Configuring the ATM Fabric Integration Module

This chapter describes how to configure the ATM fabric integration module. The ATM fabric integration module is supported on the Catalyst 5500 series switches only.

Note For information on installing the Catalyst 5000 family ATM fabric integration module, refer to the *Catalyst 5000 Family Module Installation Guide*.

Note For syntax and usage information for the commands used in this chapter, refer to the *Command Reference* publication for your switch.

This chapter consists of these sections:

- Understanding How ATM Fabric Integration Works, page 6-1
- ATM Fabric Integration Hardware and Software Restrictions, page 6-2
- Default ATM Fabric Integration Configuration, page 6-2
- Configuring the ATM Fabric Integration Module, page 6-3

Understanding How ATM Fabric Integration Works

The ATM fabric integration module seamlessly integrates the switching fabrics of a Catalyst 5500 series switch and a LightStream 1010 ATM switch installed in the bottom slots of the Catalyst 5500 chassis.

The module consists of one external LightStream 1010 OC-12 ATM interface and one internal interface to the LightStream 1010 switching backplane. The external OC-12 ATM interface operates exactly as any OC-12 interface on a LightStream 1010 port adapter and is configured from the LightStream 1010 command-line interface.

Communication between the Catalyst 5500 series switch backplane and the LightStream 1010 ATM switch backplane occurs across the internal interface. You must configure the interface from both the ATM module CLI and the LightStream 1010 CLI.

ATM Fabric Integration Hardware and Software Restrictions

These guidelines apply when using the ATM fabric integration module:

*   You must use Catalyst 5000 family supervisor engine software release 4.3(1) or later on the Catalyst 5500 series switch.

*   You must use Catalyst 5000 family ATM software release 11.3(5)WA4(8a) or later on the ATM fabric integration module.

*   A LightStream 1010 ATM Switch Processor running LightStream 1010 software release 12.0(1)WA5(5) or later must be installed in slot 13 of the Catalyst 5500 switch. If no ATM Switch Processor is installed, the fabric integration module will not function.

*   You must install the ATM fabric integration module in slots 9–12 of the Catalyst 5500 series switch.

Default ATM Fabric Integration Configuration

The external ATM interface of the fabric integration module has the same default configuration as any LightStream 1010 OC-12 ATM interface. For information on the OC-12 ATM interface default configuration, refer to the *LightStream 1010 ATM Switch Configuration Guide* publication.

Table 6-1 shows the ATM fabric integration module internal interface default configuration on the Catalyst 5500 side.

Table 6-1   ATM Fabric Integration Module Internal Interface Default Configuration (Catalyst 5500 Side)

Feature	Default Value
LANE enable state	LANE is disabled
PVCs	ILMI and signaling PVCs are set up

Table 6-2 shows the ATM fabric integration module internal interface default configuration on the LightStream 1010 side.

Table 6-2   ATM Fabric Integration Module Internal Interface Default Configuration (LightStream 1010 Side)

Feature	Default Setting
ATM interface type	UNI
UNI version	3.0
Maximum VPI bits	8
Maximum VCI bits	14
ATM interface side	Network
ATM UNI type	Private
Framing	STS-3C
Clock source	Network-derived

Table 6-2   ATM Fabric Integration Module Internal Interface Default Configuration (LightStream 1010 Side) (continued)

Feature	Default Setting
Synchronous Transfer Signal (STS) stream scrambling	On
Cell payload scrambling	On

Configuring the ATM Fabric Integration Module

These sections describe how to configure the ATM fabric integration module:

- Configuring the External OC-12 ATM Interface, page 6-3
- Configuring the Internal ATM Port from the ATM Module CLI, page 6-4
- Configuring the Internal ATM Interface from the LightStream 1010 CLI, page 6-5

Configuring the External OC-12 ATM Interface

You configure the external OC-12 interface on the ATM fabric integration module from the LightStream 1010 CLI. The following example shows how to configure the external interface as a network node interface (NNI), but the external interface on the ATM fabric integration module supports all the network connections configurable on a LightStream 1010.

✎
Note   For information on configuring ATM interfaces, refer to the *LightStream 1010 ATM Switch Configuration Guide*.

To configure the external OC-12 interface on the ATM fabric integration module, perform these tasks from the LightStream 1010 CLI:

	Task	Command
Step 1	Enter configuration mode.	**configure terminal**
Step 2	Select the ATM interface.	**interface atm** *card/subcard/port*
Step 3	Disable atm auto-configuration.	**no atm auto-configuration**
Step 4	Configure the interface.	**atm nni** | **uni** | **pvc**
Step 5	Exit configuration mode.	**Ctrl-Z**

This example configures the external interface as a network node interface and displays the configuration:

```
ls1010-3#configure terminal
Enter configuration commands, one per line.  End with CNTL/Z.
ls1010-3(config)#interface atm9/1/0
ls1010-3(config-if)#no atm auto-config
ls1010-3(config-if)#atm nni
ls1010-3(config-if)#^Z
ls1010-3#show atm interface atm9/1/0
Interface:     ATM9/1/0       Port-type:     oc12suni
IF Status:     DOWN           Admin Status:  down
Auto-config:   disabled       AutoCfgState:  not applicable
IF-Side:       Network        IF-type:       NNI
Uni-type:      not applicable Uni-version:   not applicable
Max-VPI-bits:  8              Max-VCI-bits:  14
Max-VP:        255            Max-VC:        16383
ConfMaxSvpcVpi: 255           CurrMaxSvpcVpi: 255
ConfMaxSvccVpi: 255           CurrMaxSvccVpi: 255
ConfMinSvccVci: 35            CurrMinSvccVci: 35
Svc Upc Intent: pass          Signalling:    Enabled
ATM Address for Soft VC: 47.0091.8100.0000.0050.0b87.b401.4000.0c84.9000.00


Configured virtual links:
PVCLs SoftVCLs   SVCLs   TVCLs   PVPLs SoftVPLs   SVPLs Total-Cfgd Inst-Conns
    4        0       0       0       0        0       0          4          0
Logical ports(VP-tunnels):    0
Input cells:   0              Output cells:  0
5 minute input rate:            0 bits/sec,      0 cells/sec
5 minute output rate:           0 bits/sec,      0 cells/sec
Input AAL5 pkts: 0, Output AAL5 pkts: 0, AAL5 crc errors: 0
```

Configuring the Internal ATM Port from the ATM Module CLI

On the Catalyst 5500 switch side, the internal interface functions similarly to the ATM ports on the Catalyst 5000 family ATM OC-3 LANE/MPOA modules. However, there is no PHY on the internal bridge port.

You can configure the internal ATM interface (interface ATM0) exactly as you configure any ATM interface on the Catalyst 5000 family LANE/MPOA modules. For information on configuring the ATM interface, see the following sections:

- For information on configuring ATM LANE, see Chapter 3, "Configuring ATM LAN Emulation."
- For information on configuring MPOA, see the "Configuring the MPC" section on page 5-7 and the "Configuring the MPS" section on page 5-9.

The following commands are not available on the ATM fabric integration module:

- **set clock**
- **set sonet mode**

In addition, the **show controller** command output does not show PHY error counters for the internal ATM port.

Configuring the Internal ATM Interface from the LightStream 1010 CLI

On the LightStream 1010 side, the internal interface functions similarly to an OC-3 ATM interface on a LightStream 1010 ATM port adapter. However, there is no PHY on the internal bridge interface.

You can configure the internal ATM interface exactly as you configure any OC-3 ATM interface on a LightStream 1010 PAM. For information on configuring the LightStream 1010 ATM interface, refer to the *LightStream 1010 ATM Switch Configuration Guide* publication.

Configuring the ATM Fabric Integration Module