Fabric Management Commands

This module describes the Cisco IOS XR software commands used to monitor and control application-specific integrated circuit (ASIC) fabric queues for modular services cards .

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

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

Command Default

Information for all planes is cleared.

Command Modes

EXEC mode

Command History

Release	Modification
Release 2.0	This command was introduced.

Usage Guidelines

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

Command Default

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 mode

Command History

Release	Modification
Release 2.0	This command was introduced.
Release 3.6.0	The *asic_instance* argument range of 1 to 3 was changed to 0 to 3.

Usage Guidelines

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
```

clear controller ingressq statistics

To clear application-specific integrated circuit (ASIC) statics 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 *node-id*	Identifies the node whose ASIC statistics you want to clear from the ingress fabric queue. The *node-id* argument is entered in the *rack/slot/module* notation.

Command Default

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 mode

Command History

Release	Modification
Release 2.0	This command was introduced.
Release 3.6.0	The **location** *node-id* keyword and argument were changed from optional to required.

Usage Guidelines

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

Examples

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.

controllers fabric bundle port

To put a specific switch fabric bundle port into the shut down state, use the **controllers fabric bundle** command in Admin 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

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

Command Default

No default behavior or values

Command Modes

Admin Configuration mode

Command History

Release	Modification
Release 3.5.0	This command was introduced.
Release 3.6.0	No modification.
Release 3.7.0	No modification.
Release 3.8.0	No modification.
Release 3.9.0	No modification.

Usage Guidelines

No specific guidelines impact the use of this command.

Task ID

Task ID	Operations
fabric	read, write

Examples

The following example shows put a switch fabric bundle port into the shut down state:

```
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
```

controllers fabric plane oim

To configure optical interface module (OIM) fabric plane properties, use the **controllers fabric plane** command in Admin 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

plane-id	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 {*oim-instance*}	Specifies the properties of a specific OIM. Range is from 0 to 2.
location *node-id*	Identifies the node whose OIM fabric plane properties you want to configure. The *node-id* argument is entered in the *rack/slot/module* notation.
location all	Configures the OIM fabric plane properties on all nodes installed in the router.

Command Default

No default behavior or values

Command Modes

Admin Configuration mode

Command History

Release	Modification
Release 2.0	This command was introduced.
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.

Usage Guidelines

No specific guidelines impact the use of this command.

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 Admin Configuration mode. To disable the state of a fabric plane, use the **no** form of this command.

controllers fabric plane *plane-id* **shutdown**

Syntax Description

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

Command Default

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

Command Modes

Admin Configuration mode

Command History

Release	Modification
Release 2.0	This command was introduced.

Usage Guidelines

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 Admin 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**

Syntax Description

rack_number	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.

Command Default

No default behavior or values

Command Modes

Admin Configuration mode

Command History

Release	Modification
Release 3.3.0	This command was introduced.

Usage Guidelines

No specific guidelines impact the use of this command.

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 Admin 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*}

Syntax Description

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

Command Default

Control of fabric statistics data collection = enabled

Interval= 30 seconds.

Command Modes

Admin Configuration mode

Command History

Release	Modification
Release 2.0	This command was introduced.

Usage Guidelines

No specific guidelines impact the use of this command.

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 bundle

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

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

Syntax Description

node-id	Identifies a node whose fabric bundle information you want to display. The *node-id* argument is entered in the *rack/slot/module* notation. Follow the *node-id* argument with one of the following optional keywords to display the data a specific format:
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 *port-id*	Identifies a port whose fabric bundle information you want to display. The *port-id* argument is entered in the *rack/slot/module/port* notation. Follow the *port-id* 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.

Command Default

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

Command Modes

Admin EXEC mode

Command History

Release	Modification
Release 3.3.0	This command was introduced.

Usage Guidelines

No specific guidelines impact the use of this command.

Task ID

Task ID	Operations
fabric	read

Examples

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

```
RP/0/RP0/CPU0:router# admin
RP/0/RP0/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 Admin EXEC mode.

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

Syntax Description

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

Command Default

Brief information about controller fabric connectivity is displayed.

Command Modes

Admin EXEC mode

Command History

Release	Modification
Release 2.0	This command was introduced.

Usage Guidelines

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.

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
 R/S/M      Use 01234567   01234567   For (s)          Uptime (s)
Uptime
-------------------------------------------------------------------------------
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# 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
```

This table describes the significant fields shown in the display.

Table 1: show controllers fabric connectivity Field Descriptions

Field	Description
Card R/S/M	Identifies the fabric card, in the format *rack*/*slot*/*module*.
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.
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 Swtich Fabric Element (SFE) ASIC on a particular board, use the **show controllers fabric driver instance summary** command in Admin EXEC mode.

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

Syntax Description

instance *asic_instance*	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 *node*	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.

Command Default

No default behavior or values

Command Modes

Admin EXEC mode

Command History

Release	Modification
Release 3.2	This command was introduced.

Usage Guidelines

No specific guidelines impact the use of this command.

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
```

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 Admin 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 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 *fabric_fgid*	Fabric FGID whose SDR resource information you want to display. Replace with an FGID. Range is from 0 to 1000000
elements *number_of_fgids*	(Optional) Number of fabric FGIDs to display in the command output. Replace the *number_of_fgids arguments* with the number of FGIDs to list in the command output. Range is from 1 through 1000000.

Command Default

No default behavior or values

Command Modes

Admin EXEC mode

Command History

Release	Modification
Release 3.4.0	This command was introduced.

Usage Guidelines

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:P1_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
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 Admin 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.

Command Default

Brief information is displayed.

Command Modes

Admin EXEC mode

Command History

Release	Modification
Release 2.0	This command was introduced.

Usage Guidelines

Use the **show controllers fabric fgid statistics** command to monitor FGID resource usage based on a system, pool, or client view.

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 Appl Pool      Current       HighWater Mark
                            Name  ID   ID      InUse FGIDs      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
```

This table describes the significant fields shown in the display.

Table 2: 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.

Field	Description
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 rack all

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

show controllers fabric fsdb-pla rack all

Syntax Description

rack	Specifies the rack number. Range varies from 0-48.

Command Default

No default behavior or values

Command Modes

Admin EXEC mode

Command History

Release	Modification
Release 3.3.1	This command was introduced.

Usage Guidelines

Use the **show controllers fabric fsdb-pla rack 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 rack all** command:

```
RP/0/RP0/CPU0:router# admin
RP/0/RP0/CPU0:router(admin)# show controllers fabric fsdb-pla rack 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(0/1/CPU0)   11111111         11111111              11111111
5(0/1/CPU0)   11111111         11111111              11111111
16(0/4/CPU0)   11111111         11111111              11111111
17(0/4/CPU1)   11111111         11111111              11111111
24(0/6/CPU0)   11111111         11111111              11111111
25(0/6/CPU0)   11111111         11111111              11111111
30(0/RP0/CPU0)   11111111         11111111              11111111
```

```
31(0/RP1/CPU0)    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 Admin EXEC mode.

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

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 *port* argument with a port identifier. The *port* argument naming notation is in the *rack*/*slot*/*module*/*asic*/*port* format. **Note** A slash between values is required as part of the *port* 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.

Command Default

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

Admin EXEC mode

Command History

Release	Modification
Release 3.2	This command was introduced.

Usage Guidelines

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
0/SM0/SP/1/1 UP DOWN l Unused
0/SM0/SP/1/2 UP UP Unused
0/SM0/SP/1/3 UP DOWN l Unused
0/SM0/SP/1/4 UP DOWN l Unused
0/SM0/SP/1/5 UP DOWN l Unused
0/SM0/SP/1/6 UP DOWN l 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 fabricqrx 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 Admin EXEC mode.

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

Syntax Description

plane-id	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.

Command Default

Brief information is displayed

Command Modes

Admin EXEC mode

Command History

Release	Modification
Release 2.0	This command was introduced.

Usage Guidelines

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  Admin   Oper       Down       Total     Down
 Id     State   State      Flags      Bundles   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

                       In                 Out       CE        UCE       PE
Plane                 Cells              Cells     Cells     Cells     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
```

This table describes the significant fields shown in the display.

Table 3: 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.

Field	Description
Last clearing of “show controller fabric plane” counters	Indicates when the fabric plane counters were last cleared.

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 Admin 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.

Command Default

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

Admin EXEC mode

Command History

Release	Modification
Release 3.3.0	This command was introduced.

Usage Guidelines

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 Admin 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.
port	Specifies the port that owns the switch fabric element you want to display. Replace the *port* argument with the port number, in the *rack*/*slot*/*module*/*ASIC*/*port* format. **Note** A slash between values is required as part of the *port 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.

Command Default

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

Admin EXEC mode

Command History

Release	Modification
Release 3.2	This command was introduced.

Usage Guidelines

No specific guidelines impact the use of this command.

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 s**how controllers fabricq barriers** command in Admin 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 ggregated 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.
llegal-state	(Optional) Displays the number of illegal barrier states seen on all the input links since the registers were cleared last.
inputbarr	(Optional) D isplays the barrier state that is being received on all links at the instant the command is executed.
asic_instance	(Optional) Displays barrier information for a specific fabric queue ASIC. Replace the *asic_instance* argument with the instance that identifies the ASIC whose barrier information you want to display.
location *node-id*	(Optional) Displays statistical information for the designated node. The *node-id* argument is entered in the *rack/slot/module* notation.

Command Default

No default behavior or values

Command Modes

Admin EXEC mode

Command History

Release	Modification
Release 3.2	This command was introduced.

Usage Guidelines

No specific guidelines impact the use of this command.

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/RP0/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             : 0x1fffe
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             : 0x1fffe
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 Admin 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.
type instance	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.
location *node-id*	(Optional) Displays statistical information for the designated node. The *node-id* argument is entered in the *rack/slot/module* notation.

Command Default

No default behavior or values

Command Modes

Admin EXEC mode

Command History

Release	Modification
Release 3.2	This command was introduced.
Release 3.7.0	The **freequeue-manager** keyword was added to this command.

Usage Guidelines

No specific guidelines impact the use of this command.

Task ID

Task ID	Operations
root-system	read, write

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 |Enabl|Flush|              Buffer References                 |           |
|Size |     |     |  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 |Enabl|Flush|              Buffer References                 |           |
|Size |     |     |  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 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 Admin EXEC mode.

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

Syntax Description

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

Command Default

No default behavior or values

Command Modes

Admin EXEC mode

Command History

Release	Modification
Release 3.2	This command was introduced.

Usage Guidelines

No specific guidelines impact the use of this command.

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/RP0/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 fabric-backpressure

To display back-pressure information for the fabric queue ASICs, use the **show controllers fabricq fabric-backpressure** command in EXEC mode and Admin 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. **Note** In Release 5.1.1 and later, the **summary** option projects a list of BP fabric groups the software expects to find in the system based on the number of slots in the chassis and the largest capacity line card model. Each line card can have up to four fabric groups depending on the capacity of the card. Each fabric group is comprised of 32 bits, and the groups are numbered sequentially (0, 1, 2, 3, 4, 5, 6...) across the racks in the system. The **summary** also reports the groups from which BP information is not received only. All group-1 (0, 4, 8, 12) and group-2 (1, 5, 9, 13) instances are reported automatically. Information for group-2 (2, 6, 10, 15) instances are transmitted and reported when a CRS-X card is installed in slot 15 of a 16-slot CRS router.
instance *asic_instance*	(Optional) Displays back-pressure information for a specific fabric queue ASIC. Replace the *asic_instance* 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 *node*	Displays back-pressure information for the fabric queue ASICs on a particular node. The *node-id* argument is entered in the *rack*/*slot*/*module* notation. **Note** Use the **show platform** command to see a list of all nodes currently installed in your system.

Command Default

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 mode

Admin EXEC mode

Command History

Release	Modification
Release 3.4.0	This command was introduced.
Release 5.1.1	The **summary** keyword lists the projected BP fabric groups.

Usage Guidelines

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 health

To display the general condition of a fabricq ASIC, use the **show controllers fabricq health** command in Admin EXEC mode.

show controllers fabricq health [**instance** *asic_instance*] [**location** *node-id*]

Syntax Description

asic_instance	(Optional) Displays health information for a specific fabric queue ASIC. Replace the *asic_instance* argument with the instance that identifies the ASIC whose health information is to be displayed.
location *node-id*	(Optional) Displays statistical information for the designated node. The *node-id* argument is entered in the *rack/slot/module* notation.

Command Default

No default behavior or values

Command Modes

Admin EXEC mode

Command History

Release	Modification
Release 4.0.0	This command was introduced.

Usage Guidelines

No specific guidelines impact the use of this command.

Task ID

Task ID	Operations
drivers	read, write
interface	read, write

Examples

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

```
RP/0/RP0/CPU0:router#show controllers fabricq health location 0/6/cpu0

  Location:  0/6/CPU0
  Asic Instance:   0
  Fabric Destination Address:    24
  Cpuctrl EC: 00000000
  SN8 Frame: 0x000001         SN8 CRC: 00000000

  Fabric Interface Top level EC: 0
  Block 0 EC: 00000000        Block 1 EC: 00000000
  Block 2 EC: 00000000        Block 3 EC: 00000000
  Block 4 EC: 00000000        Block 5 EC: 00000000
  Block 6 EC: 00000000        Block 7 EC: 00000000
```

```
Ingressq Interface Top level EC: 00000000
BP Cluster 0 EC: 00000000   BP Cluster 1 EC: 00000000
BP Cluster 2 EC: 00000000   BP Cluster 3 EC: 00000000
BP Cluster 4 EC: 00000000   BP Cluster 5 EC: 00000000
BP Cluster 6 EC: 00000000   BP Cluster 7 EC: 00000000
BP Cluster 8 EC: 00000000   BP Cluster 9 EC: 00000000
```

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 Admin EXEC mode.

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

Syntax Description

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

Command Default

No default behavior or values

Command Modes

Admin EXEC mode

Command History

Release	Modification
Release 3.2	This command was introduced.

Usage Guidelines

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/RP0/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     |           |
```

show controllers fabricq summary

To display the summarized information of the condition of a fabricq ASIC, use the **show controllers fabricq summary** command in Admin EXEC mode.

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

Syntax Description

asic_instance	(Optional) Displays health information for a specific fabric queue ASIC. Replace the *asic_instance* argument with the instance that identifies the ASIC whose health information is to be displayed.
location *node-id*	(Optional) Displays statistical information for the designated node. The *node-id* argument is entered in the *rack/slot/module* notation.

Command Default

No default behavior or values

Command Modes

Admin EXEC mode

Command History

Release	Modification
Release 4.0.0	This command was introduced.

Usage Guidelines

No specific guidelines impact the use of this command.

Task ID

Task ID	Operations
drivers	read, write
interface	read, write

Examples

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

```
RP/0/RP0/CPU0:router# show controllers fabricq summary

  Location:  0/6/CPU0
  Asic Instance:   0
  Fabric Destination Address:    24
  Cpuctrl EC: 00000000
  SN8 Frame: 0x000001         SN8 CRC: 00000000

  Fabric Interface Top level EC: 0
  Block 0 EC: 00000000        Block 1 EC: 00000000
  Block 2 EC: 00000000        Block 3 EC: 00000000
  Block 4 EC: 00000000        Block 5 EC: 00000000
  Block 6 EC: 00000000        Block 7 EC: 00000000
```

```
Ingressq Interface Top level EC: 00000000
BP Cluster 0 EC: 00000000   BP Cluster 1 EC: 00000000
BP Cluster 2 EC: 00000000   BP Cluster 3 EC: 00000000
BP Cluster 4 EC: 00000000   BP Cluster 5 EC: 00000000
```

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 Admin EXEC mode.

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

Syntax Description

instance *instance-id*	(Optional) Displays information about a specific ASIC. Replace the *instance-id* argument with an ASIC instance. Range is from 1 through 4.
location *node-id*	(Optional) Displays statistical information for the designated node. The *node-id* argument is entered in the *rack/slot/module* notation.

Command Default

Information for all performance route processors on the router is displayed

Command Modes

Admin EXEC mode

Command History

Release	Modification
Release 3.2	This command was introduced.

Usage Guidelines

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:

```
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--
```

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

Command Default

Information for all fabric queue ASICs for all locations is displayed

Command Modes

EXEC mode

Command History

Release	Modification
Release 2.0	This command was introduced.
Release 3.3.0	The **show controllers fabricq packet-stats**command was replaced by the **show controllers fabricq statistics**command.

Usage Guidelines

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 )
```

This table describes the significant fields shown in the display.

Table 4: 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.
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.

Field	Description
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 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

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

Command Default

No default behavior or values

Command Modes

EXEC mode

Command History

Release	Modification
Release 3.2	This command was introduced.

Usage Guidelines

No specific guidelines impact the use of this command.

Task ID

Task ID	Operations
interface	read
drivers	read

Examples

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

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

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 *node-id* argument is expressed in the *rack/slot/module* notation.

Command Default

No default behavior or values

Command Modes

EXEC mode

Command History

Release	Modification
Release 3.2	This command was introduced.

Usage Guidelines

No specific guidelines impact the use of this command.

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
```

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

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

Command Default

No default behavior or values

Command Modes

EXEC mode

Command History

Release	Modification
Release 3.2	This command was introduced.

Usage Guidelines

No specific guidelines impact the use of this command.

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
--------------------------------------------------------------------------
```

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 *node-id*	Identifies the location of the ingressq queue whose statistics you want to display. The *node-id* argument is expressed in the *rack/slot/module* notation.

Command Default

No default behavior or values

Command Modes

EXEC mode

Command History

Release	Modification
Release 3.2	This command was introduced.

Usage Guidelines

No specific guidelines impact the use of this command.

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# show 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
------------------------------------------------------------------------------
```

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

type instance	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 *node-id*	Identifies the location of the ingress queue whose statistics you want to display. The *node-id* argument is expressed in the *rack/slot/module* notation.

Command Default

No default behavior or values

Command Modes

EXEC mode

Command History

Release	Modification
Release 3.2	This command was introduced.

Usage Guidelines

No specific guidelines impact the use of this command.

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--
```

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

queue_handle	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 *node-id*	Identifies the location of the ingressq queue whose statistics you want to display. The *node-id* is expressed in the *rack/slot/module* notation.

Command Default

No default behavior or values

Command Modes

EXEC mode

Command History

Release	Modification
Release 3.2	This command was introduced.
Release 3.8.0	The *queue handle* argument range of 0 to 4294967295 was added.

Usage Guidelines

No specific guidelines impact the use of this command.

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# show 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
```

show controllers ingressq statistics

To display ingress queue manager statistics, use the **show controllers ingressq statistics** in EXEC mode.

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

Syntax Description

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

Note Use the **show platform** command to see the location of all nodes installed in the router.

Command Default

No default behavior or values

Command Modes

EXEC mode

Command History

Release	Modification
Release 3.2	This command was introduced.
Release 3.6.0	The **location** *node-id* keyword and argument were changed from required to optional.

Usage Guidelines

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
```

This table describes the significant fields shown in the display.

Table 5: 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.

Field	Description
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.

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

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

Command Default

No default behavior or values

Command Modes

EXEC mode

Command History

Release	Modification
Release 3.2	This command was introduced .
Release 3.8.0	The *port handle* argument range of 0 to 4294967295 was added.

Usage Guidelines

No specific guidelines impact the use of this command.

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
-
```