UnixWare Driver Installation

Addendum to
5515/5525/5575 PCI ATM Adapter
Users Guide

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ADDENDUM: UnixWare Driver Installation

UnixWare Driver Installation

Overview

This addendum explains how to install the driver for up to four PCI ATM adapters in an endstation running UnixWare® version 2.01, 2.1, or 2.1.1. During installation of the driver, up to four LECs and one RFC-1577 client can be initialized per adapter.

The driver supports the following features:

- LAN Emulation clients (SVC)
  - Ethernet®
  - Token Ring
- LAN Emulation services (LES, BUS and LECS)
  - Ethernet
  - Token Ring
- IP-ATM (RFC-1577) client (SVC)
- IP-ATM (RFC-1577) server
- PVC option for each client based on RFC-1483

Caution

Your ATM switch must be capable of supporting the UNI 3.0/3.1 signalling standard for SVCs. Some switch vendors allow the mixing of the two standards. Some vendors require that all ports be set to either UNI 3.0 or UNI 3.1. Check your switch documentation for the proper settings. The default setting for the PCI ATM adapter is UNI 3.0.

If any *Read Me First* documentation is in your installation kit, review it before installing the driver. It contains any changes and updates to this users guide since the printing date. Also, check for a **readme** file in the **unixware** directory on the installation CD-ROM.

Driver Requirements

The endstation must meet the following minimum requirements:

- Intel® x86 or Pentium® system with PCI bus
- UnixWare operating system version 2.01, 2.1, or 2.1.1
- **inet** and **nsu** packages installed on the endstation
- System memory:
  - 16 MB minimum
  - up to 24 MB with multiple clients and servers enabled
- CD-ROM drive (local or remote)
- A hard disk with free space consisting of
  - 2660 KBytes in the **/bin** partition
  - 415 KBytes in the **/etc** partition
  - 680 KBytes in the **/usr** partition
- Superuser login
- IP address, broadcast address, net mask, and **ifconfig** options for each client being initialized

Installing the Driver

The driver can be installed prior to installing the adapter(s). Where feasible, however, it is recommended the adapter(s) be installed first.

To install the driver for UnixWare, do the following:

1. Log in as **root**.
2. Bring the system to single-user mode by entering:

   ```
   init S
   ```

3. If needed, check for an existing installation of the driver by entering:

   ```
   pkginfo
   ```

   If **INPHatm** is in the list of installed packages, remove it as explained in *Removing a Driver* on page 7.

4. Insert the CD-ROM in the local drive and mount it with the command:

   ```
   mount -F cdfs -r \
       /dev/cdrom/device_name mount_point
   ```

   For example,

   ```
   mount -F cdfs -r \
       /dev/cdrom/c0b0t010 /CD-ROM_1
   ```

5. Run the install script by entering

   ```
   pkgadd -d /mount_point/\
       unixware INPHatm
   ```

   The installation may take several minutes to complete. Figure 1 on page 4 shows a sample of the output to the screen during a typical installation of the driver.

```
PROCESSING:
Package: Interphase PCI 5515 ATM & ID Software (INPHatm) from
</var/spool/pkg>.

Interphase PCI 5515 ATM & ID Software
(i386) ID1.0
Using </> as the package base directory.
Copyright (c) 1996 Interphase Corporation.

** System is found to have 1 Interphase PCI ATM Adapter(s) **

Enter the number of LANE Clients to be configured for Adapter #1 \
          (default:1) [0-4,?,quit] 1
    Enter the IP address for LANE Client #0 of Adapter #1 \
          [Format "123.111.222.117"]: 123.111.222.101
    Enter Netmask for the network that the LANE Client #0 is attached to. \
          Format "255.255.255.0 or 0xFFFFFF00" \
          [Default: "0xFFFFFF00"]: 0xFFFFFF00
    Enter Broadcast address for the LANE Client #0. \
          [Default: "123.111.222.255"]: 123.111.222.255
    Enter any other ifconfig options for the LANE Client #0. \
          Such as "trailers or -trailers." [Default: -trailers]: -trailers

Enter the number of 1577 Clients to be configured for Adapter #1 \
          (Default: 1) [0-1,?,quit] 1
    Enter the IP address for 1577 Client #0 of Adapter #1 \
          [Format "123.111.222.117"]: 123.111.222.125
    Enter Netmask for the network that the 1577 Client #0 is attached to. \
          Format "255.255.255.0 or 0xFFFFFF00" \
          [Default: "0xFFFFFF00"]: 0xFFFFFF00
    Enter Broadcast address for the 1577 Client #0. [Default: "123.111.222.255"]:
    Enter any other ifconfig options for the 1577 Client #0. \
          Such as "trailers or -trailers." [Default: -trailers]: -trailers

## Processing package information.
## Processing system information.
## Verifying package dependencies.
## Verifying disk space requirements.
Installing Interphase PCI 5515 ATM & ID Software as <INPHatm>

## Installing part 1 of 1.
          :
          :
Installation of Interphase PCI 5515 ATM & ID Software (INPHatm) was successful.
```

Figure 1. Sample INPHatm Installation

6. Answer the prompts as follows:

a. The script searches the machine for PCI ATM adapters and displays the quantity to the screen. A maximum of four (4) adapters are allowed per endstation. If no adapters are located (driver being installed prior to the adapters), a prompt appears for entering the quantity **(1 –4)** that you want to configure.

b. Enter the number of LECs for Adapter #<*x*>.

This is the quantity of LECs you want to initialize on the adapter. A maximum of four (4) LECs are allowed per adapter. An option to enter a zero (0) is provided in case you **do not** want any LECs on the adapter and intend to initialize a 1577 client in a later step. Press **Enter** to accept the default of one (1) client, or enter the actual quantity **(0 – 4)**.

The script loops through a set of prompts for each LEC being initialized. The sample IP address used in Figure 1 on page 4 is for illustration purposes only. Make sure the IP information is correct for your network, where <*n*> (0 – 3) is the number of the client and <*x*> (1 – 4) is the adapter being configured.

c. Initialize the 1577 Client for Adapter #<*x*>, where <*x*> is the adapter being configured.

You can initialize only one RFC-1577 client per adapter. Press **Enter** to accept the default of zero (0) to disable the feature or enter **1** to initialize the client.

d. If the 1577 client is initialized in the above step, a set of prompts appear for entering the IP information.

e. If installing more than one adapter, repeat step **b** through step **d** until all adapters are processed.

The remainder of actions on the screen are advisory notes only.

7. When installation of the driver is complete, remove the CD-ROM from the local drive.

Continue the installation with the procedures in the next section.

Configuring the Adapter

With the driver installed as described in the previous section, do the following:

1. Configure the adapter(s) to the network with the CellView utility by entering:

   `cellview`

   See Chapter 5, *CellView Utility*, of the *5515/5525/5575 PCI ATM Users Guide* for instructions to enable and configure the LANE clients and services, and the 1577 client and server to the network.

2. Reboot the machine.

   If the adapter(s) are installed, use the command:

   `shutdown -y -i6 -g0`

   If the adapter(s) are not installed, use the command:

   `shutdown -y -i0 -g0`

   and see Chapter 2, *Hardware Installation*, in the *5515/5525/5575 PCI ATM Users Guide* for instructions.

The installation of the driver is complete.

Caution

All configuration data is stored in the file *etc/atm/cvconf* for which an on-line man page is available. You are strongly encouraged to use the CellView utility to modify the parameters instead of editing them manually. If the parameters get out of sync, the driver may not work properly.

If for some reason the CellView utility will not run on your system, there are command-line utilities (such as *lec*, *les*, and *lecs*) which can modify the software currently running. However, these commands do not change the permanent settings in the *cvconf* file. The effects of these commands are lost when the machine is turned off or restarted. Whatever the case, do not mix the running of command-line and CellView utilities. Use one method consistently or unpredictable results may occur.

Removing a Driver

To remove a driver from the endstation, do the following:

1. Log in as root.
2. Bring the system to single-user mode by entering:

   ```
   init S
   ```

3. To remove **INPHatm** for example, enter the command:

   ```
   pkgrm INPHatm
   ```

   A sample output to the screen is shown in Figure 2 on page 8.

4. Enter **yes** at the prompt to confirm removal of the package.

5. When removal is complete, reboot the machine with the command:

`shutdown -y -i6 -g0`

```
The following package is currently installed:
INPHatm            Interphase PCI ATM 5515 Software
                   (i386) ID1.0

Do you want to remove this package [yes,no,?,quit] y

## Removing installed package instance <INPHatm>
## Verifying package dependencies.
## Executing preremove script.
Removing Interphase PCI ATM 5515 Software module “li”...
Removing Interphase PCI ATM 5515 Software module “ia”...
UX:idbuild: INFO:
     The unix kernel will be rebuilt to include your
     configuration changes during the next system reboot.

## Processing package information.
## Removing pathnames in <none> class
/usr/share/man/cat7/li.7
/usr/share/man/cat7/ia.7
/usr/share/man/cat4/cvconf.4
/usr/share/man/cat1/sigstat.1m
     :
     :
     :
/bin/learp
/bin/ipatmdbg
/bin/ipatm
/bin/iastat
/bin/cvinit
/bin/cvconf
## Updating system information.

Removal of <INPHatm> was successful.

*** IMPORTANT NOTICE ***

     If removal of all desired packages is complete,
     the machine should be rebooted in order to
     ensure sane operation. Execute the shutdown
     command with the appropriate options to reboot.
```

Figure 2. Sample of Driver Removal

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