

Chapter 35

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 613.
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 21 on page 615.

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 616.

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 a ATM1 PIC” on page 614.

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 trunk trunk);
Hierarchy Level	[edit chassis fpc <i>slot-number</i> pic <i>pic-number</i>]
Description	Configure the ATM2 Intelligent Queuing Layer 2 circuit transport mode.
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>trunk <i>trunk</i>—Transport ATM cells over an MPLS core network that is implemented on some other vendor switches. Trunk mode can be UNI or NNI.</p>
	To determine which vendors support Layer 2 circuit trunk mode, contact Juniper Networks Customer Support.
Default:	aal5
Usage Guidelines	See “Configure ATM2 Intelligent Queuing Layer 2 Circuit Transport Mode” on page 645.
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 642.
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 slot-number pic pic-number ct3 port port-number t1 link-number], [edit chassis fpc slot-number pic pic-number ce1 e1 port-number]
Description	Configure 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 639 and “Channelized E1 Naming” on page 642.
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 611.
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.</p> <p>Range: 0 through 27</p> <p>The remaining statements are explained separately in this chapter.</p>
Usage Guidelines	See “Channelized DS-3 to DS-0 Naming” on page 639.
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 the number of aggregated logical devices available to the router.
Usage Guidelines	See “Configure Aggregated Devices” on page 613.
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	<code>e1 <i>port-number</i> { channel-group <i>group-number</i> timeslots <i>slot-number</i>; }</code>
Hierarchy Level	[edit chassis fpc <i>slot-number</i> pic <i>pic-number</i> ce1]
Description	Configure the channelized E1 port number on the PIC. Range: 0 through 9
Usage Guidelines	See “Channelized E1 Naming” on page 642.
Required Privilege Level	interface—To view this statement in the configuration. interface-control—To add this statement to the configuration.

ethernet

Syntax	<code>ethernet { device-count <i>number</i>; }</code>
Hierarchy Level	[edit chassis aggregated-devices]
Description	Configure properties for Ethernet aggregated devices on the router.
Usage Guidelines	See “Configure Aggregated Devices” on page 613.
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	<code>failover on-loss-of-keepalives;</code>
Hierarchy Level	[edit chassis redundancy]
Description	Instruct the backup router to assume mastership if it detects a loss of keepalive signal.
Usage Guidelines	See “Configure Routing Engine Redundancy” on page 647.
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 636 and “Configure Channelized PIC Operation” on page 638.

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 636.

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	disable—Disables graceful switchover. enable—Enables graceful switchover. Default: disable
Usage Guidelines	See “Change to the Backup Routing Engine without Interruption to Packet Forwarding (Graceful Switchover)” on page 651.
Required Privilege Level	interface—To view this statement in the configuration. interface-control—To add this statement to the configuration.

idle-cell-format

Syntax	idle-cell-format { itu-t; payload-pattern <i>payload-pattern-byte</i> ; }
Hierarchy Level	[edit chassis fpc <i>number</i> pic <i>number</i> idle-cell-format]
Description	For ATM 2 PICs only, configure the format of the idle cell header and payload bytes.
Options	itu-t—Configure the idle cell header to use the International Telecommunications Union (ITU-T) standard of 0x00000001. Default: (4 byte): 0x00000000 <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)
Usage Guidelines	See “Configure the Idle Cell Format” on page 656.
Required Privilege Level	interface—To view this statement in the configuration. interface-control—To add this statement to the configuration.

keepalive-time

Syntax	keepalive-time <i>seconds</i> ;
Hierarchy Level	[edit chassis redundancy]
Description	Configure the time period that must elapse before the backup router assumes mastership if it detects loss of the keepalive signal.
Usage Guidelines	See “Configure Routing Engine Redundancy” on page 647.
Required Privilege Level	interface—To view this statement in the configuration. interface-control—To add this statement to the configuration.

max-queues-per-interface

Syntax	max-queues-per-interface (8 4);
Hierarchy Level	[edit chassis fpc <i>slot-number</i> pic <i>pic-number</i>]
Description	On T-series and M320 routing platforms, configure eight egress queues on IQ interfaces.
Usage Guidelines	See “Configure Eight Queues on IQ Interfaces” on page 641.
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 655. See also the <i>JUNOS Internet Software Network Interfaces and Class of Service Configuration Guide</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 Network Interfaces and Class of Service Configuration Guide</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 638.
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 Network Interfaces and Class of Service Configuration Guide</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.
	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 654.

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 636, “Configure Channelized PIC Operation” on page 638, “Channelized DS-3 to DS-0 Naming” on page 639, and “Channelized E1 Naming” on page 642.

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

Usage Guidelines See “Channelized DS-3 to DS-0 Naming” on page 639.

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	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.
Options	The statements are explained separately.
Usage Guidelines	See “Configure Redundancy” on page 647.
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	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.
Options	<p><i>slot number</i>—Specify which slot is the master and which is the backup.</p> <p>master—Routing Engine in the specified slot is the master.</p> <p>backup—Routing Engine in the specified slot is the backup.</p> <p>disabled—Routing Engine in the specified slot is disabled.</p>
Usage Guidelines	See “Configure Routing Engine Redundancy” on page 647.
Required Privilege Level	interface—To view this statement in the configuration. interface-control—To add this statement to the configuration.

sfm

Syntax	<code>sfm slot-number</code> (always preferred);
Hierarchy Level	[edit chassis redundancy]
Description	For routers with two Switching and Forwarding Modules (SFM), 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.
	SFM redundancy is for M40e routers only.
Options	<p><i>slot number</i>—Specify which slot is the master and which is the backup.</p> <p><i>always</i>—Defines this SFM as the sole device.</p> <p><i>preferred</i>—Defines this SFM as the preferred device of at least two.</p>
Usage Guidelines	See “Configure SFM Redundancy” on page 653.
Required Privilege Level	<p>interface—To view this statement in the configuration.</p> <p>interface-control—To add this statement to the configuration.</p>

sonet

Syntax	<pre>sonet { device-count <i>number</i>; }</pre>
Hierarchy Level	[edit chassis aggregated-devices]
Description	Configure properties for SONET aggregated devices on the router.
Usage Guidelines	See “Configure Aggregated Devices” on page 613.
Required Privilege Level	<p>interface—To view this statement in the configuration.</p> <p>interface-control—To add this statement to the configuration.</p>

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 646.
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.
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 653.
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	Support a full DLCI range (1 through 1022). 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 DLCI Mode” on page 637.
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 639.
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 639 and “Channelized E1 Naming” on page 642.
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 instance.
Default	Disabled.
Usage Guidelines	See “Configure a MTU Path Check for a Routing Instance” on page 656.
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 Network Interfaces and Class of Service Configuration Guide.</i>

vtmapping

Syntax	vtmapping (klm itu-t);
Hierarchy Level	[edit chassis fpc slot-number pic pic-number]
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 644.
Required Privilege Level	interface—To view this statement in the configuration. interface-control—To add this statement to the configuration.