Commands: show k through show m

COMMAND DESCRIPTION

21/190 82-CRA 119 1170/1-V1 Uen H

Contents

1 Command Descriptions

Commands starting with “show k” through commands starting “show m” 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 key-chain

`show key-chain` [**`summary`**] [***`key-chain-name`***]

1.1.1 Purpose

Displays information for key chains configured in the system.

1.1.2 Command Mode

All modes

1.1.3 Syntax Description

`summary`	Optional. Specifies that you want to display only summary information.
`key-chain-name`	Optional. Name of a specific key chain for which you want to display information.

1.1.4 Default

When entered without optional syntax, the **`show key-chain`** command displays information for key chains configured in the system.

1.1.5 Usage Guidelines

Use the **show key-chain** command to display information for key chains configured in the system.

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.

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 the document, *Using the CLI*.

1.1.6 Examples

The following example displays information for all key chains:

```
[local]Redback>show key-chain


key-chain superkeychain:
count: 1, sequences: 1 - 1, client count: 0
modified: 00:00:04 (hh:mm:ss) ago
key-id: 1 key-string encrypted: 38F24D69175F7C5548CB61C4D69E856A
key-string unencrypted: password
accept-lifetime start: 2000:01:01:00:00:00 end: infinite
send-lifetime start: 2001:04:14:00:01:00 end: infinite
key-chain se1400:
count: 1, sequences: 1 - 1, client count: 0
modified: 00:00:04 (hh:mm:ss) ago
key-id: 1 key-string encrypted: 38F24D69175F7C5548CB61C4D69E856A
key-string unencrypted: password
accept-lifetime start: 2000:01:01:00:00:00 end: infinite
send-lifetime start: 2001:04:14:00:01:00 end: infinite
```

The following example displays summary information for the `superkeychain` key chain:

```
[local]Redback>show key-chain superkeychain summary
key-chain superkeychain:
count: 1, sequences: 1 - 1, client count: 0
modified: 00:00:07 (hh:mm:ss) ago
```

1.2 show l2tp counters peer

show l2tp counters peer ***peer-name*** **tunnel** [***tunl-id*** [**detail**]]

1.2.1 Purpose

Displays all statistics for tunnel-level control packet counters for all tunnels under specific Layer 2 Tunneling Protocol (L2TP) peers on the system.

1.2.2 Command Mode

All modes

1.2.3 Syntax Description

peer-name	Name of the peer for which tunnel-level L2TP control packet counters are to be displayed.
tunnel	Displays counters for all L2TP tunnels on the specified peer.
tunl-id	Identifier of a specific L2TP tunnel for which counters are to be displayed.
detail	Optional. Displays detailed counter information for the specified L2TP tunnel.

1.2.4 Default

Displays counters for all L2TP tunnels on the peer.

1.2.5 Usage Guidelines

Use the **show l2tp counters peer** peer-name tunnel command to display tunnel-level counters for L2TP control packets.

Use the tunnel ***tunl-id*** construct to display counters for a specific L2TP tunnel.

Use the detail keyword to display detailed information for each L2TP counter.

Use the optional **tunnel** ***tunl-id*** construct to display all statistics for tunnel-level control packet counters for all tunnels with a specific tunnel ID.

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 the document, *Using the CLI*. For more information about this command, see the *BRAS Troubleshooting Guide*.

1.2.6 Examples

The following example displays counters for L2TP tunnel 28561:

```
[local]Redback>show l2tp counters peer local-lac tunnel 28561
Local ID:             28561          Remote ID:           30416
Local IP:             10.1.1.2       Remote IP:           10.1.1.1
Local Name:           local-lac      Remote Name:         local-lns
Session Count:        101            Active Sessions:     100
Total Est Sessions:   120            Total Fail Sessions: 2
Max Sessions Ever:    100
Uptime:               10 mins 0 secs

Control Statistics
Tx Control Packets:   165031         Rx Control Packets:  165031
Tx Control Bytes:     2862224        Rx Control Bytes:    3015284020
Tx Hello Packets:     234            Rx Hello Packets:    235
Ns:                   2445           Nr:                  2457
Tx Cwnd:              3              Remote Window Size:  10
Resend Q Size:        8              Unsent Q Size:       6
Max Resend Q Size:    8              Max Unsent Q Size:   8
Control Errors:       2
```

The following example displays extra detail for counters for L2TP tunnel 28561:

```
[local]Redback>show l2tp counters peer local-lac tunnel 28561 detail
Local ID:             28561          Remote ID:           30416
Local IP:             10.1.1.2       Remote IP:           10.1.1.1
Local Name:           local-lac      Remote Name:         local-lns
Session Count:        101            Active Sessions:     100
Total Est Sessions:   120            Total Fail Sessions: 2
Max Sessions Ever:    100
Uptime :              50 mins 2 secs

Control Statistics
Tx Control Packets:   165031         Rx Control Packets:  165031
Tx Control Bytes:     2862224        Rx Control Bytes:    3015284020
Tx Hello Packets:     234            Rx Hello Packets:    235
Ns:                   2445           Nr:                  2457
Tx Cwnd:              3              Remote Window Size:  10
Resend Q Size:        8              Unsent Q Size:       6
Max Resend Q Size:    8              Max Unsent Q Size:   8
Control Errors:       2

Control Message Times
Last Msg sent:        Tue 16:34:06 (9 mins 19 secs ago)
Last Msg recved:      Tue 16:34:06 (9 mins 19 secs ago)
Last Hello sent:      Tue 16:34:06 (9 mins 19 secs ago)
Last Hello rcvd:      Tue 16:34:06 (9 mins 19 secs ago)
Last Control Error:   Tue 16:34:06 (9 mins 19 secs ago)
Data Statistics
Tx Data Packets:      4              Rx Data Packets:     3
Tx Data Bytes:        43             Rx Data Bytes:       36
```

1.3 show l2tp global

`show l2tp global ipc`

1.3.1 Purpose

Displays Layer 2 Tunneling Protocol (L2TP) interprocess communication (IPC) counters.

1.3.2 Command Mode

All modes

1.3.3 Syntax Description

ipc	Specifies the IPC counters.

1.3.4 Default

Displays IPC counters for all contexts.

1.3.5 Usage Guidelines

Use the **show l2tp global** command to view IPC counters for all L2TP peers and groups.

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.

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 the document, *Using the CLI*. For more information about this command, see the *BRAS Troubleshooting Guide*.

1.3.6 Examples

The following example displays the IPC counters for 16,000 subscriber circuits on each of two traffic cards in slots 12 and 13:

```
[local]Redback>show l2tp global ipc

L2TP IPC Stats


Up since:.............Fri 08:13:05 (3 hours 30 mins 25 secs ago)

 Last clock tick:.....Fri 11:43:30 (0 secs ago)


ISM MBE:

  Sessions Recovered/Failed:......0/0
```

```
 Tunnels Recovered/Failed:.......0/0
 Idle Session Cleanups:..........0
 Couldn't Allocate Msg:..........0
 TX Circuit Tunnel-Start:........91867
 TX Circuit Tunnel-Stop:.........0
 TX Circuit Stale Kills:.........0
 TX Sub-Sess-Down:...............26
 Tunnel Start/Stop Errors:.......0

PPP:
 RX Start request:...............0

AAA:
 TX Tunnel Author:...............0
 RX Tunnel Author:...............0

PPAs:
 Registrations:..................12
 Stale Registrations:............0
 Registration Errors:............0
 TX Tunnel Create:...............16179
 TX Tunnel Delete:...............95
 IPC Errors:.....................0

 Registered PPAs:
```

```
Slot 01 02 03 04 05 06 07 08 09 10 11 12 13 14
      I  I  I  I  .  .  .  .  .  .  .  I  I  .
      E  E  E  E  .  .  .  .  .  .  .  E  E  .

 PPA Name     Registration Time    Chg#  Ccts  Tun-Cr   Tun-Del
 ------------ -------------------- ----- ----- -------- --------
 Slot  1 IPPA Fri Nov 05 08:13:39      2     1    16179       95
 Slot  1 EPPA Fri Nov 05 08:13:40      4     1    16179       95
 Slot  2 IPPA Fri Nov 05 08:13:41      6     2    16179       95
 Slot  2 EPPA Fri Nov 05 08:13:42     16     2    16179       95
 Slot  3 IPPA Fri Nov 05 08:13:41      8     4    16179       95
 Slot  3 EPPA Fri Nov 05 08:13:42     18     4    16179       95
 Slot  4 IPPA Fri Nov 05 08:13:41     10     0    16179       95
 Slot  4 EPPA Fri Nov 05 08:13:42     20     0    16179       95
 Slot 12 IPPA Fri Nov 05 08:13:41     12 16004    16179       95
 Slot 12 EPPA Fri Nov 05 08:13:42     22 16004    16179       95
 Slot 13 IPPA Fri Nov 05 08:13:42     14 16002    16179       95
 Slot 13 EPPA Fri Nov 05 08:13:42     24 16002    16179       95
```

1.4 show l2tp group

show l2tp group [***group-name***]

1.4.1 Purpose

Displays Layer 2 Tunneling Protocol (L2TP) group configuration information.

1.4.2 Command Mode

All modes

1.4.3 Syntax Description

group-name	Optional. Name of an L2TP group or its domain alias to be displayed.

1.4.4 Default

Displays all L2TP groups in the current context.

1.4.5 Usage Guidelines

Use the **show l2tp group** command to view the redundancy algorithm and deadtime of one specific L2TP group or for all groups in the current context. When you display information for a specific group, the names of the peer members of the group and information about each peer are also displayed (see examples).

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.

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 the document, *Using the CLI*. For more information about this command, see the *BRAS Troubleshooting Guide*.

1.4.6 Examples

The following example displays output from the **show l2tp group** command without specifying a group name.

```
[local]Redback>show l2tp group
Group Name       Algorithm    Deadtime
---------------- ------------ --------
l2tp             Load-balance 10
l2tp2            Load-balance 5
l2tp3            Load-balance 10
```

The following example displays the output when you use the **show l2tp group** command to display a particular group (`l2tp`). The asterisk (*) in front of the peer, `l2tp-1`, indicates that the peer is down (“dead”). For more

information about this status, see the **deadtime** command in L2TP group configuration mode in the *Configuring L2TP* document:

```
[local]Redback#show l2tp group l2tp

Group name:      l2tp  RADIUS:  YES
Algorithm        Load-balance  Deadtime: 10
Peers:          *l2tp-1
                 l2tp-2

Domains: vpn
                            Max  Tun     Max   Ses
Peer Name  Local Name Med  Tuns  Cnt    Ses   Cnt Stat  LAC  LNS  Named
---------- ----------  ---   ----  ---  ---   ---- ----  ---  ---  -----
l2tp-1     tgrp1       UDP   1     0     20     0   NO    YES  YES   YES
l2tp-2     tgrp2       UDP   1     1     65535  6   NO    YES  YES   YES
```

1.5 show l2tp peer

show l2tp peer [***peer-name*** [**tunnel** [***tunl-num*** [**session** [***ses-num***]]]]]

1.5.1 Purpose

Displays a summary of status and configuration for Layer 2 Tunneling Protocol (L2TP) peers.

1.5.2 Command Mode

All modes

1.5.3 Syntax Description

peer-name	Optional. Name of the L2TP peer or its domain alias for which you want detailed information displayed.
tunnel	Optional if you use the ***peer-name*** argument. Displays detailed information for the tunnels configured to the specified peer.
tunl-num	Optional if you use the **tunnel** keyword. Numeric tunnel ID for the tunnel for which you want detailed information displayed.
session	Optional if you use the **tunnel** ***tunl-num*** construct. Displays detailed information for the sessions configured on the specified tunnel.
ses-num	Optional if you use the **session** keyword. Numeric session ID for the session for which you want detailed information displayed.

1.5.4 Default

Displays all peers in the current context.

1.5.5 Usage Guidelines

Use the **show l2tp peer** command without optional syntax to display the L2TP summary information for each L2TP peer; see Table 1. For more information about this command, see the *BRAS Troubleshooting Guide*.

Table 1 Field Descriptions for the show l2tp peer Command

Field	Description
Peer Name	L2TP peer name
Local Name	Local name for SmartEdge router in outbound Start-Control-Connection-Request (SCCRQ) control messages
Tun Cnt	Number of tunnels (in any state) to the peer
Ses Cnt	Number of sessions (in any state) to the peer

Use the optional ***peer-name*** argument to display the information shown in Table 2.

Table 2 Field Descriptions for the show l2tp peer Command for a Specific Peer

Field	Description
Peer name	Name of the peer you specified.
Local Name	Local name for SmartEdge router in outbound SCCRQ control messages as specified by the **local-name** command (in L2TP peer configuration mode).
Media	Tunnel encapsulation type (UDP).
Local IP Address	Local IP address of the peer as entered in the **l2tp-peer name** command (in context configuration mode).
Remote IP Address	For each tunnel, the remote IP address.
LAC	Indicates whether the peer performs LAC functions.
LNS	Indicates whether the peer performs LNS functions.
RADIUS	Indicates whether the peer is served by the RADIUS.
Static	YES—Tunnel is maintained to the peer at all times. NO—Tunnels are established on demand.
DNIS	Indicates whether DNIS-based tunnel switching is enabled.
DNIS ONLY	Indicates whether DNIS attribute must be present on an incoming session for the sessions to be accepted.

Table 2 Field Descriptions for the show l2tp peer Command for a Specific Peer

Field	Description
Unnamed	Indicates whether the peer is unnamed (Unnamed=YES) or named (Unnamed=NO). If Unnamed=YES, the peer name displayed was automatically obtained from the remote host name contained in the incoming SCCRQ.
Hello Timer	Value of the interval SmartEdge router waits before sending an L2TP Hello packet if there has been no exchange of control messages to the remote L2TP peer.
Maximum Tunnels	Maximum number of tunnels allowed to the peer.
Maximum Ses/Tunnel	Maximum number of sessions allowed for each tunnel.
Control Timeout	Number of seconds to wait for an acknowledgment before a control message is retransmitted.
Retry	Number of control message retransmissions.
Tunnel Count	Number of tunnels (any state) to the peer.
Session Count	Number of sessions (any state) to the peer, all tunnels combined.
Domains	Domain aliases specified with the **domain** command in L2TP peer configuration mode.

Use the optional **tunnel** *tunl-num* construct to display information shown in Table 3; if you enter the **tunnel** keyword without the *tunl-num* argument, the command displays information for all tunnels configured to the peer.

Table 3 Field Descriptions for the show l2tp peer Command for Tunnels

Field	Description
State	State of the tunnel.
Last change	Time the last change to the tunnel occurred and the elapsed time.
Local ID	Local tunnel ID.
Remote ID	Remote tunnel ID.
Local IP	Local IP address of the peer.
Remote IP	Remote IP address of the peer.
Local Name	Local name for SmartEdge router in outbound Start-Control-Connection-Request (SCCRQ) control messages as specified by the **local-name** command in L2TP peer configuration mode.
Remote Name	Remote name of the peer.
Session Count	Number of sessions in this tunnel—cumulative since the tunnel came up.

Table 3 Field Descriptions for the show l2tp peer Command for Tunnels

Field	Description
Active Sessions	Number of current sessions in the established state in the tunnel.
Total Act Sessions	Number of sessions that reached the established state in this tunnel—cumulative since the tunnel came up.
Total Fail Session	Number of sessions that failed to reach the established state in this tunnel—cumulative since the tunnel came up.
Window current-tx	Control message activity; current outbound transmissions.
max-tx	Control message activity; maximum transmissions.
rx	Control message activity; current inbound transmissions.
Tunnel PPA Table	List of slot numbers (1 to 14 for SmartEdge 800 router, 1 to 6 for SmartEdge 400 router); an “I” marks slots with cards being used for inbound transmissions; an “E” marks slots with cards being used for outbound transmissions.

Use the optional **session** *ses-num* construct to display the information shown in Table 4; if you enter the **session** keyword without the *ses-num* argument, the information displays for all sessions configured on the tunnel.

Table 4 Field Descriptions for the show l2tp peer Command for Sessions

Field	Description
State	State of the session.
Last change	Time the last change to the session occurred and the elapsed time.
Port/Circuit	Slot and port numbers, virtual path and circuit identifiers.
Local ID	Local session number.
Remote ID	Remote session number.
Tx Data Packets	Number of data packets transmitted during the session.
Rx Data Packets	Number of data packets received during the session.
Tx Data Bytes	Number of data bytes transmitted during the session.
Rx Data Bytes	Number of data bytes received during the session.

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.

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 the document, *Using the CLI*. For information about troubleshooting L2TP, see the *BRAS Troubleshooting Guide*.

1.5.6 Examples

The following example displays output of the **show l2tp peer** command without optional constructs:

```
[local]Redback>show l2tp peer
                                        Tun   Ses
Peer Name            Local Name         Cnt   Cnt
-------------------- ------------------ ----- -----
dnslns1              dnslac1               1     1
snap                 dnslac1               0     0
```

The following example displays output of the **show l2tp peer** command for a specific peer:

```
[local]Redback>show l2tp peer dnslns1

Peer Name:           dnslns1
Local Name:          dnslac1        Vendor:              Redback Networks
Local IP Address:    10.13.49.208   Remote IP Address:   10.13.16.3
Local Role:          LAC Only       DNIS:                Disabled
Hello Timer:         300            Preference:          10
Maximum Tunnels:     32767          Maximum Ses/Tunnel:  8
Control Timeout:     15             Retry:               6
Tunnel Count:        1              Session Count:       1
Domains:             lns1dns1.net
```

The following example displays the output when you enter the **show l2tp peer** command and specify a peer name and tunnel ID:

```
[local]Redback>show l2tp peer dnslns1 tunnel 5080


State:                Established
Last change:          Tue 12:10:58 (12 secs ago)
Local ID:             5080            Remote ID:           57620
Local IP:             10.13.49.208    Remote IP:           10.13.16.3
Local Name:           dnslac1         Remote Name:         dnslns1
Session Count:        0               Active Sessions:     0
Total Act Sessions:   0               Total Fail Session:  0

Control Channel:
Window current-tx: 10 max-tx: 10 rx: 8

Tunnel PPA Table:
Slot 01 02 03 04 05 06 07 08 09 10 11 12 13 14
      I  .  .  .  .  .  .  .  .  .  .  .  .  .
      E  .  .  .  .  .  .  .  .  .  .  .  .  .
```

The following example displays the output when you use the **show l2tp peer** command naming a specific peer with tunnel and session IDs:

```
[local]Redback>show l2tp peer dnslns1 tunnel 43023 session 57155


State:                Established
Last change:          Fri 07:02:58 (2 hours 27 mins 22 secs ago)
Port/Circuit:         1/2 vpi-vci 0 448
Local ID:             57155           Remote ID:           52763

Network Statistics
Tx Data Packets:      2915            Rx Data Packets:     0
Tx Data Bytes:        58348           Rx Data Bytes:       0
```

1.6 show lacp actor

show lacp actor [**circuit** *circuit*] [**detail**]

1.6.1 Purpose

Displays the actor information for all the Link Aggregation Control Protocol (LACP) circuits or the LACP circuit with a specified circuit handle.

1.6.2 Command Mode

All modes

1.6.3 Syntax Description

circuit *circuit*	Optional. LACP circuit for which actor information is displayed.
details	Optional. Displays additional details for each LACP circuit.

1.6.4 Default

When you enter this command without an optional keyword or argument, it displays a brief summary of all LACP circuits.

1.6.5 Usage Guidelines

Use the **show lacp actor** command to display the actor information of all the LACP circuits.

Use the **circuit** ***circuit*** construct to display the actor information associated with the LACP port circuit.

Use the **detail** keyword to display the additional details of the LACP actor information.

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 the document, *Using the CLI*.

1.6.6 Examples

The following example shows how to display a list of LACP actor information:

```
[local]Redback#sh lacp actor
                 Port    Port          Oper    Recv          Seln
Lg-id    Port    State   Priority      key     State         State
-------------------------------------------------------------------------
26       5/3     0x3c    32767         5       exchg         active
26       5/5     0x4     32767         5       exchg         actor-stdby
26       5/7     0x4     32767         5       exchg         actor-stdby
27       5/4     0x3d    32767         6       exchg         active
27       5/6     0xd     32767         6       exchg         partner-stdby
27       5/8     0xd     32767         6       exchg         partner-stdby
```

The following example shows how to display a detailed list of LACP actor information:

```
[local]Redback#show lacp actor detail
Internal Handle : 5/3:1023:63/1/1/5
Circuit State   : UP
Mac Address     : 00:30:88:00:12:86
```

1.7 show lacp counters

`show lacp counters`

1.7.1 Purpose

Displays the counters for all Link Aggregation Control Protocol (LACP) links on the system.

1.7.2 Command Mode

All modes

1.7.3 Syntax Description

This command has no keywords or arguments.

1.7.4 Default

When you enter this command, it displays the counters for all LACP circuits on the system.

1.7.5 Usage Guidelines

Use the **`show lacp counters`** command to display all LACP circuit counters on the system.

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 the document, *Using the CLI*.

1.7.6 Examples

The following example shows how to display a list of link group counters on the system:

```
[local]Redback>show lacp counters

Internal Handle : 5/3:1023:63/1/1/5
Recvd Pkts   : 473          Sent Pkts    : 473          Recvd Bad    : 0

Internal Handle : 5/5:1023:63/1/1/9
Recvd Pkts   : 475          Sent Pkts    : 474          Recvd Bad    : 0

Internal Handle : 5/7:1023:63/1/1/13
Recvd Pkts   : 475          Sent Pkts    : 475          Recvd Bad    : 0
```

1.8 show lacp lg-id

show lacp lg-id ***id*** **[detail]**

1.8.1 Purpose

Displays the information for the Link Aggregation Control Protocol (LACP) link group with a given identification number.

1.8.2 Command Mode

All modes

1.8.3 Syntax Description

id	Link group ID for which LACP information is displayed; the range of values is 1 to 10000.
detail	Optional. Displays additional details for the specified LACP link group ID.

1.8.4 Default

When you enter this command without an optional keyword or argument, it displays a brief summary for the LACP link group with a given identification number.

1.8.5 Usage Guidelines

Use the **show lacp lg-id** command to display the information for the LACP link group with a given identification number.

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 the document, *Using the CLI*.

1.8.6 Examples

The following example shows how to display a brief summary of the specified LACP link group `26`:

```
[local]Redback>show lacp lg-id
```

```
[local]Redback#show lacp lg-id 26
Internal Handle      : 255/6:1023:63/1/1/2
Link-group ID        : 26
Link-group Name      : foo
LACP Mode            : PASSIVE
Admin Key            : 5
Revertible           : NO
Min-Links            : 2
Max-Links            : 1
Total Grp Links      : 3
Active Links         : 1
Standby Links        : 2
Actor-Stdby Links    : 2
Partner-Stdby Links  : 0
Both-Stdby Links     : 0
Force-Revert Links   : 0
Lg-flags             : 0x4
```

1.9 show lacp lg-name

show lacp lg-name ***name*** [**detail**]

1.9.1 Purpose

Displays the Link Aggregation Control Protocol (LACP) information for link group with the specified name.

1.9.2 Command Mode

All modes

1.9.3 Syntax Description

name	Link group for which LAPC information is displayed.
detail	Optional. Displays additional details for the specified link group.

1.9.4 Default

When you enter this command without an optional keyword or argument, it displays a brief summary for the LACP link group with a given name.

1.9.5 Usage Guidelines

Use the **show lacp lg-name** command to display the LACP information for the link group with the specified name.

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 the document, *Using the CLI*.

1.9.6 Examples

The following example shows how to display the LACP information for link group `foo`:

```
[local]Redback#show lacp lg-name foo detail
Internal Handle      : 255/6:1023:63/1/1/2
Link-group ID        : 26
Link-group Name      : foo
LACP Mode            : PASSIVE
Admin Key            : 5
Revertible           : NO
Min-Links            : 2
Max-Links            : 1
Total Grp Links      : 3
Active Links         : 1
Standby Links        : 2
Actor-Stdby Links    : 2
Partner-Stdby Links  : 0
Both-Stdby Links     : 0
Force-Revert Links   : 0
Lg-flags             : 0x4
```

1.10 show lacp partner

show lacp partner [**circuit** *circuit*] [**detail**]

1.10.1 Purpose

Displays the partner information for all the Link Aggregation Control Protocol (LACP) circuits or the LACP circuit with a specified circuit handle.

1.10.2 Command Mode

All modes

1.10.3 Syntax Description

circuit ***circuit***	LACP circuit for which the partner information is displayed.
detail	Optional. Displays additional details for each LACP circuit.

1.10.4 Default

When you enter this command without an optional keyword or argument, it displays a brief summary of all LACP circuits.

1.10.5 Usage Guidelines

Use the **show lacp partner** command to display the partner information of the LACP circuits.

Use the **circuit** ***circuit*** construct to display the partner information associated with the LACP port circuit.

Use the **detail** keyword to display the additional details of the LACP partner information.

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 the document, *Using the CLI*.

1.10.6 Examples

The following example shows how to display a summary of link groups:

```
[local]Redback>show lacp partner

Actor           Partner   Port      Port          Oper
Lg-id   Port    Port      State     Priority      key
-------------------------------------------------------------
26       5/3    0x403     0x3d      32767         6
26       5/5    0x405     0xd       32767         6
27       5/4    0x402     0x3c      32767         5
27       5/6    0x404     0x4       32767         5
```

1.11 show lacp system-id

show lacp system-id

1.11.1 Purpose

Displays the Link Aggregation Control Protocol (LACP) system ID for the SmartEdge router on the system.

1.11.2 Command Mode

All modes

1.11.3 Syntax Description

This command has no keywords or arguments.

1.11.4 Default

When you enter this command, it displays the LACP system information for the SmartEdge router.

1.11.5 Usage Guidelines

Use the **show lacp system-id** command to display LACP system information for the SmartEdge router.

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 the document, *Using the CLI*.

1.11.6 Examples

The following example shows how to display LACP system ID for the SmartEdge router:

```
[local]Redback>show lacp system-id


System Priority : 2

System MAC      : 00:30:88:00:09:84
```

1.12 show ldp address

`show ldp address`

1.12.1 Purpose

Displays Label Distribution Protocol (LDP) interface IP address to label-switched router (LSR) ID mappings.

1.12.2 Command Mode

All modes

1.12.3 Syntax Description

This command has no keywords or arguments.

1.12.4 Default

None

1.12.5 Usage Guidelines

Use the **`show ldp address`** command to display LDP interface IP address to LSR ID mappings.

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.

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 the document, *Using the CLI*. For information about how to troubleshoot LDP signaling, see the *MPLS Troubleshooting* document.

1.12.6 Examples

The following example displays LDP interface IP address information:

```
[local]Redback>show ldp address
Flags - (S - Stale)
Address          RemoteLSRId           #Path Flag
10.12.210.37     local                 1
172.16.1.1       local                 1
```

1.13 show ldp binding

show ldp binding [**hexadecimal**] [**detail**]

1.13.1 Purpose

Displays Label Distribution Protocol (LDP) label binding information.

1.13.2 Command Mode

All modes

1.13.3 Syntax Description

hexadecimal	Optional. Displays label binding information in hexadecimal format.
detail	Optional. Displays detailed information.

1.13.4 Default

None

1.13.5 Usage Guidelines

Use the **show ldp binding** to display LDP label binding 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.

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 the document, *Using the CLI*. For information about how to troubleshoot LDP signaling, see the *MPLS Troubleshooting* document.

1.13.6 Examples

The following example displays LDP label binding information:

```
[local]Redback>show ldp binding
> active binding, Local/In - local/input label binding
 From - source of remote label, Remote/Out - remote/output label binding
  Prefix/FEC         Learned-From          Local/In   Remote/Out Interface
> 10.11.16.0/21      local                 0
                     11.11.11.11:0                    3
                     14.14.14.14:0                    0
> 11.1.1.0/24        11.11.11.11:0         524294     3          to_dev1
                     14.14.14.14:0                    524296
> 11.11.11.11/32     11.11.11.11:0         524295     3          to_dev1
                     14.14.14.14:0                    524297
> 12.12.12.12/32     local                 0
                     11.11.11.11:0                    524292
                     14.14.14.14:0                    524289
> 14.1.1.0/24        local                 0
                     11.11.11.11:0                    3
                     14.14.14.14:0                    524298
> 14.14.14.14/32     14.14.14.14:0         524288     0          via - tunnel
                     11.11.11.11:0                    524295
> 15.1.1.0/24        local                 0
                     11.11.11.11:0                    524293
> 15.15.15.15/32     14.14.14.14:0         524296     524294     via - tunnel
                     11.11.11.11:0                    524296
> 16.1.1.0/24        local                 0
                     11.11.11.11:0                    524294
  17.1.1.0/24        14.14.14.14:0         524297     0
  18.1.1.0/24        14.14.14.14:0         524298     0
> 19.1.1.0/24        14.14.14.14:0         524299     0          via - tunnel
                     11.11.11.11:0                    524297
> 20.1.1.0/24        14.14.14.14:0         524300     524295     via - tunnel
                     11.11.11.11:0                    524298
```

The following example displays detailed LDP label binding information:

```
[local]pearl#show ldp binding detail
> active binding, Local/In - local/input label binding
 From - source of remote label, Remote/Out - remote/output label binding
 PathFlags -    (A - Active Path, B - Best path, H - Host, R - Redistributed
                 P - Path stale, U - Suppressed by in-bound policy), L - lsp-nhop
 NextHopFlags - (S - Nexthop stale, L - LDP eligible, N - Nexthop active
                 D - Nexthop Deleted, Y - Bypass in use)
 PrefixFlags -  (C - Local label active, M - LSP in LM, W - Label map in LM
                 G - Label reused, O - Change LM, T - Change update)
  Prefix/FEC         Learned-From          Local/In   Remote/Out Interface      NextHop
        IntfGrid #P #N FecF NhF PathF Metric   (AltAdjId BPassLbl)/Via-Tunnel shortcut cct
> 10.11.16.0/21      local                 0
        10000000 3  1  C    N   ABR   0
                      11.11.11.11:0                   3
                                          0
                      14.14.14.14:0                   0
                                          0
> 11.1.1.0/24         11.11.11.11:0         524294     3          to_dev1        14.1.1.1
        10040002 2  1  MW   LN  AB    2
                      14.14.14.14:0                   524296
                                          0
> 11.11.11.11/32      11.11.11.11:0         524295     3          to_dev1        14.1.1.1
        10040002 2  1  MW   LN  AB    2
                      14.14.14.14:0                   524297
                                          0
> 12.12.12.12/32      local                 0
        10040005 3  1  C    LN  ABR   0
                      11.11.11.11:0                   524292
                                          0
                      14.14.14.14:0                   524289
                                          0
> 14.1.1.0/24         local                 0
        10040002 3  1  C    LN  ABR   0
                      11.11.11.11:0                   3
                                          0
                      14.14.14.14:0                   524298
                                          0
> 14.14.14.14/32      14.14.14.14:0         524288     0          via - tunnel   14.14.14.14
        4f010003 2  2  MWL  LN  ABL   3         255/3:511:63:31/0/1/2
                      11.11.11.11:0                   524295
                                          0
> 15.1.1.0/24         local                 0
        10040003 2  1  C    N   ABR   0
                      11.11.11.11:0                   524293
                                          0
> 15.15.15.15/32      14.14.14.14:0         524296     524294     via - tunnel   14.14.14.14
        4f010003 2  2  MWL  LN  ABL   4         255/3:511:63:31/0/1/2
                      11.11.11.11:0                   524296
                                          0
> 16.1.1.0/24         local                 0
        10040004 2  1  C    N   ABR   0
                      11.11.11.11:0                   524294
                                          0
  17.1.1.0/24         14.14.14.14:0         524297     0
                1  0                      0
  18.1.1.0/24         14.14.14.14:0         524298     0
                1  0                      0
> 19.1.1.0/24         14.14.14.14:0         524299     0          via - tunnel   14.14.14.14
        4f010003 2  2  MWL  LN  ABL   3         255/3:511:63:31/0/1/2
                      11.11.11.11:0                   524297
                                          0
> 20.1.1.0/24         14.14.14.14:0         524300     524295     via - tunnel   14.14.14.14
        4f010003 2  2  MWL  LN  ABL   4         255/3:511:63:31/0/1/2
                      11.11.11.11:0                   524298
                                          0
```

1.14 show ldp debug-filter

show ldp debug-filter

1.14.1 Purpose

Displays any filters that may be currently enabled to control the generation of Label Distribution Protocol (LDP) debug messages.

1.14.2 Command Mode

All modes

1.14.3 Syntax Description

This command has no keywords or arguments.

1.14.4 Default

None

1.14.5 Usage Guidelines

Use the **show ldp debug-filter** command to display any filters that may be currently enabled to control the generation of LDP debug messages.

Filters can be enabled through the use of the **debug ldp filter** command (in exec mode).

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.

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 the document, *Using the CLI*. For information about how to troubleshoot LDP signaling, see the *MPLS Troubleshooting* document.

1.14.6 Examples

The following example displays the filters that are currently enabled to manage the generation of LDP debug messages:

```
[local]Redback>show ldp debug-filter
```

```
Debug filter enabled on context 40080001

Only display debug messages to and from neighbor 10.1.1.1
```

1.15 show ldp interface

show ldp interface [**detail**]

1.15.1 Purpose

Displays Label Distribution Protocol (LDP) interface information.

1.15.2 Command Mode

All modes

1.15.3 Syntax Description

detail	Optional. Displays detailed information.

1.15.4 Default

None

1.15.5 Usage Guidelines

Use the **show ldp interface** command to display LDP interface 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.

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 the document, *Using the CLI*. For information about how to troubleshoot LDP signaling, see the *MPLS Troubleshooting* document.

1.15.6 Examples

The following example displays LDP interface information:

```
[local]Redback>show ldp interface
Flag:
(B - Bound, U - Up, D - Deleted, S - Stale, E - Hold expired, T - Bind Stale
Interface            Local Addr           Flag  RemoteLSRId          HoldExpr
to_edge_10/11        10.14.37.1/24        BU    10.14.200.2:0        12
to_core_10/1         10.14.30.1/24        BU    10.14.210.2:0        11
to_metro_9/2         10.14.31.1/24        BU    10.14.210.2:0        11
```

1.16 show ldp l2vpn fec

show ldp l2vpn fec [**detail** | **vc-id** *vc-id* [**detail**]]

1.16.1 Purpose

Displays Layer 2 Virtual Private Network (L2VPN)-related information for Label Distribution Protocol (LDP) L2VPN cross-connections.

1.16.2 Command Mode

All modes

1.16.3 Syntax Description

detail	Optional. Displays detailed LDP L2VPN cross-connection information.
vc-id *vc-id*	Optional. Cross-connected circuit associated with the virtual circuit identifier (VCI) for which to display LDP L2VPN cross-connection information. The range of *vc-id* values is 0 to 4,294,967,295.
detail	Optional. Displays detailed LDP L2VPN cross-connection information only for the specified cross-connected circuit.

1.16.4 Default

None

1.16.5 Usage Guidelines

Use the **show ldp l2vpn fec** command to display L2VPN-related information for LDP L2VPN cross-connections.

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.

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 the document, *Using the CLI*.

1.16.6 Examples

The following example displays L2VPN-related information for LDP L2VPN cross-connections:

```
[local]Redback>show ldp l2vpn fec
Codes : GID - Group ID, F - Frame Relay, V - VLAN, E - Ether, A - ATM
L - Local, R - Remote, N - Negotiated
VC ID  VC Type  Peer            L-Label  R-Label  L-GID    R-GID    State
1      V        190.190.190.190 131072   0        0        0        L
50     E        190.190.190.190 131073   131073   0        0        LR
```

The following example displays detailed L2VPN-related information for LDP L2VPN cross-connections:

```
[local]Redback>show ldp l2vpn fec detail
Codes : GID - Group ID, F - Frame Relay, V - VLAN, E - Ether, A - ATM
L - Local, R - Remote, N - Negotiated
VC ID               : 1          VC Type        : V
Peer                : 190.190.190.190 State          : L
L-Label             : 131072     R-Label        : 0
L-GID               : 0          R-GID          : 0
L-VCCV-CC           : PWE3-Controlword,MPLS-RouterAlert-label
L-VCCV-CV           : LSP ping
R-VCCV-CC           : None
R-VCCV-CV           : None
N-VCCV-CC           : None
N-VCCV-CV           : LSP ping
Flags               : mtu-set, adv-peer, local: 0x2a
Old L-Label         : 0          Old R-Label    : 0
L-Label received    : Jan 1 01:20:37.131
L-Label advertised  : Jan 1 01:20:55.022
R-Label received    : Jan 1 00:00:00.000
R-Label sent        : Jan 1 00:00:00.000
VC ID               : 50         VC Type        : E
Peer                : 190.190.190.190 State          : LR
L-Label             : 131073     R-Label        : 131073
L-GID               : 0          R-GID          : 0
L-VCCV-CC           : PWE3-Controlword,MPLS-RouterAlert-label
L-VCCV-CV           : LSP ping
R-VCCV-CC           : PWE3-Controlword,MPLS-RouterAlert-label
R-VCCV-CV           : LSP ping
N-VCCV-CC           : PWE3-Controlword
N-VCCV-CV           : LSP ping
Flags               : mtu-set, adv-peer, local, remote
: 0x6a
Old L-Label         : 0          Old R-Label    : 0
L-Label received    : Jan 1 01:20:37.131
L-Label advertised  : Jan 1 01:21:04.392
R-Label received    : Jan 1 01:21:00.590
R-Label sent        : Jan 1 01:21:00.590
```

The following example displays L2VPN-related information for the LDP L2VPN cross-connection associated with the VCI `333`:

```
[local]Redback>show ldp l2vpn fec vc-id 1
VC ID  VC Type  Peer            L-Label  R-Label  L-GID    R-GID    State
1      V        190.190.190.190 131072   0        0        0        L
```

The following example displays detailed L2VPN-related information for the LDP L2VPN cross-connection associated with the VCI, `333`:

```
[local]Redback>show ldp l2vpn fec vc-id 1 detail

Codes : GID - Group ID, F - Frame Relay, V - VLAN, E - Ether, A - ATM
L - Local, R - Remote, N - Negotiated
VC ID               : 1          VC Type        : V
Peer                : 190.190.190.190 State          : L
L-Label             : 131072     R-Label        : 0
L-GID               : 0          R-GID          : 0
L-VCCV-CC           : PWE3-Controlword,MPLS-RouterAlert-label
L-VCCV-CV           : LSP ping
R-VCCV-CC           : None
R-VCCV-CV           : None
N-VCCV-CC           : None
N-VCCV-CV           : LSP ping
Flags               : mtu-set, adv-peer, local: 0x2a
Old L-Label         : 0          Old R-Label    : 0
L-Label received    : Jan 1 01:20:37.131
L-Label advertised  : Jan 1 01:20:55.022
R-Label received    : Jan 1 00:00:00.000
R-Label sent        : Jan 1 00:00:00.000
```

1.17 show ldp neighbor

`show ldp neighbor` [***`ip-addr`***] [**`detail`**]

1.17.1 Purpose

Displays Label Distribution Protocol (LDP) neighbor information.

1.17.2 Command Mode

All modes

1.17.3 Syntax Description

`ip-addr`	Optional. Neighbor IP address.
`detail`	Optional. Displays detailed information.

1.17.4 Default

Displays LDP information for all neighbors.

1.17.5 Usage Guidelines

Use the **show ldp neighbor** command to display LDP neighbor information.

If the LDP neighbor's transport IP address differs from its router ID, the IP address specified in the **neighbor** ***ip-addr*** construct must be the LDP neighbor's transport IP address.

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.

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 the document, *Using the CLI*. For information about how to troubleshoot LDP signaling, see the *MPLS Troubleshooting* document.

1.17.6 Examples

The following example displays summary LDP neighbor information:

```
[local]Redback>show ldp neighbor
PeerFlags: A - LocalActiveOpen, D - Deleted, R - Reseting, E - OpenExtraDelay
           N - OpenNoDelay, P - SetMD5Passwd, T - RetainRoute, F - FlushState
           X - ExplicitNullEnabled, C - ExplicitNullStatusChanging
           G - Graceful Restart Supported, L - Session Life Extended
           V - Reachable Via Tunnel-Shortcut
SHld - Session Holdtime Left, HHld - Hello Holdtime Left

NeighborAddr    LDP Identifier        State   Flag SHld HHld Interface
11.11.11.11     11.11.11.11:0         Oper    AXG  83   12   to_dev1
14.14.14.14     14.14.14.14:0         Oper    XGV  76   41   none - remote
```

The following example displays detailed LDP neighbor information:

```
[local]Redback>show ldp neighbor detail
PeerFlags: A - LocalActiveOpen, D - Deleted, R - Reseting, E - OpenExtraDelay
           N - OpenNoDelay, P - SetMD5Passwd, T - RetainRoute, F - FlushState
           X - ExplicitNullEnabled, C - ExplicitNullStatusChanging
           G - Graceful Restart Supported, L - Session Life Extended
           V - Reachable Via Tunnel-Shortcut
SHld - Session Holdtime Left, HHld - Hello Holdtime Left
Rcvd - Hello Holdtime Received, Used - Hello Holdtime Used
Left - Hello Holdtime Left, Intv - Hello Interval Used

Neighbor Address:    11.11.11.11           State: Oper
  LDP Identifier:    11.11.11.11:0         Flags: AXG
  Last Reset Reason: LDP initialized       Error:
  Recv Notification: Success               Sent Notification: Success
  FEC Ver:           42                    ADDR Ver: 5
  TCP Conn Local:    12.12.12.12/58498     Remote:   11.11.11.11/646
  Sess Hold Expire:  83                    Next KeepAlive:    23 sec
  Rcvd Reconn Time:  360                   Rcvd Recover Time: 360
  MsgRcvd:           21                    MsgSent:           19
  Up/Down Time Since Last Chg: 00:03:35    Reset Count:       0
  # of Adjacency:    1
  #   Interface             I/F Address     Rcvd Used Left Intv
  1 : to_dev1               14.1.1.2/24     15   15   12   5

Neighbor Address:    14.14.14.14           State: Oper
  LDP Identifier:    14.14.14.14:0         Flags: XGV
  Last Reset Reason: LDP initialized       Error:
  Recv Notification: Success               Sent Notification: Success
  FEC Ver:           42                    ADDR Ver: 5
  TCP Conn Local:    12.12.12.12/646       Remote:   14.14.14.14/57402
  Sess Hold Expire:  76                    Next KeepAlive:    17 sec
  Rcvd Reconn Time:  360                   Rcvd Recover Time: 360
  MsgRcvd:           15                    MsgSent:           14
  Up/Down Time Since Last Chg: 00:03:12    Reset Count:       0
  Aggregate tunnel nhgrid: 0x31e00049
  # of Adjacency:    1
  #   Interface             I/F Address     Rcvd Used Left Intv
  1 : none - remote         none            45   45   41   15
```

1.18 show ldp summary

show ldp summary

1.18.1 Purpose

Displays a summary of Label Distribution Protocol (LDP) information.

1.18.2 Command Mode

All modes

1.18.3 Syntax Description

This command has no keywords or arguments.

1.18.4 Default

None

1.18.5 Usage Guidelines

Use the **show ldp summary** command to display a summary of LDP 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 in the *Command List*.

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.

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 the document, *Using the CLI*. For information about how to troubleshoot LDP signaling, see the *MPLS Troubleshooting* document.

1.18.6 Examples

The following example displays a summarization of LDP information:

```
[local]Redback>show ldp summary
LDP Identifier:        12.12.12.12:0         Config Trans Addr: None
FEC Version:           42                    ADDR Version:      5
Label Manager version: 42                    Operational Peers: 2
Labels Allocated:      13                    Router State: Normal
Graceful restart enabled, Fast-reroute disabled, Track-IGP-metric disabled,
Create-LSP-Circuit disabled, Tunnel-Shortcuts enabled, max-session 1200
```

1.19 show licenses

show licenses [all | detail]

1.19.1 Purpose

Displays a list of software licenses and their configuration status.

1.19.2 Command Mode

All modes

1.19.3 Syntax Description

all	Displays the status of all licenses.
detail	Displays the slot details of the per-slot licenses.

1.19.4 Default

Displays only configured licenses.

1.19.5 Usage Guidelines

Use the **show licenses** command to display a list of software licenses and their configuration status.

1.19.6 Examples

1.19.6.1 show licenses Example

The following example displays configured software licenses:

```
 [local]Redback>show licenses

  Software Feature            License Configured

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

l2tp all                              YES
subscriber active 8000                YES

 Total active subscriber license configured 8000
```

1.19.6.2 show licenses all Example

The following example displays all software licenses and their configuration status:

```
[local]Redback>show licenses all

  Software Feature            License Configured
--------------------------    ------------------
subscriber dynamic-service            NO
l2tp all                              YES
mpls                                  NO
subscriber high-availibility          NO
subscriber active 8000                YES
subscriber bandwidth                  NO

 Total active subscriber license configured 8000
```

1.19.6.3 show licenses detail Example

```
[local]Redback#show licenses detail
  Software Feature          Board type             Slot   License Configured
--------------------        ----------             ----   ------------------
subscriber high-availability                                     YES
all-ports                   ch-oc3oc12-8or2-port     4         YES
all-ports                   ch-oc3oc12-8or2-port     14        YES
```

1.20 show link-group

show link-group [*group-name*] [**detail**]

1.20.1 Purpose

Displays link groups, circuits, and bindings.

1.20.2 Command Mode

All modes

1.20.3 Syntax Description

group-name	Optional. Name of a link group.
detail	Optional. Displays detailed information.

1.20.4 Default

When you enter this command without optional keywords or arguments, a brief summary of all link groups is displayed.

1.20.5 Usage Guidelines

Use the **show link-group** command to display link groups, circuits, and bindings.

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.

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 the document, *Using the CLI*.

1.20.6 Examples

1.20.6.1 Example 1

The following example of the **show link-group** command shows how to display a brief summary of all link groups in the system. In the display, the `Ccct count` field provides the number of constituent circuits that make up a logical or aggregated circuit in the link group. Constituent circuits are the physical ports or channels in the link group bundle:

```
[local]Redback>show link-group

Linkgroup         ID     Group Type     Ccct    Bindings
lg3               28     LS    mp        1      sn1@local
lg4               29     LS    mp        1      sn2@local
```

1.20.6.2 Example 2

The following example of the **show link-group** command shows how to display information for the link group named `lg3`:

```
[local]Redback>show link-group lg3

Linkgroup         ID      Group Type      Ccct   Bindings
lg3               28      LS    mp        1      sn1@local
```

1.20.6.3 Example 3

The following example of the **show link-group** command shows how to display detailed information for the link group named `lg2`. In the display, the `Constituent Circuits` field shows the status of three constituent Gigabit Ethernet ports that make up the link group.

Notice the link group ID is `27`. The system automatically sets the link group ID value:

```
[local]Redback>show link-group lg2 detail
Link-Group: lg2, ID   : 27 , State : Up
------------------------------------------------------------------------------
Ccct count      : 3                                Grouping     : LoadShare
Card Type       : ether-10-port                    Type         : ether
Bindings        : test@mt                          Minimum-links : 2
Maximum links   : 8
Mac Address     : 00:30:88:00:77:00
Internal Handle : 255/6:1023:63/1/1/4
Description
Constituent Circuits:
  1. 4/1 (Up)| 85%
  2. 3/1 (Up)| 55%
  3. 5/1 (Down)| 0%
```

The output line, `1.  4/1 (Up)|85%`, shows that port 4/1 is up, sending packets at 85% of the port's capacity. The next output line, `2.  3/1 (Up)|55%`, shows that port 3/1 is up, sending packets at 55% of the port's capacity. The final output line, `3.  5/1 (Down)|0%`, shows that port 5/1 is down.

1.21 show log

show log [{**active** | **file** *filename*}] [{**all** | **fac** *log-fac-name* | **tdm-console**}][**level** *level*] [**since** *start-time*] [**until** *end-time*]

1.21.1 Purpose

Displays information about system event logs or a previously saved log file.

1.21.2 Command Mode

All modes

1.21.3 Syntax Description

active	Optional. Displays the system event log.
file *filename*	Optional. Log stored in the specified filename.
fac *log-fac-name*	Optional. Events for the specified facility. For the supported facilities, see Table 6.
tdm-console	Optional. Displays the tdm-console event log.
level *level*	Optional. Only events of the specified level or of higher severity are displayed. For the supported levels, see Table 5.

since *start-time*	Optional. Only events that happened after the specified time are displayed. This option is useful for viewing the last portion of a log. The *start-time* argument is in a *yyyy*:*mm*:*dd*:*hh*:*mm*[:*ss*] format, where: • *yyyy* = year • *mm* = month • *dd* = day • *hh* = hour • *mm* = minute • *ss* = optional second
until *end-time*	Optional. Only events that happened before the specified time are displayed. This option is useful for viewing the last portion of a log. The *end-time* argument is in a *yyyy*:*mm*:*dd*:*hh*:*mm*[:*ss*] format, where: • *yyyy* = year • *mm* = month • *dd* = day • *hh* = hour • *mm* = minute • *ss* = optional second

1.21.4 Default

None

1.21.5 Usage Guidelines

Use the **show log** command to display information about system event logs or a previously saved log file.

The **tdm-console**, **since**, **until**, and **level** keywords are only available after specifying the **active** keyword or the **file** *filename* construct.

The **show log active** command with the **tdm-console** keyword displays Field Programmable Gate Array (FPGA) mismatched log messages. For example, if you power on the system or perform a system or traffic card reload,

and that card's FPGA file revision and FPGA chip revision do not match, an FPGA mismatch log message is generated.

When you enter the **reload** command from the command-line interface (CLI), or a **reboot** command from the boot ROM, the system copies its log and debug buffers into these two special files: `/md/loggd_dlog.bin` and `/md/loggd_ddbg.bin`. As an aid to debugging, you can display these files using the **show log** command:

```
show log file /md/loggd_dlog.bin
show log file /md/loggd_ddbg.bin
```

Table 5 lists the possible values for the ***level*** argument.

Table 5 Keywords for Event Levels

Level	Description
emergency	Logs only emergency events
alert	Logs alert and more severe events
critical	Logs critical and more severe events
error	Logs error and more severe events
warning	Logs warning and more severe events
notice	Logs notice and more severe events
informational	Logs informational and more severe events
debug	Logs all events, including debug events

Table 6 lists the possible values for the ***fac-name*** argument.

Table 6 Keywords for Facility Names

Keyword	Facility
aaa	authentication, authorization, and accounting (AAA)
aos	AOS
arp	Address Resolution Protocol (ARP)
aspha	Advanced Services Processor (ASP) Home Agent (HA)
atm	Asynchronous Transfer Mode (ATM)

Table 6 Keywords for Facility Names

Keyword	Facility
bgp	Border Gateway Protocol (BGP)
bprelay	bootp relay
ccth	Ccth cct handle lib
cfm	Ethernet connectivity fault management (CFM)
chunk	chunk library
cli	command-line interface (CLI)
clibe	CLI backend engine facility
clips	Clientless IP service selection (CLIPS)
cls	classifier
csm	Controller State Manager (CSM)
cspf	Constrained SPF
cxtmgr	Context Manager
dbs	DBS option
dhcp	DHCP Relay
dhcpv6	DHCPv6 Manager
dhelper	DHCP Helper
dhelper6	DHCPv6 Helper
dlm	Download Manager
dns	Domain Naming System (DNS)
dot1q	dot1q [(1)]
dpi	Advanced Services Engine (ASP) Deep Packet Inspection (DPI) Manager
dpmon	ASP DP inspection log
engine	ASE engine log facility
epsc-general	Evolved Packet System Control (EPSC) general
epsc-gtp	EPSC GPRS Tunneling Protocol (GTP)
epsc-pmip	EPSC Proxy Mobile IP (PMIP)
epsc-session	EPSC Session
epscsim	EPSC Simulator
evlog	Event Log

Table 6 Keywords for Facility Names

Keyword	Facility
fast-restart	Fast Restart Library
flow	Flow[2]
fm	Feature Manager
fpm	FPM Manager
fr	Frame Relay [3]
fsm	File Server Manager (FSM)
fsmbcsim	FSSB-C Simulator
gsmp	General Switch Management Protocol (GSMP)
halib	Home Agent (HA) PG library
hr	HTTP redirect
if	Interface configuration
igmp	Internet Group Management Protocol (IGMP)
ike	ASE Internet Key Exchange (IKE) log
ipc	Interprocess communication (IPC)
ipcpack	IPC-pack library
ipfix	rflow export facility
ipmul	IP Multicast
iprwlock	interprocess locks
ipsec	ASE Internet Protocol Security (IPSec) log
isis	Intermediate System-to-Intermediate System (ISIS)
ism	Interface and Circuit State Manager (ISM)
isp	ISP logging library
issu	In service software upgrade (ISSU)
l2tp	Layer 2 Tunneling Protocol (L2TP)
l2vpnmgr	Layer 2 Virtual Private Network (L2VPN) configuration
lacp	L2TP access concentrator (LAC) processor
ldp	Label Distribution Protocol (LDP)
lg	link group
lm	Label Manager
log	Event logger
memmgr	Memory Manager

Table 6 Keywords for Facility Names

Keyword	Facility
meta	META
mgd	Media Gateway daemon
mgmd	Media Gateway Manager
mip	Mobile IP
mipsim	Mobile IP simulator
mo	MO
momi	MOMI
mpls-static	Multiprotocol Label Switching (MPLS)-STATIC
mplsmgr	MPLS configuration
ms	MPLS Static
msdp	Multicast Search Discovery Protocol (MSDP)
mtrace	Multicast trace route
nat	Network Address Translation (NAT)
nd	Neighbor Discovery (ND)
netdbginfra	Netdebug Infrastructure
netdbglib	Netdebug Library
netopd	NetOp daemon
ntp	Network Time Protocol (NTP)
odd	On Demand Diagnostics
ospf	Open Shortest Path First (OSPF)
ospf3	OSPFv3
pad	PA facility
pem	Port encapsulation module (PEM)
pim	Protocol Independent Multicast (PIM)
pm	Process Manager (PM)
ppafwd	Packet Processing ASIC (PPA) forwarding infrastructure
ppainfra	PPA infrastructure
ppaip	PPA IP
ppal2	PPA layer 2
ppal4	PPA layer 4

Table 6 Keywords for Facility Names

Keyword	Facility
ppalg	PPA link group
ppamedia	PPA media
ppampls	PPA Multiprotocol Label Switching (MPLS)
ppapedgr	PPA pedgraph
ppaplat	PPA platform
ppaqos	PPA quality of service (QoS)
pparedun	PPA redundancy
ppasub	PPA subscriber
ppp	Point-to-Point Protocol (PPP)
pppint	PPP internal
pppoe	PPP over Ethernet (PPPoE)
prefixlib	IPv6 prefix library
prp	ped rule parser
qos	QoS
rbos	RBOS
rcm	Router Configuration Manager (RCM)
rdb	Redundant database
rib	Routing Information Base (RIB)
rip	Routing Information Protocol (RIP)
rpl	Router policy library
rpm	Router Policy Manager (RPM)
rsdb	Runtime shared database (RSDB)
rsvp	Resource Reservation Protocol (RSVP)
rtdb	Run-time Database
sctp	Stream Control Transmission Protocol (SCTP)
security	Security facility
serlib	Stream serializer library
sf	System function
sftp	Secure Shell FTP (SFTP) client
sftpd	SFTP server
shmlib	Shared memory library
smr	Shared memory Routing Information Base (RIB)

Table 6 Keywords for Facility Names

Keyword	Facility
sm-radix	Shared memory Radix facility
smrlib	Shared memory RIB library
snmp	Simple Network Management Protocol (SNMP)
ssh	Secure Shell (SSH)
sshd	SSH daemon
ssm	SSM facility
stat	Statistics
static	Static route
stp	Spanning Tree Protocol (STP)
sysmgr	System Manager
sysmon	System monitoring
sysstat	System status
tacplus	TACACS+
talk	Talk
tasksrv	Task services
throttle	Throttle library
tunnel	Tunnel
vlan	Virtual LAN (VLAN) ID
vrrp	Virtual Router Redundancy Protocol (VRRP)
xcd	Cross connect process daemon
xcdlib	Cross connect process library

(1) The SmartEdge 100 router does not support 802.1Q.

(2) Not all controller cards support flow.

(3) The SmartEdge 100 router does not support Frame Relay.

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 before the **show** command to view output for the specified context without entering that context. For more information about 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 the document, *Using the CLI*.

1.21.6 Examples

The following example displays a partial listing of the active system event log:

```
[local]Redback>show log
Mar 10 21:25:25: %CSM-6-CARD: card oc3e-8-port INSERTED in slot 1 READY
Mar 10 21:25:26: %CSM-6-CARD: card ge-10-port INSERTED in slot 2 READY
Mar 10 21:25:26: %CSM-6-CARD: card atm-oc3e-8-port INSERTED in slot 3 READY
Mar 10 21:25:26: %CSM-6-PORT: pos 1/1 link state UP, admin is UP
Mar 10 21:25:26: %CSM-6-PORT: pos 1/2 link state UP, admin is UP
Mar 10 21:25:26: %CSM-6-PORT: pos 1/3 link state UP, admin is UP
Mar 10 21:25:26: %CSM-6-PORT: pos 1/4 link state UP, admin is UP
Mar 10 21:25:26: %CSM-6-PORT: channelized-ds3 2/1 link state UP, admin is UP
Mar 10 21:25:26: %CSM-6-PORT: ds1 2/1:1 link state UP, admin is UP
Mar 10 21:25:26: %CSM-6-PORT: ds1 2/1:5 link state UP, admin is UP
Mar 10 21:25:26: %CSM-6-PORT: ds1 2/1:6 link state UP, admin is UP
Mar 10 21:25:26: %CSM-6-PORT: ds1 2/1:7 link state UP, admin is UP
Mar 10 21:25:26: %CSM-6-PORT: ds1 2/1:8 link state UP, admin is UP
Mar 10 21:25:26: %CSM-6-PORT: ds1 2/1:15 link state UP, admin is UP
Mar 10 21:25:26: %CSM-6-PORT: ds1 2/1:16 link state UP, admin is UP
.....
```

The following example displays only that portion of the active log that was entered after `00:00 a.m.` on `March 20:`

```
[local]Redback>show log active since 2005:03:20:00:00:00
Mar 20 01:16:15: %SYSLOG-6-INFO: ftpd[79]: connection from 127.0.2.5
Mar 20 01:16:16: %SYSLOG-6-INFO: ftpd[79]: FTP LOGIN FROM 127.0.2.5 as nobody
Mar 20 01:16:37: %SYSLOG-6-INFO: ftpd[79]: put /md/rcm_41.core = 9340060 bytes
```

1.22 show log events

show log events {debug|general-events [detail|dump-to-file]|list-circuits|circuit *circuit-handle* [unmerged] [detail|dump-to-file]|process *process* circuit *circuit-handle*}

1.22.1 Purpose

Displays log events information.

Warning!

Use the **show log events** command for debug purposes only to collect data when a problem or outage occurs at the customer node.

1.22.2 Command Mode

All modes (10)

1.22.3 Syntax Description

debug	Displays internal debugging information.
general-events • **detail** • **dump-to-file**	Displays general log events. Optional. Displays a detailed log or sends the log to a file.
list-circuits	Displays a list of all circuits in the log.
circuit *circuit -handle* • **unmerged** • **detail** • **dump-to-file**	Displays log events for a specified circuit. Optional. Displays an unmerged log. Optional. Displays a detailed log and/or sends the log to a file.
process *process* **circuit** *circuit -handle*	Displays log events for the specified process and circuit.

1.22.4 Default

None

1.22.5 Usage Guidelines

Use this command to collect data when a problem or outage is seen at the customer node. Because the output is intended for use by the support engineers, the format might differ from typical **show** command output and might not be readable.

1.22.6 Examples

The following example shows partial output for the **show log events circuit** command:

```
[local]Redback#show log events circuit 4/4:511:63:31/6/2/3
Idx Time         Module Dir Type    Subtype          Description
--- ------------ ------ --- ------- ---------------- -------------------------
  1 10:08:29.853 aaad       State   Change           Starting
  2 10:08:29.853 aaad   In  AAA     AUTHEN_REQ_2     PPPd
  3 10:08:29.853 aaad   Out AAA     AUTHEN_RESPONS   PPPd
  4 10:08:29.861 aaad   In  AAA     SESSION_UP       PPPd
  5 10:08:29.861 aaad   Out ISM     I/F bind
  6 10:08:29.861 aaad   Out ISM     CCT cfg
  7 10:08:29.861 aaad       State   Change           Up
  8 10:10:34.817 ppp        Session Event            Rcvd-LCP-TermReq
  9 10:10:34.817 ppp        Session State            Await-LCP-down
 10 10:10:34.817 ppp        FSM     IPCP State       Starting (Opened)
 11 10:10:34.817 ppp        FSM     IPCP State       Initial (Starting)

(continues...)
```

The following example shows partial output for the **show log events debug** command:

```
[local]Redback#show log events debug

Run time statistics for pppoe
------------------------------------------------------------------------
General event count      : 32          Circuit count            : 926
Thread yield             : 0

Configuration for pppoe
------------------------------------------------------------------------
General event entries    : 100         Max-cct entries          : 1000
Per-cct event entries    : 64
Keep-after up            : No          Keep-after down          : No
Logging stopped          : No          Profiling on             : No

(continues...)
```

The following example shows partial output for the **show log events general-events** command:

```
[local]Redback#show log events general-events

Idx Time         Module Dir Type    Subtype          Description
--- ------------ ------ --- ------- ---------------- -------------------------
  1 11:19:31.000 pppoe      Proc    Alive            ISM2-CLIENT-EP-NAME
  2 11:19:31.818 pppoe      Proc    Alive            ISM2-MBE-EVIN-EP-NAME
  3 11:19:31.926 pppoe  In  ISM     CCT 1qcfg
  4 11:19:31.933 pppoe      Proc    Alive            AAA-IPC-MSG-EP-NAME
  5 11:19:41.943 pppoe  In  ISM     MBE All EOF
  6 11:19:42.031 pppoe      Proc    Alive            PPP-IPC-EP-NAME

Idx Time         Module Dir Type    Subtype          Description
--- ------------ ------ --- ------- ---------------- -------------------------
  1 11:19:26.039 ppp        Proc    Alive            L2TP-PPP-EP-NAME
  2 11:19:31.930 ppp        Proc    Alive            AAA-IPC-MSG-EP-NAME
  3 11:19:31.948 ppp    Out AAA     Verify           EOF
  4 11:19:31.985 ppp        Proc    Alive            ISM2-MBE-EVIN-EP-NAME
  5 11:19:32.109 ppp    In  RCM     EOF
  6 11:19:32.214 ppp        Proc    Alive            ISM2-CLIENT-EP-NAME
  7 11:19:32.218 ppp    In  ISM     CRD up
  8 11:19:32.233 ppp    Out ISM     MBE EOF
  9 11:19:41.940 ppp    In  ISM     MBE All EOF
 10 11:19:42.032 ppp        Proc    Alive            PPPOE-IPC-EP-NAME
 11 11:19:42.033 ppp        Proc    Alive            PPP SLOT 04/0
 12 11:19:42.048 ppp        Proc    Ready

(continues...)
```

The following example shows partial output for the **show log events list-circuits** command:

```
[local]Redback#show log events list-circuits

        Process pppoe
Idx Circuit
--- ------------------
  1 1/3:1023:63/6/2/143412
  2 1/3:1023:63/6/2/143414
  3 1/3:1023:63/6/2/143416
  4 1/3:1023:63/6/2/143418
  5 1/3:1023:63/6/2/143420
  6 1/3:1023:63/6/2/143422
  7 1/3:1023:63/6/2/143425
  8 1/3:1023:63/6/2/143426
  9 1/3:1023:63/6/2/143428
 10 1/3:1023:63/6/2/143430

(continues...)
```

1.23 show logging

show logging [**buffer** | **filter**]

1.23.1 Purpose

Displays system logger statistics, including logger uptime, number of logged messages, number of logged filter messages, and number of logged rate-limited messages.

1.23.2 Command Mode

All modes

1.23.3 Syntax Description

buffer	Optional. Displays the logging buffer information for each log filter type.
filter	Optional. Displays the filter logging level for each log filter type.

1.23.4 Default

None

1.23.5 Usage Guidelines

Use the **show logging** command to display statistics about the system logger, including logger uptime, number of logged messages, number of logged filter messages, and number of logged rate-limited messages.

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 before the **show** command to view output for the specified context without entering that context. For more information about 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 the document, *Using the CLI*.

1.23.6 Examples

The following example displays output from the **show logging** command:

```
[local]Redback>show logging

L% Logging Information
% ====================
%          Logger Uptime : 21:23:44 Mon Jun 27 2005
%    Logger Buffer (KB) : Log:         822, Dbg:       1024
%  Logger Buffer Locked : Log:           N, Dbg:          N
%           # Logged msg : Log:        2889, Dbg:          0
%     # Logged Filtered : Log:           0, Dbg:          0
% # Logged Rate Limited : Log:           0, Dbg:          0
%                  ==================
%   Logger Drop Counter : All drop counters are all ZERO
```

The following example displays logging levels for each filter type:

```
[local]Redback>show logging filter
```

```
Console priority critical (2)

Monitor priority critical (2)

File priority critical (2)

Syslog priority critical (2)
```

1.24 show macro

show macro [**command**]

1.24.1 Purpose

Displays a list of command macros defined on the system.

1.24.2 Command Mode

All modes

1.24.3 Syntax Description

command	Optional. Displays the commands in the macros.

1.24.4 Default

Macros are listed without their commands.

1.24.5 Usage Guidelines

Use the **show macro** command to display a list of the command macros defined on the system. Macros are also displayed when you use the online Help; in this case, the macro name is indicated by the asterisk (*) character preceding it.

Use the **command** keyword to display the commands in each macro.

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 before the **show** command to view output for the specified context without entering that context. For more information about 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 the document, *Using the CLI*.

1.24.6 Examples

The following example displays the macros defined on the system:

```
[local]Redback>show macro
Macro            Mode
show-all-port    inherit
show-alot        inherit
```

1.25 show malicious-traffic

show malicious-traffic [**counters** | **log** [**file** ***filename***]]

1.25.1 Purpose

Displays malicious traffic information.

1.25.2 Command Mode

All modes

1.25.3 Syntax Description

counters	Displays malicious-traffic counter information.
log	Displays malicious-traffic log information.
log file ***filename***	Displays malicious-traffic log information for a specified file. Specify the name of a file for which to display log information.

1.25.4 Default

None

1.25.5 Usage Guidelines

Use the **show malicious-traffic** command to display malicious traffic information.

Note: When using the **show malicious-traffic file** command from a non-local context, only files configured for that context can be viewed.

For information about detecting and monitoring malicious traffic, see *Configuring Malicious Traffic Detection and Monitoring*.

1.25.6 Examples

The following example displays output from the **show malicious-traffic counters** command from context configuration mode:

```
[local]Redback(config-ctx)#show malicious-traffic counters

Context Name        : local            Context ID          : 0x40080001
Alarm Raised        : N                Next Counter Update : 0 secs.

Total Malicious Pkts: 10

Malformed-IP        : 10               Malformed-L4        : 0
 Invalid IP Length  : 10                Invalid Checksum   : 0
 Invalid IP Checksum: 0                 Invalid L4 Length  : 0
 Invalid IP Version : 0
 Invalid IP Options : 0

Filtered            : 0                Spoofed             : 0
 Filtered Drops     : 0                 RPF Failures       : 0
                                        Null Route         : 0

Reassembly          : 0                Other               : 0
 Reassembly Failures: 0                 Realm Drops        : 0
```

The following example displays output from the **show malicious-traffic log** command:

```
Mar 16 18:05:43.000: [0001] [3/8:1023:63/1/1/20510] [inv ip vers] Length 252  00:00:0a:01:01:02 -> 00:30:8
8:12:78:ac (1500 00ee 0000 0000 4011 e3fb c001 0102 0500 0001)
Mar 16 18:05:43.000: [0001] [3/8:1023:63/1/1/20510] [inv ip vers] Length 252  00:00:0a:01:01:02 -> 00:30:8
8:12:78:ac (1500 00ee 0000 0000 4011 e3fb c001 0102 0500 0001)
Mar 16 18:05:43.000: [0001] [3/8:1023:63/1/1/20510] [inv ip vers] Length 252  00:00:0a:01:01:02 -> 00:30:8
8:12:78:ac (1500 00ee 0000 0000 4011 e3fb c001 0102 0500 0001)
Mar 16 18:05:43.000: [0001] [3/8:1023:63/1/1/20510] [inv ip vers] Length 252  00:00:0a:01:01:02 -> 00:30:8
8:12:78:ac (1500 00ee 0000 0000 4011 e3fb c001 0102 0500 0001)
Mar 16 18:05:43.000: [0001] [3/8:1023:63/1/1/20510] [inv ip vers] Length 252  00:00:0a:01:01:02 -> 00:30:8
8:12:78:ac (1500 00ee 0000 0000 4011 e3fb c001 0102 0500 0001)
Mar 16 18:05:43.000: [0001] [3/8:1023:63/1/1/20510] [inv ip vers] Length 252  00:00:0a:01:01:02 -> 00:30:8
8:12:78:ac (1500 00ee 0000 0000 4011 e3fb c001 0102 0500 0001)
Mar 16 18:05:43.000: [0001] [3/8:1023:63/1/1/20510] [inv ip vers] Length 252  00:00:0a:01:01:02 -> 00:30:8
8:12:78:ac (1500 00ee 0000 0000 4011 e3fb c001 0102 0500 0001)
Mar 16 18:05:43.000: [0001] [3/8:1023:63/1/1/20510] [inv ip vers] Length 252  00:00:0a:01:01:02 -> 00:30:8
8:12:78:ac (1500 00ee 0000 0000 4011 e3fb c001 0102 0500 0001)
Mar 16 18:05:43.000: [0001] [3/8:1023:63/1/1/20510] [inv ip vers] Length 252  00:00:0a:01:01:02 -> 00:30:8
8:12:78:ac (1500 00ee 0000 0000 4011 e3fb c001 0102 0500 0001)
Mar 16 18:05:43.000: [0001] [3/8:1023:63/1/1/20510] [inv ip vers] Length 252  00:00:0a:01:01:02 -> 00:30:8
8:12:78:ac (1500 00ee 0000 0000 4011 e3fb c001 0102 0500 0001)
Mar 16 18:05:43.000: [0001] [3/8:1023:63/1/1/20510] [inv ip vers] Length 252  00:00:0a:01:01:02 -> 00:30:8
8:12:78:ac (1500 00ee 0000 0000 4011 e3fb c001 0102 0500 0001)
Mar 16 18:05:43.000: [0001] [3/8:1023:63/1/1/20510] [inv ip vers] Length 252  00:00:0a:01:01:02 -> 00:30:8
8:12:78:ac (1500 00ee 0000 0000 4011 e3fb c001 0102 0500 0001)
Mar 16 18:05:43.000: [0001] [3/8:1023:63/1/1/20510] [inv ip vers] Length 252  00:00:0a:01:01:02 -> 00:30:8
8:12:78:ac (1500 00ee 0000 0000 4011 e3fb c001 0102 0500 0001)
Mar 16 18:05:43.000: [0001] [3/8:1023:63/1/1/20510] [inv ip vers] Length 252  00:00:0a:01:01:02 -> 00:30:8
8:12:78:ac (1500 00ee 0000 0000 4011 e3fb c001 0102 0500 0001)
Mar 16 18:05:43.000: [0001] [3/8:1023:63/1/1/20510] [inv ip vers] Length 252  00:00:0a:01:01:02 -> 00:30:8
8:12:78:ac (1500 00ee 0000 0000 4011 e3fb c001 0102 0500 0001)
```

1.26 show memory

show memory

1.26.1 Purpose

Displays system memory statistics.

1.26.2 Command Mode

All modes

1.26.3 Syntax Description

This command has no keywords or arguments.

1.26.4 Default

None

1.26.5 Usage Guidelines

Use the **show memory** command to display statistics about the available and allocated memory in the system memory partition, which is useful for determining if the system is running low on available memory.

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 before the **show** command to view output for the specified context without entering that context. For more information about 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 the document, *Using the CLI*.

1.26.6 Examples

The following example displays output from the **show memory** command:

```
[local]Redback>show memory
Memory:total 60556k, Used 22836k, Free 32660k
```

1.27 show mobile-ip

show mobile-ip [**all**] [**detail**]

1.27.1 Purpose

Displays Mobile IP information for the foreign-agent (FA) or home-agent (HA) instances depending on the instance configured on the current context.

1.27.2 Command Mode

All modes

1.27.3 Syntax Description

all	Optional. Displays Mobile IP information for the FA and HA instances, including all error counters.
detail	Optional. Displays detailed Mobile IP information for the FA or HA instance in the current context.

1.27.4 Default

None

1.27.5 Usage Guidelines

Use the **show mobile-ip** command to display for the FA or HA instances in one or more contexts.

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.

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 the document, *Using the CLI*.

1.27.6 Examples

The following example shows how to display Mobile IP information for the local context:

```
[local]Redback>show mobile-ip
::::: Mobile IP Context : local  :::::

Home-Agent Service:
   Agent state               : Active
   Authentication            : DYNO-HMAC-MD5
   Key Derivation            : WiMAX HA Root Key
   Replay tolerance          : 7 seconds
   FA peer count             : 1
   REG max. lifetime         : 1800
   Dynamic Tunnel Profile    : Default
   Last Resort Interface     : subif
   Local Address(es):
      1.1.1.1
   Bindings registered: 0

::::: Mobile IP Global Error Counters :::::
     Invalid IP hdr        :  0              Invalid ICMP hdr      : 0
     Unknown Packets       :  0              Invalid pkt len       : 0
     Invalid TTL           :  0              Invalid ICMP chksum   : 0
     Invalid instance drops:  0              Invalid intf drops    : 0
     Invalid circuit drops :  0              Invalid context drops : 0
     Invalid L2 info drops :  0              Throttling drops      : 0
     Mgmt port UDP drops   :  0              Mgmt port ICMP drops  : 0
     Non-acc intf req drops:  0              No tunnel found drops : 0
     Dyn tnl bind I/F drops:  0
```

The following example shows how to display detailed Mobile IP information for the local context:

```
[local]Redback>show mobile-ip detail
::::: Mobile IP Context : local  :::::

Home-Agent Service:
   Agent state              : Active
   Authentication           : DYNO-HMAC-MD5
   Key Derivation           : WiMAX HA Root Key
   Replay tolerance         : 7 seconds
   FA peer count            : 1
   REG max. lifetime        : 1800
   Dynamic Tunnel Profile   : prof2
   Last Resort Interface    : subif
   Local Address(es):
      1.1.1.1
   Binding info
     Registered     : 0        Pending        : 0
   Registration Requests
     Received       : 1               Dropped        : 0
     New requests   : 0               Renewals       : 1
   Registration Replies
     Accepted       : 0               Rejected       : 0
   Deregistration Requests
     Received       : 0               Dropped        : 0
   Deregistration Replies
     Accepted       : 0               Rejected       : 0
   Registration Revocations
     Received       : 0               Sent           : 0
     Ack Received   : 0               Ack Sent       : 0
     Recv errors    : 0
   Registration request deny counters:
     Unspecified           : 0         Admin prohibited      : 0
     Insuff resource       : 0         MN-FA Auth failure    : 0
     ID Mismatch           : 0         FA-HA Auth failure    : 0
     Lifetime too long     : 0         Poorly formed req     : 0
     Encap unavailable     : 0         Missing NAI           : 0
     CVSEs from MN unsupptd: 0         NVSEs from MN ignored : 0
     CVSEs from FA unsupptd: 0         NVSEs from FA ignored : 0
   Registration Revocation deny counters:
     Poorly formed request : 0         Missing Home Address  : 0
     Bad Home Agent Addr   : 0         Bad Foreign Agent Addr: 0
     HA Role recv by HA    : 0         No FA-HA Auth Config  : 0
     FA-HA Auth Failure    : 0         Rev Replay Protect    : 0
     No Matching Binding   : 0         Binding HA Mismatch   : 0
     Binding CoA Mismatch  : 0         Rev Not Negotiated    : 0
   Registration Revocation Ack deny counters:
     Poorly formed reply   : 0         No FA-HA Auth Config  : 0
     FA-HA Auth Failure    : 0         No matching Rev Req   : 0
   AAA-AUTH Counters:
     New RRQ Auth Success  : 0         New RRQ Auth Failure  : 0
     Re-RRQ Auth Success   : 0         Re-RRQ Auth Failure   : 1
     De-RRQ Auth Success   : 0         De-RRQ Auth Failure   : 0
     Auth Resp Success     : 0         Auth Resp Failure     : 0
     Auth Resp TLV Error   : 0         Auth Resp Key Too Long: 0
     Pending Auth Req      : 0         Pending Session Down  : 0
     Session UP Sent       : 0         Session DOWN Sent     : 1
     Auth Req Sent         : 0         COA Resp Rcvd         : 0
     Auth Req Holdoff      : 0         Session UP Holdoff    : 0
     Session DOWN Holdoff  : 0         Auth Drop No NAI      : 0
   MIP Internal Counters:
     Reg Life-time-out     : 1         No Resource           : 0
     Home-Slot moves       : 0         NAI Collision         : 0
     Home-Slot MV RateLimt : 0         Sess Dwn No Home-Slot : 0
     Home-Slot Egress      : 0         Home-Slot Non-egress  : 0

::::: Mobile IP Global Error Counters :::::
     Invalid IP hdr        : 0         Invalid ICMP hdr      : 0
     Unknown Packets       : 0         Invalid pkt len       : 0
     Invalid TTL           : 0         Invalid ICMP chksum   : 0
     Invalid instance drops: 0         Invalid intf drops    : 0
     Invalid circuit drops : 0         Invalid context drops : 0
     Invalid L2 info drops : 0         Throttling drops      : 0
     Mgmt port UDP drops   : 0         Mgmt port ICMP drops  : 0
     Non-acc intf req drops: 0         No tunnel found drops : 0
     Dyn tnl bind I/F drops: 0
```

1.28 show mobile-ip binding

To display the bindings of a mobile node (MN) identified by its IP address in its home domain (HoA) use the following syntax:

show mobile-ip binding *home-ip-addr*

To display the bindings of an MN identified by its Network Access Identifier (NAI) use the following syntax:

show mobile-ip binding nai *nai*

To display the bindings of MNs without active sessions use the following syntax:

show mobile-ip binding no-session [**detail**]

To display the binding information of all mobile nodes (MNs) or just the MNs meeting some combination of local information; namely, the IP address of the home agent (HA), the IP address of the foreign agent (FA) peer, and the local circuit-handle use the following syntax:

show mobile-ip binding [**local-address** *local-ip-addr*] [{**circuit** *circuit-handle*} | {**foreign-agent-peer** *fa-ip-addr*}] [**detail**]

1.28.1 Purpose

Displays Mobile IP binding information.

1.28.2 Command Mode

All modes

1.28.3 Syntax Description

home-ip-addr	Displays the bindings information of an MN identified by its home domain IP address.
nai *nai*	Displays the bindings information of an MN identified by its NAI.
no-session	Displays the bindings information of MNs without active sessions.
local-address *ip-addr*	Displays the bindings information of an MN identified by the local IP address of its HA.
foreign-agent-peer *fa-ip-addr*	Displays the bindings information of an MN identified by the IP address of its FA.

circuit *circuit-handle*	Displays the bindings information of an MN identified by the local circuit handle.
detail	Displays detailed information.

1.28.4 Default

When entered with no optional syntax, the **show mobile-ip binding** command displays Mobile IP binding information for all FA peers for an HA instance.

1.28.5 Usage Guidelines

Use the **show mobile-ip binding** command to display Mobile IP binding.

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.

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 the document, *Using the CLI*.

1.28.6 Examples

The following example shows how to display Mobile IP bindings:

```
[local]Redback#show mobile-ip binding
Binding          NAI (truncated)  Home Agent    Foreign Agent
2.2.2.31         user1@rback      1.1.1.1       1.1.1.2
```

The following example shows how to display detailed Mobile IP bindings:

```
[local]Reback#show mobile-ip binding detail
::::: Mobile IP Binding  16.1.1.3 :::::
   NAI             : Mobilesubs
   Home Agent      : 17.1.1.1          Foreign Agent    : 1.1.1.1
   FA Tunnel Cct   : ipip 23           FA Tunnel Intf   : tun4
   Lifetime (secs): 1800               Rem lifetime     : 1167
   Up time         : 20:25:35          Registration Id: ca92d673.290025ae
   UDP port        : 434               Reg Flags        : ......T.
   Home Slot       : 3                 Home Slot Moves: 0
   Re-Reg          : 45                CoA Moves        : 0
   Re-Reg-drops    : 0                 Revocation       : Disabled
   Primary SPI     : 256
   Primary Key     : 0x6162616261626162616261626162
   Bind Circuit    : 255/26:1023:63/11/1/8
   Tunnel Circuit : 255/24:1023:63/1/1/23
```

1.29 show mobile-ip binding pending

show mobile-ip binding pending [local-address ***local-ip-addr*****]**
[{circuit ***circuit-handle*****} | {foreign-agent-peer** ***fa-ip-addr*****}]**
[detail]

1.29.1 Purpose

Displays the binding information of all mobile nodes (MNs) pending registration or just the pending MNs meeting some combination of local information; namely, the IP address of its home agent (HA), the IP address of its foreign agent (FA) peer, the local circuit-handle.

1.29.2 Command Mode

All modes

1.29.3 Syntax Description

local-address ***ip-addr***	Displays the pending registration information of an MN identified by the local IP address of its HA.
foreign-agent-peer ***fa-ip-addr***	Displays the pending registration information of an MN identified by the IP address of its FA.
circuit ***circuit-handle***	Displays the pending registration information of an MN identified by the local circuit handle.
detail	Displays detailed information.

1.29.4 Default

When entered without optional syntax, the **show mobile-ip binding pending** command displays Mobile IP pending visitor registration information for one or more FA peers and the HA instance.

1.29.5 Usage Guidelines

Use the **show mobile-ip binding pending** command to display Mobile IP pending registration information for a FA peer and HA instance

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.

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 the document, *Using the CLI*.

1.29.6 Examples

The following example shows how to display detailed Mobile IP pending visitor registration information:

```
[local]Redback#show mobile-ip binding pending detail

::::: Mobile IP Binding  0.0.0.0  :::::
   NAI             : user1@rbak
   Home Agent      : 17.1.1.1      Foreign Agent    : 1.1.1.1
   FA Tunnel Cct   : null 34       FA Tunnel Intf   : tun4
   Lifetime (secs): 1800           Rem lifetime     : 1782
   Up time         : 00:00:18      Registration Id: ca411676.470bfe48
   UDP port        : 0             Reg Flags        : ......T.
   Home Slot       : 1             Home Slot Moves: 0
   Re-Reg          : 0             CoA Moves        : 0
   Re-Reg-drops    : 0             Revocation       : Disabled
   Primary SPI     : 0
   Primary Key     :
   Bind Circuit    : 5/1:1:3/0/0/0
   Tunnel Circuit : 255/24:1023:63/1/1/34
```

The following example shows how to display Mobile IP pending visitor registration information:

```
[local]Redback#show mobile-ip binding pending

Binding   NAI (truncated)   Home Agent   Foreign Agent
0.0.0.0   user1@rbak        17.1.1.1     1.1.1.1
[local]Redback#
```

1.30 show mobile-ip care-of-address

show mobile-ip care-of-address [{*if-name* | **detail**}]

1.30.1 Purpose

Displays Mobile IP information for the care-of addresses (CoAs) for a foreign-agent (FA) instance.

1.30.2 Command Mode

All modes

1.30.3 Syntax Description

if-name	Optional. Displays Mobile IP CoA information for the specified CoA interface.
detail	Optional. Displays detailed Mobile IP CoA information.

1.30.4 Default

When entered without optional syntax, the **show mobile-ip care-of-address** command displays CoA information for all CoAs for an FA instance.

1.30.5 Usage Guidelines

Use the **show mobile-ip care-of-address** command to display Mobile IP information for the CoA interfaces for an FA instance.

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.

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 the document, *Using the CLI*.

1.30.6 Examples

The following example shows how to display information for all CoAs for an FA instance:

```
[local]Redback>show mobile-ip care-of-address

Interface                           Care-of-Address       Status

home-agent-access                   14.1.1.1              Up
```

The following example shows how to display detailed information for all CoAs for an FA instance:

```
[local]Redback>show mobile-ip care-of-address detail

:::: Mobile IP CoA Interface : home-agent-access ::::
  CoA address     : 14.1.1.1          CoA Oper state : Up
  Circuit         : 3/4               Cct handle     : 3/4:1023:63/1/1/7
  Tunnels cnt     : 1                 Tunnels Up     : 1
  Visitor cnt     : 1                 Pending cnt    : 0
  State chg cnt   : 0
```

1.31 show mobile-ip debug

show mobile-ip debug

1.31.1 Purpose

Displays the Mobile IP debug settings.

1.31.2 Command Mode

All modes

1.31.3 Syntax Description

This command has no keywords or arguments.

1.31.4 Default

None

1.31.5 Usage Guidelines

Use the **show mobile-ip debug** command to display the Mobile IP debug settings.

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.

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 the document, *Using the CLI*.

1.31.6 Examples

The following example shows how to enable the generation of debug messages for `reg-request` packets and then display the settings:

```
[local]Redback>debug mobile-ip packet type reg-request

[local]Redback>show mobile-ip debug


:::: MIP Debug Types/Filters ::::

Type                      Filter

Packet Send               Type: Reg Request

Packet Receive            Type: Reg Request
```

1.32 show mobile-ip dynamic-key

show mobile-ip dynamic-key [**all**]

1.32.1 Purpose

For Mobile IP, displays WiMAX dynamic authentication keys used by an home-agent or foreign-agent instance.

1.32.2 Command Mode

All modes

1.32.3 Syntax Description

`all`	Optional. Displays information about WiMAX dynamic authentication keys derived from HA and FA instances for all contexts.

1.32.4 Default

When entered without optional syntax, the **`show mobile-ip dynamic-key`** command, displays WiMAX dynamic authentication key information derived from an HA or FA instance within a context.

1.32.5 Usage Guidelines

Use the **`show mobile-ip dynamic key`** command to display WiMAX dynamic authentication keys derived from an HA or FA instance.

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.

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 the document, *Using the CLI*.

1.32.6 Examples

The following example shows how to display information about WiMAX dynamic authentication keys for the HA and FA instance in all contexts:

```
[local]Redback>show mobile-ip dynamic-keys all
::: Home Agent : local                Dynamic Keys    : wimax :::
SPI            : 270                  Time Remaining : 00:01:18
Care-of-Addr   : 1.1.1.2              Home-Agent     : 1.1.1.1
Key (hex)      : E845BC8929D45AF0FB546B1E864D8222FCA236D8

::: Foreign Agent : fa-ctx Dynamic Keys : wimax proprietary :::
SPI            : 271                  Time Remaining : 01:39:38
Care-of-Addr   : 1.1.1.2              Home-Agent     : 1.1.1.1
Key (hex)      : E845BC8929D45AF0FB546B1E864D8222FCA236D8
SPI            : 270                  Time Remaining : 01:39:38
Care-of-Addr   : 1.1.1.2              Home-Agent     : 1.1.1.1
Key (hex)      : E845BC8929D45AF0FB546B1E864D8222FCA236D8
```

The following example shows how to display information about WiMAX dynamic authentication keys from the HA instance:

```
[local]Redback>show mobile-ip dynamic-keys
::: Home Agent : local                Dynamic Keys    : wimax :::
SPI            : 270                  Time Remaining : 00:01:18
Care-of-Addr   : 1.1.1.2              Home-Agent     : 1.1.1.1
Key (hex)      : E845BC8929D45AF0FB546B1E864D8222FCA236D8
```

1.33 show mobile-ip dynamic-tunnel-profile

show mobile-ip dynamic-tunnel-profile [***profile-name***] [**detail**]

1.33.1 Purpose

Displays information about dynamic tunnel profiles in that context.

1.33.2 Command Mode

All modes

1.33.3 Syntax Description

profile-name	Optional. Name of a dynamic tunnel profile.
detail	Optional. Displays detailed information about all Mobile IP dynamic tunnel profiles.

1.33.4 Default

When entered without optional syntax, the **show mobile-ip dynamic-tunnel-profile** command displays all dynamic tunnels within a context and their status (in use or not in use).

1.33.5 Usage Guidelines

Use the **show mobile-ip dynamic-tunnel-profile** command to display information about a specific dynamic tunnel profile. Use the optional ***profile-name*** argument to display information about a specific dynamic tunnel profile.

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.

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 the document, *Using the CLI* .

1.33.6 Examples

The following example shows how to display the state for all dynamic tunnel profiles:

```
[local]Redback>show mobile-ip dynamic-tunnel-profile
```

```
::::: Mobile IP Dynamic Tunnel Profiles :::::

     Profile            Status

     prof1              In-use

     prof2              Not-in-use
```

The following example shows how to display detailed information for all dynamic tunnel profiles :

```
[local]Redback>show mobile-ip dynamic-tunnel-profile detail

::::: Mobile IP Dynamic Tunnel Profile: prof1 :::::

     Status             : In-use       Clear-DF       : Set

     Hold-time (secs)   : 60           Timeout (secs) : 10

     GRE MTU            : 1468         IPIP MTU:      : 1200


::::: Mobile IP Dynamic Tunnel Profile: prof2 :::::

     Status             : In-use       Clear-DF       : Not-Set

     Hold-time (secs)   : 60           Timeout (secs) : 10

     GRE MTU            : 1468         IPIP MTU:      : 1480
```

The following example shows how to display information about dynamic tunnel profile `prof1`:

```
[local]Redback>show mobile-ip dynamic-tunnel-profile prof1

::::: Mobile IP Dynamic Tunnel Profile: prof1 :::::

     Status:    In-use :                Clear-DF       : Set

     Hold-time (secs)  : 60             Timeout (secs) : 10

     GRE MTU           : 1468           IPIP MTU:      : 1200
```

1.34 show mobile-ip foreign-agent-peer

show mobile-ip foreign-agent-peer [*ip-addr*] | [**detail**]

1.34.1 Purpose

Displays information for one or all foreign-agent (FA) peers for a home-agent (HA) instance.

1.34.2 Command Mode

All modes

1.34.3 Syntax Description

ip-addr	Optional. IP address for the FA peer to be displayed.
detail	Optional. Displays detailed Mobile IP FA peer information.

1.34.4 Default

When entered without optional syntax, the **show mobile-ip foreign-agent-peer** command displays information for all FA peers.

1.34.5 Usage Guidelines

Use the **show mobile-ip foreign-agent-peer** command to display information for one or all FA peers for an HA instance. The display includes information for all tunnels to the FA peers.

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.

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 the document, *Using the CLI*.

1.34.6 Examples

The following example shows how to display Mobile IP FA peer information for an home-agent (HA) instance:

```
[local]Redback>show mobile-ip foreign-agent-peer

Foreign-Agent   Bindings     Pending   Tnls  (Up)   State
1.1.1.2         429          0         1     (1 )   Active
```

The following example shows how to display detailed Mobile IP FA peer information for an home-agent (HA) instance:

```
[local]Redback>show mobile-ip foreign-agent-peer detail

::::: Mobile IP Foreign Agent Peer: 1.1.1.2  :::::
   Agent state    : Active          Tunnel cnt (Up): 1 (1)
   Binding cnt    : 0               Pending cnt    : 0
   Authentication : DYNO-HMAC-MD5   Key Derivation : WiMAX HA Root Key
   Type           : Static
   Dynamic Tunnel Profile  : Default
   Last Resort Interface   : None
   Registration Requests
     Received       : 3               Dropped        : 0
     New requests   : 3               Renewals       : 0
   Registration Replies
     Accepted       : 1               Rejected       : 1
   Deregistration Requests
     Received       : 0               Dropped        : 0
     Deregistration Replies
     Accepted       : 0               Rejected       : 0
   Registration Revocations
     Received       : 0               Sent           : 0
     Ack Received   : 0               Ack Sent       : 0
     Recv errors    : 0 Tunnel: IPIP 4  ( Intf: @ )    Tnl dest (CoA) : 1.1.1.2  Tnl src ///
              (HA) : 1.1.1.1@local    Admin state: Up   Oper State : Up
   Cct state : Up                Cct handle : 255/24:1023:63/0/1/4    Binding count : 0  ///
               Home Slot Mask : 0x01
   Agent state     : Active            Tunnel cnt (Up): 1 (1)
```

1.35 show mobile-ip home-agent-peer

show mobile-ip home-agent-peer [*ip-addr]* | [**detail**]

1.35.1 Purpose

Displays Mobile IP information for one or all home-agent (HA) peers for a foreign-agent (FA) instance.

1.35.2 Command Mode

All modes

1.35.3 Syntax Description

ip-addr	Optional. IP address for an HA peer to be displayed.
detail	Optional. Displays detailed Mobile IP HA peer information.

1.35.4 Default

When entered without optional syntax, the **show mobile-ip home-agent-peer** command displays Mobile IP HA information for all HA peers for an FA instance.

1.35.5 Usage Guidelines

Use the **show mobile-ip home-agent-peer** command to display Mobile IP information for one or all HA peers for an FA instance. The display includes information for all tunnels to the HA peers.

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.

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 the document, *Using the CLI*.

1.35.6 Examples

The following example shows how to display Mobile IP HA peer information for all HA peers:

```
[local]Redback>show mobile-ip home-agent-peer

Home-Agent       Visitors Pending  Tnls (Up)  State
14.1.1.2         1        0        2    (1 )  Active
```

The following example shows how to display detailed Mobile IP HA peer information for all HA peers:

```
[local]Redback>show mobile-ip home-agent-peer detail

::::: Mobile IP Home Agent Peer: 1.1.1.1  :::::    Agent state: Active     Tunnel cnt (Up): 2 (1)
   VPN context id          : 0x40080004      context name    : fa-ctx
   Visitors cnt            : 0               Pending cnt     : 0
   Authentication          : DYNO-HMAC-MD5   Key Derivation : WiMAX Proprietary
   Type           : Static
   Dynamic Tunnel Profile  : Default
   Last Resort Interface   : None
   Last Resort Interface   : None
   Registration Requests
     Received       : 4               Relayed        : 3
     New requests   : 4               Renewals       : 0
     Dropped        : 0
   Registration Replies
     Received       : 2               Relayed        : 1
     Total sent     : 0               Recv errors    : 0
   Deregistration Requests      Received       : 0               Relayed        : 0
     Dropped        : 0
   Deregistration Replies
     Received       : 0               Relayed        : 0
     Total sent     : 0               Recv errors    : 0
   Registration Revocations
     Received       : 0               Sent           : 0
     Ack Received   : 0               Ack Sent       : 0
     Recv errors    : 0

Tunnel: IPIP 3  ( Intf: ha-tnl-if@fa-ctx )
    Tnl dest (HA)  : 1.1.1.1          Tnl src (CoA)  : 1.1.1.2@fa-ctx
    Admin state    : Up               per State      : Up
    Cct state      : Up               Cct handle     : 255/24:1023:63/0/1/3
    Visitor count  : 0
Tunnel: GRE 1  ( Intf:  )
    Tnl dest (HA)  : 1.1.1.1          Tnl src (CoA)  : 1.1.1.2@fa-ctx
    Admin state    : Up               Oper State     : Down
    Cct state      : Up               Cct handle     : 255/4:1023:63/0/1/1
    Visitor count  : 0
```

1.36 show mobile-ip interface

show mobile-ip interface [***if-name***] | [**detail**]

1.36.1 Purpose

Displays information for one or all Mobile IP interfaces.

1.36.2 Command Mode

All modes

1.36.3 Syntax Description

if-name	Optional. Name of the interface for which Mobile IP information is displayed.
detail	Optional. Displays detailed Mobile IP interface information.

1.36.4 Default

When entered without optional syntax, the **show mobile-ip interface** command displays information for all Mobile IP interfaces.

1.36.5 Usage Guidelines

Use the **show mobile-ip interface** command to display information for one or all Mobile IP interfaces.

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.

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 the document, *Using the CLI*.

1.36.6 Examples

The following example shows how to display information for all interfaces used by Mobile IP services:

```
[local]Redback>show mobile-ip interface


Interface       Circuit                 Service Visitors Pndg State

foreign-sub     3/2                     FA      1        0    Up
```

The following example shows how to display detailed information for all interfaces:

```
[local]Redback>show mobile-ip interface detail

Mobile IP Interface : foreign-sub

  Service type: FA                    Oper state     : Up

  Circuit     : 3/2                   Cct handle     : 3/2:1023:63/1/1/3

  Cct state   : Up
```

```
Visitor info
  Registered      : 1               Pending         : 0
Agent Advertisements
  Adv lifetime    : 1800            Reg Lifetime    : 1800
  Min interval    : 450             Max interval    : 600
  Seq number      : 172             Adv flags       : R..F.G.T..
  Elapsed time    : 00:06:42        Next adv (sec)  : 96
  Sent            : 173             Sent on Solicit: 0
  Sent Revocation: 0
Agent Solicitations
  Received        : 0               Recv errors     : 0
Registration Requests
  Received        : 800             Relayed         : 800
  New requests    : 0               Renewals        : 0
Registration Replies
  Received        : 0               Relayed         : 800
  Total sent      : 0               Recv errors     : 0
Registration Revocations
  Received        : 0               Sent            : 0
  Ack Received    : 0               Ack Sent        : 0
  Recv errors     : 0
IEEE LLC XID
  Received        : 0               Errors          : 0
```

1.37 show mobile-ip local-address

show mobile-ip local-address [*interface-name* [*context-name*]] **detail**

1.37.1 Purpose

Displays home agent (HA) instance local address information for the specified interface or all local address interfaces.

1.37.2 Command Mode

All modes

1.37.3 Syntax Description

interface-name	Optional. Name of an interface to be displayed.
context-name	Optional. Name of a context to be displayed.
detail	Optional. Displays detailed local address information.

1.37.4 Default

When entered without optional syntax, the **show mobile-ip local-address** command displays all local address interfaces for the HA instance.

1.37.5 Usage Guidelines

Use the **show mobile-ip local-address** command to display local address information for the specified interface or all local address interfaces for the HA instance.

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.

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 the document, *Using the CLI*.

1.37.6 Examples

The following example shows how to display information about the Mobile IP services local address for an HA instance:

```
[local]Redback#show mobile-ip local-address

Interface       Local-Address   Status
to_fa          1.1.1.1          Up
```

1.38 show mobile-ip log

show mobile-ip log [**aaa** [**error** | **rx** | **tx**] | [**error** | **ism** | **rx** | **tx**] | **malformed**]

1.38.1 Purpose

Displays log information for Interface and Circuit State Manager (ISM) events or malformed packets events. It also displays authentication, authorization, and accounting (AAA) events.

1.38.2 Command Mode

All modes

1.38.3 Syntax Description

aaa	Optional. Displays AAA log.
error	Optional. Displays errors that occurred when sending or receiving events between Mobile IP and an AAA server or a FA instance, a HA instance, and an ISM.
rx	Optional. Displays all events received from ISM or AAA.
tx	Optional. Displays all events sent to ISM or AAA.
ism	Optional. Displays ISM log.
malformed	Optional. Displays malformed packet log. The malformed packets are displayed in hexadecimal format.

1.38.4 Default

None

1.38.5 Usage Guidelines

Use the **show mobile-ip log** command to display logging information for AAA events, ISM events, or malformed packets events.

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.

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 the document, *Using the CLI*.

1.38.6 Examples

The following displays log information for AA:

```
[local]Redback#show mobile-ip log aaa

MIP AAA log messages (6 total entries):


    0:  Jul 6 10:57:42 MIP AAA TX, rc: 0


        MIP AAA Event: Verify Subscriber EOF, reason: 0

        cct_handle: Cct invalid, aaa_idx: 0

        IP Addr: 0.0.0.0, nai: None

        ctx id: 0x0


    1:  Jul 6 10:57:42 MIP AAA RX, rc: 0


        MIP AAA Event: Verify EOF, reason: 0

        cct_handle: Cct invalid, aaa_idx: 0

        IP Addr: 0.0.0.0, nai: None
```

```
    ctx id: 0x0, rcv_ctx_id: 0x0

2:  Jul 6 10:58:31 MIP AAA TX, rc: 1

    MIP AAA Event: Auth Request , reason: 0
    cct_handle: 255/26:1023:63/11/1/1, aaa_idx: 0
    IP Addr: 0.0.0.0, nai: shah1
    ctx id: 0x40080001

3:  Jul 6 10:58:31 MIP AAA RX, rc: 0

    MIP AAA Event: Auth Ok, reason: 0
    cct_handle: 255/26:1023:63/11/1/1, aaa_idx: 1610612755
    IP Addr: 2.2.2.31, nai: shah1
    ctx id: 0x40080001, rcv_ctx_id: 0x40080001

4:  Jul 6 10:58:31 MIP AAA TX, rc: 0

    MIP AAA Event: Session UP , reason: 0
    cct_handle: 255/26:1023:63/11/1/1, aaa_idx: 1610612755
    IP Addr: 0.0.0.0, nai: None
    ctx id: 0x0

5:  Jul 6 11:02:40 MIP AAA TX, rc: 0
```

```
MIP AAA Event: Session Down , reason: 0

cct_handle: 255/26:1023:63/11/1/1, aaa_idx: 1610612755

IP Addr: 0.0.0.0, nai: None

ctx id: 0x40080001
```

1.39 show mobile-ip statistics tunnel

show mobile-ip statistics tunnel

1.39.1 Purpose

Displays statistics related to client interaction between Mobile IP and the tunnel manager.

1.39.2 Command Mode

All modes

1.39.3 Syntax Description

This command has no keywords or arguments.

1.39.4 Default

None

1.39.5 Usage Guidelines

Use the **show mobile-ip statistics tunnel** command to display statistics related to client interaction between Mobile IP and the tunnel manager in support of dynamic tunnel management. The statistics includes counters for messages and events related to dynamic tunnel creation, modification, and deletion.

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.

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 the document, *Using the CLI*.

1.39.6 Examples

The following example shows how to display statistics related to tunnel manager interaction in support of dynamic tunnel management:

```
[local]Redback>show mobile-ip statistics tunnel

Mobile IP tunnel statistics

IPC Msgs In                : 0          Reg Msgs Sent             : 3

Reg Msgs Send Failed       : 1          De-reg Msgs Sent          : 0

De-reg Msgs Send Failed    : 0          EOF Msgs Sent             : 2

EOF Msgs Send Failed       : 0          Tnl Add Msgs Sent         : 0

Tnl Add Msgs Send Failed   : 0          Tnl Del Msgs Sent         : 0

Tnl Del Msgs Send Failed   : 0          Tnl Set Msgs Sent         : 0

Tnl Set Msgs Send Failed   : 0          Process Down              : 0

Process Up                 : 1          Pending Events            : 0

Pending Tunnel Add         : 0
```

1.40 show mobile-ip tunnel

show mobile-ip tunnel [**all-contexts**] [**static** | **dynamic**] [**details**]

1.40.1 Purpose

Displays information about static and dynamic tunnels used for Mobile IP services.

1.40.2 Command Mode

All modes

1.40.3 Syntax Description

all-contexts	Optional. Displays information about static and dynamic tunnels used for Mobile IP services in all contexts.
static	Optional. Displays information about static tunnels used for Mobile IP services within a context.
dynamic	Optional. Displays information about dynamic tunnels used for Mobile IP services within a context.
details	Optional. Displays detailed information about static and dynamic tunnels used for Mobile IP services within a context.

1.40.4 Default

Displays information about static and dynamic tunnels for Mobile IP within a context.

1.40.5 Usage Guidelines

Use the **show mobile-ip tunnel** command to display information about static and dynamic tunnels used for Mobile IP services. When entered without optional syntax, the **show mobile-ip tunnel** command displays information about static and dynamic tunnels registered with Mobile IP in the context within which you issue this command. Dynamic and static options display relevant information within a context (unless the **all-contexts** keyword is specified).

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.

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 the document, *Using the CLI*.

1.40.6 Examples

The following example shows how to display detailed information about tunnels used for Mobile IP services:

```
[local]Redback>show mobile-ip tunnel detail
Tunnel: IPIP 1  ( Interface: subif@local )
    Remote IP      : 1.1.1.2        Local IP       : 1.1.1.1@local
    Admin state    : Up             Oper State     : Up
    Cct state      : Up             Cct handle     :255/24:1023:63/0/1/1
    Tnl State      : Up             Tnl time left  : N/A
    Pndg req cnt   : 0              Binding count  : 1
    Home Slot Mask : 0x01 Tunnel: GRE 4  ( Interface: Unbound )
    Remote IP      : 1.1.1.2         Local IP      : 1.1.1.1@local
    Admin state    : Down            Oper State    : Down
    Cct state      : Up              Cct handle    : 255/4:1023:63/0/1/4
    Tnl State      : Initial         Tnl time left : N/A
    Pndg req cnt   : 0               Binding count : 0
    Home Slot Mask : 0x01
```

The following example shows how to display detailed information about static tunnels used for Mobile IP services:

```
[local]Redback>show mobile-ip tunnel static detail
Tunnel: GRE 4  ( Interface: Unbound )
    Remote IP      : 1.1.1.2         Local IP      : 1.1.1.1@local
    Admin state    : Down            Oper State    : Down
    Cct state      : Up              Cct handle    : 255/4:1023:63/0/1/4
    Tnl State      : Initial         Tnl time left : N/A
    Pndg req cnt   : 0               Binding count : 0
    Home Slot Mask : 0x01
```

The following example shows how to display detailed information about dynamic tunnels used for Mobile IP services:

```
[local]Redback>show mobile-ip tunnel dynamic detail
Tunnel: IPIP 1  ( Interface: subif@local )
    Remote IP      : 1.1.1.2         Local IP      : 1.1.1.1@local
    Admin state    : Up              Oper State    : Up
    Cct state      : Up              Cct handle    :255/24:1023:63/0/1/1
    Tnl State      : Up              Tnl time left : N/A
    Pndg req cnt   : 0               Binding count : 1
    Home Slot Mask : 0x01
```

The following example shows how to display detailed information about all dynamic tunnels used for Mobile IP services in all contexts:

```
[local]Redback>show mobile-ip tunnel all-contexts dynamic detail

Tunnel: IPIP 1  ( Interface: subif@local )

    Remote IP      : 1.1.1.2       Local IP     : 1.1.1.1@local

    Admin state    : Up            Oper State   : Up

    Cct state      : Up            Cct handle   : 255/24:1023:63/0/1/1

    Tnl State      : Up            Tnl time left: N/A

    Pndg req cnt   : 0             Binding count: 1

    Home Slot Mask : 0x01

Tunnel: IPIP 2   Interface: foo1@fa-ctx )

    Remote IP      : 1.1.1.1       Local IP     : 1.1.1.2@fa-ctx

    Admin state    : Up            Oper State   : Up

    Cct state      : Up            Cct handle   : 255/24:1023:63/0/1/2

    Tnl State      : Up            Tnl time left: N/A

    Pndg req cnt   : 0             Visitor count: 1
```

1.41 show mobile-ip visitor

To display a specific registered visitor, the command syntax is:

show mobile-ip visitor {{**mac-address** ***mac-addr***} | {**nai** ***string***} | {**circuit** ***circuit-handle***}}

To display registered visitors with inactive sessions, the command syntax is:

show mobile-ip visitor inactive

To display registered visitors having a specific IP address in the home domain (HoA) and optionally, a specific home-agent (HA) address, the command syntax is:

show mobile-ip visitor ***ip-addr*** [**home-agent-peer** ***ha-ip-addr***]

To display registered visitors for a care-of-address (CoA) interface, a HA peer address, or a Mobile IP interface, the command syntax is:

show mobile-ip visitor [**care-of-address** *coa-ip-addr*] [**home-agent-peer** *ha-ip-addr*] [**interface** *if-name*] [**detail**]

1.41.1 Purpose

Displays a list of Mobile IP visitors on a foreign-agent (FA) instance.

1.41.2 Command Mode

All modes

1.41.3 Syntax Description

mac-address *mac-addr*	Displays the information for the visitor identified by its Medium Access Control (MAC) address.
nai *string*	Displays the information for the visitor identified by its Network Access Identifier (NAI).
circuit *circuit-handle*	Displays the information for the visitor identified by the local circuit handle.
inactive	Displays the information for visitors with inactive sessions.
ip-addr	Home address (HoA) of the visitor to be displayed.
home-agent-peer *ip-addr*	HA peer IP address for visitors to be displayed.
care-of-address *coa-ip-addr*	IP address for a CoA interface for visitors for the care-of-address and interface to be displayed.
interface *if-name*	Name of access interface of visitors to be displayed.
detail	Displays detailed Mobile IP visitor information.

1.41.4 Default

When entered without optional syntax, the **show mobile-ip visitor** command displays all visitors to an FA instance.

1.41.5 Usage Guidelines

Use the **show mobile-ip visitor** command to display a list of Mobile IP visitors to an FA instance.

Use the optional constructs to filter the list by:

- Specific HA peer, MAC address, or NAI

- Specific HoA
- Specific CoA interface
- Specific interface through which the visitor is connected

The list does not include those visitors with pending registrations. For information about the visitors and pending registrations, see the **show mobile-ip visitor pending** command.

The following table describes some of the fields displayed by the **show mobile-ip visitor detail** command.

Table 7 Fields Displayed by the show mobile-ip visitor detail Command

Field Name	Description
`Home Slot`	The `Home Slot` field displays the slot of the FA subscriber circuit. The slot on which the FA subscriber circuits gets created is referred to as the home slot. This slot is typically the slot associated with the access circuit via which the MN registered for the very first time.
`Home Slot Moves`	The `Home Slot Moves` field displays the number of times a subscriber circuit's home slot changed. The Home Slot assigned to the subscriber circuit may be changed if the currently assigned slot fails. The change in home slot is referred to as a home slot move.
`Visitor Circuit`	This field displays the visitor circuit handle which is the internal identifier assigned to the FA subscriber circuit, that is, the identifier assigned to the visitor circuit.
`State`	The `State` field displays whether the subscriber session on the visitor circuit is up or down.

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.

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 the document, *Using the CLI*.

1.41.6 Examples

The following example shows how to display information for all Mobile IP visitors to an FA instance. The visitor circuit ID in the `Visitor-Cct` field is `3:`

```
[local]Redback>show mobile-ip visitor
Visitor     NAI       Home Agent     Care-of-Address Visitor-Cct
2.2.2.3     user1     14.1.1.2       14.1.1.1        MIP-FA 3
```

The **show mobile-ip visitor detail** command displays detailed information for all Mobile IP visitors; however, in this example only one visitor, namely NAI `abc@rback` is found:

```
[local]Redback>show mobile-ip visitor detail

::::: Mobile IP Visitor  2.2.2.1  :::::
MAC-address     : 01:00:5e:00:00:01  NAI           : abc@rback
Access Intf     : to_mn              Access Circuit : 3/2:1023:63/1/1/5
Home Agent      : 1.1.1.1            Care-of Address: 1.1.1.2
HA Tunnel Cct   : ipip 3             HA Tunnel Intf : ha-tnl-if
Lifetime (secs): 1800                Rem lifetime   : 1442
Up time         : 00:06:57           Registration Id: cd52a8be.3
UDP port        : 4060               Reg Flags      : .B....T.
Home Slot       : 3                  Home Slot Moves: 0
Visitor SPG     : 0                  Visitor Circuit: 255/29:1023:63/11/2/3
Revocation      : Disabled
Tunnel Circuit : 255/24:1023:63/0/1/3
State           : Up
```

1.42 show mobile-ip visitor pending

show mobile-ip visitor pending [**home-agent-peer** *ha-ip-addr*] [**care-of-address** *coa-ip-addr*] [**interface** *if-name*] [**detail**]

1.42.1 Purpose

Displays a list of pending Mobile IP visitors on a foreign-agent (FA) instance.

1.42.2 Command Mode

All modes

1.42.3 Syntax Description

home-agent-peer *ha-ip-addr*	Optional. IP address for a home-agent (HA) peer for pending visitors.
care-of-address *coa-ip-addr*	Optional. IP address for a care-of-address (CoA) peer for pending visitors to be displayed for the CoA and HA peer.
interface *if-name*	Name of access interface of pending visitors to be displayed.
detail	Optional. Displays detailed Mobile IP pending visitor information.

1.42.4 Default

When entered without optional syntax, the **show mobile-ip visitor pending** command displays all pending visitors on an FA instance.

1.42.5 Usage Guidelines

Use the **show mobile-ip visitor pending** command to display a list of pending Mobile IP visitors to an FA instance.

Use the optional **home-agent-peer** ***ha-ip-addr*** or **care-of-address** ***coa-ip-addr*** construct to list only the pending registrations for a specific HA peer or CoA peer, respectively.

The list does not include visitors whose registration is not pending.

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.

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 the document, *Using the CLI*.

1.42.6 Examples

The following example shows how to display all pending Mobile IP visitors to an FA instance:

```
[local]Redback>show mobile-ip visitor pending

Visitor    NAI      Home Agent      Care-of-Address Access Cct
2.2.2.4    user1    14.1.1.2        14.1.1.1        3/2
```

The following example shows how to display detailed information for all pending Mobile IP visitors to an FA instance:

```
[local]Redback>show mobile-ip visitor pending detail
```

```
::::: Mobile IP Visitor  2.2.2.4  :::::

  MAC-address     : 01:00:5e:00:00:01  NAI             : user1

  Access Circuit  : 3/2                Access Intf     : foreign-sub

  Home Agent      : 14.1.1.2           Care-of Address: 14.1.1.1

  HA Tunnel Cct   : gre 2              HA Tunnel Intf  : gre-tunnel

  Lifetime (secs): 1800                Ageout (secs)   : 4

  Up time         : 00:00:03           Registration Id: c9c844efd.2

  UDP port        : 4060               Reg Flags       : SB..G.T.
```

1.43 show mpls

show mpls {**detail** | **interface** [**detail**] | **ism** [**detail**] | **label-mapping** [*space-id* | **bgp** [**detail**] | **detail** | **ldp** [**detail**] | **mpls-static** [**detail**] | **rsvp** [**detail**]] | **log** {**ism_tx** | {**msg_rx** | **msg_tx**} [**bgp** | **ldp** | **mpls-static** | **rsvp**] | **ppa_tx** | **rib_tx**} | **lsp** [**address** *ip-addr* [**detail**] | **bypass** | **detail** | **ldp** [**detail**] | **mpls-static** [**detail**] | **rsvp** [**detail**]] | **port pseudowire** [**detail**] | **summary**}

1.43.1 Purpose

Displays label manager (LM) information.

1.43.2 Command Mode

All modes

1.43.3 Syntax Description

detail	Displays detailed Multiprotocol Label Switching (MPLS) information. When used as an option, displays detailed information for the specified LM subset.
interface	Displays MPLS interface information.
ism	Displays Interface and Circuit State Manager (ISM) statistics.
label-mapping	Displays label mapping information.

space-id	Optional. Label space ID number. When specified, displays label mapping information only for the specified label space. The range of values is 0 to 65,535.
bgp	Optional. When used with the **label mapping** keyword, displays only Border Gateway Protocol (BGP) label mapping information. When used with the **log msg_rx** construct, or the **log msg_tx** keyword, displays only event logging information sent to, or received from, BGP clients. When used with the **lsp** keyword, displays label-switched path (LSP) information only for BGP entries.
ldp	Optional. When used with the **label mapping** keyword, displays only Label Distribution Protocol (LDP) label mapping information. When used with the **log msg_rx** construct, or the **log msg_tx** keyword, displays only event logging information sent to, or received from, LDP clients. When used with the **lsp** keyword, displays LSP information only for LDP entries.
mpls-static	Optional. When used with the **label mapping** keyword, displays only MPLS static LSP mapping information. When used with the **log msg_rx** construct, or the **log msg_tx** keyword, displays only event logging information sent to, or received from, MPLS static clients. When used with the **lsp** keyword, displays LSP information only for MPLS static entries.
port pseudowire	Optional. Displays LM information about MPLS port pseudowires.
rsvp	Optional. When used with the **label mapping** keyword, displays only Resource Reservation Protocol (RSVP) label mapping information. When used with the **log msg_rx** construct, or the **log msg_tx** keyword, displays only event logging information sent to, or received from, RSVP clients. When used with the **lsp** keyword, displays LSP information only for RSVP entries.
log	Displays event logging information.
ism_tx	Displays event messages sent to the ISM.
msg_rx	Displays event messages received by clients.
msg_tx	Displays event messages sent to clients.
ppa_tx	Displays event messages sent to Packet Processing ASICs (PPAs).
rib_tx	Displays event messages sent to the Routing Information Base (RIB).
lsp	Displays LSP information.

address *ip-addr*	Optional. Displays information for LSPs with the specified endpoint.
bypass	Optional. Displays bypass LSP information.
summary	Displays summary MPLS information.

1.43.4 Default

None

1.43.5 Usage Guidelines

Use the **show mpls** command to display LM 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.

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 the document, *Using the CLI*. For information about troubleshooting MPLS, see the *MPLS Troubleshooting* document.

1.43.6 Examples

The following example displays LM information:

```
[local]Redback>show mpls


Context id:             : 0x40080001
Traffic-eng flags:      : default-te
Feature path flags:     :
```

The following example displays ISM statistics:

```
[local]Redback>show mpls ism
```

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

  ID: I/F   : state 3, cfg 1, IP cfg 1,
      Cct   : state 0, Cct cfg 0
      Port  : state 0, Port cfg 0
      Lg    : cfg 0
      L2tp  : sesscfg 0
      Hdr   : only 1
      GrpMac: cfg 0

  CCT SUBID: down 0, up 0, create 0, del 0, par_up 0
        CFG: eth 0, ocn 0, 1q 0, tun 0, fr 0, ppp 0
             atm 0, lm 0, l2tp 0, cfg 0
     LG CFG: hdlc 0, eth 0
        SUB: clear 0, down 0, down_cplt 0

  I/F SUBID: down 0, up 1, create 1, del 0, bind 1, unbind 0
        CFG: cfg 1, ipcfg 1

  PORT SUBID: down 0, up 0, del 0
         CFG: eth 0, stsn 0

  LG SUBID: grp cfg 0, ungrp cfg 0, prot grp cfg 0
            prot cct cfg 0, prot grp action 0
```

```
   L2TPSESS SUBID: cfg 0

   GRPMAC: UCAST: reg 0, dereg 0
           MCAST: reg 0, dereg 0
```

The following example displays label mapping information:

```
[local]Redback>show mpls label-mapping

Codes : S - MPLS-Static, R - RSVP, L - LDP, B - BGP

Type    In Label  Action    Direct Next hop     Out Label       Adjacency Id
S       125       pop                           0               0x0
S       25        swap      10.2.1.2            35              0x0
S       135       swap      10.1.1.2            125             0x0
R       262144    php-push  10.2.1.2            3               0x0
R       262145    php       10.1.1.2            3               0x930001c
```

The following example displays event messages sent to the ISM:

```
[local]Redback>show mpls log ism_tx

There are total of 3 log entries in buffer

    1:  Mar 29 13:26:47
        IPC_ISM2_CLIENT_REG: for intf_grid 10000001

    2:  Mar 29 13:26:47
        ISM2_EVENT_E_CCT_CREATE: cct handle 255/3:1023:63/2/1/2
        cct_hdr_flags 4
        ISM2_EVENT_E_CCT_LMCFG: cct handle 255/3:1023:63/2/1/2,
        cct_hdr_flags 0, lm_flags 0, context_id 40080001,
        ls_egress 10.2.1.2, intf_grid 0, adj_id 300011, slot 2,ver 1
        ISM2_EVENT_E_CCT_UP: cct handle 255/3:1023:63/2/1/2
        cct_hdr_flags 0

    3:  Mar 29 13:26:47
        ISM2_EVENT_E_CCT_CREATE: cct handle 255/14:1023:63/2/1/1
        cct_hdr_flags 4
        ISM2_EVENT_E_CCT_LMCFG: cct handle 255/14:1023:63/2/1/1,
        cct_hdr_flags 0, lm_flags 0, context_id 40080001,
        ls_egress 0.0.0.0, intf_grid 0, adj_id 0, slot 0,ver 1
        ISM2_EVENT_E_CCT_UP: cct handle 255/14:1023:63/2/1/1
        cct_hdr_flags 0
```

The following example displays event messages received by clients:

```
[local]Redback>show mpls log msg_rx

There are total of 4 log entries in buffer

    1:  Mar 29 13:26:47  from: MPLS-STATIC
        REGISTER

    2:  Mar 29 13:26:47  from: RSVP
        REGISTER

    3:  Mar 29 13:26:47  from: MPLS-STATIC
        SET NEXTHOP:
        Egress 10.2.1.2, context 0x40080001
        nhop count 1 proto 1 flags 0x0,
        fec_type 1, ribtbl_id 40090001, lsp_prlen 32
        nhop 1:: LSP Alloc:
          upstream label 0
          ls_context 40080001, ls_spcid 0
          LSP tnlid 1, LSP cct 255/3:1023:63/2/1/2
          out cct 3/7:1023:63/1/1/5, encap-type 1000000
          lcontext 0, ltblid 0
          ip addr 10.1.1.1, out intf grid 10000001, flags 2
          nhop_adjid 0, nhop alt adjid 0, bypass label 0
          out lbl stack cnt 1
          Label stack:
```

```
            label 25, action: PUSH

4:  Mar 29 13:26:47  from: MPLS-STATIC
    SET NEXTHOP:
    Egress 0.0.0.0, context 0x0
    nhop count 1 proto 1 flags 0x0,
    fec_type 0, ribtbl_id 0, lsp_prlen 0
    nhop 1:: Label Alloc:
      upstream label 125
      ls_context 40080001, ls_spcid 0
      LSP tnlid 0, LSP cct Cct invalid
      out cct Cct invalid, encap-type 0
      lcontext 0, ltblid 0
      ip addr 0.0.0.0, out intf grid 0, flags 1
      nhop_adjid 0, nhop alt adjid 0, bypass label 0
      out lbl stack cnt 1
      Label stack:
            label 0, action: POP
```

The following example displays event messages sent by PPAs:

```
[local]Redback>show mpls log ppa_tx

There are total of 3 log entries in buffer

    1:  Mar 29 13:26:47
        LMSG_UPD_CIRCUIT: slot 3, asid IPPA, circuit 3/7:1023:63/1/1/5,
        sense 1, ls_context 40080001, ls_spcid 0, flags 0,
        ver 1, type 3, len 32

    2:  Mar 29 13:26:47
        LMSG_UPD_LBLSW: slot 3, asid IPPA, context 40080001,
        spcid 0, label 125, action pop, adj_id 0,
        nexthop cct Cct invalid,
        alternative adj_id 0, bypass label 0,
        alternative lsp cct Cct invalid, bypass_action NONE,
        lookup_ctx 0, lookup_tblid 0, sw_push_lbl 0
        flags 0, ver 1, type 1, len 68

    3:  Mar 29 13:26:47
        LMSG_UPD_ADJ: slot 3, asid EPPA, dcnhop 10.1.1.1, adj_id 0,
        nhcc 3/7:1023:63/1/1/5, lspcct 255/3:1023:63/2/1/2,
        dcnhop encaps 1000000, context 40080001, inst 0,
        flags 2, lbl stack cnt 1, ver 1, type 2, len 60
```

The following example displays event messages sent by the RIB:

```
[local]Redback>show mpls log rib_tx

There are total of 1 log entries in buffer

  1:  Mar 29 13:26:47
      ADD, flags 0x22, prefix 10.2.1.2, len 32
      context 40080001 dist 7 nhop, cnt 1
      nhop 0:: add 0.0.0.0, intf grid 4f010003, cct 255/3:1023:63/2/1/2
```

The following example displays LSP information:

```
[local]Redback>show mpls lsp

Codes : S - MPLS-Static, R - RSVP, L - LDP, B - BGP

Type Endpoint          Direct Next-hop  Out Label    Adjacency Id      State
R    10.2.1.2/32       10.1.1.1         0            0x9300013         Up
R    10.2.1.2/32       10.1.1.1         262144       0x9300014         Down
```

The following example displays detailed LPS information:

```
[local]Redback>show mpls lsp detail
-------------------------------------------------------------
Type                : LDP             LSP Circuit         : 255/3:511:63:31/0/1/5
LSP state           : Up              LSP name            : N/A
LSP Role:           : Primary
Egress              : 11.1.1.0/24     Client ID           : 3
Traffic-Eng         : default         RIB Table ID        : 0x0
Direct Next Hop     : 14.1.1.1        Direct Next Hop Cct : 13/1:511:63:31/1/1/8201
Tunnel ID           : 0x0             Flags               : 0xc04010
Out Label Stack     : 3
Special Procedures  : PHP
Adjacency ID        : 0xc300002       Direct Next Hop Cct : 13/1:511:63:31/1/1/8201
Tx Packets          : 0               Tx Bytes            : 0

-------------------------------------------------------------
Type                : LDP             LSP Circuit         : 255/3:511:63:31/0/1/6
LSP state           : Up              LSP name            : N/A
LSP Role:           : Primary
```

```
Egress              : 11.11.11.11/32  Client ID           : 3
Traffic-Eng         : default         RIB Table ID        : 0x0
Direct Next Hop     : 14.1.1.1        Direct Next Hop Cct : 13/1:511:63:31/1/1/8201
Tunnel ID           : 0x0             Flags               : 0xc04010
Out Label Stack     : 3
Special Procedures  : PHP
Adjacency ID        : 0xc300004       Direct Next Hop Cct : 13/1:511:63:31/1/1/8201
Tx Packets          : 0               Tx Bytes            : 0

------------------------------------------------------------
Type                : RSVP            LSP Circuit         : 255/3:511:63:31/0/1/4
LSP state           : Up              LSP name            : primary-dev4-bypass
LSP Role:           : Bypass
Egress              : 13.13.13.13/32  Client ID           : 2
Traffic-Eng         : default         RIB Table ID        : 0x0
Direct Next Hop     : 16.1.1.2        Direct Next Hop Cct : 9/3:511:63:31/1/1/8205
Tunnel ID           : 0x3             Flags               : 0x6885010
Out Label Stack     : 3
Special Procedures  : PHP
Bypass LSP:
     Nexthop        : 15.1.1.2        IF Grid             : 0x10040003
     Client id mask : 0x7
Adjacency ID        : 0x8300000       Direct Next Hop Cct : 9/3:511:63:31/1/1/8205
Tx Packets          : 0               Tx Bytes            : 0

------------------------------------------------------------
Type                : RSVP            LSP Circuit         : 255/3:511:63:31/0/1/2
LSP state           : Up              LSP name            : primary-dev4
LSP Role:           : Primary
Egress              : 14.14.14.14/32  Client ID           : 2
Traffic-Eng         : default         RIB Table ID        : 0x0
Direct Next Hop     : 15.1.1.2        Direct Next Hop Cct : 13/7:511:63:31/1/1/8203
Tunnel ID           : 0x1             Flags               : 0x7844014
Alt label           : 0x3             Alt action          : PHP
Backup LSP          : primary-dev4-backup
Alt Egress          : 16.1.1.2        Alt LSP Cct         : 255/3:511:63:31/0/1/1
Shortcuts           : TUNNEL  IGP
Out Label Stack     : 458753
Special Procedures  :
Adjacency ID        : 0xc300000       Direct Next Hop Cct : 13/7:511:63:31/1/1/8203
Tx Packets          : 3407312         Tx Bytes            : 218069999

------------------------------------------------------------
Type                : RSVP            LSP Circuit         : 255/3:511:63:31/0/1/1
LSP state           : Up              LSP name            : primary-dev4-backup
LSP Role:           : Backup
Egress              : 14.14.14.14/32  Client ID           : 2
Traffic-Eng         : default         RIB Table ID        : 0x0
Direct Next Hop     : 16.1.1.2        Direct Next Hop Cct : 9/3:511:63:31/1/1/8205
Tunnel ID           : 0x1             Flags               : 0x2884010
Out Label Stack     : 458755
Special Procedures  :
Adjacency ID        : 0x8300001       Direct Next Hop Cct : 9/3:511:63:31/1/1/8205
Tx Packets          : 0               Tx Bytes            : 0

------------------------------------------------------------
Type                : LDP             LSP Circuit         : 255/3:511:63:31/0/1/11
LSP state           : Up              LSP name            : N/A
LSP Role:           : Primary
Egress              : 14.14.14.14/32  Client ID           : 3
Traffic-Eng         : default         RIB Table ID        : 0x0
Direct Next Hop     : 14.14.14.14     Direct Next Hop Cct : 255/3:511:63:31/0/1/2
LDPoRSVP            : yes             RSVP LSP(s)         : 255/3:511:63:31/0/1/2
Tunnel ID           : 0x0             Flags               : 0xc04030
Out Label Stack     : 0
Tx Packets          : N/A             Tx Bytes            : N/A

------------------------------------------------------------
Type                : LDP             LSP Circuit         : 255/3:511:63:31/0/1/12
LSP state           : Up              LSP name            : N/A
LSP Role:           : Primary
Egress              : 15.15.15.15/32  Client ID           : 3
Traffic-Eng         : default         RIB Table ID        : 0x0
Direct Next Hop     : 14.14.14.14     Direct Next Hop Cct : 255/3:511:63:31/0/1/2
LDPoRSVP            : yes             RSVP LSP(s)         : 255/3:511:63:31/0/1/2
Tunnel ID           : 0x0             Flags               : 0xc04030
```

```
Out Label Stack     : 524294
Tx Packets          : N/A             Tx Bytes            : N/A

------------------------------------------------------------
Type                : LDP             LSP Circuit         : 255/3:511:63:31/0/1/13
LSP state           : Up              LSP name            : N/A
LSP Role:           : Primary
Egress              : 19.1.1.0/24     Client ID           : 3
Traffic-Eng         : default         RIB Table ID        : 0x0
Direct Next Hop     : 14.14.14.14     Direct Next Hop Cct : 255/3:511:63:31/0/1/2
LDPoRSVP            : yes             RSVP LSP(s)         : 255/3:511:63:31/0/1/2
Tunnel ID           : 0x0             Flags               : 0xc04030
Out Label Stack     : 0
Tx Packets          : N/A             Tx Bytes            : N/A

------------------------------------------------------------
Type                : LDP             LSP Circuit         : 255/3:511:63:31/0/1/14
LSP state           : Up              LSP name            : N/A
LSP Role:           : Primary
Egress              : 20.1.1.0/24     Client ID           : 3
Traffic-Eng         : default         RIB Table ID        : 0x0
Direct Next Hop     : 14.14.14.14     Direct Next Hop Cct : 255/3:511:63:31/0/1/2
LDPoRSVP            : yes             RSVP LSP(s)         : 255/3:511:63:31/0/1/2
Tunnel ID           : 0x0             Flags               : 0xc04030
Out Label Stack     : 524295
Tx Packets          : N/A             Tx Bytes            : N/A
```

The following example displays detailed LSP information for RSVP entries:

```
[local]Redback>show mpls lsp rsvp detail
------------------------------------------------------------
Type                : RSVP              LSP Circuit         : 255/3:511:63:31/0/1/4
LSP state           : Up                LSP name            : primary-dev4-bypass
LSP Role:           : Bypass
Egress              : 13.13.13.13/32    Client ID           : 2
Traffic-Eng         : default           RIB Table ID        : 0x0
Direct Next Hop     : 16.1.1.2          Direct Next Hop Cct : 9/3:511:63:31/1/1/8205
Tunnel ID           : 0x3               Flags               : 0x6885010
Out Label Stack     : 3
Special Procedures  : PHP
Bypass LSP:
     Nexthop        : 15.1.1.2          IF Grid             : 0x10040003
     Client id mask : 0x7
Adjacency ID        : 0x8300000         Direct Next Hop Cct : 9/3:511:63:31/1/1/8205
Tx Packets          : 0                 Tx Bytes            : 0

------------------------------------------------------------
Type                : RSVP              LSP Circuit         : 255/3:511:63:31/0/1/2
LSP state           : Up                LSP name            : primary-dev4
LSP Role:           : Primary
Egress              : 14.14.14.14/32    Client ID           : 2
Traffic-Eng         : default           RIB Table ID        : 0x0
Direct Next Hop     : 15.1.1.2          Direct Next Hop Cct : 13/7:511:63:31/1/1/8203
Tunnel ID           : 0x1               Flags               : 0x7844014
Alt label           : 0x3               Alt action          : PHP
Backup LSP          : primary-dev4-backup
Alt Egress          : 16.1.1.2          Alt LSP Cct         : 255/3:511:63:31/0/1/1
Shortcuts           : TUNNEL  IGP
Out Label Stack     : 458753
Special Procedures  :
Adjacency ID        : 0xc300000         Direct Next Hop Cct : 13/7:511:63:31/1/1/8203
Tx Packets          : 3407312           Tx Bytes            : 218069999

------------------------------------------------------------
Type                : RSVP              LSP Circuit         : 255/3:511:63:31/0/1/1
LSP state           : Up                LSP name            : primary-dev4-backup
LSP Role:           : Backup
Egress              : 14.14.14.14/32    Client ID           : 2
Traffic-Eng         : default           RIB Table ID        : 0x0
Direct Next Hop     : 16.1.1.2          Direct Next Hop Cct : 9/3:511:63:31/1/1/8205
Tunnel ID           : 0x1               Flags               : 0x2884010
Out Label Stack     : 458755
Special Procedures  :
Adjacency ID        : 0x8300001         Direct Next Hop Cct : 9/3:511:63:31/1/1/8205
Tx Packets          : 0                 Tx Bytes            : 0
```

The following example displays summary label manager information:

```
[local]Redback>show mpls summary


LSPs: 1
```

1.44 show mpls interface

show mpls interface

1.44.1 Purpose

Displays Multiprotocol Label Switching (MPLS) interface information.

1.44.2 Command Mode

All modes

1.44.3 Syntax Description

This command has no keywords or arguments.

1.44.4 Default

None

1.44.5 Usage Guidelines

Use the **show mpls interface** command to display MPLS interface 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.

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 the document, *Using the CLI*. For information about troubleshooting MPLS, see the *MPLS Troubleshooting* document.

1.44.6 Examples

The following example displays output from the **show mpls interface** command:

```
[local]Redback>show mpls interface
```

```
  --- All MPLS Interfaces ---

Inst Address/Mask       Name         Enabled  State  Bound to

1    1.1.1.1/24         one          Yes      Up     7/4
```

1.45 show mpls-static label-action

show mpls-static label-action [***lsp-name***] [**detail**]

1.45.1 Purpose

Displays label action information.

1.45.2 Command Mode

All modes

1.45.3 Syntax Description

lsp-name	Optional. Name of a label-switched path (LSP) for which label action information is displayed.
detail	Optional. Displays detailed label action information for the specified LSP or all LSPs.

1.45.4 Default

Displays information for all label actions.

1.45.5 Usage Guidelines

Use the **show mpls-static label-action** command to display label action information.

Use the ***lsp-name*** argument to display label action information only for a specific LSP.

Use the **detail** keyword to display the detailed label action information; otherwise, the summary information is displayed.

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.

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 the document, *Using the CLI*. For information about troubleshooting MPLS, see the *MPLS Troubleshooting* document.

1.45.6 Examples

The following example displays label action information:

```
[local]Redback>show mpls-static label-action

In-label  Action      Out-label Nhop            State
25        swap        35        10.2.1.2        Up
135       swap        125       10.1.1.2        Up
35        pop                                   Up
```

The following example displays detailed label action information:

```
[local]Redback>show mpls-static label-action detail

In-label             : 125        Action          : pop
Out-label            : 0          Nhop            : 0.0.0.0
State                : Up
Outgoing circuit     : N/A
Outgoing intf grid   : 0x0
```

1.46 show mpls-static lsp

show mpls-static lsp [**detail**]

1.46.1 Purpose

Displays Multiprotocol Label Switching (MPLS) static label-switched path (LSP) information.

1.46.2 Command Mode

All modes

1.46.3 Syntax Description

detail	Optional. Displays detailed information.

1.46.4 Default

Displays summary information for all static LSPs.

1.46.5 Usage Guidelines

Use the **show mpls-static lsp** command to display MPLS LSP information.

Use the **detail** keyword to display the detailed LSP information; otherwise, the summary information is displayed.

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.

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 the document, *Using the CLI*. For information about troubleshooting MPLS, see the *MPLS Troubleshooting* document.

1.46.6 Examples

The following example displays summary information for a static LSP:

```
[local]Redback>show mpls-static lsp

                Static LSPs

LSP             ID     Next-hop      Out-Label   Endpoint        State
W-E-stat        1      10.1.1.1      25          10.2.1.2        Up
```

The following example displays detailed information for a static LSP:

```
[local]Redback>show mpls-static lsp detail

                Static LSPs

LSP             ID     Next-hop      Out-Label   Endpoint        State

             --- Static label-switched-path W-E-stat ---

Tunnel id           : 1
Endpoint            : 10.2.1.2            Next Hop         : 10.1.1.1
State               : Up                  Out Label        : 25
LSP Circuit         : 255/3:1023:63/2/1/2
Outgoing Circuit    : 3/7:1023:63/1/1/5
Outgoing Intf grid  : 0x10000001
```

1.47 show msdp peer

show msdp peer ***peer-addr***

1.47.1 Purpose

Displays configured Multicast Source Discovery Protocol (MSDP) peer information.

1.47.2 Command Mode

All modes

1.47.3 Syntax Description

peer-addr	IP address of an MSDP peer.

1.47.4 Default

None

1.47.5 Usage Guidelines

Use the **show msdp peer** command to display configured MSDP peer information.

Use the ***peer-addr*** argument to display information for only a specific peer.

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.

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 the document, *Using the CLI*.

1.47.6 Examples

The following example displays MSDP peer information for the peer, `10.200.1.1`:

```
[local]Redback>show msdp peer 10.200.1.1
```

```
Peer 10.200.1.1                    Our TCP source: 10.200.1.2 (lo1)
  State        : Established
  Elapsed      : 00:03:20              TTL threshold: 0
  Resets       : 2                     Last reset reason: Remote close
  Holdtime     : 00:01:10              Last heard/sent: 00:00:19/00:00:19
  Reconnect    : 00:00:00              Keepalive: 00:00:40
  Mesh Group   :
  Default Peer: No
  I/O queue size: 0/0
  SA Input Filter ACL :
  SA Output Filter ACL:

  Message counters
  Last cleared : 00:17:26
  Total  Messages received/sent: 8/8
  RPF failures : 0
  Notification messages received/sent : 0/0
  Keepalive messages received/sent : 8/8
  SA messages received/sent : 0/0
  SA Response received/sent : 0/0
  SA Request received/sent : 0/0
  Data packets from/to peer : 0/0
  Data packets from/to PIM : 0/0
```

1.48 show msdp sa-cache

show msdp sa-cache [*group-addr* [*src-addr*]] | [**as** {*asn* | *nn*:*nn*}] | [**count**] [**peer** *peer-addr*] | [**rp** *rp-addr*]

1.48.1 Purpose

Displays Multicast Source Discovery Protocol (MSDP) source active (SA) messages cached on the router.

1.48.2 Command Mode

All modes

1.48.3 Syntax Description

group-addr	Optional. IP address of the Internet Group Management Protocol (IGMP) group.
src-addr	Optional. IP address of the multicast source that is transmitting to the group. A source does not need to be a member of the group.
as*asn*	Optional. Autonomous system number (ASN), in integer format, from which MSDP SA cache entries have been learned. The range of values is 1 to 65,535. The subrange, 64,512 to 65,535, is reserved for private autonomous systems.
as *nn*:*nn*	Optional. ASN, in 4-byte integer format, from which MSDP SA cache entries have been learned. With 4-byte integer format, the first *nn* indicates the two higher-order bytes, and the second *nn* denotes the two lower-order bytes.
count	Optional. Number of SA cache entries.
peer *peer-addr*	Optional. Peer IP address from which MSDP SA cache entries have been learned.
rp *rp-addr*	Optional. Rendezvous point IP address from which MSDP SA cache entries have been learned.

1.48.4 Default

None

1.48.5 Usage Guidelines

Use the **show msdp sa-cache** command to display MSDP SA messages cached on the router.

Use the ***group-addr*** argument to display all MSDP SA cache entries for a specific IGMP group.

Use the ***group-addr*** and ***src-addr***arguments together to display MSDP SA cache entries for the (S, G) pair.

Use the **as***asn* or **as** ***nn*:*nn***construct to display MSDP SA cache entries learned from the specified autonomous system.

Use the **count** keyword to display the number of SA messages cached from the RP and peers.

Use the **peer** ***peer-addr*** construct to display MSDP SA cache entries learned from the specified peer address.

Use the **rp*rp-addr*** construct to display MSDP SA cache entries learned from the specified RP address.

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.

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 the document, *Using the CLI*.

1.48.6 Examples

The following example displays output from the **show msdp sa-cache** command:

```
[local]Redback>show msdp sa-cache
MSDP Source-Active Cache
(11.1.1.21, 224.132.1.1), RP 10.200.1.2, AS ?, Peer 10.200.1.2, 00:02:51/00:04:09
(11.1.1.21, 224.138.1.1), RP 10.200.1.2, AS ?, Peer 10.200.1.2, 00:02:51/00:04:09
(11.1.1.21, 224.135.1.1), RP 10.200.1.2, AS ?, Peer 10.200.1.2, 00:02:51/00:04:09
```

1.49 show msdp summary

show msdp summary

1.49.1 Purpose

Displays configured Multicast Source Discovery Protocol (MSDP) peer summary information.

1.49.2 Command Mode

All modes

1.49.3 Syntax Description

This command has no keywords or arguments.

1.49.4 Default

None

1.49.5 Usage Guidelines

Use the **show msdp summary** command to display configured MSDP peer summary 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.

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 the document, *Using the CLI*.

1.49.6 Examples

The following example displays summary information for all configured MSDP peers:

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

```
* - Default Peer
  Peer Address    Interface     State          Uptime/     Reset     AS
                                                Downtime    count
  10.200.1.3      lo1           Established    00:16:27    0         ?
  10.200.1.4      lo1           Established    00:16:17    0         ?
  10.200.1.1      lo1           Established    00:02:36    2         ?
```

Glossary

link group bundle
Synonym to *link group*. The bundle of constituent links that are members of the link group.

MP
Multilink PPP