

## Chapter 10

# Monitor ATM Interfaces

This chapter describes how to monitor Asynchronous Transfer Mode (ATM) interfaces and begin the process of isolating ATM interface problems when they occur. (See Table 19.)

**Table 19: Checklist for Monitoring ATM Interfaces**

ATM Interface Monitor Tasks	Command or Action
<b>Monitor ATM Interfaces on page 90</b>	show interfaces terse at*
<b>Monitor ATM1 Interfaces on page 91</b>	
1. Display the Status of a Specific ATM1 Interface on page 91	show interfaces at- <i>fpc/pic/port</i>
2. Display Extensive Status Information for a Specific ATM1 Interface on page 92	show interfaces at- <i>fpc/pic/port</i> extensive
3. Monitor Statistics for an ATM1 Interface on page 94	monitor interface at- <i>fpc/pic/port</i>
<b>Monitor ATM2 IQ Interfaces on page 96</b>	
1. Display the Status of a Specific ATM2 IQ Interface on page 96	show interfaces terse at- <i>fpc/pic/port</i> show interfaces at- <i>fpc/pic/port</i>
2. Display Extensive Information for a Specific ATM2 Interface on page 98	show interfaces at- <i>fpc/pic/port</i> extensive
3. Monitor Statistics for an ATM2 Interface on page 103	monitor interface at- <i>fpc/pic/port</i>

## Monitor ATM Interfaces

**Purpose** By monitoring ATM interfaces, you begin the process of isolating ATM interface problems when they occur. The following command provides the status of all ATM interfaces on the router. See “Determine ATM Interface Type” on page 79 for information on how to determine the ATM interface type.

**Action** To display the status of all ATM interfaces, use the following JUNOS command-line interface (CLI) operational mode command:

```
user@host> show interfaces terse at*
```

**Sample Output** The following sample output is for an ATM1 interface:

```
user@host> show interfaces terse at*
Interface           Admin Link Proto Local      Remote
at-2/0/0            up   up
at-2/2/0.100        up   up   inet 10.16.5.1/24
at-2/2/0.101        up   up   inet 10.16.250.253/30
at-2/2/0.200        up   up   inet 20.20.20.1/30
at-2/2/0.300        up   up   inet 30.30.30.1/30
at-2/2/0.400        up   up   inet 40.40.40.1/30
at-2/2/0.32767      up   up
at-2/0/1            up   down
at-2/0/1.10         up   down inet 10.10.100.1/30
```

**What It Means** The sample output lists only the ATM interfaces and shows the status of both the physical and logical interfaces. See Table 20 for a description of what the output means. You cannot determine from this output whether the interfaces are ATM1 or ATM2 intelligent queuing (IQ). See “Determine ATM Interface Type” on page 79 for information on how to determine the ATM interface type.

**Table 20: Status of ATM Interfaces**

Physical Interface	Logical Interface	Status Description
at-2/0/0 Admin Up Link Up	at-2/0/0.100 Admin Up Link Up	Both the physical and logical links are up and running on this interface. By default on an ATM interface, if the physical link is up, the logical link is also up. However, for ATM 1 or ATM2 IQ interfaces with an ATM encapsulation and OAM configured for the VC, even if the physical interface is up, the logical link for a VC can be down due to a VC misconfiguration.
at-2/0/1 Admin Up Link Down	at-2/0/1.10 Admin Up Link Down	The physical link is down on this interface and therefore the logical interface is down also.

## Monitor ATM1 Interfaces

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**Steps To Take** To monitor an ATM1 interface, follow these steps:

1. Display the Status of a Specific ATM1 Interface on page 91
2. Display Extensive Status Information for a Specific ATM1 Interface on page 92
3. Monitor Statistics for an ATM1 Interface on page 94

### **Step 1: Display the Status of a Specific ATM1 Interface**

**Action** To display the status of a specific ATM interface, use the following JUNOS CLI operational mode command:

```
user@host> show interfaces at-fpc/pic/port
```

**Sample Output** The following sample output is for an ATM1 interface:

```
user@host> show interfaces at-2/0/1
Physical interface: at-2/0/1, Enabled, Physical link is Down
  Interface index: 23, SNMP ifIndex: 43
  Link-level type: ATM-PVC, MTU: 4482, Clocking: Internal, SONET mode, Speed: OC3, Loopback: None, Payload
  scrambler: Enabled
  Device flags   : Present Running Down
  Link flags     : None
  Input rate     : 0 bps (0 pps)
  Output rate    : 0 bps (0 pps)
  SONET alarms   : LOL, LOS
  SONET defects  : LOL, LOF, LOS, SEF, AIS-L, AIS-P, RDI-P, PLM-P

Logical interface at-2/0/1.10 (Index 30) (SNMP ifIndex 65)
  Flags: Device-Down Point-To-Point SNMP-Traps Encapsulation: ATM-SNAP
  Input packets : 0
  Output packets: 0
  Protocol inet, MTU: 4470, Flags: None
    Addresses, Flags: Dest-route-down Is-Preferred Is-Primary
      Destination: 192.168.100.0/30, Local: 192.168.100.1
  VCI 2.100
  Flags: Active
  Total down time: 0 sec, Last down: Never
Traffic statistics:
  Input  packets:      0
  Output packets:      0
```

**What It Means** The first line of the sample output shows that the physical link is down and therefore the logical link is down also. This means that the interface cannot pass packets.

Further down the sample output, look for active alarms and defects. If there are any, and to further diagnose the problem, see “Display Extensive Status Information for a Specific ATM1 Interface” on page 92 to display more extensive information about the ATM interface and the physical interface that is down.

## Step 2: Display Extensive Status Information for a Specific ATM1 Interface

**Action** To display extensive status information about a specific interface, use the following JUNOS CLI operational mode command:

```
user@host> show interfaces at-fpc/pic/port extensive
```

**Sample Output**

```
user@host> show interfaces at-2/0/1 extensive
Physical interface: at-2/0/1, Enabled, Physical link is Down
Interface index: 23, SNMP ifIndex: 43, Generation: 22
Link-level type: ATM-PVC, MTU: 4482, Clocking: Internal, SONET mode, Speed: OC3, Loopback: None, Payload
scrambler: Enabled
Device flags : Present Running Down
Link flags   : None
Hold-times   : Up 0 ms, Down 0 ms
Statistics last cleared: 2002-07-29 14:28:14 EDT (00:18:00 ago)
Traffic statistics:
Input bytes :          0          0 bps
Output bytes :          0          0 bps
Input packets:          0          0 pps
Output packets:         0          0 pps
Input errors:
Errors: 0, Drops: 0, Invalid VCs: 0, Framing errors: 0, Policed discards: 0, L3 incompletes: 0, L2 channel errors: 0,
L2 mismatch timeouts: 0
Output errors:
Carrier transitions: 0, Errors: 0, Drops: 0, Aged packets: 0
SONET alarms : LOL, LOS
SONET defects : LOL, LOF, LOS, SEF, AIS-L, AIS-P, RDI-P, PLM-P
SONET PHY:
Seconds      Count State
PLL Lock      0      0 OK
PHY Light     1079     0 Light Missing
SONET section:
BIP-B1        0      0
SEF           1079     0 Defect Active
LOS           1079     0 Defect Active
LOF           1079     0 Defect Active
ES-S          1079
SES-S         1079
SEFS-S        1079
SONET line:
BIP-B2        0      0
REI-L         0      0
RDI-L         0      0 OK
AIS-L         1079     0 Defect Active
BERR-SF       0      0 OK
BERR-SD       0      0 OK
ES-L          1079
SES-L         1079
UAS-L         1079
ES-LFE        0
SES-LFE       0
UAS-LFE       0
SONET path:
BIP-B3        0      0
REI-P         0      0
LOP-P         0      0 OK
AIS-P         1079     0 Defect Active
RDI-P         1079     0 Defect Active
UNEQ-P        0      0 OK
PLM-P         1079     0 Defect Active
ES-P          1079
SES-P         1079
```

```

UAS-P          1079
ES-PFE         1079
SES-PFE        1079
UAS-PFE        1079
Received SONET overhead:
F1   : 0x00, J0   : 0x00, K1   : 0xff, K2   : 0xff
S1   : 0x00, C2   : 0xff, C2(cmp) : 0x13, F2   : 0x00
Z3   : 0x00, Z4   : 0x00, S1(cmp) : 0x00, V5   : 0x00
V5(cmp) : 0x00
Transmitted SONET overhead:
F1   : 0x00, J0   : 0x01, K1   : 0x00, K2   : 0x00
S1   : 0x00, C2   : 0x13, F2   : 0x00, Z3   : 0x00
Z4   : 0x00, V5   : 0x00
ATM status:
HCS state:  Hunt
LOC      :  OK
ATM Statistics:
Uncorrectable HCS errors: 0, Correctable HCS errors: 0, Tx cell FIFO overruns: 0, Rx cell FIFO overruns: 0,
Rx cell FIFO underruns: 0, Input cell count: 0, Output cell count: 381110991, Output idle cell count:
18446744069795695321,
Output VC queue drops: 0, Input no buffers: 0, Input length errors: 0, Input timeouts: 0, Input invalid VCs: 0,
Input bad CRCs: 0, Input OAM cell no buffers: 0
PFE configuration:
Destination slot: 2
CoS transmit queue      Bandwidth      Buffer  Priority Limit
%      bps %      bytes
0 best-effort           0      0 0      0  low  none
1 expedited-forwarding 0      0 0      0  low  none
2 assured-forwarding   0      0 0      0  low  none
3 network-control      0      0 0      0  low  none

Logical interface at-2/0/1.10 (Index 30) (SNMP ifIndex 65) (Generation 29)
Flags: Device-Down Point-To-Point SNMP-Traps Encapsulation: ATM-SNAP
Traffic statistics:
Input bytes :          0
Output bytes :          0
Input packets:          0
Output packets:         0
Local statistics:
Input bytes :          0
Output bytes :          0
Input packets:          0
Output packets:         0
Transit statistics:
Input bytes :          0      0 bps
Output bytes :          0      0 bps
Input packets:          0      0 pps
Output packets:         0      0 pps
Protocol inet, MTU: 4470, Flags: None, Generation: 32 Route table: 0
Addresses, Flags: Dest-route-down Is-Preferred Is-Primary
Destination: 192.168.100.0/30, Local: 192.168.100.1, Broadcast: Unspecified, Generation: 61
VCI 2.100
Flags: Active
Total down time: 0 sec, Last down: Never
ATM per-VC transmit statistics:
Tail queue packet drops: 0
Traffic statistics:
Input bytes :          0
Output bytes :          0
Input packets:          0
Output packets:

```

**What It Means** The sample output is for an OC-3 ATM interface and shows the statistics for the SONET media, as well as the Input and Output ATM errors. Error details include input and output errors, active alarms and defects, and media-specific errors.

If the physical link is down, look at the active alarms and defects for the ATM interface and check the ATM media accordingly. See “Locate ATM Alarms and Errors” on page 119 for an explanation of ATM alarms.

### Step 3: Monitor Statistics for an ATM1 Interface

**Action** To monitor statistics for an ATM1 interface, use the following JUNOS CLI operational mode command:

```
user@host> monitor interface at-fpc/pic/port
```



**CAUTION:** We recommend that you use this command only for diagnostic purposes. Do not leave it on during normal router operations because real-time monitoring of traffic consumes additional CPU and memory resources.

#### Sample Output

```
user@host> monitor interface at-2/0/0
host                Seconds: 68          Time: 13:52:33
                        Delay: 0/0/2

Interface: at-2/0/0, Enabled, Link is Up
Encapsulation: ATM-PVC, Speed: OC3
Traffic statistics:
Current delta
Input bytes:         1528168 (2142968 bps)    [1528000]
Output bytes:        1540192 (2165880 bps)    [1540000]
Input packets:       1002 (175 pps)          [1000]
Output packets:      1002 (175 pps)          [1000]
Error statistics:
Input errors:        0                      [0]
Input drops:         0                      [0]
Input framing errors: 0                      [0]
Policed discards:    0                      [0]
L3 incompletes:      0                      [0]
L2 channel errors:   0                      [0]
L2 mismatch timeouts: 0                      [0]
Carrier transitions: 0                      [0]
Output errors:       0                      [0]
Output drops:        0                      [0]
Aged packets:        0                      [0]
ATM statistics:
Input cell count     33049                  [33034]
Input invalid vc     0                      [0]
Output cell count    89231368868             [23664462]
Output idle cell count 18446744072746574220    [23631438]
Active alarms : None
Active defects: None
SONET error counts/seconds:
LOS count            0                      [0]
LOF count            0                      [0]
SEF count            0                      [0]
ES-S                 0                      [0]
SES-S                 0                      [0]
SONET statistics:
BIP-B1               0                      [0]
BIP-B2               0                      [0]
REI-L                0                      [0]
```

```
BIP-B3          0          [0]
REI-P           0          [0]
Received SONET overhead: F1      : 0x00 J0      : 0x00Z
Next='n', Quit='q' or ESC, Freeze='f', Thaw='t', Clear='c', Interface='i'
```

**What It Means** The sample output checks for and displays common interface failures and any increases in framing errors. Information from this command can help you narrow down possible causes of an interface problem.



**NOTE:** If you are accessing the router from the console connection, make sure you set the CLI terminal type using the set cli terminal command.

## Monitor ATM2 IQ Interfaces

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**Steps To Take** To monitor an ATM2 interface, follow these steps:

1. Display the Status of a Specific ATM2 IQ Interface on page 96
2. Display Extensive Information for a Specific ATM2 Interface on page 98
3. Monitor Statistics for an ATM2 Interface on page 103

### Step 1: Display the Status of a Specific ATM2 IQ Interface

**Action** To display the status of a specific ATM2 IQ interface, use the following JUNOS CLI operational mode commands:

```
user@host> show interfaces terse at-fpc/pic/port
user@host> show interfaces at-fpc/pic/port
```

**Sample Output 1**

```
user@host> show interfaces terse at-2/2/0
Interface      Admin Link Proto Local      Remote
at-2/2/0       up   up
at-2/2/0.100   up   up   inet 10.16.5.1/24
at-2/2/0.101   up   up   inet 10.16.250.253/30
at-2/2/0.200   up   up   inet 20.20.20.1/30
at-2/2/0.300   up   up   inet 30.30.30.1/30
at-2/2/0.400   up   up   inet 40.40.40.1/30
at-2/2/0.32767 up   up
```

**Sample Output 2**

```
user@host> show interfaces at-2/2/0
Physical interface: at-2/2/0, Enabled, Physical link is Up
Interface index: 138, SNMP ifIndex: 26
Link-level type: ATM-PVC, MTU: 4482, Clocking: Internal, SONET mode, Speed: OC12, Loopback: None,
Payload scrambler: Enabled
Device flags : Present Running
Link flags   : None
CoS queues   : 4 supported
Current address: 00:90:69:d6:d5:3a
Last flapped : 2004-05-03 14:32:52 UTC (02:41:35 ago)
Input rate    : 0 bps (0 pps)
Output rate   : 0 bps (0 pps)
SONET alarms  : None
SONET defects : None
VPI 1
Flags: Active
Total down time: 0 sec, Last down: Never
Traffic statistics:
  Input packets:      0
  Output packets:    18

Logical interface at-2/2/0.100 (Index 67) (SNMP ifIndex 36)
Flags: Point-To-Multipoint SNMP-Traps Encapsulation: Ether-over-ATM-LLC
Input packets : 0
Output packets: 7
Protocol inet, MTU: 1500
Flags: None
Addresses, Flags: Is-Preferred Is-Primary
Destination: 172.16.5/24, Local: 172.16.5.1, Broadcast: 172.16.5.255
VCI 1.100
Flags: Active, Shaping, Multicast
```



VBR, Peak: 66kbps, Sustained: 66kbps, Burst size: 40  
 Total down time: 0 sec, Last down: Never  
 EPD threshold: 0, Transmit weight cells: 0  
 Input packets : 0  
 Output packets: 14

**Logical interface at-2/2/0.101** (Index 68) (SNMP ifIndex 37)

Flags: Point-To-Point SNMP-Traps Encapsulation: ATM-SNAP  
 Input packets : 0  
 Output packets: 2  
 Protocol inet, MTU: 4470  
 Flags: None  
 Addresses, Flags: Is-Preferred Is-Primary  
 Destination: 172.16.250.252/30, Local: 172.16.250.253, Broadcast: 172.16.250.255  
 VCI 1.101  
 Flags: Active  
 Total down time: 0 sec, Last down: Never  
 EPD threshold: 0, Transmit weight cells: 0  
 Input packets : 0  
 Output packets: 2

**Logical interface at-2/2/0.200** (Index 69) (SNMP ifIndex 8280)

Flags: Point-To-Point SNMP-Traps Encapsulation: ATM-SNAP  
 Input packets : 0  
 Output packets: 0  
 Protocol inet, MTU: 4470  
 Flags: None  
 Addresses, Flags: Is-Preferred Is-Primary  
 Destination: 20.20.20.0/30, Local: 20.20.20.1, Broadcast: 20.20.20.3  
 VCI 1.200  
 Flags: Active  
 Total down time: 0 sec, Last down: Never  
 EPD threshold: 0, Transmit weight cells: 0  
 Input packets : 0  
 Output packets: 0

**Logical interface at-2/2/0.300** (Index 70) (SNMP ifIndex 8281)

Flags: Point-To-Point SNMP-Traps Encapsulation: ATM-SNAP  
 Input packets : 0  
 Output packets: 0  
 Protocol inet, MTU: 4470  
 Flags: None  
 Addresses, Flags: Is-Preferred Is-Primary  
 Destination: 30.30.30.0/30, Local: 30.30.30.1, Broadcast: 30.30.30.3  
 VCI 1.300  
 Flags: Active  
 Total down time: 0 sec, Last down: Never  
 EPD threshold: 0, Transmit weight cells: 0  
 Input packets : 0  
 Output packets: 0

**Logical interface at-2/2/0.400** (Index 72) (SNMP ifIndex 8282)

Flags: Point-To-Point SNMP-Traps Encapsulation: ATM-SNAP  
 Input packets : 0  
 Output packets: 0  
 Protocol inet, MTU: 4470  
 Flags: None  
 Addresses, Flags: Is-Preferred Is-Primary  
 Destination: 40.40.40.0/30, Local: 40.40.40.1, Broadcast: 40.40.40.3  
 VCI 1.400  
 Flags: Active  
 Total down time: 0 sec, Last down: Never  
 EPD threshold: 0, Transmit weight cells: 0

```
Input packets : 0
Output packets: 0
```

**Logical interface at-2/2/0.32767** (Index 71) (SNMP ifIndex 27)

```
Flags: Point-To-Multipoint No-Multicast SNMP-Traps Encapsulation: ATM-VCMUX
Input packets : 0
Output packets: 0
VCI 1.4
Flags: Active
Total down time: 0 sec, Last down: Never
EPD threshold: 0, Transmit weight cells: 0
Input packets : 0
Output packets: 0
```

**What It Means** The first line of the sample output shows that the physical link and all logical links are up. This means that the interface can pass packets.

Further down the sample output, look for active alarms and defects. If there are any, and to further diagnose the problem, see “Display Extensive Information for a Specific ATM2 Interface” on page 98 to display more extensive information about the ATM interface and the physical interface that is down.

## Step 2: Display Extensive Information for a Specific ATM2 Interface

**Action** To display extensive status information about a specific ATM2 interface, use the following JUNOS CLI operational mode command:

```
user@host> show interfaces at-fpc/pic/port extensive
```

**Sample Output**

```
user@host> show interfaces at-2/2/0 extensive
Physical interface: at-2/2/0, Enabled, Physical link is Up
Interface index: 138, SNMP ifIndex: 26, Generation: 21
Link-level type: ATM-PVC, MTU: 4482, Clocking: Internal, SONET mode, Speed: OC12, Loopback: None,
Payload scrambler: Enabled
Device flags : Present Running
Link flags   : None
CoS queues   : 4 supported
Hold-times   : Up 0 ms, Down 0 ms
Current address: 00:90:69:d6:d5:3a
Last flapped : 2004-05-03 14:32:52 UTC (02:42:30 ago)
Statistics last cleared: Never
Traffic statistics:
Input bytes :          0          0 bps
Output bytes :        1600          0 bps
Input packets:          0          0 pps
Output packets:         18          0 pps
Input errors:
Errors: 0, Drops: 0, Invalid VCs: 0, Framing errors: 0, Policed discards: 0, L3 incompletes: 0,
L2 channel errors: 0, L2 mismatch timeouts: 0
Output errors:
Carrier transitions: 1, Errors: 0, Drops: 0, Aged packets: 0
Queue counters:   Queued packets  Transmitted packets  Dropped packets
0 assured-forw    18             18                0
1 expedited-fo    0              0                 0
2 best-effort     0              0                 0
3 network-cont    0              0                 0
SONET alarms : None
SONET defects : None
SONET PHY:      Seconds      Count  State
PLL Lock        0          0 OK
```

```

PHY Light          0      0 OK
SONET section:
BIP-B1             1      13
SEF                0      0 OK
LOS                0      0 OK
LOF                0      0 OK
ES-S               1
SES-S              0
SEFS-S             0
SONET line:
BIP-B2             1      196
REI-L              1      291
RDI-L              0      0 OK
AIS-L              0      0 OK
BERR-SF            0      0 OK
BERR-SD            0      0 OK
ES-L               1
SES-L              0
UAS-L              0
ES-LFE             1
SES-LFE            0
UAS-LFE            0
SONET path:
BIP-B3             1      36
REI-P              1      211
LOP-P              0      0 OK
AIS-P              0      0 OK
RDI-P              0      0 OK
UNEQ-P             0      0 OK
PLM-P              0      0 OK
ES-P               1
SES-P              0
UAS-P              0
ES-PFE             1
SES-PFE            0
UAS-PFE            0
Received SONET overhead:
F1   : 0x00, J0   : 0x00, K1   : 0x00, K2   : 0x00
S1   : 0x00, C2   : 0x13, C2(cmp) : 0x13, F2   : 0x00
Z3   : 0x00, Z4   : 0x00, S1(cmp) : 0x00
Transmitted SONET overhead:
F1   : 0x00, J0   : 0x01, K1   : 0x00, K2   : 0x00
S1   : 0x00, C2   : 0x13, F2   : 0x00, Z3   : 0x00
Z4   : 0x00
ATM status:
HCS state:  Sync
LOC       :  OK
ATM Statistics:
Uncorrectable HCS errors: 177, Correctable HCS errors: 3, Tx cell FIFO overruns: 0,
Rx cell FIFO overruns: 0, Rx cell FIFO underruns: 0, Input cell count: 4,
Output cell count: 13785683517, Output idle cell count: 0, Output VC queue drops: 0,
Input no buffers: 0, Input length errors: 0, Input timeouts: 0, Input invalid VCs: 2,
Input bad CRCs: 0, Input OAM cell no buffers: 0
Packet Forwarding Engine configuration:
Destination slot: 2
VPI 1
Flags: Active
Total down time: 0 sec, Last down: Never
Traffic statistics:
Input bytes :      0
Output bytes :    1600
Input packets:      0
Output packets:    18

```

**Logical interface at-2/2/0.100** (Index 67) (SNMP ifIndex 36) (Generation 11)

Flags: Point-To-Multipoint SNMP-Traps Encapsulation: Ether-over-ATM-LLC

Traffic statistics:

Input bytes :	0
Output bytes :	896
Input packets:	0
Output packets:	7

Local statistics:

Input bytes :	0
Output bytes :	896
Input packets:	0
Output packets:	7

Transit statistics:

Input bytes :	0	0 bps
Output bytes :	0	0 bps
Input packets:	0	0 pps
Output packets:	0	0 pps

Protocol inet, MTU: 1500, Generation: 17, Route table: 0

Flags: None

Addresses, Flags: Is-Preferred Is-Primary

Destination: 172.16.5/24, Local: 172.16.5.1, Broadcast: 172.16.5.255, Generation: 16

VCI 1.100

Flags: Active, Shaping, Multicast

VBR, Peak: 66kbps, Sustained: 66kbps, Burst size: 40

Total down time: 0 sec, Last down: Never

EPD threshold: 0, Transmit weight cells: 0

ATM per-VC transmit statistics:

Tail queue packet drops: 0

Traffic statistics:

Input bytes :	0
Output bytes :	1512
Input packets:	0
Output packets:	14

**Logical interface at-2/2/0.101** (Index 68) (SNMP ifIndex 37) (Generation 12)

Flags: Point-To-Point SNMP-Traps Encapsulation: ATM-SNAP

Traffic statistics:

Input bytes :	0
Output bytes :	200
Input packets:	0
Output packets:	2

Local statistics:

Input bytes :	0
Output bytes :	200
Input packets:	0
Output packets:	2

Transit statistics:

Input bytes :	0	0 bps
Output bytes :	0	0 bps
Input packets:	0	0 pps
Output packets:	0	0 pps

Protocol inet, MTU: 4470, Generation: 18, Route table: 0

Flags: None

Addresses, Flags: Is-Preferred Is-Primary

Destination: 172.16.250.252/30, Local: 172.16.250.253, Broadcast: 172.16.250.255,  
Generation: 18

VCI 1.101

Flags: Active

Total down time: 0 sec, Last down: Never

EPD threshold: 0, Transmit weight cells: 0

ATM per-VC transmit statistics:

Tail queue packet drops: 0

Traffic statistics:  
 Input bytes : 0  
 Output bytes : 184  
 Input packets: 0  
 Output packets: 2

**Logical interface at-2/2/0.200** (Index 69) (SNMP ifIndex 8280) (Generation 13)

Flags: Point-To-Point SNMP-Traps Encapsulation: ATM-SNAP

Traffic statistics:  
 Input bytes : 0  
 Output bytes : 0  
 Input packets: 0  
 Output packets: 0

Local statistics:  
 Input bytes : 0  
 Output bytes : 0  
 Input packets: 0  
 Output packets: 0

Transit statistics:  
 Input bytes : 0 0 bps  
 Output bytes : 0 0 bps  
 Input packets: 0 0 pps  
 Output packets: 0 0 pps

Protocol inet, MTU: 4470, Generation: 19, Route table: 0

Flags: None

Addresses, Flags: Is-Preferred Is-Primary

Destination: 20.20.20.0/30, Local: 20.20.20.1, Broadcast: 20.20.20.3, Generation: 20

VCI 1.200

Flags: Active

Total down time: 0 sec, Last down: Never

EPD threshold: 0, Transmit weight cells: 0

ATM per-VC transmit statistics:

Tail queue packet drops: 0

Traffic statistics:  
 Input bytes : 0  
 Output bytes : 0  
 Input packets: 0  
 Output packets: 0

**Logical interface at-2/2/0.300** (Index 70) (SNMP ifIndex 8281) (Generation 14)

Flags: Point-To-Point SNMP-Traps Encapsulation: ATM-SNAP

Traffic statistics:  
 Input bytes : 0  
 Output bytes : 0  
 Input packets: 0  
 Output packets: 0

Local statistics:  
 Input bytes : 0  
 Output bytes : 0  
 Input packets: 0  
 Output packets: 0

Transit statistics:  
 Input bytes : 0 0 bps  
 Output bytes : 0 0 bps  
 Input packets: 0 0 pps  
 Output packets: 0 0 pps

Protocol inet, MTU: 4470, Generation: 20, Route table: 0

Flags: None

Addresses, Flags: Is-Preferred Is-Primary

Destination: 30.30.30.0/30, Local: 30.30.30.1, Broadcast: 30.30.30.3, Generation: 22

VCI 1.300

Flags: Active

Total down time: 0 sec, Last down: Never

EPD threshold: 0, Transmit weight cells: 0

ATM per-VC transmit statistics:

Tail queue packet drops: 0

Traffic statistics:

Input bytes : 0

Output bytes : 0

Input packets: 0

Output packets: 0

**Logical interface at-2/2/0.400** (Index 72) (SNMP ifIndex 8282) (Generation 15)

Flags: Point-To-Point SNMP-Traps Encapsulation: ATM-SNAP

Traffic statistics:

Input bytes : 0

Output bytes : 0

Input packets: 0

Output packets: 0

Local statistics:

Input bytes : 0

Output bytes : 0

Input packets: 0

Output packets: 0

Transit statistics:

Input bytes : 0 0 bps

Output bytes : 0 0 bps

Input packets: 0 0 pps

Output packets: 0 0 pps

Protocol inet, MTU: 4470, Generation: 21, Route table: 0

Flags: None

Addresses, Flags: Is-Preferred Is-Primary

Destination: 40.40.40.0/30, Local: 40.40.40.1, Broadcast: 40.40.40.3, Generation: 24

VCI 1.400

Flags: Active

Total down time: 0 sec, Last down: Never

EPD threshold: 0, Transmit weight cells: 0

ATM per-VC transmit statistics:

Tail queue packet drops: 0

Traffic statistics:

Input bytes : 0

Output bytes : 0

Input packets: 0

Output packets: 0

**Logical interface at-2/2/0.32767** (Index 71) (SNMP ifIndex 27) (Generation 9)

Flags: Point-To-Multipoint No-Multicast SNMP-Traps Encapsulation: ATM-VCMUX

Traffic statistics:

Input bytes : 0

Output bytes : 0

Input packets: 0

Output packets: 0

Local statistics:

Input bytes : 0

Output bytes : 0

Input packets: 0

Output packets: 0

VCI 1.4

Flags: Active

Total down time: 0 sec, Last down: Never

EPD threshold: 0, Transmit weight cells: 0

ATM per-VC transmit statistics:

Tail queue packet drops: 0

Traffic statistics:

Input bytes : 0

Output bytes : 0

```
Input packets:      0
Output packets:     0
```

**What It Means** The sample output is for an OC-12 ATM interface and shows the statistics for the SONET media, as well as the Input and Output ATM errors. Error details include input and output errors, active alarms and defects, and media-specific errors.

If the physical link is down, look at the active alarms and defects for the ATM interface and check the ATM media accordingly. See “Locate ATM Alarms and Errors” on page 119 for an explanation of ATM alarms.

**Step 3: Monitor Statistics for an ATM2 Interface**

**Action** To monitor statistics for an ATM2 interface, use the following JUNOS CLI operational mode command:

```
user@host> monitor interface at-fpc/pic/port
```



**CAUTION:** We recommend that you use this command only for diagnostic purposes. Do not leave it on during normal router operations because real-time monitoring of traffic consumes additional CPU and memory resources.

**Sample Output** user@host> monitor interface at-2/2/0

```
host                Seconds: 5                Time: 17:16:49
                                     Delay: 3/0/3
Interface: at-2/2/0, Enabled, Link is Up
Encapsulation: ATM-PVC, Speed: OC12
Traffic statistics:                  Current delta
Input bytes:                0 (0 bps)          [0]
Output bytes:              1600 (0 bps)        [0]
Input packets:              0 (0 pps)          [0]
Output packets:            18 (0 pps)          [0]
Error statistics:
Input errors:                0                  [0]
Input drops:                 0                  [0]
Input framing errors:        0                  [0]
Policed discards:           0                  [0]
L3 incompletes:              0                  [0]
L2 channel errors:           0                  [0]
L2 mismatch timeouts:       0                  [0]
Carrier transitions:         1                  [0]
Output errors:               0                  [0]
Output drops:                0                  [0]
Aged packets:                0                  [0]
ATM statistics:
Input cell count             4                  [0]
Input invalid vc              2                  [0]
Output cell count            13908633088        [8484369]
Output idle cell count        0                  [0]
Active alarms : NoneActive defects: NoneSONET error countsZ    [0]
```

**What It Means** The sample output checks for and displays common interface failures and any increases in framing errors. Information from this command can help you narrow down possible causes of an interface problem.



**NOTE:** If you are accessing the router from the console connection, make sure you set the CLI terminal type using the `set cli terminal` command.

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