

Chapter 33

Summary of Router Chassis Configuration Statements

The following sections explain each of the chassis configuration statements. The statements are organized alphabetically.

aggregated-devices

Syntax	<pre>aggregated-devices { ethernet { device-count <i>number</i>; } sonet { device-count <i>number</i>; } }</pre>
Hierarchy Level	[edit chassis]
Description	Configure properties for aggregated devices on the router.
Options	The statements are explained separately in this chapter.
Usage Guidelines	See “Configure Aggregated Devices” on page 485.
Required Privilege Level	interface—To view this statement in the configuration. interface-control—To add this statement to the configuration.

alarm

Syntax alarm {
 interface-type {
 alarm-name (red | yellow | ignore);
 }
 }

Hierarchy Level [edit chassis]

Description Configure the chassis alarms and whether they trigger a red or yellow alarm, or whether they are ignored. Red alarm conditions light the RED ALARM LED on the router's craft interface and trigger an audible alarm if one is connected to the contact on the craft interface. Yellow alarm conditions light the YELLOW ALARM LED on the router's craft interface and trigger an audible alarm if one is connected to the craft interface.

To configure more than one alarm, include multiple *alarm-name* lines.

Options *alarm-name*—Alarm condition. For a list of conditions, see Table 19 on page 486.

ignore—The specified alarm condition does not set off any alarm.

interface-type—Type of interface on which you are configuring the alarm. It can be one of the following: atm, ethernet, sonet, or t3.

red—The specified alarm condition sets off a red alarm.

yellow—The specified alarm condition sets off a yellow alarm.

Usage Guidelines See "Chassis Conditions That Trigger Alarms" on page 487.

Required Privilege Level interface—To view this statement in the configuration.
 interface-control—To add this statement to the configuration.

atm-cell-relay-accumulation

Syntax atm-cell-relay-accumulation;

Hierarchy Level [edit chassis fpc *slot-number* pic *pic-number*]

Description Configure an ATM PIC in cell-relay accumulation mode.

Usage Guidelines See "Configure ATM Cell-Relay Accumulation Mode" on page 485.

Required Privilege Level interface—To view this statement in the configuration.
 interface-control—To add this statement to the configuration.

atm-l2circuit-mode

Syntax	atm-l2circuit-mode (cell aal5);
Hierarchy Level	[edit chassis fpc <i>slot-number</i> pic <i>pic-number</i>]
Description	Configure cell-relay or AAL5 transport mode (ATM2 only).
Options	<p>aal5—Tunnel a stream of AAL5-encoded ATM cells over an IP MPLS backbone.</p> <p>cell—Tunnel a stream of ATM cells over an IP MPLS backbone.</p> <p>Default: aal5</p>
Usage Guidelines	See “Configure Layer 2 Circuit Cell-Relay or AAL5 Transport Mode” on page 494.
Required Privilege Level	<p>interface—To view this statement in the configuration.</p> <p>interface-control—To add this statement to the configuration.</p>

ce1

Syntax	<pre>ce1 { e1 <i>port-number</i> { channel-group <i>group-number</i> timeslots <i>slot-number</i>; } }</pre>
Hierarchy Level	[edit chassis fpc <i>slot-number</i> pic <i>pic-number</i>]
Description	Configure channelized E1 port and channel specifications.
Options	<p><i>port-number</i>—Any valid E1 port number on the host system.</p> <p>The remaining statements are explained separately in this chapter.</p>
Usage Guidelines	See “Channelized E1 Naming” on page 492.
Required Privilege Level	<p>interface—To view this statement in the configuration.</p> <p>interface-control—To add this statement to the configuration.</p>

channel-group

Syntax	<code>channel-group group-number;</code>
Hierarchy Level	[edit chassis fpc <i>slot-number</i> pic <i>pic-number</i> ct3 port <i>port-number</i> t1 <i>link-number</i>]; [edit chassis fpc <i>slot-number</i> pic <i>pic-number</i> ce1 e1 <i>port-number</i>];
Description	Configures the DS-0 channel number.
Options	<i>group-number</i> —DS-0 channel group Range: 0 through 7 for DS-0 naming, and 0 through 23 for E1 naming.
Usage Guidelines	See “Channelized DS-3 to DS-0 Naming” on page 490 and “Channelized E1 Naming” on page 492.
Required Privilege Level	interface—To view this statement in the configuration. interface-control—To add this statement to the configuration.

chassis

Syntax	<code>chassis { ... }</code>
Hierarchy Level	[edit]
Description	Configure router chassis properties.
Usage Guidelines	See “Router Chassis Configuration Guidelines” on page 483.
Required Privilege Level	interface—To view this statement in the configuration. interface-control—To add this statement to the configuration.

ct3

Syntax	<pre>ct3 { port <i>port-number</i> { t1 <i>link-number</i> { channel-group <i>group-number</i> timeslots <i>slot-number</i>; } } }</pre>
Hierarchy Level	[edit chassis fpc <i>slot-number</i> pic <i>pic-number</i>]
Description	Configure channelized T3 port and channel specifications.
Options	<p>port <i>port-number</i>—Any valid T3 port number on the host system.</p> <p>t1 <i>link-number</i>—T1 link Range: 0 through 27</p>
	The remaining statements are explained separately in this chapter.
Usage Guidelines	See “Channelized DS-3 to DS-0 Naming” on page 490.
Required Privilege Level	<p>interface—To view this statement in the configuration.</p> <p>interface-control—To add this statement to the configuration.</p>

device-count

Syntax	device-count <i>number</i> ;
Hierarchy Level	[edit chassis aggregated-devices ethernet]
Description	Configure number of aggregated logical devices available to the router.
Usage Guidelines	See “Configure Aggregated Devices” on page 485.
Required Privilege Level	<p>interface—To view this statement in the configuration.</p> <p>interface-control—To add this statement to the configuration.</p>

e1

Syntax	<pre>e1 <i>port-number</i> { channel-group <i>group-number</i> timeslots <i>slot-number</i>; }</pre>
Hierarchy Level	[edit chassis fpc <i>slot-number</i> pic <i>pic-number</i> ce1]
Description	<p>Configure channelized E1 port number on the PIC.</p> <p>Range: 0 through 9</p>
Usage Guidelines	See “Channelized E1 Naming” on page 492.
Required Privilege Level	<p>interface—To view this statement in the configuration.</p> <p>interface-control—To add this statement to the configuration.</p>

ethernet

Syntax	ethernet { device-count <i>number</i> ; }
Hierarchy Level	[edit chassis aggregated-devices]
Description	Configure properties for Ethernet aggregated devices on the router.
Usage Guidelines	See “Configure Aggregated Devices” on page 485.
Required Privilege Level	interface—To view this statement in the configuration. interface-control—To add this statement to the configuration.

failover on-loss-of-keepalives

Syntax	failover on-loss-of-keepalives;
Hierarchy Level	[edit chassis redundancy]
Description	Instruct backup router to assume mastership if it detects loss of keepalive signal.
Usage Guidelines	See “Configure Routing Engine Redundancy” on page 495.
Required Privilege Level	interface—To view this statement in the configuration. interface-control—To add this statement to the configuration.

fpc

```

Syntax      fpc slot-number {
                pic pic-number {
                  ce1 {
                    e1 port-number {
                      channel-group group-number timeslots slot-number;
                    }
                  }
                  ct3 {
                    port port-number {
                      t1 link-number {
                        channel-group group-number timeslots slot-number;
                      }
                    }
                  }
                }
                framing (sdh | sonet);
                no-concatenate;
            }

```

Hierarchy Level [edit chassis]

Description Configure properties for the Physical Interface Cards (PICs) in individual Flexible PIC Concentrators (FPCs).

Options *slot-number*—Slot number in which the FPC is installed.
Range: 0 through 7

The remaining statements are explained separately in this chapter.

Usage Guidelines See “Configure SONET/SDH Framing” on page 488 and “Configure Channelized PIC Operation” on page 489.

Required Privilege Level interface—To view this statement in the configuration.
 interface-control—To add this statement to the configuration.

framing

Syntax framing (sdh | sonet);

Hierarchy Level [edit chassis fpc *slot-number* pic *pic-number*]

Description On SONET PICs only, configure the framing type.

Options sdh—SDH framing.
 sonet—SONET framing.
Default: sonet

Usage Guidelines See “Configure SONET/SDH Framing” on page 488.

Required Privilege Level interface—To view this statement in the configuration.
 interface-control—To add this statement to the configuration.

graceful-switchover

Syntax	graceful-switchover (disable enable);
Hierarchy Level	[edit chassis redundancy]
Description	For routers with two Routing Engines, configure the backup Routing Engine to gracefully switch over without interruption to packet forwarding.
Options	<p>disable—Disables graceful switchover.</p> <p>enable—Enables graceful switchover. Default: disable</p>
Usage Guidelines	See “Change to the Backup Routing Engine without Interruption to Packet Forwarding (Graceful Switchover)” on page 499.
Required Privilege Level	<p>interface—To view this statement in the configuration.</p> <p>interface-control—To add this statement to the configuration.</p>

idle-cell-format

Syntax	<pre>idle-cell-format { itu-t; payload-pattern <i>payload-pattern-byte</i>; }</pre>
Hierarchy Level	[edit chassis fpc <i>number</i> pic <i>number</i> idle-cell-format]
Description	For ATM 2 PICs only, configures the format of the idle cell header and payload bytes.
Options	<p>itu-t—Configure the idle cell header to use the International Telecommunications Union (ITU-T) standard of 0x00000001. Default: (4 byte): 0x00000000</p> <p><i>payload-pattern-byte</i>—Configure the idle cell payload pattern. The payload pattern byte can range from 0x00 through 0xff. Default: (cell payload (48 bytes):</p>
Usage Guidelines	See “Configure the Idle Cell Format” on page 503.
Required Privilege Level	<p>interface—To view this statement in the configuration.</p> <p>interface-control—To add this statement to the configuration.</p>

keepalive-time

Syntax	keepalive-time <i>seconds</i> ;
Hierarchy Level	[edit chassis redundancy]
Description	Configure the time period that must elapse before backup router assumes mastership if it detects loss of keepalive signal.
Usage Guidelines	See “Configure Routing Engine Redundancy” on page 495.
Required Privilege Level	interface—To view this statement in the configuration. interface-control—To add this statement to the configuration.

mlfr-uni-nni-bundles

Syntax	mlfr-uni-nni-bundles <i>number</i> ;
Hierarchy Level	[edit chassis fpc <i>slot-number</i> pic <i>pic-number</i>]
Description	Configure link services management properties.
Options	<i>number</i> —Number of Multilink Frame Relay UNI-NNI (FRF.16) bundles to allocate on a Link Services PIC Range: 1 through 128 Default: 16
Usage Guidelines	See Configure the Link Services PICs on page 502. See also see the <i>JUNOS Internet Software Guide: Interfaces and Class of Service</i> .
Required Privilege Level	chassis—To view this statement in the configuration. chassis-control—To add this statement to the configuration.

no-concatenate

Syntax	no-concatenate;
Hierarchy Level	[edit chassis fpc <i>slot-number</i> pic <i>pic-number</i>]
Description	<p>Do not concatenate (multiplex) the output of a SONET/SDH PIC (an interface with a name <i>so-fpc/pic/port</i>).</p> <p>When configuring and displaying information about interfaces that are operating in channelized mode, you must specify the channel number in the interface name (<i>physical:channel</i>); for example, <i>so-2/2/0:0</i> and <i>so-2/2/0:1</i>. For more information about interface names, see the <i>JUNOS Internet Software Configuration Guide: Interfaces and Class of Service</i>.</p> <p>On SONET OC-48 interfaces that are configured for channelized (multiplexed) mode, the bytes e1-quiet and bytes f1 options in the sonet-options statement have no effect. The bytes f2, bytes z3, bytes z4, and path-trace options work correctly on channel 0. They work in the transmit direction only on channels 1, 2, and 3.</p>
Default	Output is concatenated (multiplexed).
Usage Guidelines	See “Configure Channelized PIC Operation” on page 489.
Required Privilege Level	interface—To view this statement in the configuration. interface-control—To add this statement to the configuration.
See Also	<i>JUNOS Internet Software Configuration Guide: Interfaces and Class of Service</i> .

packet-scheduling

Syntax (packet-scheduling | no-packet-scheduling);

Hierarchy Level [edit chassis]

Description Enable packet-scheduling mode, in which the Packet Director ASIC schedules packet dispatches to compensate for transport delay differences. This preserves the interpacket gaps as the packets are distributed from the Packet Director ASIC to the Packet Forwarding Engine.



Note

The packet-scheduling feature is available on M160 routers only.

Options no-packet-scheduling—Do not schedule packets.

packet-scheduling—Schedule packets to preserve interpacket gaps.

Default: no-packet-scheduling

Usage Guidelines See “Configure Packet Scheduling” on page 502.

Required Privilege Level interface—To view this statement in the configuration.
interface-control—To add this statement to the configuration.

pic

```

Syntax      pic pic-number {
                ce1 {
                  e1 port-number {
                    channel-group group-number timeslots slot-number;
                  }
                }
                ct3 {
                  port port-number {
                    t1 link-number {
                      channel-group group-number timeslots slot-number;
                    }
                  }
                }
                framing (sdh | sonet);
                no-concatenate;
            }

```

Hierarchy Level [edit chassis fpc *slot-number*]

Description Configure properties for an individual Physical Interface Card (PIC).

Options *pic-number*—Slot number in which the FPC is installed.
Range: 0 through 3

The remaining statements are explained separately in this chapter.

Usage Guidelines See “Configure SONET/SDH Framing” on page 488, “Configure Channelized PIC Operation” on page 489, “Channelized DS-3 to DS-0 Naming” on page 490, and “Channelized E1 Naming” on page 492.

Required Privilege Level interface—To view this statement in the configuration.
 interface-control—To add this statement to the configuration.

port

Syntax port *port-number*;

Hierarchy Level [edit chassis fpc *slot-number* pic *pic-number* ct3]

Description Configure channelized T3 port number on the PIC.
Range: 0 through 1

Usage Guidelines See “Channelized DS-3 to DS-0 Naming” on page 490.

Required Privilege Level interface—To view this statement in the configuration.
 interface-control—To add this statement to the configuration.

redundancy

Syntax	<pre> redundancy { failover on-loss-of-keepalives on-loss-of-keepalives; keepalive-time <i>seconds</i>; routing-engine <i>slot-number</i> (backup disabled master); ssb <i>slot-number</i> (always preferred); } </pre>
Hierarchy Level	[edit chassis]
Description	You can configure a redundant Routing Engine or System and Switch Board (SSB) in the chassis as a secondary backup for the chassis. By default, the Routing Engine in slot 0 is the master Routing Engine and the Routing Engine in slot 1 is the backup Routing Engine. The switchover from the master Routing Engine to the backup Routing Engine is performed manually. This feature can be used for software upgrades. New software can be loaded on the backup Routing Engine and when the routing engine is ready, you can switch the mastership over, with a brief interruption in traffic.
Default	Slot 0 is preferred.
Options	The statements are explained separately.
Usage Guidelines	See “Configure Redundancy” on page 494.
Required Privilege Level	interface—To view this statement in the configuration. interface-control—To add this statement to the configuration.

routing-engine

Syntax	<pre> routing-engine <i>slot-number</i> (backup disabled master); </pre>
Hierarchy Level	[edit chassis redundancy]
Description	You can configure a redundant Routing Engine in the chassis as a secondary backup for the chassis. By default, the Routing Engine in slot 0 is the master Routing Engine and the Routing Engine in slot 1 is the backup Routing Engine. The switchover from the master Routing Engine to the backup Routing Engine is performed manually. This feature can be used for software upgrades. New software can be loaded on the backup Routing Engine, and when the routing engine is ready, you can switch the mastership over, with a brief interruption.
Default	Slot 0 is preferred.
Options	<p><i>slot number</i>—Specify which slot is the master and which is the backup.</p> <p>master—Routing Engine in specified slot is the master.</p> <p>backup—Routing Engine in specified slot is the backup.</p> <p>disabled—Routing Engine in specified slot is disabled.</p>
Usage Guidelines	See “Configure Routing Engine Redundancy” on page 495.
Required Privilege Level	interface—To view this statement in the configuration. interface-control—To add this statement to the configuration.

sfm

Syntax `sfm slot-number (always | preferred);`

Hierarchy Level [edit chassis redundancy]

Description For routers with two Switching and Forwarding Modules (SFM), you can configure which is the master and which is the backup. By default, the SFM in slot 0 is the master and the one in slot 1 is the backup.



Note

SFM redundancy is for M40e routers only.

Default Slot 0 is preferred.

Options `slot number`—Specify which slot is the master and which is the backup.

`always`—Defines this SFM as the sole device.

`preferred`—Defines this SFM as the preferred device of at least two.

Usage Guidelines See “Configure SFM Redundancy” on page 501.

Required Privilege Level `interface`—To view this statement in the configuration.
`interface-control`—To add this statement to the configuration.

sonet

Syntax `sonet {
 device-count number;
}`

Hierarchy Level [edit chassis aggregated-devices]

Description Configure properties for SONET aggregated devices on the router.

Usage Guidelines See “Configure Aggregated Devices” on page 485.

Required Privilege Level `interface`—To view this statement in the configuration.
`interface-control`—To add this statement to the configuration.

source-route

Syntax	(source-route no-source-route);
Hierarchy Level	[edit chassis]
Description	Configure whether IP traffic with source-route constraints (loose or strict) is forwarded or discarded.
Options	no-source-route—Discard IP traffic that has loose or strict source-route constraints. Use this option when you want the router to use only the IP destination address on transit traffic for forwarding decisions. source-route—Forward IP traffic that has loose or strict source-route constraints.
Default:	source-route
Usage Guidelines	See “Configure the Drop Policy for Traffic with Source-Route Constraints” on page 494.
Required Privilege Level	interface—To view this statement in the configuration. interface-control—To add this statement to the configuration.

ssb

Syntax	ssb <i>slot-number</i> (always preferred);
Hierarchy Level	[edit chassis redundancy]
Description	For routers with two System and Switch Boards (SSBs), you can configure which is the master and which is the backup. By default, the SSB in slot 0 is the master and the one in slot 1 is the backup.
Default	Slot 0 is preferred.
Options	<i>slot number</i> —Specify which slot is the master and which is the backup. always—Defines this SSB as the sole device. preferred—Defines this SSB as the preferred device of at least two.
Usage Guidelines	See “Configure SSB Redundancy” on page 501.
Required Privilege Level	interface—To view this statement in the configuration. interface-control—To add this statement to the configuration.

sparse-dlcis

Syntax	sparse-dlcis;
Hierarchy Level	[edit chassis fpc <i>slot-number</i> pic <i>pic-number</i>];
Description	Supports full DLCI range (1 through 1,022). This allows you to use circuit cross-connect (CCC) and translation cross connect (TCC) features by means of Frame Relay on T1 and E1 interfaces.
Usage Guidelines	See “Configure Sparse DLCIS Mode” on page 489.
Required Privilege Level	interface—To view this statement in the configuration. interface-control—To add this statement to the configuration.

t1

Syntax	t1 <i>link-number</i> { channel-group <i>group-number</i> timeslots <i>slot-number</i> ; }
Hierarchy Level	[edit chassis fpc <i>slot-number</i> pic <i>pic-number</i> ct3 port <i>port-number</i>];
Description	Configure channelized T1 port and channel specifications.
Options	<i>link-number</i> —T1 link Range: 0 through 27 for DS-0 Naming
	The remaining statements are explained separately in this chapter.
Usage Guidelines	See “Channelized DS-3 to DS-0 Naming” on page 490.
Required Privilege Level	interface—To view this statement in the configuration. interface-control—To add this statement to the configuration.

timeslots

Syntax	timeslots <i>slot-number</i>
Hierarchy Level	[edit chassis fpc <i>slot-number</i> pic <i>pic-number</i> ct3 port <i>port-number</i> t1 <i>link-number</i>]; [edit chassis fpc <i>slot-number</i> pic <i>pic-number</i> ce1 e1 <i>port-number</i>];
Description	For E1 or T1 interfaces, allocate the specific timeslots by number.
Options	<i>slot-number</i> —Actual timeslot number(s) allocated: Range: 1 through 24 for T1 and 1 through 32 for E1. Default: All timeslots for T1 and all timeslots for E1.
Usage Guidelines	See “Channelized DS-3 to DS-0 Naming” on page 490 and “Channelized E1 Naming” on page 492.
Required Privilege Level	interface—To view this statement in the configuration. interface-control—To add this statement to the configuration.

vtmapping

Syntax	vtmapping (klm itu-t);
Hierarchy Level	[edit chassis fpc <i>slot-number</i> pic <i>pic-number</i>]
Description	Configure virtual tributary mapping.
Options	klm—KLM standard. itu-t—International Telephony Union standard. Default: klm
Usage Guidelines	See “Channelized STM-1 Interface Virtual Tributary Mapping” on page 493.
Required Privilege Level	interface—To view this statement in the configuration. interface-control—To add this statement to the configuration.

vrf-mtu-check

Syntax	vrf-mtu-check;
Hierarchy Level	[edit chassis]
Description	On M-series routers, configure path MTU checks on the outgoing interface for unicast traffic routed on a VRF.
Default	Disabled.
Usage Guidelines	See “Configure Path MTU Check” on page 503.
Required Privilege Level	interface—To view this statement in the configuration. interface-control—To add this statement to the configuration.
See Also	<i>JUNOS Internet Software Configuration Guide: Interfaces and Class of Service</i> .

