Configuring Channelized DS3-to-DS0 Interfaces

For channelized interfaces, you can configure 28 T1 channels per T3 interface. Each T1 link can have up to eight DS0 channel groups, and each channel group can hold any combination of DS0 time slots. To specify the T1 link and DS0 channel group number in the interface name, use colons (:) as separators. For example, a Multichannel DS3 PIC might have the following physical and virtual interfaces:

ds-0/0/0:*x*:*y*

where *x* is a T1 link ranging from 0 through 27 and *y* is a DS0 channel group from 0 through 7. For more information about ranges, see Table 1.

You can use any of the values within the range available for *x* and *y*, and you do not have to configure the links sequentially. In addition, the JUNOS software applies the interface options you configure according to the following rules:

- To configure the T1 options, you must set channel group *y* to 0; the T1 link *x* can be any value:

  ds-0/0/0:*x*:0

- To configure the T3 options, you must set the T1 link *x* to 0 and channel group *y* to 0:

  ds-0/0/0:0:0

- There are no restrictions on configuring the DS0 options.
- If you delete a configuration you previously committed for channel group 0, the options return to default values.

By default, all the time slots are used. To configure the channel groups and time slots for a channelized DS3-to-DS0 interface, include the channel-group and timeslots statements at the [edit chassis fpc *slot-number* pic *pic-number* ct3 port *port-number* t1 *link-number*] hierarchy level:

```
[edit chassis fpc slot-number pic pic-number ct3 port port-number t1 link-number ]
channel-group group-number;
timeslots time-slot-range;
```

NOTE: If you commit the interface name but do not include the [edit chassis] configuration, the channelized DS3-to-DS0 interface behaves like a channelized DS3-to-DS1 interface: none of the DS0 functionality is accessible.

Table 1 shows the ranges you can specify for each of the elements in the preceding configuration.

Table 1: Ranges for Channelized DS3-to-DS0 Configuration

Item	Option	Range
FPC slot	slot-number	0 through 7 (see note below)
PIC slot	pic-number	0 through 3
Port	port-number	0 through 1
T1 link	link-number	0 through 27
DS0 channel group	group-number	0 through 7
Time slot	time-slot-range	1 through 24

NOTE: The FPC slot range depends on the routing platform. For the TX Matrix platform, the range is from 0 through 31. For M40, M40e, M160, M320, M120, and other T-series routing platforms, the range is from 0 through 7. For M20 routing platforms, the range is from 0 through 3. For M10 and M10i routing platforms the range is from 0 through 1. For M5 and M7i routing platforms, the only applicable value is 0.

Bandwidth limitations restrict the interface to a maximum of 128 channel groups per T3 port, rather than the theoretical maximum of 8 * 28 = 224.

There are 24 time slots on a T1 interface. You can designate any combination of time slots. To configure ranges, use hyphens. To configure discontinuous time slots, use commas. Do not include spaces. You can use each time slot number on only one channel group within the same T1 link.

To configure channelized DS3-to-DS0 interface properties, you can include the t3-options, t1-options, and ds0-options statements. Only a subset of the T3 options are valid for this configuration, and the buildout, invert-data, and line-encoding statements at the [edit interfaces *interface-name* t1-options] hierarchy level are ignored. Likewise, only a subset of the DS0 options are valid for this configuration, and the bert-algorithm, bert-error-rate, bert-period, and loopback payload statements at the [edit interfaces *interface-name* ds0-options] hierarchy level are ignored. The following configurations list all the valid parameters.

NOTE: The set of options the JUNOS software applies to the interface depends on how you specify the interface name. For more information, see [Unresolved xref].

To specify options for the T3 side of the connection, include the t3-options statement at the [edit interfaces *interface-name*] hierarchy level:

```
[edit interfaces interface-name]
t3-options {
    bert-algorithm algorithm;
```

```
    bert-error-rate rate;
    bert-period seconds;
    (cbit-parity | no-cbit-parity);
    (long-buildout | no-long-buildout);
    [Unresolved xref] (local | payload | remote);
}
```

The statements at the t3-options hierarchy are supported only for channel 0; they are ignored if configured on other channels. To specify options for each of the T1 channels, include the t1-options statement at the [edit interfaces *interface-name*] hierarchy level:

```
[edit interfaces interface-name]
t1-options {
    byte-encoding (nx56 | nx64);
    fcs (16 | 32);
    [Unresolved xref] (esf | lf);
    idle-cycle-flag (flags | ones);
    invert-data;
    [Unresolved xref] (local | payload | remote);
    start-end-flag (filler | shared);
    timeslots time-slot-number;
}
```

To specify options for each of the DS0 channels, include the ds0-options statement at the [edit interfaces *interface-name*] hierarchy level:

```
[edit interfaces interface-name]
ds0-options {
    bert-algorithm algorithm;
    bert-error-rate rate;
    bert-period seconds;
    byte-encoding (nx56 | nx64);
    fcs (16 | 32);
    idle-cycle-flag (flags | ones);
    invert-data;
    [Unresolved xref] payload;
    start-end-flag (filler | shared);
}
```

For more information about specific parameters, see [Unresolved xref], [Unresolved xref], [Unresolved xref], and [Unresolved xref]. For a configuration example, see [Unresolved xref].

For information about Frame Relay DLCI limitations for channelized interfaces, see [Unresolved xref]. For more information about Frame Relay DLCIs, see Configuring Frame Relay DLCIs. For more information about DLCI sparse mode, see the *JUNOS System Basics Configuration Guide*.

Each T1 link can have up to eight DS0 channel groups, and each channel group can hold any combination of DS0 time slots.