Introduction

This guide provides detailed instructions for configuring Adaptec® ATM25™ and Adaptec ATM155™ adapters for Classical IP and LANE applications when used with the Cisco LightStream 1010, Catalyst 5000 and Series 7000 routers. If you need specific information on configuring the LightStream 1010, Catalyst 5000 and 7000 Series routers, please review the Cisco Connection Documentation which is provided on CD-ROM with each Cisco chassis. The information can also be accessed on the World Wide Web at http://www.cisco.com.
Classical IP (CIP)
Configuration Task List

Quick Installation Guide for
ATM Classical IP (CIP) v 2.x:

Install Adaptec Base/CIP Driver
on Windows NT 3.5x

1. Login on the computer where you want to install ATM drivers.
2. Insert ATM Device Driver disk #1 into the computer’s diskette drive.
3. Select Control Panel icon.
4. Select the Network icon. The Network Setting dialog box appears.
5. Select Add Adapter. The Add Network Adapter dialog box appears.
6. From the Network Adapter Card field select <Other> Requires disk from manufacturer from the bottom of the list. Select Continue.
7. Specify the drive letter of the diskette drive that contains the ATM software then select OK.
8. The Select OEM Option dialog box appears then select OK.
9. Select Adaptec Inc. ATM ANA-59x0 Adapter (CIP) then select OK. The Adaptec ATM Base Driver/CIP Config box appears.

Classical IP (CIP) Configurations:
Directory
This field specifies which directory the ATM drivers will be installed to.
Port Index
This field specifies which ATM NICs. Since only one adapter is supported at this time, the default value is 0.

10. After configuration is done, select OK from the Adaptec ATM Base Driver/CIP Configuration dialog box.
11. Select PCI for Bus Type from the Bus Location dialog box.
12. Select OK when the Network Settings dialog box appears.
14. When the Network Settings dialog box returns, the adapter appears under the Installed Adapter Cards selection area. Select OK.

When the TCP/IP Configuration dialog box appears, follow these steps:

15. Select Adaptec ATM Adapter at the Adapter field.
16. Enter the IP address and subnet mask for the ATM adapter in the appropriate fields. Then select OK.
17. When the Restart dialog box appears, select Restart Now.

Autostart Base driver
Select this box to have the ATM base driver start automatically.

Autostart CIP driver
Select this box to have the ATM Classical IP (CIP) driver start automatically.

PVCs ADD
For PVC connection select Add next to PVCs field. At the PVC configuration dialog box enter the PVC number you want to create (VCI 0-32 are reserved).
Install Adaptec Base/CIP Driver v2.x on Windows NT 4.0

1. Login on the computer where you want to install ATM drivers.
2. Insert ATM LANE diskette into the computer’s diskette drive.
3. Select the Control Panel from the Settings menu.
4. Select the Network icon. The “Network” dialog box appears.
5. Select Adapters. The “Network Adapters” dialog box appears.
7. Select Have Disk option.
8. Specify the drive letter of the diskette drive that contains the ATM software then select OK.
9. The Select OEM Option dialog box appears then select OK.
10. Select Adaptec, Inc. ATM ANA-59x0 Adapter (CIP) then select OK. The Adaptec ATM Base Driver/CIP Config box appears.

Classical IP (CIP) Configurations:
Directory
This field specifies which directory the ATM drivers will be installed to.
Port Index
This field specifies which ATM NICs. Since only one adapter is supported at this time, the default value is 0.
Autostart Base driver
Select this box to have the ATM base driver start automatically.
Autostart CIP driver
Select this box to have the ATM Classical IP (CIP) driver start automatically.
PVCs ADD
For PVC connection select Add next the to PVCs field. At the PVC configuration dialog box, enter the PVC number you want created (VCI 0-32 are reserved).

11. After configuration is done, select OK from the Adaptec ATM Base Driver/CIP Configuration dialog box.
12. The Adaptec ATM Adapter (CIP) Bus Location dialog box appears.
13. Select PCI for Bus Type from the dialog box. Then select OK.
15. When the Network Settings dialog box returns, the adapter appears under the Installed Adapter Cards selection area. Select Close.

When the Microsoft TCP/IP Properties dialog box appears, follow these steps:
15. Select Adaptec ATM Adapter at the Adapter field.
16. Enter the IP address and subnet mask for the ATM adapter in the appropriate fields. Then Select OK.
17. When the Restart dialog box appears, select Restart Now.

LANE Configuration Task List

Quick Installation Guide for ATM LANE Drivers v 2.x:
Install Adaptec LANE Driver on Windows NT 3.5x

1. Insert the LANE Diskette into the computer’s diskette drive.
2. Select Add Adapter. The Add Network Adapter dialog box appears.
3. From the Network Adapter Card field select <Other> Requires disk from manufacturer from the bottom of the list. Select Continue.
4. Specify the drive letter of the diskette drive that contains the ATM software, then select OK. The Select OEM Option dialog box appears.
5. Select Adaptec, Inc. ATM Lane Adapter.
6. Select OK.
7. Software installation begins. The Adaptec LANE Configuration box appears.
8. Select OK from the Adaptec LANE Configuration dialog box.
9. Select OK when the Network Settings dialog box appears.

When the TCP/IP Configuration dialog appears follow these steps:

10. Select Adaptec ATM Adapter at the Adapter field.
11. Enter the IP address and subnet mask for the ATM adapter in the appropriate fields. (Even though you will not be using the CIP client in an all-LANE network, you must assign this adapter a static IP address.)
12. Select Adaptec LANE Adapter (ELAN 0) at the Adapter field.
13. Enter the IP address and subnet mask for the ATM LANE adapter in the appropriate fields.

The IP addresses of the LANE and ATM (CIP) Adapter must be on different subnets. Additionally, if there are other adapters in the system, the LANE and CIP adapters should in general not be on the same subnets as the other NICs in the system.

14. Select OK.
15. When the Nwlink IPX/SPX Protocol Configuration dialog box appears, select Auto Frame Type Detection. Then select OK.
16. Remove the diskette from the floppy drive.
17. When the Restart dialog box appears, select Restart Now.

Install the Adaptec LANE Driver v2.x on Windows NT 4.0

1. Insert ATM LANE diskette into the computer’s diskette drive.
2. Select the Control Panel from the Settings menu.
3. Select the Network icon. The “Network” dialog box appears.
4. Select Adapters. The “Network Adapters” dialog box appears.
5. Select Add: “Select Network Adapter” dialog box appears.
6. Select Have Disk option. The Insert Disk dialog box appears.
7. Specify the drive letter of the diskette drive that contains the ATM software then select OK.
8. Select Adaptec, Inc. ATM Lane Adapter 0 for the first ELAN. (Select subsequent numbers for multiple ELAN support).
9. Select OK. The Adaptec LANE Configuration dialog box appears.

LANE Configuration:
ELAN Number
This field identifies which ELAN this adapter supports.
Driver Version
This field identifies the driver version.
Server ATM Address
Address of the LECS or LES. Should be a 20 byte (hex) address separated by dots(.). The default value is the ATM Forum WELL KNOWN LECS Address.
Server Type
This should be “lecs” if the server is a LAN Emulation Configuration Server or “les” if the server is the LAN Emulation Server.
LAN Type
This should be “802.3” if Ethernet Emulation is to be enabled in the LANE driver. Token Ring emulation is currently not supported.

MTU Size
This should be “1516” or “9234”.
Note: When choosing 9234, make sure the LES/BUS supports it.

Peak Cell Rate
Select PCR in Mbps (10, 155, 25, LineRate). LineRate uses the full line rate for the installed NIC.

Elan Name
This field is optional. Specify a character string if the LECS supports this feature.

12. After configuration is done, select OK from the Adaptec LANE Configuration dialog box.
13. The Adaptec NIC Configuration dialog box appears.

NIC Configuration:
NIC Number
Specify the instance number of NIC supported. This release only supports one NIC per system.

UNI Signaling Version
Specify the UNI Signalling version supported. This release supported both UNI version 3.0 and 3.1.

14. After configuration is done, select OK from the Adaptec NIC Configuration dialog box.
15. The Bus Location dialog box appears.
16. Select PCI for Bus Type from the Bus Location dialog box. Then Select OK.
17. Software installation begins.
18. When the Network Settings dialog box returns, the adapter appears under the Installed Adapter Cards selection area. Select Close.

When the Microsoft TCP/IP Properties dialog box appears, follow these steps:
19. Select the Adaptec LANE (elanx) Adapter at the Adapter field.

The IP addresses of LANE and Classical IP (CIP) Adapter must be on different subnets. Additionally, if there are other adapters in the system, the LANE and CIP adapters should in general not be on the same subnets as the other NICs in the system.

20. Enter the IP address and subnet mask for the ATM adapter in the appropriate fields. Then Select OK.
21. When the Restart dialog box appears, select Restart Now.

Installing the Adaptec LANE Driver on Windows NT 3.51:

1. Login on the computer where you want to install the ATM LANE driver.
2. Insert ATM LANE diskette into the computer’s diskette drive.
3. Select the Control Panel icon.
4. Select the Network icon. The Network Setting dialog box appears.
5. Select Add Adapter. The Add Network Adapter dialog box appears.
6. From the Network Adapter Card field select <Other> Requires disk from manufacturer from the bottom of the list. Select Continue.
7. Specify the drive letter of the diskette drive that contains the ATM software, then select OK. The Select OEM Option dialog box appears.
8. Select Adaptec, Inc. ATM Lane Adapter 0 for the first ELAN. (Select subsequent numbers for multiple ELAN support.)

9. Select OK.

10. Software installation begins. The Adaptec LANE Configuration box appears.

   **LANE Configuration:**
   
   **ELAN Number**
   This field identifies which ELAN this adapter supports.
   
   **Driver Version**
   This field identifies the driver version.

   **Server ATM Address**
   Address of the LECS or LES. Should be a 20 byte (hex) address separated by dots(.).
   The default value is the ATM Forum WELL KNOWN LECS Address.

   **Server Type**
   This should be “lecs” if the server is a LAN Emulation Configuration Server or “les” if the server is the LAN Emulation Server.

   **LAN Type**
   This should be “802.3” if Ethernet Emulation is to be enabled in the LANE driver. Token Ring emulation is currently not supported.

   **MTU Size**
   This should be “1516” or “9234”.
   Note: When choosing 9234, make sure the LES/BUS supports it.

   **Peak Cell Rate**
   Select PCR in Mbps (10, 155, 25, LineRate). LineRate uses the full line rate for the installed NIC.

   **Elan Name**
   This field is optional. Specify a character string if the LECS supports this feature.

11. After configuration is done, select OK from the Adaptec LANE Configuration dialog box.

12. Select PCI Bus from the Bus Selection dialog box.

13. Select OK when the Network Settings dialog box appears.

14. Restart the computer.

**Installing the Adaptec ATM Utilities on Windows NT 3.5x**

1. Login on the computer where you want to install ATM drivers.

2. Insert ATM LANE diskette into the computer’s diskette drive.

3. Select the Control Panel from the Settings menu.

4. Select the Network icon. The Network Setting dialog box appears.

5. Select Add Software. The “Add Network Software” dialog box appears.

6. From the Add Network Software field select <Other> Requires disk from manufacturer from the bottom of the list. Select Continue.

7. Select Have Disk option.

8. Specify the drive letter of the diskette drive that contains the ATM software then select OK.


10. Select OK.

11. Software installation begins.

12. When installation is complete, select Close.

Note: Refer to Adaptec ATM Tools folder for ATM Utilities program.
Installing the Adaptec LANE Driver on Windows NT 4.0

1. Login on the computer where you want to install ATM drivers.
2. Insert ATM LANE diskette into the computer’s diskette drive.
3. Select the Control Panel from the Settings menu.
4. Select the Network icon. The “Network” dialog box appears.
5. Select Adapters. The “Network Adapters” dialog box appears.
7. Select Have Disk option.
8. Specify the drive letter of the diskette drive that contains the ATM software then select OK.
9. Select Adaptec, Inc. ATM Lane Adapter 0 for the first ELAN. (Select subsequent numbers for multiple ELAN support.)
10. Select OK.

LANE Configuration:

ELAN Number
This field identifies which ELAN this adapter supports.

Driver Version
This field identifies the driver version.

Server ATM Address
Address of the LECS or LES. Should be a 20 byte (hex) address separated by dots(.). The default value is the ATM Forum WELL KNOWN LECS Address.

Server Type
This should be “lecs” if the server is a LAN Emulation Configuration Server or “les” if the server is the LAN Emulation Server.

LAN Type
This should be “802.3” if Ethernet Emulation is to be enabled in the LANE driver. Token Ring emulation is currently not supported.

MTU Size
This should be “1516” or “9234”.
Note: When choosing 9234, make sure the LES/BUS supports it.

Peak Cell Rate
Select PCR in Mbps (10, 155, 25, LineRate). LineRate uses the full line rate for the installed NIC.

Elan Name
This field is optional. Specify a character string if the LECS supports this feature.

NIC Configuration:

NIC Number
Only 1 NIC is supported; therefore 0.

UNI Signaling Version
3.0 or 3.1

12. After configuration is done, select OK from the Adaptec LANE Configuration dialog box.
13. Select OK when the Network Settings dialog box appears.
14. Select PCI Bus from the Bus Selection dialog box.
14. When installation is complete, select Close.
15. Restart the computer.
Installing the Adaptec ATM Utilities on Windows NT 4.0

1. Login on the computer where you want to install ATM drivers.
2. Insert ATM LANE diskette into the computer’s diskette drive.
3. Select the Control Panel from the Settings menu.
4. Select the Network icon. The “Network” dialog box appears.
5. Select Protocols. The “Network Adapters” dialog box appears.
7. Select Have Disk option.
8. Specify the drive letter of the diskette drive that contains the ATM software then select OK.
10. Select OK.
11. Software installation begins.
12. When installation is complete, select Close.

Note: Refer to Adaptec ATM Tools folder for ATM Utilities program.

Solaris Driver Features and LANE Installation Information

The Solaris base, RFC-1577 client and ATMARP server drivers are installed just as documented in the manual. The LAN emulation client software is also installed using the same pkgadd procedure. During the installation process, you will be asked for the following information:

1. When you see

   Please enter the LEC Logical Index
   [Default == 0]

   Enter the appropriate ELAN number. (0 is the first ELAN). Press <ENTER> to accept the default of 0.

2. You will next see

   Please enter the ATM address of the LES/LECS in the following format
   [Default= 470.790.0.0.0.0.0.0.0.0.0.0.a0.3e.0.0.1.0]
   This value is the ATM Forum well known address of the LECS

   Enter the appropriate specific LES/LECS address, or press <ENTER> to accept the default of the ATM Forum’s well known LECS address.

3. The system will now prompt you with

   Please enter the type of server for the LEC in the following format [les or lecs]
   [Default = lecs]

   Enter the appropriate value, or press <ENTER> to accept the default value of lecs.
4. You will now see

Please enter the IP address of the ATM interface in the following format
[xx.xx.xx.xx] where xx is in decimal, e.g. 162.62.41.138

Enter the appropriate TCP/IP address for this ATM LEC.

5. You will be prompted

Do you want to configure another ATM LAN Emulation Client now??
The default action is “n”. ?? [y,n]

Press <ENTER> to accept the default of “n”, or press <y> if you want to configure another ELAN. (These instructions will assume you said “n”.)

6. When you are prompted, press <y> to proceed installing the package with super-user permission. The software installation will be completed.

The Solaris configuration utilities and files can be found in /etc/opt/ADPTaatm/bin. The LAN emulation client configuration program is called alaneconf, and has built-in help. The database files (ASCII) containing configuration information are in:

base.db (for the base driver)
acip.db (for the RFC-1577 client)
aarp.db (for the ATMARP server)
alane[0-3].db (for the LAN emulation client, [0-3] indicates which ELAN the configuration file is for)

The command line utilities all have built-in help available via a “-h” or “-?” flag.

Only one ATM adapter is supported per system. The Classical IP client supports membership in only one LIS.

The Solaris LANE client supports membership in up to four ELANs, 802.3 framing, and large MTU sizes (if desired). There is no provision for ELAN name support in this version of the software, although this feature will be added in future releases. The LEC can use an LECS at the well-known ATM Forum address, an LECS at a specific address, and an LES at a specific address.

SunOS Driver Installation Information (RFC-1577 client and ATMARP server software only):

1. Copy all floppy files to /usr directory.
2. Do a “tar” -xvf filename” for all the floppy files.
3. Installation begins by entering the following command: AatmInstall
4. Follow the instructions given during the install.
5. The following directories are created:
   /usr/Adpt/aatm/bin - base driver directory
   /usr/Adpt/acip/bin - Classical IP (RFC 1577) directory
   /usr/Adpt/arp/bin - Classical IP ARP Server
6. The SunOS drivers use the same commands and database files as the Solaris drivers. The difference is in the directory structure.
Adaptec, Inc.
691 South Milpitas Boulevard
Milpitas, California 95035
Tel: (408) 945-8600
Fax: (408) 262-2533

Adaptec Europe
Dreve Richelle 161
Bldg. A, 2nd Floor
B-1410 Waterloo
Belgium
Tel: (32) 2-352-34-11
Fax: (32) 2-352-34-00

Adaptec Japan, Ltd.
Kioicho Hills, 4F
3-32 Kioicho
Chiyoda-Ku, Tokyo, 102
Japan
Tel: (81) 3-5276-9882
Fax: (81) 3-5276-9884

Adaptec Singapore
Block 1002
Jalan Bukit Merah
#06-07
Singapore 159456
Tel: (65) 278-7300
Fax: (65) 273-0163

Literature: 1-800-934-2766 (USA and Canada)
or (510) 732-3829

Pre-Sales Support: 1-800-442-7274 (USA or Canada)
or (408) 957-7274

World Wide Web:
http://www.adaptec.com/networking

Internet ftp server: ftp.adaptec.com

CompuServe: GO ADAPTEC

Microsoft Network: GO ADAPTEC

Interactive Fax: (408) 957-7150

Adaptec USA Bulletin Board Service (BBS):
(408) 945-7727 (up to 28,800 baud
using 8 bits, 1 stop bit, no parity)

---

Copyright 1997 Adaptec, Inc. All rights reserved.
Adaptec and the Adaptec logo are trademarks of Adaptec, Inc.,
which may be registered in some jurisdictions. All other trade-
marks used are owned by their respective owners.

Information supplied by Adaptec, Inc. is believed to be accurate
and reliable at the time of printing, but
Adaptec, Inc. assumes no responsibility for any errors that may
appear in this document. Adaptec, Inc. reserves the right,
without notice, to make changes in product design or specifica-
tions. Information is subject to change without notice.