

# Understand Advanced Integration Module (AIM) Usage in ATM Technologies

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## Introduction

This document will give you a brief idea about AIM and its important features with concentration on ATM (not voice). Also, it will give you information about which IOS you need to run in order get support and which routers supports it.

## Before You Begin

### Conventions

For more information on document conventions, see the Cisco Technical Tips Conventions.

### Prerequisites

The information below shows the minimum Cisco IOS® requirements for the AIM modules to be recognized in the various platforms.

**Note:** Minimum feature set required: Cisco IOS "Plus".

- Cisco 2600 Series, 3660
  - ◆ AIM-ATM: 12.2(2)XA/12.2.4T
  - ◆ AIM-VOICE-30: 12.2(2)XB/12.2.7T
  - ◆ AIM-ATM-VOICE-30: 12.2(2)XB/12.2.7T
- Cisco 2691, 3700 Series
  - ◆ AIM-ATM, AIM-VOICE-30, AIM-ATM-VOICE-30: 12.2(11)YT and 12.2(13)T

### Components Used

This document is not restricted to specific software and hardware versions.

The information presented in this document was created from devices in a specific lab environment. All of the devices used in this document started with a cleared (default) configuration. If you are working in a live

network, ensure that you understand the potential impact of any command before using it.

## Related Products

The AIM modules support the following platforms:

- Cisco 2610–2613, 2620, 2621, 2650, 2651, 2610XM, 2611XM, 2620XM, 2621XM, 2650XM, 2651XM, 2691
- Cisco 3661, 3662, 3725, 3745

## Miscellaneous Requirements

The following shows the number of AIM modules that can be installed in the different platforms.

- Number of AIM modules per 2600 router (except 2691): One
- Number of AIM modules per 2691, 3660, or 3700 Series router: Two
- Maximum number of ATM T1/E1s supported: Up to 4 ATM T1/E1's per AIM–ATM or AIM–ATM–VOICE–30
- Minimum feature set required: Cisco IOS Plus

Some important features of AIM–ATM and AIM–ATM–VOICE 30 include, but are not limited to, the following:

- ATM SAR capability in hardware
- ATM class of service (CoS) features CBR, VBR–nrt, VBR–rt, ABR, and UBR
- Supports the following QoS features:
  - ◆ Low–Latency Queuing (LLQ)
  - ◆ Class–Based Weighted Fair Queuing (CBWFQ)
  - ◆ Per–virtual circuit queuing
  - ◆ Pre–ATM VC shaping for non real–time variable bit rate (VBR–nrt)
  - ◆ Resource Reservation Protocol (RSVP)
  - ◆ IP CoS map to ATM QoS services
  - ◆ Compressed Real–Time Protocol (CRTP) (over Point–to–Point/Multilink over ATM)
- LAN Emulation 2.0 Client and Server
- Per VC queuing for segmentation
- Support for up to 1024 AAL5 VCs for data/voice features
- Support for up to 1024 AAL2 VCs with up to 255 subchannels each for voice per AIM

## What is AIM?

The Cisco 2600 Series, Cisco 3660, and Cisco 3700 Series multiservice access routers provide enterprises and service providers a wide range of solutions for data, voice, and video. These routers are equipped with an Advanced Integration Module (AIM) slot, which provides customers the flexibility to deploy additional features. There are three flavors of AIM module. They are

- AIM–ATM
- AIM–VOICE–30
- AIM–ATM–VOICE–30

# Why AIM?

With AIM-ATM or AIM-ATM-VOICE-30 module installed, you can install VWIC MFT cards in to those slots. By configuring T1 controllers, you can make it to act like a regular ATM interface. Thus it can offer ATM adaptation layer 2 (AAL2) and ATM adaptation layer 5 (AAL5) support for low-density T1/E1 data and voice connections over ATM networks. AIM module allows service providers and enterprise customers to take advantage of the reliability and quality of service (QoS) available with ATM connectivity.

The following is a sample configuration.

```
r06#conf t
Enter configuration commands, one per line.  End with CNTL/Z.
r06(config)#controller t1 0/1
r06(config-controller)#mode atm
r06(config-controller)#end

r06#sh int atm0/1
ATM0/1 is up, line protocol is down
  Hardware is ATM T1
  MTU 4470 bytes, sub MTU 4470, BW 1536 Kbit, DLY 20000 usec,
    reliability 0/255, txload 1/255, rxload 1/255
  Encapsulation ATM, loopback not set
  Encapsulation(s): AAL5
  255 maximum active VCs, 256 VCs per VP, 0 current VCCs
  VC idle disconnect time: 300 seconds
  Last input never, output never, output hang never
  Last clearing of "show interface" counters never
  Input queue: 0/75/0/0 (size/max/drops/flushes); Total output drops: 0
  Queueing strategy: weighted fair
  Output queue: 0/1000/64/0 (size/max total/threshold/drops)
    Conversations 0/0/256 (active/max active/max total)
    Reserved Conversations 0/0 (allocated/max allocated)
    Available Bandwidth 1152 kilobits/sec
  5 minute input rate 0 bits/sec, 0 packets/sec
  5 minute output rate 0 bits/sec, 0 packets/sec
    0 packets input, 0 bytes, 0 no buffer
    Received 0 broadcasts, 0 runts, 0 giants, 0 throttles
    0 input errors, 0 CRC, 0 frame, 0 overrun, 0 ignored, 0 abort
    0 packets output, 0 bytes, 0 underruns
    0 output errors, 0 collisions, 0 interface resets
    0 output buffer failures, 0 output buffers swapped out
r06#
```

By default, AIM-ATM or AIM-ATM-VOICE-30 modules support 5 bits for VPI ( 0-31 ) and 8 bits for VCI (0-255 ). However, VPI and VCI can be altered as required using the command `atm vc-per-vc` under the ATM interface.

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## Related Information

- **Advanced Integration Module Installation in Cisco 2600 Series, Cisco 3600 Series, and Cisco 3700 Series Routers Quick Start Guide**
  - **AIM-ATM, AIM-VOICE-30, and AIM-ATM-VOICE-30 modules**
  - **Voice/Fax and ATM AIM Modules for the Cisco 2600, 3660 and Cisco 3700 Series Modular Multiservice Access Routers Data Sheet**
  - **Technical Support – Cisco Systems**
  - **More ATM Information**
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