

UnixWare Driver Installation

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

Document No. UG05575-002,REVA

Release Date: May 28, 1997

Copyright Notice

© 1997 by Interphase Corporation. All rights reserved.

Printed in the United States of America, 1997.

This manual is licensed by Interphase to the user for internal use only and is protected by copyright. The user is authorized to download and print a copy of this manual if the user has purchased one or more of the Interphase adapters described herein. All copies of this manual shall include the copyright notice contained herein. No part of this manual, whether modified or not, may be incorporated into user's documentation without prior written approval of

Interphase Corporation
13800 Senlac
Dallas, Texas 75234
Phone: (214) 654-5000
Fax: (214) 654-5500

Disclaimer

Information in this manual supersedes any preliminary specifications, preliminary data sheets, and prior versions of this manual. While every effort has been made to ensure the accuracy of this manual, Interphase Corporation assumes no liability resulting from omissions, or from the use of information obtained from this manual. Interphase Corporation reserves the right to revise this manual without obligation to notify any person of such revision. Information available after the printing of this manual will be in one or more Read Me First documents included with this product.

Trademark Acknowledgments

Interphase® and Syncard® are registered trademarks and CellView™, (i)chip™, ADSLWatch™, ADSLEye™, SynWatch™, SynEye™, and FibreView™ are trademarks of Interphase Corporation.

MS-DOS®, Windows®, and Windows NT® are registered trademarks of Microsoft, Inc. Novell® and NetWare® are registered trademarks of Novell, Inc.

Solaris® and NFS® are registered trademarks and SunOS™ and ONC™ are trademarks of Sun Microsystems, Inc. Sun is a trademark or registered trademark of Sun Microsystems, Inc.

SPARC® is a registered trademark of SPARC International, Inc. SPARCstation™ and UltraSPARC™ are trademarks of SPARC International, Inc., licensed exclusively to Sun Microsystems, Inc.

LattisCell™, EtherCell™, and SAHI™ are trademarks of Bay Networks, Inc.

UNIX® is a registered trademark in the United States and other countries, licensed exclusively through X/Open Company Ltd.

IBM® and OS/2® are registered trademarks and AIX™ and PowerPC™ are trademarks of International Business Machines Corporation.

HP-UX® is a registered trademark and Tachyon™ and Precision Bus™ are trademarks of Hewlett-Packard Company.

Intel® and Pentium® are registered trademarks of Intel Corporation.

TI® is a registered trademark of Texas Instruments.

Compu-shield® is a registered trademark of Stewart Connectors Systems, Inc.

Tundra® is a registered trademark and Universe™ is a trademark of Tundra Semiconductor Corporation.

Ethernet® is a registered trademark of Xerox Corporation.

DG/UX® and AViiON® are registered trademarks of Data General Corporation.

Apple® and Power Macintosh® are registered trademarks and Macintosh™, MacOS™, Mac™, and AppleTalk™ are trademarks of Apple Computer, Inc.

NCR® is a registered trademark of NCR Corporation.

Silicon Graphics® is a registered trademark and SGI™, Indigo™, Indy™, Indigo²™, IRIX™, IRIS™, IRIS Indigo™, Challenge™, and Challenge M™ are trademarks of Silicon Graphics, Inc.

ALPHA™ is a trademark of Digital Equipment Corporation.

Gadzoox™ is a trademark of Gadzoox Microsystems, Inc.

Seagate™ and Barracuda™ are trademarks of Seagate Technology, Inc.

ST® is a registered trademark of AT&T.

SCO, The Santa Cruz Operation, SCO OpenServer, and UnixWare are trademarks or registered trademarks of The Santa Cruz Operation, Inc.

Assistance

Product Purchased from Reseller

Contact the reseller or distributor if

- You need ordering, service or any technical assistance.
- You received a damaged, incomplete or incorrect product.

Product Purchased Directly from Interphase Corporation

Contact Interphase Corporation directly for assistance with this, or any other Interphase Corporation product. Please have your purchase order and serial numbers ready.

Customer Support

United States: Telephone: (214) 654-5555
Fax: (214) 654-5500
E-Mail: intouch@iphase.com

United Kingdom: Telephone: 44 (0) 1869-321222
Fax: 44 (0) 1869-247720

France: Telephone: 33 (0)1 41 15 44 00
Fax: 33 (0)1 41 15 12 13

World Wide Web

<http://www.iphase.com>

Anonymous FTP Server

<ftp.iphase.com>

Contents

ADDENDUM: UnixWare Driver Installation

Overview	1
Driver Requirements.....	2
Installing the Driver.....	3
Configuring the Adapter	6
Removing a Driver.....	7
Index.....	9

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

```
init s
```

```
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 0xFFFFFFFF" \
    [Default: "0xFFFFFFFF"]: 0xFFFFFFFF
  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 0xFFFFFFFF" \
    [Default: "0xFFFFFFFF"]: 0xFFFFFFFF
  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

Index

When using this index, keep in mind that a page number indicates only where referenced material begins. It may extend to the page or pages following the page referenced.

A

adapter installation..... 3, 6

B

broadcast address2

BUS1

C

caution

 ATM switch requirements1

 cvconf file7

CellView utility6

CPU required2

cvconf file.....7

D

disk space requirements2

driver removal7

E

endstation requirements2

existing drivers3

F

features1

I

ifconfig options2

inet package2

init command3

installation3

IP address2

IP-ATM (RFC-1577) clients..... 1, 5, 6

IP-ATM (RFC-1577) server 1, 6

L

LANE clients (LECs)..... 1, 5

LANE services1, 6

M

mount command 3

multiple adapters.....5

N

net mask.....2

network interface2

nsu package.....2

O

overview 1

P

pkgadd command.....3

pkginfo command.....3

pkgrm command7

PVC (RFC-1483)..... 1

R

reboot command6, 8

removing a driver 7

RFC-1483 PVC 1

RFC-1577 (IP-ATM) clients 1, 5, 6

RFC-1577 (IP-ATM) server1, 6

S

shutdown command6, 8

single-user mode.....3, 7

SVCs 1

switch requirements 1

system memory 2

U

UNI 3.0/3.1 1

UnixWare version.....2

