

# Commands: show d through show f

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## COMMAND DESCRIPTION

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# 1 Command Descriptions

Commands starting with “show d” through commands starting with “show f” are included.

This document applies to both the Ericsson SmartEdge® and SM family routers. However, the software that applies to the SM family of systems is a subset of the SmartEdge OS; some of the functionality described in this document may not apply to SM family routers.

For information specific to the SM family chassis, including line cards, refer to the SM family chassis documentation.

For specific information about the differences between the SmartEdge and SM family routers, refer to the Technical Product Description *SM Family of Systems* (part number 5/221 02-CRA 119 1170/1) in the **Product Overview** folder of this Customer Product Information library.

## 1.1 show debug circuit

```
show debug circuit
```

### 1.1.1 Purpose

Displays a list of circuits for which the generation of debug messages has been enabled.

### 1.1.2 Command Mode

All modes

### 1.1.3 Syntax Description

This command has no keywords or arguments.

### 1.1.4 Default

None

### 1.1.5 Usage Guidelines

Use the `show debug circuit` command to display a list of circuits for which the generation of debug messages has been enabled. The circuits are listed



in the order in which the `debug circuit` commands (in exec mode) were entered.

**Note:** By default, most `show` commands (in any mode) display information for the current context only or, depending on the command syntax, for all contexts. If you are an administrator for the local context, you can insert the optional `context ctx-name` construct, preceding the `show` command, to view output for the specified context without entering that context. For more information about using the `context ctx-name` construct, see the `context` command description.

**Note:** By appending a space followed by the pipe ( | ) character at the end of a `show` command, you can filter the output using a set of modifier keywords and arguments. For more information, see *Modifying Output of show Commands* in *Using the CLI*.

### 1.1.6 Examples

The following example shows how to enable the generation of debug messages for the following circuits.

- Virtual LAN (VLAN) 100 in VLAN tunnel 1 on port 3 on the Gigabit Ethernet line card in slot 14

It then displays the list of circuits that have the generation of debug messages enabled:

```
[local]Redback#debug circuit 14/3 vlan-id 1:100
[local]Redback#debug circuit 2/1:1
[local]Redback#show debug circuit
Circuit debugging:
14/3:1023:63/1/2/160
2/1:1:63/15/3/16777215
```



## 1.2 show debugging

`show debugging`

### 1.2.1 Purpose

Displays the debugging options that are currently enabled.

### 1.2.2 Command Mode

All modes

### 1.2.3 Syntax Description

This command has no keywords or arguments.

### 1.2.4 Default

None

### 1.2.5 Usage Guidelines

Use the `show debugging` command to display the debugging options that are currently enabled.

**Note:** By default, most `show` commands (in any mode) display information for the current context only or, depending on the command syntax, for all contexts. If you are an administrator for the local context, you can insert the optional `context ctx-name` construct, preceding the `show` command, to view output for the specified context without entering that context. For more information about using the `context ctx-name` construct, see the `context` command description.

**Note:** By appending a space followed by the pipe ( | ) character at the end of a `show` command, you can filter the output using a set of modifier keywords and arguments. For more information, see *Modifying Output of show Commands* in *Using the CLI*.



## 1.2.6 Examples

The following example displays output from the `show debugging` command for the debugging options that have been enabled:

```
[local]Redback>show debugging
```

```
ARP:Redback
```

```
    All debugging bits are turned on
```

```
RPL :
```

```
    ipv6 access-list debugging is turned on
```



## 1.3 show destination card

```
show destination card ip-addr
```

### 1.3.1 Purpose

Displays the chassis slot number of the active line card to which outbound packets with the specified IP address are dispatched for Forwarding Information Base (FIB) lookup.

### 1.3.2 Command Mode

All modes

### 1.3.3 Syntax Description

*ip-addr* | IP address of the traffic destination.

### 1.3.4 Default

This command has no default.

### 1.3.5 Usage Guidelines

Use the `show destination card` command to display the chassis slot number of the active line card to which outbound packets with the specified IP address are dispatched for FIB lookup.

To reduce the size of the FIB table in the active controller card, all outbound traffic packets that are not to be transmitted on the Ethernet management port (on the active controller card) are off-loaded to the active line cards in the SmartEdge router for FIB lookup. A destination card is not configurable; instead, the controller card load balances the work by selecting a destination card based on the destination IP address in a packet.

The line card selected by the active controller performs the FIB lookup to locate the line card that actually transmits the packet and then dispatches the packet to that line card for output processing. If insufficient information exists to select a destination card for an IP packet (for example, Intermediate System-to-Intermediate System [IS-IS] or Open Shortest Path First [OSPF] control packets sent directly on to a Generic Routing Encapsulation [GRE] tunnel), the packet is sent to the default line card. To determine the default line card, enter the `show chassis` command (in any mode). The default line card displays a "D" in the "Flags" field.



**Note:** This command always displays a slot number unless no active line cards exist. If the resolution of the IP address is the Ethernet management port, the output might still display a slot number.

**Note:** By default, most `show` commands (in any mode) display information for the current context only or, depending on the command syntax, for all contexts. If you are an administrator for the local context, you can insert the optional `context ctx-name` construct, preceding the `show` command, to view output for the specified context without entering that context. For more information about using the `context ctx-name` construct, see the `context` command description.

**Note:** By appending a space followed by the pipe ( | ) character at the end of a `show` command, you can filter the output using a set of modifier keywords and arguments. For more information, see *Modifying Output of show Commands* in *Using the CLI*.

### 1.3.6 Examples

The following example shows how to display the destination line card for the IP address, 10.13.49.165:

```
[local]Redback>show destination card 10.13.49.165
```

```
Destination address 10.13.49.165 will be dispatched to slot 10.  
(2nd active card from left, out of a total 2 active cards.)
```

If the destination address, 10.13.49.165, is not resolved to the Ethernet management port, all packets with that IP address are dispatched to the active line card in slot 10 for FIB lookup.



## 1.4 show dhcp relay hosts

```
show dhcp relay hosts [{duplicate-mac | ip-addr | mac-addr}]
[detail]
```

### 1.4.1 Purpose

Displays Dynamic Configuration Host Protocol (DHCP) relay hosts.

### 1.4.2 Command Mode

All modes

### 1.4.3 Syntax Description

<code>duplicate-mac</code>	Optional. Displays information for all DHCP relay hosts with duplicate medium access control (MAC) addresses for the current context.
<code>ip-addr</code>	Optional. Displays the IP address (in the form <code>A.B.C.D</code> ) of the DHCP relay host.
<code>mac-addr</code>	Optional. Displays the medium access control (MAC) address (in the form <code>hh:hh:hh:hh:hh:hh</code> ) of the DHCP relay host.
<code>detail</code>	Optional. Displays more detailed information about the DHCP relay hosts.

### 1.4.4 Default

None

### 1.4.5 Usage Guidelines

Use the `show dhcp relay hosts` command to display DHCP relay hosts.

Use the `ip-addr` or `mac-addr` argument to display information only for a specific DHCP relay host. Use the `duplicate-mac` keyword to display information for all DHCP relay hosts with duplicate MAC addresses for the current context.

DHCP, in both proxy and relay modes, maintains host entries only for multibind interfaces, and this command displays information only for those entries.

**Note:** By default, most `show` commands (in any mode) display information for the current context only or, depending on the command syntax, for all contexts. If you are an administrator for the local context, you can insert the optional `context ctx-name` construct, preceding the `show` command, to view output for the specified context without entering that context. For more information about using the `context ctx-name` construct, see the `context` command description.



**Note:** By appending a space followed by the pipe ( | ) character at the end of a **show** command, you can filter the output using a set of modifier keywords and arguments. For more information, see *Modifying Output of show Commands* in *Using the CLI*. For information about troubleshooting DHCP, see the *BRAS Troubleshooting Guide*.

## 1.4.6 Examples

The following example shows how to display DHCP relay host information:

```
[local]Redback>show dhcp relay hosts
Circuit      Host Address      Hardware Address   Lease      Timestamp      DHCP_Context
4/10 vlan-id 2      120.2.0.241      00:01:02:03:01:02 86400 Wed   Nov  7 22:21:11 2005 Proxy local
4/10 vlan-id 7      120.2.199.114    00:01:02:03:01:07 86400 Wed   Nov  7 22:19:55 2005 Proxy local
4/10 vlan-id 9      120.2.199.121    00:01:02:03:01:09 86400 Wed   Nov  7 22:21:03 2005 Proxy local
```

The following example shows how to display all the DHCP relay hosts that have duplicate MAC addresses:

```
[local]Redback#show dhcp relay hosts duplicate-mac
Circuit      Host      Hardware address   Lease  Ttl  Timestamp      Type  Context
10/4 vlan-id 2 clips 131135 15.1.1.200 00:aa:aa:aa:00:01 72000 71695 Wed Aug 29 10:13:39 2007 Relay local
10/4 vlan-id 4 clips 131125 17.1.1.200 00:aa:aa:aa:00:01 72000 71695 Wed Aug 29 10:13:44 2007 Relay local
10/4 vlan-id 2 clips 131128 15.1.1.100 00:aa:aa:aa:00:02 72000 71695 Wed Aug 29 10:14:29 2007 Relay local
10/4 vlan-id 4 clips 131116 17.1.1.199 00:aa:aa:aa:00:02 72000 71695 Wed Aug 29 10:14:21 2007 Relay local
10/4 vlan-id 2 clips 131126 15.1.1.198 00:aa:aa:aa:00:03 72000 71695 Wed Aug 29 10:14:16 2007 Relay local
10/4 vlan-id 4 clips 131117 17.1.1.196 00:aa:aa:aa:00:03 72000 71695 Wed Aug 29 10:13:45 2007 Relay local
10/4 vlan-id 2 clips 131127 15.1.1.197 00:aa:aa:aa:00:04 72000 71695 Wed Aug 29 10:14:02 2007 Relay local
```

The following example shows how to display information for the DHCP relay host that has the IP address of 200.100.1.3:

```
[local]Redback>show dhcp relay hosts 200.100.1.3
-----
Displaying information for host: 200.100.1.3
MAC Address      : 02:dd:00:00:00:26
Circuit          : 12/5 vlan-id 101
Context         : sj8
Circuit Handle   : 12/5:1023:63/1/2/8194
Create time     : Tue Dec  2 14:50:30 2008
Type            : Server
Server          : 200.100.1.1
Lease           : 900                Ttl           : 892
giaddr         : 0.0.0.0             flags         : 0x411805
helper flags    : 0xa                Standby helper flags: 0x2
Act. File Page # : 0                Act. File Page Elem : 0
Sby. File Page # : 1148              Sby. File Page Elem : 0
Agent-Circuit-id : 0x0a0b0c0d0e
Agent-Remote-id  : defghijklm
```



## 1.5 show dhcp relay server

```
show dhcp relay server [detail]
```

### 1.5.1 Purpose

Displays information about the Dynamic Host Configuration Protocol (DHCP) relay server.

### 1.5.2 Command Mode

All modes

### 1.5.3 Syntax Description

`detail` | Optional. Displays more detailed information about the DHCP relay servers.

### 1.5.4 Default

None

### 1.5.5 Usage Guidelines

Use the `show dhcp relay server` command to display information about the DHCP relay server.

**Note:** By default, most `show` commands (in any mode) display information for the current context only or, depending on the command syntax, for all contexts. If you are an administrator for the local context, you can insert the optional `context ctx-name` construct, preceding the `show` command, to view output for the specified context without entering that context. For more information about using the `context ctx-name` construct, see the `context` command description.

**Note:** By appending a space followed by the pipe ( | ) character at the end of a `show` command, you can filter the output using a set of modifier keywords and arguments. For more information, see *Modifying Output of show Commands* in *Using the CLI*. For information about troubleshooting DHCP, see the *BRAS Troubleshooting Guide*.



## 1.5.6 Examples

The following example shows how to display DHCP relay server information:

```
[local]Redback>show dhcp relay server
```

Server Name/IP Address	MinWait	MaxHops	Group
10.2.1.1	0	4	default

The following example shows how to display detailed DHCP relay server information:

```
[local]Redback>show dhcp relay server detail
```

```
DHCP Relay server          : 10.2.1.1
Minimum wait                : 0          Maximum hops          : 4
Server Group grid          : 0x1
Server group                : default

Server is available        : Yes

Route to the server available : Yes
Source ipaddress for server bound pkts : 10.2.1.2
Dhcp relay option (82) enabled : FALSE

Stats-----
Discover Tx                : 5367      Request Tx                : 5063
Release Tx                 : 5000      Decline Tx                : 0
Offer Rx                   : 5277      Ack Rx                    : 5000
Nack Rx                    : 0         No. of leases             : 5000
```



## 1.6 show dhcp relay stats

```
show dhcp relay stats [clips-excluded]
```

### 1.6.1 Purpose

Displays Dynamic Host Configuration Protocol (DHCP) proxy/relay statistics.

### 1.6.2 Command Mode

All modes

### 1.6.3 Syntax Description

`clips-excluded`

Optional. Displays counters only for CLIPS-excluded sessions, not for CLIPS sessions. Counters reflect only packets for which no response is expected from the external DHCP server.

### 1.6.4 Default

When used with no option, the command displays packet statistics for both CLIPS sessions and CLIPS-excluded sessions.

### 1.6.5 Usage Guidelines

Use the `show dhcp relay stats` command to display DHCP proxy/relay statistics.

**Note:** By appending a space followed by the pipe ( | ) character at the end of a `show` command, you can filter the output using a set of modifier keywords and arguments. For more information, see *Modifying Output of show Commands* in *Using the CLI*. For information about troubleshooting DHCP, see the *BRAS Troubleshooting Guide*.



## 1.6.6 Examples

The following example displays output from the `show dhcp relay stats` command:

```
[local]Redback>show dhcp relay stats

Packets Received      : 727                Packets Relayed      : 725

Packet received-----
DHCP Discover         : 151                DHCP Offer           : 151
DHCP Request          : 172                DHCP Decline         : 0
DHCP Ack              : 151                DHCP Nack            : 0
DHCP Release          : 100

Packet Sent-----
DHCP Discover         : 151                DHCP Offer           : 151
DHCP Request          : 172                DHCP Decline         : 0
DHCP Ack              : 151                DHCP Nack            : 0
DHCP Release          : 100                Unknown Packet      : 0
BOOTP Request         : 0                  BOOTP Reply          : 0
Tx server error       : 0                  Tx client error     : 0

Dropped packets-----
Bad Ack               : 0                  Internal Error       : 0
Bad Length            : 0                  Bad Circuit          : 0
Bad Circuit UP        : 0                  Bad Circuit Kern     : 0
Bad Circuit EOF       : 0                  Bad Circuit slot     : 2
Bad Context           : 0                  Bad Server IP        : 0
No Server             : 0                  No Interface         : 0
Unbound Circuit       : 0                  Disabled Interface   : 0
Min Wait Error        : 0                  Max Hops Error       : 0
Bad IP                : 0                  Unknown Packet Type  : 0
Dropped Discover      : 0                  Dropped Request     : 0
Dropped Offer         : 0                  Dropped Ack         : 0
Dropped Release       : 0
del_pending_dropped  : 0                  EP Down              : 0
Error in Options      : 0                  max-addr dropped     : 0
non-clips mac         : 0                  Invalid mac-addr     : 0
MAC entry not found   : 0                  Dup cct-cfg entry    : 0
Mismatch ip/mac       : 0                  No renewal marked    : 0
Dropped invalid server : 0                  Bcast/Mcast mac     : 0
Context not found     : 0                  Interface not found   : 0
Circuit not found     : 0                  Request entry not found : 0
Drop dup disc/del req : 0                  Drop dup discover    : 0
Throttle dropped disc : 0

Timers-----
Server timeout        : 0                  Del Req              : 302
Lease timer exp       : 0                  cfg lease exp        : 0
Timer started         : 776                Timer start failed    : 0
Timer stopped         : 704
```

The following example displays output from the `show dhcp relay stats` command with the `clips-excluded` option:

```
[local]Redback>show dhcp relay stats clips-excluded

Current time: Tue May  4 11:11:40 2010
Last cleared: Never

Clips-excluded (relay connected) Hosts Stats:

Packets Received      : 2                Packets Relayed      : 2

Packet received-----
DHCP Discover         : 1                DHCP Request         : 1

Packet Sent-----
DHCP Discover         : 1                DHCP Request         : 1
Tx server error       : 0
```



## 1.7 show dhcp relay summary

```
show dhcp relay summary
```

### 1.7.1 Purpose

Displays a summary of Dynamic Configuration Host Protocol (DHCP) proxy/relay host information.

### 1.7.2 Command Mode

All modes

### 1.7.3 Syntax Description

This command has no keywords or arguments.

### 1.7.4 Default

None

### 1.7.5 Usage Guidelines

Use the `show dhcp relay summary` command to display a summary of DHCP proxy/relay host information.

**Note:** By default, most `show` commands (in any mode) display information for the current context only or, depending on the command syntax, for all contexts. If you are an administrator for the local context, you can insert the optional `context ctx-name` construct, preceding the `show` command, to view output for the specified context without entering that context. For more information about using the `context ctx-name` construct, see the `context` command description.

**Note:** By appending a space followed by the pipe ( | ) character at the end of a `show` command, you can filter the output using a set of modifier keywords and arguments. For more information, see *Modifying Output of show Commands* in *Using the CLI*. For information about troubleshooting DHCP, see the *BRAS Troubleshooting Guide*.



## 1.7.6 Examples

The following example shows how to display a summary of DHCP relay host information. The Host count column lists the number of hosts in the current context, while the Total Host count column lists the number of hosts in the system:

```
[local]Redback>show dhcp relay summary
```

```
Host count           :    26  
Total Host count     : 2626
```



## 1.8 show dhcp server

```
show dhcp server {lease | host} [{count | duplicate-mac
| ip-address ip-addr | mac-address mac-addr | {subnet
subnet-ip-addr/prefix-length | netmask} [count] | time-remaining
{at-least | at-most} time-remaining [count]]]
```

### 1.8.1 Purpose

Displays information about the hosts or leases for the internal Dynamic Host Configuration Protocol (DHCP) server.

### 1.8.2 Command Mode

All modes

### 1.8.3 Syntax Description

<code>leases</code>	Displays all information about one or more DHCP leases.
<code>hosts</code>	Displays all information about one or more DHCP hosts.
<code>count</code>	Optional. Displays the number of leases or hosts, the number of submits, or the number of leases or hosts for the time remaining.
<code>duplicate-mac</code>	Optional. Displays leases or hosts with duplicate medium access control (MAC) addresses in the current context.
<code>ip-address <i>ip-addr</i></code>	Optional. IP address for a DHCP host or lease.
<code>mac-address <i>mac-addr</i></code>	Optional. MAC address for the DHCP host or lease.
<code>subnet <i>subnet-ip-addr</i></code>	Optional. IP address for the subnet for a DHCP lease or host.
<code><i>prefix-length</i></code>	Prefix length for the associated subnet; the range of values is 0 to 32.
<code><i>netmask</i></code>	Network mask for the associated subnet; the range of values is 255.255.0.0 to 255.255.255.255.
<code>time-remaining</code>	Optional. Displays the time remaining for one or more DHCP leases or hosts.
<code>at-least</code>	Displays DHCP leases or hosts with a time remaining equal to or greater than the value of the <code><i>time-remaining</i></code> argument.
<code>at-most</code>	Displays DHCP leases or hosts with a time remaining equal to or less than the value of the <code><i>time-remaining</i></code> argument.
<code><i>time-remaining</i></code>	Number of seconds remaining for a DHCP lease or host; the range of values is 0 to 4,294,967,295.

### 1.8.4 Default

When entered without any optional syntax, the `show dhcp server` command displays all information about all hosts or leases for the internal DHCP server.



## 1.8.5 Usage Guidelines

Use the `show dhcp server` command to display information about the hosts or leases for the internal DHCP server.

**Note:** By default, most `show` commands (in any mode) display information for the current context only or, depending on the command syntax, for all contexts. If you are an administrator for the local context, you can insert the optional `context ctx-name` construct, preceding the `show` command, to view output for the specified context without entering that context. For more information about using the `context ctx-name` construct, see the `context` command description.

**Note:** By appending a space followed by the pipe ( | ) character at the end of a `show` command, you can filter the output using a set of modifier keywords and arguments. For more information, see *Modifying Output of show Commands* in *Using the CLI*. For information about troubleshooting DHCP, see the *BRAS Troubleshooting Guide*.

## 1.8.6 Examples

The following example shows how to display the DHCP lease information:

```
[local]Redback>show dhcp server leases
```

Circuit	Host	Hardware address	Lease	Ttl	Timestamp	Type	Context
2/1	100.100.10.202	00:dd:00:00:00:01	1600	1491			
Fri Feb 3 22:09:48 2006	Server	dhcpserver					
2/1	100.100.10.205	00:dd:00:00:00:04	1600	1492	Fri Feb 3 22:09:49 2006	Server	dhcpserver
2/1	100.100.10.204	00:dd:00:00:00:03	1600	1492			
Fri Feb 3 22:09:49 2006	Server	dhcpserver					

The following example shows how to display the number of DHCP hosts:

```
[local]Redback>show dhcp server hosts count
```

```
Number of leases is 100
```

The following example shows how to display the number of hosts with at least 360 seconds remaining on their leases:

```
[local]Redback>show dhcp server hosts time-remaining at-least 360 count
```

```
Number of leases is 100
```



## 1.9 show dhcp server file

```
show dhcp server file {context [{name ctx-name | start name
ctx-name]} | header | session [{mac-addr / start mac-addr}]}
```

### 1.9.1 Purpose

Displays file information for a Dynamic Host Configuration Protocol (DHCP) server.

### 1.9.2 Command Mode

All modes

### 1.9.3 Syntax Description

<code>context</code>	Display context information.
<code>name <i>ctx-name</i></code>	Name of a context that is configured for a DHCP server.
<code>start</code>	Display context or session information starting with the specified context or medium access control (MAC) address.
<code>header</code>	Display header information.
<code><i>mac-addr</i></code>	MAC address for which session information is to be displayed.
<code>session</code>	Display session information.

### 1.9.4 Default

None

### 1.9.5 Usage Guidelines

Use the `show dhcp server file` command to display file information for a DHCP server.

**Note:** By default, most `show` commands (in any mode) display information for the current context only or, depending on the command syntax, for all contexts. If you are an administrator for the local context, you can insert the optional `context ctx-name` construct, preceding the `show` command, to view output for the specified context without entering that context. For more information about using the `context ctx-name` construct, see the `context` command description.



**Note:** By appending a space followed by the pipe ( | ) character at the end of a `show` command, you can filter the output using a set of modifier keywords and arguments. For more information, see *Modifying Output of show Commands* in *Using the CLI*. For information about troubleshooting DHCP, see the *BRAS Troubleshooting Guide*.

## 1.9.6 Examples

The following example shows how to display DHCP file header information:

```
[local]Redback>show dhcp server file header
```

```
Magic:   SaVe
Version: 10
Type:    1
Valid:   Yes
```



## 1.10 show dhcp server option-82

```
show dhcp server option-82 circuit-id [string]
```

### 1.10.1 Purpose

Displays the maximum number of IP addresses allowed and the number of IP addresses currently assigned to one or more agent circuit IDs.

### 1.10.2 Command Mode

All modes

### 1.10.3 Syntax Description

<code>circuit-id</code>	Displays agent circuit ID information.
<code>string</code>	Optional. Agent circuit ID for which IP address information is to be displayed.

### 1.10.4 Default

None

### 1.10.5 Usage Guidelines

Use the `show dhcp server option-82` command to display the maximum number of IP addresses allowed and the number of IP addresses currently assigned to one or more agent circuit IDs.

**Note:** By default, most `show` commands (in any mode) display information for the current context only or, depending on the command syntax, for all contexts. If you are an administrator for the local context, you can insert the optional `context ctx-name` construct, preceding the `show` command, to view output for the specified context without entering that context. For more information about using the `context ctx-name` construct, see the `context` command description.

**Note:** By appending a space followed by the pipe ( | ) character at the end of a `show` command, you can filter the output using a set of modifier keywords and arguments. For more information, see *Modifying Output of show Commands* in *Using the CLI*. For information about troubleshooting DHCP, see the *BRAS Troubleshooting Guide*.



## 1.10.6 Examples

The following example shows how to display all agent circuit IDs:

```
[local]Redback>show dhcp server option-82 circuit-id
```

Agent-circuit-id	Max IP	IP assigned
-----		
slot8-port0-channel0	10	5



## 1.11 show dhcp server range

```
show dhcp server range [if-name]
```

### 1.11.1 Purpose

Displays range usage information for one or more interfaces configured for a Dynamic Host Configuration Protocol (DHCP) server.

### 1.11.2 Command Mode

All modes

### 1.11.3 Syntax Description

*if-name*

Optional. Name of an interface that is configured for a DHCP server.

### 1.11.4 Default

When entered without any optional syntax, the `show dhcp server range` command displays range usage information for all interfaces configured for a DHCP server.

### 1.11.5 Usage Guidelines

Use the `show dhcp server range` command to display range usage information for one or more interfaces configured for a DHCP server.

**Note:** By default, most `show` commands (in any mode) display information for the current context only or, depending on the command syntax, for all contexts. If you are an administrator for the local context, you can insert the optional `context ctx-name` construct, preceding the `show` command, to view output for the specified context without entering that context. For more information about using the `context ctx-name` construct, see the `context` command description.

**Note:** By appending a space followed by the pipe ( | ) character at the end of a `show` command, you can filter the output using a set of modifier keywords and arguments. For more information, see *Modifying Output of show Commands* in *Using the CLI*. For information about troubleshooting DHCP, see the *BRAS Troubleshooting Guide*.



## 1.11.6 Examples

The following example displays range information for the `to-client` interface:

```
[local]Redback>show dhcp server range to-client
```

```
Interface "to-client":
```

```
10.1.0.1          10.1.255.254          0 in use, 65533 free,1 reserved
```



## 1.12 show dhcp server stats

```
show dhcp server stats [{circuit slot/port circuit-id [pending
mac-addr] | context ctx-name interface if-name [pending mac-addr]]
```

### 1.12.1 Purpose

Displays Dynamic Host Configuration Protocol (DHCP) process statistics.

### 1.12.2 Command Mode

All modes

### 1.12.3 Syntax Description

<code>circuit slot/port</code>	Slot and port numbers for the line card that holds the circuit to be displayed.
<code>circuit-id</code>	Circuit identifier, according to one of the constructs listed in Table 1.
<code>pending mac-addr</code>	Optional. DHCP host entry for the specified medium access control (MAC) address.
<code>context ctx-name</code>	Context for which DHCP statistics are displayed.
<code>interface if-name</code>	Interface in the specified context for which DHCP statistics are displayed.

### 1.12.4 Default

When entered without any optional syntax, the `show dhcp server stats` command displays DHCP process statistics.

### 1.12.5 Usage Guidelines

Use the `show dhcp server stats` command to display DHCP process statistics. Table 1 lists the values for the `circuit-id` argument.

Table 1 Values for the `circuit-id` Argument

Construct	Description
<code>clips</code>	Clientless IP service selection (CLIPS) circuit.
<code>dldci dlci</code>	Data-link connection identifier (DLCI) for a Frame Relay permanent virtual circuit (PVC). The range of values is 16 to 991.



Table 1 Values for the circuit-id Argument

Construct	Description
<code>vlan-id</code> <code>vlan-id</code>	<p>Virtual LAN (VLAN) tag value for an 802.1Q tunnel or PVC. The <code>vlan-id</code> argument is one of the following constructs:</p> <ul style="list-style-type: none"><li>• <code>pvc-vlan-id</code>—VLAN tag value of a PVC that is not within an 802.1Q tunnel.</li><li>• <code>tunl-vlan-id</code>—VLAN tag value of a tunnel.</li><li>• <code>tunl-vlan-id:pvc-vlan-id</code>—VLAN tag value for the tunnel followed by the VLAN tag value for the PVC within the tunnel.</li></ul> <p>The range of values for either VLAN tag value is 1 to 4,095.</p>
<code>vpi-vci vpi</code> <code>vci</code>	<p>Virtual path identifier (VPI) and virtual circuit identifier (VCI) for an Asynchronous Transfer Mode (ATM) PVC. The range of values is 0 to 255 and 1 to 65,535, respectively.</p>

**Note:** By default, most `show` commands (in any mode) display information for the current context only or, depending on the command syntax, for all contexts. If you are an administrator for the local context, you can insert the optional `context ctx-name` construct, preceding the `show` command, to view output for the specified context without entering that context. For more information about using the `context ctx-name` construct, see the `context` command description.

**Note:** By appending a space followed by the pipe ( | ) character at the end of a `show` command, you can filter the output using a set of modifier keywords and arguments. For more information, see *Modifying Output of show Commands* in *Using the CLI*. For information about troubleshooting DHCP, see the *BRAS Troubleshooting Guide*.



## 1.12.6 Examples

The following example shows how to display DHCP statistics for the specified circuit:

```
[local]Redback>show dhcp server stats circuit 11/4 vlan-id 10
```

```
Current time: Fri Aug 4 17:49:44 2006
```

```
Last cleared: Never
```

```
Internal Circuit Handle: 11/5:1023:63/1/2/10
```

```
Discovers Received      : 0           Requests Received      : 0
Releases Received       : 0           Declines Received     : 0
Renewal REQs Received   : 0
Offers Sent             : 0           ACKs Sent             : 0
Renewal ACKs Sent       : 0
```

The following example shows how to display DHCP statistics for the specified interface:

```
[local]Redback#show dhcp server stats context c1 interface i1
```

```
Current time: Fri Aug 4 17:49:46 2006
```

```
Last cleared: Never
```

```
Discovers Received      : 0           Requests Received      : 0
Release Received        : 0           Decline Received      : 0
Renewal REQs Received   : 0
Offers Sent             : 0           ACKs Sent             : 0
Renewal ACKs Sent       : 0
```



## 1.13 show dhcp server threshold

`show dhcp server threshold {context | range}`

### 1.13.1 Purpose

Displays Dynamic Host Configuration Protocol (DHCP) threshold configuration and status information.

### 1.13.2 Command Mode

All modes

### 1.13.3 Syntax Description

<code>context</code>	Displays threshold configuration and status for the current context at the context level.
<code>range</code>	Displays threshold configuration for all ranges in the current context.

### 1.13.4 Default

None

### 1.13.5 Usage Guidelines

Use the `show dhcp server threshold` command to display DHCP threshold configuration and status information.

**Note:** By default, most `show` commands (in any mode) display information for the current context only or, depending on the command syntax, for all contexts. If you are an administrator for the local context, you can insert the optional `context ctx-name` construct, preceding the `show` command, to view output for the specified context without entering that context. For more information about using the `context ctx-name` construct, see the `context` command description.

**Note:** By appending a space followed by the pipe ( | ) character at the end of a `show` command, you can filter the output using a set of modifier keywords and arguments. For more information, see *Modifying Output of show Commands in Using the CLI*. For information about troubleshooting DHCP, see the *BRAS Troubleshooting Guide*.



## 1.13.6 Examples

The following example shows how to display the threshold configuration for all ranges in the current context:

```
[local]Redback>show dhcp server threshold range
```

```
Interface "subs":
```

```
100.100.10.2    100.100.10.254    threshold falling 10 log
```



## 1.14 show dhcpv6 log

```
show dhcpv6 log [circuit slot/port:ch:sub | duid hex-string |
prefix ipv6-prefix/length]
```

### 1.14.1 Purpose

Displays the DHCPv6-PD log history.

### 1.14.2 Command Mode

All modes

### 1.14.3 Syntax Description

<code>circuit slot/port:ch:sub</code>	Optional. Filters log messages by circuit. The <code>slot/port:ch:sub</code> argument is the slot and port, channel, and subchannel numbers for a circuit.
<code>duid hex-string</code>	Optional. Filters log messages by DHCPv6 server DUID; <code>hex-string</code> is a colon-delimited hexadecimal number.
<code>prefix ipv6-prefix/length</code>	Optional. Filters log messages by IPv6 prefixes; the <code>ipv6-prefix/length</code> argument specifies an IPv6 prefix and length in the format <code>A:B:C:D::E/length</code> ; the length can be from 0 to 128.

### 1.14.4 Default

None

### 1.14.5 Usage Guidelines

To display the DHCPv6 logs, enter the `show dhcpv6 log` command.

You can filter the output by circuit, DUID, or IPv6 prefix.

To determine the DUID for a DHCPv6 server, see `show dhcpv6 server`.

### 1.14.6 Examples

The following example shows sample output with no filtering:

```
[local]Redback#show dhcpv6 log
Time   Evnt  SubEvent          Key (ccth|ipv6addr|etc)  Details
-----
```



506.17	Proc	Create-thread		helper
582.32	Hlpr	Do-Upload		
582.34	Hlpr	Upload		
582.36	Proc	Create-thread		cmd
582.38	Proc	Create-thread		be
582.40	Proc	Endpoint-alive		rcm
582.41	Hlpr	Ctx-Add		
582.43	Hlpr	Ctx-Add		
582.44	Hlpr	Ctx-Add		
582.44	RCM	R:EOF		
582.50	Proc	Create-thread		ism
582.58	Proc	Endpoint-alive		ism_mbe
582.58	ISM	FSM-Event		MBE-EP-Up
582.58	ISM	FSM-New-State		MBE-EP-up (All-EP-down)
582.58	Proc	Endpoint-alive		ism
582.58	ISM	FSM-Event		Client-EP-Up
582.58	ISM	S:reg-clnt		
582.58	ISM	S:reg-mbe		
582.59	ISM	FSM-New-State		Await-EOF (MBE-EP-up)
582.82	ISM	R:Cct-State	1/1:1023:63/1/1/11	CCT create
582.82	ISM	R:Cct-Cfg	1/1:1023:63/1/1/11	CCT ethcfg
582.82	ISM	R:Cct-State	1/1:1023:63/1/1/11	CCT up
582.82	ISM	R:Cct-State	7/1:1023:63/1/1/13	CCT create
582.82	ISM	R:Cct-Cfg	7/1:1023:63/1/1/13	CCT ethcfg
582.82	ISM	R:Cct-State	7/1:1023:63/1/1/13	CCT up
582.82	ISM	R:Cct-State	255/6:5:18/1/1/4	CCT create
582.82	ISM	R:Cct-Cfg	255/6:5:18/1/1/4	CCT ethcfg
582.82	ISM	R:Cct-State	255/6:5:18/1/1/4	CCT down
582.82	ISM	R:Cct-State	255/6:5:19/1/1/6	CCT create
582.82	ISM	R:Cct-Cfg	255/6:5:19/1/1/6	CCT ethcfg
582.82	ISM	R:Cct-State	255/6:5:19/1/1/6	CCT down
582.82	ISM	R:Cct-State	255/6:5:20/1/1/7	CCT create
582.82	ISM	R:Cct-Cfg	255/6:5:20/1/1/7	CCT ethcfg
582.82	ISM	R:Cct-State	255/6:5:20/1/1/7	CCT down
582.82	ISM	R:Cct-State	255/11:5:18/1/2/5	CCT create
582.82	ISM	R:Cct-Cfg	255/11:5:18/1/2/5	CCT lqcfg
582.82	ISM	R:Cct-State	255/11:5:18/1/2/5	CCT down
582.82	ISM	R:Cct-State	255/11:5:20/1/2/8	CCT create
582.82	ISM	R:Cct-Cfg	255/11:5:20/1/2/8	CCT lqcfg
582.82	ISM	R:Cct-State	255/11:5:20/1/2/8	CCT down
582.82	ISM	R:Cct-State	255/22:1:26/1/1/2	CCT create
582.82	ISM	R:Cct-Cfg	255/22:1:26/1/1/2	CCT ethcfg
582.82	ISM	R:Cct-State	255/22:1:26/1/1/2	CCT down
582.82	ISM	R:Cct-State	255/22:1:27/1/1/3	CCT create
582.82	ISM	R:Cct-Cfg	255/22:1:27/1/1/3	CCT ethcfg
582.82	ISM	R:Cct-State	255/22:1:27/1/1/3	CCT down
582.82	ISM	R:If-State		I/F create
582.82	ISM	R:If-Cfg		I/F cfg
582.82	ISM	R:If-Ipv6Cfg		I/F ipcfg
582.82	ISM	R:If-State		I/F down
582.82	ISM	R:If-State		I/F create
582.82	ISM	R:If-Cfg		I/F cfg
582.82	ISM	R:If-Ipv6Cfg		I/F ipcfg
582.82	ISM	R:If-State		I/F down
582.82	ISM	R:If-State		I/F create
582.82	ISM	R:If-Cfg		I/F cfg
582.82	ISM	R:If-Ipv6Cfg		I/F ipcfg
582.82	ISM	R:If-State		I/F down
582.82	ISM	R:EOF		
582.82	ISM	R:Mbe-All-EOF		EOF
582.82	ISM	FSM-Event		All-EP-up (Await-EOF)
582.82	ISM	FSM-New-State		MBE-All-EOF
582.82	ISM	FSM-Event		
582.91	Proc	Create-thread		pkt-rx
582.93	Proc	Create-thread		pkt-process
582.95	Proc	Create-thread		timer
582.97	ISM	S:EOF		
582.97	Proc	Ready		
054.02	ISM	R:Cct-State	1/1:1023:63/6/2/1	CCT create
054.02	ISM	R:Cct-Cfg	1/1:1023:63/6/2/1	CCT ethcfg
054.02	ISM	R:Cct-State	1/1:1023:63/6/2/1	CCT up
054.13	ISM	R:Cct-State	1/1:1023:63/6/2/2	CCT create
054.13	ISM	R:Cct-Cfg	1/1:1023:63/6/2/2	CCT ethcfg
054.13	ISM	R:Cct-State	1/1:1023:63/6/2/2	CCT up
054.19	ISM	R:Cct-Cfg	1/1:1023:63/6/2/1	CCT ethcfg
054.22	ISM	R:Cct-Cfg	1/1:1023:63/6/2/2	CCT ethcfg



```
054.58 ISM R:Cct-Cfg 1/1:1023:63/6/2/1 CCT ethcfg
054.59 ISM R:Cct-Cfg 1/1:1023:63/6/2/2 CCT ethcfg
054.77 ISM R:Cct-Cfg 1/1:1023:63/1/1/11 CCT ethcfg
054.77 ISM R:Cct-Cfg 1/1:1023:63/6/2/1 CCT ethcfg
054.85 ISM R:Cct-Cfg 1/1:1023:63/6/2/2 CCT ethcfg
054.85 ISM R:If-Cfg I/F cfg
054.85 ISM R:If-State I/F bind
054.85 ISM R:If-State I/F bind
054.85 ISM R:If-Ipv6Cfg I/F ipcfg
054.85 ISM R:If-State I/F up
054.90 Pkt Pkt from Client 1/1:1023:63/6/2/1 Solicit
      (cont'd) fe80::54c2:26b0:3dba:4fda
      (cont'd) 00:03:00:01:00:00:64:01:01:02
054.92 Pkt Pkt to Client 1/1:1023:63/6/2/1 Advertise
      (cont'd) fe80::230:88ff:fe00:1cf7
      (cont'd) 00:03:00:01:00:00:64:01:01:02
054.92 Pkt Pkt from Client 1/1:1023:63/6/2/2 Solicit
      (cont'd) fe80::25bb:5e6a:1332:a330
      (cont'd) 00:03:00:01:00:00:64:01:01:03
054.92 Pkt Pkt to Client 1/1:1023:63/6/2/2 Advertise
      (cont'd) fe80::230:88ff:fe00:1cf7
      (cont'd) 00:03:00:01:00:00:64:01:01:03
054.92 Pkt Pkt from Client 1/1:1023:63/6/2/1 Request
      (cont'd) fe80::54c2:26b0:3dba:4fda
      (cont'd) 00:03:00:01:00:00:64:01:01:02
054.92 Int IPv6 Add 1/1:1023:63/6/2/1
      (cont'd) 2001:a:1:1::/64
      (cont'd) 00:03:00:01:00:00:64:01:01:02
054.92 Int Route Add 1/1:1023:63/6/2/1
      (cont'd) 2001:a:1:1::/64
      (cont'd) 00:03:00:01:00:00:64:01:01:02
054.93 Tmr Timer Start 1/1:1023:63/6/2/1
      (cont'd) 00:03:00:01:00:00:64:01:01:02
054.93 Hlpr Add 1/1:1023:63/6/2/1
      (cont'd) 00:03:00:01:00:00:64:01:01:02
054.93 Int Bind Add 1/1:1023:63/6/2/1
      (cont'd) 00:03:00:01:00:00:64:01:01:02
054.93 Pkt Pkt to Client 1/1:1023:63/6/2/1 Reply
      (cont'd) fe80::230:88ff:fe00:1cf7
      (cont'd) 00:03:00:01:00:00:64:01:01:02
054.93 Pkt Pkt from Client 1/1:1023:63/6/2/2 Request
      (cont'd) fe80::25bb:5e6a:1332:a330
      (cont'd) 00:03:00:01:00:00:64:01:01:03
054.93 Int IPv6 Add 1/1:1023:63/6/2/2
      (cont'd) 2001:b:1:2::/64
      (cont'd) 00:03:00:01:00:00:64:01:01:03
054.93 Int Route Add 1/1:1023:63/6/2/2
      (cont'd) 2001:b:1:2::/64
      (cont'd) 00:03:00:01:00:00:64:01:01:03
054.93 Tmr Timer Start 1/1:1023:63/6/2/2
      (cont'd) 00:03:00:01:00:00:64:01:01:03
054.93 Hlpr Add 1/1:1023:63/6/2/2
      (cont'd) 00:03:00:01:00:00:64:01:01:03
054.93 Int Bind Add 1/1:1023:63/6/2/2
      (cont'd) 00:03:00:01:00:00:64:01:01:03
054.93 Pkt Pkt to Client 1/1:1023:63/6/2/2 Reply
      (cont'd) fe80::230:88ff:fe00:1cf7
      (cont'd) 00:03:00:01:00:00:64:01:01:03
```

The following example shows output filtered by the IPv6 prefix 2001:a:1:1::/64:



```
[local]Redback#show dhcpv6 log prefix 2001:a:1:1::/64
```

Time	Evnt	SubEvent	Key (ccth ipv6addr etc)	Details
054.92	Int	IPv6 Add	1/1:1023:63/6/2/1	
		(cont'd)	2001:a:1:1::/64	
		(cont'd)	00:03:00:01:00:00:64:01:01:02	
054.92	Int	Route Add	1/1:1023:63/6/2/1	
		(cont'd)	2001:a:1:1::/64	
		(cont'd)	00:03:00:01:00:00:64:01:01:02	
055.24	Hlpr	Add-Resp	2001:a:1:1::/64	
		(cont'd)	00:03:00:01:00:00:64:01:01:02	
055.16	Hlpr	Update-Resp	2001:a:1:1::/64	
		(cont'd)	00:03:00:01:00:00:64:01:01:02	
055.11	Hlpr	Update-Resp	2001:a:1:1::/64	
		(cont'd)	00:03:00:01:00:00:64:01:01:02	
055.06	Hlpr	Update-Resp	2001:a:1:1::/64	
		(cont'd)	00:03:00:01:00:00:64:01:01:02	
055.03	Hlpr	Update-Resp	2001:a:1:1::/64	
		(cont'd)	00:03:00:01:00:00:64:01:01:02	
054.99	Hlpr	Update-Resp	2001:a:1:1::/64	
		(cont'd)	00:03:00:01:00:00:64:01:01:02	
054.95	Hlpr	Update-Resp	2001:a:1:1::/64	
		(cont'd)	00:03:00:01:00:00:64:01:01:02	
054.90	Hlpr	Update-Resp	2001:a:1:1::/64	
		(cont'd)	00:03:00:01:00:00:64:01:01:02	



## 1.15 show dhcpv6 server duid

```
show dhcpv6 server duid
```

### 1.15.1 Purpose

Displays the DUID that the SmartEdge OS DHCPv6-PD server is using as its identifier when communicating with clients.

### 1.15.2 Command Mode

All modes

### 1.15.3 Syntax Description

This command has no keywords or arguments.

### 1.15.4 Default

None

### 1.15.5 Usage Guidelines

Use the `show dhcpv6 server duid` command to look up the DUID for a DHCPv6-PD server.

### 1.15.6 Examples

The following example shows how to display the DUID that the SmartEdge OS DHCPv6-PD server is using as its identifier when communicating with clients:

```
[local]Redback#show dhcpv6 server duid
Dhcpv6 Server DUID: 00:01:00:01:12:fc:7f:6e:00:30:88:00:1c:f7
```



## 1.16 show dhcpv6 server host

```
show dhcpv6 server host [circuit slot/port:ch:sub | duid
hex-string | prefix host-prefix | subnet prefix/length] [detail
| summary]
```

### 1.16.1 Purpose

Display information about DHCPv6-PD server hosts.

### 1.16.2 Command Mode

All modes

### 1.16.3 Syntax Description

*circuit slot/port:ch:sub*

Optional. Show information for the host with the specified circuit. The *slot/port:ch:sub* argument is the slot and port, channel, and subchannel numbers for a circuit.

*duid hex-string*

Optional. Show information for the host or client with the specified DUID.

*prefix host-prefix/length*

Optional. Display information about a host with the specified prefix (per context) (an exact match). The IPv6 prefix and length are in the format *A:B:C:D::E/length*; the length can be from 0 to 128.

*subnet prefix/length*

Optional. Display information about the hosts on the specified subnet (per context); matches any prefix whose address part matches the address part of the subnet. The IPv6 prefix and length are in the format *A:B:C:D::E/length*; the length can be from 0 to 128.

*detail*

Optional. Display detailed information.

*summary*

Optional. Summary information is displayed.

### 1.16.4 Default

None

### 1.16.5 Usage Guidelines

Use the `show dhcpv6 server host` command to view information about DHCPv6-PD server hosts. You can filter the output with one of the optional



circuit, host or client DUID, IPv6 prefix or subnet constructs. You can add the mutually exclusive **detail** or **summary** keywords after the filtering constructs.

To determine the DUID to use for a DHCPv6-PD server in the current context, use the **show dhcpv6 server duid** command. You can also determine the DUIDs for hosts with specified prefixes or subnets using the **show dhcpv6 server host** command with the **prefix** or **subnet** keyword, which are context specific.

To show information for a context other than the current one, enter the **context ctx-name** construct before the command.

## 1.16.6 Examples

The following example shows how to display detailed information for the active DHCPv6-PD server hosts:

```
[local]Redback#show dhcpv6 server host detail
DHCPv6 Server Host Record:
-----
DUID: 00:03:00:01:00:00:64:01:01:02
  IA Type: PD, IA ID: 0, T1: 3600, T2: 5760
  Prefix: 2001:a:1:1::/64
         preferred lifetime: 7200
         valid lifetime: 14400
         TTL: 11929
         expires at Fri Feb  5 14:10:53 2010
  Ifgrid: 0x10000001
  Context id: 0x40080001
  Cct: 1/1:1023:63/6/2/1
  Cct flags: 0x0007

DUID: 00:03:00:01:00:00:64:01:01:03
  IA Type: PD, IA ID: 0, T1: 3600, T2: 5760
  Prefix: 2001:b:1:2::/64
         preferred lifetime: 7200
         valid lifetime: 14400
         TTL: 11929
         expires at Fri Feb  5 14:10:53 2010
  Ifgrid: 0x10000001
  Context id: 0x40080001
  Cct: 1/1:1023:63/6/2/2
  Cct flags: 0x0007
```

The following example displays the DHCPv6 client on the 1/1 pppoe 1 circuit:

```
[local]Redback#show dhcpv6 server host circuit 1/1 pppoe 1
DHCPv6 Server Host Record:
-----
DUID: 00:03:00:01:00:00:64:01:01:02
  IA Type: PD, IA ID: 0, T1: 3600, T2: 5760
  Prefix: 2001:a:1:1::/64
         preferred lifetime: 7200
         valid lifetime: 14400
         TTL: 11646
         expires at Fri Feb  5 14:10:53 2010
```

The following example displays output for the DHCPv6 client that has the DUID, 00:03:00:01:00:00:64:01:01:03:



```
[local]Redback#show dhcpv6 server host duid 00:03:00:01:00:00:64:01:01:03
DHCPv6 Server Host Record:
-----
DUID: 00:03:00:01:00:00:64:01:01:03
  IA Type: PD, IA ID: 0, T1: 3600, T2: 5760
  Prefix: 2001:b:1:2::/64
         preferred lifetime: 7200
         valid lifetime: 14400
         TTL: 11594
         expires at Fri Feb  5 14:10:53 2010
```

The following example displays output for the DHCPv6-PD server hosts on the 2001::/16 subnet in the isp203 context:

```
[local]Redback#context isp203 show dhcpv6 server subnet 2001::/16
DHCPv6 Server Host Record:
-----
DUID: 00:03:00:01:00:00:64:01:01:02
  IA Type: PD, IA ID: 0, T1: 3600, T2: 5760
  Prefix: 2001:a:1:1::/64
         preferred lifetime: 7200
         valid lifetime: 14400
         TTL: 11735
         expires at Fri Feb  5 14:10:53 2010

DUID: 00:03:00:01:00:00:64:01:01:03
  IA Type: PD, IA ID: 0, T1: 3600, T2: 5760
  Prefix: 2001:b:1:2::/64
         preferred lifetime: 7200
         valid lifetime: 14400
         TTL: 11735
         expires at Fri Feb  5 14:10:53 2010
```



## 1.17 show dhcpv6 statistics

`show dhcpv6 statistics [clear] [detail]`

### 1.17.1 Purpose

Displays and optionally clears DHCPv6-PD statistics.

### 1.17.2 Command Mode

All modes

### 1.17.3 Syntax Description

<code>clear</code>	Optional. Clears DHCPv6 statistics after producing the output.
<code>detail</code>	Optional. Displays detailed DHCPv6 statistics.

### 1.17.4 Default

None

### 1.17.5 Usage Guidelines

To view statistics about the DHCPv6-PD server, enter the `show dhcpv6 statistics` command. Adding the `clear` keyword has the same effect as running the `clear dhcpv6 statistics` command after the `show` command.

### 1.17.6 Examples

The following example shows how to display DHCPv6-PD statistics:



```
[local]Redback#show dhcpv6 statistics
Current time: Tue Mar 23 21:52:31 2010
Last cleared: Never
```

```
PKT-----
Packets Rx          : 0          Packets Tx          : 0
Solicit             : 0          Advertise           : 0
Request            : 0          Confirm            : 0
Renew              : 0          Rebind            : 0
Reply              : 0          Release           : 0
Decline            : 0          Reconfigure       : 0
Relay Fwd          : 0          Relay Reply       : 0
Info Req           : 0          Unknown Pkt       : 0
```

```
Dropped pkt-----
Solicit             : 0          Advertise           : 0
Request            : 0          Confirm            : 0
Renew              : 0          Rebind            : 0
Reply              : 0          Release           : 0
Decline            : 0          Reconfigure       : 0
Inform Req         : 0          Unknown Pkt       : 0
```

The following example shows how to display detailed DHCPv6-PD statistics:

```
[local]Redback#show dhcpv6 statistics detail
Current time: Tue Mar 23 21:55:00 2010
Last cleared: Never
```

```
PKT-----
Packets Rx          : 0          Packets Tx          : 0
Solicit             : 0          Advertise           : 0
Request            : 0          Confirm            : 0
Renew              : 0          Rebind            : 0
Reply              : 0          Release           : 0
Decline            : 0          Reconfigure       : 0
Relay Fwd          : 0          Relay Reply       : 0
Info Req           : 0          Unknown Pkt       : 0
```

```
Dropped pkt-----
Solicit             : 0          Advertise           : 0
Request            : 0          Confirm            : 0
Renew              : 0          Rebind            : 0
Reply              : 0          Release           : 0
Decline            : 0          Reconfigure       : 0
Inform Req         : 0          Unknown Pkt       : 0
No I/F Bind        : 0          No Prefix          : 0
No Cct             : 0          No Context         : 0
Rx Opt Err         : 0          Tx Opt Err        : 0
Bad Cct            : 0          Bad Slot           : 0
```



Inv Unicast	: 0	Slot Throttle	: 0
RxMsg Error	: 0	Bad Length	: 0

Dhhelperv6-----

Birth	: 1	Death	: 0
IPC In	: 3	Msgs In	: 3
Add Request	: 0	Update Request	: 0
Delete Request	: 0	Add Response	: 0
Update Response	: 0	Delete Response	: 0
Add Request Fail	: 0	Upd Request Fail	: 0
Del Request Fail	: 0	Upload From Helper	: 1

Standby Dhhelperv6-----

Standby Birth	: 1	Standby Death	: 0
Add Request	: 0	Update Request	: 0
Delete Request	: 0	Add Response	: 0
Update Response	: 0	Delete Response	: 0
Add Request Fail	: 0	Upd Request fail	: 0
Del Request fail	: 0		

ISM-----

Birth	: 1	Death	: 0
IPC In	: 2	Msgs In	: 9
ISM Cct Create	: 1	ISM Cct Delete	: 0
ISM Cct Up	: 1	ISM Cct Down	: 0
ISM Bind Msg	: 0	ISM UnBind Msg	: 0
ISM IF Create	: 1	ISM IF Delete	: 0
ISM IF Up	: 0	ISM IF Down	: 1
ISM Port Down	: 0	ISM Port Delete	: 0
Rx EOF	: 1	Rx MBE All EOF	: 1
Tx EOF	: 1	ISM Throttle	: 0
Ipv6 Host Add	: 0	Ipv6 Host Del	: 0

Input pack Q full (packet drops): 0  
Input pack Q (enqueued) count: 0  
Input pack Q (dequeued) count: 0



## 1.18 show diag

For any SmartEdge chassis except the SmartEdge 100 chassis, to display the results of the power-on diagnostic (POD) tests:

```
show diag pod [backplane [detail] | card slot [detail] | fantray
[detail] | detail]
```

For a SmartEdge 100 chassis, to display the results of the POD tests:

```
show diag pod [card [detail] | detail]
```

For any SmartEdge chassis except the SmartEdge 100 chassis, to display the results of the on-demand diagnostic (ODD) tests.

```
show diag on-demand [card slot [disk disk_num] [detail] | mesh
[detail] | standby [detail] | history num-ses [detail] | detail]
```

For a SmartEdge 100 chassis, to display the results of the ODD tests:

```
show diag on-demand [card [detail] | history num-ses [detail] |
detail]
```

### 1.18.1 Purpose

Displays the results of POD or ODD tests for one or more units.

### 1.18.2 Command Mode

All modes

### 1.18.3 Syntax Description

<code>pod</code>	Displays results from the POD tests.
<code>on-demand</code>	Displays results from the ODD tests.
<code>backplane</code>	Optional. Displays POD results for the backplane in any chassis.
<code>card slot</code>	Optional. Latest results for the card specified by the <code>slot</code> argument. The range of values for <code>slot</code> is: <ul style="list-style-type: none"> <li>• 1 to 2 for a SmartEdge 100 chassis, where the controller card is installed in slot 1 and the carrier card is installed in slot 2.</li> <li>• 1 to 6 for a SmartEdge 400 chassis, where line cards are installed in slots 1 through 4 and controller cards are installed slots 5 and 6.</li> <li>• 1 to 8 for a SmartEdge 600 chassis, where line cards are installed in slots 1 through 6 and controller cards are installed slots 7 and 8.</li> <li>• 1 to 14 for a SmartEdge 800 or SmartEdge 1200/1200H chassis, where line cards are installed in slots 1 through 6 and 9 through 14 and controller cards are installed in slots 7 and 8.</li> </ul>



<code>disk disk_num</code>	Optional. Disk number on the SSE card. Values: 1 or 2.
<code>standby</code>	Optional. Displays the latest results for the standby controller card.
<code>fantray</code>	Optional. Displays POD results for the fan tray or the fan and alarm unit in the SmartEdge 800 chassis.
<code>mesh</code>	Optional. Displays results for packet mesh tests.
<code>detail</code>	Optional. Displays detailed results.
<code>history num-ses</code>	Optional. Previous results from the history file for the number of ODD sessions specified by the <code>num-ses</code> argument. The first set of results is for the last initiated session. The range of values is 1 to 100.
<code>pod</code>	Displays results from the POD tests.
<code>on-demand</code>	Displays results from the ODD tests.
<code>backplane</code>	Optional. Displays POD results for the backplane in any chassis.
<code>card slot</code>	Optional. Latest results for the card specified by the <code>slot</code> argument.  The range of values for <code>slot</code> is: <ul style="list-style-type: none"> <li>• 1 to 2 for a SmartEdge 100 chassis, where the controller card is installed in slot 1 and the carrier card is installed in slot 2.</li> <li>• 1 to 6 for a SmartEdge 400 chassis, where line cards are installed in slots 1 through 4 and controller cards are installed slots 5 and 6.</li> <li>• 1 to 8 for a SmartEdge 600 chassis, where line cards are installed in slots 1 through 6 and controller cards are installed slots 7 and 8.</li> <li>• 1 to 14 for a SmartEdge 800 or SmartEdge 1200/1200H chassis, where line cards are installed in slots 1 through 6 and 9 through 14 and controller cards are installed in slots 7 and 8.</li> </ul>
<code>standby</code>	Optional. Displays the latest results for the standby controller card.
<code>fantray</code>	Optional. Displays POD results for the fan tray or the fan and alarm unit in the SmartEdge 800 chassis.
<code>mesh</code>	Optional. Displays results for packet mesh tests.
<code>detail</code>	Optional. Displays detailed results.
<code>history num-ses</code>	Optional. Previous results from the history file for the number of ODD sessions specified by the <code>num-ses</code> argument. The first set of results is for the last initiated session. The range of values is 1 to 100.

## 1.18.4 Default

For POD, displays a summary of the results for all units. For ODD, displays summary results for all cards from the last initiated session.

## 1.18.5 Usage Guidelines

Use the `show diag` command to display the results of the POD or ODD tests for one or more units.

Results for POD are updated whenever a card is installed in the chassis of a running system, or the system is reloaded using the `reload` command (in exec mode). Only the latest results are displayed.



The latest results for POD are stored in a log with a buffer for each card. The system also stores the log and maintains a history file on the compact-flash card for low-level software to store results for up to 100 sessions.

For POD, use the `detail` keyword to determine which tests the unit has failed.

No POD results are reported for unprovisioned cards. You must first provision a card before POD results for it can be reported.

For ODD, use the `detail` keyword to display all data in the summary, and, for each test that failed, the details about the test failure. This keyword can be combined with any other keyword or argument; if it is the only keyword specified, it displays detailed results from the last session.

For the SmartEdge 100 chassis, use the `history` keyword to display results of previous ODD sessions; for any other SmartEdge chassis, use the `history num-ses` construct. The first set of results is for the last initiated session.

For the SmartEdge 100 chassis, use the `card` keyword to display the log for the carrier card; for any other SmartEdge chassis, use the `card slot` construct to display the log for any line card.

Table 2 lists the possible summary results for an ODD session.

*Table 2 Status Descriptions for ODD Sessions*

<b>Session Status</b>	<b>Description</b>
Aborted	Session was terminated by the user.
Incomplete	At least one of the requested tests could not be run.
In-Progress	Session is currently in progress.
<i>n</i> Failures	Number of test failures that occurred during the session.
Passed	All tests passed.

Table 3 lists the descriptions for the test status that can be displayed.

*Table 3 Descriptions for Test Status*

<b>Test Status</b>	<b>Description</b>
Aborted	Test was started but was terminated before it could be completed.
Failed	Test ran and failed.
Not Run	Initial state, test not yet run.
Passed	Test ran successfully.



Table 3 Descriptions for Test Status

Test Status	Description
Running	Test is currently in progress.
Skipped	Test could not be run; for example, part revision is earlier than the required minimum version or no file found.

In general, if a unit fails to pass a test, you should replace it or make arrangements for its replacement. Contact your local technical support representative for more information about the results of a failed test. For troubleshooting information on uncorrected file system error recovery on an SSE card, see *SSE Configuration and Operation*.

**Note:** In the case of a mesh test failure, the test results can mean that one of the cards has failed, one of the slots has failed, or that the mesh itself has failed. Use the `detail` keyword with the `show diag` command to display the results of the mesh test; depending on the results, you can run the mesh test several times with different slot combinations. Mesh test results are cumulative to allow you to view the results of all slot combinations as an aid in determining the failure condition before notifying your local technical support representative or the support organization.

**Note:** If the version of the Sys FPGA on a line card is not 0x7 or later, the voltage check, temperature check, and bus tests cannot be run; they are skipped, and the session status is reported as “Incomplete”. To resolve the problem, enter the `show hardware` command with the `card` and `detail` keywords (in any mode) to display the FPGA version in the SysFpga field. To upgrade this FPGA to the latest version, contact your local technical representative or the support organization.

**Note:** By default, most `show` commands (in any mode) display information for the current context only or, depending on the command syntax, for all contexts. If you are an administrator for the local context, you can insert the optional `context ctx-name` construct, preceding the `show` command, to view output for the specified context without entering that context. For more information about using the `context ctx-name` construct, see the `context` command description.

**Note:** By appending a space followed by the pipe (|) character at the end of a `show` command, you can filter the output using a set of modifier keywords and arguments. For more information, see *Modifying Output of show Commands* in *Using the CLI*.

## 1.18.6 Examples

### Example 1



The following command line is used to show the summary results of the POD tests:

```
[local]Redback#show diag pod
```

### Example 2

The following command line is used to show the detailed results of the POD tests for the card in slot 2 :

```
[local]Redback#show diag pod card 2 detail
```

### Example 3

The following command line is used to show the detailed of the POD results for the card in slot 7:

```
[local]Redback#show diag pod card 7 detail
```

### Example 4

The following example displays the summary results for the ODD level 2 test on the line card in slot 2 :

```
[local]Redback#show diag on-demand card 2
```

### Example 5

The following example shows the detailed results of the mesh ODD test of a SmartEdge 400 chassis. P indicates a passed condition, F indicates a failed condition, and "-" indicates not applicable. The system keeps track of mesh test failures from previous mesh test runs and displays summary results for all line card slots. The **diag on-demand mesh reset** command clears this summary information (resets the values to -):



[local]Redback#show diag on-demand mesh detail

```

Slot Number          : 1
Card Type            : oc3e-8-port
Detected Card Type   : oc3e-8-port
Serial Number        : 8J008070200146
Detected Serial Number : 8J008070200146
Test Summary         : 1 Failure detected
Slot Number          : 2
Card Type            : ge-5-port
Detected Card Type   : ge-5-port
Serial Number        : 7U123456789012
Detected Serial Number : 7U123456789012
Test Summary         : 1 Failure detected
Slot Number          : 3
Card Type            : oc48e-4-port
Detected Card Type   : oc48e-4-port
Serial Number        : 8L0E6090100666
Detected Serial Number : 8L0E6090100666
Test Summary         : Incomplete - 3 tests skipped
Controller Serial Number: 6Y038050200239
Test Level           : Mesh
Loop Count           : 1
Start Time           : 23:25:23 11/09/2002
Completion Time      : 23:27:58 11/09/2002
Mesh Test Summary    : Passed

```

Test Results Loop 1:

Tx Slot	Pkts Sent	Rx Slot	Pkts Recv	Status
1	37500	2	36498	Failed

Summary Results of Mesh Bus Testing

Tx/Rx	1	2	3	4	XC	XC
1	-	*F*	P	-	-	-
2	P	-	P	-	-	-
3	P	P	-	-	-	-
4	-	-	-	-	-	-
XC	-	-	-	-	-	-
XC	-	-	-	-	-	-

### Example 6

The following example shows how to display the controller card and carrier card results of the on-demand testing of a SmartEdge 100 chassis:



```
[local]Redback#show diag on-demand
```

```
Slot Number          : 1
Card Type            : XCRP
Detected Card Type   : none
Serial Number        : A90J5080500069
Detected Serial Number :
Controller Serial Number: 8N026090100864
Test Level           : 3
Loop Count           : 1
Start Time           : 21:53:50 05/9/2006
Completion Time      : 21:54:37 05/9/2006
Test Summary         : Passed
Slot Number          : 2
Card Type            : carrier
Detected Card Type   : none
Serial Number        : A80C5040500029
Detected Serial Number :
Controller Serial Number: 8N026090100864
Test Level           : 3
Loop Count           : 1
Start Time           : 21:55:31 05/09/2006
Completion Time      : 21:57:11 05/09/2006
Test Summary         : 1 Failure
```

```
MIC 1
MIC Type             : ge-2-port
Detected MIC Type    : none
Serial Number        : A80C5040500029
Detected Serial Number :
Controller Serial Number: 8N026090100864
Test Level           : 3
Loop Count           : 1
Start Time           : 21:55:31 05/09/2006
Completion Time      : 21:57:11 05/09/2006
Test Summary         : 1 Failure
```

```
MIC 2
MIC Type             : ge-2-port
Detected MIC Type    : none
Serial Number        : A80C5040500029
Detected Serial Number :
Controller Serial Number: 8N026090100864
Test Level           : 3
Loop Count           : 1
Start Time           : 21:55:31 05/09/2006
Completion Time      : 21:57:11 05/09/2006
Test Summary         : Passed.
```



## 1.19 show disk

`show disk [internal | external] [detail]`

### 1.19.1 Purpose

Displays status for the internal (NetBSD compact-flash card) card, and the external (mass-storage device) card, if installed, and the soft and hard error count, in the external slot of the controller card to which you are connected.

### 1.19.2 Command Mode

All modes(10)

### 1.19.3 Syntax Description

<code>internal</code>	Optional. Displays status for the root file system on the NetBSD compact-flash card.
<code>external</code>	Optional. Displays status for the /md file system on the mass-storage device.
<code>detail</code>	Optional. Displays detailed results.

### 1.19.4 Default

Displays status for both the root and /md file systems.

### 1.19.5 Usage Guidelines

Use the `show disk` command to display status for the internal (NetBSD compact-flash card) card, and the external (mass-storage device) card, if installed, and the soft and hard error count, in the external slot of the controller card to which you are connected.

Table 4 lists the fields displayed by this command.

Table 4 Field Descriptions for the show disk Command

Field	Description
Location	Location of the storage device: <ul style="list-style-type: none"> <li>• <code>internal</code>—Internal-storage device (compact-flash card) typically installed in a slot</li> <li>• <code>external</code>—External-storage device installed in an external slot</li> </ul>



Table 4 Field Descriptions for the `show disk` Command

Field	Description
512-blocks	Size of the file system in 512-byte blocks: <ul style="list-style-type: none"> <li>• 362,526—192-MB internal compact-flash card, root file system</li> <li>• 484,079—256-MB internal compact-flash card, root file system</li> <li>• 968,158—512-MB internal compact-flash card, root file system</li> <li>• 1,021,244—1-GB mass-storage device, /md file system</li> </ul>
Used	Number of blocks in use
Avail	Number of blocks available
Capacity	Percent of blocks used in the file system, calculated using the number of usable blocks (Used + Avail)
Mounted on	Device on which the file system is mounted: <ul style="list-style-type: none"> <li>• /—Internal compact-flash card</li> <li>• /md—Mass-storage device in the external slot</li> </ul>

**Note:**

The following notes apply to the data in Table 4:

- The minimum size of an internal compact-flash card is 192 MB.
- The size of the root file system includes the sizes of the /flash file system and the p0 and p1 partitions on the NetBSD compact-flash card.
- The size of the /md file system does not include the partition for operating system core dumps on the mass-storage device; it is approximately 500 MB.
- The number of usable 512-byte blocks (the sum of the Used and Avail fields) on a device is approximately 95% of the number of 512-byte blocks.
- The capacity of a mass-storage device can decrease slightly over time if sectors are marked as unusable (cannot be read or written).

Table 5 lists the additional fields that are displayed by the `show disk` command when you include the `detail` keyword.

*Table 5 Field Descriptions for the show disk Command with the detail Keyword*

<b>Field</b>	<b>Description</b>
Controller Status	Controller status flags: <ul style="list-style-type: none"><li>• I—Failed to clear an interruption</li><li>• N—New event not yet processed</li><li>• P—Device present</li></ul>
Num attach/detach	Number of times an external device was inserted or removed
Disk Status	A—Attached C—Changing the current directory failed (cd command failure) D—Change to file permissions failed E—Installed in external slot F—File system check failed I—Installed in internal slot M—Mounted N—Creation of a new file system failed O—Automatic mount failed R—Reformatting disk S—Failed to attach an external disk as a core dump device T—Unmount command failed U—Automatically mounted
Disk # of event	Number of times the operating system notified applications that the external device was inserted



**Note:** A soft error is any error that is abnormal but recoverable on the system, during the drive or compact-flash operation. The soft error counter is incremented when one of the following conditions occurs:

- A timeout is issued
- A read interrupt before data request is issued
- An error is corrected
- A `flush cache` command did not completed
- A `flush cache` command timeout is issued
- A standby command did not complete when issued
- A standby command timeout is issued
- A channel failed to reset
- A data transfer error is issued
- A timeout waiting for interrupt is issued

A hard error occurs when the system cannot read the drive information or when an error is not recoverable. Typically, if a hard error occurs, the drive needs to be replaced.

The hard error counter is incremented when one of the following conditions occurs:

- Drive information cannot be read.
- A drive fault status error message is received when the `flush cache` command is run.
- A drive fault status error message is received when the `standby` command is run.
- A drive write fault status error message is received when various drive commands are run.

**Note:** By default, most `show` commands (in any mode) display information for the current context only or, depending on the command syntax, for all contexts. If you are an administrator for the local context, you can insert the optional `context ctx-name` construct, preceding the `show` command, to view output for the specified context without entering that context. For more information about using the `context ctx-name` construct, see the `context` command description.

**Note:** By appending a space followed by the pipe ( | ) character at the end of a `show` command, you can filter the output using a set of modifier keywords and arguments. For more information, see *Modifying Output of show Commands* in *Using the CLI*.



## 1.19.6 Examples

The following example displays detailed status for the mass-storage device in the external slot of the active controller card:

```
[local]Redback>show disk external

Controller Status Flags
Flags: P - device present, I - Failed to clear an interrupt,
       N - New event not processed
-----
Controller status: P
Num attach/detach: 1/1
Card Status Flags
Flags: A - Attached, M - Mounted
       U - Automatically mounted, F - Filesystem check failed
       N - Creation of new filesystem failed,      O - automatic mount failed,
       C - changing the current directory failed,  S - Swap failed, T - unmount failed
       D - change to file permissions failed
-----
Disk status: AMU
Disk # evnt: 3

Mount Time : Mon Apr 18 10:56:15 2005 PST
Mounted in slot: 6 Status : Operational
Soft Errors : 0 Hard Errors: 0
Location  512-blocks    Used    Avail    Capacity  Mounted on
External  1021244             54118   916062   5%        /md
```

The following example displays status for the NetBSD compact-flash card and the mass-storage device on the active controller card:

```
[local]Redback>show disk

Location  512-blocks    Used    Avail    Capacity  Mounted on
Internal  985262             309074  626924   33%        /
External  1021244             45146   925034   4%        /md
```



The following example displays status for the NetBSD compact-flash card and the mass-storage device on the standby controller card:

```
[local]standby#show disk
```

Location	512-blocks	Used	Avail	Capacity	Mounted on
Internal	362526	254592	89806	73%	/
External	1021244	59426	910754	6%	/md



## 1.20 show disk sse

```
show disk sse slot [disk_num]
```

### 1.20.1 Command Mode

All modes

### 1.20.2 Syntax Description

*slot* Chassis slot number of the SSE card.  
*disk\_num* Disk number on the SSE card. Values: 1 or 2.

### 1.20.3 Usage Guidelines

Displays SSE disk information for the SSE card.

### 1.20.4 Examples

```
[local]Redback#show disk sse 2
Slot          : 2
State         : Up
FS Group Name : grp1
Active Alarms : NONE

Disk Info
-----
Disk          : 1          State          : Up
Total Size (GB) : 134.12    Available (GB) : 130.11
Active Alarms : NONE

Disk          : 2          State          : Up
Total Size (GB) : 134.00    Available (GB) : 134.00
Active Alarms : NONE

# of Partitions : 2
-----
Name           : ptn1
In FS Group    : Yes
Disk Allocated : 1
Size (GB)      : 2.00

Name           : ptn2
In FS Group    : Yes
Disk Allocated : 1
Size (GB)      : 2.00
```



```
[local]Redback#show disk sse 5
Slot          : 5
State         : Up
FS Group Name : grp1
Active Alarms : NONE

Disk Info      :
-----
Disk           : 1           State           : Up
Total Size (GB) : 134.12     Available (GB) : 130.11
Active Alarms  : NONE

# of Partitions : 0
-----
```



## 1.21 show disk sse counters

`show disk sse counters slot [disk_num]`

### 1.21.1 Command Mode

All modes

### 1.21.2 Syntax Description

<i>slot</i>	Chassis slot number of the SSE card.
<i>disk_num</i>	Disk number on the SSE card. Values: 1 or 2.

### 1.21.3 Usage Guidelines

Displays SSE disk counters for the SSE card.

### 1.21.4 Examples

```
[local]Redback#show disk sse counters 2
timestamp: 11465058820
timestamp secs: 11465 timestamp usecs: 58820
```

```
Disk Counters      :
-----
Disk               : 1
Transfers (ps)    : 93.08
Writes (kbps)     : 15.45      Reads (kbps)      : 6981.33
Total Write (kb)  : 4659
Total Read (kb)   : 2105917
Write Reqs (ps)   : 0.22      Read Reqs (ps)   : 142.36
Sector Writes (ps) : 15.45      Sector Reads (ps) : 6981.09
Avg Req Sz (sectors) : 150.34
Avg Wait (ms)     : 11.54      Avg Servicing (ms) : 0.93

Disk               : 2
Transfers (ps)    : 1.02
Writes (kbps)     : 0.11      Reads (kbps)      : 7.36
Total Write (kb)  : 32
Total Read (kb)   : 2220
Write Reqs (ps)   : 0.03      Read Reqs (ps)   : 10.66
Sector Writes (ps) : 0.11      Sector Reads (ps) : 7.36
Avg Req Sz (sectors) : 14.67
Avg Wait (ms)     : 0.95      Avg Servicing (ms) : 0.85
```



## 1.22 show dot1q counters

```
show dot1q counters [persistent] [slot/port [vlan-id vlan-id]]
[detail]
```

### 1.22.1 Purpose

Displays counter information for 802.1Q permanent virtual circuits (PVCs).

### 1.22.2 Command Mode

All modes

### 1.22.3 Syntax Description

<i>persistent</i>	Optional. If omitted, displays values since the counters were last cleared or the card was last reloaded. If specified, displays values since the system was last reloaded.
<i>slot</i>	Optional. Chassis slot number of the line card for which counters are displayed.
<i>port</i>	Required if you enter the <i>slot</i> argument. Port number of the port for which counters are displayed.
<i>vlan-id</i> <i>vlan-id</i>	Virtual LAN (VLAN) tag value for an 802.1Q tunnel or PVC. The <i>vlan-id</i> argument is one of the following constructs: <ul style="list-style-type: none"> <li>• <i>pvc-vlan-id</i>—VLAN tag value of a PVC that is not within an 802.1Q tunnel.</li> <li>• <i>tun1-vlan-id</i>—VLAN tag value of a tunnel.</li> <li>• <i>tun1-vlan-id:pvc-vlan-id</i>—VLAN tag value for the tunnel followed by the VLAN tag value for the PVC within the tunnel.</li> </ul> <p>The range of values for any VLAN tag value is 1 to 4095.</p>
<i>detail</i>	Optional. Specifies that more details are displayed for each 802.1Q PVC.

### 1.22.4 Default

Displays counter information on all 802.1Q tunnels and PVCs on the system.

### 1.22.5 Usage Guidelines

Use the `show dot1q counters` command to display counter information for 802.1Q PVCs.

**Note:** This command is an alias for the `show circuit counters dot1q` command in exec mode.

If you enter the optional *slot* and *port* arguments, the output displays circuit counters for the specified card or port; otherwise, the output displays only summary counter information for all 802.1Q PVCs.



**Note:** The SmartEdge 100 router limits the value of the `slot` argument to 2.

**Note:**

The value for the `port` argument on the SmartEdge 100 router is either of the following:

- For a native port, it is 1 or 2.
- For a MIC port, it depends on the MIC and MIC slot in which the line card is installed.

If you enter the optional `vlan-id vlan-id` construct, the output displays counters for the specified 802.1Q PVC.

If you specify the VLAN tag value for an 802.1Q tunnel, the output includes circuit counters for all the PVCs within the tunnel.

**Note:** By default, most `show` commands (in any mode) display information for the current context only or, depending on the command syntax, for all contexts. If you are an administrator for the local context, you can insert the optional `context ctx-name` construct, preceding the `show` command, to view output for the specified context without entering that context. For more information about using the `context ctx-name` construct, see the `context` command description.

**Note:** By appending a space followed by the pipe ( | ) character at the end of a `show` command, you can filter the output using a set of modifier keywords and arguments. For more information, see *Modifying Output of show Commands* in *Using the CLI*.

## 1.22.6 Examples

The following example shows how to display counters for all 802.1Q PVCs on port 4/1:

```
[local]Redback>show dot1q counters 4/1
```



Circuit	Packets/Bytes Sent	Packets/Bytes Received
4/1 vlan-id 2	0	0
4/1 vlan-id 3	0	0
4/1 vlan-id 4	0	0
4/1 vlan-id 5	0	0
4/1 vlan-id 6	0	0
4/1 vlan-id 7	0	0
4/1 vlan-id 8	0	0



## 1.23 show dot1q profile

`show dot1q profile [prof-name | detail]`

### 1.23.1 Purpose

Displays information for one or more 802.1Q permanent virtual circuit (PVC) profiles.

### 1.23.2 Command Mode

All modes

### 1.23.3 Syntax Description

<code>prof-name</code>	Optional. Name of the profile to be displayed.
<code>detail</code>	Optional. Displays detailed information for all profiles.

### 1.23.4 Default

Displays information for all 802.1Q PVC profiles.

### 1.23.5 Usage Guidelines

Use the `show dot1q profile` command to display information for one or more 802.1Q PVC profiles.

If you do not specify the `prof-name` argument or `detail` keyword, this command displays a list of all 802.1Q profiles with their descriptions and PVC counts.

Use the `prof-name` argument to display the same detailed information is displayed with the `detail` keyword; use the `detail` keyword to display the information for all 802.1Q profiles. Table 6 lists the fields displayed with the `detail` keyword.

Table 6 Field Descriptions for the show dot1q profile Command

Field	Description
Profile Name	Name specified with the <code>dot1q profile</code> command in global configuration mode.
Description	Text string specified with the <code>description</code> command in <code>dot1q profile</code> configuration mode.
PVC Count	Number of 802.1Q PVCs that reference this profile.



Table 6 Field Descriptions for the show dot1q profile Command

Field	Description
Nas-port-type	<ul style="list-style-type: none"> <li>• <i>port-type</i>—Value specified with the <code>radius attribute nas-port-type</code> command in dot1q profile configuration mode.</li> <li>• Not set—No value specified.</li> </ul>
Propagate Qos from ether	State of QoS propagation as specified by the <code>propagate qos from ethernet</code> command in dot1q profile configuration mode: <ul style="list-style-type: none"> <li>• Disabled</li> <li>• Enabled</li> </ul>
Propagate Qos to ether	State of QoS propagation as specified by the <code>propagate qos to ethernet</code> command in dot1q profile configuration mode: <ul style="list-style-type: none"> <li>• Disabled</li> <li>• Enabled</li> </ul>

**Note:** By default, most `show` commands (in any mode) display information for the current context only or, depending on the command syntax, for all contexts. If you are an administrator for the local context, you can insert the optional `context ctx-name` construct, preceding the `show` command, to view output for the specified context without entering that context. For more information about using the `context ctx-name` construct, see the `context` command description.

**Note:** By appending a space followed by the pipe ( | ) character at the end of a `show` command, you can filter the output using a set of modifier keywords and arguments. For more information, see *Modifying Output of show Commands* in *Using the CLI*.

### 1.23.6 Examples

The following example shows how to display profile information for the profile dot :

```
[local]Redback>show dot1q profile dot
```

```
Profile Name           : dot
Description            :
PVC Count              : 0
Nas-port-type          : 253
Propagate Qos from ether : Disabled
Propagate Qos to ether  : Enabled
```



## 1.24 show dot1q pvc

```
show dot1q pvc [link-group-filter] [on-demand-filter |
general-filter] [detail]
```

### 1.24.1 Purpose

Displays information about 802.1Q permanent virtual circuit (PVCs).

### 1.24.2 Command Mode

All modes

### 1.24.3 Syntax Description

<i>link-group-filter</i>	<i>link-group lg-name</i> Optional. A filter that causes the command to display information only for PVCs in the link group specified by <i>lg-name</i> argument.
<i>on-demand-filter</i>	<i>on-demand</i> [[ <i>range</i> ] <i>slot/port:ch:sub</i> [ <i>vlan-id vlan-id</i> ]] [ <i>up</i>   <i>down</i> ] [ <i>all</i> ] Optional. A filter that causes the command to display information only for on-demand PVCs.
<i>general-filter</i>	[ <i>summary</i> ] [ <i>up</i>   <i>down</i> ] [ <i>all</i> ] Optional. A general filter that causes the command to display summary information, only for active or inactive PVCs, or PVCs in all contexts.
<i>range</i>	Optional. The <i>range</i> keyword provides a summary description of all on-demand PVCs in the range specified by <i>slot/port:ch:sub</i> and optionally by <i>vlan-id vlan-id</i> . The <i>up</i> , <i>down</i> , and <i>all</i> keywords do not apply if the <i>range</i> keyword is used.
<i>vlan-id vlan-id</i>	Optional. Virtual LAN (VLAN) tag value for an 802.1Q tunnel or PVC. The <i>vlan-id</i> argument is one of the following constructs: <ul style="list-style-type: none"> <li>• <i>pvc-vlan-id</i>—VLAN tag value of a PVC that is not within an 802.1Q tunnel.</li> <li>• <i>tunl-vlan-id</i>—VLAN tag value of a tunnel.</li> <li>• <i>tunl-vlan-id:pvc-vlan-id</i>—VLAN tag value for the tunnel followed by the VLAN tag value for the PVC within the tunnel.</li> </ul> The range of values for any VLAN tag value is 1 to 4095.
<i>up</i>	Optional. Provides information for the specified active 802.1Q PVCs.
<i>down</i>	Optional. Provides information for the specified inactive 802.1Q PVCs.
<i>summary</i>	Optional. Provides summary information.
<i>all</i>	Optional. Provides information for 802.1Q PVCs in all contexts.
<i>detail</i>	Optional. Provides detailed information.

### 1.24.4 Default

None



## 1.24.5 Usage Guidelines

Use the `show dot1q pvc` command to display information about 802.1Q PVCs.

**Note:** The SmartEdge 100 router limits the value of the `slot` argument to 2.

**Note:**

The value for the `port` argument on the SmartEdge 100 router is one of the following:

- For a native port, it is 1 or 2.
- For a MIC port, it depends on the MIC and MIC slot in which it is installed.

If you specify the VLAN tag value for an 802.1Q tunnel, the output includes PVC information for all the PVCs within the tunnel.

**Note:** By default, most `show` commands (in any mode) display information for the current context only or, depending on the command syntax, for all contexts. If you are an administrator for the local context, you can insert the optional `context ctx-name` construct, preceding the `show` command, to view output for the specified context without entering that context. For more information about using the `context ctx-name` construct, see the `context` command description.

**Note:** By appending a space followed by the pipe ( | ) character at the end of a `show` command, you can filter the output using a set of modifier keywords and arguments. For more information, see *Modifying Output of show Commands* in *Using the CLI*.

## 1.24.6 Examples

The following example shows how to display 802.1Q PVCs on port 1 in slot 13 :

```
[local]Redback>show dot1q pvc 13/1
```

Circuit	State Profile	Bound to
13/1 vlan-id 1	Up	vlan1@local

The following example shows how to display a summary of all 802.1Q PVCs in all contexts:

```
[local]Redback#show dot1q pvc summary all
```

```
PVCs total: 1, Up: 1, Down: 0, Bound: 0
```



The following example shows how to display detailed information all 802.1Q PVCs:

```
[local]Redback#show dot1q pvc detail
Circuit      : 5/1 vlan-id 700:201 Bindings      : gig700.201@local
State        : Up          Description        :
Encapsulation : dot1q      Profile           :
Agent Circuit ID:
QOS Hierarchical Mode: wrp
QOS Max Rate  : 91000
QOS Min Rate  : 50000
QOS Policing  : peanut acl-counters
QOS Queuing   : sony

Circuit      : 5/1 vlan-id 700:202 Bindings      : gig700.202@local
State        : Up          Description        :
Encapsulation : dot1q      Profile           :
Agent Circuit ID:
QOS Hierarchical Mode: strict
QOS Weight    : 40
QOS Policing  : butter inherit acl-counters
QOS Metering  : science inherit acl-counters
QOS Queuing   : sony
```

The following example shows how to get information on PVCs in the lg-vlans link-group:

```
[local]Redback(config)#show dot1q pvc link-group lg-vlans
```

The following example shows how to display the information for the on-demand 802.1Q PVC connected to port/slot 5/1 :

```
[local]Redback>show dot1q pvc on-demand range 5/1
Port  Vlan      through Vlan
5/1   1          through 2
5/1   3          through 3
C-VLANs: 0; S-VLANs: 0; VLANs: 3; Total: 3
```



## 1.25 show dot1q pvc transport

```
show dot1q pvc transport
```

### 1.25.1 Purpose

Displays information for all transport-enabled 802.1Q permanent virtual circuits (PVCs).

### 1.25.2 Command Mode

All modes

### 1.25.3 Syntax Description

### 1.25.4 Default

None

### 1.25.5 Usage Guidelines

Use the `show dot1q pvc transport` command to display information about all transport-enabled 802.1Q PVCs.

**Note:** By default, most `show` commands (in any mode) display information for the current context only or, depending on the command syntax, for all contexts. If you are an administrator for the local context, you can insert the optional `context ctx-name` construct, preceding the `show` command, to view output for the specified context without entering that context. For more information about using the `context ctx-name` construct, see the `context` command description.

**Note:** By appending a space followed by the pipe ( | ) character at the end of a `show` command, you can filter the output using a set of modifier keywords and arguments. For more information, see *Modifying Output of show Commands* in *Using the CLI*.

### 1.25.6 Examples

The following example shows how to display information about all transport-enabled 802.1Q PVCs connected to the SmartEdge router:



```
[local]Redback>show dot1q pvc transport
```

TSP-ID	: 5/1	any	Range End	:
Profile	: ---		Description	:
Binding	: ---		State	: Down



## 1.26 show dvsr

```
show dvsr [ip-addr/prefix-length | detail | profile | summary] [all]
```

### 1.26.1 Purpose

Displays information about all dynamically verified static routing (DVSR) routes.

### 1.26.2 Command Mode

All modes

### 1.26.3 Syntax Description

<i>ip-addr/prefix-length</i>	Optional. Displays the DVSR routes that match the IP address, in the form <i>A.B.C.D</i> , and the prefix length, separated by the slash (/) character. The range of values for the <i>prefix-length</i> argument is 0 to 32.
<i>detail</i>	Optional. Displays detailed DVSR route information.
<i>profile</i>	Optional. Displays DVSR profile information.
<i>summary</i>	Optional. Displays a summary report on DVSR routes in all contexts.
<i>all</i>	Optional. Displays DVSR information for all contexts.

### 1.26.4 Default

All DVSR routes in the current context are displayed.

### 1.26.5 Usage Guidelines

Use the `show dvsr` command to display information about all DVSR routes.

Use the optional keywords to display specific DVSR routes, DVSR profiles, detailed DVSR route information, and summary reports.

**Note:** By default, most `show` commands (in any mode) display information for the current context only or, depending on the command syntax, for all contexts. If you are an administrator for the local context, you can insert the optional `context ctx-name` construct, preceding the `show` command, to view output for the specified context without entering that context. For more information about using the `context ctx-name` construct, see the `context` command description.

**Note:** By appending a space followed by the pipe (|) character at the end of a `show` command, you can filter the output using a set of modifier keywords and arguments. For more information, see *Modifying Output of show Commands* in *Using the CLI*.



Table 7 describes the `show dvsr` command output fields.

*Table 7 Field Descriptions for the show dvsr Command Output*

Field	Description
DVSR route	IP address and prefix length of the static route.
S	State of the DVSR, either Up or Down.
Verify Addr	IP address that the DVSR route should verify.
Count	Number of verification successes (or failures) since the DVSR state change.
Delay	Average round trip and processing delay of the verification.
Tran	Number of state transitions for the DVSR route.
Seq	Internal sequence number for the DVSR route.
profile	Name of the DVSR profile for the DVSR route.

Table 8 describes the `show dvsr profile` command output fields.

*Table 8 Field Descriptions for the show dvsr profile Command Output*

Field	Description
DVSR profile	Name of the DVSR profile.
Num	Number of DVSR routes associated with this profile.
Intv	Verification interval in seconds of the profile.
F	Timeout multiplier value of the profile.
S	Minimum success value of the profile.
Next	Number of seconds for the next verification process for this profile to start.
TTL	Time-to-live value of the profile.
DIST	Distance value of the profile.
TAG	Tag value of the profile.
Src Addr	Source address of the profile.

## 1.26.6 Examples

The following example displays all DVSR routes:

```
[local]Redback>show dvsr
```



DVSR route	S	Verify Addr	Count	Delay	Tran	Seq	profile
11.12.0.0/16	Up	10.14.100.2	172	305	1	513	find-dopey
12.12.12.12/32	Up	10.14.101.2	172	309	1	714	find-dopey
12.1.1.0/24	Dn	10.14.100.4	12	0	2	514	black
12.1.2.0/24	Up	10.14.100.7	171	7	1	515	black

Total DVSR prefixes in context local: 4

The following example displays all DVSR profiles:

```
[local]Redback>show dvsr profile
```

DVSR profile	Num	Intv	F	S	Next	TTL	DIST	TAG	Src Addr
nice	12	20	3	2	12	5	1	0	
good	3	20	3	2	7	5	1	0	

Total DVSR profiles in context local: 2

The following example shows how to display the DVSR summary report:

```
[local]Redback>show dvsr summary
```

DVSR summary:

dvsr profiles: 4	dvsr routes: 5
routes alive: 5	routes fail: 0
total ping sent: 122	total recv icmp replies: 122
total icmp timeout: 0	total icmp no reply: 0
total reply no route: 0	total nexthop invalid: 2
avg round trip delay(msec): 0	max round trip delay(msec): 80
avg ping time(msec): 0	max ping time(msec): 80
total ping operation: 73	total ping error: 0
total route state changes: 5	max pings in a batch: 2



## 1.27 show ethernet-cfm circuit

```
show ethernet-cfm circuit cct [level level]
```

### 1.27.1 Purpose

Displays the CFM information about a specified circuit or circuits or a bundle of link-group aggregated circuits.

### 1.27.2 Command Mode

Exec (10)

### 1.27.3 Syntax Description

<i>circuit cct</i>	Link-group or VLAN-ID of the circuit for which CFM instance information is displayed. The syntax for the <i>circuit</i> argument is: <code>{lg <i>lg-name</i>   id <i>lg-ID</i>}   {slot/port [<i>vlan-id vlan-id</i>]} [<i>level level</i>]</code>
<i>level level</i>	The level of the MD containing the specified circuit.
<i>detail</i>	Display detailed CFM information.
<i>lg lg-name / id lg-ID</i>	Specifies the link-group name or link-group ID for which circuit CFM information is displayed.
<i>slot/port</i>	Specifies the slot and port on the system for which circuit CFM information is displayed.
<i>vlan-id vlan-id</i>	Specifies the VLAN-ID of the circuit for which CFM information is displayed.

#### 1.27.3.1 Default

No default

#### 1.27.3.2 Usage Guidelines

Use this command to display the CFM information about a specified circuit or circuits or a bundle of link-group aggregated circuits.

#### 1.27.3.3 Examples

The following example illustrates the output of this command:



```
[local]Redback#show ethernet-cfm circuit 1/6 vlan-id 1:1 level 7
Instance Name: DOWN-INSTANCE
Domain Name   : ericsson           Domain Id    : 1
Level        : 7
MP Id        : 201                 MP Type     : MEP
MA Name      : devtest             MA Id       : 1
Ccms         : Enabled
Cct handle   : 1/6:1023:63/1/2/17

1DMs in      : 0                   1DMs out    : 10
1DMs dropped : 0

DMMs out     : 0                   DMRs in     : 10
DMRs dropped : 0
```



## 1.28 show ethernet-cfm database (domain)

```
show ethernet-cfm database instance-name domain domain-name
[detail]
```

### 1.28.1 Purpose

Displays the CFM information about a specified maintenance domain (MD) in a specified CFM instance.

### 1.28.2 Command Mode

Exec (10)

### 1.28.3 Syntax Description

<i>instance-name</i>	Name of a CFM instance in the SmartEdge router.
<i>domain-name</i>	The name of the MD which is configured in the CFM instance. If no <i>domain-name</i> is specified, the <i>instance-name</i> is used.
<i>detail</i>	Display detailed information.

### 1.28.4 Default

No default

### 1.28.5 Usage Guidelines

Use this command to display the CFM information about a specified MD in a specified CFM instance.

### 1.28.6 Examples

The following two examples illustrates the output fields of this command:

```
[local]Redback#show ethernet-cfm database UP-INSTANCE domain redback
DOMAIN NAME      : redback
-----
Level            : 2                Domain Id       : 1
Number of MAs   : 1                Number of MIPS  : 1

[local]Redback#show ethernet-cfm database UP-INSTANCE domain redback detail
DOMAIN NAME      : redback
-----
Level            : 2                Domain Id       : 1
Number of MAs   : 1                Number of MIPS  : 1
Group mac       : 01:80:c2:00:00:32
```



## 1.29 show ethernet-cfm database (instance-name)

*instance-name*

```
show ethernet-cfm database instance-name
```

### 1.29.1 Purpose

Displays information stored in the system's CCM database for the specified CFM instance. Displays all the maintenance domains (MDs), their maintenance associations (MAs), their maintenance intermediate points (MIPs), and the maintenance end points (MEPs) for the maintenance associations (MAs).

### 1.29.2 Command Mode

Exec (10)

### 1.29.3 Syntax Description

*instance-name* | Name of a CFM instance in the SmartEdge router.

### 1.29.4 Default

No default

### 1.29.5 Usage Guidelines

Use this command to display information stored in the system's CCM database for the specified CFM instance. This command displays all the maintenance domains, their MAs, their MIPs, the MEPs for the MAs.

*Table 9 Fields in the Output of show ethernet-cfm database command*

Field	Description
DOMAIN NAME	Domain name associated with the specified CFM instance
Level	MD level
Domain Id	Index for the MD configured under the CFM instance
Number of MAs	Number of MAs in the MD
Number of MIPs	Number of MIPs in the MD
MA Name	Maintenance association name
Ccms	Continuity check enabled/disabled
Ccm Interval	Interval between CCM PDUs
Number of local MEPS	For each MA: the number of local maintenance association endpoints (MEPs).

**Table 9** *Fields in the Output of show ethernet-cfm database command*

Field	Description
MA Id/MA Name/MD Id/Vlan Id/Status	For each MA: <ul style="list-style-type: none"><li>• Maintenance association ID</li><li>• Maintenance association name</li><li>• Maintenance domain ID in which MA is configured</li><li>• ID of the 802.1Q VLAN instance corresponding to the MA</li><li>• Status of the MA</li></ul>
Mpld/Level/MAC Addr/MA Id/Vlan Id	For each MEP in the MA: <ul style="list-style-type: none"><li>• MEPID</li><li>• MAC address of circuit interface or port bound to MEP</li><li>• Maintenance association ID</li><li>• ID of the 802.1Q VLAN circuit interface bound to the MEP</li></ul>
State/Direction/Circuit Type	For each MEP in the MA: <ul style="list-style-type: none"><li>• Connectivity status</li><li>• Direction configured for the MEP</li><li>• Circuit or port type bound to the MEP</li></ul>
Number of Remote MEPs	Number of MEPs in the maintenance domain (MD) for which MEPIDs have been assigned, and which are bound to ports or circuits not in the SmartEdge router.
Mpld/Level/MAC Addr/MA Id/Vlan Id	For each remote MEP in the MD: <ul style="list-style-type: none"><li>• MEPID</li><li>• MAC address of circuit interface or port bound to MEP</li><li>• Maintenance association ID</li><li>• ID of the 802.1Q VLAN circuit interface bound to the MEP</li></ul>
State/Direction/Circuit Type	For each remote MEP in the MD: <ul style="list-style-type: none"><li>• Connectivity status</li><li>• Direction configured for the MEP</li><li>• Circuit or port type bound to the MEP</li></ul>
Number of MIPs	Number of maintenance association intermediate points (MIPs) in the current MD
Mpld/Level/MAC Addr/MA Id/Vlan Id	For each MIP in the MD: <ul style="list-style-type: none"><li>• MEPID</li><li>• MAC address of circuit interface or port bound to MEP</li><li>• Maintenance association ID</li><li>• ID of the 802.1Q VLAN circuit interface bound to the MEP</li></ul>
State/Direction/Circuit Type	For each remote MIP in the MD: <ul style="list-style-type: none"><li>• Connectivity status</li><li>• Direction configured for the MEP</li><li>• Circuit or port type bound to the MEP</li></ul>



## 1.29.6 Examples

The following example shows the output fields of this command. The **Domain Id** field represents the index for the maintenance domain configured under the CFM instance. The **Index** field reports the index of the MA configured under the MD:

```
[local]Redback#show ethernet-cfm database instance-2
DOMAIN NAME      : redback
-----
Level            : 5                Domain Id       : 3
Number of MAs   : 1                Number of MIPs  : 0

MA Name : platform (Index : 3)
-----
Ccms      : Enabled                Ccm Interval   : 100 ms
Number of local meps : 1          Number of remote meps : 1
Local MEP Information:

MepId  Level  MacAddr                State  Dir  Defects  Circuit
-----
101    5      00:30:88:02:7f:5e     Reset  Up   2         1/1 vlan-id 100
Remote MEP Information:
MepId  MacAddr                State
-----
100    00:00:00:00:00:00     None
```

The following example shows a CFM database instance in which an MIP has been configured:

```
[local]Redback#show ethernet-cfm database UP-INSTANCE
DOMAIN NAME      : redback
-----
Level            : 2                Domain Id       : 1
Number of MAs   : 1                Number of MIPs  : 1

MIP Information:
MipId  Level  MacAddr                State  Dir  Circuit
-----
1      2      00:30:88:02:f3:22     Reset  Up   2/1 vlan-id 1
MA Name : platform (Index : 1)
-----
Ccms      : Enabled                Ccm Interval   : 1s
Number of local meps : 1          Number of remote meps : 1

Local MEP Information:
MepId  Level  MacAddr                State  Dir  Defects  Circuit
-----
100    2      00:30:88:02:f3:24     Reset  Up   -         2/3 vlan-id 1

Remote MEP Information:
MepId  MacAddr                State
-----
101    00:30:88:12:3d:8f     OK
```



## 1.30 show ethernet-cfm database (ma)

```
show ethernet-cfm database instance-name domain domain-name  
ma ma-short-name [detail]
```

### 1.30.1 Purpose

Displays CFM information about a maintenance association (MA) in a specified CFM instance.

### 1.30.2 Command Mode

Exec (10)

### 1.30.3 Syntax Description

<i>instance-name</i>	Name of a CFM instance in the SmartEdge router.
<i>domain-name</i>	The name of the MD that is configured in the CFM instance. If no <i>domain-name</i> is specified, the <i>instance-name</i> is used.
<i>ma ma-short-name</i>	The name of the MA.
<i>detail</i>	Display detailed information.

### 1.30.4 Default

No default

### 1.30.5 Usage Guidelines

Use this command to display CFM information about a maintenance association (MA) in a specified CFM instance.

### 1.30.6 Examples

The following example shows the output fields of this command. The *MA-name type* field indicates whether the MEG-ID/MAID is configured in 802.1ag or ICC format:

```
[local]Redback#show ethernet-cfm database DOWN-INSTANCE domain ericsson ma devtest  
MA Name      : devtest  
  
Instance name: DOWN-INSTANCE      Level           : 0  
Domain name  : ericsson            Domain Id       : 2  
MA-Index     : 2                   Flags           : 0  
MA-name type : icc  
Priority     : 5  
Ccms        : Enabled              Ccm Interval   : 1s  
Slot mask   : 0x1                  Frame loss     : 3  
Number of local meps : 1           Number of remote meps : 1
```



## 1.31 show ethernet-cfm database (mep)

```
show ethernet-cfm database instance-name domain domain-name ma
ma-short-name mep mep-id [detail]
```

### 1.31.1 Purpose

Displays CFM information about local Maintenance Endpoints (MEPs) in a specified Maintenance Association (MA) in a specified CFM instance.

### 1.31.2 Command Mode

Exec (10)

### 1.31.3 Syntax Description

<i>instance-name</i>	Name of a CFM instance in the SmartEdge router.
<i>domain-name</i>	The name of the MD which is configured in the CFM instance. If no <i>domain-name</i> is specified, the <i>instance-name</i> is used.
ma <i>ma-short-name</i>	The name of the MA. Displays summary of all MAs in the CFM instance if no MA name is specified.
mep <i>mep-id</i>	The ID of a local MEP. Reports specified MEP in the specified MA that is bound to a local circuit interface on the SmartEdge router.
detail	Display detailed information.

### 1.31.4 Default

No default

### 1.31.5 Usage Guidelines

Use this command to display CFM information about local Maintenance Endpoints (MEPs) in a specified Maintenance Association (MA) in a specified CFM instance.

Table 10 Abbreviations in the Output from show ethernet-cfm database (mep) command

Field	Description
Domain id	Index of MD configured under the CFM instance.
MA index	Index of the MA configured under the CFM instance.
Slotmask	The mask to reflect the physical slot on which the MEP is configured.
Ref counter	Number of circuits in the MEP (including the MEP circuit).
Xc/L2vpn	Reports if the MEP has a cross connection or L2VPN configured.
Linkgroup Id	The ID of the Link group configured under the MEP



**Table 10 Abbreviations in the Output from show ethernet-cfm database (mep) command**

Field	Description
Cct handle	The circuit handle (unique identifier in the system) for the circuit on which the local MEP is configured
Lg active cct	The circuit in the link group used to transmit CCMs.
State	FNG state of the MEP.
Mep Defects	Defect detected for the MEP, which could be a remote MEP defect, configuration error, and so on.
Highest Defect	The highest defect detected for the MEP.
Lbms	Displays if loopback message (LBM) is enabled in the MEP.
Ltms	Displays if link-trace message (LTM) is enabled in the MEP.
Lbms/Ltms in	Counters for the number of LTMs and LBMs received.
Ltms priority	Priority value of the LTMs sent out.
Lbms/Ltms dropped	Counter for the number of LTMs and LBMs dropped.
Lbms bad msdu	Counter for the number of LBMs received with incorrect field values.
Lbrs in/out	Counter for the number of LBRs received and sent out.
Lbrs OutOfOrder	Counter for the number of LBRs received out of order.
Lbrs bad msdu	Counter for the number of LBRs received with incorrect field values.
DMs in/out/dropped	ITU-T Y.1731 delay measurements
DMMs	ITU-T Y.1731 delay measurement messages
DMRs	ITU-T Y.1731 delay measurement replies

### 1.31.6 Examples

The following example shows the output of the **show ethernet-cfg database mep linktrace detail** command.

```
[local]Redback#show ethernet-cfm database up domain dd ma platform mep 101 linktrace detail
-----
SequenceNumber: 32                               ReceiveOrder   : 1
-----
Ttl                : 63                               Forwarded      : No
TerminalMep        : No                               Relay Action   : RlyMpDB
LastEgressId       : 00:00:00:30:88:13:07:8f
NextEgressId       : 00:00:00:00:00:00:00:00
ChassisId Subtype  : NetworkAddress
ChassisId          : 01 0a 0d 0b 1e
ManAddressDomain   : snmpOther
ManAddress         : 0 0 0 0 0
IngressMac         : 00:30:88:01:a0:74   Ingress Action : IngOk
IngressPortIdSubtype : Local
IngressPortId     : 9/5:1023:63/1/2/18
EgressMac         : 00:00:00:00:00:00   Egress Action  : IngNoTlv
```

The following example shows the output fields of the **show ethernet-cfg database mep detail** command.



```
[local]Redback#show ethernet-cfm database DOWN-INSTANCE domain ericsson ma devtest mep 201 detail
```

```
MepId          : 201

Instance name  : DOWN-INSTANCE          Level           : 7
Domain name    : ericsson                Domain id       : 1
MA name        : devtest                 MA index        : 1
Slotmask       : 0x1                     Ref counter     : 2
Xc/L2vpn       : No                      Linkgroup Id    : 0
Circuit        : 1/6 vlan-id 1:1         Cct handle     : 1/6:1023:63/1/2/17
Lg active cct  : -                       Active cct handle: -
MacAddr        : 00:30:88:02:7f:63

Dir            : Down                    State           : DefRpt
Mep Defects    : -                      Highest Defect  : 1
Ccms sent      : 666059                 Out of seq ccms : 0
Lbms in        : 0                      Lbms out       : 0
Lbrs in        : 0                      Lbrs out       : 0
Ltms in        : 0                      Ltms out       : 0
Ltrs in        : 0                      Ltrs out       : 0
Lbms dropped   : 0                      Lbms bad msdu  : 0
Lbrs OutOfOrder: 0                      Lbrs bad msdu  : 0
Ltms dropped   : 0                      Ltrs dropped    : 0
Ltrs UnexpIn   : 0

1DMs in        : 0                      1DMs out       : 10
1DMs dropped   : 0

DMRs out       : 10                      DMRs in        : 10
DMRs dropped   : 0
```

## 1.32 show ethernet-cfm database (mip)

```
show ethernet-cfm database instance-name domain domain-name
mip [mip-id] [detail]
```

### 1.32.1 Purpose

Displays CFM information about maintenance intermediate points (MIPs) in a specified CFM instance.

### 1.32.2 Command Mode

Exec (10)

### 1.32.3 Syntax Description

<i>instance-name</i>	Name of a CFM instance in the SmartEdge router.
<i>domain-name</i>	The name of the MD which is configured in the CFM instance. If no <i>domain-name</i> is specified, the <i>instance-name</i> is used.
mip <i>mip-id</i>	The MIP ID. If no <i>mip-id</i> argument is specified, all MIPs in the CFM instance are displayed.
detail	Display detailed information.



### 1.32.4 Default

No default

### 1.32.5 Usage Guidelines

Use this command to display the CFM information about MIPs in a specified CFM instance.

*Table 11 Abbreviations in the Output from show ethernet-cfm database (mip) command*

Abbreviation	Description
Slotmask	The mask to reflect the physical slot on which the MIP is configured.
Ref counter	Number of circuits in the MIP (including the MIP circuit).
Xc/L2vpn	Reports if the MIP has a cross connection or L2VPN configured.
Linkgroup Id	The ID of the Link group configured under the MIP.
Cct handle	The circuit handle (unique identifier in the system) for the circuit on which the local MIP is configured.
Lg active cct	The circuit in the link group used to transmit CCMs.
Active cct handle	The circuit handle (unique identifier in the system) for the circuit in the link group used to transmit CCMs.
Lbms in	Loopback message (LBM) received.
Ltms in	Link-trace message (LTM) received.

### 1.32.6 Examples

The following example shows the output fields of this command:

```
[local]Redback#show ether data UP-INSTANCE domain redback mip 1 detail
MipId          : 1
Instance name  : UP-INSTANCE          Level           : 2
Domain name    : redback              Domain id       : 1
Slotmask      : 0x0                  Ref counter     : 2
Xc/L2vpn      : Yes                  Linkgroup Id    : 0
Circuit       : 2/1 vlan-id 1        Cct handle      : 2/1:1023:63/1/2/6
Lg active cct : -                    Active cct handle: -
MacAddr       : 00:30:88:02:f3:22
Lbms in       : 0                    Lbms out       : 0
Lbrs in      : 0                    Lbrs out       : 0
Ltms in      : 0                    Ltms out       : 0
Ltrs in      : 0                    Ltrs out       : 0
Lbms dropped  : 0                    Lbms bad msdu  : 0
Lbrs OutOfOrder: 0                  Lbrs bad msdu  : 0
Ltms dropped  : 0                    Ltrs dropped    : 0
Ltrs UnexpIn : 0
```



## 1.33 show ethernet-cfm database (rmep)

```
show ethernet-cfm database instance-name domain domain-name ma
ma-short-name rmep rmep-id [detail]
```

### 1.33.1 Purpose and Usage Guidelines

Displays CFM information about local Remote Maintenance Endpoints (RMEPs) in a specified Maintenance Association (MA) in a specified CFM instance. The following fields are displayed

*Table 12 Abbreviations in the Output from show ethernet-cfm database (rmep) command*

Field	Description
Remote MepID, MacAdd, State	Remote MEP identifier, the MAC address of the port, the status of the port.
Instance name	Name of the instance in which the RMEP is defined.
Level	Level of the instance
Domain name	Name of the MD that contains the RMEP.
Domain id	ID of the domain assigned by the CFM database.
MA name	Name of the MA that contains the RMEP.
MA id	ID of the domain assigned by the CFM database.
MA index	Index of the MA assigned by the CFM database.
State	Status of the RMEP.
Mac addr	MAC address of the RMEP.
Local MepId	The ID of the local MEP that is peer to the specified RMEP.
Vlan	VLAN ID of the PVC on which the RMEP CCMs are received.

### 1.33.2 Command Mode

Exec (10)

### 1.33.3 Syntax Description

<i>instance-name</i>	Name of a CFM instance in the SmartEdge router.
<i>domain-name</i>	The name of the MD which is configured in the CFM instance. If no <i>domain-name</i> is specified, the <i>instance-name</i> is used.
ma <i>ma-short-name</i>	The name of the MA. Displays summary of all MAs in the CFM instance if no MA name is specified.
rmep <i>rmep-id</i>	The ID of a remote MEP. Reports specified MEP in the specified MA that is bound to another network node.
detail	Display detailed information.



### 1.33.4 Default

No default

### 1.33.5 Usage Guidelines

Use this command to display CFM information about Remote Maintenance Endpoints (RMEPs) in a specified MA in a specified CFM instance.

### 1.33.6 Examples

The following example shows the output fields of this command:

```
[local]Redback#show ethernet-cfm database DOWN-INSTANCE domain ericsson ma devtest rmep 601 detail
Remote MepId : 601

Instance name: DOWN-INSTANCE      Level      : 1
Domain name   : ericsson           Domain id  : 1
MA name      : devtest             MA index   : 1
State        : OK                  Mac addr   : 00:30:88:11:d1:8d
Local MepId  : 106                 Vlan      : 2:0
```



## 1.34 show ethernet-cfm errors

```
show ethernet-cfm errors instance-name domain-name  
ma-short-name
```

### 1.34.1 Purpose and Usage Guidelines

Displays the CFM error conditions detected in the specified Maintenance Association (MA).

This command displays the following error reasons when they occur:

- `Configuration error`  
  
Can indicate level mismatch, CCM disabled, CCM interval mismatch, CCM sequence errors, or remote mep MAC changes.
- `Mep down (Interface down)`  
  
Can indicate CCM interval expiry or remote MEP port type, length, or value (TLV) change in the CCM detected.
- `Configuration loop`  
  
Indicates receipt of CCMs with the same MAC address and MEP ID as the local MEP.
- `Unknown remote MEP`  
  
Indicates receipt of CCMs from a remote MEP ID that is not present in the CFM instance database.
- `Cross-connect error`  
  
Indicates one of the following: Receipt of CCMs from a lower MD level than the one configured on the CFM instance, a MAID mismatch, or a local MEP ID mismatch.
- `Missing remote MEP/RDI bit error` Indicates receipt of CCMs with the remote defect indicator (RDI) bit set. The downstream MEP sets the RDI bit with the CCM when it detects a fault condition.

### 1.34.2 Command Mode

Exec (10)



### 1.34.3 Syntax Description

<i>instance-name</i>	Name of a CFM instance that contains the MA.
<i>domain-name</i>	The name of the MD that contains the MA.
<i>ma-short-name</i>	The name of the MA for which to view the CFM error report.

### 1.34.4 Default

No default

### 1.34.5 Examples

The following example shows that a down port was detected at the remote MEP 601:

```
[local]jazz#show ethernet-cfm errors DOWN-INSTANCE ericsson devtest
-----
Instance Name      : DOWN-INSTANCE
Domain Name       : ericsson      Domain Id      : 1
Level             : 1
MA Name           : devtest       MA Id          : 1
RMEP Id           : 601           Mac addr       : 00:30:88:11:d1:8d
Error             : MEP down (Port down)
```



## 1.35 show ext-community-list

```
show ext-community-list [ec1-name | first-match ec1-name
ext-community-num | summary]
```

### 1.35.1 Purpose

Displays information about configured Border Gateway Protocol (BGP) extended community lists.

### 1.35.2 Command Mode

All modes

### 1.35.3 Syntax Description

<i>ec1-name</i>	Optional. Extended community list name.
<i>first-match</i>	Optional. Searches for the first match in the extended community list specified by the <i>ec1-name</i> argument.
<i>ext-community-num</i>	<p>Extended community list number for the list in which the <i>ec1-name</i> first match is attempted.</p> <p>The extended community number can be specified only when configuring an extended community list. It can be expressed in either of the following formats:</p> <ul style="list-style-type: none"> <li><i>tt:asn:nnnn</i>, where <i>tt</i> is the extended community type, <i>asn</i> is the ASN, and <i>nnnn</i> is either a 32-bit integer or a 16-bit integer, depending on the size of the ASN. The extended community type identifies either a target or origin community. The target community identifies the destination to which the route is going, and the origin community identifies source from where the route originated. The <i>tt</i> argument is a placeholder for either the <i>ro</i> (route origin) keyword, or the <i>rt</i> (route target) keyword. You can specify the ASN as either a two-byte (two-octet) or four-byte (four-octet) integer. A value of 65535 or lower is interpreted as a two-byte integer, unless you add an <i>L</i> suffix (for example, 125L), in which case it is interpreted as a four-byte integer. A value larger than 65535 is always interpreted as a four-byte integer, and the <i>L</i> suffix is optional. If the ASN is two-bytes, then <i>nnnn</i> is a 32-bit integer. If the ASN is four-bytes, then <i>nnnn</i> is a 16-bit integer.</li> <li><i>tt:ip-addr:nn</i>, where <i>tt</i> is the extended community type, <i>ip-addr</i> is the IP address in the form <i>A.B.C.D</i>, and <i>nn</i> is a 16-bit integer.</li> </ul>
<i>summary</i>	Optional. Displays extended community list summary information.

### 1.35.4 Default

Displays all configured extended community lists.

### 1.35.5 Usage Guidelines

Use the `show ext-community-list` command to display information about configured BGP extended community lists.



**Note:** By default, most `show` commands (in any mode) display information for the current context only or, depending on the command syntax, for all contexts. If you are an administrator for the local context, you can insert the optional `context ctx-name` construct, preceding the `show` command, to view output for the specified context without entering that context. For more information about using the `context ctx-name` construct, see the `context` command description.

**Note:** By appending a space followed by the pipe ( | ) character at the end of a `show` command, you can filter the output using a set of modifier keywords and arguments. For more information, see *Modifying Output of show Commands* in *Using the CLI*.

## 1.35.6 Examples

The following example displays two extended community lists (1 and 2):

```
[local]Redback>show ext-community-list

ext-community-list ext-comm-list01:
  count: 1, sequences: 10 - 10, client count: 1
  modified: 4 day(s), 17 hour(s) ago
    seq 10 permit RT:100:100 (hits: 0, cache hits: 0)
    seq 20 permit RT:100:200 (hits: 2, cache hits: 1)
ext-community-list ext-comm-list02:
  count: 4, sequences: 30 - 60, client count: 1
  modified: 4 day(s), 17 hour(s) ago
    seq 30 permit RO:10.10.10.1:3600 (hits: 0, cache hits: 0)
    seq 40 permit RO:20.20.20.1:22 (hits: 0, cache hits: 0)
    seq 50 permit RT:11:121 (hits: 4, cache hits: 2)
    seq 60 permit RT:11:102 (hits: 2223, cache hits: 2217)
```



## 1.36 show flow admission-control profile

```
show flow admission-control profile {all | id profile-id |
name profile-name}
```

### 1.36.1 Purpose

Displays details of one or all flow admission control (FAC) profiles on the current SmartEdge router.

### 1.36.2 Command Mode

All modes

### 1.36.3 Syntax Description

<code>all</code>	Displays abbreviated output for all FAC profiles on the current SmartEdge router.
<code>id profile-id</code>	ID of the FAC profile to be displayed.
<code>name profile-name</code>	Name of the FAC profile to be displayed.

### 1.36.4 Default

None

### 1.36.5 Usage Guidelines

Use the `show flow admission-control profile` command to display details of one or all FAC profiles on the current SmartEdge router.

**Note:** By default, most `show` commands (in any mode) display information for the current context only or, depending on the command syntax, for all contexts. If you are an administrator for the local context, you can insert the optional `context ctx-name` construct, preceding the `show` command, to view output for the specified context without entering that context. For more information about using the `context ctx-name` construct, see the `context` command description.

**Note:** By appending a space followed by the pipe ( | ) character at the end of a `show` command, you can filter the output using a set of modifier keywords and arguments. For more information, see *Modifying Output of show Commands* in *Using the CLI*.

### 1.36.6 Examples

The following example shows how to display all FAC profiles:



```
[local]Redback(config)#show flow admission-control profile all
```

```
Name Id
```

```
-----
```

```
f1 0x40500001
```

```
f2 0x40500002
```

```
f3 0x40500003
```

The following example shows how to display information for a FAC profile with the ID 0x40500001:

```
[local]Redback(config)#show flow admission-control profile id 0x40500001
```

```
Name
```

```
Id
```

```
-----
```

```
f1
```

```
0x40500001
```

The following example shows how to display information for a FAC profile with the name f1:

```
[local]Redback(config)#show flow admission-control profile name f1
```

```
Name
```

```
Id
```

```
-----
```

```
f1
```

```
0x40500001
```



## 1.37 show flow circuit

```
show flow circuit {all | circuit-id}
```

### 1.37.1 Purpose

Displays FAC profile IDs for all circuits on the current SmartEdge router.

### 1.37.2 Command Mode

All modes

### 1.37.3 Syntax Description

<code>all</code>	Optional. Displays the FAC profile IDs for all circuits.
<code>circuit-id</code>	Optional. ID of an 802.1Q permanent virtual circuit (PVC).

### 1.37.4 Default

None

### 1.37.5 Usage Guidelines

Use the `show flow circuit` command to display FAC profile IDs for all circuits on the current SmartEdge router.

**Note:** By default, most `show` commands (in any mode) display information for the current context only or, depending on the command syntax, for all contexts. If you are an administrator for the local context, you can insert the optional `context ctx-name` construct, preceding the `show` command, to view output for the specified context without entering that context. For more information about using the `context ctx-name` construct, see the `context` command description.

**Note:** By appending a space followed by the pipe ( | ) character at the end of a `show` command, you can filter the output using a set of modifier keywords and arguments. For more information, see *Modifying Output of show Commands* in *Using the CLI*.

### 1.37.6 Examples

The following example shows how to display FAC details for all circuits that have a FAC profile applied:



```
[local]Redback(config)#show flow circuit all
```

Circuit	FAC Id	Dir	FAC Id	Dir
-----				
1/1:1023:63/1/2/6	0x40500002	OUT		
1/1:1023:63/1/2/8	0x40500003	IN		
1/1:1023:63/1/2/245750x40500003		BIDIR		



## 1.38 show flow collector

```
show flow collector [collector-name [statistics]]
```

### 1.38.1 Purpose

Displays information related to an external collector.

### 1.38.2 Command Mode

All modes

### 1.38.3 Syntax Description

<code>collector-name</code>	Identifies an external collector.
<code>statistics</code>	Displays statistical information for the specified external collector.

### 1.38.4 Default

Enter the `show flow collector` command without the optional argument or keyword to display a list of all external collectors configured in the current context.

### 1.38.5 Usage Guidelines

Use the `show flow collector` command to display information related to an external collector.

Table 13 describes the `show flow collector` command output for all external collectors configured in the current context.

*Table 13 show flow collector Command Output Descriptions (All Collectors)*

Field	Description
Collector	Identifies the external collector for which information is displayed.
Identifier	External collector identifier in hexadecimal format. A hexadecimal identifier is internally created when you create a new collector and is mapped to the collector. The hexadecimal identifier is used primarily for debugging purposes.



Table 13 *show flow collector Command Output Descriptions (All Collectors)*

Field	Description
IP Address	Destination address for the external collector where exported packets are received. Use the <b>ip address</b> command in flow collector configuration mode to specify an IP address for an external collector.
Port	Port on the external collector that receives exported packets. This is the port that listens for flow records from the SmartEdge router. Use the <b>port</b> command in flow collector configuration mode to configure or modify the destination port for an external collector.

Table 14 describes the **show flow collector** command output for a specific external collector.

Table 14 *show flow collector Command Output Descriptions (Specific Collector)*

Field	Description
Collector	Identifies the external collector for which information is displayed.
Identifier	External collector identifier in hexadecimal format. A hexadecimal identifier is internally created when you create a new external collector and is mapped to the external collector. The hexadecimal identifier is used primarily for debugging purposes.
Context	Context that hosts the specified external collector.
Source IP	Source IP address from which packets are sent to the external collector. If the source IP address was set to zero, then the ip-address of the outgoing interface will be used.
Destination IP	Destination address for the external collector where exported packets are received. Use the <b>ip address</b> command in flow collector configuration mode to specify an IP address for an external collector.
Destination port	Port on the external collector that receives exported packets. This is the port that listens for flow records from the SmartEdge router. Use the <b>port</b> command in flow collector configuration mode to configure or modify the destination port for an external collector.
Transport protocol	Protocol used for transporting flow records. User Datagram Protocol (UDP) is the only supported protocol in this release.



*Table 14 show flow collector Command Output Descriptions (Specific Collector)*

Field	Description
Export version	Export version that determines the fields included in the flow record. In this release, only Export version 5 is supported.
Profile	Identifies an RFlow profile that is attached to the specified external collector. A single external collector can have multiple RFlow profiles attached to it. You can configure up to 10 profiles on a single external collector.

### 1.38.6 Examples

The following example displays summarized information about all external collectors configured in the current context:

```
[local]Redback#show flow collector
```

```
Collector          Identifier IP Address      Port
-----          -
c1                 0x2          10.13.168.77    5000
```

The following example displays information about all external collectors configured on the router:

```
[local]Redback#show flow collector c1
```

```
Collector          : c1
Identifier          : 0x2
Context            : local
Source IP          : 10.13.168.70
Destination IP     : 10.13.168.77
Destination port   : 5000
Transport protocol : udp
Export version     : v5
Profile            : p1
```



## 1.39 show flow counters

```
show flow counters [{detail | debug | clear}]
```

### 1.39.1 Purpose

Displays settings for common flow admission control (FAC) counters.

### 1.39.2 Command Mode

All modes

### 1.39.3 Syntax Description

<code>detail</code>	Optional. Displays FAC counters.
<code>debug</code>	Optional. Displays debug information for FAC counters.
<code>clear</code>	Optional. Clears FAC counters after displaying them.

### 1.39.4 Default

None

### 1.39.5 Usage Guidelines

Use the `show flow counters` command to display FAC counters

**Note:** By default, most `show` commands (in any mode) display information for the current context only or, depending on the command syntax, for all contexts. If you are an administrator for the local context, you can insert the optional `context ctx-name` construct, preceding the `show` command, to view output for the specified context without entering that context. For more information about using the `context ctx-name` construct, see the `context` command description.

**Note:** By appending a space followed by the pipe (|) character at the end of a `show` command, you can filter the output using a set of modifier keywords and arguments. For more information, see *Modifying Output of show Commands* in *Using the CLI*.

### 1.39.6 Examples

The following example shows how to display summary information for FAC counters:



```
[local]Redback(config)#show flow counters
```

```
Current time: Mon Apr 30 17:51:37 2007
```

```
Last cleared: Never
```

```
FAC Profile-----
```

```
Create4Apply3
```

```
Delete0UnApply0
```

```
FAC Profile Current-----
```

```
FAC Profs4Applied Ccts3
```

The following example shows how to display detailed information for FAC counters:

```
[local]Redback(config)#show flow counters detail
```

```
Tree Failures-----
```

```
No Memory      0  No Room in Table  0
```

```
ISM Msgs Ignored-----
```

```
Unknown Event   0  Port State Ign   3
```

```
Cct State No Cct   0  Cct State Ign   6
```

```
Cct Cfg No Cct   0  Total Ignored   9
```

```
Flow Application-----
```

```
RCM Apply   3  AAA Apply   0
```

```
RCM UnApply  0  AAA UnApply  0
```

```
RCM Appl Ignored  0  AAA Appl Ignored  0
```

```
RCM UnAppl Ignor  0  AAA UnAppl Ignor  0
```

```
Apply Conflict  0  UnApply Conflict  0
```

```
UnApply No Cct  0
```

```
FAC Cct Adds 3  FAC Cct Dels  0
```

```
FAC Application Current-----
```

```
RCM Applied Ccts 3  AAA Applied Ccts  0
```

The following example shows how to display debug information for FAC counters:



```
[local]Redback(config)#show flow counters debug
```

```
Current time: Sat Jun 18 08:37:22 2007
```

```
Last cleared: Never
```

```
IPC-----
```

```
IPCs from ISM 4 Msgs from ISM 6
```

```
IPCs from RCM 8
```

```
IPCs from PPAs 0
```

```
PPA-----
```

```
Births 2 Deaths 0
```

```
RCM-----
```

```
Births 3 Deaths 2
```

```
IPC in Rejected 0
```

```
ISM-----
```

```
Births 1 Deaths 0
```

```
EOF 1 MBE All EOF 1
```

```
ISM In-----
```

```
ISM Statistics
```

```
Total events: ipc rcvd: 0, ipc err 0, unknown event 0
```

```
ID: I/F :state 0, cfg 0, IP cfg 0,
```

```
Cct :state 2, Cct cfg 1, Cct grp 0
```

```
Port :state 1, Port cfg 0
```

```
Lg :cfg 0
```

```
L2tp :sesscfg 0
```

```
Hdr :only 2
```

```
GrpMac :cfg 0
```

```
Card :state 0
```

The following example shows how to display FAC counters and then clears them:



```
[local]Redback(config)#show flow counters clear
```

```
Current time: Mon Jun 27 09:45:27 2007
```

```
Last cleared: Never
```

```
FAC Profile-----
```

```
  Create 3   Apply 1
```

```
  Delete 0  Unapply 0
```

```
FAC Profile Current-----
```

```
FAC Profs   3  Applied Ccts 1
```



## 1.40 show flow ip

```
show flow ip [show-flow-ip-arguments]
```

### 1.40.1 Purpose

Shows IP flow accounting information.

### 1.40.2 Command Mode

All modes

### 1.40.3 Syntax Description

You can replace *show-flow-ip-arguments* with the following keywords:

<code>application-list</code>	Displays information on application lists.
<code>cache</code>	Displays cache information.
<code>circuit</code>	Displays information on circuits.
<code>log</code>	Displays IPFIX logging information.
<code>profile</code>	Displays profile information.

### 1.40.4 Default

If you have configured one profile, the `show flow ip` command displays the following output:

```
[local]Redback# show flow ip
Number of Profiles      : 1
Number of Circuits     : 0
Number of Collectors   : 0
Number of Caches       : 0
Sampling Interval      : 1
[local]Redback#
```

In the output, the Sampling Interval is 1 (the default value). The rest of the fields are reported based on configuration.

### 1.40.5 Usage Guidelines

Use the `show flow ip` command to display information on RFlow profiles, circuits, collectors, caches, and the sampling interval. Table 15 describes the `show flow ip` command output:



Table 15 *show flow ip Command Output Descriptions*

Field	Description
Number of Profiles	Displays number of configured RFlow profiles.
Number of Circuits	Displays number of RFlow circuits.
Number of Collectors	Displays number of configured RFlow collectors in the system
Number of Caches	Displays number of RFlow caches created in the system.
Sampling Interval	Displays configured sampling packet interval.

### 1.40.6 Examples

The following example displays information on the number of profiles, circuits, collectors, caches, and the packet sampling interval:

```
[local]Redback# show flow ip  
  
Number of Profiles      : 4  
Number of Circuits     : 2  
Number of Collectors   : 1  
Number of Caches       : 2  
Sampling Interval      : 1
```



## 1.41 show flow ip application-list

```
show flow ip application-list [appl-list-name]
```

### 1.41.1 Purpose

Displays the configured application lists.

### 1.41.2 Command Mode

All modes

### 1.41.3 Syntax Description

*appl-list-name* | Name of an application list.

### 1.41.4 Default

Displays the names of all the application lists configured on the system, including the system default application list, `_sys_dflt_app_list_`.

### 1.41.5 Usage Guidelines

Use the `show flow ip application-list` command to view the list of configured application lists and their contents.

### 1.41.6 Examples

The following example displays the contents of the system default application list, `_sys_dflt_app_list_`:

```
[local]Redback# show flow ip application-list  
_sys_dflt_app_list_
```

```
application-list _sys_dflt_app_list_  
  application TCP-Telnet  
    protocol tcp port 23  
  application TCP-FTP  
    protocol tcp port 21  
  application TCP-FTPD  
    protocol tcp port 20  
  application TCP-HTTP  
    protocol tcp port 80  
  application TCP-SMTP  
    protocol tcp port 25
```



```
application TCP-BGP
  protocol tcp port 179
application TCP-NNTP
  protocol tcp port 119
application TCP-Other
  protocol tcp
application UDP-DNS
  protocol udp port 53
application UDP-NTP
  protocol udp port 123
application UDP-TFTP
  protocol udp port 69
application UDP-Other
  protocol udp
application ICMP
  protocol icmp
application IGMP
  protocol igmp
```

The **show flow ip application-list** command displays the configured values. For more information, see the **flow ip application-list** command.



## 1.42 show flow ip cache

```
show flow ip cache [ profile-name {dump | statistics
[application] | top-talkers [number [sort-by {packets | bytes }
| all-context]
```

### 1.42.1 Purpose

Displays a list of all RFlow caches currently configured on the router or detailed information about a specific RFlow cache.

### 1.42.2 Command Mode

All modes

### 1.42.3 Syntax Description

<i>profile-name</i>	Profile hosting the cache or caches of information that you want to display.
<i>dump</i>	Displays the entire contents of the specified cache.
<i>statistics</i>	Displays statistical information for all the flow records in the specified cache.
<i>application</i>	Displays statistics related to your application protocols in a specified cache.
<i>top-talkers</i>	Displays information about the largest packet and byte consumers in the network.
<i>number</i>	Displays the specified range, between 1 and 20, of items to display in the top-talkers output list.
<i>sort-by packets or byte</i>	Displays information based on your sort criteria for top-talkers, whether top-talkers are determined by number of packets or number of bytes.
<i>all-context</i>	Displays the names of all profile caches in all contexts. The <i>all-context</i> keyword is available in the local context only.

### 1.42.4 Default

Enter the `show flow ip cache` without any of the optional arguments or keywords to display summarized information for all RFlow caches in the current context.

### 1.42.5 Usage Guidelines

Use the `show flow ip cache` command to display a list of all RFlow caches currently configured on the router, or to display detailed information about a specific RFlow cache.

**Note:** On the XCRP, flows received from the PPA are directed to a cache. There is one cache for each profile in a context. If the same profile is attached to different circuits in multiple contexts, that profile has a different, unique cache in each context.



Table 16 describes the `show flow ip cache` command output.

*Table 16 show flow ip cache Command Field Descriptions (All Caches)*

Field	Description
Profile	Identifies an RFlow profile associated with this cache.
Max Size	Number of entries allowed in the cache before they are aged (sent to an external collector).
Usage	Amount of the cache used at the time the <code>show flow ip cache</code> command is executed. The display shows the number of resource entries currently in the cache.

Table 17 describes the `show flow ip cache all-context` command output.

*Table 17 show flow ip cache all-context Command Output Descriptions*

Field	Description
Profile	Identifies an RFlow profile associated with this cache.
Max Size	Number of entries allowed in the cache before they are aged (sent to an external collector).
Usage	Amount of the cache used at the time the <code>show flow ip cache</code> command is executed. The display shows the number of resource entries currently in the cache.
Context	Identifies the context of the cache.

Table 18 describes the `show flow ip cache statistics` command output.

*Table 18 show flow ip cache statistics Command Output Descriptions*

Field	Description
Profile	Identifies the RFlow profile for which information is displayed.
Context	Identifies the context that hosts the specified profile.



Table 18 show flow ip cache statistics Command Output Descriptions

Field	Description
Statistics	<p>Displays statistics for the following cache counters:</p> <ul style="list-style-type: none"> <li>• PPA flows received—Total number of PPA flows received by this cache.</li> <li>• PPA flows processed—Total number of PPA flows processed (transmitted) by this cache.</li> <li>• PPA flows discarded—Total number of PPA flows discarded by this cache due to a processing error.</li> <li>• Processing errors—Total number of flow processing errors that occurred on this cache.</li> <li>• Cache entries created—Total number of entries created by this cache.</li> <li>• Cache entries updated—Total number of entries updated in the cache to accurately reflect changes in the cache.</li> <li>• Cache entries aged—Total number of entries that were aged (exported) from this cache.</li> <li>• Cache entries fast-aged—Total number of entries that were fast-aged out of the cache. Entries are fast-aged when the maximum limit of the cache has been reached, a counter overflows, or a cache is deleted.</li> <li>• Entries in cache—Total number of flow entries currently in the cache.</li> <li>• Ager walks—Total number of times the flow ager was run on the cache.</li> </ul> <p>The cache statistics counters are not resilient and are initialized to 0 after a process restart.</p>
Collector Stream Information	<p>Displays the following stream statistic counters for the specified external collectors:</p> <ul style="list-style-type: none"> <li>• Collector—Identifies the external collector for which stream statistics are displayed.</li> <li>• ExportID— Identifies the flow record that was exported to an external collector. This identifier increments each time a new record is exported. If the ExportID is reset to zero after a restart or switchover, an error has occurred and you need to troubleshoot the problem.</li> <li>• Seq Number—Incremental sequence counter of all export packets sent from the current observation domain by the exporter. This value is cumulative and is used by the external collector to identify whether any export packets have been missed.</li> <li>• Packets Exported—Total number of packets exported by this external collector.</li> <li>• Packets Dropped—Total number of packets dropped by this external collector due to an error.</li> </ul>



Table 19 describes the `show flow ip cache statistics application` command output.

Table 19 `show flow ip cache statistics application` Command Output Descriptions

Field	Description
Total Flows	Number of flows in the cache for this application since the last time the statistics were cleared.
Flows/Sec	Average number of flows per second for this application.
Packets/Flow	Average number of packets per flow for this application.
Bytes/Pkt	Average number of bytes per packet for this application.
Packets/Sec	Average number of packets per second for this application.
Active(Sec)/Flow	Average number of seconds that a flow was active for this application before it expired.
Idle(Sec)/Flow	Average number of seconds that a flow was idle for this application before it expired.

## 1.42.6 Examples

The following example shows how to display summary information for all RFlow caches in the current context:

```
[local]Redback#show flow ip cache

Profile           Max Size  Usage
-----
p1                4096     0
```

The following example shows how to display information about all caches configured on the router:

```
[local]Redback#show flow ip cache all-context

Profile           Max Size  Usage  Context
-----
p1                4096     0     local
p1                4096     0     rflow
```

The following example shows how to display statistical information for the cache called `p1`:



```
[local]Redback#show flow ip cache p1 statistics
```

```

Profile : p1
Context : local
Statistics:
PPA flows received      : 0
PPA flows processed     : 0
PPA flows discarded     : 0
Processing errors       : 0
Cache entries created   : 0
Cache entries updated   : 0
Cache entries aged      : 0
Cache entries fast-aged: 0
Entries in cache        : 0
  Ager walks            : 0

```

```
Collector Stream Information:
```

Collector	ExportID	Seq Number	Generated		Send Errors	
			Packets	Records	Packets	Records
c1	1	0x4	2	4	0	0

The following example displays statistical information on flow records for application protocols gathered per cache since the last time it was cleared. To look for information on a specific application, use **output modifier** and **grep** for information on that specific application.

```
[local]Redback#show flow ip cache p1 statistics application
```

```

Last cleared: Thu Aug 13 18:57:22 2009
Current time: Thu Aug 13 19:12:57 2009

```

Application	Total Flows	Flows /Sec	Packets /Flow	Bytes /Pkt	Packets /Sec	Active(Sec) /Flow	Idle(Sec) /Flow
TCP-Telnet	0	0.0	0	0	0.0	0.0	0.0
TCP-FTP	0	0.0	0	0	0.0	0.0	0.0
TCP-FTPD	0	0.0	0	0	0.0	0.0	0.0
TCP-HTTP	0	0.0	0	0	0.0	0.0	0.0
TCP-SMTP	0	0.0	0	0	0.0	0.0	0.0
TCP-BGP	0	0.0	0	0	0.0	0.0	0.0
TCP-NNTP	0	0.0	0	0	0.0	0.0	0.0
TCP-Other	6	0.0	46666	1200	299.5	9.9	20.1
UDP-DNS	0	0.0	0	0	0.0	0.0	0.0
UDP-NTP	0	0.0	0	0	0.0	0.0	0.0
UDP-TFTP	0	0.0	0	0	0.0	0.0	0.0
UDP-Other	0	0.0	0	0	0.0	0.0	0.0
ICMP	0	0.0	0	0	0.0	0.0	0.0
IGMP	0	0.0	0	0	0.0	0.0	0.0
Other	0	0.0	0	0	0.0	0.0	0.0



## 1.43 show flow ip circuit

```
show flow ip circuit [circuit-id | all-context]
```

### 1.43.1 Purpose

Displays information about a specified IP circuit that has RFlow enabled.

### 1.43.2 Command Mode

All modes

### 1.43.3 Syntax Description

<i>circuit-id</i>	Optional. Circuit identifier. Use the <code>show flow ip circuit all</code> command to display a list of all FAC profile IDs for all circuits on the current SmartEdge router.
<i>all-context</i>	Displays information about all circuits configured in all contexts. The <code>all-context</code> keyword is available in the local context only.

### 1.43.4 Default

Enter the command without the optional *circuit-id* argument to display brief information about all circuits in the current context that have RFlow enabled.

### 1.43.5 Usage Guidelines

Use the `show flow ip circuit` command to display information about a specified IP circuit that has RFlow enabled.

Table 20 describes the `show flow ip circuit` command output for all circuits.

*Table 20 show flow ip circuit (All Circuits) Command Output Descriptions*

Field	Description
Circuit	Identifies the circuit for which RFlow information is displayed.
Interface	Identifies the interface that is bound to the specified circuit.
Direction	Direction of the interface. Can be outgoing (egress), incoming (ingress), or both.
Profile	Identifies the profile that is currently applied to this circuit.

Table 21 describes the `show flow ip circuit` command output for a specific circuit.



**Table 21** *show flow ip circuit (Specific Circuit) Command Output Descriptions*

Field	Description
Circuit	Identifies the circuit for which RFlow information is displayed.
Profile applied	Identifies the profile currently applied to this circuit.
Direction	Direction of the interface. Can be outgoing (egress), incoming (ingress), or both.
IPPA Statistics	<p>Displays the current statistics from the iPPA (ingress Packet Processing ASIC) counters. See Table 22 for a description of the IPPA counters.</p> <p>With the exception of the “Flows received by XCRP” and “Flows dropped by XCRP” counters, all counters are maintained on the PPA, which updates the counters once every 5 minutes. The “Flows received by XCRP” and “Flows dropped by XCRP” counters are maintained on the XCRP. As a result, there may be some inconsistencies between the “Flows received by the XCRP” counter and the “Flows aged out of L1 cache” counter if the PPA has not updated the “Flows aged out of L1 cache” counter yet.</p>
EPPA Statistics	<p>Displays the current statistics from the ePPA (egress Packet Processing ASIC) counters. See Table 23 for a description of the IPPA counters.</p> <p>With the exception of the “Flows received by XCRP” and “Flows dropped by XCRP” counters, all counters are maintained on the PPA, which updates the counters once every 5 minutes. The “Flows received by XCRP” and “Flows dropped by XCRP” counters are maintained on the XCRP. As a result, there may be some inconsistencies between the “Flows received by the XCRP” counter and the “Flows aged out of L1 cache” counter if the PPA has not updated the “Flows aged out of L1 cache” counter yet.</p>

Table 22 describes the IPPA counters displayed in the `show flow ip circuit` command.

**Table 22** *IPPA Counters*

Flows received by XCRP	Total number of flows received by the XCRP for a given circuit.
Flows dropped by XCRP	Total number of flows that were dropped by the XCRP due to errors.
Bytes bypassed flow infrastructure	Bytes bypassed because no resources were available to process flows.
Packets bypassed flow infrastructure	Total number of packets for which the PPA was unable to create a flow. Use this counter to track packets on a circuit that RFlow is unable to monitor.
Microflows aged out	Number of microflows that were exported because the inactive or active timeout expired. When a new flow arrives on the PPA, the PPA creates a Flow Control Block (FCB). After the FCB is created, the flow is called a microflow. When a flow is expired (or aged) its corresponding FCB is deleted. The next packet with the same key fields starts a new a new microflow, so a new FCB is created.



*Table 22 IPPA Counters*

Microflows not L1 aggregated—	Total number of bytes that were not aggregated because the PPA could not add them to the L1 cache.
Bytes not L1 aggregated	Total number of microflows that were not aggregated because the PPA could not add them to the L1 cache.
Packets not L1 aggregated	Total number of packets that were not aggregated because the PPA could not add them to the L1 cache.
Flows aged out of L1 cache	Total number of flows exported (aged) out of the L1 cache because the inactive or active timeout expired.
Flows not reported due to no buffer	Total number of received flows that the PPA did not report to the XCRP because the XCRP buffer was out of memory.
Bytes aggregated but not reported	Total number of aggregated bytes that the PPA did not report to the XCRP.
Packets aggregated but not reported	Total number of aggregated packets that the PPA did not report to the XCRP.

Table 23 describes the EPPA counters displayed in the `show flow ip circuit` command.

*Table 23 EPPA Counters*

Flows received by XCRP	Total number of flows received by the XCRP for a given circuit.
Flows dropped by XCRP	Total number of flows that were dropped by the XCRP due to errors.
Bytes bypassed flow infrastructure	Total number of bytes for which the PPA was unable to create a flow. Use this counter to track packets on a circuit that RFlow is unable to monitor.
Packets bypassed flow infrastructure	Total number of packets for which the PPA was unable to create a flow. Use this counter to track packets on a circuit that RFlow is unable to monitor.



Table 23 EPPA Counters

Microflows aged out	Number of Flow Control Blocks (FCBs) that the PPA added to the L1 aggregation cache because the inactive or active timeout expired. When a new flow arrives on the PPA, the PPA creates an FCB. After the FCB is created, the flow is called a microflow. When a flow is expired, its corresponding FCB is deleted. The next packet with the same key fields starts a new microflow and a new FCB.
Microflows not L1 aggregated	Total number of bytes that were not aggregated because the PPA could not add them to the L1 cache.
Bytes not L1 aggregated	Total number of microflows that were not aggregated because the PPA could not add them to the L1 cache.
Packets not L1 aggregated	Total number of packets that were not aggregated because the PPA could not add them to the L1 cache.
Flows aged out of L1 cache	Total number of flows exported (aged) out of the L1 cache because the inactive or active timeout expired.
Flows not reported due to no buffer	Total number of received flows that the PPA did not report to the XCRP because the XCRP buffer was out of memory.
Bytes aggregated but not reported	Total number of aggregated bytes that the PPA did not report to the XCRP.
Packets aggregated but not reported	Total number of aggregated packets that the PPA did not report to the XCRP.

### 1.43.6 Examples

The following example shows how to display RFlow information for all circuits in the current context that have RFlow enabled:



```
[local]Router#show flow ip circuit
```

Circuit	Interface	Direction	Profile
-----	-----	-----	-----
5/5:1023:63/1/2/10	egress	both	p1

The following example shows how to display RFlow information for the circuit with the handle 5/6:1023:63/1/2/8296

```
[local]Router#show flow ip circuit 5/6:1023:63/1/2/8296
```

```
Circuit          : 5/6 vlan-id 50
Profile applied  : p1
Direction       : both
IPPA Statistics:
Flows received by XCRP           : 10
Flows dropped by XCRP            : 0
Bytes bypassed flow infrastructure : 0
Packets bypassed flow infrastructure : 0
Microflows aged out              : 10
Microflows not L1 aggregated      : 0
Bytes not L1 aggregated           : 0
Packets not L1 aggregated         : 0
Flows aged out of L1 cache        : 10
Flows not reported due to no buffer : 0
Bytes aggregated but not reported  : 0
Packets aggregated but not reported : 0
EPPA Statistics:
Flows received by XCRP           : 10
Flows dropped by XCRP            : 0
Bytes bypassed flow infrastructure : 0
Packets bypassed flow infrastructure : 0
Microflows aged out              : 10
Microflows not L1 aggregated      : 0
Bytes not L1 aggregated           : 0
Packets not L1 aggregated         : 0
Flows aged out of L1 cache        : 10
Flows not reported due to no buffer : 0
Bytes aggregated but not reported  : 0
Packets aggregated but not reported : 0
```



## 1.44 show flow ip log ism

```
show flow ip log ism [error | rx]
```

### 1.44.1 Purpose

Displays a log of all RFlow events on the SmartEdge router.

### 1.44.2 Command Mode

All modes

### 1.44.3 Syntax Description

<code>ism</code>	Displays Circuit State Manager (ISM) events only.
<code>error</code>	Displays error events only.
<code>rx</code>	Displays only those events received from ISM.

### 1.44.4 Default

Enter the `show flow ip log` command with no optional keywords to display a log of all RFlow events that occurred on the SmartEdge router.

### 1.44.5 Usage Guidelines

Use the `show flow ip log` command to display a log of all RFlow events that occurred on the SmartEdge router.

Table 24 describes the `show flow ip log` command output.

Table 24 *show flow ip log* Command Output Descriptions

Field	Description
Entry number	Number that identifies the individual event message.
<i>month day hours:minutes :seconds</i>	Date and time when the event occurred.
ISM RX rc	ISM return code.
IPFIX ISM Event:	Location where the event occurred, and type of event that occurred.
event	Description of the event that occurred.
cct_handle	The circuit where the event occurred.



Table 24 *show flow ip log Command Output Descriptions*

Field	Description
port type	Type of port on which the event occurred, in hexadecimal format.
state	Current state of the port where the event occurred.
encaps	Port encapsulation type, expressed in hexadecimal format. The encaps field is displayed for port configuration events only.
if index	Interface identifier, expressed in hexadecimal format. The if index field is displayed for port configuration events only.

#### 1.44.6 Examples

The following example shows how to display a log of all RFlow ISM events that have occurred on the router:

```
[local]Redback#show flow ip log ism
```

```
IPFIX<->ISM log messages (20 total entries):
```

```
0: Jul 7 22:48:31 ISM RX rc: 0
```

```
IPFIX ISM Event: Port Config, event: PRT ethcfg
```

```
cct_handle: 5/5:1023:63/1/0/2 port type: 0xa
```

```
encaps: 0x1000000 if index: 0x1
```

```
1: Jul 7 22:48:31 ISM RX rc: 0
```

```
IPFIX ISM Event: Port State, event: PRT up
```

```
cct_handle: 5/5:1023:63/1/0/2, state: Unknown
```

```
2: Jul 7 22:48:31 ISM RX rc: 0
```



IPFIX ISM Event: Port Config, event: PRT ethcfg  
cct\_handle: 5/6:1023:63/1/0/4 port type: 0xa  
encaps: 0x1000000 if index: 0x2

3: Jul 7 22:48:31 ISM RX rc: 0

IPFIX ISM Event: Port State, event: PRT up  
cct\_handle: 5/6:1023:63/1/0/4, state: Unknown

4: Jul 7 22:48:31 ISM RX rc: 0

IPFIX ISM Event: Port Config, event: PRT ethcfg  
cct\_handle: 5/8:1023:63/1/0/6 port type: 0xa  
encaps: 0x1000000 if index: 0x3

5: Jul 7 22:48:31 ISM RX rc: 0

IPFIX ISM Event: Port State, event: PRT up  
cct\_handle: 5/8:1023:63/1/0/6, state: Unknown

6: Jul 7 22:48:31 ISM RX rc: 0

IPFIX ISM Event: Port Config, event: PRT ethcfg  
cct\_handle: 7/1:1023:63/1/0/8 port type: 0x10  
encaps: 0x1000000 if index: 0x4

7: Jul 7 22:48:31 ISM RX rc: 0

IPFIX ISM Event: Port State, event: PRT up  
cct\_handle: 7/1:1023:63/1/0/8, state: Unknown



8: Jul 9 00:08:36 ISM RX rc: 0  
IPFIX ISM Event: Port State, event: PRT down  
cct\_handle: 5/5:1023:63/1/0/2, state: DOWN

9: Jul 9 00:08:36 ISM RX rc: 0  
IPFIX ISM Event: Port State, event: PRT down  
cct\_handle: 5/6:1023:63/1/0/4, state: DOWN

10: Jul 9 21:06:20 ISM RX rc: 0  
IPFIX ISM Event: Port State, event: PRT down  
cct\_handle: 5/8:1023:63/1/0/6, state: DOWN

11: Jul 9 21:06:23 ISM RX rc: 0  
IPFIX ISM Event: Port State, event: PRT up  
cct\_handle: 5/8:1023:63/1/0/6, state: Unknown

12: Jul 9 21:44:11 ISM RX rc: 0  
IPFIX ISM Event: Port State, event: PRT down  
cct\_handle: 5/8:1023:63/1/0/6, state: DOWN

13: Jul 9 21:44:14 ISM RX rc: 0  
IPFIX ISM Event: Port State, event: PRT up  
cct\_handle: 5/8:1023:63/1/0/6, state: Unknown

14: Jul 9 21:44:16 ISM RX rc: 0



IPFIX ISM Event: Port State, event: PRT down

cct\_handle: 5/8:1023:63/1/0/6, state: DOWN

15: Jul 9 21:44:21 ISM RX rc: 0

IPFIX ISM Event: Port State, event: PRT up

cct\_handle: 5/8:1023:63/1/0/6, state: Unknown

16: Jul 9 21:47:36 ISM RX rc: 0

IPFIX ISM Event: Port State, event: PRT down

cct\_handle: 5/8:1023:63/1/0/6, state: DOWN

17: Jul 9 21:47:59 ISM RX rc: 0

IPFIX ISM Event: Port State, event: PRT up

cct\_handle: 5/8:1023:63/1/0/6, state: Unknown

18: Jul 9 21:48:38 ISM RX rc: 0

IPFIX ISM Event: Port State, event: PRT down

cct\_handle: 5/8:1023:63/1/0/6, state: DOWN

19: Jul 9 21:49:19 ISM RX rc: 0

IPFIX ISM Event: Port State, event: PRT up

cct\_handle: 5/8:1023:63/1/0/6, state: Unknown



## 1.45 show flow ip profile

```
show flow ip profile [profile-name] [circuits [all-context] |
collectors [all-context]]
```

### 1.45.1 Purpose

Displays information about an RFlow profile.

### 1.45.2 Command Mode

All modes

### 1.45.3 Syntax Description

<i>profile-name</i>	Identifies the profile for which you want to display information.
<i>circuits</i>	Displays a list of circuits to which the specified profile is applied.
<i>collectors</i>	Displays a list of external collectors attached to the specified profile.
<i>all-context</i>	Displays profile information for all contexts currently configured on the router. If you do not include the <i>all-context</i> keyword, the command output displays profile information for the current context only.

### 1.45.4 Default

Enter the command without any of the optional keywords or arguments to display a list of all profiles configured in the current context.

### 1.45.5 Usage Guidelines

Use the `show flow ip profile` command to display information related to an RFlow profile.

Table 25 describes the `show flow ip profile` command output for all profiles.

*Table 25 show flow ip profile Command Output Descriptions (All Profiles)*

Field	Description
Profile	Identifies the RFlow profile for which information is displayed.
Identifier	RFlow profile identifier in hexadecimal format. The hexadecimal RFlow profile identifier is used for debugging.

Table 26 describes the `show flow ip profile` command output for a specific profile.

Table 26 *show flow ip profile Command Output Descriptions (Specific Profile)*

Field	Description
Profile	Identifies the RFlow profile for which information is displayed.
Identifier	RFlow profile identifier in hexadecimal format. The hexadecimal RFlow profile identifier is used for debugging purposes.
Active timeout	Timeout period, in seconds, after which a flow is considered complete (expired) and a flow record is created and exported to the external collector. Use the <code>active timeout</code> command in flow IP profile configuration mode to configure or modify the active timeout period.
Aggregation cache size	Number of entries that can be stored in the aggregation cache at one time. The aggregation cache size determines how much information is reported when you access the RFlow data. Use the <code>aggregation-cache-size</code> command in flow IP profile configuration mode to configure or modify the size of the aggregation cache.

### 1.45.6 Examples

The following example shows how to display a lists of all profiles configured in the current context:

```
[local]Redback#show flow ip profile
```

```
Identifier      Profile
-----
0x40800001     p1
```

The following example shows how to display information about a specific profile called `p1`:



```
[local]Redback#show flow ip profile p1
```

```
Profile                : p1
Identifier              : 0x40800001
Active timeout         : 1800
Aggregation cache size : 4096
```



## 1.46 show flow log

`show flow log`

### 1.46.1 Purpose

Displays the log of all flow events on the current SmartEdge router.

### 1.46.2 Command Mode

All modes

### 1.46.3 Default

None

### 1.46.4 Usage Guidelines

Use the `show flow log` command to display the log of all flow events on the current SmartEdge router.

**Note:** By default, most `show` commands (in any mode) display information for the current context only or, depending on the command syntax, for all contexts. If you are an administrator for the local context, you can insert the optional `context ctx-name` construct, preceding the `show` command, to view output for the specified context without entering that context. For more information about using the `context ctx-name` construct, see the `context` command description.

**Note:** By appending a space followed by the pipe ( | ) character at the end of a `show` command, you can filter the output using a set of modifier keywords and arguments. For more information, see *Modifying Output of show Commands* in *Using the CLI*.

### 1.46.5 Examples

The following example shows how to display the log of flow events on the current SmartEdge router:



```
[local]Redback(config)#show flow log
```

```
Time   Evnt  SubEvent  Circuit  Details
-----
264.99  Proc  Create-thread  cmd
264.31  Proc  Create-thread  ppa-rx
264.33  Proc  Create-thread  ism-rx
264.33  Proc  Endpoint-alive  ism-mbe
264.34  ISM  FSM-Event      MBE-EP-Up
264.34  ISM  FSM-New-State  MBE-EP-up (All-EP-down)
```



## 1.47 show flow ppa log circuit

```
show flow ppa log circuit circuit_name {continuous | duration duration}
```

### 1.47.1 Purpose

Displays statistics associated with the pull value of the current PPA log for a specified circuit.

### 1.47.2 Command Mode

Global configuration

### 1.47.3 Syntax Description

<i>circuit_name</i>	Name of the circuit for which you are displaying PPA log information.
<i>continuous</i>	Specifies the amount of time for which PPA log information is being displayed is ongoing.
<i>duration duration</i>	Time interval in seconds for which PPA log information is being displayed

### 1.47.4 Default

None

### 1.47.5 Usage Guidelines

Use the `show flow ppa log circuit` to display statistics associated with the pull value of the current PPA log for a specified circuit.

### 1.47.6 Examples

The following example shows how to display statistics associated with the pull value of the current PPA log for the `circuit1` circuit:

```
[local]Redback(config-ctx)#show flow ppa log 1/1:1023:63/1/2/6 circuit1
```



## 1.48 show flow ppa state

```
show flow ppa state
```

### 1.48.1 Purpose

Displays Packet Processing ASIC (PPA) communications state information for all flows on the current SmartEdge router.

### 1.48.2 Command Mode

All modes

### 1.48.3 Syntax Description

This command has no keywords or arguments.

### 1.48.4 Default

None

### 1.48.5 Usage Guidelines

Use the `show flow ppa state` command to display PPA communications state information for all flows on the current SmartEdge router.

**Note:** By default, most `show` commands (in any mode) display information for the current context only or, depending on the command syntax, for all contexts. If you are an administrator for the local context, you can insert the optional `context ctx-name` construct, preceding the `show` command, to view output for the specified context without entering that context. For more information about using the `context ctx-name` construct, see the `context` command description.

**Note:** By appending a space followed by the pipe ( | ) character at the end of a `show` command, you can filter the output using a set of modifier keywords and arguments. For more information, see *Modifying Output of show Commands* in *Using the CLI*.

### 1.48.6 Examples

The following example shows how to display PPA communication state information for the current circuit:



```
[local]Redback(config)#show flow ppa state
```

```
S:P EP Name Index PR ES EU SE
```

```
-----
```

```
1:I FLOW SLOT 01/0 0000005 Y Y Y Y
```

```
1:E FLOW SLOT 01/1 0000004 Y Y Y Y
```



## 1.49 show flow ppa summary

```
show flow ppa circuit circuit summary
```

### 1.49.1 Purpose

Displays a summary of flow counters for a specified circuit.

### 1.49.2 Command Mode

Global configuration

### 1.49.3 Syntax Description

*circuit*  
*circuit*

Circuit to which the FAC profile is applied.

### 1.49.4 Default

None

### 1.49.5 Usage Guidelines

Use the `show flow ppa circuit summary` to display a summary of flow counters for a specified circuit.

### 1.49.6 Examples

The following example shows how to display a summary of flow counters for the `circuit1` circuit:

```
[local]Redback(config-ctx)#show flow ppa circuit 1/1:1023:63/1/2/6 summary
```



## 1.50 show forward policy

```
show forward policy pol-name
```

### 1.50.1 Purpose

Displays information about configured forward policies.

### 1.50.2 Command Mode

All modes

### 1.50.3 Syntax Description

`pol-name` | Forward policy name.

### 1.50.4 Default

None

### 1.50.5 Usage Guidelines

Use the `show forward policy` command to display information about configured forward policies.

**Note:** By default, most `show` commands (in any mode) display information for the current context only or, depending on the command syntax, for all contexts. If you are an administrator for the local context, you can insert the optional `context ctx-name` construct, preceding the `show` command, to view output for the specified context without entering that context. For more information about using the `context ctx-name` construct, see the `context` command description.

**Note:** By appending a space followed by the pipe ( | ) character at the end of a `show` command, you can filter the output using a set of modifier keywords and arguments. For more information, see *Modifying Output of show Commands* in *Using the CLI*.

**Note:** Configurations with mirror actions include an IP-Addr/Option column in SmartEdge router , Release 6.1.4.2 and higher to show the `12-frames` option.

### 1.50.6 Examples

The following example displays brief information about the `redirect_policy` forward policy:



```
[local]Redback>show forward policy redirect_policy
```

Policy-Name	Type	Grid	Qs	Slots	Ports	Bound	DnLd	Status
redirect_policy	forward	3	0	2	42	in/out		

Total policy map: 1

The following example displays detailed information for the multi\_policy forward policy:

```
[local]Redback>show forward policy multi_policy
```

Policy-Name	Type	Grid	Qs	Slots	Ports	Bound	DnLd	Status
multi_policy	forward	1	0	1	1	in		

Slot#: 1 2 3 4 5 6 7 8 9 10 11 12 13 14

iPPA dnld:

ePPA dnld:

iPPA ports: 1

ePPA ports:

Class-Name	Action	Mode	IP-Address	Bound	Int,msec	Output-Name
redir1	redir	hop	10.3.50.2			
default						
redir2	redir	local				

Total policy map: 1



The following example displays detailed information about the **l2\_policy** forward policy configured with the **mirror destination dest-name l2-frames** command for mirroring Layer 2 attachment circuits:

```
[local]Redback>show forward policy l2_policy
```

Policy-Name	Type	Grid	Qs	Slots	Ports	Bound	DnLd	Status
l2_policy	forward	1	0	0	0			updt

  

Slot#:	1	2	3	4	5	6	7	8	9	10	11	12	13	14
iPPA dnld:														
ePPA dnld:														
iPPA ports:														
ePPA ports:														

  

Class-Name	Action	Mode	IP-Addr/Option	Bound	Int,msec	Output-Name
default	mirror	forw	l2-frames	no	20000	you_bar

Total policy map: 1



## 1.51 show frame-relay

For ports on Packet over SONET/SDH (POS) line cards, the syntax is:

```
show frame-relay [slot/port [dlci dlci]] [detail]
```

### 1.51.1 Purpose

Displays configuration information for configured Frame Relay permanent virtual circuits (PVCs).

### 1.51.2 Command Mode

All modes

### 1.51.3 Syntax Description

<i>slot</i>	Optional. Chassis slot number of a line card for which circuit information is displayed. If omitted, displays circuit information for all circuits in the system.
<i>port</i>	Required if you enter the slot argument. Port number for which circuit information is displayed.
<i>chan-num</i>	Optional. Channel number for which circuit information is displayed. If omitted, displays circuit information for all channels on the specified port. The range of values depends on the type of ports.
<i>sub-chan-num</i>	Optional. Subchannel number for which circuit information is displayed. If omitted, displays circuit information for all subchannels in the specified channel. The range of values depends on the type of port.
<i>dlci dlci</i>	Optional. Data-link connection identifier (DLCI) of the configured PVC. The range of values is 16 to 991.
<i>detail</i>	Optional. Displays detailed circuit information.

### 1.51.4 Default

Displays configuration information for all configured Frame Relay PVCs.

### 1.51.5 Usage Guidelines

Use the `show frame-relay` command to display configuration information for configured Frame Relay PVCs.

**Note:** The SmartEdge 100 router does not support Frame Relay PVCs.

If you enter the optional *slot*, *port*, and *chan-num* arguments, the command displays configuration information for the specified card, port, or channel; if you enter the optional *sub-chan-num* argument, the command displays configuration information for the DS-1 channel or DS-0 channel group.



If you enter the optional `d1ci d1ci` construct, the output displays configuration information for the specified circuit.

**Note:** By default, most `show` commands (in any mode) display information for the current context only or, depending on the command syntax, for all contexts. If you are an administrator for the local context, you can insert the optional `context ctx-name` construct, preceding the `show` command, to view output for the specified context without entering that context. For more information about using the `context ctx-name` construct, see the `context` command description.

**Note:** By appending a space followed by the pipe ( | ) character at the end of a `show` command, you can filter the output using a set of modifier keywords and arguments. For more information, see *Modifying Output of show Commands* in *Using the CLI*.

### 1.51.6 Examples

The following example shows how to display detailed configuration information for all Frame Relay PVCs:

```
[local]Redback>show frame-relay detail
```

```
Circuit: 1/1:1:1, internal id: 3/1/6, state: Up
```

```
-----  
bound to          :  
admin state       : Down          hardware address  : 00:00:00:00:00:00  
media type        : sonet          encap type        : frame-relay  
mode type         : 0x2            port type         : ds1  
mtu size          : 1500           cct speed         : 0  
if_flags          : 0x0            version           : 14366  
internal handle   : 1/1:1:1/3/1/6
```

```
Circuit: 1/1:1:1, internal id: 6/2/7, state: Up
```

```
-----  
bound to          :  
admin state       : Down          hardware address  : 00:00:00:00:00:00  
media type        : sonet          encap type        : frame-relay
```



```
mode type      : 0x2          port type      : ds1
mtu size       : 1500         cct speed      : 1536
if_flags       : 0x0          version        : 15139
internal handle : 1/1:1:1/6/2/7
```

Circuit: 1/1:1:1 dlci 1023, internal id: 6/2/8, state: Up

```
-----
bound to       :
admin state    : Down          hardware address : 00:00:00:00:00:00
media type     : sonet         encap type      : frame-relay
mode type      : 0x2          port type      : ds1
mtu size       : 1500         cct speed      : 1536
if_flags       : 0x0          version        : 15140
internal handle : 1/1:1:1/6/2/8
```

Circuit: 1/1:1:1 dlci 20, internal id: 6/2/9, state: Up

```
-----
bound to       : 1.1.dlci20@local
admin state    : Down          hardware address : 00:00:00:00:00:00
media type     : sonet         encap type      : frame-relay
mode type      : 0x2          port type      : ds1
mtu size       : 1500         cct speed      : 1536
version        : 15141
internal handle : 1/1:1:1/6/2/9
```

.



Commands: show d through show f



## 1.52 show frame-relay counters

For ports on Packet over SONET/SDH (POS) line cards, the syntax is:

```
show frame-relay counters [persistent] [slot/port [dlci dlci]]
[detail]
```

### 1.52.1 Purpose

Displays traffic counters for configured Frame Relay permanent virtual circuits (PVCs).

### 1.52.2 Command Mode

All modes

### 1.52.3 Syntax Description

<i>persistent</i>	Optional. If omitted, displays values since the counters were last cleared or the card was last reloaded. If specified, displays values since the system was last reloaded.
<i>slot</i>	Optional. Chassis slot number of a line card with the port for which traffic counters are displayed.
<i>port</i>	Required if you enter the slot argument. Port number for the port for which traffic counters are displayed.
<i>dlci dlci</i>	Optional. Data-link connection identifier (DLCI) of a configured Frame Relay PVC for which to display traffic counters. The range of values is 16 to 991.
<i>detail</i>	Optional. Specifies that more details are displayed for each Frame Relay PVC.

### 1.52.4 Default

Displays the traffic counters for all Frame Relay PVCs that are bound in the current context.

### 1.52.5 Usage Guidelines

**Note:** The SmartEdge 100 router does not support Frame Relay PVCs.

To display the counters with values accumulated since the system was last reloaded, issue the `show frame-relay counters` command with the `persistent` keyword.

The `show frame-relay counters` command is an alias for the `show circuit counters fr` command in exec mode.

Use the `slot` and `port` arguments to display only Frame Relay PVCs configured on the card in that slot or on that port; if not specified, Frame Relay traffic counters are displayed for all ports in all slots in the system.



Use the `dlci dlci` construct to display traffic counters for only a single Frame Relay PVC.

Use the `detail` keyword to display detailed output for each specified slot, port, channel, or Frame Relay PVC; otherwise, the output displays one line of output for each specified slot, port, channel, or Frame Relay PVC.

**Note:** By default, most `show` commands (in any mode) display information for the current context only or, depending on the command syntax, for all contexts. If you are an administrator for the local context, you can insert the optional `context ctx-name` construct, preceding the `show` command, to view output for the specified context without entering that context. For more information about using the `context ctx-name` construct, see the `context` command description.

**Note:** By appending a space followed by the pipe ( | ) character at the end of a `show` command, you can filter the output using a set of modifier keywords and arguments. For more information, see *Modifying Output of show Commands* in *Using the CLI*.

## 1.52.6 Examples

The following example shows how to display the traffic counters for the Frame Relay-encapsulated PVCs on POS port 2 in slot 6 :

```
[local]Redback>show frame-relay counters 6/2
```

Circuit	Packets/Bytes Sent	Packets/Bytes Received
6/2	0	0
	0	0
6/2	0	0
	0	0
6/2 dlci 1023	0	0
	0	0
6/2 dlci 16	0	0
	0	0



## 1.53 show frame-relay lmi-config

For ports on Packet over SONET/SDH (POS) line cards, the syntax is:

```
show frame-relay lmi-config [slot[/port]]
```

### 1.53.1 Purpose

Displays Frame Relay Local Management Interface (LMI) configuration information.

### 1.53.2 Command Mode

All modes

### 1.53.3 Syntax Description

<i>slot</i>	Optional. Chassis slot number of a line card with the port for which the LMI configuration displays. If not specified, LMI configuration data displays for all Frame Relay-encapsulated ports in all slots.
<i>port</i>	Optional. Port number of the port for which the LMI configuration displays. If not specified, LMI configuration data displays for all Frame Relay-encapsulated ports on the card in the specified slot.

### 1.53.4 Default

Displays the LMI configuration information for all configured Frame Relay-encapsulated ports or channels in all slots.

### 1.53.5 Usage Guidelines

Use the `show frame-relay lmi-config` command to display LMI configuration information.

**Note:** The SmartEdge 100 router does not support Frame Relay PVCs.

If you specify the *slot* and *port* arguments, the display shows the configuration for just that port; if you specify the *chan-num* argument, the display shows the configuration for just that channel; if you specify the *sub-chan-num* argument, the display shows the configuration for just that subchannel.

**Note:** By default, most `show` commands (in any mode) display information for the current context only or, depending on the command syntax, for all contexts. If you are an administrator for the local context, you can insert the optional `context ctx-name` construct, preceding the `show` command, to view output for the specified context without entering that context. For more information about using the `context ctx-name` construct, see the `context` command description.



**Note:** By appending a space followed by the pipe ( | ) character at the end of a **show** command, you can filter the output using a set of modifier keywords and arguments. For more information, see *Modifying Output of show Commands* in *Using the CLI*.

### 1.53.6 Examples

The following example shows how to display the configuration for channel 1 on channelized OC-12 port 1 in slot 3 :

```
[local]Redback>show frame-relay lmi-config 3/1:1
```

```

                                Keep  -----DCE-----  -- DTE  --
Slot/Port    Dlci Link Type State Alive T392 N391 N392 N393 N392 N393
-----
          3/1:1 1023  dte   g4   up   10   15    6    3    4    3    4
```



## 1.54 show frame-relay lmi-errors

For ports on Packet over SONET/SDH (POS) line cards, the syntax is:

```
show frame-relay lmi-errors [bootup] [full] [slot [/port]]
```

### 1.54.1 Purpose

Displays Frame Relay Local Management Interface (LMI) error counters.

### 1.54.2 Command Mode

All modes

### 1.54.3 Syntax Description

<code>bootup</code>	Optional. Displays LMI error counters accumulated since the time the system was last reloaded. If not specified, the LMI error counters are accumulated since the last time the <code>show frame-relay lmi-errors</code> command was issued.
<code>full</code>	Optional. Displays LMI error counters for all LMIs.
<code>slot</code>	Optional. Chassis slot number of a line card for which LMI error counters are displayed. If not specified, displays LMI error counters for all Frame Relay ports in all slots.
<code>port</code>	Optional. Port number for which LMI error counters are displayed. If not specified, displays LMI error counters for all Frame Relay ports in the specified slot.

### 1.54.4 Default

Displays LMI error counters for all configured Frame Relay encapsulated channels or ports in all slots since the last time the system was reloaded (booted).

### 1.54.5 Usage Guidelines

Use the `show frame-relay lmi-errors` to display LMI error counters.

**Note:** The SmartEdge 100 router does not support Frame Relay PVCs.

If you specify the `slot` and `port` arguments, only the LMI error counters for that slot or port are displayed; if you specify the `chan-num` argument, the display shows the LMI error counters for just that channel; if you specify the `sub-chan-num` argument, the display shows the LMI error counters for just that subchannel.

The system maintains the following sets of error counters for each LMI interface: general errors that apply regardless of the LMI interface type, error counters that only apply to the DCE interface, and error counters that only apply to the data terminal equipment (DTE) interface.



**Note:** By default, most `show` commands (in any mode) display information for the current context only or, depending on the command syntax, for all contexts. If you are an administrator for the local context, you can insert the optional `context ctx-name` construct, preceding the `show` command, to view output for the specified context without entering that context. For more information about using the `context ctx-name` construct, see the `context` command description.

**Note:** By appending a space followed by the pipe ( | ) character at the end of a `show` command, you can filter the output using a set of modifier keywords and arguments. For more information, see *Modifying Output of show Commands* in *Using the CLI*.

When the error counters are displayed, the general errors are always shown. Then normally the error counters for only the configured LMI interface type are displayed. For example, if port is configured with a Frame Relay interface type of DTE, only the DTE error counters are displayed. Both the DTE and DCE error counters are displayed if you specify the `full` keyword.

### 1.54.6 Examples

The following example shows how to display the LMI error counters for channel 11 on channelized OC-12 port 1 that is configured as a DTE interface:

```
[local]Redback>show frame-relay lmi-errors 3/1:11
```



3/1:11 General errors since Wed Aug 29 21:47:03 2002

Last cleared: never

Header errors:	0		
Unknown Messages:	0	Invalid Unnumbered frame:	0
Frame too big:	0	Status rcvd for unkn pvc:	0
Too Many Status Enq:	0	Unexpected PVC Stat IE:	0
Too Few Stat Enq:	0	No response to Stat Enq:	3

3/1:11 DTE LMI errors

Q.922 Header errors:	0	Protocol errors:	0
Unknown Messages:	0	Info Element missing:	0
KeepAlive IE Missing:	0	KeepAlive Seq errors:	0
Unknown IE errors:	0	Positive Threshold Events:	0
Total Negative Events:	0	Current Threshold state:	Normal



## 1.55 show frame-relay lmi-stats

For ports on Packet over SONET/SDH (POS) line cards, the syntax is:

```
show frame-relay lmi-stats [bootup] [slot[/port]]
```

### 1.55.1 Purpose

Displays Frame Relay Local Management Interface (LMI) statistics counters.

### 1.55.2 Command Mode

All modes

### 1.55.3 Syntax Description

<i>bootup</i>	Optional. Displays LMI statistics counters accumulated since the time the system was last reloaded. If not specified, the LMI statistics counters are accumulated since the last time the <code>show frame-relay lmi-stats</code> command was issued.
<i>slot</i>	Optional. Chassis slot number of a line card for which LMI statistics counters are displayed. If not specified, displays LMI statistics counters for all configured Frame Relay encapsulated ports in all slots.
<i>port</i>	Optional. Port number of the port for which LMI statistics counters are displayed. If not specified, displays LMI statistics counters for all Frame Relay encapsulated ports in the specified slot.

### 1.55.4 Default

Displays LMI statistics counters for all configured Frame Relay channels on all ports in all slots since the last time the system was reloaded (booted).

### 1.55.5 Usage Guidelines

Use the `show frame-relay lmi-stats` command to display LMI statistics counters.

**Note:** The SmartEdge 100 router does not support Frame Relay PVCs.

If you specify the *slot* and *port* arguments, the LMI statistics for that slot or port are displayed; if you specify the *chan-num* argument, the display shows the statistics for just that channel; if you specify the *sub-chan-num* argument, the display shows the statistics for just that subchannel.



**Note:** By default, most `show` commands (in any mode) display information for the current context only or, depending on the command syntax, for all contexts. If you are an administrator for the local context, you can insert the optional `context ctx-name` construct, preceding the `show` command, to view output for the specified context without entering that context. For more information about using the `context ctx-name` construct, see the `context` command description.

**Note:** By appending a space followed by the pipe ( | ) character at the end of a `show` command, you can filter the output using a set of modifier keywords and arguments. For more information, see *Modifying Output of show Commands* in *Using the CLI*.

### 1.55.6 Examples

The following example shows how to display LMI statistics counters for channel 11 on channelized OC-12 port 1:

```
[local]Redback>show frame-relay lmi-stats 3/1:11
```

```
3/1:11 LMI stats since Wed Aug 29 21:45:18 2002
```

```
Last cleared: never
```

```
status enquires sent:      563  status enquires rcvd:      0
full status enqs sent:     94   full status enqs rcvd:     0
status messages sent:      0   status messages rcvd:     560
full status msgs sent:      0   full status msgs rcvd:     94
                               async updates rcvd:      0
```



## 1.56 show frame-relay profile

```
show frame-relay profile [prof-name]
```

### 1.56.1 Purpose

Displays information about Frame Relay profiles configured in the current context.

### 1.56.2 Command Mode

All modes

### 1.56.3 Syntax Description

*prof-name* | Optional. Name of the configured Frame Relay profile.

### 1.56.4 Default

When used without the optional argument, displays a brief description of all configured Frame Relay profiles.

### 1.56.5 Usage Guidelines

Use the `show frame-relay profile` command to display information about Frame Relay profiles configured in the current context.

**Note:** The SmartEdge 100 router does not support Frame Relay PVCs.

**Note:** By default, most `show` commands (in any mode) display information for the current context only or, depending on the command syntax, for all contexts. If you are an administrator for the local context, you can insert the optional `context ctx-name` construct, preceding the `show` command, to view output for the specified context without entering that context. For more information about using the `context ctx-name` construct, see the `context` command description.

**Note:** By appending a space followed by the pipe ( | ) character at the end of a `show` command, you can filter the output using a set of modifier keywords and arguments. For more information, see *Modifying Output of show Commands* in *Using the CLI*.

### 1.56.6 Examples

The following example shows how to display information about all Frame Relay profiles configured in the `local` context:



```
[local]Redback>show frame-relay profile
```

Name	Counters	PVCs
-----	-----	-----
fr-pro	none	1

```
Total: 1
```



## 1.57 show frame-relay pvc

For ports on Packet over SONET/SDH (POS) line cards, the syntax is:

```
show frame-relay pvc [all | active | inactive | l2vpn | summary]
[slot[/port [dlci dlci]]]
```

### 1.57.1 Purpose

Displays a list of configured Frame Relay permanent virtual circuits (PVCs).

### 1.57.2 Command Mode

All modes

### 1.57.3 Syntax Description

<code>all</code>	Optional. Displays information for all configured Frame Relay PVCs in all contexts. This option is valid only in the local context.
<code>active</code>	Optional. Displays only active Frame Relay PVCs.
<code>inactive</code>	Optional. Displays only Frame Relay PVCs in the Down state.
<code>l2vpn</code>	Optional. Displays only Frame Relay PVCs that are enabled for Layer 2 Virtual Private Networks (L2VPNs).
<code>summary</code>	Optional. Displays only a summary of bound and unbound Frame Relay PVCs.
<code>slot</code>	Optional. Chassis slot number of a line card with the port for which Frame Relay PVCs are displayed. If not specified, displays PVCs that are bound in the current context for all configured Frame Relay PVCs in all slots.
<code>port</code>	Optional. Port number of the port for which PVCs are displayed. If not specified, displays Frame Relay PVCs for all ports in the specified slot.
<code>dlci dlci</code>	Optional. Data-link connection identifier (DLCI) of the configured Frame Relay PVC. The range of values is 16 to 991. If not specified, displays Frame Relay PVCs for all DLCIs as specified by the <code>slot</code> , <code>port</code> , <code>chan-num</code> , and <code>sub-chan-num</code> arguments.

### 1.57.4 Default

Displays all configured Frame Relay PVCs that are bound in the current context.

### 1.57.5 Usage Guidelines

Use the `show frame-relay pvc` command to display a list of configured Frame Relay PVCs.

**Note:** The SmartEdge 100 router does not support Frame Relay PVCs.

In the local context, use the `all` keyword to display information about all configured Frame Relay PVCs, both bound (in any context) and unbound. This



keyword is valid only in the local context. For any other context, only the Frame Relay PVCs that are bound within the current context are displayed.

Use the `active` keyword to display only the active Frame Relay PVCs; use the `inactive` keyword to display only the inactive PVCs.

Use the `l2vpn` keyword to display all Frame Relay PVCs that are enabled for L2VPN. Output for the option displays three states for each PVC:

- **Local state**—State of the local customer edge (CE) router to provider edge (PE) router Frame Relay PVC. The Local state is determined by local factors only, such as whether the port is up, whether the PVC is up, and in the case where the local PE is configured as data terminal equipment (DTE), the state that is reported by the local CE through the local management interface (LMI).
- **L2VPN state**—State of the remote part of the Frame Relay L2VPN, including the local PE to remote PE Label Distribution Protocol (LDP) session, and the remote PE to remote CE Frame Relay PVC. If any of these is down, the L2VPN state is also down.

**Note:** The L2VPN state on a Frame Relay PVC that has been configured for L2VPN is meaningful only for cross-connected LDP L2VPNs; For static cross-connected L2VPNs, the state is always up because there is no signaling with the remote PE.

- **State**—State of the Frame Relay PVC; it is up only if both the Local state and the L2VPN state are up.

Use the `summary` keyword to display only summary information.

Use the `slot` and `port` arguments to display only PVCs for that slot or that port.

Use the `d1ci d1ci` construct to display only the Frame Relay PVC with that DLCI.

**Note:** By default, most `show` commands (in any mode) display information for the current context only or, depending on the command syntax, for all contexts. If you are an administrator for the local context, you can insert the optional `context ctx-name` construct, preceding the `show` command, to view output for the specified context without entering that context. For more information about using the `context ctx-name` construct, see the `context` command description.

**Note:** By appending a space followed by the pipe ( | ) character at the end of a `show` command, you can filter the output using a set of modifier keywords and arguments. For more information, see *Modifying Output of show Commands* in *Using the CLI*.



## 1.57.6 Examples

The following example shows how to display output for all active Frame Relay PVCs:

```
[local]Redback>show frame-relay pvc active
```

Slot/Port	Traffic Profile	State	Encaps	Binding
3/1:1 dlci 16	fr-pro	up	auto1490	1.dlci16@local
3/1:1 dlci 17	fr-pro	up	auto1490	1.dlci17@local
3/1:1 dlci 18	fr-pro	up	auto1490	1.dlci18@local
3/1:1 dlci 19	fr-pro	up	auto1490	1.dlci19@local
3/1:1 dlci 20	fr-pro	up	auto1490	1.dlci20@local
3/1:1 dlci 21	fr-pro	up	auto1490	1.dlci21@local
3/1:1 dlci 22	fr-pro	up	auto1490	1.dlci22@local
3/1:1 dlci 23	fr-pro	up	auto1490	1.dlci23@local
....				

```
Total: 1212 Up: 1212 Down: 0 Shut: 0 Bound: 1212  
last status change: Thu Sep 26 01:51:26 2002
```

The following example shows how to display output for L2VPN-enabled PVCs:

```
[local]Redback>show frame-relay pvc l2vpn
```

Circuit	Local State	L2VPN state	State
12/1 dlci 100	up	down	down
12/1 dlci 101	up	down	down
12/1 dlci 102	up	down	down
12/1 dlci 103	up	down	down
12/1 dlci 104	up	down	down
12/1 dlci 105	up	down	down
12/1 dlci 106	up	down	down
12/1 dlci 107	up	down	down
12/1 dlci 108	up	down	down
12/1 dlci 109	up	down	down
12/1 dlci 110	up	down	down
12/1 dlci 111	up	down	down
12/1 dlci 112	up	down	down
12/1 dlci 113	up	down	down
12/1 dlci 114	up	down	down
12/1 dlci 115	up	down	down

The following example shows how to display summary information:

```
[local]Redback>show frame-relay pvc summary
```



```
PVCs total: 1212 Up: 1212 Down: 0 Shut: 0 Bound : 1212  
last status change: Thu Sep 26 01:51:26 2002
```



Commands: show d through show f



## Glossary

**MD**

Maintenance domain.

**MEP**

Maintenance endpoint.

**MP**

Maintenance point.