

HP A5158A Fibre Channel Adapter Release Notes



Manufacturing Part Number: J2635-90016

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U.S.A.

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1 HP A5158A Fibre Channel Adapter Driver Release Notes

Announcement

This release note contains information pertaining to the A5158A driver provided with HP-UX 11.00 and 11i v1.0, 11i v1.5 and 11i v2.0.

What's New

- Support for OLAR and Interrupt Migration with HP-UX 11i V2.0

Driver Versions

The following table shows the driver versions for each release of the A5158A driver:

Table 1-1

Release	HP-UX 11.00	HP-UX 11i v1.0	HP-UX 11i v1.5	HP-UX 11i v2.0
Application Release 0300	B.11.00.01 (32/64-bit)			
Application Release 0600	B.11.00.02 (32/64-bit)			
Web Release July 2000	B.11.00.03 (32/64-bit)			
Application Release 0900	B.11.00.04 (32/64-bit)			
11i OE Release		B.11.11.03 (32/64-bit)		
Application Release 1200	B.11.00.05 (32/64-bit)			
Web Release February 2001	B.11.00.06 (32/64-bit)	B.11.11.04 (32/64-bit)		
Application Release 0301	B.11.00.06 (32/64-bit)	B.11.11.04 (32/64-bit)		
Application Release 0601	B.11.00.06 (32/64-bit)	B.11.11.06 (32/64-bit)		
11i v1.5 OE rel. July 2001			B.11.20.04 (64-bit)	
Application Release 1201	B.11.00.10 (32/64-bit)	B.11.11.09 (32/64-bit)		
11i v2.0 OE Release				B.11.23.01 (64-bit)

Documentation

Additional documentation, covering the A5158A and other HP Fibre Channel adapters, is available from the web at <http://docs.hp.com> under the Fibre Channel area of the Networking and Communications section. The HP Fibre Channel Mass Storage Adapters Support Guide, available from the web, is the primary source of support documentation for HP Fibre Channel adapters. The HP Fibre Channel Support Guide includes adapter installation details, supported hardware platforms, supported software versions, adapter configuration, and maintenance information.

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);
}
```

2. **Problem:** When an A5158A driver version earlier than B.11.00.04 (AP0900) is installed in a V-class system, and the adapter is being used in a fully loaded EPIC/SAGA bus (4 cards present on EPIC/SAGA bus, one of which is an A5158A card), DMA Mapping problems occur as indicated by the following statistics:

```
fcmsutil /dev/tdn stat:
```

Known Problems and Workarounds (11.00)

Unable to map SF payload 4799

```
fcmsutil /dev/tdn devstat nport_id:
```

Retries For Resources 35980 (retrying to obtain map resources)

No resources for IO 27243 (number of times retries for mapping exhausted)

Workaround or Fix:

- a. Use A5158A driver version B.11.00.04 (AP0900) or later.
- b. Do not install more than three (3) adapters in an EPIC/SAGA bus if one of the adapters is an A5158A adapter.

3. **Problem:** A LIP storm occurs when an A5158A driver version earlier than B.11.00.05 (AP1200) is used in a private loop containing more than 40 NL_Ports.

Workaround or Fix: Install the B.11.00.05 (AP1200) or later version of the A5158A driver.

4. **Problem:** A LIP storm occurs when an A5158A driver version earlier than B.11.00.06 (AP0301) is installed with more than three (3) A5158A adapters in a QuickLoop topology. The symptoms will be a continuous LIP storm. Executing the qlShow command on a Brocade switch may show that two or more NL_Ports have acquired the same AL_PA.

Workaround or Fix:

- a. Use the A5158A adapter in a fabric topology by performing a alPortDisable on the switch ports on which the adapters are connected. (This will result in a change in the H/W path of the devices the card previously saw).
- b. Revert to a non-fabric version of the A5158A driver (earlier than B.11.00.03, web release).
- c. Upgrade to the B.11.00.06 (AP0301) or later version of the A5158A driver.

5. **Problem:** The Tachyon TL driver may report frequent “DIAGNOSTIC SYSTEM WARNING” messages when the system boots. The online diagnostic log may show the “Event #31” reported many times on non-mass storage nport_id’s. Although these messages are informational messages, excessive reports could diminish their usefulness.

Workaround or Fix: This problem is fixed in the AP0301 version of the driver (B.11.00.06). Install this version to correct the problem.

6. The following problem pertains to released versions of the A5158A driver earlier than AP0900.

Problem: L-class systems (L1000 and L2000) with configurations combining minimum memory (256 MB) and multiple DMA (Direct Memory Access) intensive I/O devices may experience performance problems. These problems occur when you install more than eight

PCI cards. The symptoms you are likely to see under these conditions are sluggish performance, especially when all (ten) PCI slots are used, or in the worst case, system panics.

This behavior occurs because the default size of the I/O Page Directory (IOpdir) in the kernel is undersized for this configuration.

Workaround or Fix: A patch is available that increases the default size of the IOpdir. The patch number is PHKL_22030. You can download this patch from the ITRC, <http://itrc.hp.com>, or install release AP0900 or later.

7. The following is a description of a problem that occurs with the Brocade switch. It is not a problem with the A5158A adapter or software. We document it here for A5158A 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 A5158A 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 A5158A software using `swinstall`. These messages are related *only* to SD. They do not apply to the A5158A Tachyon TL product. 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.
```

Known Problems and Workarounds (11.00)

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.11.0
0_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 (11i v1.0, v1.5, v2.0)

There are no listed problems/workarounds for HP-UX 11i v1.5 or v2.0. The following list is for HP-UX 11i v1.0 only.

1. **Problem:** During online replacement (OLR) of the A5158A adapter on Superdome systems, the replacement could fail if the adapter is connected to hub/switch/device. The following error message will display:

```
OLARD error: General error
```

The slot will become inaccessible until you power cycle the system.

Workaround or Fix: This problem can be avoided by disconnecting the cable from the adapter before doing OLAR operations.

2. **Problem:** During online replacement (OLR) of the A5158A adapter on L3000 systems, the replacement could cause a system panic (HPMC) if the adapter is connected to hub/switch/device. Subsequent boot will hang unless you power cycle the system.

Workaround or Fix: This problem can be avoided by disconnecting the cable from the adapter before doing OLAR operations.

3. **Problem:** During online replacement (OLR) of the A5158A adapter on the L2000 system, the replacement may fail and display the following error message:

```
OLARD error: General error
```

Workaround or Fix: This problem is fixed in PDC version 41.38.

4. 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:

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    {
        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);
}
```

5. The following is a description of a problem that occurs with the Brocade 2800 switch. It is not a problem with the A5158A adapter or software. We document it here for A5158A 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.

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```
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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.

```
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```

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.11.0
0_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

Software Requirements

- HP-UX 11.00, 11i v1.0-v1.5 or 11i v2.0
- A5158A software driver
- Tachyon patch PHKL_23939 or later (only for HP-UX 11.00)
- Tachyon patch PHKL_23626 or later (only for HP-UX 11i v1.0)

You can download the bundles from the HP Software Depot:

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

Software Availability in Native Languages

This product is available only in the English language.