Chapter 34

Monitoring the FIC

You monitor the Fixed Interface Card (FIC), which receives incoming packets from the network and transmits outgoing packets to the network, providing support for Fast Ethernet ports or Gigabit Ethernet interfaces, depending on which version of the FIC is installed in the M7i router. You also monitor the FIC to view alarm status, and to perform some system control functions, such as taking Physical Interface Cards (PICs) online and offline. (See Table 103.)

Table 103: Checklist for Monitoring the FIC

Monitor FIC Tasks	Command or Action
Understanding the FIC on page 444 M7i Router FIC with Fast Ethernet Ports on page 444 M7i Router FIC with Gigabit Ethernet Port on page 444 M7i Router FIC Location on page 444 FIC Numbering on page 445	
Monitoring the FIC Status on page 445	
1. Understand FIC Slot Numbering on page 445	The FIC is located in FPC 1 slot 3.
2. Display FIC Status at the Command Line on page 445	show chassis pic pic-slot 3 fpc-slot 1
3. Check FIC LEDs on page 446	Look at the FIC faceplate LEDs.
Displaying FIC Alarms on page 446	
1. Display the FIC Status on page 446	show chassis pic pic-slot 3 fpc-slot 1
2. Display FIC Errors In the nmessages Log File on page 446	show log messages | match PIC 3
3. Display FIC Errors In the chassisd Log File on page 447	show log chassisd | match PIC 3
Verifying FIC Failure on page 447	Look at the FIC faceplate LEDs.
Displaying FIC Hardware Information on page 448	
1. Display the FIC Hardware Information on page 448	show chassis hardware
2. Display the M7i Router Chassis Serial Number on page 448	show chassis hardware
Removing the FIC on page 449	You cannot remove the FIC. It is built into the M7i router chassis.
Returning the FIC on page 449	See “Return the Failed Component” on page 86, or follow the procedure in the *M7i Hardware Guide*.

Understanding the FIC

Purpose Inspect the FIC to ensure that it receives incoming packets from the network, transmits outgoing packets to the network, provides support for Ethernet ports, displays system alarms, and takes PICs online or offline as needed.

What Is an FIC A FIC is a component, built into the M7i router chassis, that receives incoming packets from the network and transmits outgoing packets to the network, providing support for Fast Ethernet ports or Gigabit Ethernet interfaces, depending on which version of the FIC is installed in the M7i router. You also monitor the FIC to view alarm status, and to perform some system control functions, such as taking PICs online and offline.

There are two types of FICs: with fast Ethernet ports and with a Gigabit Ethernet port. Figure 176 shows the FIC with Fast Ethernet ports.

Figure 176: M7i Router FIC with Fast Ethernet Ports

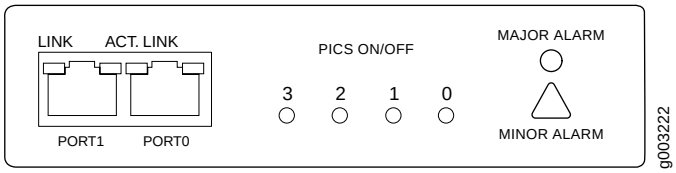
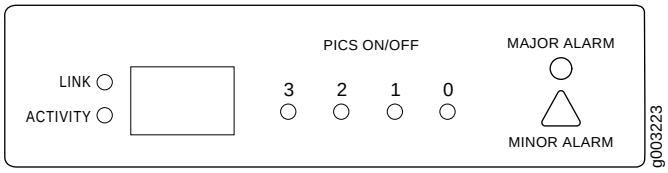


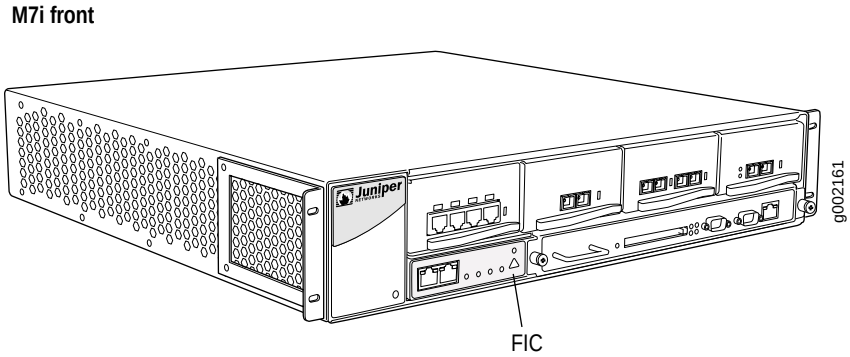
Figure 177 shows the FIC with a Gigabit Ethernet port.

Figure 177: M7i Router FIC with Gigabit Ethernet Port



The FIC is located on the front of the chassis to the left of the Routing Engine and is not a field-replaceable unit (FRU). (See Figure 178.)

Figure 178: M7i Router FIC Location



Monitoring the FIC Status

If the FIC fails, no information about chassis components is available through the JUNOS software command-line interface (CLI).

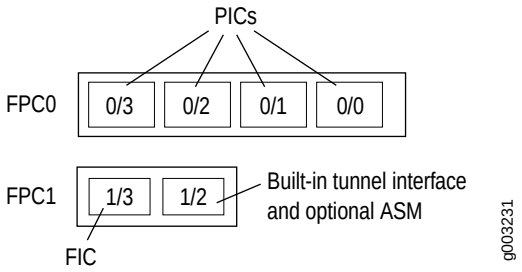
Steps To Take To monitor the FIC status, follow these steps:

1. Understand FIC Slot Numbering on page 445
2. Display FIC Status at the Command Line on page 445
3. Check FIC LEDs on page 446

Step 1: Understand FIC Slot Numbering

Figure 179 shows the FIC location and numbering in the M7i router. The FIC is located in FPC 1 slot 3.

Figure 179: FIC Numbering



Step 2: Display FIC Status at the Command Line

Action To display the FIC status, use the following CLI command:

```
user@host> show chassis pic pic-slot 3 fpc-slot 1
```

Sample Output

```
user@host> show chassis pic pic-slot 3 fpc-slot 1
PIC fpc slot 1 pic slot 3 information:
  Type                        1x G/E, 1000 BASE
  ASIC type                     QGE FPGA
  State                       Online
  PIC version                 1.4
  Uptime                      12 hours, 11 minutes, 39 seconds

PIC Port Information:
  Port      Cable          SFP            SFP Vendor
  Number    Type           Vendor Name    Part Number
  0         UNKNOWN CABLE
```

What It Means Since the FIC is located in FPC 1 slot 3, you must specify its location with the show chassis pic CLI command. The command output displays the FIC information, such as the FIC type, ASIC type, operating status, PIC version, and the amount of time the FIC has been online. The command output also displays port cable information.

Step 3: Check FIC LEDs

Figure 104 describes the FIC interface LEDs located on the FIC faceplate.

Table 104: Table 6: FIC Interface LEDs

Label	Color	State	Description
LINK	Green	On steadily	The port is online.
ACTIVITY	Green	Blinking	The port is receiving data.
		Off	The port might be on, but is not receiving data.

Displaying FIC Alarms

Steps To Take To determine whether the FIC is offline, follow these steps:

1. Display the FIC Status on page 446
2. Display FIC Errors In the nmessages Log File on page 446
3. Display FIC Errors In the chassisd Log File on page 447

Step 1: Display the FIC Status

Action To view the FIC status, use the following CLI command:

```
user@host> show chassis pic pic-slot 3 fpc-slot 1
```

Sample Output

```
user@host> show chassis pic pic-slot 3 fpc-slot 1
PIC fpc slot 1 pic slot 3 information:
  State                 Offline
```

What It Means The FIC in fpc slot 1 pic slot 3 is offline.

Step 2: Display FIC Errors In the nmessages Log File

Action To display the FIC errors recorded in the messages log file, use the following CLI command:

```
user@host> show log messages | match PIC 3
```

Sample Output

```
user@host> show log messages | match PIC 3 in FPC 1
Feb 22 05:50:58  noah chassisd[4738]: CHASSISD_PIC_OFFLINE_NOTICE: Taking PIC 3 in FPC 1 offline: Offlined
by cli command
Feb 22 05:50:58  noah cfeb CMFPC: Offline CMD request for PIC 1/3
Feb 22 05:50:58  noah chassisd[4738]: CHASSISD_IFDEV_DETACH_PIC: ifdev_detach_pic(1/3)
Feb 22 05:50:58  noah chassisd[4738]: CHASSISD_SNMP_TRAP9: SNMP trap generated: FRU power off
(jnxFruContentsIndex 8, jnxFruL1Index 2, jnxFruL2Index 4, jnxFruL3Index 0, jnxFruName PIC: 2x F/E, 100 BASE-TX
@ 1/3/*, jnxFruType 11, jnxFruSlot 2, jnxFruOfflineReason 7, jnxFruLastPowerOff 30713054, jnxFruLastPowerOn
407915)
```

What It Means The messages log file records the error events during the time the FIC went offline. The messages log file records the time and date and the SNMP trap message generated.

Step 3: Display FIC Errors In the chassisd Log File

Action To display FIC errors in the chassisd log file, follow these steps:

```
user@host> show log chassisd | match PIC 3
```

Sample Output

```
user@host> show log messages | match PIC 3 in FPC 1
Feb 22 05:57:02 PIC message op 1
Feb 22 06:04:35 CHASSISD_PIC_OFFLINE_NOTICE: Taking PIC 3 in FPC 1 offline: Offlined by cli command
Feb 22 06:04:35 send: fpc 1 pic 3 offline cmd
Feb 22 06:04:36 pic offline req, pic 3, fpc 1
Feb 22 06:04:36 CHASSISD_IFDEV_DETACH_PIC: ifdev_detach_pic(1/3)
Feb 22 06:04:36 send pic_offline_ack fpc 1 pic 3 accept 1
Feb 22 06:04:36 CHASSISD_SNMP_TRAP9: SNMP trap generated: FRU power off (jnxFruContentsIndex 8,
jnxFruL1Index 2, jnxFruL2Index 4, jnxFruL3Index 0, jnxFruName PIC: 2x F/E, 100 BASE-TX @ 1/3/*, jnxFruType
11, jnxFruSlot 2, jnxFruOfflineReason 7, jnxFruLastPowerOff 30794800, jnxFruLastPowerOn 30749381)
Feb 22 06:04:36 PIC message op 2
Feb 22 06:04:36 Time to clean up PIC FPC 1, PIC 3
Feb 22 06:04:36 PIC message op 3
Feb 22 06:04:36 pic_handle_message: PIC fpc 1 pic 3 got deleted
Feb 22 06:04:36 pic detach, pic 3, fpc 1
```

What It Means The chassisd log file records the time and date of FIC errors. n nIt displays the SNMP trap error message generated.

Verifying FIC Failure

Action To check the status of each port on a FIC or PIC, look at the LED located on the faceplate. See “Check FIC LEDs” on page 446 for more information. For information about the meaning of LED states on different PICs, see the *M7i Internet Router PIC Guide* .

Displaying FIC Hardware Information

Steps To Take To display FIC hardware information, do the following:

1. Display the FIC Hardware Information on page 448
2. Display the M7i Router Chassis Serial Number on page 448

Step 1: Display the FIC Hardware Information

Action To display the FIC hardware information, use the following CLI command:

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

Sample Output

```
user@host> show chassis hardware
Hardware inventory:
Item            Version  Part number  Serial number     Description
Chassis                                30512             M7i
Midplane        REV 04   710-008761   CB9213            M7i Midplane
Power Supply 0  Rev 02   740-008985   QB12884           DC Power Supply
Routing Engine  REV 09   740-009459   1000482742        RE-5.0
CFEB            REV 04   750-010112   CB8664            Internet Processor II
FPC 0                                  E-FPC
FPC 1                                  E-FPC
  PIC 2                 BUILTIN      BUILTIN           1x Tunnel
  PIC 3         REV 04   750-009099   CB9103            1x G/E, 1000 BASE
```

What It Means The command output displays the hardware revision level, part number, serial number, and description for the FIC located at FPC 1 PIC 3.

Step 2: Display the M7i Router Chassis Serial Number

If the FIC fails, you have to return the M7i router chassis. To return the M7i router, you must provide the midplane serial number.

Action To display the M7i router chassis serial number, use the following CLI command:

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

Sample Output

```
user@host> show chassis hardware
Hardware inventory:
Item            Version  Part number  Serial number     Description
Chassis                                31898             M7i
Midplane        REV 04   710-008761   CC7798            M7i Midplane
Power Supply 0  Rev 05   740-008537   QE16641           AC Power Supply
Routing Engine  REV 09   740-009459   1000513705        RE-5.0
[...Output truncated...]
```

What It Means The M7i router midplane serial number is CC7798.

Removing the FIC

NOTE: You cannot remove the FIC. It is built into the M7i router chassis.

Returning the FIC

Action The FIC is built into the M7i router. If the FIC fails, return the M7i router chassis. To replace the M7i router, see “Return the Failed Component” on page 86 or follow the procedure for returning the chassis in the *M7i Internet Router Hardware Guide*.