

HP A6684A and A6685A HSC Fibre Channel Adapter Release Notes

Application Release 12/01

HP Fibre Channel Mass Storage



Manufacturing Part Number: J2635-90012

E1201

U.S.A.

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HP A6684A and A6685A HSC Fibre Channel Adapter Release Notes

Announcement

This release note contains information pertaining to HP-UX 10.20, 11.00 and 11i.

The A6684A adapters are now supported on additional D-class platforms and boot support is now available for additional K-class, R-class and D-class systems. Also included in this release are enhancements for fcmsutil and support for the new HP Fibre Channel SNIA HBA API.

This AR1201 release of A6684A and A6685A updates the HP-UX 10.20 driver to B.10.20.03, the 11.00 driver to version B.11.00.10, and the 11i driver to version B.11.11.09.

What's in This Version

What's in This Version

This release of the A6684A and A6685A HSC Tachlite adapters includes the following:

- HP FC SNIA HBA API (supported on 11.00 and 11i)
- Additional platform and boot support
- Enhancements to fcmsutil
- New driver versions (10.20, 11.00, 11i)

Benefits

This version allows customers to take advantage of new features, fixes and enhancements.

Features

- **FC SNIA HBA API** - HP has created a new FC SNIA HBA API (Fibre Channel Storage Network Industry Association Host Bus Adapter Application Programming Interface). The SNIA HBA API is a C library interface that provides a common HBA API library for all HP-UX HBA vendors and a vendor specific API library for HP's Tachlite and XL2 Fibre Channel adapters. The API software is bundled with the driver and is installed at the same time the driver is installed. The intended users of this API are programmers who want to create applications for managing SANs.
- **Platform Support** - The A6684A adapters support the following additional platforms:
 - D320, D330, D220, D230The A6685A adapters support the following additional platforms:
 - K250, K450
- **Boot Support** - Boot support is available on the following platforms:
 - K260, K360, K460, K370, K380, K570, K580
 - D390, R390
- **fcmsutil Enhancements** - Enhancements have been made to fcmsutil to report additional information:
 - Dino Present on Card ("Yes" indicates HSC Tachlite card installed)
 - Maximum Frame Size

— Driver Version

- **Driver versions** - The following driver versions are available with this release:

— 10.20 - B.10.20.03

— 11.00 - B.11.00.10

— 11i - B.11.11.09

You can obtain these drivers from the AR1201 application release CD or you can download them from the web at <http://www.software.hp.com>.

The HP-UX 11i driver is automatically selected for installation with the HP-UX operating environments.

The following table shows the driver versions for each release of A6684A and A6685A:

Table 0-1

Release	HP-UX 10.20	HP-UX 11.00	HP-UX 11i
Web Release February 2001		B.11.00.07 (32/64-bit)	
Web Release April 2001	B.10.20.01 (32-bit)	B.11.00.08 (32/64-bit)	B.11.11.06 (32/64-bit)
Application Release 0601	B.10.20.01 (32-bit)	B.11.00.08 (32/64-bit)	B.11.11.06 (32/64-bit)
Application Release 1201	B.10.20.03 (32-bit)	B.11.00.10 (32/64-bit)	B.11.11.09 (32/64-bit)

For detailed information on supported platforms, switches and devices for these adapters, log on to the ITRC web site (<http://itrc.hp.com>), click on navigate knowledge trees and response center FAQs. In the Hardware area, navigate the links to networks/mass storage connectivity/fibre channel/technical support.

Other

To boot with the A6684A or A6685A adapter, you must have the appropriate PDC (Processor Dependent Code) firmware version on your system. For a list of bootable firmware versions for the supported platforms, visit the ITRC Fibre Channel web site to access Fibre Channel HBA support information (see above).

To determine the PDC firmware version on your system, do the following:

What's in This Version

At the BCH prompt: Main Menu: Enter command or menu >

Enter the command, **in fv**.

The firmware version will display on the screen.

If you need to upgrade the PDC version on your system, contact your HP representative.

Documentation

- *HP Fibre Channel Fabric Migration Guide*, Part No. J2635-90014, Edition Date E1201.
- *Hewlett-Packard Fibre Channel Mass Storage Adapters Service and User Manual*, Customer Order Part No. A3636-90002, Edition Date E1201.
- *HP FC SNIA HBA API Programmer's Guide*, Part No. J2635-90015, Edition Date E1201.

The documentation for this release is available December 2001 at <http://www.docs.hp.com> and on the AR1201 Instant Information CD.

Known Problems and Workarounds (11i)

1. This problem concerns the HP Fibre Channel SNIA HBA API.

Problem: When the HBA_OpenAdapter() API returns 0, it does not set the errno variable appropriately under the following scenarios:

- When there is a file open error, the errno variable is not set to EACCES.
- When the adapter for open is not available, the errno variable is not set to ENXIO.
- When there is an internal error, the API does not always set the errno variable to EIO.

If the errno is not set appropriately, the user application may fail to identify the cause of the failure.

Workaround or Fix: The user application may set the errno value to 0 immediately before the call to HBA_OpenAdapter(). If the call returns 0, the application can verify if there is a change in the errno value. If the errno value remains 0, the API has not set the errno value due to any one of the above listed error scenarios. Otherwise, the errno value set by the API may be interpreted as given in the programmer's guide.

Example code:

```
HBA_HANDLE adapter_handle;

errno = 0;
adapter_handle = HBA_OpenAdapter(adapter_name);
if (adapter_handle == 0)
{
    if (errno == 0)
    {
        printf("HBA_OpenAdapter() failed - Error cause not available\n");
    }else
    {
        printf("HBA_OpenAdapter() failed - errno set to %d\n", errno);
    }
}else
{
    printf("HBA_OpenAdapter() returned a handle of %u\n", adapter_handle);
}
```

2. **Problem:** If you install an HSC Tachlite adapter in a HP-UX 11i system with the default Fibre Channel 11i driver version B.11.11.03, the system will panic at boot-up.

Workaround: Install Fibre Channel bundle FibrChanl-00 from the June 2001 OE Update

Known Problems and Workarounds (11i)

Release, the June 2001 Application Release, or the web release version of the HSC Tachlite driver (B.11.11.06), before you install the adapter.

3. The following is a description of a problem that occurs with the Brocade switch. It is not a problem with the A6684A or A6685A adapter or software. We document it here for customers who use Brocade switches in Fabric mode in a Public Loop topology.

Problem: In Fabric mode, when multiple hosts are connected on the same switch using a hub (especially two hosts), FLOGI gets timed out when a host changes from Point-to-Point to a Loop topology. This problem occurs with Fabric mode only and not with QuickLoop.

Fix: Use the telnet command, `portCfgLport`, to lock the port in loop mode (L_Port) when multiple hosts or targets are connected on a single switch port. This command insures that `nport_id` addresses will not change during temporary transitions and will not cause any subsequent FLOGI time-outs. This problem is fixed in Brocade firmware revision V2.1.9d and later releases.

The `portCfgLport` command is clearly documented in the Brocade release notes for V2.1.9d and in the Brocade Man pages.

Dependencies

The following dependencies are not A6684A or A6685A adapter problems, but you may encounter them during installation or when booting the system. Therefore, they are listed as dependencies.

You may see the following SD (Software Distributor) warnings and errors when you install the software using `swinstall`. These messages are related *only* to SD. They do not apply to the HSC Tachlite products. This problem will be fixed in a later version of SD.

- During the `swinstall` step, the following warnings are logged in the `swagent.log` file:

```
WARNING: The filesystems in the filesystem table will not be checked
against those currently mounted because the "mount_all_filesystems" option
is set to "false."
```

You can ignore the message, or you can set the "mount_all_filesystems" option to "true" and make sure that all the `fstab` entries are available.

```
WARNING: The Analysis Phase had warnings. See the above output for details.
```

This message is related to the previous warning. You can ignore this message.

The following messages are logged in the `swremove.log` file during `swremove` and `swinstall`.

```
ERROR: Could not apply the software selection
"Obsolete.NCSNCK,l=/,r=B.11.00,a=HP-UX_B.11.00_32/64,v=HP,fa=HP-UX_B.11.00
```


_32/64"; it is not available from depot or root"

This problem is being fixed in a later version of SD. You can ignore this message.

ERROR: Cannot continue the "swremove" task

This message is related to the previous warning. You can ignore this message.

- **The following problem is related to the HP-UX kernel boot loader:**

If a host on the loop is booting, and another host on the same loop does an ioscan, the booting host may experience a panic. The host will eventually come up when it tries to boot again.

Known Problems and Workarounds (11.00)

1. This problem concerns the HP Fibre Channel SNIA HBA API.

Problem: When the `HBA_OpenAdapter()` API returns 0, it does not set the `errno` variable appropriately under the following scenarios:

- When there is a file open error, the `errno` variable is not set to `EACCES`.
- When the adapter for open is not available, the `errno` variable is not set to `ENXIO`.
- When there is an internal error, the API does not always set the `errno` variable to `EIO`.

If the `errno` is not set appropriately, the user application may fail to identify the cause of the failure.

Workaround or Fix: The user application may set the `errno` value to 0 immediately before the call to `HBA_OpenAdapter()`. If the call returns 0, the application can verify if there is a change in the `errno` value. If the `errno` value remains 0, the API has not set the `errno` value due to any one of the above listed error scenarios. Otherwise, the `errno` value set by the API may be interpreted as given in the programmer's guide.

Example code:

```
HBA_HANDLE adapter_handle;

errno = 0;
adapter_handle = HBA_OpenAdapter(adapter_name);
if (adapter_handle == 0)
{
    if (errno == 0)
    {
        printf("HBA_OpenAdapter() failed - Error cause not available\n");
    }else
    {
        printf("HBA_OpenAdapter() failed - errno set to %d\n", errno);
    }
}else
{
    printf("HBA_OpenAdapter() returned a handle of %u\n", adapter_handle);
}
```

Dependencies

The following dependencies are not A6684A or A6685A adapter problems, but you may

encounter them during installation or when booting the system. Therefore, they are listed as dependencies.

You may see the following SD (Software Distributor) warnings and errors when you install the software using `swinstall`. These messages are related *only* to SD. They do not apply to the HSC Tachlite products. This problem will be fixed in a later version of SD.

- During the `swinstall` step, the following warnings are logged in the `swagent.log` file:

```
WARNING: The filesystems in the filesystem table will not be checked
against those currently mounted because the "mount_all_filesystems" option
is set to "false."
```

You can ignore the message, or you can set the "mount_all_filesystems" option to "true" and make sure that all the `fstab` entries are available.

```
WARNING: The Analysis Phase had warnings. See the above output for details.
```

This message is related to the previous warning. You can ignore this message.

The following messages are logged in the `swremove.log` file during `swremove` and `swinstall`.

```
ERROR: Could not apply the software selection
"Obsolete.NCSNCK,l=/,r=B.11.00,a=HP-UX_B.11.00_32/64,v=HP,fa=HP-UX_B.11.00
_32/64"; it is not available from depot or root"
```

This problem is being fixed in a later version of SD. You can ignore this message.

```
ERROR: Cannot continue the "swremove" task
```

This message is related to the previous warning. You can ignore this message.

- The following problem is related to the HP-UX kernel boot loader:

If a host on the loop is booting, and another host on the same loop does an `ioscan`, the booting host may experience a panic. The host will eventually come up when it tries to boot again.

Known Problems and Workarounds (10.20)

There are no known 10.20 problems in this release.

Dependencies

The following dependencies are not A6684A or A6685A adapter problems, but you may encounter them during installation or when booting the system. Therefore, they are listed as dependencies.

You may see the following SD (Software Distributor) warnings and errors when you install the software using `swinstall`. These messages are related *only* to SD. They do not apply to the HSC Tachlite products. This problem will be fixed in a later version of SD.

- During the `swinstall` step, the following warnings are logged in the `swagent.log` file:

```
WARNING: The filesystems in the filesystem table will not be checked
against those currently mounted because the "mount_all_filesystems" option
is set to "false."
```

You can ignore the message, or you can set the "mount_all_filesystems" option to "true" and make sure that all the `fstab` entries are available.

```
WARNING: The Analysis Phase had warnings. See the above output for details.
```

This message is related to the previous warning. You can ignore this message.

The following messages are logged in the `swremove.log` file during `swremove` and `swinstall`.

```
ERROR: Could not apply the software selection
"Obsolete.NCSNCK,l=/,r=B.11.00,a=HP-UX_B.11.00_32/64,v=HP,fa=HP-UX_B.11.00
_32/64"; it is not available from depot or root"
```

This problem is being fixed in a later version of SD. You can ignore this message.

```
ERROR: Cannot continue the "swremove" task
```

This message is related to the previous warning. You can ignore this message.

- The following problem is related to the HP-UX kernel boot loader:

If a host on the loop is booting, and another host on the same loop does an `ioscan`, the booting host may experience a panic. The host will eventually come up when it tries to boot again.

Compatibility Information and Installation Requirements

The following are software and hardware requirements for the A6684A and A6685A adapters.

For general installation procedures on installing the adapters, please refer to the *Hewlett-Packard Fibre Channel Mass Storage Adapters Manual*, P/N A3636-90002, E1201.

For instructions on installing the adapter on your specific system, please refer to your system's documentation.

Software Requirements

For HP-UX 11.00:

- Software Driver version (B.11.00.10)

The driver is available from the AR1201 Application CD, or you can download it from the web at <http://www.software.hp.com>.

- HP-UX 11.00 Operating System (32 or 64-bit)
- FCMS Patch PHKL_23939 or later (for 11.00 only)

This patch is required. You must install this patch before you install the driver. You can download the patch from the ITRC at <http://itrc.hp.com>.

For HP-UX 11i:

- Software Driver version (B.11.11.09)

The 11i driver is pre-installed with the HP-UX 11i Operating Environments. You can also get the driver from the AR1201 Application CD, or you can download it from the web at <http://www.software.hp.com>.

- HP-UX 11i Operating System (32/64 bit)
- FCMS Patch PHKL_23626 or later (for 11i only)

This patch is required. You must install this patch before you install the driver. You can download the patch from the ITRC at <http://itrc.hp.com>.

For HP-UX 10.20

- Software Driver version (B.10.20.03)
- HP-UX 10.20 Operating System
- J3630BA Fibre Channel Software Bundle (if not already installed)

Compatibility Information and Installation Requirements

- Dependency Patches
 - PHSS_23581 or later
 - PHKL_17590 or later
 - PHKL_16751 or later

These patches are required. You must install the patches before you install the driver. You can download the patches from the ITRC at <http://itrc.hp.com>.

- **Recommended:** Support Plus Media Kit (December 2001) for your particular HP-UX version. This kit contains the Quality Pack bundle, the Hardware Enablement bundle, and the Support Tools bundle containing the diagnostics (STM and EMS).

You can download the bundles from the HP Software Depot. The HP Software Depot provides the December 2001 Support Plus bundles for users at no charge at the following URL:

http://www.software.hp.com/SUPPORT_PLUS/

Hardware Requirements

- A6684A or A6685A Fibre Channel HSC Tachlite adapter
- HP-UX server:
 - D220, D230, D270, D280, D320, D330, D370, D380, D390,
 - R380, R390
 - K250, K450, K260, K360, K460, K370, K380, K570, K580
- 50/125 micron multi-mode fiber optic cabling with SC connectors
- Appropriate switches and devices for fabric

For information on supported topologies, see the *HP Fibre Channel Tachyon TL Fabric Migration Guide*, Part Number J2635-90008, Edition Date E0301.

Installation Instructions

If you download the HSC software from the web, pay particular attention to the following instructions.

When you install the HSC adapter in systems running early versions of HP-UX 10.20 (earlier than March 2000) and 11.00 (earlier than November 1999), ioscan may show the adapter as “UNCLAIMED” because of a missing GSCtoPCI driver entry in the /stand/system file. To correct this problem, please perform the installation steps below in the given sequence. User

commands are preceded by “#”.

Installing on 10.20

1. Login as root.
2. Check whether the GSCToPCI entry is present in the /stand/system file:

```
# grep GSCToPCI /stand/system
```

If it is not there, edit the /stand/system file and add it under the Drivers/Subsystems section.
3. Verify that the bundle, J3630BA, is installed on the system by looking at the swlist output:

```
# swlist | grep J3630BA
```
4. Verify that you have the /usr/conf/lib/libfcms.a library on your system:

```
# ls /usr/conf/lib/libfcms.a
```

If either J3630BA is not installed, or /usr/conf/lib/libfcms.a is not present, install the J3630BA bundle from any of the Application Release CDs dated March 2000 or later.

After the installation, the swlist output should contain J3630BA and the /usr/conf/lib/libfcms.a library should be present.
5. Verify whether the patches PHKL_16751, PHKL_17590 and PHSS_23581 are installed on your system:

```
# what /usr/conf/lib/libpci.a | grep dino3 | grep PHKL
```

The output should contain PHKL_16449 or any of the later patches. Please note that PHKL_16751 is the same as PHKL_16449 in this specific case of dino3.

```
# what /usr/conf/lib/libhp-ux.a | grep diag1 | grep PHKL
```

The output should contain PHKL_17590 or any of the later patches.

```
# what /usr/config/lib/libfcms.a | grep fcms | grep PHSS
```

The output should contain PHSS_23581 or any of the later patches.

If any of the above libraries or patches are not found on the system, download and install them from <http://us-support2.external.hp.com>.

Verify the success of the patch installation by repeating the above steps.
6. Download the 10.20 Tachlite driver depot to /tmp directory from <http://www.software.hp.com>.
7. Verify that the file has downloaded correctly using swlist.

Compatibility Information and Installation Requirements

```
# swlist -d @ /tmp/<10.20 depot> | grep A6685A (or A6684A)
```

8. Install the HSC Tachlite product.

```
# swinstall -s /tmp/<10.20 depot>
```

9. 9. Verify the HSC Tachlite driver installation after the system reboots.

```
# what /stand/vmunix | grep td
```

If the output does not contain the string `libtd.a`, the installation has not been successful. One common reason for the failure could be a lack of disk space. If this is the reason, create sufficient disk space and retry the installation. If the installation fails again, contact the HP Response Center.

Installation Procedures for 11.00

1. . Login as root.

2. 2. Check whether the GSCtoPCI entry is present in the `/stand/system` file:

```
# grep GSCtoPCI /stand/system
```

If it is not there, edit the `/stand/system` file and add it under the `Drivers/Subsystems` section.

3. Verify that you have HP-UX 11.00 ACE dated November 1999 or later installed on your system by looking at the `swlist` output:

```
# swlist | grep ACE
```

You should get output similar to the following:

```
XSWGRI1100 B.11.00.47.08 General Release Patches November 1999 (ACE)
```

If you do not have the specified version of HP-UX, install it from the HP-UX 11.00 Additional Core Enhancements (ACE) CD dated November 1999 or later.

After the installation, verify again with `swlist` as described above.

4. Verify whether the patch `PHKL_23939` exists on your system.

```
# what /usr/conf/lib/libfcms.a | grep fcms | grep PHKL
```

The output should contain `PHKL_23939` or any of the later patches.

If the patch is not found on the system, download and install it from <http://us-support2.external.hp.com>

Verify the success of the patch installation by repeating the above step.

5. Download the 11.00 Tachlite driver depot to `/tmp` directory from

<http://www.software.hp.com>.

6. Verify that the file has downloaded correctly using `swlist`

```
# swlist -d @ /tmp/<11.00 depot> | grep A6685A (or A6684A)
```

7. Install the HSC Tachlite product.

```
# swinstall -s /tmp/<11.00 depot>
```

8. Verify the HSC Tachlite driver installation after the system reboots.

```
# what /stand/vmunix | grep td
```

If the output does not contain the string `libtd.a`, the installation has not been successful. One common reason for the failure could be a lack of disk space. If this is the reason, create sufficient disk space and retry the installation. If the installation fails again, contact the HP Response Center.

Patches and Fixes in This Version

The following fixes and patches are included in this version of the software:

Fixes

Table 0-2 **HP-UX 10.20, 11.00 and 11i Fixes**

SR Number	Description
8606180952	Aborted backup due to SCSI 'overlapped' command condition
8606180458	TL driver experienced mapping resource problem leading to I/O failures on disks
8606212925	Tachlite driver requires "replace_disk" command when mixed with Tachyon
8606220874	A lot of Event #31 (Target rejected PRLI) logged by Tachyon TL

Patches

Table 0-3 **HP-UX 11.00 Patches**

Patch Number	Description
PHSS_23996	Fibre Channel Tachlite Driver Patch

Table 0-4 **HP-UX 11i**

Patch Number	Description
PHSS_24121	Fibre Channel Tachlite Driver Patch

Software Availability in Native Languages

This version of HSC Tachlite is in English only.