vv)
: 68-1234-56
Part Revision : 0.1
PCB Serial Number : FOX1232H67MPCA Number (73-bbbb-vv) : 73-1159-02 PCA
Revision : 0.
Deviation Number # 1 0 CLEI Code : NOCLEI
Manufacturing Test Data : 00 00 00 00 00 00 00 00 00 00
Base MAC Address : 001d.e5eb.bfa8
MAC Address block size : 264
Hardware Revision : 0.100
Capabilities : 00
Field Diagnostics Data 00 00 00 00 00 00 00 00 Device values :
Power Usage (10mW units) : 0
ENVMON Information 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0
0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
```

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

show diagnostic bootup level

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

show diagnostic bootup level location node-id

Syntax Description	location Specifies a card. The <i>node-id</i> argument is entered in the <i>rack/slot/module</i> notation. <i>node-id</i>
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Command Default	No default behavior or values.
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Command Modes	Admin EXEC mode
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Command History	Release Modification
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Release 3.7.2 This command was introduced.

Usage Guidelines	Use the show diagnostic bootup level command to display the current diagnostic bootup level for a specified card.
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Note To specify a node using the *node-id* argument, use the *rack/slot/module* notation. For example, 0/0/CPU0 is a fully qualified location specification for a line card, 0/2/CPU0 is a fully qualified location specification for a line card, 0/7/CPU0 is a fully qualified location specification for a line card, 0/RSP0/CPU0 is a fully qualified location specification for a Route Switch Processor, and 0/RSP0/CPU0 is also a fully qualified location specification for a Route Switch Processor.

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/RSP0/CPU0:router(admin) # show diagnostic bootup level location 0/1/cpu0
Current bootup diagnostic level for LC 0/1/CPU0: minimal
```

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 Admin EXEC mode.

show diagnostic content location node-id

Syntax Description	location <i>node-id</i>	Displays the diagnostic content for a specified location. The <i>node-id</i> argument is entered in the <i>rack/slot/module</i> notation.
Command Default	No default behavior or values	
Command Modes	Admin EXEC mode	
Command History	Release	Modification

Release 3.7.2 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.
-------------------------	--



Note To specify a node using the *node-id* argument, use the *rack/slot/module* notation. For example, 0/0/CPU0 is a fully qualified location specification for a line card, 0/2/CPU0 is a fully qualified location specification for a line card, 0/7/CPU0 is a fully qualified location specification for a line card, 0/RSP0/CPU0 is a fully qualified location specification for a Route Switch Processor, and 0/RSP0/CPU0 is also a fully qualified location specification for a Route Switch Processor.

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 switch processor:
-----------------	--

```
RP/0/RSP0/CPU0:router(admin)# show diagnostic content location 0/rsp0/cpu0
```

```
Wed Feb 16 09:17:07.293 PST
```

```
RP 0/RSP0/CPU0:
```

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

show diagnostic content

```
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
```

ID	Test Name	Attributes	Test Interval (day hh:mm:ss.ms)	Thre-hold
<hr/>				
1)	PuntFPGAScratchRegister ----->	***N*****A	000 00:01:00.000	1
2)	FIAScratchRegister ----->	***N*****A	000 00:01:00.000	1
3)	ClkCtrlScratchRegister ----->	***N*****A	000 00:01:00.000	1
4)	IntCtrlScratchRegister ----->	***N*****A	000 00:01:00.000	1
5)	CPUCtrlScratchRegister ----->	***N*****A	000 00:01:00.000	1
6)	FabSwitchIdRegister ----->	***N*****A	000 00:01:00.000	1
7)	EccSbeTest ----->	***N*****I	000 00:01:00.000	3
8)	SrspStandbyEobcHeartbeat ----->	***NS****A	000 00:00:05.000	3
9)	SrspActiveEobcHeartbeat ----->	***NS****A	000 00:00:05.000	3
10)	FabricLoopback ----->	M**N*****A	000 00:01:00.000	3
11)	PuntFabricDataPath ----->	***N*****A	000 00:01:00.000	3
12)	FPDImageVerify ----->	***N*****I	001 00:00:00.000	1

For a line card:

```
RP/0/RSP0/CPU0:router(admin) # show diagnostic content location 0/1/cpu0
A9K-40GE-L 0/1/CPU0:
```

Diagnostics test suite attributes:

```
M/C/* - Minimal bootup level test / Complete bootup level test / NAab
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
```

ID	Test Name	Attributes	Test Interval (day hh:mm:ss.ms)	Thre-hold
<hr/>				
1)	PHYCtrlScratchRegister ----->	***N*****A	000 00:01:00.000	1
2)	PortCtrlScratchRegister ----->	***N*****A	000 00:01:00.000	1
3)	CPUCtrlScratchRegister ----->	***N*****A	000 00:01:00.000	1
4)	NPScratchRegister ----->	***N*****A	000 00:01:00.000	1
5)	BridgeScratchRegister ----->	***N*****A	000 00:01:00.000	1
6)	FIAScratchRegister ----->	***N*****A	000 00:01:00.000	1
7)	EccSbeTest ----->	***N*****I	000 00:01:00.000	3
8)	LcEobcHeartbeat ----->	***N*****A	000 00:00:05.000	3
9)	NPULoopback ----->	***N*****A	000 00:01:00.000	3
10)	FPDImageVerify ----->	***N*****I	001 00:00:00.000	1

[Table 2: show diagnostic content Field Descriptions](#), on page 23 describes the significant fields shown in the display.

Table 2: 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.
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 test.

Related Commands

Command	Description
diagnostic monitor interval, on page 5	Configures the health-monitoring diagnostic testing for a specified interval for a specified location.
diagnostic schedule, on page 12	Configures a diagnostic schedule.
diagnostic start, on page 14	Runs a specified diagnostic test.

show diagnostic ondemand settings

show diagnostic ondemand settings

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

show diagnostic ondemand settings

Syntax Description This command has no keywords or arguments.

Command Default No default behavior or values

Command Modes Admin EXEC mode

Command History	Release	Modification
	Release 3.7.2	This command was introduced.

Usage Guidelines No specific guidelines impact the use of this command.

Task ID	Task ID	Operations
	diag	read

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

```
RP/0/RSP0/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 Admin EXEC mode.

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

Syntax Description	location node-id Displays the diagnostic test results for a specified location. The <i>node-id</i> argument is entered in the <i>rack/slot/module</i> notation. test {id all} (Optional) Specifies diagnostic test selection. The following test selections are available: <ul style="list-style-type: none"> • <i>id</i>—Test ID or list of test IDs , as shown in the show diagnostic content command . Multiple tests can be listed if separated by semicolons (;) as follows: • x;y-z (for example: 1; 3-4 or 1;3;4) • all—Specifies all tests. detail (Optional) Specifies detailed results.				
Command Default	No default behavior or values				
Command Modes	Admin EXEC mode				
Command History	<table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="text-align: left; padding: 2px;">Release</th> <th style="text-align: left; padding: 2px;">Modification</th> </tr> </thead> <tbody> <tr> <td style="padding: 2px;">Release 3.7.2</td> <td style="padding: 2px;">This command was introduced.</td> </tr> </tbody> </table>	Release	Modification	Release 3.7.2	This command was introduced.
Release	Modification				
Release 3.7.2	This command was introduced.				
Usage Guidelines	Use the show diagnostic result command to display diagnostic results for a specific location.				



Note To specify a node using the *node-id* argument, use the *rack/slot/module* notation. For example, 0/0/CPU0 is a fully qualified location specification for a line card, 0/2/CPU0 is a fully qualified location specification for a line card, 0/7/CPU0 is a fully qualified location specification for a line card, 0/RSP0/CPU0 is a fully qualified location specification for a Route Switch Processor, and 0/RSP0/CPU0 is also a fully qualified location specification for a Route Switch Processor.

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/RSP0/CPU0:router(admin)# show diagnostic result loc 0/RSP0/CPU0 test 1
Current bootup diagnostic level for RP 0/RSP0/CPU0: minimal
```

show diagnostic result

```
Test results: (. = Pass, F = Fail, U = Untested)
1 ) PuntFPGAScratchRegister -----> .
RP/0/RSP0/CPU0:router(admin)#
RP/0/RSP0/CPU0:router(admin)# show diagnostic result loc 0/RSP0/CPU0 test all
Current bootup diagnostic level for RP 0/RSP0/CPU0: minimal
Test results: (. = Pass, F = Fail, U = Untested)
1 ) PuntFPGAScratchRegister -----> .
2 ) XbarInterfaceScratchRegister ----> .
3 ) ClkCtrlScratchRegister -----> .
4 ) IntCtrlScratchRegister -----> .
5 ) CPUCtrlScratchRegister -----> .
6 ) XbarSwitchIdRegister -----> .
7 ) EccSbeTest -----> U
8 ) SrspStandbyEobcHeartbeat -----> U
9 ) SrspActiveEobcHeartbeat -----> U
10 ) FabricLoopback -----> .
11 ) PuntFabricDataPath -----> .
12 ) FPDImageVerify -----> .
```

Here is an example of the **show diagnostic results detail** command run on the route switch processor labeled RSP0:

```
RP/0/RSP0/CPU0:router(admin)# show diagnostic result loc 0/RSP0/CPU0 detail

Current bootup diagnostic level for RP 0/RSP0/CPU0: minimal

RP 0/RSP0/CPU0:

Overall diagnostic result: PASS
Diagnostic level at card bootup: minimal

Test results: (. = Pass, F = Fail, U = Untested)



---


1 ) PuntFPGAScratchRegister -----> .

    Error code -----> 0 (DIAG_SUCCESS)
    Total run count -----> 265
    Last test execution time ----> Tue Mar 10 16:31:43 2009
    First test failure time ----> n/a
    Last test failure time ----> n/a
    Last test pass time -----> Tue Mar 10 16:31:43 2009
    Total failure count -----> 0
    Consecutive failure count ---> 0



---


2 ) XbarInterfaceScratchRegister ----> .

    Error code -----> 0 (DIAG_SUCCESS)
    Total run count -----> 265
    Last test execution time ----> Tue Mar 10 16:31:43 2009
    First test failure time ----> n/a
    Last test failure time ----> n/a
    Last test pass time -----> Tue Mar 10 16:31:43 2009
    Total failure count -----> 0
    Consecutive failure count ---> 0



---


3 ) ClkCtrlScratchRegister -----> .

    Error code -----> 0 (DIAG_SUCCESS)
```

```

Total run count -----> 265
Last test execution time ----> Tue Mar 10 16:31:43 2009
First test failure time ----> n/a
Last test failure time ----> n/a
Last test pass time -----> Tue Mar 10 16:31:43 2009
Total failure count -----> 0
Consecutive failure count ---> 0

4 ) IntCtrlScratchRegister -----> .

Error code -----> 0 (DIAG_SUCCESS)
Total run count -----> 265
Last test execution time ----> Tue Mar 10 16:31:43 2009
First test failure time ----> n/a
Last test failure time ----> n/a
Last test pass time -----> Tue Mar 10 16:31:43 2009
Total failure count -----> 0
Consecutive failure count ---> 0

5 ) CPUCtrlScratchRegister -----> .

Error code -----> 0 (DIAG_SUCCESS)
Total run count -----> 264
Last test execution time ----> Tue Mar 10 16:31:43 2009
First test failure time ----> n/a
Last test failure time ----> n/a
Last test pass time -----> Tue Mar 10 16:31:43 2009
Total failure count -----> 0
Consecutive failure count ---> 0

6 ) XbarSwitchIdRegister -----> .

Error code -----> 0 (DIAG_SUCCESS)
Total run count -----> 264
Last test execution time ----> Tue Mar 10 16:31:43 2009
First test failure time ----> n/a
Last test failure time ----> n/a
Last test pass time -----> Tue Mar 10 16:31:43 2009
Total failure count -----> 0
Consecutive failure count ---> 0

```

Table 3: show diagnostic result Field Descriptions

Field	Description
Test results	Test result options: <ul style="list-style-type: none"> • .—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.

show diagnostic result

Field	Description
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 schedule, on page 12	Configures a diagnostic schedule.
diagnostic start, on page 14	Runs a specified diagnostic test.

show diagnostic schedule

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

show diagnostic schedule location *node-id*

Syntax Description	location <i>node-id</i>	Displays the diagnostic schedule for a specified location. The <i>node-id</i> argument is entered in the <i>rack/slot/module</i> notation.
Command Default	No default behavior or values	
Command Modes	Admin EXEC mode	
Command History	Release	Modification

Release 3.7.2 This command was introduced.

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



Note To specify a node using the *node-id* argument, use the *rack/slot/module* notation. For example, 0/0/CPU0 is a fully qualified location specification for a line card, 0/2/CPU0 is a fully qualified location specification for a line card, 0/7/CPU0 is a fully qualified location specification for a line card, 0/RSP0/CPU0 is a fully qualified location specification for a Route Switch Processor, and 0/RSP0/CPU0 is also a fully qualified location specification for a Route Switch Processor.

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/RSP0/CPU0:router# admin
RP/0/RSP0/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 .
```

show diagnostic schedule**Table 4: 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 12	Configures a diagnostic schedule.

show diagnostic status

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

show diagnostic status

Syntax Description	This command has no keywords or arguments.				
Command Default	No default behavior or values				
Command Modes	Admin EXEC mode				
Command History	<table><thead><tr><th>Release</th><th>Modification</th></tr></thead><tbody><tr><td>Release 3.7.2</td><td>This command was introduced.</td></tr></tbody></table>	Release	Modification	Release 3.7.2	This command was introduced.
Release	Modification				
Release 3.7.2	This command was introduced.				
Usage Guidelines	No specific guidelines impact the use of this command.				
Task ID	<table><thead><tr><th>Task ID</th><th>Operations</th></tr></thead><tbody><tr><td>diag</td><td>read</td></tr></tbody></table>	Task ID	Operations	diag	read
Task ID	Operations				
diag	read				

Examples

The following example shows how to display the current running tests:

```
RP0/RSP0/CPU0:router(admin)# show diagnostic status
<BU> - Bootup Diagnostics, <HM> - Health Monitoring Diagnostics, <OD> - OnDemand
Diagnostics, <SCHD> - Scheduled Diagnostics
=====
Card Description Current Running Test Run by
-----
RP 0/RSP0/CPU0 N/A N/A
-----
RP 0/RSP1/CPU0 N/A N/A
-----
A9K-8T/4-B 0/2/CPU0 N/A N/A
-----
A9K-40GE-E 0/7/CPU0 N/A N/A
-----
A9K-40GE-B 0/0/CPU0 N/A N/A
=====
```

show diag (Cisco IOS XR 64-bit)

show diag (Cisco IOS XR 64-bit)

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

System Admin EXEC Mode

show diag [details | location node-id]

Syntax Description

node-id (Optional) Identifies the node whose information you want to display. The *node-id* argument is expressed in the *rack/slot/module* notation.

details It displays detailed diagnostics information for the current node.

location It displays hardware components for the current node.

Command Default

Diagnostics for all nodes installed in the router are displayed.

Command Modes

System Admin EXEC

Command History

Release	Modification
---------	--------------

Release 7.0.1	This command was introduced.
------------------	------------------------------

Usage Guidelines

The command is only applicable for IOS XR 64 Bit software on ASR 9000 Enhanced XR (eXR).

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
---------	------------

system read

The following example shows excerpts of output from the **show diag details** command:

```
sysadmin-vm:0_RSP0#show diag detail location 0/1
Wed Mar 29 11:46:09.642 UTC+00:00

Detail Diag Information For : 0/1

0/1-IDPROM Info
    Controller Family      : 003f
    Controller Type        : 050d
    PID                    : A9K-16X100GE-TR
    Version Identifier     : V01
    UDI Name               :
    UDI Description        : ASR 9000 16-port 100GE TR linecard
    Top Assy. Part Number  : 68-6773-02
    Top Assy. Revision     : A0
    PCB Serial Number      : FOC2249PA5Z
    PCA Number              : 73-19340-02
    PCA Revision            : A2
```

```
CLEI Code : IP9IA0GCAA
Deviation Number # 1 : 542467
Deviation Number # 2 : 542674
Deviation Number # 3 : 0
Deviation Number # 4 : 0
Deviation Number # 5 : 0
Manufacturing Test Data : 00 00 00 00 00 00 00 00 00 00
Calibration Data : 00000000
Base MAC Address : 08ec.f50a.87b0
MAC Addr. Block Size : 80
Hardware Revision : 1.0
Capabilities : 00
Power Consumption : 700 Watts (Maximum)
ENVMON Information : 2 95 0 0 0 0 0 0
                      0 0 0 0 0 0 0 0
                      0 0 0 0 0 0 0 0
                      0 0 0 0 0 0 0 0
Device values : 20
```

```
show diag (Cisco IOS XR 64-bit)
```