

Chapter 40

Monitoring Redundant SIBs

You monitor and maintain redundant Switch Interface Boards (SIBs) installed in the M320 and T320 routers and the T640 Internet routing node to ensure that there is no interruption of switching function to the destination Flexible PIC Concentrator (FPC). The SIBs create the switch fabric, providing up to a total of 640 million packets per second (Mpps) of forwarding.

Table 115 provides a checklist of tasks for you to perform to monitor redundant SIBs.

Table 115: Checklist for Monitoring Redundant SIBs

Monitor Redundant SIB Tasks	Command or Action
Understanding Redundant SIBs on page 544	
M320 Router SIBs on page 546	
T320 Router SIBs on page 546	
T640 Routing Node SIBs on page 546	
Displaying Redundant SIB Hardware Information on page 547	show chassis hardware
Displaying SIB Redundancy Information on page 547	show chassis sib show chassis environment sib
Monitoring Redundant SIB Status on page 548	See “Monitoring the SIB Status” on page 329.
Displaying SIB Alarms on page 548	See “Monitoring the SIB Status” on page 329
Performing a Swap Test on a SIB on page 549	See “Verifying SIB Failure” on page 334.
Returning the SIB on page 549	Locate the serial number label on the left side of the SIB top panel, and follow the procedure “Return the Failed Component” on page 86. Or follow the procedure in the appropriate router hardware guide.

Understanding Redundant SIBs

Purpose Inspect redundant SIBs to ensure that they provide the switching function to the destination FPCs.

What Are Redundant SIBs Redundant SIBs are multiple SIBs that are installed in the M320 router, T320 router, and the T640 routing node. In the event of a failure, one of the SIBs acts as backup for the failed SIB. For more information, see “SIB Location and Redundancy” on page 545.

Table 116 shows the SIB characteristics for the M320 router, T320 router, and the T640 routing node.

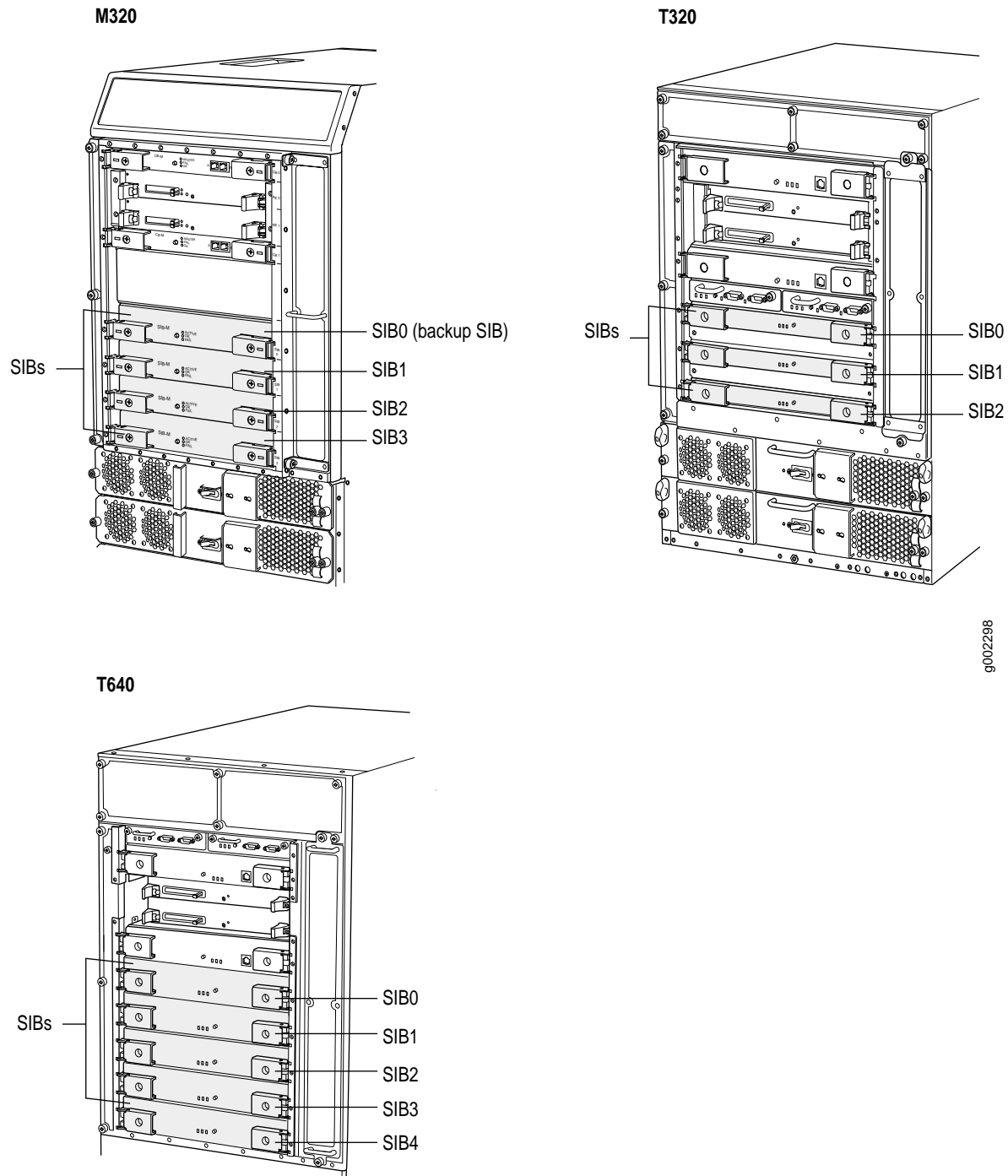
Table 116: SIB Packet Forwarding Characteristics

Routing Platform	Million Packets per Second (Mpps) Forwarding	Number of SIBs per Chassis	Redundancy
M320	385	4	No
T320	320	3	Yes
T640	640	5	Yes

SIB Location and Redundancy

Figure 225 shows the location of the SIBs in the M320 router, T320 router, and T640 routing node.

Figure 225: M320 Router, T320 Router, and T640 Routing Node SIB Location



The following sections describe SIB redundancy on various routing platforms:

M320 Router SIBs on page 546

T320 Router SIBs on page 546

T640 Routing Node SIBs on page 546

M320 Router SIBs

Four SIBs are installed in the M320 router. The SIBs are located at the center rear of the chassis in the slots labeled SIB0 through SIB3 (top to bottom). (See Figure 225 on page 545.) All four SIBs are active, and there is no backup.

T320 Router SIBs

Three SIBs are installed in the router. The SIBs are located at the center rear of the chassis in the slots labeled SIB0 through SIB2. (See Figure 225 on page 545.)

Each FPC has a dedicated ASIC with five high-speed links that connect to the SIBs. Two high-speed links connect to SIB1 and SIB2. One high-speed link connects to SIB0. SIB0 acts as a backup to SIB1 and SIB2. In the event of a complete SIB failure, SIB0 will become active. Because SIB0 has only one high-speed link to each FPC, only three links will remain active. A slight degradation in forwarding capacity may occur. When the failed SIB is replaced, it will become active and SIB0 will revert to backup. The router will regain full forwarding capacity.

T640 Routing Node SIBs

Five SIBs are installed in the routing node. The SIBs are located at the center rear of the chassis in the slots labeled SIB0 through SIB4 (top to bottom). (See Figure 225 on page 545.)

Each FPC1 and FPC2 has a dedicated ASIC with five high-speed links that connect to the SIBs (one link per SIB). An FPC3 has two dedicated ASICs, and each ASIC has five high-speed links that connect to the SIBs (a total of 10 links). One of the five SIBs—usually SIB4—acts as a backup to the remaining four SIBs. In the event of a SIB failure, the backup SIB becomes active and traffic forwarding continues without any degradation. When the failed SIB is replaced, it becomes the new backup.

The SIBs are hot-insertable and hot-removable.

See Also Monitoring the Host Subsystem on page 289

Monitoring the SIBs on page 325

Displaying Redundant SIB Hardware Information

Action To display the redundant SIB hardware information, use the following JUNOS software command-line interface (CLI) command:

```
user@host> show chassis hardware
```

Sample Output

```
user@host> show chassis hardware
Item      Version Part number Serial number Description
Chassis                20079      M160
[...Output truncated...]
SIB 0      REV 05  710-003980 HF9603    SIB-I8
SIB 1      REV 05  710-003980 HF9577    SIB-I8
SIB 2      REV 05  710-003980 HF9540    SIB-I8
SIB 3      REV 05  710-003980 HF9550    SIB-I8
SIB 4      REV 05  710-003980 HF9592    SIB-I8
```

What it Means The command output is for a T640 routing node. The command output displays the SIB slot number, revision level, part number, serial number, and description. By default, SIB0 is the redundant SIB.

Displaying SIB Redundancy Information

Action To display the redundant SIB state, use the following CLI command:

```
user@host> show chassis sib
```

Sample Output

```
t320@host> show chassis sibs
Slot State      Uptime
0  Spare
1  Online      2 days, 7 hours, 10 minutes, 13 seconds
2  Online      2 days, 7 hours, 10 minutes, 13 seconds

t640@host> show chassis sibs
Slot State      Uptime
0  Spare
1  Online      4 hours, 5 minutes, 47 seconds
2  Online      4 hours, 5 minutes, 42 seconds
3  Online      4 hours, 5 minutes, 37 seconds
4  Online      4 hours, 5 minutes, 33 seconds
```

What it Means The command output is for a T320 router and a T640 routing node. On the T320 router, SIB1 and SIB2 are active (Online), while SIB0 is backup (Spare). On the T640 routing node, SIB1, SIB2, SIB3, and SIB4 are active, while SIB0 is the backup. The possible states are Spare, Online, Offline, or Empty. The command output also displays how long each SIB has been online in hours, minutes, and seconds.

Alternative Action You can also view redundant SIB status by using the following CLI command:

```
user@host> show chassis environment sib
```

```
user@host> show chassis environment sib
```

```

SIB 0 status:
State          Spare
Temperature    44 degrees C / 111 degrees F
Power:
GROUND         0 mV
1.8 V          1807 mV
2.5 V          2478 mV
3.3 V          3308 mV
1.8 V bias     1797 mV
3.3 V bias     3284 mV
5.0 V bias     5018 mV
8.0 V bias     7440 mV
SIB 1 status:
State          Online
Temperature    50 degrees C / 122 degrees F
Power:
GROUND         0 mV
1.8 V          1814 mV
2.5 V          2485 mV
1.8 V bias     1794 mV
3.3 V bias     3313 mV
5.0 V bias     5028 mV
8.0 V bias     7553 mV
SIB 2 status:
[...Output truncated...]
SIB 3 status:
[...Output truncated...]
SIB 4 status:
[...Output truncated...]

```

The command output displays the SIB slot, status, and the temperature of the air flowing past the SPP card and the power source information. Notice that SIB0 status is displayed as Spare, or backup.

You can display the environmental status of a particular SIB with the following CLI command:

```
user@host> show chassis environment sib slot
```

Monitoring Redundant SIB Status

Action To monitor the SIB status, see “Monitoring the SIB Status” on page 329.

Displaying SIB Alarms

Action To display SIB alarms, see “Displaying SIB Alarms” on page 332.

Performing a Swap Test on a SIB

SIBs are hot-insertable and hot-removable.

Action To perform a swap test on a SIB, see “Verifying SIB Failure” on page 334.

Returning the SIB

Action To return a SIB, locate the serial number label on the left side of the SIB top panel, then follow the procedure “Return the Failed Component” on page 86. You can also refer to the procedure to return a field-replaceable unit in the M320 router, T320 router, or the T640 routing node hardware guide.

