HP9000 PCI FDDI Release Notes
for HP-UX 10.20, 11.0 and 11i

HP9000 Networking

HEWLETT ®
PACKARD

United States

Legal Notices

The information in this document is subject to change without notice.

Hewlett-Packard makes no warranty of any kind with regard to this manual, including, but not limited to, the implied warranties of merchantability and fitness for a particular purpose. Hewlett-Packard shall not be held liable for errors contained herein or direct, indirect, special, incidental or consequential damages in connection with the furnishing, performance, or use of this material.

Warranty. A copy of the specific warranty terms applicable to your Hewlett- Packard product and replacement parts can be obtained from your local Sales and Service Office.

Restricted Rights Legend. Use, duplication or disclosure by the U.S. Government is subject to restrictions as set forth in subparagraph (c) (1) (ii) of the Rights in Technical Data and Computer Software clause at DFARS 252.227-7013 for DOD agencies, and subparagraphs (c) (1) and (c) (2) of the Commercial Computer Software Restricted Rights clause at FAR 52.227-19 for other agencies.

HEWLETT-PACKARD COMPANY
3000 Hanover Street
Palo Alto, California 94304
U.S.A.

Use of this manual and flexible disk(s) or tape cartridge(s) supplied for this pack is restricted to this product only. Additional copies of the programs may be made for security and back-up purposes only. Resale of the programs in their present form or with alterations, is expressly prohibited.

Copyright Notices. ©copyright 1983-2001 Hewlett-Packard Company, all rights reserved.

Reproduction, adaptation, or translation of this document without prior written permission is prohibited, except as allowed under the copyright laws.

©copyright 1979, 1980, 1983, 1985-93 Regents of the University of California

This software is based in part on the Fourth Berkeley Software Distribution under license from the Regents of the University of California.

©copyright 1980, 1984, 1986 Novell, Inc.
©copyright 1986-1992 Sun Microsystems, Inc.
©copyright 1985-86, 1988 Massachusetts Institute of Technology. ©copyright 1989-93 The Open Software Foundation, Inc.
©copyright 1986 Digital Equipment Corporation.
©copyright 1990 Motorola, Inc.

1 HP9000 PCI FDDI Release Note - 11i

The following Release Notes provide information about the HP9000 PCI FDDI LAN adapters for the HP-UX versions 11i.

Announcement

The Release Notes for PCI FDDI 10.20, 11.0 and 11i have been combined into one document.

The Subagent support feature has been provided for HP9000 PCI FDDI 11i.

What's New in This Version

The following enhancements to HP-UX 11i has been provided in this release:

• PCI FDDI Subagent support for HP-UX 11i.

• Logging information for unsolicited events.

Network Management Using the PCI FDDI Subagent

The PCI FDDI subagent is a daemon which will service the request for FDDI MIB (Management Information Base) corresponding to the PCI FDDI cards in the system.

Important Terms and Definitions

• **SNMP:** Simple Network Management Protocol. See RFC1155, RFC1157, RFC1212, RFC1902.

• **Master Agent:** This is the master agent which directly communicates with the management application, and decides which subagent to forward the request to. It performs authentication, packet receiving and sending.

• **SMT:** Station Management. Station Management manages the three protocol layers of a FDDI station; MAC, PHY and PMD. SMT is a subset of network management that allows initialization, control and monitoring of hardware components related to the PCI FDDI protocol layers.

• **FDDI-MIB:** FDDI Management Information Base. See RFC1512.

Requirements for Using Subagent

The *HP OpenView* product is recommended, but you can use other SNMP managers to communicate with the subagent using manager applications (*xnmbrowser*) and commands.

Use *Managing HP-UX Software with SD-UX for HP-UX 11i* as a reference guide for Patch installations. The *HP OpenView Extensible SNMP Agent* provides a good description for configuration. These documents can be obtained from **http://doc.hp.com**.

OLA/R Specific

When new cards are added online with SAM, the subagent will automatically be restarted. If new cards are added using `rad`(1M), the PCI FDDI subagent must be manually restarted.

Limitations

Due to card limitations, the PCI FDDI subagent doesn't support all FDDI-MIB objects and operations defined in RFC1512 or SMT 7.3. Listed below are the attributes that are not supported or have specific values and operations.

• The following two groups are not supported by the PCI FDDI subagent. Requests for these attributes will lead to a **NO VALUE RETURNED ERROR**.

  `fddimibMACCountersGroup`

  `fddimibPATHConfigTable`

• The following two attributes are not supported by the PCI FDDI card. A value of 1 is returned when a get operation is requested.Trying to set these attributes will lead to a **READ ONLY ERROR**.

  `fddimibSMTStationAction`

  `fddimibPORTAction`

• The following five attributes take only one value for the PCI FDDI card. They are read only instead of read and write. Trying to set these attributes will lead to a **READ ONLY ERROR**.

  `fddimibConfigPolicy`

  `fddimibMACRequestedPaths`

  `fddimibMACFrameErrorThreshold`

```
fddimibPORTConnectionPolices
```

```
fddimibPORTRequestedPaths
```

- The following two attributes have values with card specific ranges. Trying to set these attributes with a value that is out of the specific ranges will lead to an **INVALID VALUE ERROR**.

```
fddimibSMTTraceMaxExpiration (6002--100000)
```

```
fddimibPORTLerCutoff (5--8)
```

- The following two attributes are read only for PCI FDDI subagent. Trying to set these attributes will lead to a **READ ONLY ERROR**.

```
fddimibPATHTVXLowerBound
```

```
fddimibPATHMaxLowerBound
```

```
fddimibPATHMaxTReq
```

Known Problems and Workarounds

None

Patches and Fixes in This Version

Fixes for 11i

The fixes for the following symptoms are included in this version.

1. Messages similar to the following are seen either on the system console or in the system log file (/var/adm/syslog.log) by default for the A and B class systems with a non cache-coherent I/O that has the PCI FDDI card and driver installed.

   ```
   vmunix: FDDI[2]WARNING: cmd=0 failure Status=lcee90
   ```

2. The PCI FDDI link is dropped when the system is heavily loaded and the card is reset by the driver for some reason. The fix for this symptom depends on the DLPI Patch # PHNE_22963.

3. The PCI FDDI driver init script will fail during bootup if any entries in the PCI FDDI configuration file were invalid.

2 HP9000 PCI FDDI Release Note - 11.0

Announcement

The Release Notes for PCI FDDI 10.20, 11.0 and 11i have been combined into one document.

The Subagent support feature has been provided for HP9000 PCI FDDI 11.00, release 11.00.16.

What's New in This Version

The following enhancements to HP-UX 11.0 has been provided in this release, 11.00.16:

Refer to the 11i release note section for detailed information on Subagent.

1. PCI FDDI Subagent support for HP-UX 11.0.

2. Logging information for unsolicited events. The driver will log both the type and entity of the logged event.

Known Problems and Workarounds

None

Patches and Fixes in This Version - 11.00.16

Fixes for the following symptoms are included in this version. Fixes one through seven are for the new release, 11.00.16.

See Table 2-1 at the end of this section for additional information regarding ARs or patch releases and the specific fixes they contain.

1. Network management subagent for PCI FDDI is not available.

2. Details of unsolicited events are not available for the PCI FDDI Driver

3. Messages similar to the following are seen either on the system console or in the system log file (/var/adm/syslog.log, by default) on A and B class systems with non-cache=coherent I/O which have the PCI FDDI card and driver installed:

   vmunix FDDI[2] WARNING: cmd=0 failure status=lcee90

4. When the system is heavily loaded, the PCI FDDI driver may reset the card to recover from a time-out. During the reset, the IP state will go to the *Down* state, and it may not come back to the *UP* state even if the card recovers successfully. This fix depends on Patch PHNE_24413.

5. Sometimes the card reset will fail and the following message can be seen either on the system console or in the system log file:

   vmunix fddi4[2], reclaim_res: Card in wrong state 4, ff, 872, fddi4_rest

6. A system that has the `PHCO_21596` patch or a superseding patch installed and has run `insf -e` to create the device files will cause the `fddipciadmin` not to work and the message similar to the following will be printed:

   fddipciadmin:/dev/lan1 is not a valid device, errno = 19

7. The lanadmin shared library for the PCI FDDI product does not need to have the suid bit set. The access bit should be `0555`.

8. A system with the FDDI PCI product installed (from the June 2000 application release) may panic with a 'data memory protection fault' when an application running sustained and heavy loop-back traffic over the FDDI PCI interface is closed. The loop-back packets have a non-SNAP destination Service Access Point (SAP), i.e. a destination SAP that is not equal to 0xAA.

9. When promiscuous mode is enabled on an interface, outbound packets are not looped back to the unbound promiscuous stream.

10. The driver does not support clearing the card and driver statistics from the *lanadmin(1M)*

command.

11. The product lacks a configuration file that would allow configuration information to be stored for each interface (per-interface), and that could also be used to automatically initialize the PCI FDDI interfaces at boot-up time from the product start-up scripts.

NOTE   A new file, */etc/rc.config.d/hpfddi4conf* has been provided in this release. It is used to store the MAC address, MTU, T_Req parameter and T_Notify parameter for each interface (per-interface).

---

12. A V-Class system may panic under heavy network load with 'Epic Channel Error' caused by a write side manager channel context error.

13. The *nettl* formatter, when run in 'raw' mode on a *nettl* trace data for the PCI FDDI driver, may core dump.

14. The *ioscan(1M)* command does not indicate the revision level of the PCI FDDI cards installed on a system.

15. The driver needs to be enhanced to support LAN Monitor.

16. Applications using DLPI type-2 connection-oriented protocol over the FDDI PCI interface are unable to connect to a peer on another system.

17. On a cable disconnect/reconnect, or when resetting the card using the `lanadmin(1M)` command, the system panics with: "`panic: wait_for_lock: Already own this lock!`"

18. The FDDI PCI interface state as seen using the `ifconfig(1M)` command does not change on cable disconnects (from UP to DOWN) and reconnects (from DOWN to UP).

19. Panic with epic channel error on V-Class and panic with data page fault on N-Class.

20. When an automatic reset of the card fails, it is not reattempted.

21. I/O address allocation is inefficient.

22. Heavy outbound traffic can cause the timer to falsely detect a DMA time-out, and then reset the card.

23. The patch PHNE_17517 added support for `hdrin` / `hdrout` / `loopback NetTL` tracing potential.

24. Fixed the interface hang on workstations while transmitting `UDP` packets.

25. Changed the `T_Req` default to 165 ms.

26. Added *command line* option support to change `T_Req` and `T_Notify` times.

27. Added a reset mechanism to recover from transmit DMA time-out, command response time-out or card halt events.

28. Added a new option in the `fddipciadmin` command to allow the *T_Req* time and *T_Notify* time to be changed.

29. Fixed the `fddipciadmin` command to correctly display multicast addresses.

30. Restored the multicast, promiscuous and MAC address setting on the card after a card reset occurred due to an error recovery or user command.

31. When installed in the same EPIC slots with one or more Gigabit Ethernet, Token Ring, ATM, X.25, or Hyperfabric cards, the system may fail to boot.

32. The "`lanadmin -R`" command caused the MTU size to be set to a random number.

33. Added performance enhancement for TPC-C.

34. Added SAP promiscuous filtering for unbound stream.

35. System panic with "Global error on EPIC device, Driver fddi4". The panic was due to the use of an already unmapped PCI address.

36. WSIO dependency is missing. On a system without the Core LAN installed, installing PCI FDDI would fail.

37. `lanadmin` fails after repeatedly changing ppa/display commands. For example:

> ppa 4   (FDDI)
> di
>
> ppa 5   (ETHERNET)
> di
>
> ppa 6   (FDDI)
> di
>
> ...

After repeatedly issuing a number of display commands for different PPA (Physical Point of Attachment number), the application fails permanently and prints the following message:

`Cannot open shared library /usr/lib/lanadmin/libdsfddi4.sl`

38. Under heavy traffic, the interface appeared to be hung on a 6-way V2200. Linkloop and ping stopped working. Observed "FDDI Warning - Code=20024" in dmesg.

39. Using the LLA interface to the PCI FDDI driver causes a panic. LLA interface has been

obsoleted in 11.0.

Table 2-1. Fixes implemented

PATCH/FIX Number (see list above)	Released in this AR	Released in this Patch
1	E1201	N/A
2	E1201	N/A
3	E1201	N/A
4	E1201	N/A
5	E1201	N/A
6	E1201	N/A
7	E1201	N/A
8	E0900	PHNE_20874
9	E0600	PHNE_20874
10	E0600	PHNE_20874
11	E0600	PHNE_20874
12	E0600	PHNE_20874
13	E0600	PHNE_20874
14	E0600	PHNE_20874
15	E0600	PHNE_20874
16	E1299	PHNE_19542
17	E1299	PHNE_19542
18	E1299	PHNE_19542
19	E1299	PHNE_18524
20	E1299	PHNE_18524
21	E1299	PHNE_18524

Table 2-1. Fixes implemented (Continued)

PATCH/FIX Number (see list above)	Released in this AR	Released in this Patch
22	E1299	PHNE_18524
23	E0499	PHNE_17517
24	E0499	PHNE_17517
25	E0499	PHNE_16689
26	E0499	PHNE_16689
27	E1298	PHNE_16689
28	E1298	PHNE_16689
29	E1298	PHNE_16689
30	E1298	PHNE_16689
31	E0898	PHNE_15670
32	E0898	PHNE_15269
33	E0698	PHNE_15269
34	E0698	PHNE_15269
35	E0698	PHNE_14555
36	E0698	PHNE_14555
37	E0698	PHNE_14555
38	E0498	PHNE_13212
39	E0498	PHNE_13184

In the above table, both AR and Patch Releases are cumulative.

3   HP9000 PCI FDDI Release Note - 10.20

Announcement

The Release Notes for PCI FDDI 10.20, 11.0 and 11i have been combined into one document.

The Subagent support feature has been provided for HP9000 PCI FDDI 10.20, release 10.20.16.

What's New in This Version

The following enhancements to HP-UX 10.20 has been provided in this release 10.20.16:

Refer to the 11i release note section for detailed information on Subagent.

1. PCI FDDI Subagent support for HP-UX 10.20.

2. Logging information for unsolicited events. The driver will log both the type and entity of the logged event.

Known Problems and Workarounds

None

Patches and Fixes in This Version

Fixes for the following symptoms are included in this version. Fixes one through four are for the new release, 10.20.16.

See Table 3-1 at the end of this section for additional information regarding ARs or patch releases and the specific fixes they contain.

1. Network management subagent for PCI FDDI is not available.

2. Details of unsolicited events are not available for the PCI FDDI Driver.

3. Messages similar to the following are seen either on the system console or in the system log file (/var/adm/syslog.log, by default) on A and B class systems with non-cache=coherent I/O which have the PCI FDDI card and driver installed:

   vmunix: fddi4_process_cmd_rsp: cmd 0 status lcee90

4. When the interface is reset, the multicast address and promiscuous level set in the card will be lost. The interface will not receive the packets designated for the multicast address and packets corresponding to the promiscuous level.

5. A system with the FDDI PCI product installed (from the June 2000 application release) may panic with a 'data memory protection fault' when an application running sustained and heavy loop-back traffic over the FDDI PCI interface is closed. The loop-back packets have a non-SNAP destination Service Access Point (SAP), i.e. a destination SAP that is not equal to 0xAA.

6. The driver has been enhanced to support LAN Monitor.

7. Enhancements to support the "Clear Statistics" option of the *lanadmin* command have been added.

8. A broadcast storm problem, which occurred when two subnets were on the same physical LAN, has been fixed.

9. Support to communicate link up/down events to upper layers has been added.

10. Connection oriented (DLPI T2) failure problem has been fixed. This requires the following LAN cumulative patches:

    • For the 700 model: PHNE_21215

    • For the 800 model: PHNE_21216

    or subsequent patches to be installed.

11. Support for A-Class servers has been added.

12. Provided `subsystem_id` and `subsystem_vendor_id` check support for the new universal card which will replace the current card.

13. Corrected spinlock usage to avoid a potential hang.

14. Added support for loopback outbound promiscuous.

15. Provided man page support which was lacking in the B.10.20.01 and B.10.20.03 releases.

16. Fixed a rare case of memory leak.

17. Shortened the period of holding a spinlock during heavy outbound traffic.

18. Added support for an unbound promiscuous stream, as well as any number of bound promiscuous streams. This requires the LAN cumulative patch PHNE_18173 (700 model) / PHNE_18924 (800 model), or subsequent patches, to be installed.

19. Fixed a defect where NFS transfer could hang.

Table 3-1. Fixes Implemented

Patch/Fix Number	Released in this AR	Released in This Patch
1	AR1201	N/A
2	AR1201	N/A
3	AR1201	PHNE_23509
4	AR1201	PHNE_23509
5	September 2000	PHNE_20875
6	June 2000	PHNE_20875
7	June 2000	PHNE_20875
8	June 2000	PHNE_20875
9	June 2000	PHNE_20875
10	June 2000	PHNE_20875
11	March 2000	PHNE_20875
12	December 1999	PHNE_20875
13	December 1999	PHNE_19541
14	December 1999	PHNE_18735

Table 3-1. Fixes Implemented

Patch/Fix Number	Released in this AR	Released in This Patch
15	December 1999	PHNE_18735
16	December 1999	PHNE_18735
17	December 1999	PHNE_18735
18	June 1999	N/A
19	December 1998	N/A

In the above table, both AR and Patch Releases are cumulative.