



Fabric Management Commands on Cisco IOS XR Software

This module describes the Cisco IOS XR software commands used to monitor and control application-specific integrated circuit (ASIC) fabric queues for the Cisco XR 12000 Series Router line cards or Cisco CRS-1 modular services cards running Cisco IOS XR software.

clear controller fabric statistics

To clear fabric plane statistics from the counters information table, use the **clear controller fabric statistics** command in administration EXEC mode.

clear controller fabric statistics plane [*plane-id* | **all**]

Syntax Description

plane <i>plane-id</i>	(Optional) The fabric plane and plane ID. Range is from 0 to 7.
plane all	(Optional) Specifies fabric statistics for all planes.

Defaults

Information for all planes is cleared.

Command Modes

Administration EXEC

Command History

Release	Modification
Release 2.0	This command was introduced on the Cisco CRS-1.
Release 3.0	No modification.
Release 3.2	No modification.
Release 3.3.0	No modification.
Release 3.4.0	No modification.
Release 3.5.0	No modification.
Release 3.6.0	No modification.
Release 3.7.0	No modification.
Release 3.8.0	No modification.

Usage Guidelines

To use this command, your Cisco IOS XR software system administrator must assign you to a user group associated with a task group that includes the corresponding command task IDs. If you need assistance with your task group assignment, contact your system administrator. For detailed information about user groups and task IDs, see the *Configuring AAA Services on Cisco IOS XR Software* module of *Cisco IOS XR System Security Configuration Guide*.

The **clear controller fabric statistics** command clears the fabric statistics for the specified fabric plane or all planes.

Task ID

Task ID	Operations
root-system	read, write, execute
fabric	read, write

Examples

The following example shows how to clear all fabric plane statistics from the router:

```
RP/0/RP0/CPU0:router# admin
RP/0/RP0/CPU0:router(admin)# clear controller fabric statistics plane all
```

clear controller fabricq statistics

On linecards, RPs and DRPs, the fabricq ASICs receive the cells from the fabric planes and reassembles them into packets. To clear the statistics on fabricq ASICs, use the **clear controller fabricq statistics** command in EXEC mode.

clear controller fabricq statistics [**instance** *asic_instance*] [**location** *node-id*]

Syntax Description

instance <i>asic_instance</i>	(Optional) Identifies the fabric queue instance whose ASIC statistics you want to clear. Range is from 0 to 3.
location <i>node-id</i>	(Optional) Identifies a node on which to clear ASIC statistics for a specific fabric queue, or for all fabric queues. The <i>node-id</i> argument is entered in the <i>rack/slot/module</i> notation.

Defaults

The default is to enter the **clear controller fabricq statistics** command without any optional keyword arguments to clear ASIC statistics for all fabric queues on the router.

Command Modes

EXEC

Command History

Release	Modification
Release 2.0	This command was introduced on the Cisco CRS-1.
Release 3.0	No modification.
Release 3.2	No modification.
Release 3.3.0	No modification.
Release 3.4.0	No modification.
Release 3.5.0	No modification.
Release 3.6.0	The <i>asic_instance</i> argument range of 1 to 3 was changed to 0 to 3.
Release 3.7.0	No modification.
Release 3.8.0	No modification.

Usage Guidelines

To use this command, your Cisco IOS XR software system administrator must assign you to a user group associated with a task group that includes the corresponding command task IDs. If you need assistance with your task group assignment, contact your system administrator. For detailed information about user groups and task IDs, see the *Configuring AAA Services on Cisco IOS XR Software* module of *Cisco IOS XR System Security Configuration Guide*.

Only locations that contain a fabric queue ASIC can be specified for the **location** *node-id*.

This command is intended for use while performing special maintenance, test, or debugging procedures. It should not be necessary to use this command when fabric connectivity is performing normally.

Task ID**Task ID** **Operations**

root-system	execute
drivers	read, write

Examples

The following example shows how to clear ASIC statistics on all fabric queues on the node located in 0/1/CPU0:

```
RP/0/RP0/CPU0:router# clear controller fabricq statistics location 0/1/CPU0
```

The following example shows how to clear ASIC statistics for a specific fabric queue on all nodes that are installed in the router:

```
RP/0/RP0/CPU0:router# clear controller fabricq statistics instance 2
```

The following example shows how to clear ASIC statistics for a specific fabric queue on a specific node:

```
RP/0/RP0/CPU0:router# clear controller fabricq statistics instance 2 location 0/1/CPU0
```

Related Commands**Command****Description**

[show controllers fabricq statistics](#)

Displays statistics about packet flow through the fabric queue ASIC.

clear controller ingressq statistics

To clear application-specific integrated circuit (ASIC) statistics from the ingress fabric queue on a specific node, or on all nodes installed in the router, use the **clear controller ingressq statistics** command in EXEC mode.

clear controller ingressq statistics location *node-id*

Syntax Description

location <i>node-id</i>	Identifies the node whose ASIC statistics you want to clear from the ingress fabric queue. The <i>node-id</i> argument is entered in the <i>rack/slot/module</i> notation.
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Defaults

Enter the **clear controller ingressq statistics** command without the optional **location** *node-id* keyword and argument to clear the ASIC statistics from the ingress queues on all nodes that are installed in the router.

Command Modes

EXEC

Command History

Release	Modification
Release 2.0	This command was introduced on the Cisco CRS-1.
Release 3.0	No modification.
Release 3.2	No modification.
Release 3.3.0	No modification.
Release 3.4.0	No modification.
Release 3.5.0	No modification.
Release 3.6.0	The location <i>node-id</i> keyword and argument were changed from optional to required.
Release 3.7.0	No modification.
Release 3.8.0	No modification.

Usage Guidelines

To use this command, your Cisco IOS XR software system administrator must assign you to a user group associated with a task group that includes the corresponding command task IDs. If you need assistance with your task group assignment, contact your system administrator. For detailed information about user groups and task IDs, see the *Configuring AAA Services on Cisco IOS XR Software* module of *Cisco IOS XR System Security Configuration Guide*.

Only locations that contain a fabric queue ASIC can be specified for the *node-id* argument.

The **clear controller ingressq statistics** command is intended for use while performing special maintenance, test, or debugging procedures. You do not need to use this command when fabric connectivity is performing normally.

Task ID	Task ID	Operations
	drivers	read, write
	The following example shows how to use the clear controller ingressq statistics command to clear all ASIC statistics in the ingress fabric queue from the location 0/1/CPU0:	
	RP/0/RP0/CPU0:router# clear controller ingressq statistics location 0/1/CPU0	
Related Commands	Command	Description
	show controllers plim ASIC egress-channel bay	Displays statistical information for the ingress queue ASIC.

clear fabricq counters all

To clear all counters going to fabric and coming back from fabric associated with the fabric queue driver, use the **clear fabricq counters all** command in administration EXEC mode.

clear fabricq counters all location *node-id*

Syntax Description	location <i>node-id</i>	Identifies the node whose fabric counters you want to clear. The <i>node-id</i> argument is entered in the <i>rack/slot/module</i> notation.
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Defaults	No default behavior or values
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Command Modes	Administration EXEC
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Command History	Release	Modification
	Release 3.2	This command was introduced on the Cisco XR 12000 Series Router.
	Release 3.3.0	No modification.
	Release 3.4.0	No modification.
	Release 3.5.0	The fabric taskID was removed from this command.
	Release 3.6.0	No modification.
	Release 3.7.0	No modification.
	Release 3.8.0	No modification.

Usage Guidelines	To use this command, your Cisco IOS XR software system administrator must assign you to a user group associated with a task group that includes the corresponding command task IDs. If you need assistance with your task group assignment, contact your system administrator. For detailed information about user groups and task IDs, see the <i>Configuring AAA Services on Cisco IOS XR Software</i> module of <i>Cisco IOS XR System Security Configuration Guide</i> .
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Task ID	Task ID	Operations
	root-system	read

Examples

The following example shows how to clear all fabricq counters for the location 0/1/CPU0:

```
RP/0/0/CPU0:router # admin
RP/0/0/CPU0:router(admin) # clear fabricq counters all location 0/1/CPU0
```

Related Commands

Command	Description
show controllers fabricq frfab	Displays from fabric statistics.
show controllers fabricq tofab	Displays to fabric statistics.

clear fabricq counters frfab

To clear the from fabric queue counters that are associated with the fabric queue driver, use the **clear fabricq counters frfab** command in administration EXEC mode.

clear fabricq counters frfab [**all** | **error** | **packet**] **location** *node-id*

Syntax Description

all	(Optional) Clears all counters.
error	(Optional) Clears error counters.
packet	(Optional) Clears packet counters.
location <i>node-id</i>	Identifies the node whose fabric counters you want to clear. The <i>node-id</i> argument is entered in the <i>rack/slot/module</i> notation.

Defaults

All from fabric queue driver counters are cleared for the specified location

Command Modes

Administration EXEC

Command History

Release	Modification
Release 3.2	This command was introduced on the Cisco XR 12000 Series Router.
Release 3.3.0	No modification.
Release 3.4.0	No modification.
Release 3.5.0	The fabric taskID was removed from this command.
Release 3.6.0	No modification.
Release 3.7.0	No modification.
Release 3.8.0	No modification.

Usage Guidelines

To use this command, your Cisco IOS XR software system administrator must assign you to a user group associated with a task group that includes the corresponding command task IDs. If you need assistance with your task group assignment, contact your system administrator. For detailed information about user groups and task IDs, see the *Configuring AAA Services on Cisco IOS XR Software* module of *Cisco IOS XR System Security Configuration Guide*.

Task ID

Task ID	Operations
root-system	read

Examples

The following example shows how to clear the from fabric queue counters for the location 0/1/CPU0:

```
RP/0/0/CPU0:router # admin
RP/0/0/CPU0:router(admin)# clear fabricq counters frfab location 0/1/CPU0
```

Related Commands

Command	Description
show controllers fabricq frfab	Displays from fabric statistics.

clear fabricq counters tofab

To clear the to fabric counters that are associated with the fabric queue driver, use the **clear fabricq counters tofab** command in administration EXEC mode.

clear fabricq counters tofab [**all** | **error** | **packet**] **location** *node-id*

Syntax Description

all	(Optional) Clears all counters.
error	(Optional) Clears error counters.
packet	(Optional) Clears packet counters.
location <i>node-id</i>	Identifies the node whose fabric counters you want to clear. The <i>node-id</i> argument is entered in the <i>rack/slot/module</i> notation.

Defaults

All to fabric queue driver counters are cleared for the specified location

Command Modes

Administration EXEC

Command History

Release	Modification
Release 3.2	This command was introduced on the Cisco XR 12000 Series Router.
Release 3.3.0	No modification.
Release 3.4.0	No modification.
Release 3.5.0	The fabric taskID was removed from this command.
Release 3.6.0	No modification.
Release 3.7.0	No modification.
Release 3.8.0	No modification.

Usage Guidelines

To use this command, your Cisco IOS XR software system administrator must assign you to a user group associated with a task group that includes the corresponding command task IDs. If you need assistance with your task group assignment, contact your system administrator. For detailed information about user groups and task IDs, see the *Configuring AAA Services on Cisco IOS XR Software* module of *Cisco IOS XR System Security Configuration Guide*.

Task ID

Task ID	Operations
root-system	read

Examples

The following example shows how to clear all to fabric queue counters for the location 0/1/CPU0:

```
RP/0/0/CPU0:router # admin
RP/0/0/CPU0:router(admin)# clear fabricq counters tofab location 0/1/CPU0
```

Related Commands

Command	Description
show controllers fabricq tofab	Displays to fabric statistics.

controllers fabric bundle port

To put a specific switch fabric bundle port into the shut down state, use the **controllers fabric bundle** command in administration configuration mode. To return the switch fabric bundle port to an up state, use the **no** form of this command.

controllers fabric bundle port *port-id* shutdown

no controllers fabric bundle port *port-id* shutdown

Syntax Description	<i>port-id</i>	Identifies the switch fabric bundle port you want to put into the shutdown state. The <i>port-id</i> argument is entered in the <i>rack/slot/module/port</i> notation.
	shutdown	Puts the specified bundle port into a shutdown state.

Defaults	No default behavior or values
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Command Modes	Administration configuration
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Command History	Release	Modification
	Release 3.5.0	This command was introduced on the Cisco CRS-1.
	Release 3.6.0	No modification.
	Release 3.7.0	No modification.
	Release 3.8.0	No modification.

Usage Guidelines	To use this command, your Cisco IOS XR software system administrator must assign you to a user group associated with a task group that includes the corresponding command task IDs. If you need assistance with your task group assignment, contact your system administrator. For detailed information about user groups and task IDs, see the <i>Configuring AAA Services on Cisco IOS XR Software</i> module of <i>Cisco IOS XR System Security Configuration Guide</i> .
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Task ID	Task ID	Operations
	fabric	read, write

Examples	The following example shows put a switch fabric bundle port into the shut down state: <pre>RP/0/RP0/CPU0:router# admin RP/0/RP0/CPU0:router(config)# configure RP/0/RP0/CPU0:router(admin-config)# controllers fabric bundle port 0/1/CPU0/10 shutdown</pre>
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controllers fabric plane oim

To configure optical interface module (OIM) fabric plane properties, use the **controllers fabric plane** command in administration configuration mode. To return the OIM fabric plane properties to the default configuration, use the **no** form of this command.

```
controllers fabric plane plane-id oim {count {1 | 3} | width {1 | 2} | instance oim-instance
location node-id | all}}
```

```
no controllers fabric plane plane-id oim {count {1 | 3} | width {1 | 2} | instance oim-instance
location {node-id | all}}
```

Syntax Description	
<i>plane-id</i>	Identifies the fabric plane. Range is from 0 to 7.
count { 1 3 }	Configures the number of OIMs used in this plane. Enter 1 to configure all cables in the plane to connect to the same OIM. Enter 3 to configure the cables from each fabric card to connect to different OIMs.
width { 1 2 }	Width of OIMs in the current fabric plane. Enter 1 to indicate a single-width OIM that covers one slot only. Enter 2 to indicate a dual-width OIM that covers two slots.
instance { <i>oim-instance</i> }	Specifies the properties of a specific OIM. Range is from 0 to 2.
location <i>node-id</i>	Identifies the node whose OIM fabric plane properties you want to configure. The <i>node-id</i> argument is entered in the <i>rack/slot/module</i> notation.
location all	Configures the OIM fabric plane properties on all nodes installed in the router.

Defaults No default behavior or values

Command Modes Administration configuration

Command History	Release	Modification
	Release 2.0	This command was introduced on the Cisco CRS-1.
	Release 3.0	No modification.
	Release 3.2	No modification.
	Release 3.3.0	- The topology keyword was removed from the controllers fabric plane command syntax. - The oim, count, width, and instance keywords were added to the controllers fabric plane command syntax.
	Release 3.4.0	No modification.
	Release 3.5.0	No modification.
	Release 3.6.0	No modification.
	Release 3.7.0	No modification.
	Release 3.8.0	No modification.

Usage Guidelines

To use this command, your Cisco IOS XR software system administrator must assign you to a user group associated with a task group that includes the corresponding command task IDs. If you need assistance with your task group assignment, contact your system administrator. For detailed information about user groups and task IDs, see the *Configuring AAA Services on Cisco IOS XR Software* module of *Cisco IOS XR System Security Configuration Guide*.

Task ID	Task ID	Operations
	fabric	read, write

Examples

The following example shows how to configure all cables in the fabric plane to connect to the same OIM:

```
RP/0/RP0/CPU0:router# admin
RP/0/RP0/CPU0:router(admin)# configure
RP/0/RP0/CPU0:router(admin-config)# controllers fabric plane 3 oim count 1
```

controllers fabric plane shutdown

To shut down the state of a fabric plane, use the **controllers fabric plane shutdown** command in administration configuration mode. To disable the state of a fabric plane, use the **no** form of this command.

controllers fabric plane *plane-id* shutdown

no controllers fabric plane *plane-id* shutdown

Syntax Description

plane-id Fabric plane identifier. Range is from 0 to 7.

Defaults

The controller fabric plane is not shut down, and data continues to flow through the plane.

Command Modes

Administration configuration

Command History

Release	Modification
Release 2.0	This command was introduced on the Cisco CRS-1.
Release 3.0	No modification.
Release 3.2	No modification.
Release 3.3.0	No modification.
Release 3.4.0	No modification.
Release 3.5.0	No modification.
Release 3.6.0	No modification.
Release 3.7.0	No modification.
Release 3.8.0	No modification.

Usage Guidelines

To use this command, your Cisco IOS XR software system administrator must assign you to a user group associated with a task group that includes the corresponding command task IDs. If you need assistance with your task group assignment, contact your system administrator. For detailed information about user groups and task IDs, see the *Configuring AAA Services on Cisco IOS XR Software* module of *Cisco IOS XR System Security Configuration Guide*.

Use the **controllers fabric plane shutdown** command to perform a graceful shutdown of the fabric plane before a fabric reconfiguration or fabric plane migration. This ensures that data is not flowing through the plane.

Task ID

Task ID	Operations
fabric	read, write

Examples

The following example shows fabric plane 3 being shut down:

```
RP/0/RP0/CPU0:router# admin  
RP/0/RP0/CPU0:router(admin)# configure  
RP/0/RP0/CPU0:router(admin-config)# controllers fabric plane 3 shutdown
```

controllers fabric rack

To put the rack into installation mode so that no traffic is sent over the switch fabric, use the **controllers fabric rack** command in administration configuration mode. To enable traffic to be sent over the switch fabric, use the **no** form of this command.

controllers fabric rack *rack_number* **install-mode**

no controllers fabric rack *rack_number* **install-mode**

Syntax Description

<i>rack_number</i>	Rack number. Range is from 0 to 17.
install-mode	Puts the specified rack into installation mode, so that no traffic is sent over the switch fabric.

Defaults

No default behavior or values

Command Modes

Administration configuration

Command History

Release	Modification
Release 3.3.0	This command was introduced on the Cisco CRS-1.
Release 3.4.0	No modification.
Release 3.5.0	No modification.
Release 3.6.0	No modification.
Release 3.7.0	No modification.
Release 3.8.0	No modification.

Usage Guidelines

To use this command, your Cisco IOS XR software system administrator must assign you to a user group associated with a task group that includes the corresponding command task IDs. If you need assistance with your task group assignment, contact your system administrator. For detailed information about user groups and task IDs, see the *Configuring AAA Services on Cisco IOS XR Software* module of *Cisco IOS XR System Security Configuration Guide*.

Task ID	Task ID	Operations
	fabric	read, write

Examples

The following example shows how to put the rack into installation mode so that no traffic is sent over the switch fabric:

```
RP/0/RP0/CPU0:router# admin
RP/0/RP0/CPU0:router(config)# configure
RP/0/RP0/CPU0:router(admin-config)# controllers fabric rack 1 install-mode
```

controllers fabric statistics collection

To enable the collection of fabric statistics data and configure the interval at which statistics are collected, use the **controllers fabric statistics collection** command in administration configuration mode. To return the system to the default interval setting, use the **no** form of this command.

controllers fabric statistics collection { **control** [**refresh**] | **interval** *seconds* }

no controllers fabric statistics collection { **control** [**refresh**] | **interval** *seconds* }

Syntax Description

control	Enables fabric statistics data collection.
refresh	(Optional) Causes the system to collect data immediately.
interval <i>seconds</i>	Specifies the interval, in seconds, between collection of data for fabric statistics. Range is from 10 to 180 seconds. Default is 30 seconds.

Defaults

Control of fabric statistics data collection = enabled
Interval= 30 seconds.

Command Modes

Administration configuration

Command History

Release	Modification
Release 2.0	This command was introduced on the Cisco CRS-1.
Release 3.0	No modification.
Release 3.2	No modification.
Release 3.3.0	No modification.
Release 3.4.0	No modification.
Release 3.5.0	No modification.
Release 3.6.0	No modification.
Release 3.7.0	No modification.
Release 3.8.0	No modification.

Usage Guidelines

To use this command, your Cisco IOS XR software system administrator must assign you to a user group associated with a task group that includes the corresponding command task IDs. If you need assistance with your task group assignment, contact your system administrator. For detailed information about user groups and task IDs, see the *Configuring AAA Services on Cisco IOS XR Software* module of *Cisco IOS XR System Security Configuration Guide*.

Task ID

Task ID	Operations
fabric	read, write

Examples

The following example shows statistic data collection on the fabric being disabled:

```
RP/0/RP0/CPU0:router# admin
RP/0/RP0/CPU0:router(admin)# configure
RP/0/RP0/CPU0:router(admin-config)# controllers fabric statistics collection control
disable
```

show controllers fabric

To display fabric card information, use the **show controllers fabric** command in administration EXEC mode.

show controllers fabric [**clock** | **csc-fpga** | **fab-clk** | **fab-control** | **sca** | **xbar**]

Syntax Description	
clock	(Optional) Displays which fabric clock each slot is synchronized to and whether the clock is redundant or not.
csc-fpga	(Optional) Displays registers associated with the csc-fpga on each fabric card (FC).
fab-clk	(Optional) Displays registers associated with the fabric clock FPGA on all route processors (RPs), line cards (LCs), and FCs.
fab-control	(Optional) Displays the state of all RPs, LCs, and FCs in the chassis from a fabric control software perspective.
sca	(Optional) Displays registers associated with Scheduler Control ASIC on the CSC cards.
xbar	(Optional) Displays registers associated with the Cross Bar (XBAR) ASIC on the clock scheduler card (CSC) and switch fabric card (SFC).

Defaults	All fabric card information is displayed
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Command Modes	Administration EXEC
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Command History	Release	Modification
	Release 3.2	This command was introduced on the Cisco XR 12000 Series Router.
	Release 3.3.0	No modification.
	Release 3.4.0	No modification.
	Release 3.5.0	No modification.
	Release 3.6.0	No modification.
	Release 3.7.0	No modification.
	Release 3.8.0	No modification.

Usage Guidelines

To use this command, your Cisco IOS XR software system administrator must assign you to a user group associated with a task group that includes the corresponding command task IDs. If you need assistance with your task group assignment, contact your system administrator. For detailed information about user groups and task IDs, see the *Configuring AAA Services on Cisco IOS XR Software* module of *Cisco IOS XR System Security Configuration Guide*.

Use the **show controllers fabric** command to display various registers associated with the fabric cards and state information associated with the fabric control software.

Task ID	Task ID	Operations
	root-system	read, write

Examples

The following is sample output from the **show controllers fabric clock** command:

```
RP/0/0/CPU0:router# admin
RP/0/0/CPU0:router(admin)# show controllers fabric clock
```

The Primary Clock for system is CSC_0
System Fabric Clock is Redundant

Slot #	Primary Clock	Mode
3	CSC_0	Redundant
4	CSC_0	Redundant
5	CSC_0	Redundant
11	CSC_0	Redundant
12	CSC_0	Redundant
15	CSC_0	Redundant
16	CSC_0	Redundant
17	CSC_0	Redundant
18	CSC_0	Redundant
19	CSC_0	Redundant
20	CSC_0	Redundant

show controllers fabric bundle

To display fabric card bundle information, use the **show controllers fabric bundle** command in administration EXEC mode.

show controllers fabric bundle { *node-id* [**brief** | **detail**] | **all** [**brief** | **detail**] | **port** *port-id* [**brief** | **detail** | **statistics**] | **summary** }

Syntax Description	
<i>node-id</i>	Identifies a node whose fabric bundle information you want to display. The <i>node-id</i> argument is entered in the <i>rack/slot/module</i> notation. Follow the <i>node-id</i> argument with one of the following optional keywords to display the data a specific format: brief—Displays brief information about the fabric bundle. detail —Displays detailed information about the fabric bundle.
brief	(Optional) Displays brief information about the specified fabric bundle port or ports. This is the default.
detail	(Optional) Displays detailed information about the specified fabric bundle port or ports.
all	Displays bundle information for all fabric bundles. Follow the all keyword with one of the following optional keywords to display the data in a specific format: brief—Displays brief information about the fabric bundles. detail —Displays detailed information about the fabric bundles.
port <i>port-id</i>	Identifies a port whose fabric bundle information you want to display. The <i>port-id</i> argument is entered in the <i>rack/slot/module/port</i> notation. Follow the <i>port-id</i> argument with one of the following optional keywords to display the data a specific format: brief—Displays brief information about the fabric bundle. detail —Displays detailed information about the fabric bundle. statistics —Displays fabric bundle statistics for the specified port.
statistics	Displays fabric bundle statistics.
summary	Displays summarized fabric bundle information.

Defaults Information is displayed for all fabric bundle ports on the router.

Command Modes Administration EXEC

■ show controllers fabric bundle

Command History

Release	Modification
Release 3.3.0	This command was introduced on the Cisco CRS-1.
Release 3.4.0	No modification.
Release 3.5.0	No modification.
Release 3.6.0	No modification.
Release 3.7.0	No modification.
Release 3.8.0	No modification.

Usage Guidelines

To use this command, your Cisco IOS XR software system administrator must assign you to a user group associated with a task group that includes the corresponding command task IDs. If you need assistance with your task group assignment, contact your system administrator. For detailed information about user groups and task IDs, see the *Configuring AAA Services on Cisco IOS XR Software* module of *Cisco IOS XR System Security Configuration Guide*.

Task ID

Task ID	Operations
fabric	read

Examples

The following is sample output from the **show controllers fabric bundle** command:

```
RP/0/0/CPU0:router# admin
RP/0/0/CPU0:router(admin)# show controllers fabric bundle ?

WORD      Bundle location <Rack>/<Slot>/<Module>/<Port#>
all        Show all fabric bundle ports.
port       Fabric bundle port option
summary    Show summary of bundle data
```

show controllers fabric connectivity

To display controller fabric connectivity information, use the **show controllers fabric connectivity** command in administration EXEC mode.

show controllers fabric connectivity {**all** | *node-id*} [**brief** | **detail**]

Syntax Description		
	all	Specifies all controller fabric ports.
	<i>node id</i>	Specifies the fabric port associated with the designated node. The <i>node-id</i> argument is entered in the <i>rack/slot/module</i> notation.
	brief	(Optional) Specifies brief information about controller fabric connectivity. This is the default.
	detail	(Optional) Specifies detailed information about controller fabric connectivity.

Defaults	Brief information about controller fabric connectivity is displayed.
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Command Modes	Administration EXEC
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Command History	Release	Modification
	Release 2.0	This command was introduced on the Cisco CRS-1.
	Release 3.0	No modification.
	Release 3.2	No modification.
	Release 3.3.0	No modification.
	Release 3.4.0	No modification.
	Release 3.5.0	No modification.
	Release 3.6.0	No modification.
	Release 3.7.0	No modification.
	Release 3.8.0	No modification.

Usage Guidelines	To use this command, your Cisco IOS XR software system administrator must assign you to a user group associated with a task group that includes the corresponding command task IDs. If you need assistance with your task group assignment, contact your system administrator. For detailed information about user groups and task IDs, see the <i>Configuring AAA Services on Cisco IOS XR Software</i> module of <i>Cisco IOS XR System Security Configuration Guide</i>.
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Use the **show controllers fabric connectivity** command to monitor a modular services card as it sends data to the fabric or receives data from the fabric.

■ show controllers fabric connectivity

Task ID	Task ID	Operations
	fabric	read

Examples

The following is sample output from the **show controllers fabric connectivity** command that displays fabric connectivity information in brief form for all resources:

```
RP/0/RP0/CPU0:router# admin
RP/0/RP0/CPU0:router(admin)# show controllers fabric connectivity all brief
```

Card	In	Tx Planes	Rx Planes	Monitored	Total
Percent	Use	01234567	01234567	For (s)	Uptime (s)
0/2/CPU0	1	.1.....	.1.....	20913	20913
100.0000					
0/RP0/CPU0	1	.1.....	.1.....	20913	20913

The following is sample output from the **show controllers fabric connectivity** command that displays detailed fabric connectivity information for all resources:

```
RP/0/RP0/CPU0:router(admin)# show controllers fabric connectivity all
```

Card	In	Tx Planes	Rx Planes	Monitored	Total	Percent
R/S/M	Use	01234567	01234567	For (s)	Uptime (s)	Uptime
0/1/CPU0	1	.1.....	.1.....	8561	8561	100.0000
0/2/CPU0	1	.1.....	.1.....	8561	8561	100.0000
0/RP1/CPU0	1	.1.....	.1.....	8561	8561	100.0000

The following is sample output from the **show controllers fabric connectivity** command that displays fabric connectivity information for the modular services card on node 0/0/CPU0:

```
RP/0/RP0/CPU0:router# admin
RP/0/RP0/CPU0:router(admin)# show controller fabric connectivity 0/0/CPU0
```

Card	In	Tx Planes	Rx Planes	Monitored	Total	Percent
R/S/M	Use	01234567	01234567	For (s)	Uptime (s)	Uptime
0/0/CPU0	1	.1.....	.1.....	8805	8805	100.0000

[Table 25](#) describes the significant fields shown in the display.

Table 25 *show controllers fabric connectivity Field Descriptions*

Field	Description
Card R/S/M	Identifies the fabric card, in the format <i>rack/slot/module</i> .
In Use	Indicates the number of fabric ports that are in use on the card.
Tx Planes	Indicates activity on the transmit fabric plane.
Rx Planes	Indicates activity on the receive fabric plane.
Monitored For (s)	Elapsed time in seconds since monitoring began.

Table 25 *show controllers fabric connectivity Field Descriptions (continued)*

Field	Description
Total Uptime	Total uptime expressed in seconds.
Percent Uptime	Percentage of time the card has been up since monitoring began.

show controllers fabric driver instance summary

To obtain information about a specific Switch Fabric Element (SFE) ASIC on a particular board, use the **show controllers fabric driver instance summary** command in administration EXEC mode.

show controller fabric driver {*instance* *asic_instance*} {**backpressure** | **block** | **link-info** | **summary**}{ *location* *node-id*}

Syntax Description	
instance <i>asic_instance</i>	Specifies ASIC instance. The range is from 0 to 4294967295.
backpressure	Displays detailed information for fabric back-pressure.
block	Displays detailed information for ASIC block.
link-info	Displays information for the ASIC transmit (Tx) and receiver (Rx) link port.
summary	Displays summarized information about all fabric queue ASICs in the system.
location <i>node</i>	Displays information for the fabric queue ASICs on a particular node.
 Note	Use the show platform command to see a list of all nodes currently installed in your system.

Defaults No default behavior or values

Command Modes Administration EXEC

Command History	Release	Modification
	Release 3.2	This command was introduced on the Cisco CRS-1.
	Release 3.3.0	No modification.
	Release 3.4.0	No modification.
	Release 3.5.0	No modification.
	Release 3.6.0	No modification.
	Release 3.7.0	No modification.
	Release 3.8.0	No modification.

Usage Guidelines To use this command, your Cisco IOS XR software system administrator must assign you to a user group associated with a task group that includes the corresponding command task IDs. If you need assistance with your task group assignment, contact your system administrator. For detailed information about user groups and task IDs, see the *Configuring AAA Services on Cisco IOS XR Software* module of *Cisco IOS XR System Security Configuration Guide*.

Task ID	Task ID	Operations
	fabric	read

Examples

The following example shows how to obtain information about an SFE ASIC on a particular board from the router:

```
RP/0/RP0/CPU0:router# admin
RP/0/RP0/CPU0:router(admin)# show controllers fabric driver instance 5 summary location
0/SM0/SP
```

```
-----
s3/0/SM0/SP/1 Summary :
-----
```

```
Node ID:0/SM0/SP
```

```
Chip ID           : 0x2024E049      PLD Version       : 0000001E
Top Interrupt Status : 0x00000000    Top Interrupt Enable : 0000003F
Oper Status        : UP              Enable Status      : ENABLE
```

Related Commands

Command	Description
show controllers fabric driver backpressure	Displays fabric back-pressure configuration for a specific SFE ASIC.
show controllers fabric driver block brm	Displays barrier state information for a specific SFE ASIC.
show controllers fabric driver block css	Displays control cell store state information.
show controllers fabric driver link-info rx flap	Displays receiver link state flap information for a specific SFE ASIC.
show controllers fabric driver link-info rx topo	Displays receiver link state topology information for a specific SFE ASIC.
show controllers fabric driver link-info tx	Displays transmit link state flap information for a specific SFE ASIC.
show controllers fabric driver summary	Displays ASIC summary information.

show controllers fabric fgid resource

To display information about the fabric resources that are allocated to specific secure domain router (SDR) fabric group IDs (FGIDs), use the **show controllers fabric fgid resource** command in administration EXEC mode.

```
show controllers fabric fgid resource { all | sdr Owner { all | application { CLI | GSP | LPTS } id fabric_fgid [elements number_of_fgids] }
```

Syntax Description		
all		Displays FGID resource information for all SDRs on the current system.
sdr Owner		Specifies the owner SDR.
all		Displays information for all resources allocated to the specified SDRs.
application		Displays information for a specific resource allocated to the owner SDRs. Follow the sdr Owner application keywords with one of the following keywords to specify a particular resource application: • CLI • GSP • LPTS
CLI		Displays command-line interface (CLI) information for the owner SDR.
GSP		Displays Gateway Service Protocol (GSP) information for the owner SDR.
LPTS		Displays Local Packet Transport Services (LPTS) information for the owner SDR.
id <i>fabric_fgid</i>		Fabric FGID whose SDR resource information you want to display. Replace with an FGID. Range is from 0 to 1000000
elements <i>number_of_fgids</i>		(Optional) Number of fabric FGIDs to display in the command output. Replace the <i>number_of_fgids</i> arguments with the number of FGIDs to list in the command output. Range is from 1 through 1000000.

Defaults No default behavior or values

Command Modes Administration EXEC

Command History	Release	Modification
	Release 3.4.0	This command was introduced on the Cisco CRS-1.
	Release 3.5.0	No modification.
	Release 3.6.0	No modification.
	Release 3.7.0	No modification.
	Release 3.8.0	No modification.

Usage Guidelines

To use this command, your Cisco IOS XR software system administrator must assign you to a user group associated with a task group that includes the corresponding command task IDs. If you need assistance with your task group assignment, contact your system administrator. For detailed information about user groups and task IDs, see the *Configuring AAA Services on Cisco IOS XR Software* module of *Cisco IOS XR System Security Configuration Guide*.

Use the **show controllers fabric fgid resource** command to verify the multicast resource ID for the fabric card multicast bit set.

Task ID	Task ID	Operations
	fabric	read

Examples

The following example shows sample output from the **show controllers fabric fgid resource** command. In this example, LPTS information is displayed for the SDR owner FGID 1000:

```
RP/0/RP0/CPU0:router# admin
RP/0/RP0/CPU0:router(admin)# show controllers fabric fgid resource sdr Owner application
lpts id 1000 elements 1
```

```
=====
Displaying FGID Info for:
SDR: Owner APPLICATION : LPTS
**** No FGID's allocated ****
RP/0/RP0/CPU0:Pl_CRS-8(admin)#show controllers fabric fgid resource sdr Owner $
```

```
=====
Displaying FGID Info for:
SDR: Owner APPLICATION : LPTS
**** No FGID's allocated ****
```

The following example shows sample output from the **show controllers fabric fgid resource** command. In this example, fabric resource information is displayed for all SDRs in the system:

```
RP/0/RP0/CPU0:router# admin
RP/0/RP0/CPU0:router(admin)# show controllers fabric fgid resource all
```

```
=====
Displaying FGID Info for:
SDR: Owner APPLICATION : CLI
**** No FGID's allocated ****

=====
Displaying FGID Info for:
SDR: Owner APPLICATION : GSP
1024, 1025, 1026, 1027, 1028, 1029, 1030, 1031, 1032, 1033
1034, 1035, 1036, 1037, 1038, 1039, 1040, 1041, 1042, 1043
1044, 1045, 1046, 1047, 1048, 1049, 1050, 1051, 1052, 1053
1054, 1055, 1056, 1057, 1058, 1059, 1060, 1061, 1062, 1063
1064, 1065, 1066, 1067, 1068, 1069, 1070, 1071, 1072, 1073
1074, 1075, 1076, 1077, 1078, 1079, 1080, 1081, 1082, 1083
1084, 1085, 1086, 1087, 1088, 1089, 1090, 1091, 1092, 1093
1094, 1095, 1096, 1097, 1098, 1099, 1100, 1101, 1102, 1103
1104, 1105, 1106, 1107, 1108, 1109, 1110, 1111, 1112, 1113
1114, 1115, 1116, 1117, 1118, 1119, 1120, 1121, 1122, 1123
1124, 1125, 1126, 1127, 1128, 1129, 1130, 1131, 1132, 1133
1134, 1135, 1136, 1137, 1138, 1139, 1140, 1141, 1142, 1143
1144, 1145, 1146, 1147, 1148, 1149, 1150, 1151, 1152, 1153
```

■ **show controllers fabric fgid resource**

```
1154, 1155, 1156, 1157, 1158, 1159, 1160, 1161, 1162, 1163  
1164, 1165, 1166, 1167, 1168, 1169, 1170, 1171, 1172, 1173
```

show controllers fabric fgid statistics

To display resource statistical information for the fabric group ID (FGID), use the **show controllers fabric fgid statistics** command in administration EXEC mode.

show controllers fabric fgid statistics {all | pool | sdr | system} [brief | detail]

Syntax Description	all	Specifies all FGID resource statistical information for the logical router and FGID resource pools.
	sdr	Specifies FGID resource statistics about the secure domain router (SDR).
	pool	Specifies FGID statistical information about the resource pool.
	system	Specifies FGID resource statistics for the entire physical router.
	brief	(Optional) Specifies brief information about FGIDs. This is the default.
	detail	(Optional) Specifies detailed information about FGIDs.

Defaults	Brief information is displayed.
-----------------	---------------------------------

Command Modes	Administration EXEC
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Command History	Release	Modification
	Release 2.0	This command was introduced on the Cisco CRS-1.
	Release 3.0	No modification.
	Release 3.2	No modification.
	Release 3.3.0	No modification.
	Release 3.4.0	No modification.
	Release 3.5.0	No modification.
	Release 3.6.0	No modification.
	Release 3.7.0	No modification.
	Release 3.8.0	No modification.

Usage Guidelines	To use this command, your Cisco IOS XR software system administrator must assign you to a user group associated with a task group that includes the corresponding command task IDs. If you need assistance with your task group assignment, contact your system administrator. For detailed information about user groups and task IDs, see the <i>Configuring AAA Services on Cisco IOS XR Software</i> module of <i>Cisco IOS XR System Security Configuration Guide</i>.
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Use the **show controllers fabric fgid statistics** command to monitor FGID resource usage based on a system, pool, or client view.

show controllers fabric fgid statistics

Task ID	Task ID	Operations
	fabric	read
	root-system	read, execute

Examples

The following is sample output from the **show controllers fabric fgid statistics** command that displays resource statistics for the fabric FGID in detailed form with all resources activated:

```
RP/0/RP0/CPU0:router# admin
RP/0/RP0/CPU0:router(admin)# show controllers fabric fgid statistics all detail
```

Fabric FGID Resource Statistics Information:

System wide Fabric multicast resource statistics:

```
Total number of FGIDs in the system is 1000000
Current number of InUse FGIDs in the system is 500
High Water Mark of InUse FGIDs in the system is 500
```

Per SDR basis Fabric multicast resource statistics:

```
Secure Domain Router Name is Owner
InUse FGIDs is 500
High Water Mark InUse FGIDs is 500
```

Per client basis FGID resource utilization:

	Appl Name	Appl ID	Pool ID	Current InUse FGIDs	HighWater Mark InUse FGIDs
-----	CLI	0	2	0	0
	LPTS	1	1	0	0
	GSP	2	0	500	500

Per Pool basis Fabric multicast resource statistics:

```
Pool Identifier is 0
Pool Name is GSP
Pool type is Dedicated
The starting FGID of this pool is 1024
Total FGIDs of this pool is 10240
InUse FGIDs of this pool is 500
High Water Mark InUse FGIDs of this pool is 500
```

```
Pool Identifier is 1
Pool Name is LPTS
Pool type is Dedicated
The starting FGID of this pool is 11264
Total FGIDs of this pool is 32768
InUse FGIDs of this pool is 0
High Water Mark InUse FGIDs of this pool is 0
```

```
Pool Identifier is 2
Pool Name is COMMON
Pool type is Shared
The starting FGID of this pool is 44032
Total FGIDs of this pool is 955968
InUse FGIDs of this pool is 0
High Water Mark InUse FGIDs of this pool is 0
```

Table 26 describes the significant fields shown in the display.

Table 26 *show controllers fabric fgid statistics Field Descriptions*

Field	Description
Total number of FGIDs in the system	Total number of fabric FGIDs in the system.
Current number of Inused FGIDs in the system	Total number of fabric FGIDs in use in the system.
High Water Mark of Inused FGIDs in the system	Number of in-use fabric FGIDs at the highest point within the system.
Secure Domain Router Name	Name of the SDR.
Inused FGIDs	Inused (in-use) fabric FGID.
High Water Mark inused FGIDs	Number of inused (in-use) FGIDs since monitoring started.
Appl Name	Application name.
Appl ID	Application ID.
Pool ID	Pool ID.
Current InUsed FGIDs	Current number of inused (in-use) FGIDs.
Pool Identifier	Group pool identifier number.
Pool Name	Group pool name.
Pool type	Group pool type.
Total FGIDs of this pool	Number of FGIDs in the pool.
Inused FGIDs of this pool	Number of FGIDs inused (in-use) in the pool.
High Water Mark inused FGIDs of this pool	Number of FGIDs in the pool since the start of monitoring.

show controllers fabric fsdb-pla all

To display plane availability status information for all racks in the system, use the **show controllers fabric fsdb-pla all** command in administration EXEC mode.

show controllers fabric fsdb-pla all

Syntax Description This command has no arguments or keywords.

Defaults No default behavior or values

Command Modes Administration EXEC

Command History	Release	Modification
	Release 3.3.1	This command was introduced on the Cisco CRS-1.
	Release 3.4.0	No modification.
	Release 3.5.0	No modification.
	Release 3.6.0	No modification.
	Release 3.7.0	No modification.
	Release 3.8.0	No modification.

Usage Guidelines To use this command, your Cisco IOS XR software system administrator must assign you to a user group associated with a task group that includes the corresponding command task IDs. If you need assistance with your task group assignment, contact your system administrator. For detailed information about user groups and task IDs, see the *Configuring AAA Services on Cisco IOS XR Software* module of *Cisco IOS XR System Security Configuration Guide*.

Use the **show controllers fabric fsdb-pla all** command to verify line card connectivity to the fabric planes.

Task ID	Task ID	Operations
	fabric	read

Examples The following example shows sample output from the **show controllers fabric fsdb-pla all** command:

```
RP/0/RP0/CPU0:router# admin
RP/0/RP0/CPU0:router(admin)# show controllers fabric fsdb-pla all

Rack 0:
=====

SrcGrp:0
```

```
01234567
Multicast Mask 11111111
Unicast Mask 11111111

Destination S3-Fabricq Reachability Mask Downloaded Mask
Address Mask SrcGrp:0 SrcGrp:0
01234567 01234567 01234567
-----
4 11111111 11111111 11111111
5 11111111 11111111 11111111
12 11111111 11111111 11111111
13 11111111 11111111 11111111
24 11111111 11111111 11111111
25 11111111 11111111 11111111
30 11111111 11111111 11111111
31 11111111 11111111 11111111:
```

show controllers fabric link port

To display link information for a specific fabric port, use the **show controllers fabric link port** command in administration EXEC mode.

```
show controllers fabric link port {fabricqrx | ingressqtx | s1ro | s1rx | s1tx | s2rx | s2tx | s3rx |
s3tx} {port | all} [brief | detail | state | statistics | summary]
```

Syntax Description		
fabricqrx		Displays information for the fabric queue receive port.
ingressqtx		Displays information for the ingress queue transmit port.
s1ro		Displays information for the S1 Out-of-Band receive port. The out of band ports connect the fabric planes together so that the flow control information collected within a fabric plane is distributed across all fabric planes. This is essential in controlling fabric congestion and the congestion location within fabric.
s1rx		Displays information for the Stage 1 (S1) receive port. The S1 receive port distributes incoming traffic.
s1tx		Displays information for the Stage 1 (S1) transmit port. The S1 transmit port distributes outgoing traffic.
s2rx		Displays information for the Stage 2 (S2) receive port. The S2 receive port forwards incoming cells to Stage 3 (S3) port.
s2tx		Displays information for the Stage 2 (S2) transmit port. The S2 transmit port forwards outgoing cells to Stage 3 (S3) transmit port.
s3rx		Displays information about S3 receive port. The S3 receive port performs switching for incoming traffic.
s3tx		Displays information about S3 transmit port. The S3 receive port performs switching for outgoing traffic.
port		Specifies the port whose fabric link information you want to display. Replace the <i>port</i> argument with a port identifier. The <i>port</i> argument naming notation is in the <i>rack/slot/module/asic/port</i> format. Note A slash between values is required as part of the <i>port</i> naming notation.
all		Displays fabric link information for all specified ports.
brief		(Optional) Displays summarized fabric link information.
detail		(Optional) Specifies that the command output includes detailed fabric link information.
state		(Optional) Displays the state of the specific fabric link.
statistics		(Optional) Displays the fabric link statistics information.
summary		(Optional) Displays summarized fabric link information.

Defaults

Enter the **show controllers fabric link port** command without specifying any of the optional parameters to display summarized fabric link information. This is the same information that is displayed when you include the **brief** option in the **show controllers fabric link port** command string.

Command Modes Administration EXEC

Command History	Release	Modification
	Release 3.2	This command was introduced on the Cisco CRS-1.
	Release 3.3.0	No modification.
	Release 3.4.0	No modification.
	Release 3.5.0	No modification.
	Release 3.6.0	No modification.
	Release 3.7.0	No modification.
	Release 3.8.0	No modification.

Usage Guidelines To use this command, your Cisco IOS XR software system administrator must assign you to a user group associated with a task group that includes the corresponding command task IDs. If you need assistance with your task group assignment, contact your system administrator. For detailed information about user groups and task IDs, see the *Configuring AAA Services on Cisco IOS XR Software* module of *Cisco IOS XR System Security Configuration Guide*.

Use the **show controllers fabric link port** command to check the health of fabric internal connections.

Task ID	Task ID	Operations
	fabric	read

Examples The following example shows partial sample output from the **show controllers fabric link port** command for all S1RO ports in the system:

```
RP/0/RP0/CPU0:router# admin
RP/0/RP0/CPU0:router(admin)# show controllers fabric link port s1ro all
```

```
Flags: P - plane admin down, p - plane oper down
C - card admin down, c - card oper down
L - link port admin down, l - linkport oper down
A - asic admin down, a - asic oper down
B - bundle port admin Down, b - bundle port oper down
I - bundle admin down, i - bundle oper down
N - node admin down, n - node down
o - other end of link down d - data down
f - failed component downstream
m - plane multicast down
Sfe Port Admin Oper Down Other Near-end Far-end
R/S/M/A/P State State Flags End Bport Bport
-----
```

```
0/SM0/SP/0/0 UP UP 0/SM0/SP/1/15
0/SM0/SP/0/1 UP UP 0/SM1/SP/0/33
0/SM0/SP/0/2 UP UP 0/SM1/SP/1/33
0/SM0/SP/0/3 UP UP 0/SM2/SP/0/33
0/SM0/SP/0/4 UP UP 0/SM2/SP/1/33
0/SM0/SP/0/5 UP UP 0/SM3/SP/0/33
0/SM0/SP/0/6 UP UP 0/SM3/SP/1/33
0/SM0/SP/1/0 UP UP 0/SM0/SP/0/15
```

show controllers fabric link port

```

0/SM0/SP/1/1 UP DOWN 1 Unused
0/SM0/SP/1/2 UP UP Unused
0/SM0/SP/1/3 UP DOWN 1 Unused
0/SM0/SP/1/4 UP DOWN 1 Unused
0/SM0/SP/1/5 UP DOWN 1 Unused
0/SM0/SP/1/6 UP DOWN 1 Unused
0/SM1/SP/0/0 UP UP 0/SM1/SP/1/15
0/SM1/SP/0/1 UP UP 0/SM0/SP/0/33
0/SM1/SP/0/2 UP UP 0/SM0/SP/1/33
0/SM1/SP/0/3 UP UP 0/SM2/SP/0/51
--More--

```

The following example shows partial sample output from the **show controllers fabric link port** command with the **detail** keyword included in the command string:

```

RP/0/RP0/CPU0:router# admin
RP/0/RP0/CPU0:router(admin)# show controllers fabric link port fabriccgrx all detail

```

```

Flags: P - plane admin down, p - plane oper down
C - card admin down, c - card oper down
L - link port admin down, l - linkport oper down
A - asic admin down, a - asic oper down
B - bundle port admin Down, b - bundle port oper down
I - bundle admin down, i - bundle oper down
N - node admin down, n - node down
o - other end of link down d - data down
f - failed component downstream
m - plane multicast down

```

```

Sfe Port Admin Oper Down Sfe BP Port BP Other
R/S/M/A/P State State Flags Role Role End

```

```

-----
0/1/CPU0/0/0 UP UP A A 0/SM0/SP/0/15
-----

```

```

Link Type Pin1 Name Pin2 Name
-----

```

```

CHASSIS G5 A4

```

```

Sfe Port Admin Oper Down Sfe BP Port BP Other
R/S/M/A/P State State Flags Role Role End

```

```

-----
0/1/CPU0/0/1 UP UP A B 0/SM0/SP/0/39
-----

```

```

Link Type Pin1 Name Pin2 Name
-----

```

```

CHASSIS G19 A34

```

```

Sfe Port Admin Oper Down Sfe BP Port BP Other
R/S/M/A/P State State Flags Role Role End

```

```

-----
0/1/CPU0/0/2 UP UP A A 0/SM0/SP/0/14

```

```

--More--

```

show controllers fabric plane

To display system fabric plane information, use the **show controllers fabric plane** command in administration EXEC mode.

show controllers fabric plane {*plane-id* | **all**} [**statistics**] [**brief** | **detail**]

Syntax Description

<i>plane-id</i>	Plane number. Range is from 0 to 7.
all	Specifies that all information about system fabric planes is displayed.
statistics	(Optional) Specifies statistical information for cell activity within the plane.
brief	(Optional) Specifies brief information about the system fabric plane. This is the default.
detail	(Optional) Specifies detailed information about the system fabric plane.

Defaults

Brief information is displayed

Command Modes

Administration EXEC

Command History

Release	Modification
Release 2.0	This command was introduced on the Cisco CRS-1.
Release 3.0	No modification.
Release 3.2	No modification.
Release 3.3.0	No modification.
Release 3.4.0	No modification.
Release 3.5.0	No modification.
Release 3.6.0	No modification.
Release 3.7.0	No modification.
Release 3.8.0	No modification.

Usage Guidelines

To use this command, your Cisco IOS XR software system administrator must assign you to a user group associated with a task group that includes the corresponding command task IDs. If you need assistance with your task group assignment, contact your system administrator. For detailed information about user groups and task IDs, see the *Configuring AAA Services on Cisco IOS XR Software* module of *Cisco IOS XR System Security Configuration Guide*.

Use the **show controllers fabric plane** command to monitor the fabric plane status, and the cell traffic and error statistics to or from the fabric plane.

Task ID**Task ID Operations**

root-system	read, write
-------------	-------------

Examples

The following is sample output from the **show controllers fabric plane** command that displays system fabric plane information from all fabric planes:

```
RP/0/RP0/CPU0:router# admin
RP/0/RP0/CPU0:router(admin)# show controllers fabric plane all
```

Plane Id	Admin State	Oper State	Down Flags	Total Bundles	Down Bundles
0	UP	DOWN	p	0	0
1	UP	UP		0	0
2	UP	DOWN	p	0	0
3	UP	DOWN	p	0	0
4	UP	DOWN	p	0	0
5	UP	DOWN	p	0	0
6	UP	DOWN	p	0	0
7	UP	DOWN	p	0	0

The following is sample output from the **show controllers fabric plane** command that displays system fabric plane statistics from fabric plane 1 in brief form:

```
RP/0/RP0/CPU0:router# admin
RP/0/RP0/CPU0:router(admin)# show controllers fabric plane 1 statistics brief
```

Plane	In Cells	Out Cells	CE Cells	UCE Cells	PE Cells
1	0	0	0	0	0

The following is sample output from the **show controllers fabric plane** command that displays system fabric plane statistics from fabric plane 1 in detailed form:

```
RP/0/RP0/CPU0:router(admin)# show controllers fabric plane 1 statistics detail
```

```
The fabric plane number is 1
Total number of providers for the statistics: 0
Total received data cells: 0
Total transmitted data cells: 0
Total received correctable errored cells: 0
Total received uncorrectable errored cells: 0
Total received parity error cells: 0
Total unicast lost cells: 0
Total multicast lost cells: 0
Last clearing of "show controller fabric plane" counters never
```

The following is sample output from the **show controllers fabric plane** command that displays system fabric plane statistics from the fabric for all planes in detailed form:

```
RP/0/RP0/CPU0:router(admin)# show controllers fabric plane all statistics detail
```

```
The fabric plane number is 0
Total number of providers for the statistics: 0
Total received data cells: 0
Total transmitted data cells: 0
Total received correctable errored cells: 0
Total received uncorrectable errored cells: 0
Total received parity error cells: 0
Total unicast lost cells: 0
```

```
Total multicast lost cells: 0
Last clearing of "show controller fabric plane" counters never
```

```
The fabric plane number is 1
Total number of providers for the statistics: 0
Total received data cells: 0
Total transmitted data cells: 0
Total received correctable errored cells: 0
Total received uncorrectable errored cells: 0
Total received parity error cells: 0
Total unicast lost cells: 0
Total multicast lost cells: 0
Last clearing of "show controller fabric plane" counters never
```

```
The fabric plane number is 2
Total number of providers for the statistics: 0
Total received data cells: 0
Total transmitted data cells: 0
Total received correctable errored cells: 0
Total received uncorrectable errored cells: 0
Total received parity error cells: 0
Total unicast lost cells: 0
Total multicast lost cells: 0
Last clearing of "show controller fabric plane" counters never
```

```
The fabric plane number is 3
Total number of providers for the statistics: 0
Total received data cells: 0
Total transmitted data cells: 0
Total received correctable errored cells: 0
Total received uncorrectable errored cells: 0
Total received parity error cells: 0
Total unicast lost cells: 0
Total multicast lost cells: 0
Last clearing of "show controller fabric plane" counters never
```

```
The fabric plane number is 4
Total number of providers for the statistics: 0
Total received data cells: 0
Total transmitted data cells: 0
Total received correctable errored cells: 0
Total received uncorrectable errored cells: 0
Total received parity error cells: 0
Total unicast lost cells: 0
Total multicast lost cells: 0
Last clearing of "show controller fabric plane" counters never
```

```
The fabric plane number is 5
Total number of providers for the statistics: 0
Total received data cells: 0
Total transmitted data cells: 0
Total received correctable errored cells: 0
Total received uncorrectable errored cells: 0
Total received parity error cells: 0
Total unicast lost cells: 0
Total multicast lost cells: 0
Last clearing of "show controller fabric plane" counters never
```

Table 27 describes the significant fields shown in the display.

Table 27 *show controllers fabric plane Field Descriptions*

Field	Description
The fabric plane number is 1	Fabric plane ID number.
Total number of providers for the statistics	Number of providers (sources) from which statistics were extracted.
Total received data cells	Total of data cells that have been received.
Total received correctable errored cells	Total number of cells with errors that can be corrected.
Total received uncorrectable errored cells	Total number of cells with errors that cannot be corrected.
Total received parity error cells	Total number of cells that have parity errors.
Total unicast lost cells	Number of lost unicast cells.
Last clearing of “show controller fabric plane” counters	Indicates when the fabric plane counters were last cleared.

Related Commands

Command	Description
show controllers fabric connectivity	Displays controller fabric connectivity information.

show controllers fabric rack all

To display information about the fabric racks in the current system, use the **show controllers fabric rack all** command in administration EXEC mode.

show controllers fabric rack all [brief | detail]

Syntax Description	brief	(Optional) Displays summarized fabric rack information.
	detail	(Optional) Specifies that the command output includes detailed fabric rack information.

Defaults Use the **show controllers fabric rack all** command without including any of the optional syntax to display detailed information about all fabric card racks in the current system.

Command Modes Administration EXEC

Command History	Release	Modification
	Release 3.3.0	This command was introduced on the Cisco CRS-1.
	Release 3.4.0	No modification.
	Release 3.5.0	No modification.
	Release 3.6.0	No modification.
	Release 3.7.0	No modification.
	Release 3.8.0	No modification.

Usage Guidelines To use this command, your Cisco IOS XR software system administrator must assign you to a user group associated with a task group that includes the corresponding command task IDs. If you need assistance with your task group assignment, contact your system administrator. For detailed information about user groups and task IDs, see the *Configuring AAA Services on Cisco IOS XR Software* module of *Cisco IOS XR System Security Configuration Guide*.

Use the **show controllers fabric rack all** command to display fabric rack topology information.

Task ID	Task ID	Operations
	fabric	read

Examples

The following example shows sample output from the **show controllers fabric rack all** command:

```
RP/0/RP0/CPU0:router# admin
RP/0/RP0/CPU0:router(admin)# show controllers fabric rack all

Rack Rack Server
Num Status Status
----
0 NORMAL PRESENTRP/0/RP0/CPU0:router(admin)#
```

show controllers fabric sfe

To display information about a specific switch fabric element, use the **show controllers fabric sfe** command in administration EXEC mode.

show controllers fabric sfe {**fabricq** | **ingressq** | **s1** | **s2** | **s3**} [*port* | **all**] [**backpressure** | **brief** | **detail**]

Syntax	Description
fabricq	Displays information from the fabric queue for the switching fabric element.
ingressq	Displays information from the ingress queue for the switching fabric element.
s1	Displays information about Stage 1 (S1) switch fabric elements. S1 elements distribute traffic.
s2	Displays information about Stage 2 (S2) switch fabric elements. S2 elements forward cells to Stage 3 (S3) elements.
s3	Displays information about S3 switch fabric elements. S3 elements perform switching.
<i>port</i>	Specifies the port that owns the switch fabric element you want to display. Replace the <i>port</i> argument with the port number, in the <i>rack/slot/module/ASIC/port</i> format. Note A slash between values is required as part of the <i>port</i> argument notation.
all	Displays information about the switch fabric elements on all ports in the system.
backpressure	(Optional) Displays back-pressure information for the specified switch fabric elements.
brief	(Optional) Displays summarized information for the specified switch fabric elements.
detail	(Optional) Includes detailed information about the specified switch fabric elements in the command output.

Defaults Use the **show controllers fabric sfe** command without specifying any of the optional parameters to display detailed information about a specified switch fabric element.

Command Modes Administration EXEC

Command History	Release	Modification
	Release 3.2	This command was introduced on the Cisco CRS-1.
	Release 3.3.0	No modification.
	Release 3.4.0	No modification.
	Release 3.5.0	No modification.
	Release 3.6.0	No modification.

show controllers fabric sfe

Release	Modification
Release 3.7.0	No modification.
Release 3.8.0	No modification.

Usage Guidelines

To use this command, your Cisco IOS XR software system administrator must assign you to a user group associated with a task group that includes the corresponding command task IDs. If you need assistance with your task group assignment, contact your system administrator. For detailed information about user groups and task IDs, see the *Configuring AAA Services on Cisco IOS XR Software* module of *Cisco IOS XR System Security Configuration Guide*.

Task ID

Task ID	Operations
fabric	read

Examples

The following example shows sample output from the **show controllers fabric sfe** command:

```
RP/0/RP0/CPU0:router# admin
RP/0/RP0/CPU0:router(admin)# show controllers fabric sfe fabricq all
```

```
Flags: P - plane admin down, p - plane oper down
C - card admin down, c - card oper down
L - link port admin down, l - linkport oper down
A - asic admin down, a - asic oper down
B - bundle port admin Down, b - bundle port oper down
I - bundle admin down, i - bundle oper down
N - node admin down, n - node down
o - other end of link down d - data down
f - failed component downstream
m - plane multicast down
```

```
Sfe Admin Oper
R/S/M/A State State
```

```
-----
0/1/CPU0/0 UP UP
0/1/CPU0/1 UP UP
0/3/CPU0/0 UP UP
0/3/CPU0/1 UP UP
0/6/CPU0/0 UP UP
0/6/CPU0/1 UP UP
0/RP0/CPU0/0 UP UP
0/RP1/CPU0/0 UP UP
```

show controllers fabricq barriers

To verify that barriers are flowing through the fabricq ASICs, use the **show controllers fabricq barriers** command in administration EXEC mode. If no optional parameter is passed, this command displays the aggregated barrier information for all ASIC instances on all locations.

```
show controllers fabricq barriers [aggrbarr | illegal-state | inputbarr ] [instance asic_instance]
[location node-id]
```

Syntax Description		
aggrbarr	(Optional) Displays aggregated barrier information. Command reads the number of aggregated barrier transitions on this node during a 1 second window for all barrier types, that is , unicast low priority (UCL), unicast high priority (UCH), multicast low priority (MCL) and multicast high priority (MCH).	Note A count of 0x00000000 at both times for any barrier type indicates a problem with the barrier flow.
illegal-state	(Optional) Displays the number of illegal barrier states seen on all the input links since the registers were cleared last.	
inputbarr	(Optional) Displays the barrier state that is being received on all links at the instant the command is executed.	
<i>asic_instance</i>	(Optional) Displays barrier information for a specific fabric queue ASIC. Replace the <i>asic_instance</i> argument with the instance that identifies the ASIC whose barrier information you want to display.	
location <i>node-id</i>	(Optional) Displays statistical information for the designated node. The <i>node-id</i> argument is entered in the <i>rack/slot/module</i> notation.	

Defaults	No default behavior or values
-----------------	-------------------------------

Command Modes	Administration EXEC
----------------------	---------------------

Command History	Release	Modification
	Release 3.2	This command was introduced on the Cisco CRS-1.
	Release 3.3.0	No modification.
	Release 3.4.0	No modification.
	Release 3.5.0	No modification.
	Release 3.6.0	No modification.
	Release 3.7.0	No modification.
	Release 3.8.0	No modification.

Usage Guidelines

To use this command, your Cisco IOS XR software system administrator must assign you to a user group associated with a task group that includes the corresponding command task IDs. If you need assistance with your task group assignment, contact your system administrator. For detailed information about user groups and task IDs, see the *Configuring AAA Services on Cisco IOS XR Software* module of *Cisco IOS XR System Security Configuration Guide*.

Task ID	Task ID	Operations
	root-system	read, write

Examples

The following is detailed sample output from the **show controllers fabricq barriers** command for location 0/1/CPU0:

```
RP/0/0/CPU0:router# admin
RP/0/RP0/CPU0:router (admin)# show controllers fabricq barriers aggrbarr location 0/1/CPU0

Location                : 0/1/CPU0
Asic Instance           : 0
Fabric Destination Address : 4
-----
Barrier Config          : 0x6
Barrier Timeout Threshold : 0x4830
Barrier Mask            : 0
Interrupt Mask          : 0x1ffffe
Error Cause             : 0
-----
Time      UCH      UCL      MCH      MCL
1210200107 0x00000000 0x00000000 0x00000000 0x00000000.
1210200109 0x00007A9F 0x00007AAA 0x00007AA8 0x00007ABF.
-----

Location                : 0/1/CPU0
Asic Instance           : 1
Fabric Destination Address : 5
-----
Barrier Config          : 0x6
Barrier Timeout Threshold : 0x4830
Barrier Mask            : 0
Interrupt Mask          : 0x1ffffe
Error Cause             : 0
-----
Time      UCH      UCL      MCH      MCL
1210200109 0x00000000 0x00000000 0x00000000 0x00000000.
1210200110 0x00007AA7 0x00007A8C 0x00007A8A 0x00007A85.
-----
```

show controllers fabricq block

To display information about the current usage of packet buffers of various sizes, use the **show controllers fabricq block** command in administration EXEC mode.

show controllers fabricq block {errors | registers | summary}[*type instance*][*location node-id*]

Syntax Description

errors	Displays information about block errors.
registers	Displays information about block registers.
summary	Displays block summary information.
<i>type instance</i>	Physical interface or a virtual interface. Note Use the show interfaces command to see a list of all possible interfaces currently configured on the router.
<i>location node-id</i>	(Optional) Displays statistical information for the designated node. The <i>node-id</i> argument is entered in the <i>rack/slot/module</i> notation.

Defaults

No default behavior or values

Command Modes

Administration EXEC

Command History

Release	Modification
Release 3.2	This command was introduced on the Cisco CRS-1router.
Release 3.3.0	No modification.
Release 3.4.0	No modification.
Release 3.5.0	No modification.
Release 3.6.0	No modification.
Release 3.7.0	The freequeue-manager keyword was added to this command.
Release 3.8.0	No modification.

Usage Guidelines

To use this command, your Cisco IOS XR software system administrator must assign you to a user group associated with a task group that includes the corresponding command task IDs. If you need assistance with your task group assignment, contact your system administrator. For detailed information about user groups and task IDs, see the *Configuring AAA Services on Cisco IOS XR Software* module of *Cisco IOS XR System Security Configuration Guide*.

Task ID

Task ID	Operations
root-system	read, write

show controllers fabricq block

Examples

The following is detailed sample output from the **show controllers fabricq block** command:

```
RP/0/RP0/CPU0:router# admin
RP/0/RP0/CPU0:router(admin)# sh controllers fabricq block summary freequeue-manager
location 0/1/CPU$
```

```
Location: 0/1/CPU0
Asic instance: 0
Vital Bump-up 'Enabled', Non-vital Bump-up 'Enabled'
```

Buff Size	Enabl	Flush	Buffer References						
			Total	Current	LowWtMrk	Corruptd	VitalThr	Occupancy	
120	Yes	No	527916	527880	527874	0	5279	30e42022	
240	Yes	No	77136	77100	77088	0	771	40e41023	
480	Yes	No	77136	77100	77094	0	771	40e42022	
960	Yes	No	133170	133134	133128	0	1331	30e42022	
1920	Yes	No	107400	107364	107358	0	1073	30e42022	
3840	Yes	No	19374	19338	19332	0	193	30e42022	
7680	Yes	No	19374	19338	19332	0	193	30e40024	
15360	Yes	No	21516	21480	21468	0	215	40e41023	

```
Location: 0/1/CPU0
Asic instance: 1
Vital Bump-up 'Enabled', Non-vital Bump-up 'Enabled'
```

Buff Size	Enabl	Flush	Buffer References						
			Total	Current	LowWtMrk	Corruptd	VitalThr	Occupancy	
120	Yes	No	527916	527880	527874	0	5279	30e42022	
240	Yes	No	77136	77100	77094	0	771	30e41023	
480	Yes	No	77136	77100	77094	0	771	40e42022	
960	Yes	No	133170	133134	133128	0	1331	30e40024	
1920	Yes	No	107400	107364	107358	0	1073	30e42022	
3840	Yes	No	19374	19338	19338	0	193	00240024	
7680	Yes	No	19374	19338	19338	0	193	00240024	
15360	Yes	No	21516	21480	21474	0	215	30e40024	

show controllers fabricq drop

To display the number of packets dropped to the fabric or from the fabric on a per-slot basis in the fabric queue driver, use the **show controllers fabricq drop** command in administration EXEC mode.

show controllers fabricq drop [**detail**] [**location** *node-id*]

Syntax Description

detail	(Optional) Displays detailed statistical information.
location <i>node-id</i>	(Optional) Displays statistical information for the designated node. The <i>node-id</i> argument is entered in the <i>rack/slot/module</i> notation.

Defaults

Information about packet drops for all route processors (RPs) on the router is displayed

Command Modes

Administration EXEC

Command History

Release	Modification
Release 3.2	This command was introduced on the Cisco XR 12000 Series Router.
Release 3.3.0	No modification.
Release 3.4.0	No modification.
Release 3.5.0	No modification.
Release 3.6.0	No modification.
Release 3.7.0	No modification.
Release 3.8.0	No modification.

Usage Guidelines

To use this command, your Cisco IOS XR software system administrator must assign you to a user group associated with a task group that includes the corresponding command task IDs. If you need assistance with your task group assignment, contact your system administrator. For detailed information about user groups and task IDs, see the *Configuring AAA Services on Cisco IOS XR Software* module of *Cisco IOS XR System Security Configuration Guide*.

Use the **show controllers fabricq drop** command to display statistics about packet drops. Specifying a location displays information only if that location is an RP. Use the **detail** keyword to display detailed output.



Note

The **show controllers fabricq drop** command is typically used for debugging purposes.

Task ID

Task ID	Operations
root-system	read, write

Examples

The following is detailed sample output from the **show controllers fabricq drop** command for location 0/1/CPU0:

RP/0/0/CPU0:router# **admin**

RP/0/0/CPU0:router(admin)# **show controllers fabricq drop detail location 0/1/CPU0**

Location 0/1/0:

To Fabric dropped packets:

```
-----
Slot Tx-OVS Tx-NHB Tx-NPB Tx-QF Tx-LP Tx-DS Tx-MB Tx-DIS Tx-Total
Low Priority:
 0      0      0      0      0      0      0      0      0      0
 1      0      0      0      0      0      0      0      0      0
 2      0      0      0      0      0      0      0      0      0
 3      0      0      0      0      0      0      0      0      0
 4      0      0      0      0      0      0      0      0      0
 5      0      0      0      0      0      0      0      0      0
 6      0      0      0      0      0      0      0      0      0
 7      0      0      0      0      0      0      0      0      0
 8      0      0      0      0      0      0      0      0      0
 9      0      0      0      0      0      0      0      0      0
10      0      0      0      0      0      0      0      0      0
11      0      0      0      0      0      0      0      0      0
12      0      0      0      0      0      0      0      0      0
13      0      0      0      0      0      0      0      0      0
14      0      0      0      0      0      0      0      0      0
15      0      0      0      0      0      0      0      0      0
mcast   0      0      0      0      0      0      0      0      0
High Priority:
 0      0      0      0      0      0      0      0      0      0
 1      0      0      0      0      0      0      0      0      0
 2      0      0      0      0      0      0      0      0      0
 3      0      0      0      0      0      0      0      0      0
 4      0      0      0      0      0      0      0      0      0
 5      0      0      0      0      0      0      0      0      0
 6      0      0      0      0      0      0      0      0      0
 7      0      0      0      0      0      0      0      0      0
 8      0      0      0      0      0      0      0      0      0
 9      0      0      0      0      0      0      0      0      0
10      0      0      0      0      0      0      0      0      0
11      0      0      0      0      0      0      0      0      0
12      0      0      0      0      0      0      0      0      0
13      0      0      0      0      0      0      0      0      0
14      0      0      0      0      0      0      0      0      0
15      0      0      0      0      0      0      0      0      0
mcast   0      0      0      0      0      0      0      0      0
```

Legend:

Tx-OVS: Drops due to oversized packets

Tx-NHB: Drops due to missing packet header buffer

Tx-NPB: Drops due to missing packet payload buffer

Tx-QF: Drops because the queue is full

Tx-LP: Drops because the packet is low priority

Tx-DS: Drops because the destination slot is dead

Tx-MB: Drop counter for packets transmitted over MBUS (Not supported)

Tx-DIS: Drops because the tofab transmission is disabled

From Fabric dropped packets:

```
-----
Slot Rx-REF Rx-PKT Rx-DEC Rx-Total
 0      0      0      0      0
 1      0      0      0      0
 2      0      0      0      0
```

```

3      0      0      0      0
4      0      0      0      0
5      0      0      0      0
6      0      0      0      0
7      0      0      0      0
8      0      0      0      0
9      0      0      0      0
10     0      0      0      0
11     0      0      0      0
12     0      0      0      0
13     0      0      0      0
14     0      0      0      0
15     0      0      0      0

```

Legend:

Rx-REF: Drops in the FPGA reassembly

Rx-PKT: Drops due to invalid packet

Rx-DEC: Drops due to decoding the packet

Table 28 describes the significant fields shown in the display.

Table 28 *show controllers fabricq drop Field Descriptions*

Field	Description
To Fabric dropped packets	Displays statistics about the transmitted packets that were dropped.
Slot	Slot that contains the fabric card whose statistics are displayed.
Tx-OVS	Number of transmitted packets that were dropped because they were oversized.
Tx-NHB	Number of transmitted packets that were dropped because they were missing a packet header buffer.
Tx-NPB	Number of transmitted packets that were dropped because they were missing a packet payload buffer.
Tx-QF	Number of transmitted packets that were dropped because the queue is full.
Tx-LP	Number of transmitted packets that were dropped because they were low priority.
Tx-DS	Number of transmitted packets that were dropped because the destination slot is dead.
Tx-MB	Number of dropped transmitted packets that were sent over the Mbus.
Tx-DIS	Number of transmitted packets that were dropped because the tofab transmission is disabled.
Tx-Total	Total number of packets transmitted.
From Fabric dropped packets	Displays statistics about the received packets that were dropped.
Slot	Slot that contains the fabric card whose statistics are displayed.
Rx-REF	Number of received packets that were dropped in the FPGA reassembly.
Rx-PKT	Number of received packets that were dropped because they were invalid.

Table 28 *show controllers fabricq drop Field Descriptions (continued)*

Field	Description
Rx-DEC	Number of received packets that were dropped due to decoding.
Rx-Total	Total number of received packets that were dropped.

1. Optimized Voice Service

Related Commands

Command	Description
show controllers fabricq errors	Displays information about errors.
show controllers fabricq frfab	Displays from fabric statistics.
show controllers fabricq output	Displays information about to fabric output service.
show controllers fabricq queue	Displays information about packet queues.
show controllers fabricq registers	Displays information about chopper and assembler registers.
show controllers fabricq tofab	Displays to fabric statistics.

show controllers fabricq eio

To display the current state of all the elastic I/O (EIO) information from fabric ASICs to the neighboring ASICs--PSE, Ingress, and FIA, use the **show controllers fabricq eio** command in administration EXEC mode.

show controllers fabricq eio links {*link id* | **all**} **location** *node-id*

Syntax Description	<i>link id</i>	Displays one or more EIO link states. Note The range of the <i>link id</i> argument is 0 to 4294967295.
	location <i>node-id</i>	(Optional) Displays statistical information for the designated node. The <i>node-id</i> argument is entered in the <i>rack/slot/module</i> notation.

Defaults	No default behavior or values
-----------------	-------------------------------

Command Modes	Administration EXEC
----------------------	---------------------

Command History	Release	Modification
	Release 3.2	This command was introduced on the Cisco CRS-1.
	Release 3.3.0	No modification.
	Release 3.4.0	No modification.
	Release 3.5.0	No modification.
	Release 3.6.0	No modification.
	Release 3.7.0	No modification.
	Release 3.8.0	No modification.

Usage Guidelines	To use this command, your Cisco IOS XR software system administrator must assign you to a user group associated with a task group that includes the corresponding command task IDs. If you need assistance with your task group assignment, contact your system administrator. For detailed information about user groups and task IDs, see the <i>Configuring AAA Services on Cisco IOS XR Software</i> module of <i>Cisco IOS XR System Security Configuration Guide</i> .
-------------------------	--

Task ID	Task ID	Operations
	root-system	read, write

Examples

The following is detailed sample output from the **show controllers fabricq eio** command for location 0/1/CPU0:

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

```
RP/0/RP0/CPU0:router (admin)# show controllers fabricq eio links all location 0/1/CPU0
```

```
Node: 0/1/CPU0:
```

```
-----
```

EIO links:

```
-----
```

ASIC Id	Peer Id	Type	Link-Id	Attempts	Accept	Failed	State
FABRICQ_0	FIA_0	RX	30	1	1	0	EIO_LINK_TRAINED
FABRICQ_0	FIA_0	RX	32	1	1	0	EIO_LINK_TRAINED
FABRICQ_0	FIA_0	RX	34	1	1	0	EIO_LINK_TRAINED
FABRICQ_0	FIA_0	RX	36	1	1	0	EIO_LINK_TRAINED
FABRICQ_0	FIA_1	RX	40	1	1	0	EIO_LINK_TRAINED
FABRICQ_0	FIA_1	RX	42	1	1	0	EIO_LINK_TRAINED
FABRICQ_0	FIA_1	RX	44	1	1	0	EIO_LINK_TRAINED
FABRICQ_0	FIA_1	RX	46	1	1	0	EIO_LINK_TRAINED
FABRICQ_0	PSE_1	TX	50	0	0	0	EIO_LINK_TRAINED
FABRICQ_1	FIA_0	RX	31	1	1	0	EIO_LINK_TRAINED
FABRICQ_1	FIA_0	RX	33	1	1	0	EIO_LINK_TRAINED
FABRICQ_1	FIA_0	RX	35	1	1	0	EIO_LINK_TRAINED
FABRICQ_1	FIA_0	RX	37	1	1	0	EIO_LINK_TRAINED
FABRICQ_1	FIA_1	RX	41	1	1	0	EIO_LINK_TRAINED
FABRICQ_1	FIA_1	RX	43	1	1	0	EIO_LINK_TRAINED

show controllers fabricq errors

To display the count of hardware errors associated with the fabric queue driver, use the **show controllers fabricq errors** command in administration EXEC mode.

show controllers fabricq errors [*location node-id*]

Syntax Description

location node-id	(Optional) Displays statistical information for the designated node. The <i>node-id</i> argument is entered in the <i>rack/slot/module</i> notation.
-------------------------	--

Defaults

Information about errors for all route processors (RPs) on the router is displayed

Command Modes

Administration EXEC

Command History

Release	Modification
Release 3.2	This command was introduced on the Cisco XR 12000 Series Router.
Release 3.3.0	No modification.
Release 3.4.0	No modification.
Release 3.5.0	No modification.
Release 3.6.0	No modification.
Release 3.7.0	No modification.
Release 3.8.0	No modification.

Usage Guidelines

To use this command, your Cisco IOS XR software system administrator must assign you to a user group associated with a task group that includes the corresponding command task IDs. If you need assistance with your task group assignment, contact your system administrator. For detailed information about user groups and task IDs, see the *Configuring AAA Services on Cisco IOS XR Software* module of *Cisco IOS XR System Security Configuration Guide*.

Use the **show controllers fabricq errors** command to display statistics about hardware errors. Specifying a location displays information only if that location is a RP.

The **show controllers fabricq errors** command is intended for use while performing debugging procedures.

Task ID

Task ID	Operations
root-system	read, write

Examples

The following is sample output from the **show controllers fabricq errors** command for location 0/1/CPU0:

```
RP/0/0/CPU0:router# admin
RP/0/0/CPU0:router(admin)# show controllers fabricq errors location 0/1/CPU0
```

Location 0/1/0:

ToFab Errors:

Error Type	Error Count	Max Rate	Rate Exceeded Count
SRAM Parity	0	2	0
DMA Address	0	100	0
DMA Size	0	100	0
Fusilli Parity	0	2	0
PCI TRANS64	0	2	0
PCI Address	0	2	0

Table 29 describes the significant fields shown in the display.

Table 29 *show controllers fabricq errors Field Descriptions*

Field	Description
Error Count	Number of errors of each type.
Max Rate	Maximum number of errors of that type that can be received per second.
Rate Exceeded Count	Number of times that error has exceeded the Max Rate. When the rate is exceeded, the software may try to restart the fabric queue driver and associated ASICs or FPGAs to correct the problem.

Related Commands

Command	Description
show controllers fabricq drop	Displays information about packet drops.
show controllers fabricq frfab	Displays from fabric statistics.
show controllers fabricq output	Displays information about to fabric output service.
show controllers fabricq queue	Displays information about packet queues.
show controllers fabricq registers	Displays information about chopper and assembler registers.
show controllers fabricq tofab	Displays to fabric statistics.

show controllers fabricq fabric-backpressure

To display back-pressure information for the fabric queue ASICs, use the **show controllers fabricq fabric-backpressure** command in EXEC and administration EXEC mode.

show controllers fabricq fabric-backpressure [**summary**] [**instance** *asic_instance*] [**location** *node-id*]

Syntax Description	summary	(Optional) Displays summarized back-pressure information about all fabric queue ASICs in the system.
	instance <i>asic_instance</i>	(Optional) Displays back-pressure information for a specific fabric queue ASIC. Replace the <i>asic_instance</i> argument with the instance that identifies the ASIC whose back-pressure information you want to display. Note Enter the show controllers fabricq fabric-backpressure command without including any of the optional keywords or arguments to display all fabric queue ASIC instances in the system.
	location <i>node</i>	Displays back-pressure information for the fabric queue ASICs on a particular node. The <i>node-id</i> argument is entered in the <i>rack/slot/module</i> notation. Note Use the show platform command to see a list of all nodes currently installed in your system.

Defaults Enter the **show controllers fabricq fabric-backpressure** command without including any of the optional keywords or arguments to display detailed back-pressure information about all fabric queue ASICs in the system.

Command Modes EXEC
Administration EXEC

Command History	Release	Modification
	Release 3.4.0	This command was introduced on the Cisco CRS-1.
	Release 3.5.0	No modification.
	Release 3.6.0	No modification.
	Release 3.7.0	No modification.
	Release 3.8.0	No modification.

Usage Guidelines To use this command, your Cisco IOS XR software system administrator must assign you to a user group associated with a task group that includes the corresponding command task IDs. If you need assistance with your task group assignment, contact your system administrator. For detailed information about user groups and task IDs, see the *Configuring AAA Services on Cisco IOS XR Software* module of *Cisco IOS XR System Security Configuration Guide*.

■ show controllers fabricq fabric-backpressure

On the fabricq ASICs, a BP Engine configured for each non-empty fabric group present in the system is shown as enabled **Yes** under the Enabled column on all fabricq ASICs in the system.

Task ID	Task ID	Operations
	fabric	read
	interface	read
	drivers	read

Examples

The following example shows sample output from the **show controllers fabricq fabric-backpressure** command when it is entered with the **summary** keyword:

```
RP/0/RP0/CPU0:router# admin
RP/0/RP0/CPU0:router(admin)# show controllers fabricq fabric-backpressure summary
```

```
Rack 0: All Groups Received? : Yes
```

The following example shows sample output from the **show controllers fabricq fabric-backpressure** command when it is entered without any of the optional keywords:

```
RP/0/RP0/CPU0:router# admin
RP/0/RP0/CPU0:router(admin)# show controllers fabricq fabric-backpressure
```

```
Location: 0/1/CPU0
Asic Instance: 0
Fabric Destination Address: 4
BP global Configuration Register: 0xff07
```

```
Cluster Number: 0
Primary Link: 0
Secondary Link: 9
Number of Backup links: 14
Backup Links: 8 1 2 10 3 11 27 16 26 17 25 18 24 19
BP enable Mask: 0x4
BP EC: 0
BP IM: 0x1ffe
```

```
+-----+
|BP Engine| Enabled |Current Link |Rx group |P Link |S Link |
+-----+
| 0 | No |Secondary | 255 | 0 | 9 |
+-----+
| 1 | No |Secondary | 255 | 0 | 9 |
+-----+
| 2 | Yes |Primary | 0 | 0 | 9 |
+-----+
```

```
Location: 0/1/CPU0
Asic Instance: 1
Fabric Destination Address: 5
BP global Configuration Register: 0xff07
```

```
Cluster Number: 0
Primary Link: 0
Secondary Link: 9
Number of Backup links: 14
Backup Links: 8 1 2 10 3 11 27 16 26 17 25 18 24 19
BP enable Mask: 0x4
BP EC: 0
```

BP IM: 0x1ffe

	BP Engine	Enabled	Current Link	Rx group	P Link	S Link
0	No	Secondary	255	0	9	
1	No	Secondary	255	0	9	
2	Yes	Primary	0	0	9	

Location: 0/3/CPU0

Asic Instance: 0

Fabric Destination Address: 12

BP global Configuration Register: 0xff07

Cluster Number: 0

--More--

show controllers fabricq frfab

To display output from the fabric statistics associated with the fabric queue driver, use the **show controllers fabricq frfab** command in administration EXEC mode.

show controllers fabricq frfab [**detail** | **trace options**] [**location node-id**]

Syntax Description	
detail	(Optional) Displays detailed statistical information.
trace options	(Optional) Displays detailed fabric queue driver trace information for a specific node. Replace the <i>options</i> argument with one or more of the following keywords or keyword arguments to specify the type and format of trace information displayed: • error—Includes tofab error trace information in the command output. • file word original—Displays trace information for a specific file. • hexdump—Displays trace information in hexadecimal format. • last entries—Displays trace information for a specific number of entries. Replace the <i>entries</i> argument with the number of entries you want to display. For example, if you enter 5, the display shows the last 5 entries in the trace data. • packet—Includes packet trace information in the command output. • payload—Includes payload trace information in the command output. • reverse—Displays the latest traces first. • stats—Includes trace statistics in the command output. • tailf—Includes new traces as they are added in the command output. • unique—Includes unique trace entries with counts in the command output. • verbose—Includes internal debugging information in the command output. • wrapping—Includes wrapping entries in the command output.
location node-id	(Optional) Displays statistical information for the designated node. The <i>node-id</i> argument is entered in the <i>rack/slot/module</i> notation.

Defaults From fabric statistics are displayed for all route processors (RPs) on the router

Command Modes Administration EXEC

Command History	Release	Modification
	Release 3.2	This command was introduced on the Cisco XR 12000 Series Router.
	Release 3.3.0	No modification.
	Release 3.4.0	No modification.

Release	Modification
Release 3.5.0	No modification.
Release 3.6.0	The trace keyword and <i>options</i> argument were added.
Release 3.7.0	No modification.
Release 3.8.0	No modification.

Usage Guidelines

To use this command, your Cisco IOS XR software system administrator must assign you to a user group associated with a task group that includes the corresponding command task IDs. If you need assistance with your task group assignment, contact your system administrator. For detailed information about user groups and task IDs, see the *Configuring AAA Services on Cisco IOS XR Software* module of *Cisco IOS XR System Security Configuration Guide*.

Use the **show controllers fabricq frfab** command to display from fabric statistics. Specifying a location displays information only if that location is an RP. Use the **detail** keyword to display detailed output.



Note

The **show controllers fabricq frfab** command is typically used for debugging purposes.

Task ID

Task ID	Operations
root-system	read, write

Examples

The following is sample output from the **show controllers fabricq frfab** command for location 0/1/CPU0:

```
RP/0/0/CPU0:router# admin
RP/0/0/CPU0:router(admin)# show controllers fabricq frfab location 0/1/CPU0
```

Location 0/1/0:

From Fabric Stats:

```
-----
Slot    Rx-pkts    Rx-TH-pkts  Rx-dropped
1         0         3928         0
2         0         37309        0
3         0         43306        0
4         0         42681        0
5         0         35063        0
```

From Fabric Packet per Queue Stats:

```
-----
Packets received in queue 0 - 0
Packets received in queue 1 - 3928
Packets received in queue 2 - 150069
Packets received in queue 3 - 8290
```

From Fabric Error Stats:

```
-----
Bigger than MTU pkts      - 0
Corrupted pkts            - 0
SPD pkt count              - 0
No IDB drops              - 0
IDB queue tail drops      - 0
```

show controllers fabricq frfab

```

Chan corrupted pkts          - 0
First/Last err pkts         - 0
Sequence err pkts           - 0
Unknown Rx type              - 0
Output queue 0 full drops    - 0
Output queue 1 full drops    - 0
Output queue 2 full drops    - 0
Output queue 3 full drops    - 0
Output queue unmatched drops - 0
OQ 0 drops because FQ below threshold - 0
OQ 1 drops because FQ below threshold - 0
OQ 2 drops because FQ below threshold - 0
OQ 3 drops because FQ below threshold - 0

From Fabric Error Events:
-----
Fusilli parity errors- 0
Fusilli interface errors - 0
Free queue drop threshold events - 0
Free queue empty events - 0
Bad descriptors events - 0
Output queue 0 almost empty events - 0
Output queue 1 almost empty events - 0
Output queue 2 almost empty events - 0
Output queue 3 almost empty events - 0
OQ 0 drops because of ptr - 0 (Not implemented)
OQ 1 drops because of ptr - 0 (Not implemented)
OQ 2 drops because of ptr - 0 (Not implemented)
OQ 3 drops because of ptr - 0 (Not implemented)
Interrupt throttle events - 0
Spurious interrupt events - 0

Assembler memory statistics:
-----
Bufs enqueued to free queue - 163311
Bufs rxed from OQ           - 162287
Bufs copied to public pool   - 0 (Not implemented)
Bufs returned to the pool    - 162287
Bufs returned by driver      - 0 (Not implemented)
Bufs from driver to OS       - 0 (Not implemented)

```

Table 30 describes the significant fields shown in the display.

Table 30 *show controllers fabricq frfab Field Descriptions*

Field	Description
Rx-pkts	Number of packets received from the fabric.
Rx-TH-pkts	Number of “think hard” packets received from the fabric.
Rx-dropped	Number of packets received from the fabric that had to be dropped.

Related Commands

Command	Description
show controllers fabricq drop	Displays information about packet drops.
show controllers fabricq errors	Displays information about errors.
show controllers fabricq output	Displays information about to fabric output service.
show controllers fabricq queue	Displays information about packet queues.
show controllers fabricq registers	Displays information about chopper and assembler registers.
show controllers fabricq tofab	Displays to fabric statistics.

show controllers fabricq link-info

To display the state of the links on a fabricq ASIC, use the **show controllers fabricq link-info** command in administration EXEC mode.

show controllers fabricq link-info {*link number* | **all** } [**instance** *asic_instance*] [**location** *node-id*]

Syntax Description	<i>link number</i>	Link number. Range is from 0 to 31.
	<i>asic_instance</i>	(Optional) Displays health information for a specific fabric queue ASIC. Replace the <i>asic_instance</i> argument with the instance that identifies the ASIC whose health information you want to display.
	location <i>node-id</i>	(Optional) Displays statistical information for the designated node. The <i>node-id</i> argument is entered in the <i>rack/slot/module</i> notation.

Defaults No default behavior or values

Command Modes Administration EXEC

Command History	Release	Modification
	Release 3.2	This command was introduced on the Cisco CRS-1.
	Release 3.3.0	No modification.
	Release 3.4.0	No modification.
	Release 3.5.0	No modification.
	Release 3.6.0	No modification.
	Release 3.7.0	No modification.
	Release 3.8.0	No modification.

Usage Guidelines To use this command, your Cisco IOS XR software system administrator must assign you to a user group associated with a task group that includes the corresponding command task IDs. If you need assistance with your task group assignment, contact your system administrator. For detailed information about user groups and task IDs, see the *Configuring AAA Services on Cisco IOS XR Software* module of *Cisco IOS XR System Security Configuration Guide*.

The **show controllers fabricq link-info** command displays the state of the links on a fabricq ASIC. Any link that is connected to a plane that is not administratively down or to an fabric board that has been removed, should show as up under the columns **Driver State**, **FSDB State** and **Barrier State**. If the driver state is down, the column Errors would indicate the reason behind it. The column titled Drv Bar shows the number of times the driver attempted to bring up a link's driver state and barrier state.

Task ID	Task ID	Operations
	root-system	read, write

Examples

The following is detailed sample output from the **show controllers fabricq link-info** command for location 0/1/CPU0:

```
RP/0/0/CPU0:router# admin
RP/0/RP0/CPU0:router (admin)# show controllers fabricq link-info all location 0/1/CPU0
```

Location: 0/1/CPU0

Asic Instance: 0

Fabric Destination Address: 4

Retry period: 0 sec

Link Active bitmap (1=up,0=down): 0xffffffff

Link #	Driver state	FSDB state	Barrier state	Up (Drv Barr)	Errors
0	Up	Up	Up	1 1	
1	Up	Up	Up	1 1	
2	Up	Up	Up	1 1	
3	Up	Up	Up	1 1	
4	Up	Up	Up	1 1	
5	Up	Up	Up	1 1	
6	Up	Up	Up	1 1	
7	Up	Up	Up	1 1	
8	Up	Up	Up	1 1	
9	Up	Up	Up	1 1	
10	Up	Up	Up	1 1	
11	Up	Up	Up	1 1	
12	Up	Up	Up	1 1	
13	Up	Up	Up	1 1	

--More--

show controllers fabricq output

To display the fabric output service statistics associated with the fabric queue driver, use the **show controllers fabricq output** command in administration EXEC mode.

show controllers fabricq output [*location node-id*]

Syntax Description

location <i>node-id</i>	(Optional) Displays statistical information for the designated node. The <i>node-id</i> argument is entered in the <i>rack/slot/module</i> notation.
--------------------------------	--

Defaults

Information is displayed for all route processors (RPs) on the router..

Command Modes

Administration EXEC

Command History

Release	Modification
Release 3.2	This command was introduced on the Cisco XR 12000 Series Router.
Release 3.3.0	No modification.
Release 3.4.0	No modification.
Release 3.5.0	No modification.
Release 3.6.0	No modification.
Release 3.7.0	No modification.
Release 3.8.0	No modification.

Usage Guidelines

To use this command, your Cisco IOS XR software system administrator must assign you to a user group associated with a task group that includes the corresponding command task IDs. If you need assistance with your task group assignment, contact your system administrator. For detailed information about user groups and task IDs, see the *Configuring AAA Services on Cisco IOS XR Software* module of *Cisco IOS XR System Security Configuration Guide*.

Use the **show controllers fabricq output** command to display to fabric output service statistics. Specifying a location displays information only if that location is an RP.

The service time is the time from when the RP CPU has made the packet ready to be sent to the slot to when the Field-Programmable Gate Array (FPGA) has put the packet on the queue to that particular slot.



Note

The **show controllers fabricq output** command is typically used for debugging purposes.

Task ID

Task ID	Operations
root-system	read, write

Examples

The following is sample output from the **show controllers fabricq output** command for location 0/1/CPU0:

```
RP/0/RP0/CPU0:router# admin
RP/0/RP0/CPU0:router(admin)# show controllers fabricq output location 0/1/CPU0
```

Location 0/1/0:

To Fabric servicing time statistics:

```
-----
  Slot      Minimum      Maximum      Average      Timeouts
Low Priority:
  0          0          0          0          0
  1          0          0          0          0
  2          0         10          0          0
  3          0         21          0          0
  4          0          0          0          0
  5          0          0          0          0
  6          0          0          0          0
  7          0          0          0          0
  8          0          0          0          0
  9          0          0          0          0
 10          0          0          0          0
 11          0          0          0          0
 12          0          0          0          0
 13          0          0          0          0
 14          0          0          0          0
 15          0          0          0          0
mcast       0          0          0          0
High Priority:
  0          0          0          0          0
  1          0         22          0          0
  2          0         96          0          0
  3          0         13          0          0
  4          0         12          0          0
  5          0         14          0          0
  6          0          0          0          0
  7          0          0          0          0
  8          0          0          0          0
  9          0          0          0          0
 10          0          0          0          0
 11          0          0          0          0
 12          0          0          0          0
 13          0          0          0          0
 14          0          0          0          0
 15          0          0          0          0
mcast       0          6          0          0
```

Table 31 describes the significant fields shown in the display.

Table 31 *show controllers fabricq output Field Descriptions*

Field	Description
Slot	Slot to which the packets are sent.
Minimum	Lowest service time of all the packets sent to that slot.
Maximum	Highest service time of all the packets sent to that slot.
Average	Average service time of all the packets sent to that slot.
Timeouts	Number of times a packet's service time has exceeded a threshold of 200 milliseconds (the packet is dropped).

 `show controllers fabricq output`

Related Commands	Command	Description
	show controllers fabricq drop	Displays information about packet drops.
	show controllers fabricq errors	Displays information about errors.
	show controllers fabricq frfab	Displays from fabric statistics.
	show controllers fabricq queue	Displays information about packet queues.
	show controllers fabricq registers	Displays information about chopper and assembler registers.
	show controllers fabricq tofab	Displays to fabric statistics.

show controllers fabricq queue

To display information about the hardware queues of the performance route processor chopper and assembler FPGAs, use the **show controllers fabricq queue** command in administration EXEC mode.

On the Cisco CRS-1:

```
show controllers fabricq queue [instance instance-id] [location node-id]
```

On the Cisco XR 12000 Series Router:

```
show controllers fabricq queue [detail] [location node-id]
```

Syntax Description	instance <i>instance-id</i>	(Optional) Displays information about a specific ASIC. Replace the <i>instance-id</i> argument with an ASIC instance. Range is from 1 through 4. Note The instance <i>instance-id</i> keyword and argument is available on the Cisco CRS-1 only.
	detail	(Optional) Displays detailed statistical information. Note The detail keyword is available on the Cisco XR 12000 Series Router only.
	location <i>node-id</i>	(Optional) Displays statistical information for the designated node. The <i>node-id</i> argument is entered in the <i>rack/slot/module</i> notation.

Defaults Information for all performance route processors on the router is displayed

Command Modes Administration EXEC

Command History	Release	Modification
	Release 3.2	This command was introduced on the Cisco CRS-1 and Cisco XR 12000 Series Router.
	Release 3.3.0	No modification.
	Release 3.4.0	No modification.
	Release 3.5.0	No modification.
	Release 3.6.0	No modification.
	Release 3.7.0	No modification.
	Release 3.8.0	No modification.

Usage Guidelines To use this command, your Cisco IOS XR software system administrator must assign you to a user group associated with a task group that includes the corresponding command task IDs. If you need assistance with your task group assignment, contact your system administrator. For detailed information about user groups and task IDs, see the *Configuring AAA Services on Cisco IOS XR Software* module of *Cisco IOS XR System Security Configuration Guide*.

show controllers fabricq queue

Use the **show controllers fabricq queue** command to display information about packet queues. Specifying a location displays information only if that location is an RP.

This command is intended for use while performing debugging procedures.

Task ID	Task ID	Operations
	root-system	read, write

Examples

The following is detailed sample output from the **show controllers fabricq queue** command for the location 0/1/CPU0 on the Cisco XR 12000 Series Router:

```
RP/0/0/CPU0:router# admin
RP/0/0/CPU0:router(admin)# show controllers fabricq queue detail location 0/1/CPU0
```

Location 0/1/0:

To Fabric Queue Stats:

```
-----
  Slot   EnQueued   DeQueued   Cur-Entrys   Max-Entrys   Blocked   BP count
Low Priority:
  0         0         0         0         0         No         0
  1         0         0         0         0         No         0
  2        300        300         0         2         No         0
  3       8428       8428         0        12         No         0
  4         0         0         0         0         No         0
  5         0         0         0         0         No         0
  6         0         0         0         0         No         0
  7         0         0         0         0         No         0
  8         0         0         0         0         No         0
  9         0         0         0         0         No         0
 10         0         0         0         0         No         0
 11         0         0         0         0         No         0
 12         0         0         0         0         No         0
 13         0         0         0         0         No         0
 14         0         0         0         0         No         0
 15         0         0         0         0         No         0
mcast         0         0         0         0         No         0
High Priority:
  0         0         0         0         0         No         0
  1       7882       7882         0         2         No         0
  2      62330      62330         0        36         No         0
  3      60752      60752         0       100         No         0
  4      72588      72588         0        36         No         0
  5      60876      60876         0       100         No         0
  6         0         0         0         0         No         0
  7         0         0         0         0         No         0
  8         0         0         0         0         No         0
  9         0         0         0         0         No         0
 10         0         0         0         0         No         0
 11         0         0         0         0         No         0
 12         0         0         0         0         No         0
 13         0         0         0         0         No         0
 14         0         0         0         0         No         0
 15         0         0         0         0         No         0
mcast     19562     19562         0       200         No         0
Free packet header buffers 7680
From Fabric Queue Stats:
-----
Queue   Allocated       Free
```

```

0          0          512
1          0          512
2          0          512
3          0          512
F/Q        87          937

```

The following is detailed sample output from the **show controllers fabricq queue** command for the location 0/1/CPU0 on Cisco CRS-1:

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

```
RP/0/RP0/CPU0:router(admin)# show controllers fabricq queue location 0/1/CPU0
```

```
Fabric Queue Manager Queue Information:
```

```
=====
```

```
Location: 0/1/CPU0
```

```
Asic Instance: 0
```

```
Fabric Destination Address: 4
```

```
CpuCtrl Cast range : 0 - 7
```

```
Multicast Range : 16 - 71
```

```
Unicast Quanta in KBytes : 58, Multicast Quanta : 14
```

```

+-----+
|Type/Ifname|Port|Queue| Q |P-quanta|Q-quanta|HighW|LowW| Q Len| BW|
|           |num| num|pri| KBytes | KBytes |KBytes|KBytes|KBytes| (kb|
+-----+
|CpuCtrl Cast|0|0 - 7|HI|13|13|1021|919|0| |
|Multicast|0|17|BE|13|13|26214|23592|0|
|Multicast|0|18|AF|13|13|26214|23592|0|
|Multicast|0|20|HI|13|1905|26214|23592|0|
|POS0/1/4/0|1|129|BE|13|450|1755|1578|0|239|
|POS0/1/4/0|2|257|AF|13|450|1755|1578|0|239|
|POS0/1/4/0|4|513|HI|1905|450|1755|1578|0|239|
|POS0/1/0/0|1|130|BE|13|30|109|98|0|14|
|POS0/1/0/0|2|258|AF|13|30|109|98|0|14|
|POS0/1/0/0|4|514|HI|1905|30|109|98|0|14|
|GigabitEthernet0/1/5/0|1|131|BE|13|187|732|658|0|
|GigabitEthernet0/1/5/0|2|259|AF|13|187|732|658|0|
|GigabitEthernet0/1/5/0|4|515|HI|1905|187|732|658|0|
|GigabitEthernet0/1/5/1|1|132|BE|13|187|732|658|0|
|GigabitEthernet0/1/5/1|2|260|AF|13|187|732|658|0|
|GigabitEthernet0/1/5/1|4|516|HI|1905|187|732|658|0|
|GigabitEthernet0/1/5/2|1|133|BE|13|187|732|658|0|
|GigabitEthernet0/1/5/2|2|261|AF|13|187|732|658|0|
|GigabitEthernet0/1/5/2|4|517|HI|1905|187|732|658|0|
|GigabitEthernet0/1/5/3|1|134|BE|13|187|732|658|0|
|GigabitEthernet0/1/5/3|2|262|AF|13|187|732|658|0|
|GigabitEthernet0/1/5/3|4|518|HI|1905|187|732|658|0|
|GigabitEthernet0/1/5/4|1|135|BE|13|187|732|658|0|
|GigabitEthernet0/1/5/4|2|263|AF|13|187|732|658|0|
|GigabitEthernet0/1/5/4|4|519|HI|1905|187|732|658|0|
|GigabitEthernet0/1/5/5|1|136|BE|13|187|732|658|0|
|GigabitEthernet0/1/5/5|2|264|AF|13|187|732|658|0|
|GigabitEthernet0/1/5/5|4|520|HI|1905|187|732|658|0|
|GigabitEthernet0/1/5/6|1|137|BE|13|187|732|658|0|
|GigabitEthernet0/1/5/6|2|265|AF|13|187|732|658|0|
|GigabitEthernet0/1/5/6|4|521|HI|1905|187|732|658|0|
|GigabitEthernet0/1/5/7|1|138|BE|13|187|732|658|0|
|GigabitEthernet0/1/5/7|2|266|AF|13|187|732|658|0|
|GigabitEthernet0/1/5/7|4|522|HI|1905|187|732|658|0|
--More--

```

Table 32 describes the significant fields shown in the display.

Table 32 *show controllers fabricq queue Field Descriptions*

Field	Description
Slot	Slot or queue to which the packets are sent.
EnQueued	Number of entries enqueued for that queue.
DeQueued	Number of entries dequeued for that queue.
Cur-Entrys	Number of entries currently for that queue.
Max-Entrys	Highest number of entries for that queue.
Blocked	Yes or No if that queue is blocked.
BP count	Back-pressure count, which is the number of times the queue got full.
Queue	Priority queues receiving packets; 0 is the highest priority. The F/Q entry is the software free packet queue.
Allocated	Number of packets in that queue.
Free	Number of packets available for that queue.

Related Commands

Command	Description
show controllers fabricq drop	Displays information about packet drops.
show controllers fabricq errors	Displays information about errors.
show controllers fabricq frfab	Displays from fabric statistics.
show controllers fabricq output	Displays information about to fabric output service.
show controllers fabricq registers	Displays information about chopper and assembler registers.
show controllers fabricq tofab	Displays to fabric statistics.

show controllers fabricq registers

To display the hardware registers of the chopper and assembler FPGAs, use the **show controllers fabricq registers** command in administration EXEC mode.

show controllers fabricq registers [**detail**] [**location** *node-id*]

Syntax Description	detail	(Optional) Displays detailed statistical information.
	location <i>node-id</i>	(Optional) Displays statistical information for the designated node. The <i>node-id</i> argument is entered in the <i>rack/slot/module</i> notation.

Defaults	Information for all route processors (RPs) on the router is displayed
-----------------	---

Command Modes	Administration EXEC
----------------------	---------------------

Command History	Release	Modification
	Release 3.2	This command was introduced on the Cisco XR 12000 Series Router.
	Release 3.3.0	No modification.
	Release 3.4.0	No modification.
	Release 3.5.0	No modification.
	Release 3.6.0	No modification.
	Release 3.7.0	No modification.
	Release 3.8.0	No modification.

Usage Guidelines	To use this command, your Cisco IOS XR software system administrator must assign you to a user group associated with a task group that includes the corresponding command task IDs. If you need assistance with your task group assignment, contact your system administrator. For detailed information about user groups and task IDs, see the <i>Configuring AAA Services on Cisco IOS XR Software</i> module of <i>Cisco IOS XR System Security Configuration Guide</i>.
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Use the **show controllers fabricq registers** command to display the hardware registers of the chopper and assembler FPGAs. Specifying a location displays information only if that location is an RP.

This command is intended for use while performing debugging procedures.

Task ID	Task ID	Operations
	root-system	read, write

Examples

The following is sample output from the **show controllers fabricq registers** command for location 0/1/CPU0:

```
RP/0/0/CPU0:router# admin
RP/0/0/CPU0:router(admin)# show controllers fabricq registers location 0/1/CPU0
```

Location 0/1/0:

Chopper Registers:

```
-----
FPGA Version                      00020012
HP Descriptor fetch enable        00010000
Descriptor array size             000003FF
Interrupt cause                   00000000
Interrupt mask                    FC01FFFF
LP Descriptor fetch enable        00000008
HP Interrupt desc afull          00000000
LP Interrupt desc afull          00000000
Discovery low control reg base address F1000840
Discovery next desc reg base address F1000830
Chopper PCI base address         F0000000
HP Descriptor queue empty status  0001FFFF
HP Descriptor queue almost full   00000000
Data queue empty status          0001FFFF
Data queue almost full           00000000
LP Descriptor queue empty status  0001FFFF
LP Descriptor queue almost full   00000000
SRAM Descriptor threshold         000003F0
SRAM Data threshold              000007F0
DMA Control                      000000DD
Back pressure status             00000000
Fusilli Tx Enable                0001FFFF
Cell count                       0030CDA1
Reset VOQ                        00000000
DMA Busy Status                  00000000
DMA Done Status                  000000DD
HP Descriptor start addr for queue 0 0B448000
HP Descriptor start addr for queue 1 0B44A000
HP Descriptor start addr for queue 2 0B44C000
HP Descriptor start addr for queue 3 0B44E000
HP Descriptor start addr for queue 4 0B450000
HP Descriptor start addr for queue 5 0B452000
HP Descriptor start addr for queue 6 0B454000
HP Descriptor start addr for queue 7 0B456000
HP Descriptor start addr for queue 8 0B458000
HP Descriptor start addr for queue 9 0B45A000
HP Descriptor start addr for queue 10 0B45C000
HP Descriptor start addr for queue 11 0B45E000
HP Descriptor start addr for queue 12 0B460000
HP Descriptor start addr for queue 13 0B462000
HP Descriptor start addr for queue 14 0B464000
HP Descriptor start addr for queue 15 0B466000
HP Descriptor start addr for queue 16 0B468000
LP Descriptor start addr for queue 0 0B426000
LP Descriptor start addr for queue 1 0B428000
LP Descriptor start addr for queue 2 0B42A000
LP Descriptor start addr for queue 3 0B42C000
LP Descriptor start addr for queue 4 0B42E000
LP Descriptor start addr for queue 5 0B430000
LP Descriptor start addr for queue 6 0B432000
LP Descriptor start addr for queue 7 0B434000
LP Descriptor start addr for queue 8 0B436000
LP Descriptor start addr for queue 9 0B438000
```

```

LP Descriptor start addr for queue 10 0B43A000
LP Descriptor start addr for queue 11 0B43C000
LP Descriptor start addr for queue 12 0B43E000
LP Descriptor start addr for queue 13 0B440000
LP Descriptor start addr for queue 14 0B442000
LP Descriptor start addr for queue 15 0B444000
LP Descriptor start addr for queue 16 0B446000

```

Assembler Registers:

```

-----
Version                0002000D
Chip Config             0000000F
Int Mask                00000000
Output Queue Threshold  00000033
Low Pri Req level       00000030
High Pri Req level      00000060
Free Queue Size         00001000
Free Queue Base         0B3A6000
Free Queue Rd Pointer   0B3A6380
Free Queue Wr Pointer   0B3A61C0
Output Queue Size       00001000
Output Queue 0 Base Addr 0B3A8000
Output Queue 0 Write Addr 0B3A8000
Output Queue 0 Read Addr 0B3A8000
Output Queue 0 Match     C0000200
Output Queue 0 Mask      00003E00
Output Queue 1 Base Addr 0B3AA000
Output Queue 1 Write Addr 0B3AAB58
Output Queue 1 Read Addr 0B3AAB58
Output Queue 1 Match     C0000C00
Output Queue 1 Mask      00003E00
Output Queue 2 Base Addr 0B3AC000
Output Queue 2 Write Addr 0B3AC4D0
Output Queue 2 Read Addr 0B3AC4D0
Output Queue 2 Match     C0000400
Output Queue 2 Mask      00003C00
Output Queue 3 Base Addr 0B3AE000
Output Queue 3 Write Addr 0B3AE360
Output Queue 3 Read Addr 0B3AE360
Output Queue 3 Match     C0000000
Output Queue 3 Mask      00000000
Discard Buffer Addr      0A1AC700
REFIM config            00000000
REFIM Max Packet Len    000000C1

```

Related Commands

Command	Description
show controllers fabricq drop	Displays information about packet drops.
show controllers fabricq errors	Displays information about errors.
show controllers fabricq frfab	Displays from fabric statistics.
show controllers fabricq output	Displays information about to fabric output service.
show controllers fabricq queue	Displays information about packet queues.
show controllers fabricq tofab	Displays to fabric statistics.

show controllers fabricq statistics

To display statistics about packet flow through the fabric queue application-specific integrated circuit (ASIC), use the **show controllers fabricq statistics** command in EXEC mode.

show controllers fabricq statistics [*instance instance*] [*location node-id*]

Syntax Description	instance <i>instance</i>	(Optional) Specifies instance and number for a single fabric queue ASIC. The <i>instance</i> argument is a number from 0 to 4.
	location <i>node-id</i>	(Optional) Specifies statistical packet flow information for the designated node. The <i>node-id</i> argument is entered in the <i>rack/slot/module</i> notation.

Defaults Information for all fabric queue ASICs for all locations is displayed

Command Modes EXEC

Command History	Release	Modification
	Release 2.0	This command was introduced on the Cisco CRS-1.
	Release 3.0	No modification.
	Release 3.2	No modification.
	Release 3.3.0	The show controllers fabricq packet-stats command was replaced by the show controllers fabricq statistics command.
	Release 3.4.0	No modification.
	Release 3.5.0	No modification.
	Release 3.6.0	No modification.
	Release 3.7.0	No modification.
	Release 3.8.0	No modification.

Usage Guidelines To use this command, your Cisco IOS XR software system administrator must assign you to a user group associated with a task group that includes the corresponding command task IDs. If you need assistance with your task group assignment, contact your system administrator. For detailed information about user groups and task IDs, see the *Configuring AAA Services on Cisco IOS XR Software* module of *Cisco IOS XR System Security Configuration Guide*.

Use the **show controllers fabricq statistics** command to track the number of unicast and multicast packets that are sent from the fabric to the specified node.

Task ID	Task ID	Operations
	interface	read
	drivers	read

Examples

The following is sample output from the **show controllers fabricq statistics** command that displays statistics about fabric queue packets that have passed through ASIC 0 on node 0/1/CPU0:

```
RP/0/RP0/CPU0:router# show controllers fabricq statistics instance 0 location 0/1/CPU0
```

```
Fabric Queue Manager Packet Statistics
=====

Location: 0/1/CPU0
Asic Instance: 0
Fabric Destination Address:    32

Input Cell counters:
+-----+
Data cells      :          42356 (+          22 )
Control cells   :          29877224 (+          36372 )
Idle cells      :          219947284936 (+          267358842 )
BP Asserted Count :              0 (+              0 )
MC BP Asserted Count :              0 (+              0 )

Reassembled packet counters
+-----+
Ucast pkts      :              0 (+              0 )
Mcast pkts      :              0 (+              0 )
Cpuctrlcast pkts :          21159 (+              11 )

Dropped packets
+-----+
Ucast pkts      :              0 (+              0 )
Mcast pkts      :              0 (+              0 )
Cpuctrlcast pkts :              0 (+              0 )
Vital denied pkts :              0 (+              0 )
NonVital denied pkts :              0 (+              0 )
Unicast lost pkts :              0 (+              0 )
Ucast partial pkts :              0 (+              0 )
PSM OOR Drops   :              0 (+              0 )
```

Table 33 describes the significant fields shown in the display.

Table 33 *show controllers fabricq statistics Field Descriptions*

Field	Description
Input Cell counters	Number of cells that have reached the fabric queue ASIC. Note The numbers following the colons are the cumulative count since the last time the counts were cleared and those within parentheses are the delta since the last time the driver polled the ASIC.
Control Cells	Carry discard and back-pressure information across the fabric.
Idle Cells	Carry control information in the cell header and keep the links in sync.
Data Cells	All other cells apart from Control cells and Idle cells are counted as data cells, regardless of whether they are CPU bound or E-metro bound.

Table 33 *show controllers fabricq statistics Field Descriptions (continued)*

Field	Description
Reassembled packet counters	Number of packets the fabric queue ASIC has reassembled after transmission over the fabric.
Ucast packet	Number of unicast packets.
Mcast packet	Number of multicast packets.
Cpuctrlcast packet	All the traffic bound for the local CPU of this linecard.
Dropped packets	Number of packets the fabric queue ASIC has had to drop.
Unicast packets	These packets are discarded at the Output Queue Manager block (OQM).
Multicast packets	These packets are discarded at the OQM.
Cpuctrlcast packets	These packets are discarded at the OQM.
Vital denied packets	Represent a condition where buffer references are denied for a vital in the Packet Control Logic (PCL) block of the ASIC.
NonVital denied packets	Represent a condition where buffer references are denied for a non vital in the Packet Control Logic (PCL) block of the ASIC.
Unicast lost packets	Missing packets at the PCL block when packets are retired to the OQM.
Unicast partial packets	Incomplete packets at the PCL block when packets are retired to the OQM.
PSM OOR Drops	Number of packets that had to be dropped because Packet Status Memory (PSM) ran out of entries.

show controllers fabricq tofab

To display to fabric statistics associated with the fabric queue driver, use the **show controllers fabricq tofab** command in administration EXEC mode.

show controllers fabricq tofab [**detail** [**location** *node-id*] | **trace** *options* {**location** *node-id*}]

Syntax	Description
detail	(Optional) Displays detailed statistical information.
trace <i>options</i>	(Optional) Displays detailed fabric queue driver trace information for a specific node. Replace the <i>options</i> argument with one or more of the following keywords or keywords and arguments to specify the type and format of trace information displayed: • error—Includes tofab error trace information in the command output. • file <i>word</i> original—Displays trace information for a specific file. • header—Includes tofab header trace information in the command output. • hexdump—Display trace information in hexadecimal format. • last <i>entries</i>—Display trace information for a specific number of entries. Replace the <i>entries</i> argument with the number of entries you want to display. For example, if you enter 5, the display will show the last 5 entries in the trace data. • payload—Includes payload trace information in the command output. • reverse—Displays the latest traces first. • stats—Includes trace statistics in the command output. • tailf—Includes new traces as they are added in the command output. • unique—Includes unique trace entries with counts in the command output. • verbose—Includes internal debugging information in the command output. • wrapping—Includes wrapping entries in the command output.
location <i>node-id</i>	(Optional) Displays statistical or trace information for the designated node. The <i>node-id</i> argument is entered in the <i>rack/slot/module</i> notation.

Defaults

Statistical information is displayed for all route processors (RPs) on the router

Command Modes

Administration EXEC

■ show controllers fabricq tofab

Command History

Release	Modification
Release 3.2	This command was introduced on the Cisco XR 12000 Series Router.
Release 3.3.0	No modification.
Release 3.4.0	No modification.
Release 3.5.0	No modification.
Release 3.6.0	No modification.
Release 3.7.0	No modification.
Release 3.8.0	No modification.

Usage Guidelines

To use this command, your Cisco IOS XR software system administrator must assign you to a user group associated with a task group that includes the corresponding command task IDs. If you need assistance with your task group assignment, contact your system administrator. For detailed information about user groups and task IDs, see the *Configuring AAA Services on Cisco IOS XR Software* module of *Cisco IOS XR System Security Configuration Guide*.

Use the **show controllers fabricq tofab** command to display to fabric statistics. Specifying a location displays information only if that location is an RP.

The **show controllers fabricq tofab** command is intended for use while performing debugging procedures.

Task ID

Task ID	Operations
root-system	read, write

Examples

The following is sample output from the **show controllers fabricq tofab** command for location 0/1/CPU0:

```
RP/0/0/CPU0:router# admin
RP/0/0/CPU0:router(admin)# show controllers fabricq tofab location 0/1/CPU0
```

Location 0/1/0:

To Fabric Stats:

```
-----
Slot   Tx-pkts   Tx-TH-pkts Tx-dropped Tx-DMA
Low Priority:
3       0         446         0         446
High Priority:
1       0         248         0         248
2       0       13696         0       13696
3       0       14347         0       14347
4       0       15889         0       15889
5       0       14351         0       14351
mcast  0         2182         0         2182
```

To Fabric Errors:

```
-----
Failed sends because of no header bufs - 0
Failed sends because of no payload bufs - 0
```

```
SRAM parity errors - 0
DMA errors - 0
Fusilli Parity errors - 0
```

Table 34 describes the significant fields shown in the display.

Table 34 *show controllers fabricq tofab Field Descriptions*

Field	Description
Tx-pkts	Number of packets sent to that slot.
Tx-TH-pkts	Number of “think hard” packets sent to that slot.
Tx-dropped	Number of dropped packets sent to that slot.
Tx-DMA	Number of direct memory accesses (DMA) to send the packet to that slot.

Related Commands

Command	Description
show controllers fabricq drop	Displays information about packet drops.
show controllers fabricq errors	Displays information about errors.
show controllers fabricq frfab	Displays from fabric statistics.
show controllers fabricq output	Displays information about to fabric output service.
show controllers fabricq queue	Displays information about packet queues.
show controllers fabricq registers	Displays information about chopper and assembler registers.

show controllers ingressq capacity

To display ASIC capacity details for the ingress fabric queue, use the **show controllers ingressq capacity** command in EXEC mode.

show controllers ingressq [**capacity** *cap table*][**location** *node-id*]

Syntax Description

<i>cap table</i>	Specific capacity table. Note The range is from 0 to 4294967295. PMAX=0, Q-MAX=1, and QMIN=3.
location <i>node-id</i>	Identifies the location of the ingressq queue whose statistics you want to display. The <i>node-id</i> argument is expressed in the <i>rack/slot/module</i> notation.

Defaults

No default behavior or values

Command Modes

EXEC

Command History

Release	Modification
Release 3.2	This command was introduced on the Cisco CRS-1.
Release 3.3.0	No modification.
Release 3.4.0	No modification.
Release 3.5.0	No modification.
Release 3.6.0	No modification.
Release 3.7.0	No modification.
Release 3.8.0	No modification.

Usage Guidelines

To use this command, your Cisco IOS XR software system administrator must assign you to a user group associated with a task group that includes the corresponding command task IDs. If you need assistance with your task group assignment, contact your system administrator. For detailed information about user groups and task IDs, see the *Configuring AAA Services on Cisco IOS XR Software* module of *Cisco IOS XR System Security Configuration Guide*.

Task ID

Task ID	Operations
interface	read
drivers	read

Examples

The following example shows how to display ASIC capacity information for the ingress fabric queue:

```
RP/0/RP0/CPU0:router#sh controllers ingressq capacity 0 location 0/1/CPU0
```

```
ingressq capacity table: Port Max capacity
```

```
Table id: 0
```

4	8	12	16	20	24	28	32
36	40	44	48	52	56	60	64
68	72	76	88	108	136	172	216
276	348	436	552	700	884	1116	1408
1780	2248	2836	3584	4528	5724	7228	9136
11540	14580	18420	23272	29404	37152	46936	59304
74924	94664	119600	151108	190916	241212	304756	385040
486472	614628	776548	981120	1239584	1566140	1978724	2500000

Related Commands

Command	Description
show controllers ingressq clients	Displays information for all clients connected to IQM.
show controllers ingressq eio	Displays EIO information for the ingressq ASIC queue.
show controllers ingressq fabric	Displays information for all fabric interfaces.
show controllers ingressq interfaces	Displays information for interfaces associated with an ingressq queue.
show controllers ingressq queues	Displays information for all queues.
show controllers ingressq statistics	Displays information for ingressq packet statistics.
show controllers ingressq vports	Displays ingressq information for a virtual port, or for several ports.

show controllers ingressq clients

To display all clients connected to the ingress queue manager (IQM), use the **show controllers ingressq clients** command in EXEC mode.

```
show controllers ingressq clients {location node-id}
```

Syntax Description	location node-id	Identifies the location of the ingress queue whose statistics you want to display. The <i>node-id</i> argument is expressed in the <i>rack/slot/module</i> notation.
--------------------	------------------	--

Defaults	No default behavior or values
----------	-------------------------------

Command Modes	EXEC
---------------	------

Command History	Release	Modification
	Release 3.2	This command was introduced on the Cisco CRS-1.
	Release 3.3.0	No modification.
	Release 3.4.0	No modification.
	Release 3.5.0	No modification.
	Release 3.6.0	No modification.
	Release 3.7.0	No modification.
	Release 3.8.0	No modification.

Usage Guidelines	To use this command, your Cisco IOS XR software system administrator must assign you to a user group associated with a task group that includes the corresponding command task IDs. If you need assistance with your task group assignment, contact your system administrator. For detailed information about user groups and task IDs, see the <i>Configuring AAA Services on Cisco IOS XR Software</i> module of <i>Cisco IOS XR System Security Configuration Guide</i> .
------------------	--

Task ID	Task ID	Operations
	interface	read
	drivers	read

Examples

The following example shows how to display ingressq clients connected to IQM:

```
RP/0/RP0/CPU0:router# show controllers ingressq clients location 0/1/CPU0
-----
ingress queue manager clients:
handle name
-----
1      hfr_pm
2      QOS_EA
3      BM-EA HFR DLL
```

Related Commands

Command	Description
show controllers ingressq capacity	Displays capacity information for the ingressq ASIC.
show controllers ingressq eio	Displays EIO information for the ingressq ASIC queue.
show controllers ingressq fabric	Displays information for all fabric interfaces.
show controllers ingressq interfaces	Displays information for interfaces associated with an ingressq queue.
show controllers ingressq queues	Displays information for all queues.
show controllers ingressq statistics	Displays information for ingressq packet statistics.
show controllers ingressq vports	Displays ingressq information for a virtual port, or for several ports.

show controllers ingressq eio

To display elastic I/O (EIO) information for the ingress queueing ASIC, use the **show controllers ingressq eio** command in EXEC mode.

show controllers ingressq eio links {*link id* | **all**} [**location** *node-id*]

Syntax Description

<i>link id</i>	Displays one or more EIO link states. Note The range of the <i>link id</i> argument is 0 to 4294967295.
all	Indicates that you want to display ingressq eio information for all interfaces in the specified location.
location <i>node-id</i>	Identifies the location of the ingress queue manager whose EIO link information you want to display. The <i>node-id</i> argument is expressed in the <i>rack/slot/module</i> notation.

Defaults

No default behavior or values

Command Modes

EXEC

Command History

Release	Modification
Release 3.2	This command was introduced on the Cisco CRS-1.
Release 3.3.0	No modification.
Release 3.4.0	No modification.
Release 3.5.0	No modification.
Release 3.6.0	No modification.
Release 3.7.0	No modification.
Release 3.8.0	No modification.

Usage Guidelines

To use this command, your Cisco IOS XR software system administrator must assign you to a user group associated with a task group that includes the corresponding command task IDs. If you need assistance with your task group assignment, contact your system administrator. For detailed information about user groups and task IDs, see the *Configuring AAA Services on Cisco IOS XR Software* module of *Cisco IOS XR System Security Configuration Guide*.

Task ID

Task ID	Operations
interface	read
drivers	read

Examples

The following example shows how to display EIO information for the ingress fabric queue:

```
RP/0/RP0/CPU0:router# show controllers ingressq eio links all
```

```
Node: 0/1/CPU0:
```

```
-----
```

EIO links:

```
-----
```

ASIC Id	Peer Id	Type	Link-Id	Attempts	Accept	Failed	State
INGRESSQ_0	PSE_0	RX	10	1	1	0	EIO_LINK_TRAINED
INGRESSQ_0	PSE_0	TX	24	0	0	0	EIO_LINK_TRAINED
INGRESSQ_0	FIA_0	TX	20	0	0	0	EIO_LINK_TRAINED
INGRESSQ_0	FIA_0	TX	21	0	0	0	EIO_LINK_TRAINED
INGRESSQ_0	FIA_1	TX	22	0	0	0	EIO_LINK_TRAINED
INGRESSQ_0	FIA_1	TX	23	0	0	0	EIO_LINK_TRAINED
INGRESSQ_0	FABRICQ_0	RX	54	1	1	0	EIO_LINK_TRAINED
INGRESSQ_0	FABRICQ_1	RX	55	1	1	0	EIO_LINK_TRAINED

```
Node: 0/4/CPU0:
```

```
-----
```

EIO links:

```
-----
```

ASIC Id	Peer Id	Type	Link-Id	Attempts	Accept	Failed	State
INGRESSQ_0	FIA_0	TX	20	0	0	0	EIO_LINK_TRAINED
INGRESSQ_0	FABRICQ_0	RX	54	1	1	0	EIO_LINK_TRAINED
INGRESSQ_0	FABRICQ_1	RX	55	1	1	0	EIO_LINK_TRAINED

```
-----
```

Related Commands

Command	Description
show controllers ingressq capacity	Displays capacity information for the ingressq ASIC.
show controllers ingressq clients	Displays information for all clients connected to IQM.
show controllers ingressq fabric	Displays information for all fabric interfaces.
show controllers ingressq interfaces	Displays information about interfaces associated with an ingressq queue.
show controllers ingressq queues	Displays information for all queues.
show controllers ingressq statistics	Displays information for ingressq packet statistics.
show controllers ingressq vports	Displays ingressq information for a virtual port, or for several ports.

show controllers ingressq fabric

To display various parameters of ingressq and switching fabric connectivity, use the **show controllers ingressq fabric** command in EXEC mode.

show controllers ingressq fabric {asic | detail | links | pla} [**location** *node-id*]

Syntax Description

asic	Displays ASIC states.
detail	Displays fabric state information.
links	Displays link states information.
pla	Displays plane availability information for unicast and multicast.
location <i>node-id</i>	Identifies the location of the ingressq queue whose statistics you want to display. The <i>node-id</i> argument is expressed in the <i>rack/slot/module</i> notation.

Defaults

No default behavior or values

Command Modes

EXEC

Command History

Release	Modification
Release 3.2	This command was introduced on the Cisco CRS-1.
Release 3.3.0	No modification.
Release 3.4.0	No modification.
Release 3.5.0	No modification.
Release 3.6.0	No modification.
Release 3.7.0	No modification.
Release 3.8.0	No modification.

Usage Guidelines

To use this command, your Cisco IOS XR software system administrator must assign you to a user group associated with a task group that includes the corresponding command task IDs. If you need assistance with your task group assignment, contact your system administrator. For detailed information about user groups and task IDs, see the *Configuring AAA Services on Cisco IOS XR Software* module of *Cisco IOS XR System Security Configuration Guide*.

Task ID

Task ID	Operations
interface	read
drivers	read

Examples

The following example shows how to display various parameters of ingressq and switching fabric connectivity for all fabric interfaces:

```
RP/0/RP0/CPU0:router#sh controllers ingressq fabric links location 0/1/CPU0
```

```
Ingressq link state
```

plane-id	link-id	ADMIN-STATE	OPER-STATE	AVAIL-STATE	UP-COUNT
0	0	UP	UP	UP	1
0	8	UP	UP	UP	1
0	16	UP	UP	UP	1
0	24	UP	UP	UP	1
1	1	UP	UP	UP	1
1	9	UP	UP	UP	1
1	17	UP	UP	UP	1
1	25	UP	UP	UP	1
2	2	UP	UP	UP	1
2	10	UP	UP	UP	1
2	18	UP	UP	UP	1
2	26	UP	UP	UP	1
3	3	UP	UP	UP	1
3	11	UP	UP	UP	1
3	19	UP	UP	UP	1
3	27	UP	UP	UP	1
4	4	UP	UP	UP	1
4	12	UP	UP	UP	1
4	20	UP	UP	UP	1
4	28	UP	UP	UP	1
5	5	UP	UP	UP	1
5	13	UP	UP	UP	1
5	21	UP	UP	UP	1
5	29	UP	UP	UP	1
6	6	UP	UP	UP	1
6	14	UP	UP	UP	1
6	22	UP	UP	UP	1
6	30	UP	UP	UP	1
7	7	UP	UP	UP	1
7	15	UP	UP	UP	1
7	23	UP	UP	UP	1
7	31	UP	UP	UP	1

Related Commands

Command	Description
show controllers ingressq capacity	Displays capacity information for the ingressq ASIC.
show controllers ingressq clients	Displays information for all clients connected to IQM.
show controllers ingressq eio	Displays EIO information for the ingressq ASIC queue.
show controllers ingressq interfaces	Displays information about interfaces associated with an ingressq queue.
show controllers ingressq queues	Displays information for all queues.
show controllers ingressq statistics	Displays information for ingressq packet statistics.
show controllers ingressq vports	Displays ingressq information for a virtual port, or for several ports.

show controllers ingressq interfaces

To display the ingressq shape queue and parameters associated with the physical interfaces on the card, use the **show controllers ingressq interfaces** command in EXEC mode.

show controllers ingressq interfaces {*type instance* | **all**} [**location** *node-id*]

Syntax Description

<i>type instance</i>	Physical interface or a virtual interface.
Note	Use the show interfaces command to see a list of all possible interfaces currently configured on the router.
all	Indicates that you want to display ingressq queue information for all interfaces in the specified location.
location <i>node-id</i>	Identifies the location of the ingress queue whose statistics you want to display. The <i>node-id</i> argument is expressed in the <i>rack/slot/module</i> notation.

Defaults

No default behavior or values

Command Modes

EXEC

Command History

Release	Modification
Release 3.2	This command was introduced on the Cisco CRS-1.
Release 3.3.0	No modification.
Release 3.4.0	No modification.
Release 3.5.0	No modification.
Release 3.6.0	No modification.
Release 3.7.0	No modification.
Release 3.8.0	No modification.

Usage Guidelines

To use this command, your Cisco IOS XR software system administrator must assign you to a user group associated with a task group that includes the corresponding command task IDs. If you need assistance with your task group assignment, contact your system administrator. For detailed information about user groups and task IDs, see the *Configuring AAA Services on Cisco IOS XR Software* module of *Cisco IOS XR System Security Configuration Guide*.

Task ID

Task ID	Operations
interface	read
drivers	read

Examples

The following example shows how to display the ingressq shape queue and parameters associated with the physical interfaces on the card:

```
RP/0/RP0/CPU0:router# show controllers ingressq interfaces all location 0/1/CPU0
```

iqm interfaces:

legend:: #sub: num sub intf, rc: reference count, indx: demux num.

```
-----
name                intf hd      parent hd  #sub indx def-port ports rc   Owner
-----
Bundle-POS24        0x80050    0x0        0  0    25        1    3   hfr_pm
Bundle-Ether28       0x80070    0x0        3  0    26        1    6   hfr_pm
Bundle-Ether28.1     0x80090    0x80070    0  0    26        1    3   hfr_pm
Bundle-Ether28.2     0x800b0    0x80070    0  0    26        1    3   hfr_pm
Bundle-Ether28.3     0x800d0    0x80070    0  0    26        1    3   hfr_pm
POS0_1_0_0           0x1180060  0x0        0  0    9         1    3   hfr_pm
POS0_1_4_0           0x11800c0  0x0        0  0    8         1    3   hfr_pm
TenGigE0_1_1_0       0x11800e0  0x0        0  0    18        1    3   hfr_pm
GigabitEthernet0_1_5_00x1180100  0x0        0  0    10        1    3   hfr_m
GigabitEthernet0_1_5_10x1180120  0x0        0  0    11        1    3   hfr_m
GigabitEthernet0_1_5_20x1180140  0x0        0  0    12        1    3   hfr_m
GigabitEthernet0_1_5_30x1180160  0x0        0  0    13        1    3   hfr_m
GigabitEthernet0_1_5_40x1180180  0x0        0  0    14        1    3   hfr_m
GigabitEthernet0_1_5_50x11801a0  0x0        0  0    15        1    3   hfr_m
GigabitEthernet0_1_5_60x11801c0  0x0        0  0    16        1    3   hfr_m
GigabitEthernet0_1_5_70x11801e0  0x0        0  0    17        1    3   hfr_m
POS0_1_4_1           0x1180240  0x0        0  0    19        1    3   hfr_pm
--More--
```

Related Commands

Command	Description
show controllers ingressq capacity	Displays capacity information for the ingressq ASIC.
show controllers ingressq clients	Displays information for all clients connected to IQM.
show controllers ingressq eio	Displays EIO information for the ingressq ASIC queue.
show controllers ingressq fabric	Displays information for all fabric interfaces.
show controllers ingressq queues	Displays information for all queues.
show controllers ingressq statistics	Displays information for ingressq packet statistics.
show controllers ingressq vports	Displays ingressq information for a virtual port, or for several ports.

show controllers ingressq queues

To display information about the ingressq shape queues and parameters that have been created for the ingress interfaces, use the **show controllers ingressq queues** command in EXEC mode.

show controllers ingressq queues {*queue handle* | **all**} [**location** *node-id*]

Syntax Description

<i>queue handle</i>	Specific queue marked by a unique number. Range is from 0 to 4294967295.
all	Indicates that you want to display ingressq queue information for all interfaces.
location <i>node-id</i>	Identifies the location of the ingressq queue whose statistics you want to display. The <i>node-id</i> is expressed in the <i>rack/slot/module</i> notation.

Defaults

No default behavior or values

Command Modes

EXEC

Command History

Release	Modification
Release 3.2	This command was introduced on the Cisco CRS-1.
Release 3.3.0	No modification.
Release 3.4.0	No modification.
Release 3.5.0	No modification.
Release 3.6.0	No modification.
Release 3.7.0	No modification.
Release 3.8.0	The <i>queue handle</i> argument range of 0 to 4294967295 was added.

Usage Guidelines

To use this command, your Cisco IOS XR software system administrator must assign you to a user group associated with a task group that includes the corresponding command task IDs. If you need assistance with your task group assignment, contact your system administrator. For detailed information about user groups and task IDs, see the *Configuring AAA Services on Cisco IOS XR Software* module of *Cisco IOS XR System Security Configuration Guide*.

Task ID

Task ID	Operations
interface	read
drivers	read

Examples

The following example shows how to display the ingressq shape queues and parameters that have been created for the ingress interfaces:

```
RP/0/RP0/CPU0:router# sh controllers ingressq queues all location 0/1/CPU0
```

```
iqm queues:
legend: (*) default q, LP low priority,HP high priority, bs burst sizebw (kbps).
name          owner    q-hd  port  type max_bw  min_bw  max_bs  min_bs  qut
-----
default_queue(*) hfr_pm  32    8    LP  2396160  0      650    0      25
default_queue(*) hfr_pm  33    9    LP  149760  0      533    0      1
default_queue(*) hfr_pm  34    10   LP  1000192  0      638    0      10
default_queue(*) hfr_pm  35    11   LP  1000192  0      638    0      10
default_queue(*) hfr_pm  36    12   LP  1000192  0      638    0      10
default_queue(*) hfr_pm  37    13   LP  1000192  0      638    0      10
default_queue(*) hfr_pm  38    14   LP  1000192  0      638    0      10
default_queue(*) hfr_pm  39    15   LP  1000192  0      638    0      10
default_queue(*) hfr_pm  40    16   LP  1000192  0      638    0      10
default_queue(*) hfr_pm  41    17   LP  1000192  0      638    0      10
default_queue(*) hfr_pm  42    18   LP  10000128 0      511    0      10
default_queue(*) hfr_pm  43    19   LP  2396160  0      650    0      25
default_queue(*) hfr_pm  44    20   LP  149760  0      533    0      1
default_queue(*) hfr_pm  45    21   LP  2396160  0      650    0      25
default_queue(*) hfr_pm  46    22   LP  149760  0      533    0      1
default_queue(*) hfr_pm  47    23   LP  2396160  0      650    0      25
default_queue(*) hfr_pm  48    24   LP  149760  0      533    0      1
default_queue(*) BM-EA HFR DLL49  25    LP  4792320  0      588    0
default_queue(*) BM-EA HFR DLL50  26    LP  2000000  0      578    0
```

Related Commands

Command	Description
show controllers ingressq capacity	Displays capacity information for the ingressq ASIC.
show controllers ingressq clients	Displays information for all clients connected to IQM.
show controllers ingressq eio	Displays EIO information for the ingressq ASIC queue.
show controllers ingressq fabric	Displays information for all fabric interfaces.
show controllers ingressq interfaces	Displays information for interfaces associated with an ingressq queue.
show controllers ingressq statistics	Displays information for ingressq packet statistics.
show controllers ingressq vports	Displays ingressq information for a virtual port, or for several ports.

show controllers ingressq statistics

To display ingress queue manager statistics, use the in EXEC mode.

show controllers ingressq statistics [**location** *node-id*]

Syntax Description

location <i>node-id</i>	Identifies the location of the ingress queue whose statistics you want to display. The <i>node-id</i> argument is expressed in the <i>rack/slot/module</i> notation.
Note	Use the show platform command to see the location of all nodes installed in the router.

Defaults

No default behavior or values

Command Modes

EXEC

Command History

Release	Modification
Release 3.2	This command was introduced on the Cisco CRS-1.
Release 3.3.0	No modification.
Release 3.4.0	No modification.
Release 3.5.0	No modification.
Release 3.6.0	The location <i>node-id</i> keyword and argument were changed from required to optional.
Release 3.7.0	No modification.
Release 3.8.0	No modification.

Usage Guidelines

To use this command, your Cisco IOS XR software system administrator must assign you to a user group associated with a task group that includes the corresponding command task IDs. If you need assistance with your task group assignment, contact your system administrator. For detailed information about user groups and task IDs, see the *Configuring AAA Services on Cisco IOS XR Software* module of *Cisco IOS XR System Security Configuration Guide*.



Note

In the **show controllers ingressq statistics** command display, the *rx pkts* counter field may wrap if it is calculating line rate traffic.

Task ID

Task ID	Operations
interface	read
drivers	read

Examples

The following example shows how to display ingress queue manager statistics:

```
RP/0/RP0/CPU0:router# show controllers ingressq statistics location 0/2/CPU0
```

Ingressq Rx Statistics.

```
-----
rx pkts                :          131827 (          33509182 bytes)
rx pkts from cpu       :          102509 (          16422606 bytes)
rx control pkts from cpu :          102509 (          16422606 bytes)
rx data pkts from cpu   :              0 (              0 bytes)
```

Ingressq Tx Statistics.

```
-----
tx pkts                :          131826 (          35086366 bytes)
tx pkts to cpu         :           29318 (          17086576 bytes)
tx control pkts to cpu :           29318 (          17086576 bytes)
tx data pkts to cpu    :              0 (              0 bytes)
tx pkts shaped         :          102508 (          17999790 bytes)
tx cells to fabric     :          223190
```

Ingressq Drops.

```
-----
length error drops - PSE      :          0
length error drops - Cpuctrl  :          0
crc error drops - PSE        :          0
crc error drops - Cpuctrl    :          0
OOR error drops - PSE        :          0
OOR error drops - Cpuctrl    :          0
discard drops               :          0
tail drops                  :          0
tail drops - no QE          :          0
cell drops                  :          0
```

Table 35 describes the significant fields shown in the display.

Table 35 *show controllers ingressq statistics Field Descriptions*

Field	Description
Ingressq Rx Statistics	Displays the following receive statistics: - rx pkts—Total number of packets received; also shown in bytes. - rx pkts from cpu—Number of packets received from the CPU; also shown in bytes. - rx control pkts from cpu—Number of control packets received; also shown in bytes. - rx data pkts from cpu—Number of data packets received; also shown in bytes.
Ingressq Tx Statistics	Displays the following transmit statistics: - tx pkts—Total number of packets transmitted; also shown in bytes. - tx pkts to cpu—Number of packets transmitted from the CPU; also shown in bytes. - tx control pkts to cpu—Number of control packets transmitted; also shown in bytes. - tx data pkts to cpu—Number of data packets transmitted; also shown in bytes. - tx pkts shaped—Number of shaped data packets transmitted; also shown in bytes. - tx cells to fabric—Number of cells that were transmitted to the switch fabric; also shown in bytes.
Ingressq Drops	Displays the following ingress queue drop statistics: - length error drops - PSE—Number of packets that were dropped by the PSE due to length errors. - length error drops - Cpuctrl—Number of packets that were dropped by the CPU controller due to length errors. - crc error drops - PSE—Number of packets that were dropped by the PSE due to CRC errors. - crc error drops - Cpuctrl—Number of packets that were dropped by the CPU controller due to CRC errors - OOR error drops - PSE—Number of packets that were dropped by the PSE due to OOR errors. - OOR error drops - Cpuctrl—Number of packets that were dropped by the CPU controller due to OOR errors. - discard drops—Number of packets that were discarded. - tail drops—Number of packets discarded for this class because the queue was full. - tail drops - no QE—Number of packets dropped due to unavailability of the ingress Queue Engine (QE). - cell drops—Number of cells that were dropped by the ingress queue.

Related Commands	Command	Description
	show controllers ingressq capacity	Displays capacity information for the ingressq ASIC.
	show controllers ingressq clients	Displays information for all clients connected to IQM.
	show controllers ingressq eio	Displays EIO information for the ingressq ASIC queue.
	show controllers ingressq fabric	Displays information for all fabric interfaces.
	show controllers ingressq interfaces	Displays information for interfaces associated with an ingressq queue.
	show controllers ingressq queues	Displays information for all queues.
	show controllers ingressq vports	Displays ingressq information for a virtual port, or for several ports.

show controllers ingressq vports

To display information about the ingressq virtual ports and its parameters that have been created for the ingressq interfaces, use the **show controllers ingressq vports** command in EXEC mode.

show controllers ingressq vports [*port handle* | **all**] [**location** *node-id*]

Syntax Description

<i>port handle</i>	Specific virtual port or range of ports. Range is from 0 to 4294967295.
all	Indicates that you want to display ingressq virtual ports.
location <i>node-id</i>	Identifies the location of the ingress queue whose statistics you want to display. The <i>node-id</i> is expressed in the <i>rack/slot/module</i> notation.

Defaults

No default behavior or values

Command Modes

EXEC

Command History

Release	Modification
Release 3.2	This command was introduced on the Cisco CRS-1.
Release 3.3.0	No modification.
Release 3.4.0	No modification.
Release 3.5.0	No modification.
Release 3.6.0	No modification.
Release 3.7.0	No modification.
Release 3.8.0	The <i>port handle</i> argument range of 0 to 4294967295 was added.

Usage Guidelines

To use this command, your Cisco IOS XR software system administrator must assign you to a user group associated with a task group that includes the corresponding command task IDs. If you need assistance with your task group assignment, contact your system administrator. For detailed information about user groups and task IDs, see the *Configuring AAA Services on Cisco IOS XR Software* module of *Cisco IOS XR System Security Configuration Guide*.

Task ID

Task ID	Operations
interface	read
drivers	read

Examples

The following example shows how to display a list of ingressq virtual ports:

```
RP/0/RP0/CPU0:router# show controllers ingressq vports all location 0/1/CPU0
```

ingressq virtual ports:

bw (kbps), bs (usec), quant(10s of 2*Fab MTU).

name	port-#	intf-hd	def-q	# Qs	rc	max-bw	max-bs	quant	o
default_port	8	0x11800c0	32	1	6	2396160	74924	48	hfr
default_port	9	0x1180060	33	1	6	149760	5724	2	hfr
default_port	10	0x1180100	34	1	6	1000192	37152	19	hfr
default_port	11	0x1180120	35	1	6	1000192	37152	19	hfr
default_port	12	0x1180140	36	1	6	1000192	37152	19	hfr
default_port	13	0x1180160	37	1	6	1000192	37152	19	hfr
default_port	14	0x1180180	38	1	6	1000192	37152	19	hfr
default_port	15	0x11801a0	39	1	6	1000192	37152	19	hfr
default_port	16	0x11801c0	40	1	6	1000192	37152	19	hfr
default_port	17	0x11801e0	41	1	6	1000192	37152	19	hfr
default_port	18	0x11800e0	42	1	6	10000128	385040	200	hfr
default_port	19	0x1180240	43	1	6	2396160	74924	48	hfr
default_port	20	0x11802a0	44	1	6	149760	5724	2	hfr
default_port	21	0x1180300	45	1	6	2396160	74924	48	hfr
default_port	22	0x1180360	46	1	6	149760	5724	2	hfr
default_port	23	0x11803c0	47	1	6	2396160	74924	48	hfr
default_port	24	0x1180420	48	1	6	149760	5724	2	hfr
default_port	25	0x80050	49	1	6	4792320	151108	95	BM-L
default_port	26	0x80070	50	1	12	2000000	74924	40	BM-L

-

Related Commands

Command	Description
show controllers ingressq capacity	Displays capacity information for the ingressq ASIC.
show controllers ingressq clients	Displays information for all clients connected to IQM.
show controllers ingressq eio	Displays EIO information for the ingressq ASIC queue.
show controllers ingressq fabric	Displays information for all fabric interfaces.
show controllers ingressq interfaces	Displays information for interfaces associated with an ingressq queue.
show controllers ingressq queues	Displays information for all queues.
show controllers ingressq statistics	Displays information for ingressq packet statistics.

■ show controllers ingressq vports