ASIC Driver Commands on Cisco IOS XR Software

This module describes the commands used to configure and monitor the application-specific integrated circuit (ASIC) driver on a router running Cisco IOS XR software.

asic-scan egressq (block number)

To run, enable, or disable a generic ASIC scan on a specific egress queue ASIC block ID or error cause, use the **asic-scan egressq** command in EXEC mode.

asic-scan egressq *block_number* [[*error_cause*] [**disable** | **enable**] | **help-cause**] **location** *node-id*

Syntax Description

block_number	Identifies the block on which to enable or disable the ASIC scan.
error_cause	(Optional) Identifies an error cause in the specified block. When you include the *error_cause* argument in the **asic-scan egressq** command syntax, the command takes place on the specified error cause.
disable	(Optional) Disables the ASIC scan on the specified block or error cause.
enable	(Optional) Enables the ASIC scan on the specified block or error cause.
help_cause	(Optional) Displays a list of all error causes in the specified block.
location *node-id*	Identifies the location of the node hosting the egress queue on which to run, enable, or disable an ASIC scan. 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.

Defaults

No default behavior or values

Command Modes

EXEC

Command History

Release	Modification
Release 3.5.0	This command was introduced on the Cisco CRS-1.
Release 3.6.0	Note was added in the Usage Guidelines section that this command can adversely affect the router operation.
Release 3.7.0	No modification.
Release 3.8.0	No modification.

Usage Guidelines

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

Note This command should be used only with Cisco support supervision. Incorrect usage of this command can accidentally remove the relevant card from service.

Task ID

Task ID	Operations
drivers	read, write

Examples

The following example shows how to display a list of all error causes in the specified block:

```
RP/0/RP0/CPU0:router# asic-scan egressq 10 help-cause location 0/6/CPU0

 Total 6 cause(s)

 Cause Number          Cause Name
 0                     lbm_owl_ovl
 1                     scr_m4_ovl
 2                     scr_m3_ovl
 3                     scr_m2_ovl
 4                     scr_m1_ovl
 5                     scr_m0_ovl
```

The following example shows how to run a scan on the egress queue ASIC block ID 30 located on the CPU node in slot 1:

```
RP/0/RP0/CPU0:router# asic-scan egressq 30 location 0/6/CPU0
```

asic-scan egressq disable

To disable an ASIC scan on all causes in all blocks on the specified node, use the **asic-scan egressq disable** command in EXEC mode.

asic-scan egressq disable location *node-id*

Syntax Description

location *node-id*	Identifies the location of the node on which to disable the ASIC scan. 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.

Defaults

No default behavior or values

Command Modes

EXEC

Command History

Release	Modification
Release 3.5.0	This command was introduced on the Cisco CRS-1.
Release 3.6.0	Note was added in the Usage Guidelines section that this command can adversely affect the router operation.
Release 3.7.0	No modification.
Release 3.8.0	No modification.

Usage Guidelines

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

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Task ID

Task ID	Operations
drivers	read, write

Examples

The following example shows how to disable an ASIC scan on all causes in all blocks on the egress queue that is located on the CPU node in slot 6:

```
RP/0/RP0/CPU0:router# asic-scan egressq disable location 0/6/CPU0
```

asic-scan egressq enable

To enable an ASIC scan on all causes in all blocks on the specified node, use the **asic-scan egressq enable** command in EXEC mode.

asic-scan egressq enable location *node-id*

Syntax Description

location *node-id*	Identifies the location of the node on which to enable the ASIC scan. 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.

Defaults

No default behavior or values

Command Modes

EXEC

Command History

Release	Modification
Release 3.5.0	This command was introduced on the Cisco CRS-1.
Release 3.6.0	Note was added in the Usage Guidelines section that this command can adversely affect the router operation.
Release 3.7.0	No modification.
Release 3.8.0	No modification.

Usage Guidelines

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

Note This command should be used only with Cisco support supervision. Incorrect usage of this command can accidentally remove the relevant card from service.

Task ID

Task ID	Operations
drivers	read, write

Examples

The following example shows how to enable an ASIC scan on all causes in all blocks on the egress queue that is located on the CPU node in slot 6:

```
RP/0/RP0/CPU0:router# asic-scan egressq enable location 0/6/CPU0
```

asic-scan egressq help-block

To enable an ASIC scan that lists all the blocks on the specified node, use the **asic-scan egressq help-block** command in EXEC mode.

asic-scan egressq help-block location *node-id*

Syntax Description

location *node-id*	Identifies the location of the node on which to enable the ASIC scan. 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.

Defaults

No default behavior or values

Command Modes

EXEC

Command History

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

Usage Guidelines

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

Note This command should be used only with Cisco support supervision. Incorrect usage of this command can accidentally remove the relevant card from service.

Task ID

Task ID	Operations
drivers	read, write

Examples

The following example shows how to enable an ASIC scan that lists all block numbers on the egress queue that is located on the CPU node in slot 6:

```
RP/0/RP0/CPU0:router# asic-scan egressq help-block location 0/6/CPU0
```

asic-scan egressq location

To run an ASIC scan on all the egress queues on a specific node, use the **asic-scan egressq location** command in EXEC mode.

asic-scan egressq location *node-id*

Syntax Description

location *node-id*	Identifies the location of the node hosting the egress queues on which to run the ASIC scan. 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.

Defaults

No default behavior or values

Command Modes

EXEC

Command History

Release	Modification
Release 3.5.0	This command was introduced on the Cisco CRS-1.
Release 3.6.0	Note was added in the Usage Guidelines section that this command can adversely affect the router operation.
Release 3.7.0	No modification.
Release 3.8.0	No modification.

Usage Guidelines

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Note This command should be used only with Cisco support supervision. Incorrect usage of this command can accidentally remove the relevant card from service.

Task ID

Task ID	Operations
drivers	read, write

Examples

The following example shows how to run an ASIC scan on all egress queues located on the CPU node in slot 1:

```
RP/0/RP0/CPU0:router# asic-scan egressq location 0/1/CPU0
```

asic-scan egressq quick-scan

To run a quick ASIC scan on a specific file or on all bits of the chip, use the **asic-scan egressq quick-scan** command in EXEC mode.

asic-scan egressq quick-scan {*filename* | **allscan**} **location** *node-id*

Syntax Description

filename	Name of the .xsvf file on which to run the quick ASIC scan
allscan	Performs a quick ASIC scan on all bits of the chip, including the preread for Metro.
location *node-id*	Identifies the location of the node hosting the egress queue on which to run the ASIC scan. 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.

Defaults

No default behavior or values

Command Modes

EXEC

Command History

Release	Modification
Release 3.5.0	This command was introduced on the Cisco CRS-1.
Release 3.6.0	Note was added in the Usage Guidelines section that this command can adversely affect the router operation.
Release 3.7.0	No modification.
Release 3.8.0	No modification.

Usage Guidelines

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

Note This command should be used only with Cisco support supervision. Incorrect usage of this command can accidentally remove the relevant card from service.

Task ID

Task ID	Operations
drivers	read, write

Examples

The following example shows how to run a quick ASIC scan on all bits of the chip on the egress queue that is located on the CPU node in slot 1:

```
RP/0/RP0/CPU0:router# asic-scan egressq quick-scan allscan location 0/1/CPU0
```

asic-scan pse egress (block number)

To run, enable, or disable a generic ASIC scan on a specific egress packet switching engine (PSE) device block or error cause, use the **asic-scan pse egress** command in EXEC mode.

asic-scan pse egress *block_number* [[*error_cause*] [**disable | enable**] | **help-cause**] **location** *node-id*

Syntax Description

block_number	Identifies the block on which to enable or disable the ASIC scan.
error_cause	(Optional) Identifies an error cause in the specified block. When you include the *error_cause* argument in the **asic-scan pse egress** command syntax, the command takes place on the specified error cause.
disable	(Optional) Disables the ASIC scan on the specified block or error cause.
enable	(Optional) Enables the ASIC scan on the specified block or error cause.
help_cause	(Optional) Displays a list of all error causes in the specified block.
location *node-id*	Identifies the location of the node hosting the egress PSE device on which to run, enable, or disable an ASIC scan. 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.

Defaults

No default behavior or values

Command Modes

EXEC

Command History

Release	Modification
Release 2.0	This command was introduced on the Cisco CRS-1.
Release 3.0	No modification.
Release 3.2	No modification.
Release 3.3.0	No modification.
Release 3.4.0	No modification.
Release 3.5.0	No modification.
Release 3.6.0	Note was added in the Usage Guidelines section that this command can adversely affect the router operation.
Release 3.7.0	No modification.
Release 3.8.0	No modification.

Usage Guidelines

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

Note This command should be used only with Cisco support supervision. Incorrect usage of this command can accidentally remove the relevant card from service.

Task ID

Task ID	Operations
drivers	read, write

Examples

The following example shows how to display a list of all error causes in the specified block of a PSE device:

```
RP/0/RP0/CPU0:router# asic-scan pse egress 10 help-cause location 0/6/CPU0

 Total 6 cause(s)

 Cause Number          Cause Name
 0                     lbm_owl_ovl
 1                     scr_m4_ovl
 2                     scr_m3_ovl
 3                     scr_m2_ovl
 4                     scr_m1_ovl
 5                     scr_m0_ovl
```

The following example shows how to run a scan on the PSE ASIC block ID 30 located on the CPU node in slot 1:

```
RP/0/RP0/CPU0:router# asic-scan pse egress 30 location 0/6/CPU0
```

asic-scan pse egress disable

To disable an ASIC scan on all causes in all blocks of a specific packet switching engine (PSE) device, use the **asic-scan pse egress disable** command in EXEC mode.

asic-scan pse egress disable location *node-id*

Syntax Description

location *node-id*	Identifies the location of the node on which to disable the ASIC scan. 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.

Defaults

No default behavior or values

Command Modes

EXEC

Command History

Release	Modification
Release 2.0	This command was introduced on the Cisco CRS-1.
Release 3.0	No modification.
Release 3.2	No modification.
Release 3.3.0	No modification.
Release 3.4.0	No modification.
Release 3.5.0	No modification.
Release 3.6.0	Note was added in the Usage Guidelines section that this command can adversely affect the router operation.
Release 3.7.0	No modification.
Release 3.8.0	No modification.

Usage Guidelines

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

Note This command should be used only with Cisco support supervision. Incorrect usage of this command can accidentally remove the relevant card from service.

Task ID

Task ID	Operations
drivers	read, write

Examples

The following example shows how to disable an ASIC scan on all causes in all blocks of the egress PSE device that is located on the CPU node in slot 6:

```
RP/0/RP0/CPU0:router# asic-scan pse egress disable location 0/6/CPU0
```

asic-scan pse egress enable

To enable an ASIC scan on all causes in all blocks of a specific egress packet switching engine (PSE) device, use the **asic-scan pse egress enable** command in EXEC mode.

asic-scan pse egress enable location *node-id*

Syntax Description

location *node-id*	Identifies the location of the node that hosts the egress PSE on which to enable the ASIC scan. 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.

Defaults

No default behavior or values

Command Modes

EXEC

Command History

Release	Modification
Release 2.0	This command was introduced on the Cisco CRS-1.
Release 3.0	No modification.
Release 3.2	No modification.
Release 3.3.0	No modification.
Release 3.4.0	No modification.
Release 3.5.0	No modification.
Release 3.6.0	Note was added in the Usage Guidelines section that this command can adversely affect the router operation.
Release 3.7.0	No modification.
Release 3.8.0	No modification.

Usage Guidelines

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

Note This command should be used only with Cisco support supervision. Incorrect usage of this command can accidentally remove the relevant card from service.

Task ID

Task ID	Operations
drivers	read, write

Examples

The following example shows how to enable an ASIC scan on all causes in all blocks on the egress PSE that is located on the CPU node in slot 6:

```
RP/0/RP0/CPU0:router# asic-scan pse egress enable location 0/6/CPU0
```

asic-scan pse egress help-block

To enable an ASIC scan that lists all block numbers of a specific egress packet switching engine (PSE) device, use the **asic-scan pse egress help-block** command in EXEC mode.

asic-scan pse egress help-block location *node-id*

Syntax Description

location *node-id*	Identifies the location of the node that hosts the egress PSE on which to enable the ASIC scan. 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.

Defaults

No default behavior or values

Command Modes

EXEC

Command History

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

Usage Guidelines

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

Note This command should be used only with Cisco support supervision. Incorrect usage of this command can accidentally remove the relevant card from service.

Task ID

Task ID	Operations
drivers	read, write

Examples

The following example shows how to enable an ASIC scan that lists all block numbers on the egress PSE that is located on the CPU node in slot 6:

```
RP/0/RP0/CPU0:router# asic-scan pse egress help-block location 0/6/CPU0
```

asic-scan pse egress location

To run an ASIC scan on a specific packet switching engine (PSE) device, use the **asic-scan pse egress location** command in EXEC mode.

asic-scan pse egress location *node-id*

Syntax Description

location *node-id*	Identifies the location of the node hosting the PSE on which to run the ASIC scan. 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.

Defaults

No default behavior or values

Command Modes

EXEC

Command History

Release	Modification
Release 2.0	This command was introduced on the Cisco CRS-1.
Release 3.0	No modification.
Release 3.2	No modification.
Release 3.3.0	No modification.
Release 3.4.0	No modification.
Release 3.5.0	No modification.
Release 3.6.0	Note was added in the Usage Guidelines section that this command can adversely affect the router operation.
Release 3.7.0	No modification.
Release 3.8.0	No modification.

Usage Guidelines

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

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Task ID

Task ID	Operations
drivers	read, write

Examples

The following example shows how to run an ASIC scan on all egress PSE located on the CPU node in slot 1:

```
RP/0/RP0/CPU0:router# asic-scan pse egress location 0/1/CPU0
```

asic-scan pse egress quick-scan

To run a quick ASIC scan on a specific file or on all bits of the chip located on a specific packet switching engine (PSE) device, use the **asic-scan pse egress quick-scan** command in EXEC mode.

asic-scan pse egress quick-scan {*filename* | **allscan**} **location** *node-id*

Syntax Description

filename	Name of the .xsvf file on which to run the quick ASIC scan
allscan	Performs a quick ASIC scan on all bits of the chip, including the preread for Metro.
location *node-id*	Identifies the location of the node hosting the egress PSE on which to run the ASIC scan. 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.

Defaults

No default behavior or values

Command Modes

EXEC

Command History

Release	Modification
Release 2.0	This command was introduced on the Cisco CRS-1.
Release 3.0	No modification.
Release 3.2	No modification.
Release 3.3.0	No modification.
Release 3.4.0	No modification.
Release 3.5.0	No modification.
Release 3.6.0	Note was added in the Usage Guidelines section that this command can adversely affect the router operation.
Release 3.7.0	No modification.
Release 3.8.0	No modification.

Usage Guidelines

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Note This command should be used only with Cisco support supervision. Incorrect usage of this command can accidentally remove the relevant card from service.

Task ID

Task ID	Operations
drivers	read, write

Examples

The following example shows how to run a quick ASIC scan on all bits of the chip on the egress PSE device that is located on the CPU node in slot 1:

```
RP/0/RP0/CPU0:router# asic-scan pse egress quick-scan allscan location 0/1/CPU0
```

asic-scan pse ingress (block number)

To run, enable, or disable a generic ASIC scan on a specific ingress packet switching engine (PSE) device block or error cause, use the **asic-scan pse ingress** command in EXEC mode.

asic-scan pse ingress *block_number* [[*error_cause*] [**disable | enable**] | **help-cause**] **location** *node-id*

Syntax Description

block_number	Identifies the block on which to enable or disable the ASIC scan.
error_cause	(Optional) Identifies an error cause in the specified block. When you include the *error_cause* argument in the **asic-scan pse ingress** command syntax, the command takes place on the specified error cause.
disable	(Optional) Disables the ASIC scan on the specified block or error cause.
enable	(Optional) Enables the ASIC scan on the specified block or error cause.
help-cause	(Optional) Displays a list of all error causes in the specified block.
location *node-id*	Identifies the location of the node hosting the ingress PSE device on which to run, enable, or disable an ASIC scan. 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.

Defaults

No default behavior or values

Command Modes

EXEC

Command History

Release	Modification
Release 2.0	This command was introduced on the Cisco CRS-1.
Release 3.0	No modification.
Release 3.2	No modification.
Release 3.3.0	No modification.
Release 3.4.0	No modification.
Release 3.5.0	No modification.
Release 3.6.0	Note was added in the Usage Guidelines section that this command can adversely affect the router operation.
Release 3.7.0	No modification.
Release 3.8.0	No modification.

Usage Guidelines

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Note This command should be used only with Cisco support supervision. Incorrect usage of this command can accidentally remove the relevant card from service.

Task ID

Task ID	Operations
drivers	read, write

Examples

The following example shows how to display a list of all error causes in the specified block of a PSE device:

```
RP/0/RP0/CPU0:router# asic-scan pse ingress 10 help-cause location 0/6/CPU0

 Total 6 cause(s)

 Cause Number          Cause Name
 0                     lbm_owl_ovl
 1                     scr_m4_ovl
 2                     scr_m3_ovl
 3                     scr_m2_ovl
 4                     scr_m1_ovl
 5                     scr_m0_ovl
```

The following example shows how to run a scan on the PSE ASIC block ID 30 located on the CPU node in slot 1:

```
RP/0/RP0/CPU0:router# asic-scan pse ingress 30 location 0/6/CPU0
```

asic-scan pse ingress disable

To disable an ASIC scan on all causes in all blocks of a specific packet switching engine (PSE) device, use the **asic-scan pse ingress disable** command in EXEC mode.

asic-scan pse ingress disable location *node-id*

Syntax Description

location *node-id*	Identifies the location of the node on which to disable the ASIC scan. 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.

Defaults

No default behavior or values

Command Modes

EXEC

Command History

Release	Modification
Release 2.0	This command was introduced on the Cisco CRS-1.
Release 3.0	No modification.
Release 3.2	No modification.
Release 3.3.0	No modification.
Release 3.4.0	No modification.
Release 3.5.0	No modification.
Release 3.6.0	Note was added in the Usage Guidelines section that this command can adversely affect the router operation.
Release 3.7.0	No modification.
Release 3.8.0	No modification.

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Note This command should be used only with Cisco support supervision. Incorrect usage of this command can accidentally remove the relevant card from service.

Task ID

Task ID	Operations
drivers	read, write

Examples

The following example shows how to disable an ASIC scan on all causes in all blocks of the ingress PSE device that is located on the CPU node in slot 6:

```
RP/0/RP0/CPU0:router# asic-scan pse ingress disable location 0/6/CPU0
```

asic-scan pse ingress enable

To enable an ASIC scan on all causes in all blocks of a specific ingress packet switching engine (PSE) device, use the **asic-scan pse ingress enable** command in EXEC mode.

asic-scan pse ingress enable location *node-id*

Syntax Description

location *node-id*	Identifies the location of the node that hosts the ingress PSE on which to enable the ASIC scan. 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.

Defaults

No default behavior or values

Command Modes

EXEC

Command History

Release	Modification
Release 2.0	This command was introduced on the Cisco CRS-1.
Release 3.0	No modification.
Release 3.2	No modification.
Release 3.3.0	No modification.
Release 3.4.0	No modification.
Release 3.5.0	No modification.
Release 3.6.0	Note was added in the Usage Guidelines section that this command can adversely affect the router operation.
Release 3.7.0	No modification.
Release 3.8.0	No modification.

Usage Guidelines

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

Note This command should be used only with Cisco support supervision. Incorrect usage of this command can accidentally remove the relevant card from service.

Task ID

Task ID	Operations
drivers	read, write

Examples

The following example shows how to enable an ASIC scan on all causes in all blocks on the ingress PSE that is located on the CPU node in slot 6:

```
RP/0/RP0/CPU0:router# asic-scan pse ingress enable location 0/6/CPU0
```

asic-scan pse ingress help-block

To enable an ASIC scan that lists all block numbers of a specific ingress packet switching engine (PSE) device, use the **asic-scan pse ingress help-block** command in EXEC mode.

asic-scan pse ingress help-block location *node-id*

Syntax Description

location *node-id*	Identifies the location of the node that hosts the ingress PSE on which to enable the ASIC scan. 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.

Defaults

No default behavior or values

Command Modes

EXEC

Command History

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

Usage Guidelines

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

Note This command should be used only with Cisco support supervision. Incorrect usage of this command can accidentally remove the relevant card from service.

Task ID

Task ID	Operations
drivers	read, write

Examples

The following example shows how to enable an ASIC scan that lists all block numbers on the ingress PSE that is located on the CPU node in slot 6:

```
RP/0/RP0/CPU0:router# asic-scan pse ingress help-block location 0/6/CPU0
```

asic-scan pse ingress location

To run an ASIC scan on a specific packet switching engine (PSE) device, use the **asic-scan pse ingress location** command in EXEC mode.

asic-scan pse ingress location *node-id*

Syntax Description

location *node-id*	Identifies the location of the node hosting the PSE on which to run the ASIC scan. 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.

Defaults

No default behavior or values

Command Modes

EXEC

Command History

Release	Modification
Release 2.0	This command was introduced on the Cisco CRS-1.
Release 3.0	No modification.
Release 3.2	No modification.
Release 3.3.0	No modification.
Release 3.4.0	No modification.
Release 3.5.0	No modification.
Release 3.6.0	Note was added in the Usage Guidelines section that this command can adversely affect the router operation.
Release 3.7.0	No modification.
Release 3.8.0	No modification.

Usage Guidelines

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

Note This command should be used only with Cisco support supervision. Incorrect usage of this command can accidentally remove the relevant card from service.

Task ID

Task ID	Operations
drivers	read, write

Examples

The following example shows how to run an ASIC scan on all ingress PSE located on the CPU node in slot 1:

```
RP/0/RP0/CPU0:router# asic-scan pse ingress location 0/1/CPU0
```

asic-scan pse ingress quick-scan

To run a quick ASIC scan on a specific file or on all bits of the chip located on a specific packet switching engine (PSE) device, use the **asic-scan pse ingress quick-scan** command in EXEC mode.

asic-scan pse ingress quick-scan {*filename* | **allscan**} **location** *node-id*

Syntax Description

filename	Name of the .xsvf file on which to run the quick ASIC scan
allscan	Performs a quick ASIC scan on all bits of the chip, including the preread for Metro.
location *node-id*	Identifies the location of the node hosting the ingress PSE on which to run the ASIC scan. 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.

Defaults

No default behavior or values

Command Modes

EXEC

Command History

Release	Modification
Release 2.0	This command was introduced on the Cisco CRS-1.
Release 3.0	No modification.
Release 3.2	No modification.
Release 3.3.0	No modification.
Release 3.4.0	No modification.
Release 3.5.0	No modification.
Release 3.6.0	Note was added in the Usage Guidelines section that this command can adversely affect the router operation.
Release 3.7.0	No modification.
Release 3.8.0	No modification.

Usage Guidelines

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

Note This command should be used only with Cisco support supervision. Incorrect usage of this command can accidentally remove the relevant card from service.

Task ID

Task ID	Operations
drivers	read, write

Examples

The following example shows how to run a quick ASIC scan on all bits of the chip on the ingress PSE device that is located on the CPU node in slot 1:

```
RP/0/RP0/CPU0:router# asic-scan pse ingress quick-scan allscan location 0/1/CPU0
```

clear controller egressq queue

To clear a specific controller egress queue, use the **clear controller egressq queue** command in EXEC mode.

clear controller egressq queue *queue-id1* [*queue-id2*] **location** *node-id*

Syntax Description

queue-id1	Queue you want to clear. Replace the *queue-id1* argument with a queue number. Range is from 1 through 8191.
queue-id2	(Optional) Last queue in a range of queues to clear. Replace the *queue-id2* argument with a queue number. Range is from 1 through 8191.
location *node-id*	Identifies the location of the node whose egress queue you want to clear. 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.

Defaults

No default behavior or values

Command Modes

EXEC

Command History

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

Usage Guidelines

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

Note If you enter the optional [*queue-id2*] argument after you enter the *queue-id1* argument, then the *queue-id1* argument specifies the first queue in a range of queues to be cleared. If you enter the *queue-id1* argument without specifying the *queue-id2* argument, then only the queue specified for *queue-id1* is cleared.

Task ID

Task ID	Operations
root-system	read
basic-services	read, write
drivers	read, write

Examples

The following example shows how to clear a specific controller egress queue:

```
RP/0/RP0/CPU0:router# clear controller egress queue 1 location 0/1/CPU0
```

Related Commands

Command	Description
clear controller egressq queue all	Clears all controller egress queues in the specified location.

clear controller egressq queue all

To clear all controller egress queues on a specific node, use the **clear controller egressq queue all** command in EXEC mode.

clear controller egressq queue all location *node-id*

Syntax Description

all	Clears all egress queues in the specified location.
location *node-id*	Identifies the location of the egressq queue you want to clear. 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.

Defaults

No default behavior or values

Command Modes

EXEC

Command History

Release	Modification
Release 2.0	This command was introduced on the Cisco CRS-1.
Release 3.0	No modification.
Release 3.2	No modification.
Release 3.3.0	No modification.
Release 3.4.0	No modification.
Release 3.5.0	The basic-services and root-system s were removed from this command.
Release 3.6.0	No modification.
Release 3.7.0	No modification.
Release 3.8.0	No modification.

Usage Guidelines

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

Task ID

Task ID	Operations
drivers	read, write

Examples

The following example shows how to clear all controller egress queues on a specific node:

```
RP/0/RP0/CPU0:router# clear controller egress queue all location 0/1/CPU0
```

Related Commands

Command	Description
show asic errors	Clears a specific controller egress queue.

clear controller egressq statistics

To clear the egress queue statistics in a specific location, use the **clear controller egressq statistics** command in EXEC mode.

clear controller egressq statistics location *node-id*

Syntax Description

location *node-id*	Identifies the location of the egressq queue whose statistics you want to clear. 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.

Defaults

No default behavior or values

Command Modes

EXEC

Command History

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

Usage Guidelines

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

Task ID

Task ID	Operations
drivers	read, write

Examples

The following example shows how to clear all controller egress queue statistics on a specific node:

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

Related Commands

Command	Description
show controllers egressq statistics	Displays egress queue manager statistics.

clear controller pse statistics

To clear statistics maintained by the packet switching engine (PSE) on a specific node, use the **clear controller pse statistics** command in EXEC mode.

clear controller pse statistics [**egress** | **ingress**] **location** *node-id*

Syntax Description

egress	(Optional) Clears statistics on the egress PSE device only.
ingress	(Optional) Clears statistics on the ingress PSE device only.
location *node-id*	Identifies the location of the node whose PSE device statistics you want to clear. 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.

Defaults

If the **egress** or **ingress** keywords are not specified, the **clear controller pse statistics** command takes effect on both device instances.

Command Modes

EXEC

Command History

Release	Modification
Release 2.0	This command was introduced on the Cisco CRS-1.
Release 3.0	No modification.
Release 3.2	No modification.
Release 3.3.0	No modification.
Release 3.4.0	No modification.
Release 3.5.0	• The **instance 0** and **instance 1** keywords were replaced by the **ingress** and **egress** keywords. • The **clear controller pse statistics** command was removed from the root-system task-ID. • The **clear controller pse statistics** command was first supported under the interface task-ID.
Release 3.6.0	No modification.
Release 3.7.0	No modification.
Release 3.8.0	No modification.

Usage Guidelines

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

Task ID

Task ID	Operations
interface	read, write
drivers	read, write

Examples

The following example shows how to clear all PSE statistics on a specific node (0/1/CPU0):

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

The following example shows how to clear all egress PSE statistics on a specific node (0/6/CPU0):

```
RP/0/RP0/CPU0:router# clear controller pse statistics egress location 0/6/CPU0
```

Related Commands

Command	Description
show controllers pse eio links	Displays PSE information for EIO (Elastic I/O) links or for a specific controller.
show controllers pse ipc	Displays PSE information for IPC connections or for a specific IPC controller.
show controllers pse mp	Displays PSE information for the maintenance processor on a specific controller or node.
show controllers pse statistics	Displays PSE statistics for a specific controller instance or for a specific node.
show controllers pse summary	Displays a summary of PSE information for a specific controller or node.

show controllers cpuctrl cdma channel

To display information about the CPU controller Control Direct-Memory-Access (CDMA) engine, use the **show controllers cpuctrl cdma channel** command in EXEC mode.

show controllers cpuctrl cdma channel {**0** | **1**} **queue** {*queue-id* | **all**} {**active** | **detail**} [**location** *node-id*]

Syntax Description

{**0** | **1**}	Displays CPU controller CDMA engine information for the specified channel. Enter **0** to display CDMA engine information for channel 0, or enter **1** to display CDMA engine information for channel 1.
queue {*queue-id* | **all**}	Displays CDMA information for a specific Direct-Memory-Access (DMA) queue, or for all DMA queues on the specified channel. • Enter the **queue all** keywords to display CDMA information for all DMA queues on the specified channel. • Enter the **queue** keyword and *queue-id* argument to display CDMA information for a specific queue. Replace the *queue-id* argument with a queue number. Range is from 1 through 7.
active	Displays descriptions for active DMA queues only.
detail	Displays descriptions for any DMA queues, regardless of whether they are active.
location *node-id*	(Optional) Identifies the location of the node whose CPU controller CDMA information you want to display. The *node-id* argument is expressed in the *rack/slot/module* notation.

Defaults

No default behavior or values

Command Modes

EXEC

Command History

Release	Modification
Release 2.0	This command was introduced on the Cisco CRS-1.
Release 3.0	No modification.
Release 3.2	No modification.
Release 3.3.0	No modification.
Release 3.4.0	No modification.
Release 3.5.0	• The **show controllers cpuctrl cdma** command was replaced by the **show controllers cpuctrl cdma channel** command. • The **show controllers cpuctrl cdma channel** command was first supported under the interface task-ID.
Release 3.6.0	No modification.

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

Usage Guidelines

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

Task ID

Task ID	Operations
drivers	read
interface	read

Examples

The following example shows partial output from the **show controllers cpuctrl cdma channel** command with the **detail** keyword.

```
RP/0/RP0/CPU0:router# show controllers cpuctrl cdma channel 1 queue 1 detail location
0/6/CPU0

------------------------------------------------------
DMA queue:
Channel: 1     queue: 1        state: Active

       OS Interrupt Level =        108   Cpuctrl Int Level =         12
          OS Run Priority =         45       client handle =          1
              ISR context = 0x780cff84  Pakman/Bufman Inst = bufman/misc
 client callback function = 0x482038e4    cleanup function = 0x48203a90
                  Pakmode = 0x00000002           Pollflags = 0x00000000
   Total DMA transactions =          3  Queue create count =          1
         DMA transactions =          3   Bytes transferred =      67584
     DMA Out of Desc errs =          0             DMA IWA =          0
     DMA transaction errs =          0

Descriptor list base addr = 0xec0370f0    Physical address = 0x0510f0f0
             list_size =         32  Active descriptors =          0
         current_index =          3    tx_enqueue_index =          3

    Index    0, Shadow:              Hdr 0x00000000   Flags 0x00000000
            Descriptor: 0x40200060    |...|DIR|...|...| Width    0x0020
                        0x0000fff8    Bufsize  0x0000 | Xfersize 0xfff8
                        0x00120000    Memaddr               0x000120000
                        0x6fb4d000    Squidaddr           0x606fb4d000

    Index    1, Shadow:              Hdr 0x00000000   Flags 0x00000000
            Descriptor: 0x40200060    |...|DIR|...|...| Width    0x0020
                        0x00000008    Bufsize  0x0000 | Xfersize 0x0008
                        0x0012fff8    Memaddr               0x00012fff8
                        0x6fb4d000    Squidaddr           0x606fb4d000

    Index    2, Shadow:              Hdr 0x00000000   Flags 0x00000000
            Descriptor: 0x40100060    |...|DIR|...|...| Width    0x0010
                        0x00000800    Bufsize  0x0000 | Xfersize 0x0800
```

```
                        0x00041000    Memaddr               0x000041000
                        0x6fb42000    Squidaddr            0x606fb42000

    Index    3, Shadow:               Hdr 0x00000000   Flags 0x00000000
           Descriptor: 0x00000000    |...|...|...|...| Width    0x0000
                       0x00000000    Bufsize  0x0000 | Xfersize 0x0000
                       0x00000000    Memaddr               0x000000000
                       0x00000000    Squidaddr            0x0000000000
    Index    4, Shadow:               Hdr 0x00000000   Flags 0x00000000
 --More--
```

Table 1 describes the significant fields shown in the display.

Table 1 show controllers cpuctrl cdma channel Field Descriptions

Field	Description
DMA queue	Identifies the DMA[1] queue.
Channel	Identifies the channel whose DMA queue is displayed. 0 is the ingress channel, and 1 is the egress channel
queue	Identifies the queue.
state	Current state of the queue.
OS Interrupt Level	Current interrupt level for the queue.
Cpuctrl Interrupt Level	Current interrupt level for the CPU controller.
OS Run Priority	Run priority level for this queue.
client handle	Internal identifier for the Cisco client.
ISR context	Internal information about the location of the ISR2 pointer.
Pakman/Bufman Instance	Internal information about the location of the Pakman and Bufman Instance.
client callback function pointer	Internal information about the client callback function pointer.
cleanup function	Internal information about the client cleanup function pointer.
Queue Created 1 times	Number of times this queue was regenerated.
Pakmode	Information about internal data structures and parameters.
Pollflags	Specifies whether the CDMA queue uses a polling or interrupt-driven approach for detecting CDMA operation completion notification. **Note** Currently, CDMA queues use interrupt driven completion only. PDMA queues use interrupt-driven and polling completion.
Total DMA transactions	Number of DMA transactions in the queue.
Queue create count	Number of times this queue was regenerated.
DMA transactions	Number of DMA transactions in the queue.
Bytes transferred	Number of bytes that have been transferred by the Direct-Memory-Access engine.
DMA Out of Desc errs	Number of DMA errors in the queue.
CDMA transactions	Number of CDMA transactions in the queue.
DMA IWA	Number of IWA bytes that have been processed by the Direct-Memory-Access engine.

Table 1 show controllers cpuctrl cdma channel Field Descriptions (continued)

Field	Description
DMA transaction errs	Number of DMA transactions that had errors.
Descriptor list base addr	Internal information about the location of the descriptor list.
Physical address	Physical address of the CPU memory that holds the descriptors in the ring used by the CDMA queue hardware.
list_size	Total number of descriptors in the ring used by the CDMA queue hardware.
Active descriptors	Number of descriptors that have transactions that are not cleaned after being notified of their completion. Note that the hardware may not yet have completed these transactions.
current_index	Points to the next descriptor that the hardware is expected to complete.
tx_enqueue_index	Points to the descriptor that will be added to the next operation request.
Index	Location of the descriptor in the ring.
Shadow	Internal field that manages requests that have been split into multiple descriptors.
Hdr	Internal field that manages requests that have been split into multiple descriptors.
Flags	Internal field that manages requests that have been split into multiple descriptors.
Descriptor	Descriptor heading.
Width	Width of the data on the ASIC side in bits. The DMA stride is rounded up to the next power of two bytes that contains this number of bits.
Bufsize	Size of the buffer used for the transfer.
Xfersize	Number of bytes on the CPU memory that are occupied by the transfer.
Memaddr	36 bit physical address of the CPU memory in the transfer.
Squidaddr	40 bit address of the ASIC register or memory in the transfer.

1. Direct Memory Access

Related Commands

Command	Description
show controllers cpuctrl clients	Displays information about all CPU controller clients on the router, or for specific CPU controller clients.

show controllers cpuctrl clients

To display information about all CPU controller clients on the router, or for specific CPU controller clients, use the **show controllers cpuctrl clients** command in EXEC mode.

show controllers cpuctrl clients {**all** | **cdma** *clients* | **pdma** *clients*} {**active** | **detail**} [**location** *node-id*]

Syntax Description

all	Displays a summary information for all clients on the router.
cdma *clients*	Displays information about Control Direct-Memory-Access (CDMA) clients only. Replace the *clients* argument with one of the following keywords: • **dcc**—Displays information for the DCC client. • **egressq**—Displays information for the egressq client. • **fabricq**—Displays information for the Fabricq ASIC client. • **fia**—Displays information for the Fabric Interface ASIC (FIA) client. • **ingressq**—Displays information for the ingressq ASIC client. • **jacketcard**—Displays information for the jacketcard client. • **mipc**—Displays information for the Metro Inter-Process-Communication (MIPC) client. • **pla768**—Displays information for the ASIC client for OC-768. • **plaspa**—Displays information for the ASIC client for the SPA. • **plim**—Displays information for the PLIM client. • **plimasic**—Displays information for the PLIM ASIC client. • **pse**—Displays information for the PSE client.
pdma *clients*	Displays information for Packet Direct-Memory-Access (PDMA) clients only. Replace *clients* with one of the following keywords: • **bfd**—Displays information for the client bidirectional forwarding detection (BFD) PDMA packet. • **diag**—Displays information for the PDMA client called DIAG packet. • **fabio**—Displays information for the FABIO PDMA packet client. • **fia**—Displays information for the fabric interface ASIC packet PDMA client. • **frr**—Displays information for the fast reroute (FRR) packet PDMA client. • **gsp**—Displays information for the Group Services Packet (GSP) PDMA client. • **mipc**—Displays information for the MIPC packet PDMA client. • **mstats**—Displays information for the MSTATS packet PDMA client. • **netflow**—Displays information for the NetFlow packet PDMA client.
active	Displays descriptions for active queues only.

detail	Displays descriptions for any queues, regardless of whether or not they are active.
location *node-id*	(Optional) Identifies the location of the node whose CPU controller information you want to display. The *node-id* argument is expressed in the *rack/slot/module* notation.

Defaults

No default behavior or values

Command Modes

EXEC

Command History

Release	Modification
Release 2.0	This command was introduced on the Cisco CRS-1.
Release 3.0	No modification.
Release 3.2	No modification.
Release 3.3.0	No modification.
Release 3.4.0	No modification.
Release 3.5.0	The **show controllers cpuctrl clients** command was first supported under the interface task-ID.
Release 3.6.0	The following keywords were added: • **bfd** • **fabio** • **pla768** • **plaspa** The **netio** keyword was removed.
Release 3.7.0	No modification.
Release 3.8.0	No modification.

Usage Guidelines

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

Task ID

Task ID	Operations
drivers	read
interface	read

Examples

The following example shows how to display information about the active queues on the CPU controller client called “plimasic”:

```
RP/0/RP0/CPU0:router# show controllers cpuctrl clients cdma plimasic active location
0/6/CPU0

------------------------------------------------------------
client_name: Plimasic client_handle: 3
isr_count:     1 queue_count: 1
client_pid:    6150

ISR function pointer: 0xfc6f5b8c    ISR name: Squid DMA Event ISR

    OS interrupt level:111      cpuctrl interrupt level:15
    OS run priority: 45
    queues chain for above ISR:
        ------------------------------------------------------
        DMA queue:
        Channel: 0     queue: 5        state: Active

                     ISR context = 0x7810c558  Pakman/Bufman Inst = bufman/misc
         client callback function = 0xfc71b430    cleanup function = 0xfc71b5a4
                         Pakmode = 0x00000002          Pollflags = 0x00000000
           Total DMA transactions =        353  Queue create count =          1
                 DMA transactions =        353   Bytes transferred =       6600

             DMA Out of Desc errs =          0             DMA IWA =          0
             DMA transaction errs =          0

        Descriptor list base addr = 0xec05b110    Physical address = 0x3005b110
                        list_size =        128  Active descriptors =          0
                    current_index =         97    tx_enqueue_index =         97
```

Table 2 describes the significant fields shown in the display.

Table 2 show controllers cpuctrl clients Field Descriptions

Field	Description
client	Client type. Value is DMA[1] or PKT.
client_name	Name of the client.
client_handle	Internal client identifier.
isr_count	ISR[2] counters.
queue_count	Queue counters.
client_pid	Client PID[3].

1. Direct Memory Access
2. Interrupt Service Routine
3. Process Identifier

Related Commands

Command	Description
show controllers cpuctrl cdma channel	Displays information about the CPU controller CDMA engine.
show controllers cpuctrl summary	Displays summarized information about all the ASICs accessed through the CPU controller ASICs on the router or on a specific node.

show controllers cpuctrl devices

To display information about the CPU controller devices on the router, use the **show controllers cpuctrl devices** command in EXEC mode.

show controllers cpuctrl devices *device-name* {**pdma** *queue* {**all** | **tx** | **rx**} {**active** | **detail**} | **pio**} [**location** *node-id*]

Syntax Description

device-name	Displays information about a specific CPU controller device. Replace the *device-name* argument with one of the following device names: • **egressq**—Displays information about the egressq ASIC instance 0. • **epse**—Displays information about the egress packet switching engine (PSE) ASIC. • **fabricq instance 0**—Displays information about the fabricq ASIC instance 0. • **fabricq instance 1**—Displays information about the fabricq ASIC instance 1. • **fabricq instance 2**—Displays information about the fabricq ASIC instance 2. • **fabricq instance 3**—Displays information about the fabricq ASIC instance 3. • **fia instance 0**—Displays information about the Fabric Interface ASIC (FIA) instance 0. • **fia instance 1**—Displays information about the FIA instance 1. • **ingressq**—Displays information about the ingressq ASIC. • **ipse**—Displays information about the ingress packet switching engine (PSE) ASIC. • **jacketcard instance 0**—Displays information about the jacketcard instance 0 ASIC. • **jacketcard instance 1**—Displays information about the jacketcard instance 1 ASIC. • **jacketcard instance 2**—Displays information about the jacketcard instance 2 ASIC. • **plim asic instance 0**—Displays information about the PLIM ASIC instance 0. • **plim asic instance 1**—Displays information about the PLIM ASIC instance 1. • **plim asic instance 2** —Displays information about the PLIM ASIC instance 2. • **plim asic instance 3**—Displays information about the PLIM ASIC instance 3. • **plim fpga**—Displays information about the field-programmable gate array (FPGA) PLIM.

pdma *queue* **all**	Displays transmit and receive Packet Direct-Memory-Access (PDMA) information for the specified queue. Replace the *queue* argument with a queue number. The range is from 0 to 7.
pdma *queue* **tx**	Displays transmit PDMA information only for the specified queue. Replace the *queue* argument with a queue number. The range is from 0 to7.
pdma *queue* **rx**	Displays receive PDMA information only for the specified queue. Replace the *queue* argument with a queue number. The range is from 0 to 7.
pdma all	Displays transmit and receive PDMA information for all queues.
active	Displays descriptions for active queues only.
detail	Displays detailed descriptions for any queues, regardless of whether they are active.
pio	Displays transmit and receive Polled I/O (PIO) information for the specified queue.
location *node-id*	(Optional) Identifies the location of the node whose CPU controller information you want to display. The *node-id* argument is expressed in the *rack/slot/module* notation.

Defaults

No default behavior or values

Command Modes

EXEC

Command History

Release	Modification
Release 2.0	This command was introduced on the Cisco CRS-1.
Release 3.0	No modification.
Release 3.2	No modification.
Release 3.3.0	No modification.
Release 3.4.0	No modification.
Release 3.5.0	The **show controllers cpuctrl devices** command was first supported under the interface task-ID.

Release	Modification
Release 3.6.0	The following keywords were changed: • **fabricq0** changed to **fabric instance 0** • **fabricq1** changed to **fabric instance 1** • **fabricq2** changed to **fabric instance 2** • **fabricq3** changed to **fabric instance 3** • **fia0** changed to **fia instance 0** • **fia1** changed to **fia instance 1** • **jacketcard0** changed to **jacketcard instance 0** • **jacketcard1** changed to **jacketcard instance 1** • **jacketcard2** changed to **jacketcard instance 2** • **plimasic0** changed to **plim asic instance 0** • **plimasic1** changed to **plim asic instance 1** • **plimasic2** changed to **plim asic instance 2** • **plimasic3** changed to **plim asic instance 3** • **plimfpga** changed to **plim fpga**
Release 3.7.0	No modification.
Release 3.8.0	No modification.

Usage Guidelines

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

Task ID

Task ID	Operations
drivers	read
interface	read

Examples

The following example shows how to display transmit and receive PDMA information for all active queues on the egressq ASIC instance 0:

```
RP/0/RP0/CPU0:router# show controllers cpuctrl devices egressq pdma queue all active
location 0/6/CPU0

-------------------------------------------------------
TX PKT queue:
cpuctrl net Port: 7 (Egressq   )     queue: 0        state: Active

       OS Interrupt Level =        127   Cpuctrl Int Level =         31
          OS Run Priority =         10       client handle =          6
              ISR context = 0x7810c1c8  Pakman/Bufman Inst = pakman/server
 client callback function = 0x48200298    cleanup function = 0x482002bc
```

```
                  Pakmode = 0x00000001           Pollflags = 0x00000000
Total Packets transmitted =     660089  Queue create count =          1
      Packets transmitted =     660089   Bytes transmitted =   17166002

Tx Out of Descriptor errs =          0              Tx IWA =          0
         Tx oversize errs =          0  Tx EgressQ q0 errs =          0

Descriptor list base addr = 0xec348068    Physical address = 0x30348068
                list_size =       1024  Active descriptors =          0
            current_index =        633    tx_enqueue_index =        633

-------------------------------------------------------
TX PKT queue:
cpuctrl net Port: 0 (Egressq   )     queue: 1        state: Inactive

-------------------------------------------------------
TX PKT queue:
cpuctrl net Port: 0 (Egressq   )     queue: 2        state: Inactive

-------------------------------------------------------
TX PKT queue:
cpuctrl net Port: 0 (Egressq   )     queue: 3        state: Inactive

-------------------------------------------------------
TX PKT queue:
cpuctrl net Port: 0 (Egressq   )     queue: 4        state: Inactive

-------------------------------------------------------
TX PKT queue:
cpuctrl net Port: 0 (Egressq   )     queue: 5        state: Inactive

-------------------------------------------------------
TX PKT queue:
cpuctrl net Port: 7 (Egressq   )     queue: 6        state: Active

       OS Interrupt Level =        118   Cpuctrl Int Level =         22
          OS Run Priority =         10       client handle =          2
              ISR context = 0x7810cf24  Pakman/Bufman Inst = bufman/ipc
 client callback function = 0xfc71d604    cleanup function = 0xfc71d6b8
                  Pakmode = 0x00000005           Pollflags = 0x00000000
Total Packets transmitted =          0  Queue create count =          1
      Packets transmitted =          0   Bytes transmitted =          0

Tx Out of Descriptor errs =          0              Tx IWA =          0
         Tx oversize errs =          0  Tx EgressQ q0 errs =          0

Descriptor list base addr = 0xec07a110    Physical address = 0x3007a110
                list_size =        256  Active descriptors =          0
            current_index =          0    tx_enqueue_index =          0

-------------------------------------------------------
TX PKT queue:
cpuctrl net Port: 7 (Egressq   )     queue: 7        state: Active

       OS Interrupt Level =        119   Cpuctrl Int Level =         23
          OS Run Priority =         40       client handle =          9
              ISR context = 0x7810d008  Pakman/Bufman Inst = pakman/sever
 client callback function = 0xfc71d604    cleanup function = 0xfc71d6b8
                  Pakmode = 0x00000001           Pollflags = 0x00000000
Total Packets transmitted =          0  Queue create count =          1
      Packets transmitted =          0   Bytes transmitted =          0

Tx Out of Descriptor errs =          0              Tx IWA =          0
         Tx oversize errs =          0  Tx EgressQ q0 errs =          0
```

```
Descriptor list base addr = 0xed63a068    Physical address = 0x3163a068
                list_size =       1024  Active descriptors =          0
            current_index =          0    tx_enqueue_index =          0

-------------------------------------------------------
RX PKT queue:
cpuctrl net Port: 7 (Egressq   )     queue: 0        state: Active

       OS Interrupt Level =        121   Cpuctrl Int Level =         25
          OS Run Priority =         10       client handle =          8
              ISR context = 0x7810d0ec  Pakman/Bufman Inst = bufman/misc
 client callback function = 0xfc71d550    cleanup function = 0xfc71d6b8
                  Pakmode = 0x00000001           Pollflags = 0x00000000
 Requested Rx Buffer Size =       1024  Packet switchcount =         20
    Actual Rx Buffer Size =       1648                Pool =          4
                      MTU =      12188     MTU Descriptors =          8
   Total Packets received =      71080  Queue create count =          1
         Packets received =      71080      Bytes received =  858219920

        Rx No Buffer errs =          0  NoBufferLimit errs =          0
 Rx No Packet Header errs =          0    Packet Form errs =          0
           Rx Packet errs =          0
       Rx Intr Stall errs =          0   Rx Intr Drop errs =          0

Descriptor list base addr = 0xec05c940    Physical address = 0x3005c940
                list_size =        128  Active descriptors =          0
            current_index =         64    tx_enqueue_index =         64

--More--
```

Table 3 describes the significant fields shown in the display.

Table 3 show controllers cpuctrl devices Field Descriptions

Field	Description
PKT queue:	Displays whether the packet queue is TX[1] or RX[2].
cpuctrl net Port	Identifies the CPU controller port.
queue	Identifies the queue whose CPU controller device information is displayed.
client handle	Internal Cisco client identifier.
queue state	Current state of the queue. The queue can be *Active* or *Inactive*.

1. transmit
2. receive

Related Commands

Command	Description
show controllers cpuctrl summary	Displays summarized information about all the ASICs accessed through the CPU controller ASICs on the router or on a specific node.

show controllers cpuctrl internal

To display internal information about the CPU controller, use the **show controllers cpuctrl internal** command in EXEC mode.

show controllers cpuctrl internal [**location** *node-id*]

Syntax Description

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

Defaults

No default behavior or values

Command Modes

EXEC

Command History

Release	Modification
Release 2.0	This command was introduced on the Cisco CRS-1.
Release 3.0	No modification.
Release 3.2	No modification.
Release 3.3.0	No modification.
Release 3.4.0	No modification.
Release 3.5.0	The **show controllers cpuctrl internal** command was first supported under the interface task-ID.
Release 3.6.0	The location *node-id* keyword and argument were changed from required to optional.
Release 3.7.0	No modification.
Release 3.8.0	No modification.

Usage Guidelines

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

Task ID

Task ID	Operations
drivers	read
interface	read

Examples

The following example shows how to display internal information about the CPU controller:

```
RP/0/RP0/CPU0:router# show controllers cpuctrl internal

Cpuctrl Internal Info for node 0/0/CPU0:
        Error Interrupts = 0    Spurious Error Interrupts = 0
        PCI Error Overflows = 0         PCI PM Error Overflows = 0
        PCIX Error Overflows = 0        Internal Access PCI Overflows = 0
        Port Error Overflows = 0        Error Log Overflows = 0
        cpuctrl Config Reg = 0x8357ffff  cpuctrl Physical Offset = 0x80000000
        cpuctrl Window Size = 0x40000000 cpuctrl Port Window Size = 0x04000000
        cpuctrl SHMem Size = 0x00800000  cpuctrl SHMem Used = 0x00223ee8
        cpuctrl version info: Squid FPGA v2.07 Fri Jan 23 16:21:01 2004 ykoren


Cpuctrl Internal Info for node 0/3/CPU0:
        Error Interrupts = 0    Spurious Error Interrupts = 0
        PCI Error Overflows = 0         PCI PM Error Overflows = 0
        PCIX Error Overflows = 0        Internal Access PCI Overflows = 0
        Port Error Overflows = 0        Error Log Overflows = 0
        cpuctrl Config Reg = 0x8357ffff  cpuctrl Physical Offset = 0x80000000
        cpuctrl Window Size = 0x40000000 cpuctrl Port Window Size = 0x04000000
        cpuctrl SHMem Size = 0x00800000  cpuctrl SHMem Used = 0x00223ee8
        cpuctrl version info: Squid FPGA v2.07 Fri Jan 23 16:21:01 2004 ykoren


Cpuctrl Internal Info for node 0/RP0/CPU0:
        Error Interrupts = 0    Spurious Error Interrupts = 0
        PCI Error Overflows = 0         PCI PM Error Overflows = 0
        PCIX Error Overflows = 0        Internal Access PCI Overflows = 0
        Port Error Overflows = 0        Error Log Overflows = 0
        cpuctrl Config Reg = 0x803f007f  cpuctrl Physical Offset = 0x80000000
        cpuctrl Window Size = 0x40000000 cpuctrl Port Window Size = 0x04000000
        cpuctrl SHMem Size = 0x00800000  cpuctrl SHMem Used = 0x00223ee8
        cpuctrl version info: Squid FPGA v2.07 Fri Feb 6 17:49:22 2004 ykoren

Cpuctrl Internal Info for node 0/RP1/CPU0:
        Error Interrupts = 0    Spurious Error Interrupts = 0
        PCI Error Overflows = 0         PCI PM Error Overflows = 0
        PCIX Error Overflows = 0        Internal Access PCI Overflows = 0
        Port Error Overflows = 0        Error Log Overflows = 0
        cpuctrl Config Reg = 0x003f007f  cpuctrl Physical Offset = 0x80000000
        cpuctrl Window Size = 0x40000000 cpuctrl Port Window Size = 0x04000000
        cpuctrl SHMem Size = 0x00800000  cpuctrl SHMem Used = 0x00223ee8
        cpuctrl version info: Squid FPGA v2.05 Wed Sep 3 17:37:47 2003 ykoren
```

Table 4 describes the significant fields shown in the display.

Table 4 show controllers cpuctrl internal Field Descriptions

Field	Description
Error Interrupts	Total of error interrupts that have occurred on this node.
Spurious Error Interrupts	Current number interrupts that have occurred on this node due to spurious errors.
PCI Error Overflows	Number of times the PCI[1] error buffer overflowed on the node.
PCI PM Error Overflows	Number of times PCI PM[2] error buffer overflowed on this node.
PCIX Error Overflows	Number of times the PCI-X error buffer overflowed on this node.
Internal Access PCI Overflows	Number of times the Internal Access PCI buffer overflowed on this node.
Port Error Overflows	Number of times the port error buffer overflowed on this node.
Error Log Overflows	Number of times the error log buffer overflowed on this node.
cpuctrl Config Reg	CPU controller configuration register, expressed in hexadecimal format.
cpuctrl Physical Offset	CPU controller physical offset, expressed in hexadecimal format.
cpuctrl Window Size	CPU controller window size, expressed in hexadecimal format.
cpuctrl Port Window Size	CPU controller port window size, expressed in hexadecimal format.
cpuctrl SHMem Size	CPU controller shared memory size, expressed in hexadecimal format.
cpuctrl SHMem Used	CPU controller shared memory that has been used already, expressed in hexadecimal format.
cpuctrl version info	Provides version information for the CPU controller. The information displayed is: • Squid version • Date of the last version installation or upgrade

1. Peripheral Component Interconnect
2. port manager

Related Commands

Command	Description
show controllers cpuctrl summary	Displays summarized information about all the ASICs accessed through the CPU controller ASICs on the router or on a specific node.

show controllers cpuctrl ports

To display port information for the specified CPU controller ASIC, use the **show controllers cpuctrl ports** command in EXEC mode.

show controllers cpuctrl ports {*asic_id*} {**pdma queue** {*queue-id* | **all**} **direction** {**all** | **rx** | **tx**} {**active** | **detail**} | **pio**} [**location** *node-id*]

Syntax Description

asic_id	Identifies the CPU controller ASIC whose port information you want to display. Replace the *asic_id* argument with one of the following keywords: • **cpuctrl**—Displays port information for the CPU controller ASIC instance 0. • **egressq**—Displays port information for instance 0 of the egressq ASIC. • **epse**—Displays port information for the egress packet switching engine (EPSE) ASIC. • **fabricq instance 0**—Displays port information for instance 0 of the fabricq ASIC. • **fabricq instance 1**—Displays port information for instance 1 of the fabricq ASIC. • **fabricq instance 2**—Displays port information for instance 2 of the fabricq ASIC. • **fabricq instance 3**—Displays port information for instance 3 of the fabricq ASIC. • **fia instance 0**—Displays port information for instance 0 of the fabric Interface ASIC (FIA). • **fia instance 1**—Displays port information for instance 1 of the FIA. • **ingressq**—Displays port information for the ingressq ASIC. • **ipse**—Displays port information for the ingress packet switching engine (PSE) ASIC. • **jacketcard instance 0**—Displays port information for instance 0 of the jacketcard ASIC. • **jacketcard instance 1**—Displays port information for instance 1 of the jacketcard ASIC. • **jacketcard instance 2**—Displays port information for instance 2 of the jacketcard ASIC. • **pla768**—Displays port information for the OC768 plim ASIC. • **plaspa instance 0**—Displays port information for instance 0 of the SPA plim ASIC. • **plaspa instance 1**—Displays port information for instance 1 of the SPA plim ASIC. • **plim asic instance 0**—Displays port information for instance 0 of the plim ASIC. • **plim asic instance 1**—Displays port information for instance 1 of the plim ASIC. • **plim asic instance 2**—Displays port information for instance 2 of the plim ASIC. • **plim asic instance 3**—Displays port information for instance 3 of the plim ASIC.
pdma queue *queue-id*	Displays transmit and receive Packet Direct-Memory-Access (PDMA) information for the specified queue.

pdma queue all	Displays transmit and receive PDMA information for all queues. The information displayed pertains to the ASIC indicated in the **show controllers cpuctrl ports** command.
direction all	Displays transmit and receive Packet Direct-Memory-Access (PDMA) information for the specified queue. The information displayed pertains to the ASIC you specified for the *asic_id* argument.
direction rx	Displays receive PDMA information only for the specified queue. The information displayed pertains to the ASIC you specified for the *asic_id* argument.
direction tx	Displays transmit PDMA information only for the specified queue. The information displayed pertains to the ASIC you specified for the *asic_id* argument.
active	Displays descriptions for active queues only.
detail	Displays descriptions for any queues, regardless of whether they are active.
pio	Displays transmit and receive Polled I/O (PIO) information for the specified queue.
location *node-id*	(Optional) Identifies the location of the node whose CPU controller port information you want to display. The *node-id* argument is expressed in the *rack/slot/module* notation.

Defaults

No default behavior or values

Command Modes

EXEC

Command History

Release	Modification
Release 2.0	This command was introduced on the Cisco CRS-1.
Release 3.0	No modification.
Release 3.2	No modification.
Release 3.3.0	No modification.
Release 3.4.0	No modification.
Release 3.5.0	The **show controllers cpuctrl ports** command was first supported under the interface task-ID. The **queue** and **direction** keywords were added to the **show controllers cpuctrl ports** command.
Release 3.6.0	No modification.
Release 3.7.0	No modification.
Release 3.8.0	No modification.

Usage Guidelines

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

Task ID

Task ID	Operations
drivers	read
interface	read

Examples

The following example shows how to display port information for the transmit and receive PIO queues on the EPSE ASIC:

```
RP/0/RP0/CPU0:router# show controllers cpuctrl ports epse pio

client name: PSE                device instance: 1
cpuctrl net port: 6             pci base: 0x98000000
map reg: 0x6076a12c             OS interrupt level: 102
Cpuctrl interrupt level: 6      OS Run priority: 6
config reg: 0x00000000          channels reg: 0x00000000
int_cause_asic_mask: 0x00000010 int_cause_error_mask: 0x00000020
int_cause_link_error_mask: 0x00000040
crc_errors: 0   sync_errors: 0  reframe_events: 0


client name: PSE                device instance: 1
cpuctrl net port: 6             pci base: 0x98000000
map reg: 0x6076a12c             OS interrupt level: 102
Cpuctrl interrupt level: 6      OS Run prority: 6
config reg: 0x00000000          channels reg: 0x00000000
int_cause_asic_mask: 0x00000010 int_cause_error_mask: 0x00000020
int_cause_link_error_mask: 0x00000040
crc_errors: 0   sync_errors: 0  reframe_events: 0


device PSE instance 1 is not detected on node 201/
```

Table 5 describes the significant fields shown in the display.

Table 5 show controllers cpuctrl ports Field Descriptions

Field	Description
client name	Identifies the client whose port CPU controller information is displayed.
device instance	The client device instance for which the port CPU controller information is displayed.
cpuctrl net port	Identifies the CPU controller net port.
pci base	PCI[1] base.
map reg	Client map register.
OS interrupt level	Level of Cisco IOS XR interrupt configured for the port. Interrupts are triggered by arrival of a packet that causes the CPU to postpone other tasks and handle the packet.
Cpuctrl interrupt level	Level of CPU controller interrupt configured for the port.
OS Run priority	Cisco IOS XR priority.
config reg	Configuration register, expressed in hexadecimal format.
channels reg	Channel register, expressed in hexadecimal format.
int_cause_asic_mask	Internal ASIC masking information.

Table 5 show controllers cpuctrl ports Field Descriptions (continued)

Field	Description
int_cause_error_mask	Internal error masking information.
int_cause_link_error_mask	Internal link error masking information.
crc_errors	Number of CRC[2] errors that have occurred on this port.
sync_errors	Number of synchronization errors that have occurred on this port.
reframe_events	Number of reframe events that have occurred on this port.

1. Peripheral Component Interconnect
2. cyclic redundancy check

Related Commands

Command	Description
show controllers cpuctrl summary	Displays summarized information about all the ASICs accessed through the CPU controller ASICs on the router or on a specific node.

show controllers cpuctrl ports cpuctrl pio

To display polled I/O (PIO) information for the specified CPU controller ASIC, use the **show controllers cpuctrl ports cpuctrl pio** command in EXEC mode.

show controllers cpuctrl ports {*asic_id*} **cpuctrl pio** [**location** *node-id*]

Syntax Description

asic_id — Identifies the CPU controller ASIC whose port information you want to display. Replace the *asic_id* argument with one of the following keywords:

- **cpuctrl**—Displays port information for the CPU controller ASIC instance 0.
- **egressq**—Displays port information for instance 0 of the egressq ASIC.
- **epse**—Displays port information for the egress packet switching engine (EPSE) ASIC.
- **fabricq instance 0**—Displays port information for instance 0 of the fabricq ASIC.
- **fabricq instance 1**—Displays port information for instance 1 of the fabricq ASIC.
- **fabricq instance 2**—Displays port information for instance 2 of the fabricq ASIC.
- **fabricq instance 3**—Displays port information for instance 3 of the fabricq ASIC.
- **fia instance 0**—Displays port information for instance 0 of the fabric Interface ASIC (FIA).
- **fia instance 1**—Displays port information for instance 1 of the FIA.
- **ingressq**—Displays port information for the ingressq ASIC.
- **ipse**—Displays port information for the ingress packet switching engine (PSE) ASIC.
- **jacketcard instance 0**—Displays port information for instance 0 of the jacketcard ASIC.
- **jacketcard instance 1**—Displays port information for instance 1 of the jacketcard ASIC.
- **jacketcard instance 2**—Displays port information for instance 2 of the jacketcard ASIC.
- **pla768**—Displays port information for the OC768 plim ASIC.
- **pdma**—Displays port PDMA information.
- **pio**—Displays port Polled I/O (PIO) information.
- **plaspa instance 0**—Displays port information for instance 0 of the SPA plim ASIC.
- **plaspa instance 1**—Displays port information for instance 1 of the SPA plim ASIC.
- **plim asic instance 0**—Displays port information for instance 0 of the plim ASIC.
- **plim asic instance 1**—Displays port information for instance 1 of the plim ASIC.
- **plim asic instance 2**—Displays port information for instance 2 of the plim ASIC.
- **plim asic instance 3**—Displays port information for instance 3 of the plim ASIC.

pio	Displays transmit and receive Polled I/O (PIO) information for the specified queue.
location *node-id*	(Optional) Identifies the location of the node whose CPU controller port information you want to display. The *node-id* argument is expressed in the *rack/slot/module* notation.

Defaults

No default behavior or values

Command Modes

EXEC

Command History

Release	Modification
Release 2.0	This command was introduced on the Cisco CRS-1.
Release 3.0	No modification.
Release 3.2	No modification.
Release 3.3.0	No modification.
Release 3.4.0	No modification.
Release 3.5.0	The **show controllers cpuctrl ports** command was first supported under the interface task-ID. The **queue** and **direction** keywords were added to the **show controllers cpuctrl ports** command.
Release 3.6.0	No modification.
Release 3.7.0	No modification.
Release 3.8.0	No modification.

Usage Guidelines

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

Task ID

Task ID	Operations
drivers	read
interface	read

Examples

The following example shows how to display port information for the transmit and receive PIO queues on the EPSE ASIC:

```
RP/0/RP0/CPU0:router# show controllers cpuctrl ports cpuctrl pio location 0/1/CPU0

client name: Cpuctrl            device instance: 0
cpuctrl net port: 0             pci base: 0x80000000
map reg: 0x00000000             OS interrupt level: 96
```

```
Cpuctrl interrupt level: 0      OS Run prority: 0
config reg: 0x00000000          channels reg: 0x00000000
int_cause_asic_mask: 0x00000000 int_cause_error_mask: 0x00000000

int_cause_link_error_mask: 0x00000000
crc_errors: 0   sync_errors: 0  reframe_events: 0
```

Related Commands

Command	Description
show controllers cpuctrl ports	Displays port information for the specified CPU controller ASIC.
show controllers cpuctrl summary	Displays summarized information about all the ASICs accessed through the CPU controller ASICs on the router or on a specific node.

show controllers cpuctrl summary

To display summarized information about all the ASICs accessed through the CPU controller ASICs on the router or on a specific node, use the **show controllers cpuctrl summary** command in EXEC mode.

show controllers cpuctrl summary [**location** *node-id*]

Syntax Description

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

Defaults

No default behavior or values

Command Modes

EXEC

Command History

Release	Modification
Release 2.0	This command was introduced on the Cisco CRS-1.
Release 3.0	No modification.
Release 3.2	No modification.
Release 3.3.0	No modification.
Release 3.4.0	No modification.
Release 3.5.0	The **show controllers cpuctrl summary** command was first supported under the interface task-ID.
Release 3.6.0	No modification.
Release 3.7.0	No modification.
Release 3.8.0	No modification.

Usage Guidelines

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

Task ID

Task ID	Operations
drivers	read
interface	read

Examples

The following example shows how to display summarized information about all the ASICs accessed through the CPU controller ASICs on a specific node:

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

Cpuctrl discovered 11 device on node 0/0/CPU0:
Cpuctrl HW version string for this node is:
Squid FPGA v2.07 Fri Jan 23 16:21:01 2004 ykoren

-------------------------------------------------------------
device_name:         Fabricq    device instance:    0
Cpuctrl net port:    3          pci_base:            0x8c000000

-------------------------------------------------------------
device_name:         Fabricq    device instance:    1
Cpuctrl net port:    4          pci_base:            0x90000000

-------------------------------------------------------------
device_name:         Ingressq   device instance:    0
Cpuctrl net port:    8          pci_base:            0xa0000000

-------------------------------------------------------------
device_name:         Egressq    device instance:    0
Cpuctrl net port:    7          pci_base:            0x9c000000

-------------------------------------------------------------
device_name:         FIA        device instance:    0
Cpuctrl net port:    1          pci_base:            0x84000000

-------------------------------------------------------------
device_name:         FIA        device instance:    1
Cpuctrl net port:    2          pci_base:            0x88000000

-------------------------------------------------------------
device_name:         Cpuctrl    device instance:    0
Cpuctrl net port:    0          pci_base:            0x80000000

-------------------------------------------------------------
device_name:         PSE        device instance:    1
Cpuctrl net port:    6          pci_base:            0x98000000

 --More--
```

Table 6 describes the significant fields shown in the display.

Table 6 show controllers cpuctrl summary Field Descriptions

Field	Description
device_name	Identifies the device whose CPU controller information is displayed.
device instance	Identifies the CPU device whose information is displayed.
Cpuctrl net port	Identifies the CPU controller network port.
pci_base	PCI[1] base, in hexadecimal format.

1. Peripheral Component Interconnect

Related Commands

Command	Description
show controllers cpuctrl cdma channel	Displays information about the CPU controller CDMA engine.
show controllers cpuctrl clients	Displays information about all CPU controller clients on the router, or for specific CPU controller clients.
show controllers cpuctrl devices	Displays information about the CPU controller devices on the router.
show controllers cpuctrl internal	Displays information about the internal CPU controller.
show controllers cpuctrl ports	Displays port information for the specified CPU controller ASIC.

show controllers egressq eio links

To display Elastic I/O (EIO) information for the egress queueing ASIC, use the **show controllers egressq eio links** command in EXEC mode.

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

Syntax Description

link-id	Identifies the EIO link whose egress queueing ASIC information you want to display. Replace the *link-id* argument with a link identifier. Range is from 0 to 4294967295.
all	Displays egress queueing ASIC information for all links on the specified node.
location *node-id*	Identifies the location of the egress queue manager whose EIO link information you want to display. The *node-id* argument is expressed in the *rack/slot/module* notation.

Defaults

No default behavior or values

Command Modes

EXEC

Command History

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

Usage Guidelines

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

Task ID

Task ID	Operations
drivers	read
interface	read

Examples

The following example shows how to display information for all EIO links on a node's egress queueing ASIC:

```
RP/0/RP0/CPU0:router# show controllers egressq eio links all location 0/2/CPU0

             Node: 0/2/CPU0:
----------------------------------------

EIO links:
--------------------------------------------------------------------
ASIC Id     Peer Id     Type Link-Id Attempts Accept Failed State
--------------------------------------------------------------------
EGRESSQ_0   PSE_1       RX   11      1        1      0      EIO_LINK_TRAINED
EGRESSQ_0   PSE_1       TX   64      0        0      0      EIO_LINK_TRAINED
EGRESSQ_0   PLIM-ASIC_0 TX   60      0        0      0      EIO_LINK_TRAINED
EGRESSQ_0   PLIM-ASIC_1 TX   61      0        0      0      EIO_ADD_LINK
EGRESSQ_0   PLIM-ASIC_2 TX   62      0        0      0      EIO_ADD_LINK
EGRESSQ_0   PLIM-ASIC_3 TX   63      0        0      0      EIO_ADD_LINK
```

Table 7 describes the significant fields shown in the display.

Table 7 show controllers egressq eio links Field Descriptions

Field	Description
ASIC Id	Identifies the ASIC that is associated with the link whose information is displayed.
Peer Id	Identifies the ASIC peer.
Type	Indicates whether the AISC is receiving (RX) or transmitting (TX).
Link-Id	Link identifier.
Attempts	Number of attempts made to send or receive information on the specified link.
Accept	Number of consecutive EIO requests for the link made by the PSE driver to the peer that were accepted.
Failed	Number of consecutive EIO requests for the link that failed.
State	Current link state.

Related Commands

Command	Description
show controllers egressq group	Displays information for about egress queue groups.
show controllers egressq interface	Displays information about interfaces associated with an egress queue.
show controllers egressq port	Displays egress queue information for a port, or for several ports.
show controllers egressq queue	Displays information about a specific egress queue, or a range of egress queues.
show controllers egressq statistics	Displays egress queue manager statistics.
show controllers plim asic egress-channel bay	Displays ingress queue manager statistics.

show controllers egressq group

To display information about egress queue groups, use the **show controllers egressq group** command in EXEC mode.

show controllers egressq group {*group1* [*group2*] | **all** | **limits** {**max** | **min**}} **location** *node-id*

Syntax Description

group1	First group whose information you want to display. Range is from 1 to 2047.
group2	(Optional) Last group whose information you want to display. Range is from 1 to 2047.
all	Indicates that you want to display information about all egress queue groups on a specific node.
limits	Indicates that you want to display the limits table. Follow the keyword with **max** to display the maximum limits table, or **min** to display the minimum limits table.
max	Display the maximum limits table.
min	Display the minimum limits table.
location *node-id*	Identifies the location of the egress queue whose group information you want to display. The *node-id* argument is expressed in the *rack/slot/module* notation.

Defaults

No default behavior or values

Command Modes

EXEC

Command History

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

Usage Guidelines

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

If you do not specify a group number for the *group2* argument, information is displayed only for the egress queue you specified for the *group1* argument. If you specify *group1* and *group2*, information is displayed for all groups within the range from *group1* through *group2*.

Task ID

Task ID	Operations
drivers	read
interface	read

Examples

The following example shows how to display information for a specific range of egress queue groups on the CPU node in slot 2:

```
RP/0/RP0/CPU0:router# show controllers egressq group 1 3 location 0/2/CPU0

---------------------------------
          Group 1
---------------------------------
 Port                : 0
 Priority            : Low
 Max LB Tokens       : 7812
 Max LB Limit Index  : 38
 Min LB Tokens       : 0
 Min LB Limit Index  : 0
 Quantum             : 27
 Default Queue       : 1
 High Priority Queue : N/A
 Low Priority Queue  : 1
---------------------------------
---------------------------------
          Group 2
---------------------------------
 Port                : 1
 Priority            : Low
 Max LB Tokens       : 7812
 Max LB Limit Index  : 38
 Min LB Tokens       : 0
 Min LB Limit Index  : 0
 Quantum             : 27
 Default Queue       : 2
 High Priority Queue : N/A
 Low Priority Queue  : 2
---------------------------------
---------------------------------
          Group 3
---------------------------------
 Port                : 256
 Priority            : Low
 Max LB Tokens       : 7812
 Max LB Limit Index  : 38
 Min LB Tokens       : 0
 Min LB Limit Index  : 0
 Quantum             : 27
 Default Queue       : 3
 High Priority Queue : N/A
 Low Priority Queue  : 3
---------------------------------
```

Table 8 describes the significant fields shown in the display.

Table 8 show controllers egressq group Field Descriptions

Field	Description
Port	Port identifier.
Priority	Group priority.
Max LB Tokens	Maximum number of port LB tokens.
Max LB Limit Index	Maximum LB limit.
Min LB Tokens	Minimum number of port LB tokens.
Min LB Limit Index	Minimum LB limit.
Quantum	Quantum value for this group.
Default Queue	Default queue for this group.
High Priority Queue	High priority queue identifier.
Low Priority Queue	Low priority queue identifier.

Related Commands

Command	Description
show controllers egressq eio links	Displays EIO information for the egress queueing ASIC.
show controllers egressq interface	Displays information about interfaces associated with an egress queue.
show controllers egressq port	Displays egress queue information for a port, or for several ports.
show controllers egressq queue	Displays information about a specific egress queue, or a range of egress queues.
show controllers egressq statistics	Displays egress queue manager statistics.
show controllers plim asic egress-channel bay	Displays ingress queue manager statistics.

show controllers egressq interface

To display information about interfaces associated with an egress queue, use the **show controllers egressq interface** command in EXEC mode.

show controllers egressq interface [*type instance* | **all**] **location** *node-id*

Syntax Description

type instance	Identifies a 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 egress queue information for all interfaces in the specified location.
location *node-id*	Identifies the location of the interface whose egress queue information you want to display. The *node-id* argument is expressed in the *rack/slot/module* notation.

Defaults

No default behavior or values

Command Modes

EXEC

Command History

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

Usage Guidelines

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

Task ID

Task ID	Operations
interface	read
drivers	read

Examples

The following example shows how to display egress queue information for all configured interfaces on the router:

```
RP/0/RP0/CPU0:router# show controllers egressq interface all

/CPU0
----------------------------------
          Interface POS0/0/0/15
----------------------------------
          Port 776
----------------------------------
 Max LB Tokens       : 18720
 Max LB Limit Index  : 41
 Quantum             : 27
 Default Group       : 24
 High Priority Group : N/A
 Low Priority Group  : 24
----------------------------------
----------------------------------
          Interface POS0/0/0/14
----------------------------------
          Port 780
----------------------------------
 Max LB Tokens       : 18720
 Max LB Limit Index  : 41
 Quantum             : 27
 Default Group       : 23
 High Priority Group : N/A
 Low Priority Group  : 23
----------------------------------
----------------------------------
          Interface POS0/0/0/13
----------------------------------
          Port 778
----------------------------------
 Max LB Tokens       : 18720
 Max LB Limit Index  : 41
 Quantum             : 27
 Default Group       : 22
 High Priority Group : N/A
 Low Priority Group  : 22
----------------------------------
----------------------------------
          Interface POS0/0/0/12
----------------------------------
          Port 782
----------------------------------
 Max LB Tokens       : 18720
 Max LB Limit Index  : 41
 Quantum             : 27
 Default Group       : 21
 High Priority Group : N/A
 Low Priority Group  : 21
----------------------------------
----------------------------------
          Interface POS0/0/0/11
----------------------------------
          Port 520
----------------------------------
 Max LB Tokens       : 18720
 Max LB Limit Index  : 41
 Quantum             : 27
 Default Group       : 20
```

```
 High Priority Group : N/A
 Low Priority Group  : 20
---------------------------------
---------------------------------
          Interface POS0/0/0/10
---------------------------------
          Port 524
---------------------------------
 Max LB Tokens       : 18720
 Max LB Limit Index  : 41
 Quantum             : 27
 Default Group       : 19
 High Priority Group : N/A
 Low Priority Group  : 19
---------------------------------
---------------------------------
          Interface POS0/0/0/9
---------------------------------
          Port 522
---------------------------------
 Max LB Tokens       : 18720
 Max LB Limit Index  : 41
 Quantum             : 27
 Default Group       : 18
 High Priority Group : N/A
 Low Priority Group  : 18
---------------------------------
---------------------------------
          Interface POS0/0/0/8
---------------------------------
          Port 526
---------------------------------
 Max LB Tokens       : 18720
 Max LB Limit Index  : 41
 Quantum             : 27
 Default Group       : 17
 High Priority Group : N/A
 Low Priority Group  : 17
---------------------------------
---------------------------------
```

Table 9 describes the significant fields shown in the display.

Table 9 show controllers egressq interface Field Descriptions

Field	Description
Interface	Interface identifier, in the *<type>rack/slot/module/port* format.
Port	Port to which the specified interface belongs.
Max LB Tokens	Maximum number of port LB tokens.
Max LB Limit Index	Maximum LB limit.
Quantum	Average number of bytes in the interface egress queue.
Default Group	Default group for this interface.
High Priority Group	High priority group identifier.
Low Priority Group	Low priority group identifier.

Related Commands

Command	Description
show controllers egressq eio links	Displays EIO information for the egress queueing ASIC.
show controllers egressq group	Displays information for about egress queue groups.
show controllers egressq port	Displays egress queue information for a port, or for several ports.
show controllers egressq queue	Displays information about a specific egress queue, or a range of egress queues.
show controllers egressq statistics	Displays egress queue manager statistics.
show controllers plim asic egress-channel bay	Displays ingress queue manager statistics.

show controllers egressq port

To display egress queue information for a port, or for several ports, use the **show controllers egressq port** command in EXEC mode.

show controllers egressq port {*port1* [*port2*] | **all** | **limits max**] **location** *node-id*

Syntax Description

port1	Identifies the port whose egress queue information you want to display. Replace the *port1* argument with a port identifier. Range is from 0 to 1023.
port2	Identifies the last port whose egress queue information you want to display. Replace the *port2* argument with a port identifier. Range is from 0 to 1023.
all	Indicates that you want to display egress queue information for all ports on the node in the specified location.
limits max	Indicates that you want to display the maximum limits table.
location *node-id*	Identifies the location of the egress queue whose group information you want to display. The *node-id* argument is expressed in the *rack/slot/module* notation.

Defaults

No default behavior or values

Command Modes

EXEC

Command History

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

Usage Guidelines

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

Task ID

Task ID	Operations
interface	read
drivers	read

Examples

The following example shows how to display egress queue information for ports 1, 2, and 3 on the CPU node in slot 2:

```
RP/0/RP0/CPU0:router# show controllers egressq port 1 3 location 0/2/CPU0

----------------------------------
          Port 1
----------------------------------
 Max LB Tokens       : 7812
 Max LB Limit Index  : 38
 Quantum             : 27
 Default Group       : 2
 High Priority Group : N/A
 Low Priority Group  : 2
----------------------------------


----------------------------------
          Port 2
----------------------------------
Port is not allocated
----------------------------------
          Port 3
----------------------------------
Port is not allocated
```

Table 10 describes the significant fields shown in the display.

Table 10 show controllers egressq port Field Descriptions

Field	Description
Port	Port identifier.
Max LB Tokens	Maximum number of port LB tokens.
Max LB Limit Index	Maximum LB limit.
Quantum	Quantum value for this interface.
Default Group	Default group.
High Priority Group	High priority group identifier.
Low Priority Group	Low priority group identifier.

Related Commands

Command	Description
show controllers egressq eio links	Displays EIO information for the egress queueing ASIC.
show controllers egressq group	Displays information for about egress queue groups.
show controllers egressq interface	Displays information about interfaces associated with an egress queue.
show controllers egressq queue	Displays information about a specific egress queue, or a range of egress queues.
show controllers egressq statistics	Displays egress queue manager statistics.
show controllers plim asic egress-channel bay	Displays ingress queue manager statistics.

show controllers egressq queue

To display information about a specific egress queue, or a range of egress queues, use the **show controllers egressq queue** command in EXEC mode.

show controllers egressq queue {*queue1* [*queue2* | **from-group** {*group-id* | **all**} | **from-interface** {*type instance* | **all**} | **from-port** {*port-id* | **all**} | **limits** {**max** | **min**} | **all**] **location** *node-id*

Syntax Description

queue1	Identifies the first port whose egress queue information you want to display. Replace the *queue1* argument with a queue identifier. Range is from 1 through 8191.
queue2	(Optional) Identifies the last port whose egress queue information you want to display. Replace the *queue2* argument with a queue identifier. Range is from 1 through 8191.
from-group *group-id*	Displays egress queue information for a specific port group. Replace the *group-id* argument with the number that identifies the port group whose information is to be displayed. Range is from 1 through 2047.
from-group all	Displays egress queue information for all port groups on the specified location.
from-interface *type instance*	Displays egress queue information for a specific interface. Replace the *type instance* argument with a physical interface ID or a virtual interface ID. **Note** Use the **show interfaces** command to see a list of all possible interfaces currently configured on the router.
from-interface all	Displays egress queue information for all interfaces on the specified location.
from-port *port-id*	Displays egress queue information for a specific port. Replace the *port-id* argument with a port ID. Range is from 0 to 1023.
from-port all	Displays egress queue information for all ports on the specified location.
limits max	Displays the maximum limits table.
limits min	Displays the minimum limits table.
all	Displays detailed information about all egress queues on the specified location.
location *node-id*	Identifies the location of the node whose egress queue information you want to display. The *node-id* argument is expressed in the *rack/slot/module* notation.

Defaults

No default behavior or values

Command Modes

EXEC

Command History

Release	Modification
Release 3.2	This command was introduced on the Cisco CRS-1.
Release 3.3.0	This command was first supported on the Cisco XR 12000 Series Router.
Release 3.4.0	No modification.
Release 3.5.0	The **context** keyword and *max_elements* argument were removed from the **show controllers egressq queue** command. The following keywords and arguments were added to the **show controllers egressq queue** command: • **from-group** {*group-id* | **all**} • **from-interface** {*type instance* | **all**} • **from-port** {*port-id* | **all**}
Release 3.6.0	No modification.
Release 3.7.0	No modification.
Release 3.8.0	No modification.

Usage Guidelines

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

Task ID

Task ID	Operations
drivers	read
interface	read

Examples

The following example shows how to display information about egress queues 1 and 2 on the CPU node in slot 2:

```
RP/0/RP0/CPU0:router# show controllers egressq queue 1 2 location 0/2/CPU0
----------------------------------
          Queue 1
----------------------------------
 Group                 : 1
 Priority              : Low
 Max LB Tokens         : 7812
 Max LB Limit Index    : 38
 Min LB Tokens         : 0
 Min LB Limit Index    : 0
 Quantum               : 27
 Instantaneous length  : 0
 Length high watermark : 0
----------------------------------
----------------------------------
          Queue 2
----------------------------------
 Group                 : 2
 Priority              : Low
 Max LB Tokens         : 7812
```

```
Max LB Limit Index    : 38
Min LB Tokens         : 0
Min LB Limit Index    : 0
Quantum               : 27
Instantaneous length  : 0
Length high watermark : 0
```

Table 11 describes the significant fields shown in the display.

Table 11 show controllers egressq queue Field Descriptions

Field	Description
Group	Group identifier.
Priority	Group priority.
Max LB Tokens	Maximum number of port LB tokens.
Max LB Limit Index	Maximum LB limit.
Min LB Tokens	Minimum number of port LB tokens.
Min LB Limit Index	Minimum LB limit.
Quantum	Quantum value for this queue.
Instantaneous length	Egress queue instantaneous length.
Length high watermark	Length high watermark register.

Related Commands

Command	Description
show controllers egressq eio links	Displays EIO information for the egress queueing ASIC.
show controllers egressq group	Displays information for about egress queue groups.
show controllers egressq interface	Displays information about interfaces associated with an egress queue.
show controllers egressq port	Displays egress queue information for a port, or for several ports.
show controllers egressq statistics	Displays egress queue manager statistics.
show controllers plim asic egress-channel bay	Displays ingress queue manager statistics.

show controllers egressq statistics

To display egress queue manager statistics, use the **show controllers egressq statistics** command in EXEC mode.

show controllers egressq statistics location *node-id*

Syntax Description

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

Defaults

No default behavior or values

Command Modes

EXEC

Command History

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

Usage Guidelines

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

Task ID

Task ID	Operations
drivers	read
interface	read

Examples

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

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

-------------------------------------------------
              Egressq Statistics
-------------------------------------------------
egressq ASIC version: 1
```

```
egressq ASIC state: Normal
plimasic link0 output packets: 0
plimasic link0 output bytes: 0
plimasic link1 output packets: 0
plimasic link1 output bytes: 0
plimasic link2 output packets: 0
plimasic link2 output bytes: 0
plimasic link3 output packets: 0
plimasic link3 output bytes: 0
cpuctrl input packets: 0
cpuctrl output bytes: 1433250
pse input packets: 29250
pse dropped packets: 0
cpuctrl dropped packets: 0
------------------------------------------------
```

Table 12 describes the significant fields shown in the display.

Table 12 show controllers egressq statistics Field Descriptions

Field	Description
egressq ASIC version	Version identifier for the egress queue ASIC.
egressq ASIC state	Current state of the egress queue ASIC.
plimasic link0 output packets	Number of output packets on link 0 of the ASIC.
plimasic link0 output bytes	Output bytes on link 0 of the ASIC.
plimasic link1 output packets	Number of output packets on link 1 of the ASIC.
plimasic link1 output bytes	Number of output packets on link 1 of the ASIC.
plimasic link2 output packets	Number of output packets on link 2 of the ASIC
plimasic link2 output bytes	Number of output packets on link 2 of the ASIC.
plimasic link3 output packets	Number of output packets on link 3 of the ASIC.
plimasic link3 output bytes	Number of output packets on link 3 of the ASIC.
cpuctrl input packets	Number of CPU controller input packets received on this ASIC.
cpuctrl output bytes	CPU controller output bytes transmitted on this ASIC.
pse input packets	Number of PSE input packets received on this ASIC.
pse dropped packets	Number of PSE packets that were dropped by this ASIC due to errors.
cpuctrl dropped packets	Number of CPU controller packets that were dropped by this ASIC due to errors.

Related Commands

Command	Description
show controllers egressq eio links	Displays EIO information for the egress queueing ASIC.
show controllers egressq group	Displays information for about egress queue groups.
show controllers egressq interface	Displays information about interfaces associated with an egress queue.
show controllers egressq port	Displays egress queue information for a port, or for several ports.

Command	Description
show controllers egressq queue	Displays information about a specific egress queue, or a range of egress queues.
show controllers plim asic egress-channel bay	Displays ingress queue manager statistics.

show controllers plim asic egress-channel bay

To display statistical information for the SPI4.2 transmit channel on a physical layer interface module (PLIM) ASIC, use the **show controllers plim asic egress-channel bay** command in EXEC mode.

show controllers plim asic egress-channel bay {**0** | **1**} **channel** *channel_number* [**location** *node-id*]

Syntax Description

0	Displays statistical information for the SPI4.2 transmit channel that is located in the bottom bay.
1	Displays statistical information for the SPI4.2 transmit channel that is located in the top bay.
channel *channel_number*	Identifies the transmit channel whose statistics you want to display. Replace the *channel_number* argument with the number of the channel whose statistics you want to display. Range is from 1 through 255.
location *node-id*	Identifies the location of the PLIM whose ASIC information 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.

Defaults

No default behavior or values

Command Modes

EXEC

Command History

Release	Modification
Release 3.2	This command was first supported on the Cisco XR 12000 Series Router.
Release 3.3.0	No modification.
Release 3.4.0	No modification.
Release 3.5.0	The **show controllers plim asic tx-channel bay** command was replaced by the **show controllers plim asic egress-channel bay** command.
Release 3.6.0	No modification.
Release 3.7.0	No modification.
Release 3.8.0	No modification.

Usage Guidelines

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

Task ID

Task ID	Operations
interface	read
root-system	read

Examples

The following example shows sample output from the **show controllers plim asic egress-channel bay** command:

```
RP/0/0/CPU0:router# show controllers plim asic egress-channel bay 0 channel 0 location
0/4/CPU0

Host bay 0 Tx SPI4.2 channel 0 :
================================================
Ifname                          : DATA_PORT_0
SPI4.2 Channel state            : provisioned
Bay number                      : 0
Tx SPI4.2 channel number        : 0
Internal Buffer number          : 0
SPI4.2 calendar entries         : 1
Buffer Almost Full Threshold    : 0x2c00
Tx Queuing ASIC port number     : 0
```

Table 13 describes the significant fields shown in the display.

Table 13 show controllers plim asic egress-channel bay Field Descriptions

Field	Description
Ifname	Identifies the primary transmit interface.
SPI4.2 Channel state	Indicates if the SPI4.2[1] channel is provisioned.
Bay number	Identifies the bay that hosts the specified SPI4.2 transmit channel. Can be 0 or 1.
Tx SPI4.2 channel number	Identifies the SPI4.2 channel whose information is displayed.
Internal Buffer number	Identifies the internal buffer associated with the SPI4.2 transmit channel.
SPI4.2 calendar entries	Number of entries in the SPI4.2 calendar.
Buffer Almost Full Threshold	An increment counter which indicates that the transmit buffer is almost full. The “Buffer Almost Full Threshold” is expressed in hexadecimal format.
Tx Queuing ASIC port number	Identifies the SPI4.2 transmit port.

1. System Packet Level Interface 4.2

show controllers plim asic ingress-channel bay

To display statistical information for the SPI4.2 receive channel on a physical layer interface module (PLIM) ASIC, use the **show controllers plim asic ingress-channel bay** command in EXEC mode.

show controllers plim asic ingress-channel bay {**0** | **1**} **channel** *channel_number* [**location** *node-id*]

Syntax Description

0	Displays statistical information for the SPI4.2 receive channel that is located in the bottom bay.
1	Displays statistical information for the SPI4.2 receive channel that is located in the top bay.
channel *channel_number*	Identifies the receive channel whose statistics you want to display. Replace the *channel_number* argument with the number of the channel whose statistics you want to display. Range is from 1 through 255.
location *node-id*	Identifies the location of the PLIM whose ASIC information 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.

Defaults

No default behavior or values

Command Modes

EXEC

Command History

Release	Modification
Release 3.2	This command was first supported on the Cisco XR 12000 Series Router.
Release 3.3.0	No modification.
Release 3.4.0	No modification.
Release 3.5.0	The **show controllers plim asic rx-channel bay** command was replaced by the **show controllers plim asic ingress-channel bay** command.
Release 3.6.0	No modification.
Release 3.7.0	No modification.
Release 3.8.0	No modification.

Usage Guidelines

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

Task ID

Task ID	Operations
interface	read
root-system	read

Examples

The following example shows sample output from the **show controllers plim asic ingress-channel bay** command:

```
RP/0/0/CPU0:router# show controllers plim asic ingress-channel bay 0 channel 0 location
0/4/CPU0

Host bay 0 Rx SPI4.2 channel 0 :
=========================================
Ifname                          : DATA_PORT_0
SPI4.2 Channel state            : provisioned
Bay number                      : 0
Rx SPI4.2 channel number        : 0
Internal Buffer number          : 0
Rx edram buffer start address   : 0x0
Rx edram buffer end address     : 0x31fff
Rx edram buffer size            : 0x32000
Rx length buffer start address : 0x0
Rx length buffer end address    : 0x63ff
Rx length buffer size           : 0x6400
Number of calendar entries      : 1
Quantum                         : 209714

RxEDRAM buffer threshold settings:
==================================

  ------------------ <-- Buffer Start (0x0)
 |                   |
 |-------------------|<-- SPI4 AEmpty0 (0x6400)
 |                   |
 |                   |
 |-------------------|<-- SPI4 AEmpty1 (0xc800)
 |                   |
 |                   |
 |                   |
 |                   |
 |                   |
 |                   |
 |-------------------|<-- SPI4 AFull 0 (0x1f400)
 |                   |
 |                   |
 |-------------------|<-- SPI4 AFull 1 (0x25800)
 |                   |
 |                   |
 |-------------------|<-- Buffer Full  (0x2bc00)
 |                   |
  ------------------ <-- Buffer End   (0x31fff)


RxLen EDRAM buffer threshold settings:
======================================

  ------------------ <-- Buffer Start (0x0)
 |                   |
 |-------------------|<-- SPI4 AEmpty0 (0xc80)
 |                   |
 |                   |
```

```
|------------------|<-- SPI4 AEmpty1 (0x1900)
|                  |
|                  |
|                  |
|                  |
|                  |
|                  |
|------------------|<-- SPI4 AFull 0 (0x3e80)
|                  |
|                  |
|------------------|<-- SPI4 AFull 1 (0x4b00)
|                  |
|                  |
|------------------|<-- Buffer Full  (0x5780)
|                  |
 ------------------ <-- Buffer End   (0x63ff)
```

Table 14 describes the significant fields shown in the display.

Table 14 show controllers plim asic ingress-channel bay Field Descriptions

Field	Description
Ifname	Identifies the primary transmit interface.
SPI4.2 Channel state	Indicates if the SPI4.2[1] channel is provisioned.
Bay number	Identifies the bay that hosts the specified SPI4.2 receive channel. Can be 0 or 1.
Rx SPI4.2 channel number	Identifies the SPI4.2 receive channel whose information is displayed.
Internal Buffer number	Identifies the internal buffer associated with the SPI4.2 receive channel.
Rx edram buffer start address	Embedded DRAM buffer start address in hexadecimal format.
Rx edram buffer end address	Embedded DRAM buffer end address in hexadecimal format.
Rx edram buffer size	Embedded DRAM buffer size in hexadecimal format.
Rx length buffer start address	Receive length buffer start address in hexadecimal format.
Rx length buffer end address	Receive length DRAM buffer end address in hexadecimal format.
Rx length buffer size	Receive length DRAM buffer size in hexadecimal format.
Number of calendar entries	Number of entries in the SPI4.2 calendar.
Quantum	Average number of bytes in the interface queue.
Buffer Almost Full Threshold	An increment counter which indicates that the transmit buffer is almost full. The “Buffer Almost Full Threshold” is expressed in hexadecimal format.
Tx Queuing ASIC port number	Identifies the SPI4.2 transmit port.
RxEDRAM buffer threshold settings	Displays embedded DRAM receive buffer threshold counter settings in hexadecimal format.

1. System Packet Level Interface 4.2

show controllers plim asic pla

To display physical layer interface module (PLIM) ASIC line-card information for the plane card, use the **show controllers plim asic pla** command in EXEC mode.

show controllers plim asic pla {**clients | eio** {*link number* | *all*} **error | packet** {*mbp* | *instance number*} **pointers | sbp**} [**location** *node-id*]

Syntax Description

clients	Displays information for PLA clients.
eio	Displays information about EIO commands for PLA.
eio *link id*	Displays PLA information for a specific link ID. Range is from 0 to 4294967295.
all	Displays PLA information for all links.
error	Displays PLA error information.
packet	Displays information for the dump packet.
mbp	Displays MBP buffer information.
PLA *instance number*	Displays the PLA instance number for a specific instance. Range is from 0 to 3.
pointers	Displays information for PLA pointers.
sbp	Displays sharp back-pressure (SBP) table.
location *node-id*	Identifies the location of the node whose PLIM ASIC information 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.

Defaults

No default behavior or values

Command Modes

EXEC

Command History

Release	Modification
Release 3.8.0	This command was introduced on the Cisco CRS-1.

Usage Guidelines

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

Task ID

Task ID	Operations
interface	read
drivers	read
cisco-support	read

Examples

The following example shows how to display PLIM ASIC PLA information for an interface on a Cisco CRS-1 router:

```
RP/0/RP0/CPU0:router# show controllers plim asic pla eio links?

<0-4294967295>  link id
all             show all links
```

show controllers plim asic pla768

To display physical layer interface module (PLIM) ASIC line-card information for the OC-768 card, use the **show controllers plim asic pla768** command in EXEC mode.

show controllers plim asic pla768 {**ports** | **eio** {*link id* | *all*}} [**location** *node-id*]

Syntax Description

ports	Displays port mapping information.
eio	Displays information about Elastic I/O (EIO) commands for the Reindeer ASIC.
eio *link id*	Displays OC-768 information for a specific link ID. Range is from 0 to 4294967295.
all	Displays PLA information for all links.
location *node-id*	Identifies the location of the node whose PLIM ASIC information 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.

Defaults

No default behavior or values

Command Modes

EXEC

Command History

Release	Modification
Release 3.8.0	This command was introduced on the Cisco CRS-1.

Usage Guidelines

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

Task ID

Task ID	Operations
interface	read
drivers	read
cisco-support	read

Examples

The following example shows how to display PLIM ASIC PLA768 information for an interface on a Cisco CRS-1:

```
RP/0/RP0/CPU0:router# show controllers plim asic pla768 ?

eio    Show eio commands for the Reindeer ASIC
ports  Port mapping information
```

show controllers plim asic plaspa

To display physical layer interface module (PLIM) ASIC line-card information for the shared port adapters (SPA), use the **show controllers plim asic plaspa** command in EXEC mode.

show controllers plim asic plaspa {**eio** {*link id* | *all*} | **error** | **ifhandle** | **instance** | **num-list** | **queues** | **sbp** | **txport** | **uidb** {*entry instance* | *map instance* | *table instance*}} [**location** *node-id*]

Syntax Description

eio *link id*	Displays EIO commands for PLASPA information for a specific link ID. Range is from 0 to 4294967295.
all	Displays PLA information for all links.
error	Displays PLASPA error information.
ifhandle	Displays the name associated with the interface.
instance	Displays instance information of the PLASPA ASIC. Range is from 0 to1.
num-inst	Displays number of instances of the PLASPA ASIC.
queues	Displays PLASPA queue information.
sbp	Displays egress queue back-pressure table information.
txport	Displays egressq port information. Range of shared port adapters (SPA) instance is from 0 to 5.
uidb	Displays PLASPA uidb hash table information.
location *node-id*	Identifies the location of the node whose PLIM ASIC information 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.

Defaults

No default behavior or values

Command Modes

EXEC

Command History

Release	Modification
Release 3.8.0	This command was introduced on the Cisco CRS-1.

Usage Guidelines

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

Task ID

Task ID	Operations
interface	read
drivers	read
cisco-support	read

Examples

The following example shows how to display PLIM ASIC PLASPA information for an interface on a Cisco CRS-1 router:

```
RP/0/RP0/CPU0:router# show controllers plim asic plaspa eio links all location 0/3/CPU0
Wed Sep 10 04:52:27.452 UTC

             Node: 0/3/CPU0:
----------------------------------------

EIO links:
--------------------------------------------------------------------
ASIC Id     Peer Id     Type Link-Id Attempts Accept Failed State
--------------------------------------------------------------------
PLASPA_1    PSE_0       TX   2       0        0      0      EIO_LINK_TRAINED
PLASPA_1    EGRESSQ_0   RX   61      1        1      0      EIO_LINK_TRAINED
```

show controllers plim asic spa bay

To display statistical information for the SPA ASIC, use the **show controllers plim asic spa** command in EXEC mode.

show controllers plim asic spa bay {*bay-number*} [**location** *node-id*]

Syntax Description

bay-number	Displays information about the SPA in the specified bay. Range is from 1 through 3.
location *node-id*	Identifies the location of the SPA whose ASIC information 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.

Defaults

No default behavior or values

Command Modes

EXEC

Command History

Release	Modification
Release 3.2	This command was first supported on the Cisco XR 12000 Series Router.
Release 3.3.0	No modification.
Release 3.4.0	No modification.
Release 3.5.0	The {**0** | **1**} keywords were replaced with the *bay-number* argument.
Release 3.6.0	No modification.
Release 3.7.0	No modification.
Release 3.8.0	No modification.

Usage Guidelines

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

Task ID

Task ID	Operations
interface	read
root-system	read

Examples

The following sample output is from the **show controllers plim asic spa bay** command:

```
RP/0/0/CPU0:router# show controllers plim asic spa bay 0 location 0/4/CPU0

               SPA 0 table:
=======================================
SPA OIR state                  : present
SPA state                      : enabled
SPA allocated Rx buffer size   : 4MB
SPA available Rx buffer size   : 0x20c000
RxSPI PLL reset                : inactive
Header Format type             : Format A
Pad bytes                      : 0
L2LA                           : 0
Strict priority mode           : active
EFC Manager                    : disabled
SPA dual wide mode             : inactive
Max SPA channels               : 10
PLIM loopback                  : inactive
SPI loopback                   : inactive
DatamaxT                       : 4096
Training M                     : 16
DIP2 Match                     : 3
DIP2 Error                     : 3
Tx SClk edge                   : falling
DIP4 Match                     : 15
DIP4 Error                     : 2
Rx SClk edge                   : rising
SPI bus speed                  : 350MHz
Tx Burst size                  : 64 Bytes
Rx Burst size sysdb            : 80 Bytes
Rx SPI state                   : enabled
Rx SPI sync state              : inframe
Rx calendar mode               : single
Maximun RxSPI channels         : 10
Tx SPI state                   : enabled
Tx SPI sync state              : inframe
Tx calendar mode               : single
Maximun Tx SPI4.2 channels     : 5
```

Table 15 describes the significant fields shown in the display.

Table 15 show controllers plim asic spa bay Field Descriptions

Field	Description
SPA OIR state	Current OIR[1] status for this SPA.
SPA state	Current state of the specified SPA. Can be enabled or disabled.
SPA allocated Rx buffer size	Number of bytes allocated for the receive buffer.
SPA available Rx buffer size	Number of bytes available in the receive buffer.
RxSPI PLL reset	SPI PLL receive timer reset value.
Header Format type	Header format used by this ASIC.
Pad bytes	Number of pad bytes allowed to fill out the packets sent on this ASIC.
L2LA	Layer 2 Length Adjust. When a length entry has been read or is being written, this bit contains the value of the L2LA field.

Table 15 show controllers plim asic spa bay Field Descriptions (continued)

Field	Description
Strict priority mode	Indicates whether strict priority mode is active or inactive on this SPA. Strict priority mode ensures that the Priority Queue is serviced only when it is not empty. This provides the lowest possible delay for matching traffic.
EFC Manager	Indicates whether the EFC[2] manager is enabled or disabled on this SPA.
SPA dual wide mode	Indicates whether dual wide mode is active or inactive on this SPA.
Max SPA channels	Maximum channels supported on this SPA.
PLIM loopback	Indicates whether loopback is active or inactive on this SPA.
SPI loopback	Indicates whether SPI loopback is active or inactive on this SPA.
DatamaxT	Maximum data training interval. This is the maximum interval between scheduling of training sequences on the SPI4 data path. If the DatamaxT field shows 0, then the core never sends periodic training.
Training M	Number of consecutive DIP-2 errors detected on the Tstat bus before the TxSPI module enters the out-of-frame state. This signal can be safely set at any time.
DIP2 Match	Total number of 2-bit DIP2[3] packets that met specific match clauses. **Note** DIP2 is a parity algorithm where a 2-bit odd parity is computed diagonally over status words.
DIP2 Error	Total number of 2-bit DIP2 errors **Note** DIP2 is a parity algorithm where a 2-bit odd parity is computed diagonally over status words.
Tx SClk edge	Indicates which edge of the transmit SClk to use to sample the Tstat bus. Selects rising or falling edge as the active transmit SClk edge.
DIP4 Match	Total number of 2-bit DIP4 packets that met specific match clauses.
Rx SClk edge	Indicates which edge of the receive SClk to use to sample the Tstat bus. Selects rising or falling edge as the active transmit SClk edge.
DIP4 Error	Total number of DIP4 errors. **Note** DIP4 is a parity algorithm where a 4-bit odd parity is computed diagonally over status words.
SPI bus speed	SPI[4] bus speed in MHz[5].
Tx Burst size	Committed burst size in bits for traffic transmitted on this SPA.
Rx Burst size sysdb	Committed burst size in bits for traffic received on this SPA.
Rx SPI state	Indicates whether receive SPI is enabled or disabled.
Rx SPI sync state	Indicates which parameter controls the synchronization behavior of the RXSPI module.
Rx calendar mode	Indicates which RXSPI status protocol will be used to transmit status.

Table 15 show controllers plim asic spa bay Field Descriptions (continued)

Field	Description
Maximum RxSPI channels	Maximum number of SPI receive channels supported on this SPA.
Tx SPI state	Indicates whether transmit SPI is enabled or disabled.
Tx SPI sync state	Indicates which parameter controls the synchronization behavior of the TXSPI module.
Tx calendar mode	Indicates which TXSPI status protocol will be used to transmit status.
Maximum Tx SPI4.2 channels	Maximum number of SPI4.2 transmit channels supported on this SPA.

1. online insertion and removal
2. Extended Flow Control
3. 2-bit Diagonal Interleaved Parity
4. security policy index
5. megahertz

show controllers plim asic statistics

To display physical layer interface module (PLIM) ASIC statistics for a specific node or interface, use the **show controllers plim asic statistics** command in EXEC mode.

show controllers plim asic statistics {**interface** *type interface-path-id* | **summary**} [**location** *node-id*]

Syntax Description

type	Interface type. For more information, use the question mark (**?**) online help function.
interface-path-id	Physical interface or virtual interface. **Note** Use the **show interfaces** command to see a list of all interfaces currently configured on the router. For more information about the syntax for the router, use the question mark (**?**) online help function.
summary	Displays a summarized information for PLIM ASICs on a specified node, or for all interfaces on the router.
location *node-id*	Identifies the location of the node whose PLIM ASIC information 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.

Defaults

No default behavior or values

Command Modes

EXEC

Command History

Release	Modification
Release 2.0	This command was introduced on the Cisco CRS-1.
Release 3.0	No modification.
Release 3.2	This command was first supported on the Cisco XR 12000 Series Router.
Release 3.3.0	No modification.
Release 3.4.0	No modification.
Release 3.5.0	No modification.
Release 3.6.0	No modification.
Release 3.7.0	No modification.
Release 3.8.0	No modification.

Usage Guidelines

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

Task ID

Task ID	Operations
interface	read
root-system	read

Examples

The following example shows how to display PLIM ASIC statistics information for a POS interface on a Cisco CRS-1:

```
RP/0/RP0/CPU0router# show controllers plim asic statistics interface POS 0/2/0/0

                                Node: 0/2/CPU0
------------------------------------------------------------------------------
POS0/2/0/0 Tx Statistics
------------------------------------------------------------------------------
TotalOctets       : 78904040            TotalPkts         : 1622308
Unicastpkts       : 1622308             MulticastPkts     : 0
BroadcastPkts     : 0                   <64Octets         : 1610433
64Octets          : 0                   65to127Octets     : 11875
128to255Octets    : 0                   256to511Octets    : 0
512to1023Octets   : 0                   1024to1518Octets  : 0
1519to1548Octets  : 0                   1549to9216Octets  : 0
>9216Octet        : 0                   BadCRCPkts        : 0
802.1QPkts        : 0                   Underrun          : 0
Runt              : 0                   Giant             : 0
PausePkts         : 0                   Jabbers           : 0
DeferralAbort     : 0                   LateCollision     : 0
CollisionAbort    : 0                   OneCollision      : 0
MultiCollision    : 0                   TotalCollisions   : 0
TotalDefer        : 0                   LateCollisionAbort: 0
LengthAbort       : 0                   TxBP count        : 0

POS0/2/0/0 Rx Statistics
------------------------------------------------------------------------------
 --More-- failed to get stats
TotalOctets       : 91010808
TotalPkts         : 1815571             UnicastPkts       : 1815571
MulticastPkts     : 0                   BroadcastPkts     : 0
64Octets          : 63846               65to127Octets     : 11844
128to255Octets    : 7                   256to511Octets    : 0
512to1023Octets   : 0                   1024to1518Octets  : 0
1519to1548Octets  : 0                   1549to9216Octets  : 0
>9216Octets       : 0                   BadCRCPkts        : 0
BadCodedPkts      : 0                   Runt              : 0
ShortPkts         : 1739874             802.1QPkts        : 0
Drop              : 0                   PausePkts         : 0
ControlPkts       : 0                   Jabbers           : 0
BadPreamble       : 0

POS0/2/0/0 Drop
------------------------------------------------------------------------------
RxFiFO Drop       : 0                   PAR Tail Drop     : 0
TxFIFO Drop       : 0
```

Table 16 describes the significant fields shown in the display.

Table 16 show controllers plim asic statistics Field Descriptions

Field	Description
TotalOctets	Number of octets received or transmitted on the interface.
TotalPkts	Number of total packets received or transmitted on the interface.
UnicastPkts	Number of unicast packets received or transmitted on the interface.
MulticastPkts	Number of multicast packets received or transmitted on the interface. Received packets were directed to the multicast address.
BroadcastPkts	Number of good broadcast packets received or transmitted. Received packets were directed to the broadcast address.
64Octets	Number of packets (including bad packets) received or transmitted that were less than 64 octets in length (excluding framing bits but including FCS octets).
64Octets	Number of packets (including bad packets) received or transmitted that were 64 octets in length (excluding framing bits but including FCS octets).
65to127Octets	Number of packets (including bad packets) received or transmitted that were between 65 and 127 octets in length inclusive (excluding framing bits but including FCS octets).
128to255Octets	Number of packets (including bad packets) received or transmitted that were between 128 and 255 octets in length inclusive (excluding framing bits but including FCS octets).
256to511Octets	Number of packets (including bad packets) received or transmitted that were between 256 and 511 octets in length inclusive (excluding framing bits but including FCS octets).
512to1023Octets	Number of packets (including bad packets) received or transmitted that were between 512 and 1023 octets in length inclusive (excluding framing bits but including FCS octets).
1024to1518Octets	Number of packets (including bad packets) received or transmitted that were between 1024 and 1518 octets in length inclusive (excluding framing bits but including FCS octets).
1519to1548Octets	Number of packets (including bad packets) received or transmitted that were between 1519 and 1548 octets in length inclusive (excluding framing bits but including FCS octets).
1549to9216Octets	Number of packets (including bad packets) received or transmitted that were between 1549 and 9216 octets in length inclusive (excluding framing bits but including FCS octets).
>9216Octet	Number of packets (including bad packets) received or transmitted that were greater than 9216 octets in length (excluding framing bits but including FCS octets).

Table 16 show controllers plim asic statistics Field Descriptions (continued)

Field	Description
BadCRCPkts	Number of packets received or transmitted that had a length (excluding framing bits, but including FCS octets) of between 64 and 1518 octets, inclusive, but had either a bad Frame Check Sequence (FCS) with an integral number of octets (FCS error) or a bad FCS with a non integral number of octets (alignment error).
802.1QPkts	Number of 802.1QPkts received or transmitted on the interface.
Underrun	Number of packets that were not retrieved quickly enough from shared memory to be transmitted or received.
Runt	Number of packets received or transmitted that were less than 64 octets long (excluding framing bits, but including FCS octets) and were otherwise well formed.
Giant	Number of packets received or transmitted that were longer than 1518 octets (excluding framing bits, but including FCS octets) and were otherwise well formed.
PausePkts	Number of pause packets transmitted/received on the interface. Pause packets that tell remote devices to delay sending more packets for a specified period of time.
Jabbers	Number of packets received or transmitted that were longer than 1518 octets (excluding framing bits but including FCS octets) and had either a bad Frame Check Sequence (FCS) with an integral number of octets (FCS error) or a bad FCS with a non-integral number of octets (assigned error).
DeferralAbort	Number of deferral aborts that occurred on this segment.
LateCollision	Number of late collisions on this segment
CollisionAbort	Number of collisions that were aborted.
OneCollision	Number of single collisions that occurred on this segment.
MultiCollision	Number multiple collisions that occurred on this segment.
TotalCollisions	Number of collisions on this segment.
TotalDefer	Number of deferrals on this segment.
LateCollisionAbort	Number of late collision aborts that occurred on this segment.
LengthAbort	Number of length aborts that occurred on this segment.
TxBP count	Number of transmit BP on this segment.
Rx Statistics	Indicates the statistics that follow were received by the interface.
TX statistics	Indicates the statistics that follow were transmitted by the interface.
RxFiFO Drop	Displays the receive FIFO drop information.
PAR Tail Drop	Displays PAR tail drop information.
TxFIFO Drop	Displays transmitted FIFO drop information.

show controllers plim asic summary

To display summarized physical layer interface module (PLIM) ASIC information for a specific node or interface, use the **show controllers plim asic** command in EXEC mode.

show controllers plim asic summary [**location** *node-id*]

Syntax Description

location *node-id*	Identifies the location of the node whose PLIM ASIC information 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.

Defaults

No default behavior or values

Command Modes

EXEC

Command History

Release	Modification
Release 2.0	This command was introduced on the Cisco CRS-1.
Release 3.0	No modification.
Release 3.2	This command was first supported on the Cisco XR 12000 Series Router.
Release 3.3.0	No modification.
Release 3.4.0	No modification.
Release 3.5.0	No modification.
Release 3.6.0	No modification.
Release 3.7.0	No modification.
Release 3.8.0	No modification.

Usage Guidelines

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

Task ID

Task ID	Operations
interface	read
root-system	read

Examples

The following example shows how to display summarized PLIM ASIC information for all locations:

```
RP/0/RP0/CPU0router# show controllers plim asic summary

Node: 0/1/CPU0
--------------------------------------
Instance# 0    Summary info:
--------------------------------------
Name       : PLASPA    Version  : 2

Port 0
Jacket slot: 1         SPA type : SPA_NAME_UNKNOWN
Port 1
Jacket slot: 3         SPA type : SPA_NAME_UNKNOWN
Port 2
Jacket slot: 0         SPA type : 4xOC3 POS SPA

Instance# 1    Summary info:
--------------------------------------
Name       : PLASPA    Version  : 2

Port 0
Jacket slot: 2         SPA type : SPA_NAME_UNKNOWN
Port 1
Jacket slot: 4         SPA type : 4xOC48 POS/RPR HHSPA
Port 2
Jacket slot: 5         SPA type : 8xGE SPA


IFName     : POS0/1/0/0
Inst#      : 0         Port     : 2
RxLPORT    : 0x80      TxLPORT  : 0x48
Uidb       : 0x2       Key      : 0x80
Hkey       : 209       Hkey idx : 0

IFName     : POS0/1/0/1
Inst#      : 0         Port     : 2
RxLPORT    : 0x81      TxLPORT  : 0x49
Uidb       : 0x4       Key      : 0x81
Hkey       : 28        Hkey idx : 0

IFName     : POS0/1/0/2
Inst#      : 0         Port     : 2
RxLPORT    : 0x82      TxLPORT  : 0x4a
Uidb       : 0x6       Key      : 0x82
Hkey       : 183       Hkey idx : 0

 --More--
```

Table 17 describes the significant fields shown in the display.

Table 17 show controllers plim asic summary Field Descriptions

Field	Description
Node	Node whose information is displayed. Information is displayed for each node's SPA and its interfaces.
Instance	PLIM ASIC identifier. This is the PLIM ASIC associated with the specified location.
Summary info (for SPA)	Displays the following info for all SPAs installed in the router: • Name—Identifies the SPA.whose information is displayed. • Version—Version identifier for the PLIM ASIC. • Jacket slot—Identifies the slot containing the jacket card for the specified SPA. • SPA type —Describes the SPA whose information is displayed. • Port—Port associated with the PLIM ASIC. • Inst#—SPA ASIC instance Identifier.
Summary info (for interfaces)	Displays the following info for all interfaces associated with the specified SPA: • Intf name—Identifies the SPA.whose information is displayed. • Inst#—ASIC associated with this interface. • Port—Port associated with the PLIM ASIC. • RxLPORT—Receive port, in hexadecimal format. • TxLPORT—Transmit port, in hexadecimal format. • Uidb—UIDB[1] assigned by the software, in hexadecimal format. • Key—AISC key, in hexadecimal format. • Hkey—ASIC registry key. • Hkey idx—ASIC registry key index.

1. Universal interface descriptor block

show controllers pse eio links

To display packet switching engine (PSE) information for Elastic I/O (EIO) links, use the **show controllers pse eio links** command in EXEC mode.

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

Syntax Description

links *link-number*	Displays PSE information for the specified link. Replace the *link_number* argument with a link number in the range from 0 to 4294967295. **Note** Use the **show controllers pse eio links all location** *node-id* command to display all available EIO link IDs on a node.
links all	Displays PSE information for all links on the specified node.
location *node-id*	(Optional) Displays all EIO links on a specific node only. 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.

Defaults

No default behavior or values

Command Modes

EXEC

Command History

Release	Modification
Release 2.0	This command was introduced on the Cisco CRS-1.
Release 3.0	No modification.
Release 3.2	No modification.
Release 3.3.0	No modification.
Release 3.4.0	No modification.
Release 3.5.0	No modification.
Release 3.6.0	The *link-number* argument range of 1 through 4294967295 has changed to 0 to 4294967295.
Release 3.7.0	No modification.
Release 3.8.0	No modification.

Usage Guidelines

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

Task ID

Task ID	Operations
drivers	read
interface	read

Examples

The following is sample output from the **show controllers pse eio links** command for a specific EIO link:

```
RP/0/RP0/CPU0:router# show controllers pse eio links 50 location 0/0/CPU0

             Node: 0/0/CPU0:
----------------------------------------

EIO link: 50
----------------------------------------------------------------------
ASIC Id     Peer Id     Type Link-Id Attempts Accept Failed State
----------------------------------------------------------------------
PSE_1       FABRICQ_0   RX   50      1         1        0      EIO_LINK_TRAINED
----------------------------------------------------------------------
Macro-id Windage Diag status
----------------------------------------------------------------------
0        4       0x0000
1        4       0x0000
2        4       0x0000
3        4       0x0000
----------------------------------------------------------------------
```

Table 18 describes the significant fields shown in the display.

Table 18 show controllers pse eio links Field Descriptions

Field	Description
Node	Node whose PSE information is displayed.
EIO link	EIO link whose information is displayed.
ASIC Id	ASIC associated with this EIO link.
Peer Id	ASIC of the remote peer of this EIO link.
Type	Indicates whether this link is receiving or transmitting (re)training requests.
Link-Id	Unique ID assigned by the system to the EIO link.
Attempts	Number of consecutive EIO training requests for the link made by the PSE driver to the peer. **Note** Typically, the PSE driver at the receive end of a link initiates the training of that EIO link. Therefore, the EIO links whose PSE driver is at the transmit end show a value of *0* for the Attempts field, even though those links are in the EIO_LINK_TRAINED state.

Table 18 show controllers pse eio links Field Descriptions (continued)

Field	Description
Accept	Number of PSE driver requests for training that were accepted by the peer. When a PSE driver request is accepted, training is started. **Note** Typically, the PSE driver at the receive end of a link initiates the training of that EIO link. Therefore, the EIO links whose PSE driver is at the transmit end show a value of *0* for the Accept field, even though those links are in the EIO_LINK_TRAINED state.
Failed	Number of times the training for this link failed for any reason.
State	Current state of the EIO link.
Macro-id Windage Diag status	Windage value used for the training, and the final status of the training for that windage. **Note** The Macro-id Windage Diag status field is displayed only when you ask EIO info for specific link.

Related Commands

show controllers pse ipc	Displays PSE device information for IP connections, or for a specific IPC controller.
show controllers pse mp	Displays PSE information for the maintenance processor on a specific controller or node.
show controllers pse statistics	Displays PSE statistics for a specific controller instance, or for a specific node.
show controllers pse summary	Displays a summary of PSE information for a specific controller or node.

show controllers pse ipc

To display packet switching engine (PSE) device information for interprocess communication (IPC) connections, or for a specific IPC controller, use the **show controllers pse ipc** command in EXEC mode.

show controllers pse ipc {**client-connection** {*connID* | **all**} | **cpuctrlif**} [**egress** | **ingress**] [**location** *node-id*]

Syntax Description

client-connection *connID*	Displays IPC information about the specified client connection. Replace the *connID* argument with the client connection ID. Range is from 0 to 255.
client-connection all	Displays IPC information about the all client connection.
cpuctrlif	Displays IPC information about the specified PSE IPC CPU controller instance.
egress	(Optional) Displays IPC information for the egress PSE device. **Note** Follow the **egress** argument with the location *node-id* keyword and argument to restrict the command to a specific node containing the specified device instance.
ingress	(Optional) Displays IPC information for the ingress PSE device. **Note** Follow the **ingress** argument with the location *node-id* keyword and argument to restrict the command to a specific node containing the specified device instance.
location *node-id*	(Optional) Identifies the location of the node whose PSE device information 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. **Note** Include the **egress** or **ingress** argument before thelocation *node-id* keyword and argument to restrict the command to a specific device instance on the specified node.

Defaults

No default behavior or values

Command Modes

EXEC

Command History

Release	Modification
Release 2.0	This command was introduced on the Cisco CRS-1.
Release 3.0	No modification.
Release 3.2	No modification.
Release 3.3.0	No modification.
Release 3.4.0	No modification.
Release 3.5.0	The **instance** {**0** | **1**} keywords were replaced by the **egress** and **ingress** keywords.
Release 3.6.0	The *connID* argument range of 1 to 255 has changed to 0 to 255.
Release 3.7.0	No modification.
Release 3.8.0	No modification.

Usage Guidelines

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

To display client connection IPC information for a specific device instance, include the **egress** or **ingress** argument with the command, as shown in the following examples:

```
show controllers pse ipc client-connection connId egress
show controllers pse ipc client-connection connId ingress
```

To display client connection IPC information for a specific node location, include the **location** *node-id* keyword and argument with the command, as shown in the following example:

```
show controllers pse ipc client-connection connId location node-id
```

Task ID

Task ID	Operations
interface	read
drivers	read

Examples

The following command shows how to display PSE information for a specific IPC client-connection:

```
RP/0/RP0/CPU0:router# show controllers pse ipc client-connection 13

             Node: 0/0/CPU0:
----------------------------------------

PSE IPC Conn Info:
-------------------------------------------------
ConnId:         13 (Backdoor)
ConnOptions:    0
Clinfos:        0x482bf9f8 (Notif) 0 (Reply)
ConnStateFlags: 0
ConnNotifFlags: 0
SendReqs:       0 (iHP) 4 (iNP) 0 (eHP) 0 (eNP)
SendFiltered:   0 (iHP) 0 (iNP) 0 (eHP) 0 (eNP)
SendFailed:     0 (iHP) 0 (iNP) 0 (eHP) 0 (eNP)
```

```
RecvReqs:       0
RecvReqTouts:   0
RecvDatTouts:   0
RecvQState:     0/16


             Node: 0/3/CPU0:
----------------------------------------

PSE IPC Conn Info:
------------------------------------------------
ConnId:         13 (Backdoor)
ConnOptions:    0
Clinfos:        0x482bf9f8 (Notif) 0 (Reply)
ConnStateFlags: 0
ConnNotifFlags: 0
SendReqs:       0 (iHP) 4 (iNP) 0 (eHP) 0 (eNP)
SendFiltered:   0 (iHP) 0 (iNP) 0 (eHP) 0 (eNP)
SendFailed:     0 (iHP) 0 (iNP) 0 (eHP) 0 (eNP)
RecvReqs:       0
RecvReqTouts:   0
RecvDatTouts:   0
RecvQState:     0/16
```

Table 19 describes the significant fields shown in the display.

Table 19 show controllers pse ipc client-connection Field Descriptions

Field	Description
ConnId	Connection identifier.
ConnOptions	Connection bind time options requested by the client creating this connection.
Clinfos	Client information (clinfo) index number. The memory database is organized as a table of clinfos, which are indexed by the region id and maintained in shared memory.
ConnStateFlags	Bitmask containing the current state of the connection.
ConnNotifFlags	Bitmask of the types of notifications that the client creating this connection has registered for.
SendReqs	Number of PSE IPC send requests that client has made on this connection.
SendFiltered	Number of send requests that were filtered out (dropped) from the PSE driver due to any internal filter policy.
SendFailed	Number of send requests that could not be handled by the PSE driver due to error conditions such as hardware I/O failures, lack of buffering space, and so forth.
RecvReqs	Number of data receive requests that the client has made on this connection.
RecvReqTouts	Number of data receive requests from the client that timed out because no data was received from PSE device.

Table 19 show controllers pse ipc client-connection Field Descriptions (continued)

Field	Description
RecvDatTouts	Number of times data was received from PSE device, but timed out because there was no receive request from client to pick up that data from the connection.
RecvQState	Current state of the internal data receive FIFO queue. The internal data receive FIFO queue buffers data arriving from the PSE device for the connection, until the client sends a receive request for that data. The RecvQState is expressed in the *X/Y* notation, where *X* is current depth of the queue, and *Y* is the maximum depth allowed for the queue.

The following command shows how to display PSE information for a specific IPC controller connection:

```
RP/0/RP0/CPU0:router# show controllers pse ipc cpuctrlif

             Node: 0/0/CPU0:
----------------------------------------

Pse IPC cpuctrl if Information
------------------------------------------------
Cpuctrl interface is up
Normal Priority Tx I/F:
        BufBase 0x112190  BufSize 32768 PadBufp 0xec0af118 Seqnum 854
        RORegNum 10 RORegVal 0x49f0 WORegNum 2 WORegVal 0x49f0
        CDMACh 0 CDMAQ 3
        HoldQ 0/512 CDMAPendQ 0/128 UnackQ 0/256
        NumEnqs 854 NumRejs 0 NumDmaReqFails 0
        NumDmaPendFails 0 NumMbxSpcFails 0 NumHldqOvflows 0
Normal Priority Rx I/F:
        NumPDMAEntries 64 NumEnqs 15 NumRejs 0

Pse IPC cpuctrl if Information
------------------------------------------------
Cpuctrl interface is up
Normal Priority Tx I/F:
        BufBase 0x112190  BufSize 32768 PadBufp 0xec0af14c Seqnum 424
        RORegNum 10 RORegVal 0x1c60 WORegNum 2 WORegVal 0x1c60
        CDMACh 1 CDMAQ 3
        HoldQ 0/512 CDMAPendQ 0/128 UnackQ 0/256
        NumEnqs 424 NumRejs 0 NumDmaReqFails 0
        NumDmaPendFails 0 NumMbxSpcFails 0 NumHldqOvflows 0
Normal Priority Rx I/F:
        NumPDMAEntries 64 NumEnqs 2 NumRejs 0

             Node: 0/3/CPU0:
----------------------------------------

Pse IPC cpuctrl if Information
------------------------------------------------
Cpuctrl interface is up
Normal Priority Tx I/F:
        BufBase 0x112190  BufSize 32768 PadBufp 0xec0af118 Seqnum 833
        RORegNum 10 RORegVal 0xdb8 WORegNum 2 WORegVal 0xdb8
        CDMACh 0 CDMAQ 3
        HoldQ 0/512 CDMAPendQ 0/128 UnackQ 0/256
        NumEnqs 833 NumRejs 0 NumDmaReqFails 0
        NumDmaPendFails 0 NumMbxSpcFails 0 NumHldqOvflows 0
Normal Priority Rx I/F:
        NumPDMAEntries 64 NumEnqs 9 NumRejs 0
```

```
Pse IPC cpuctrl if Information
-------------------------------------------------
Cpuctrl interface is up
Normal Priority Tx I/F:
        BufBase 0x112190  BufSize 32768 PadBufp 0xec0af14c Seqnum 409
        RORegNum 10 RORegVal 0x5f70 WORegNum 2 WORegVal 0x5f70
        CDMACh 1 CDMAQ 3
        HoldQ 0/512 CDMAPendQ 0/128 UnackQ 0/256
        NumEnqs 409 NumRejs 0 NumDmaReqFails 0
        NumDmaPendFails 0 NumMbxSpcFails 0 NumHldqOvflows 0
Normal Priority Rx I/F:
        NumPDMAEntries 64 NumEnqs 2 NumRejs 0
```

Table 20 describes the significant fields shown in the display.

Table 20 show controllers pse ipc cpuctrlif Field Descriptions

Field	Description
Cpuctrl interface is up Cpuctrl interface is down	Whether the connection is currently up or down.
Normal Priority Tx I/F	Displays the following transmit buffer information for the connection: • BufBase • BufSize • PadBufp • Seqnum • RORegNum • RORegVal • WORegNum • WORegVal • CDMACh • CDMAQ • HoldQ • CDMAPendQ • UnackQ • NumEnqs • NumRejs • NumDmaReqFails • NumDmaPendFails • NumMbxSpcFails • NumHldqOvflows
Normal Priority Rx I/F:	Displays the following receive buffer information for the connection: • NumPDMAEntries • NumEnqs • NumRejs

Related Commands

show controllers pse eio links	Displays PSE information for EIO (Elastic I/O) links or for a specific controller.
show controllers pse mp	Displays PSE information for the maintenance processor on a specific controller or node.
show controllers pse statistics	Displays PSE statistics for a specific controller instance or for a specific node.
show controllers pse summary	Displays a summary of PSE information for a specific controller or node.

show controllers pse mp

To display packet switching engine (PSE) information for the maintenance processor on a specific controller or node, use the **show controllers pse mp** command in EXEC mode.

show controllers pse mp [**egress** | **ingress**] [**location** *node-id*]

Syntax Description

egress	(Optional) Displays information for the egress PSE device only. **Note** Follow the **egress** argument with the **location** *node-id* keyword and argument to restrict the command to a specific node.
ingress	(Optional) Displays information for the ingress PSE device only. **Note** Follow the **ingress** argument with the **location** *node-id* keyword and argument to restrict the command to a specific node.
location *node-id*	(Optional) Identifies the location of the node whose PSE device information 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. **Note** Include the **instance** {**0** | **1**} argument before the**location** *node-id* keyword and argument to restrict the command to a specific device instance on the specified node.

Defaults

No default behavior or values

Command Modes

EXEC

Command History

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

Usage Guidelines

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

The **instance** and **location** optional keywords are not mutually exclusive. The **instance** keyword directs the command to a specific PSE device, and the **location** keyword directs the command to that device or devices on the specified modular services card. You can specify the **instance** and **location** options together in the same command. If you do not specify the **instance** {**0** | **1**} and **location** *node-id* keywords and argument, the **show controllers pse mp** command takes effect on both device instances on all modular services cards.

Task ID

Task ID	Operations
interface	read
drivers	read

Examples

The following command shows how to display PSE maintenance processor information for a specific controller instance:

```
RP/0/RP0/CPU0:router# show controllers pse mp instance 1

             Node: 0/0/CPU0:
----------------------------------------

PSE 1, MP Info:
-----------------------------------------------
MIPC Subtask Context Information
        High Priority MIPC Mbox Info
                NumProc 0 NumUnsupp 0
                NxtSeqNum 0 NumOOSeq 0
        Norm Priority MIPC Mbox Info
                NumProc 429 NumUnsupp 0
                NxtSeqNum 425 NumOOSeq 0
        NumMsgsGtred 93 NumDMAErrDrops 5 NumGtrDisDrops 2
MSTAT Subtask Context Information
        NumSegs 9 CntrsPerBrst 93 MinCycleMsecs 4000
        ---------  Seg[0] config -----------------
        SegId 0 SegBeg 0 SegEnd 3071
        ExpBeg 0 ExpEnd 0 ExpRate 0 CycBefExp 0
        ---------  Seg[1] config -----------------
        SegId 1 SegBeg 3072 SegEnd 74239
        ExpBeg 3072 ExpEnd 3072 ExpRate 0 CycBefExp 0
        ---------  Seg[2] config -----------------
        SegId 2 SegBeg 74240 SegEnd 107007
        ExpBeg 74240 ExpEnd 74240 ExpRate 0 CycBefExp 0
        ---------  Seg[3] config -----------------
        SegId 3 SegBeg 107008 SegEnd 262143
        ExpBeg 107008 ExpEnd 107008 ExpRate 0 CycBefExp 0
        ---------  Seg[4] config -----------------
        SegId 4 SegBeg 262144 SegEnd 265215
        ExpBeg 262144 ExpEnd 262144 ExpRate 0 CycBefExp 0
        ---------  Seg[5] config -----------------
        SegId 5 SegBeg 265216 SegEnd 336383
        ExpBeg 265216 ExpEnd 265216 ExpRate 0 CycBefExp 0
        ---------  Seg[6] config -----------------
```

```
        SegId 6 SegBeg 336384 SegEnd 442367
        ExpBeg 336384 ExpEnd 336385 ExpRate 1 CycBefExp 1
        ---------  Seg[7] config -----------------
        SegId 7 SegBeg 442368 SegEnd 458751
        ExpBeg 442368 ExpEnd 442368 ExpRate 0 CycBefExp 0
        ---------  Seg[8] config -----------------
        SegId 8 SegBeg 458752 SegEnd 491519
        ExpBeg 458752 ExpEnd 458752 ExpRate 0 CycBefExp 0
        CurrTokens 9 MaxTokens 44 MinTokens 11
        CurrSeg 5 CurrCntr 289954 CntrsExp 66532
        PktsExp 33266 DMAErrDrops 0 REDDrops 0
        REDDelays 0 GtrDisDelays 0
        CfgUpdsApp 1 SegUpdsApp 10 UpdsRej 0

             Node: 0/3/CPU0:
----------------------------------------

PSE 1, MP Info:
------------------------------------------------
MIPC Subtask Context Information
        High Priority MIPC Mbox Info
                NumProc 0 NumUnsupp 0
                NxtSeqNum 0 NumOOSeq 0
        Norm Priority MIPC Mbox Info
                NumProc 416 NumUnsupp 0
                NxtSeqNum 412 NumOOSeq 0
        NumMsgsGtred 71 NumDMAErrDrops 4 NumGtrDisDrops 3
MSTAT Subtask Context Information
        NumSegs 9 CntrsPerBrst 93 MinCycleMsecs 4000
        ---------  Seg[0] config -----------------
        SegId 0 SegBeg 0 SegEnd 3071
        ExpBeg 0 ExpEnd 0 ExpRate 0 CycBefExp 0
        ---------  Seg[1] config -----------------
        SegId 1 SegBeg 3072 SegEnd 74239
        ExpBeg 3072 ExpEnd 3072 ExpRate 0 CycBefExp 0
        ---------  Seg[2] config -----------------
        SegId 2 SegBeg 74240 SegEnd 107007
        ExpBeg 74240 ExpEnd 74240 ExpRate 0 CycBefExp 0
        ---------  Seg[3] config -----------------
        SegId 3 SegBeg 107008 SegEnd 262143
        ExpBeg 107008 ExpEnd 107008 ExpRate 0 CycBefExp 0
        ---------  Seg[4] config -----------------
        SegId 4 SegBeg 262144 SegEnd 265215
        ExpBeg 262144 ExpEnd 262144 ExpRate 0 CycBefExp 0
        ---------  Seg[5] config -----------------
        SegId 5 SegBeg 265216 SegEnd 336383
        ExpBeg 265216 ExpEnd 265216 ExpRate 0 CycBefExp 0
        ---------  Seg[6] config -----------------
        SegId 6 SegBeg 336384 SegEnd 442367
        ExpBeg 336384 ExpEnd 336415 ExpRate 1 CycBefExp 0
        ---------  Seg[7] config -----------------
        SegId 7 SegBeg 442368 SegEnd 458751
        ExpBeg 442368 ExpEnd 442368 ExpRate 0 CycBefExp 0
        ---------  Seg[8] config -----------------
        SegId 8 SegBeg 458752 SegEnd 491519
        ExpBeg 458752 ExpEnd 458752 ExpRate 0 CycBefExp 0
        CurrTokens 5 MaxTokens 44 MinTokens 11
        CurrSeg 6 CurrCntr 398633 CntrsExp 1064256
        PktsExp 33258 DMAErrDrops 0 REDDrops 0
        REDDelays 0 GtrDisDelays 0
        CfgUpdsApp 1 SegUpdsApp 10 UpdsRej 0
```

Table 21 describes the significant fields shown in the display.

Table 21 show controllers pse mp Field Descriptions

Field	Description
MIPC Subtask Context Information	MIPC subtask information from the following mailboxes (queues): • High Priority MIPC Mbox • Norm Priority MIPC Mbox **Note** The MIPC MBox is a chunk of the MP DMEM that receives MIPC messages. The Norm Priority mailbox has buffer of 32 KB, while the High Priority Mbox has an 8 KB buffer.
High Priority MIPC Mbox Info	Mailbox (or queue) that receives high-priority MIPC messages. The following information is displayed for the High Priority MIPC Mbox: • NumProc—Number of MIPC messages that have been processed. • NumUnsupp—Number of unsupported MIPC messages. • NxtSeqNum—Sequence number of the message with respect to other messages sent on the same MIPC channel. • NumOOSeq—Number of MIPC messages that were received out of sequence.
Norm Priority MIPC Mbox info	Mailbox (or queue) that receives normal-priority MIPC messages. The following information is displayed for the High Priority MIPC Mbox: • NumProc—Number of MIPC messages that have been processed. • NumUnsupp—Number of unsupported MIPC messages. • NxtSeqNum—Identifies the sequence number of the message with respect to other messages sent on the same MIPC channel. • NumOOSeq—Number of MIPC messages that were received out of sequence.
NumMsgsGtred	Number of MIPC gather messages that have been processed.
NumDMAErrDrops	Number of MIPC gather messages that were dropped due to DMA errors.
NumGtrDisDrops	Number of MIPC gather messages that were dropped due to distribution errors.
MSTAT Subtask Context Information	MSTAT subtask information from the following queues: • High Priority MIPC Mbox • Norm Priority MIPC Mbox The MIPC MBox is a chunk of the MP DMEM that receives MIPC messages. The Norm Priority mailbox has buffer of 32 KB, while the High Priority Mbox has an 8 KB buffer.

Related Commands

show controllers pse eio links	Displays PSE information for EIO links, or for a specific controller.
show controllers pse ipc	Displays PSE device information for IPC connections, or for a specific IPC controller.
show controllers pse statistics	Displays PSE statistics for a specific controller instance, or for a specific node.
show controllers pse summary	PSE displays a summary of PSE information for a specific controller or node.

show controllers pse statistics

To display packet switching engine (PSE) statistics for a specific controller instance, or for a specific node, use the **show controllers pse statistics** command in EXEC mode.

show controllers pse statistics [all] [egress | ingress] [location *node-id*]

Syntax Description

all	(Optional) Displays all counters.
egress	(Optional) Displays statistics for the egress PSE device only. **Note** Follow the **egress** argument with the **location** *node-id* keyword and argument to restrict the command to a specific node.
ingress	(Optional) Displays statistics for the ingress PSE device only. **Note** Follow the **ingress** argument with the **location** *node-id* keyword and argument to restrict the command to a specific node.
location *node-id*	(Optional) Identifies the location of the node whose PSE device information 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. **Note** Include the **egress** or **ingress** keyword before the **location** *node-id* keyword and argument to restrict the command to a specific device instance on the specified node.

Defaults

If you do not specify the **egress** or **ingress** and **location** *node-id* keywords and argument, the **show controllers pse statistics** command displays statistical information for both device instances on all modular services cards.

Command Modes

EXEC

Command History

Release	Modification
Release 2.0	This command was introduced on the Cisco CRS-1.
Release 3.0	No modification.
Release 3.2	No modification.
Release 3.3.0	No modification.
Release 3.4.0	No modification.
Release 3.5.0	The **instance** {**0** | **1**} keywords were replaced by the **egress** and **ingress** keywords.
Release 3.6.0	The **all** keyword was changed from required to optional.

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

Usage Guidelines

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

The optional **egress** or **ingress** and **location** keywords are not mutually exclusive. The **egress** and **ingress** keywords direct the command to specific PSE device, and the **location** keyword directs the command to that device or devices on the specified modular services card. You can specify the **egress** or **ingress** and **location** options together in the same command. If you do not specify the **egress** or **ingress** and **location** *node-id* keywords and argument, the **show controllers pse statistics** command displays statistical information for both device instances on all modular services cards.

Task ID

Task ID	Operations
interface	read
drivers	read

Examples

The following command shows how to display PSE statistics for a specific controller instance:

```
RP/0/RP0/CPU0:router# show controllers pse statistics instance 0

             Node: 0/0/CPU0:
----------------------------------------

PSE 0, Statistics Info:
-------------------------------------------------
NULL_STATS_PTR : 0
MPLS_FWD_STATS_MEM_OOR : 0
LAYER2_LOW_PRIORITY : 0
CDP : 0
CONTROL : 0
ARP : 0
RARP : 0
CGMP : 0
LOOP : 0
IPV4_OPTIONS : 0
DROP_IPV4_LENGTH_ERROR : 0
DROP_IPV4_CHECKSUM_ERROR : 0
IPV4_TTL_ERROR : 0
DROP_TCP_FLAG : 0
DROP_ACL_NO_MATCH : 0
UNKNOWN_PKT_TYPE : 0
DROP_ERROR_DISTR : 0
DROP_UNKNOWN_DISTR : 0
PLU_EXCEPTION : 0
IPV4_UNKNOWN_PLU_TYPE : 0
IPV4_PLU_PUNT : 0
IPV4_PLU_DROP_PKT : 0
UNKNOWN_LAYER2 : 0
```

```
IPV4_DF_SET_FRAG_NEEDED_PUNT : 0
IPV4_FRAG : 0
INCOMPLETE_ADJ_PUNT : 0
UNKNOWN_IFIB : 0
IPV4_MCAST_EMPTY_OLIST_COUNTER : 0
IPV4_MCAST_MAX_COPIES_EXCEEDED_COUNTER : 0
IPV4_MCAST_LAST_PACKET_TIME_WASTED_COUNTER : 0
BAD_SKIP_GATHER : 0
RP_PUNT : 0
UNKNOWN_PUNT_REASON : 0
DROP_BAD_RESOURCE_ERROR : 0
IPV4_LOAD_INFO_DROP : 0
DROP_IPV4_LINE_STATUS : 0
DROP_PUNT_EXCEED_Q_THRESH : 0
DROP_IPV6_LINE_STATUS : 0
PLU_LEAF_UNTERMINATED : 0
PLU_LEAF_UNUSED : 0
PLU_LEAF_ECC : 0
PLU_LEAF_NO_MATCH : 0
PLU_LEAF_BAD_CHANNEL : 0
PLU_LEAF_INVALID : 0
QUEUE_THRESHOLD_DROP : 0
DROP_IPV6_SANITY : 0
DROP_IPV6_PLU : 0
DROP_IPV6_UNKNOWN_PLU_TYPE : 0
DROP_IPV6_LENGTH_ERROR : 0
PUNT_IPV6_MISS_SRC_COMP : 0
IPV6_LINK_LOCAL : 0
IPV6_HOP_BY_HOP : 0
IPV6_TTL_ERROR : 0
IPV6_PLU_PUNT : 0
IFIB_DROP : 0
IPV4_MCAST_DROP_DF_PACKET : 0
IPV6_TOO_BIG : 0
IPV4_MCAST_DO_ALL_BUT_FWD : 0
IPV4_NO_MATCH : 0
GRE_NON_IPV4 : 0
GRE_BAD_FLAGS : 0
IPV4_TUNNEL_NOT_CONFIGD : 0
MPLS_LOADINFO_DROP : 0
IPV4_DOUBLE_TUNNEL : 0
GLOBAL_IFHANDLE_TCAM_MISS : 0
L2TP_COOKIE_MISMATCH : 0
L2TP_TUNNEL_DOWN : 0
RECIRCULATE_UIDB_INDEX : 0
DUMMY_COUNTER : 2622348240762
MPLS_LINE_STATUS_DN_DROP : 0
MPLS_TTL_ERROR : 0
MPLS_PLU_DROP_PKT : 0
MPLS_INVALID_EXPNULL : 0
MPLS_NOT_ENABLED_DROP : 0
MPLS_UNSUPP_PLU_LABEL_TYPE : 0
IPV6_MED_PRI : 0
IPV4_TUNNEL_UNEXP_PHYSINTF_ADJ : 0
IPV4_TUNNEL_UNEXP_TUNINTF_ADJ : 0
IPV4_MCAST_DO_ALL : 0
DROP_IPV4_L4HDR_LENGTH_ERROR : 0
UNKNOWN_OSI : 0
MPLS_PLU_ERROR : 0
MPLS_PLU_NO_MATCH : 0
MPLS_TTL_EXP_GEN_ICMP : 0
MPLS_PLU_PUNT : 0
MPLS_NON_IP_PKT_GT_MTU : 0
MPLS_IPV4_DF : 0
```

```
DROP_L2TP_TOO_SHORT_ERROR : 0
DROP_L2TP_TOO_LONG_ERROR : 0
DROP_GRE_LENGTH_ERROR : 0
DROP_IPIP_LENGTH_ERROR : 0
DROP_PUNT_POL_EXCEED : 0
IPV4_TUNNEL_FORUS : 0
IPV4_PLU_RCV : 0
IPV4_FRAG_TUNNEL_PUNT : 0
IPV4MC_NO_MATCH : 0
MPLS_IPV4_FRAGMENTED : 0
MPLS_IPV4_PKT_WITH_OPT_NEEDS_FRAG : 0
IPV4_CANNOT_FRAG : 0
IPV4_NULL_RTE_DROP_PKT : 0
IPV6_NULL_RTE_DROP_PKT : 0
IPV4_OPTIONS_RSVP : 0
IPV4_IGMP : 0
IPV4_OPTIONS_PIM : 0
PLIM_ASIC_HDR_ERROR : 0
IPV6_PLU_RCV : 0
IPV4_LOAD_INFO_PUNT : 0
IPV6_LOAD_INFO_PUNT : 0
IPV6_LOAD_INFO_DROP : 0
RP_DEST_DROP : 0
DROP_IPV6_ENABLE : 0
PUNT_ACL_ICMP : 0
PUNT_ACL_LOG : 0
SAP_PUNT : 0
MPLS_INCOMPLETE_ADJ : 0
PKT_LARGE_PADDING_PUNT : 0

             Node: 0/3/CPU0:
----------------------------------------

PSE 0, Statistics Info:
--------------------------------------------------
NULL_STATS_PTR : 0
MPLS_FWD_STATS_MEM_OOR : 0
LAYER2_LOW_PRIORITY : 0
CDP : 0
CONTROL : 0
ARP : 0
RARP : 0
CGMP : 0
LOOP : 0
IPV4_OPTIONS : 0
DROP_IPV4_LENGTH_ERROR : 0
DROP_IPV4_CHECKSUM_ERROR : 0
IPV4_TTL_ERROR : 0
DROP_TCP_FLAG : 0
DROP_ACL_NO_MATCH : 0
UNKNOWN_PKT_TYPE : 0
DROP_ERROR_DISTR : 0
DROP_UNKNOWN_DISTR : 0
PLU_EXCEPTION : 0
IPV4_UNKNOWN_PLU_TYPE : 0
IPV4_PLU_PUNT : 0
IPV4_PLU_DROP_PKT : 0
UNKNOWN_LAYER2 : 0
IPV4_DF_SET_FRAG_NEEDED_PUNT : 0
IPV4_FRAG : 0
INCOMPLETE_ADJ_PUNT : 0
UNKNOWN_IFIB : 0
IPV4_MCAST_EMPTY_OLIST_COUNTER : 0
IPV4_MCAST_MAX_COPIES_EXCEEDED_COUNTER : 0
```

```
IPV4_MCAST_LAST_PACKET_TIME_WASTED_COUNTER : 0
BAD_SKIP_GATHER : 0
RP_PUNT : 0
UNKNOWN_PUNT_REASON : 0
DROP_BAD_RESOURCE_ERROR : 0
IPV4_LOAD_INFO_DROP : 0
DROP_IPV4_LINE_STATUS : 0
DROP_PUNT_EXCEED_Q_THRESH : 0
DROP_IPV6_LINE_STATUS : 0
PLU_LEAF_UNTERMINATED : 0
PLU_LEAF_UNUSED : 0
PLU_LEAF_ECC : 0
PLU_LEAF_NO_MATCH : 0
PLU_LEAF_BAD_CHANNEL : 0
PLU_LEAF_INVALID : 0
QUEUE_THRESHOLD_DROP : 0
DROP_IPV6_SANITY : 0
DROP_IPV6_PLU : 0
DROP_IPV6_UNKNOWN_PLU_TYPE : 0
DROP_IPV6_LENGTH_ERROR : 0
PUNT_IPV6_MISS_SRC_COMP : 0
IPV6_LINK_LOCAL : 0
IPV6_HOP_BY_HOP : 0
IPV6_TTL_ERROR : 0
IPV6_PLU_PUNT : 0
IFIB_DROP : 0
IPV4_MCAST_DROP_DF_PACKET : 0
IPV6_TOO_BIG : 0
IPV4_MCAST_DO_ALL_BUT_FWD : 0
IPV4_NO_MATCH : 0
GRE_NON_IPV4 : 0
GRE_BAD_FLAGS : 0
IPV4_TUNNEL_NOT_CONFIGD : 0
MPLS_LOADINFO_DROP : 0
IPV4_DOUBLE_TUNNEL : 0
GLOBAL_IFHANDLE_TCAM_MISS : 0
L2TP_COOKIE_MISMATCH : 0
L2TP_TUNNEL_DOWN : 0
RECIRCULATE_UIDB_INDEX : 0
DUMMY_COUNTER : 2668152738279
MPLS_LINE_STATUS_DN_DROP : 0
MPLS_TTL_ERROR : 0
MPLS_PLU_DROP_PKT : 0
MPLS_INVALID_EXPNULL : 0
MPLS_NOT_ENABLED_DROP : 0
MPLS_UNSUPP_PLU_LABEL_TYPE : 0
IPV6_MED_PRI : 0
IPV4_TUNNEL_UNEXP_PHYSINTF_ADJ : 0
IPV4_TUNNEL_UNEXP_TUNINTF_ADJ : 0
IPV4_MCAST_DO_ALL : 0
DROP_IPV4_L4HDR_LENGTH_ERROR : 0
UNKNOWN_OSI : 0
MPLS_PLU_ERROR : 0
MPLS_PLU_NO_MATCH : 0
MPLS_TTL_EXP_GEN_ICMP : 0
MPLS_PLU_PUNT : 0
MPLS_NON_IP_PKT_GT_MTU : 0
MPLS_IPV4_DF : 0
DROP_L2TP_TOO_SHORT_ERROR : 0
DROP_L2TP_TOO_LONG_ERROR : 0
DROP_GRE_LENGTH_ERROR : 0
DROP_IPIP_LENGTH_ERROR : 0
DROP_PUNT_POL_EXCEED : 0
IPV4_TUNNEL_FORUS : 0
```

```
IPV4_PLU_RCV : 0
IPV4_FRAG_TUNNEL_PUNT : 0
IPV4MC_NO_MATCH : 0
MPLS_IPV4_FRAGMENTED : 0
MPLS_IPV4_PKT_WITH_OPT_NEEDS_FRAG : 0
IPV4_CANNOT_FRAG : 0
IPV4_NULL_RTE_DROP_PKT : 0
IPV6_NULL_RTE_DROP_PKT : 0
IPV4_OPTIONS_RSVP : 0
IPV4_IGMP : 0
IPV4_OPTIONS_PIM : 0
PLIM_ASIC_HDR_ERROR : 0
IPV6_PLU_RCV : 0
IPV4_LOAD_INFO_PUNT : 0
IPV6_LOAD_INFO_PUNT : 0
IPV6_LOAD_INFO_DROP : 0
RP_DEST_DROP : 0
DROP_IPV6_ENABLE : 0
PUNT_ACL_ICMP : 0
PUNT_ACL_LOG : 0
SAP_PUNT : 0
MPLS_INCOMPLETE_ADJ : 0
PKT_LARGE_PADDING_PUNT : 0
```

Table 22 describes the significant fields shown in the display.

Table 22 show controllers pse statistics Field Descriptions

Field	Description
Node	Identifies the node whose PSE statistics are displayed. The node ID is expressed in the *rack/slot/module* notation.
PSE 0, Statistics Info	Displays all statistics maintained by the PSE.

Related Commands

show controllers pse eio links	Displays PSE information for EIO links, or for a specific controller.
show controllers pse ipc	Displays PSE device information for IPC connections, or for a specific IPC controller.
show controllers pse mp	Displays PSE information for the maintenance processor on a specific controller or node.
show controllers pse summary	Displays a summary of PSE information for a specific controller or node.

show controllers pse summary

To display a summary of packet switching engine (PSE) information for a specific controller or node, use the **show controllers pse summary** command in EXEC mode.

show controllers pse summary [**egress** | **ingress**] [**location** *node-id*]

Syntax Description

egress	(Optional) Displays information for the egress PSE device only. **Note** Follow the **egress** argument with the **location** *node-id* keyword and argument to restrict the command to a specific node.
ingress	(Optional) Displays information for the ingress PSE device only. **Note** Follow the **ingress** keyword with the **location** *node-id* keyword and argument to restrict the command to a specific node.
location *node-id*	(Optional) Identifies the location of the node whose PSE device information 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. **Note** Include the **instance** {**0**	**1**} argument before the **location** *node-id* keyword and argument to restrict the command to a specific device instance on the specified node.

Defaults

No default behavior or values

Command Modes

EXEC

Command History

Release	Modification
Release 2.0	This command was introduced on the Cisco CRS-1.
Release 3.0	No modification.
Release 3.2	No modification.
Release 3.3.0	No modification.
Release 3.4.0	No modification.
Release 3.5.0	The **instance** {**0**	**1**} keywords were replaced by the **egress** and **ingress** keywords.
Release 3.6.0	No modification.

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

Usage Guidelines

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

The optional **egress** or **ingress** and **location** keywords are not mutually exclusive. The **egress** and **ingress** keywords direct the command to specific PSE device, and the **location** keyword directs the command to that device or devices on the specified modular services card. You can specify the **egress** or **ingress** and **location** options together in the same command. If you do not specify the **egress** or **ingress** and **location** *node-id* keywords and argument, the **show controllers pse summary** command displays information for both device instances on all modular services cards.

Task ID

Task ID	Operations
interface	read
drivers	read

Examples

The following command shows how to display a summary of PSE information for a specific controller instance:

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

             Node: 0/0/CPU0:
----------------------------------------

PSE 1, Summary Info:
-------------------------------------------------
IBM P/N     : 47P0595   LotNum      : D2300123
SerialNum   : 0x00001c  BadPPECls   : 0000
Version     : 1         CpuctrlPort : 6
DeviceState : 0 (UP)
StartupOpts : 00000000  MmappedBase : 0x60669000
ClsDisMask  : 0000      NFusedPPEs  : 0   (0 hwf, 0 swf)
MPUcodeName : /pkg/ucode/egress_mp_v1.mucode
PPEUcodeName: /pkg/ucode/egress_turbo_pos_v1.mucode
INTR-Status : 00000000  INTR-Enable : 0x7ffffe
NColdResets : 1         NWarmResets : 0
NPPEUcDlds  : 1         NResetRetry : 0
NIntrtps    : 1         NIntrptThrot: 0

             Node: 0/3/CPU0:
----------------------------------------

PSE 1, Summary Info:
-------------------------------------------------
IBM P/N     :   LotNum      :
SerialNum   : 0xffffff  BadPPECls   : 0000
Version     : 3         CpuctrlPort : 6
DeviceState : 0 (UP)
```

```
StartupOpts : 00000000  MmappedBase : 0x60669000
ClsDisMask  : 0000      NFusedPPEs  : 4   (0 hwf, 4 swf)
MPUcodeName : /pkg/gsr/ucode/egress_mp_v3.mucode
PPEUcodeName: /pkg/gsr/ucode/egress_turbo_pos_v3.mucode
INTR-Status : 00000000  INTR-Enable : 0x7ffffe
NColdResets : 1         NWarmResets : 0
NPPEUcDlds  : 1         NResetRetry : 0
NIntrtps    : 1         NIntrptThrot: 0
```

Table 23 describes the significant fields shown in the display.

Table 23 show controllers pse summary Field Descriptions

Field	Description
Node	Node whose PSE information is displayed.
IBM P/N	IBM part number.
SerialNum	Serial number of the node.
BadPPECls	Number of bad PPECIs on the PSE.
Version	PSE version.
CpuctrlPort	Cpuctrl port associated with the PSE instance.
DeviceState	Whether the node is up (active) or down (inactive).
StartupOpts	Internal information about the PSE startup options.
MmappedBase	Internal mapping information.
ClsDisMask	Internal masking information.
NFusedPPEs	Internal PPE information.
MPUcodeName	Information about the MPU code.
PPEUcodeName	Information about the PPEU code.
INTR-Status	Internal status information.
INTR-Enable	Internal enable information.
NColdResets	Number of cold resets experienced by the router.
NWarmResets	Number of warm resets experienced by the router.
NPPEUcDlds	Internal information about the PSE.
NResetRetry	Number of times the router attempted to reset itself.
NIntrtps	Internal information about interrupts on the PSE.
NIntrptThrot	Internal throttling information for the PSE.

Related Commands

show controllers pse eio links	Displays PSE information for EIO links, or for a specific controller.
show controllers pse ipc	Displays PSE device information for IPC connections, or for a specific IPC controller.
show controllers pse mp	Displays PSE information for the maintenance processor on a specific controller or node.
show controllers pse statistics	Displays PSE statistics for a specific controller instance, or for a specific node.

show packet-memory

To display information for packet memory, use the **show packet-memory** command in EXEC mode.

show packet-memory [**location** *node-id*]

Syntax Description

location *node-id*	(Optional) Displays detailed packet memory information for the designated node. The *node-id* argument is entered in the *rack/slot/module* notation.

Defaults

Displays information about all packet memory.

Command Modes

EXEC

Command History

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

Usage Guidelines

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

The **show packet-memory** command can be used to display the total number of packet and particle headers, along with the packet memory that is currently allocated in the system.

Task ID

Task ID	Operations
basic-services	read

Examples

The following example shows how to display packet memory information:

```
RP/0/RP0/CPU0:router# show packet-memory

Packet memory statistics :
==========================
Packet headers
total: 32000, free: 32000, size: 448
Particle Pools(8)
Pool(0):total: 8000, free: 8000, size: 256
fallback: 0, region: 0
Pool(1):total: 4000, free: 3968, size: 512
fallback: 1, region: 0
Pool(2):total: 16, free: 16, size: 512
fallback: 2, region: 0
Pool(3):total: 8000, free: 7936, size: 768
fallback: 3, region: 0
Pool(4):total: 12800, free: 9172, size: 1648
fallback: 4, region: 0
Pool(5):total: 320, free: 320, size: 2560
fallback: 5, region: 0
Pool(6):total: 1600, free: 1088, size: 4608
fallback: 6, region: 0
Pool(7):total: 640, free: 640, size: 6240
fallback: 7, region: 0
Particle clone
total: 8000, free: 8000, size: 256
Packet Feature Specific Variable (FSV)
total: 16000, free: 16000, size: 88
Packet trace
total: 16384, free: 16384, size: 40
```

Table 24 describes the significant fields shown in the display.

Table 24 show packet memory Field Descriptions

Field	Description
Packet headers	Data structure that defines and controls an aggregation of data structures, collectively known as a packet. Includes information about every packet in the system.
Particle Pools	Data structure that describes a particle and may be chained to other particles in a linked list. Includes information about the actual data of the packet and other particle headers in this packet if present in this packet.
Particle clone	Duplicate particle header that points to a previously allocated particle. Differs from a particle header in that a particle clone shares the particle with another particle header.
Packet Feature Specific Variable (FSV)	Scratch pad shared among the features in the packet path, listing hangs of the packet header.
Packet trace	Data associated with the packet header to help tracing a packet in the system.