



***IMAGE SERVICES***

# **Guidelines for Migrating from HP 9000 Servers to HP Integrity Servers**

**IS 4.0 HP Integrity Edition**

**9844142-001**

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# Guidelines for Migrating from HP 9000 Servers to HP Integrity Servers

FileNet customers who currently use HP 9000 32- or 64-bit PA-RISC servers may wish to replace these servers with new HP Integrity 64-bit servers powered by Intel® Itanium® 2 microprocessors.

The procedures in this document supplement the first four chapters of the *Installation and Configuration Procedures for HP-UX on HP Integrity Servers*, and are intended to help the FileNet Technical Consultant make this transition as easy as possible.

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**Note** If the HP 9000 system is a cache-only Image Services system, contact the FileNet Upgrade/Install Assurance Team for additional instructions.

---

**Important!** Your production Image Services system will need to be shut down for several hours while you make this transition, so be sure to plan your migration to HP Integrity well in advance.

---

The current HP 9000 system should be running:

- **Image Services 4.0 SP5**
- **Oracle 9.2.0 Server or Client**  
- or -  
**DB2 8.1/8.2 Client**

The new HP Integrity system should be running:

- **Image Services 4.0 HP Integrity Edition**

- **Oracle (HP UNIX Itanium Edition) 9.2.0 Server or Client**  
(corresponding to the same version on the HP 9000 server)  
- or -  
**DB2 8.1/8.2 Client**  
(corresponding to the same version on the HP 9000 server)

---

**Note** Since the HP Integrity servers will replace the HP 9000 servers, you should use the same server names, domain name, and FileNet System Serial Number (SSN) on the HP Integrity system.

EMC Centera and IBM DR550 data storage devices are not supported with HP Integrity servers.

---

**Important!** This document assumes that both the source HP 9000 system and destination HP Integrity system use the same Image Services system configuration, and are either Combined server systems or a Dual server systems. Migrating from a Combined server system to a Dual server configuration (or vice versa) is not covered in these procedures.

---

## Overview

The upgrade process is accomplished in two phases:

**Phase 1:** On the HP 9000 server:

- Use EBR to back up the MKF permanent and security databases.
- On systems with site-controlled Oracle, the Database Administrator is responsible for transferring the Oracle datasets. For example, the DBA should use Oracle export tools to back up local Oracle databases.

- On systems with FileNet-controlled Oracle, you can use EBR to back up the Oracle databases.
- On cache-only systems, use CSM\_exim to back up cache.

### **Phase 2:** On the new HP Integrity server:

- Install the relational database software (Oracle9i or DB2 v8.1/8.2 client)
- Install Image Services software using the *Installation and Configuration Procedures for HP-UX, IS 4.0 Integrity Edition*.
- Copy several configuration files from the HP 9000 system to the HP Integrity system, and modify the Image Services Configuration Database (CDB) file.
- Use EBR to restore the MKF databases from the HP 9000 system onto the HP Integrity system.
- Verify configuration integrity
- Put the HP Integrity system into production.

Before starting this procedure, be sure to contact the FileNet Upgrade/Install Assurance team for their guidance and support.

## **On the Current HP 9000 Server**

Perform the following tasks on the HP 9000 Image Services system while it's still on the IS 4.0 SP5 release of Image Services and Oracle.

### **Create EBR Backup and Restore Scripts**

Use the EBR\_genscript tool to create backup and restore scripts for the MKF permanent and security databases. On systems with FileNet-

controlled Oracle, be sure to include the Oracle databases in the backup and restore scripts.

- Specify offline, full backup and restore mode, and only one thread to run.
- On systems with FileNet-controlled Oracle, also specify restore control file = y, and restore redo log = y.
- Select either the backup to disk file or backup to tape option.

Refer to the *Enterprise Backup and Restore User's Guide* for complete information on using EBR.

**Important!**

---

**FileNet recommends that you do not migrate the MKF transient database and cache, if possible.**

FileNet Capture paths and settings are stored in cache. You should copy them to a client PC and transfer them back to the server after the migration has been completed.

---

## Backup the Databases on the HP 9000 System

Use the EBR backup script you created using FileNet's Enterprise Backup and Restore program to make a backup of the MKF permanent and security databases on HP 9000 system. On systems with FileNet-controlled Oracle, your script should also backup the Oracle databases.

Stop the Image Services software and restart it in backup mode. For example:

```
initfnsw -y stop
```



## **initfnsw -y backup**

Refer to the *Enterprise Backup and Restore User's Guide* for complete information on using EBR.

## **Clear the Transient Database and Cache**

The following steps ensure that information stored in the caches is not lost. These steps should be performed immediately before you back up the HP 9000 server.

- 1** Print or delete all outstanding print requests.

To check outstanding print requests, run apex, go into Application Printing, and check the print queue.

- 2** Commit all uncommitted images.

To check uncommitted images, run CSM\_tool, and check bes\_cache and page\_cache.

- 3** The CSM\_tool requires the FileNet Image Services software to be running. To check, enter:

### **whatsup**

If the FileNet software is up and running, skip to Step 5.

- 4** As **fnsw** user, start the FileNet software by entering:

### **initfnsw restart**

- 5** Use the CSM\_tool to examine the remaining contents of the cache. Enter:

### CSM\_tool

- 6 To display statistics on the bes\_cache, page\_cache, and print\_cache, enter at the CSM\_tool prompt:

<CSM\_tool> s

The statistics display looks similar to this:

Cache Id	Name	% locked	% full	% free
-----	----	-----	-----	-----
5	page_cache1:corona:FileNet	29	29	71
6	sys_print_cache1:corona:FileNet	0	0	100
7	bes_cache1:corona:FileNet	1	1	99
8	app_print_cache1:corona:FileNet	1	1	99
*	Physical space summary	7	7	93

Locked objects represent uncommitted batches, unwritten images, and pending print jobs. (If you have any FAX servers, there will be two locked objects per FAX server in print\_cache. It's all right to delete these objects since they will be rebuilt when print services is started after the migration.)

Write down the names of the caches and the percent of locked objects you need to export:

---



---



---



---

You need to remove as many locked objects as possible. All the caches that cannot be cleared (such as FolderView cache and Revise cache) need to be exported using the CSM\_exim tool described in the next section.

**CAUTION**

---

If you are currently using the FolderView or Revise products, you **must** use the CSM\_exim tool to export the objects in the FolderView or Revise cache to magnetic tape.

Unlike other caches, FolderView cache and Revise cache store objects, such as folder notes, permanently. Therefore, it's necessary to export the objects in FolderView cache and then import them onto the Image Services server after the rest of the conversion is finished.

FileNet Capture paths and settings are also stored in cache. You should copy them to a client PC and transfer them to the new server after the rest of the migration has been completed.

You can also use CSM\_exim to export other caches, if you wish.

---

**Note**

---

If this server maintains all its document images in cache, rather than in a storage library, you will also need to export the page cache.

---

7 To quit from CSM\_tool, enter:

<CSM\_tool> **q**

**CAUTION**

---

The CSM\_exim tool exports only cache objects. It does not preserve any batch information that resides in the transient database. Therefore, do not continue with this procedure until you make sure you have cleared as much data as possible from the transient database.

---

## Back Up Cache on the HP 9000 System (Cache-Only Systems)

If your HP 9000 system includes MSAR, optical storage libraries, or other external storage such as NetApp Snaploc, skip to the next section, [“Export Local Oracle Databases \(Site-Controlled Systems Only\)” on page 15](#).

CSM\_exim requires 10 bytes of memory for each object backed up. If you back up a very large number of cache objects, CSM\_exim may fail with an out-of-memory error during the backup. If you get an out-of-memory error, use the Cache Export/Import Program (accessed from the Application Executive’s Applications menu), which does not have this memory constraint.

---

**Note** The Cache Export/Import Program uses the same tape and file formats as CSM\_exim, allowing data interchange between the programs. Cache Export/Import does not back up or restore individual objects, read an ASCII file to specify objects, or restore cache data to a different cache. See the “Backup” chapter in your [System Administrator’s Companion for UNIX](#) or [System Administrator’s Companion for Windows Server](#) for details on the Cache Export/Import Program.

---

- 1 Make sure you’re logged in as **fns** user, and change to the appropriate directory.

```
cd /fns/local/tmp
```

(You can back up cache either to a file system or to magnetic tape. The following steps illustrate backing up to tape.)

- 2 Load a blank tape into the tape drive.

- 3 To export a cache, use the following syntax:

```
CSM_exim -evd <tape_id>:<domain:organization> -c <cache_id>
```

where <tape\_id> is the name of the tape drive, <domain:organization> is the domain name and organization of the HP 9000 server, and <cache\_id> is the name of the cache you want to export.

For example, if the tape device id is "tape1" and the HP 9000 server is named "corona", and the cache you want to export is "page\_cache1", the command you enter would look similar to this:

```
CSM_exim -evd tape1:corona:FileNet -c page_cache1
```

The CSM\_exim command creates two files: CSM\_EI\_DAT.xx where xx is the cache id (shown on the CSM\_tool display) you are exporting from, and CSM\_EI\_DAT.DIR.

For complete information on CSM\_exim, refer to the *Image Services System Tools Reference Manual*.

- 4 If you see the following message:

```
For CSM_exim reel 1 (labeled), overwrite unlabeled tape? (1=yes, 2=no)
```

Enter **1** for yes to overwrite the tape.

- 5 The command lists the cache objects selected for export. Then as the transfer and verification take place, you see messages similar to these:

```

CSM_exim: initializing...
CSM_exim: initialized.
CSM_exim -evd tape1:corona:FileNet -c page_cache1
CSM_exim: expanding list of objects to be exported
CSM_exim: creating directory of selected objects
CSM_exim: the selected objects are:

      CACHE      OBJECT SSN      OBJECT ID      PAGE
      -----      -
          35          10080           1           1
          35          10080           2           1
          35          10080           3           1
          35          10080           4           1
CSM_exim: number of objects selected from page_
cache1:corona:FileNet = 4

Exporting objects to CSM_EI_DAT ...
Verifying exported objects ...
CSM_exim: completed with no error.
    
```

Write down the number of objects selected from each cache you export, so you can compare them with the number of objects selected when you import the caches later on the HP Integrity server.

Cache Name	Objects Selected

- 6 When the export is completed, remove the tape from the drive, write-protect it, and label it with the server name, contents, and date. For example, "Corona - page\_cache1 - 6/24/2006."
- 7 Repeat Steps 2 through 6 for each cache you wish to export to tape.
- 8 List the contents of the /fnsw/local/tmp directory, and remove all the report files.  
  

```
rm csm_ei_rpt.*
```
- 9 After you have finished exporting caches, continue with the next section.

## Export Local Oracle Databases (Site-Controlled Systems Only)

If the Oracle databases are located on the same server as Image Services, ask the Database Administrator to use Oracle's EXP export utility to export the database.

## Collect Server Information

You'll need the following information when you configure the new HP Integrity server. (Use **fn\_edit** to gather server information and use **ioscan -fn** to gather information about optical libraries.)

Server name(s): \_\_\_\_\_

IP Address(es): \_\_\_\_\_

Domain: \_\_\_\_\_ SSN: \_\_\_\_\_

### **Important!**

The HP Integrity server must use the same Domain and SSN as the HP 9000 server.

---

Oracle SID: \_\_\_\_\_

Optical and MSAR library information:

- Library type \_\_\_\_\_
- Library ID letter \_\_\_\_\_
- Number of optical drives in the library \_\_\_\_\_
- Types of optical drives in the library \_\_\_\_\_
- Position of the optical drives in the library \_\_\_\_\_

---

---

---

---

MSAR Surface files (for example, 003312.dat):

---

---

---

---

---

---

---

---



Dataset sizes:

Dataset	HP 9000 Size (MB)	HP Integrity Size (MB)	Volume Group
cache0			
permanent_db0			
permanent_r10			
transient_db0			
transient_r10			
sec_db0			
sec_r10			

Datasets sizes for Systems with FileNet-Controlled Oracle:

Dataset	HP 9000 Size (MB)	HP Integrity Size (MB)	Volume Group
oracle_db0			
oracle_r10			
oracle_r11			
oracle_sys0			
oracle_tr0			
oracle_udb0			

**Note** Datasets on the HP Integrity server should be as large or larger than the datasets on the HP 9000 server.

## On the New HP Integrity Server

Follow the hardware and software prerequisites described in the Image Services Installation and Configuration Procedures for setting up the new HP Integrity server(s).

Although you can name the new system anything you wish (within the standard guidelines described in the Image Services Installation and Configuration Procedures), **FileNet recommends that you use the same server name for the new HP Integrity system as you used for the HP 9000 system.**

### Install Oracle or DB2 Software

Install the appropriate relational database software, either Oracle9i or DB2.

- Install Oracle or DB2 client software if the relational database is on a remote server.
- Install Oracle server software if the Oracle relational database will be installed on the local Image Services server.

#### **Important!**

---

Be sure to install the comparable version of either Oracle9i or DB2 software on the HP Integrity server that you have currently running on your HP 9000 server.

- Switching from DB2 to Oracle, or from Oracle to DB2 is not supported.
  - Switching between versions of either Oracle or DB2 software is not supported.
-

## Install Image Services Software

Install the Image Services 4.0 Integrity Edition software according to the first four chapters of the Image Services Installation and Configuration Procedures for HP-UX on HP Integrity Servers.

Make sure the new server is attached to the network.

### **Important!**

---

**STOP when you get to Chapter 5, "Configuring FileNet Image Services Software"** and follow the remaining configuration steps in this procedure.

---

## Copy Image Services Configuration Files from the HP 9000 Root Server

On the HP Integrity Root server, use **ftp** (file transfer protocol) **binary transfer** to copy the following configuration files from the HP 9000 Root server to the new HP Integrity Root server:

- The most recent CDB file (/fnsw/local/sd/conf\_db/IMS\_xx.cdb)
- The Server Configuration file (/fnsw/etc/serverConfig)
- The EBR backup disk file, dataset definition file (\*.ddf), device definition file (\*.dev), generated EBR restore script
- The system serial number file (/fnsw/local/ssn)
- The nch\_domain file (/fnsw/local/sd/nch\_domain)
- The relational database password file:
  - For Oracle: /fnsw/local/sd/1/.fmaint
  - For DB2: /fnsw/local/sd/db2up.bin
- The SDS configuration file (/fnsw/local/sd/1/sds\_conf)  
(HP Integrity servers do not support EMC Centera or IBM DR550 devices.)

For NetApp Snaplock (SSAR) devices, copy the sds\_conf file and replicate the SDS working directories where the document files are stored.

- COLD (/fnsw/local/cold/)
- Custom ISTK applications (These must be recompiled on the HP Integrity system.) Contact FileNet Professional Services for assistance.
- FileNet Professional Services applications (HP11, MR11, DART, NLS, etc.) Contact FileNet Professional Services to obtain the appropriate versions of these applications for your HP Integrity system.

### Move MSAR Surface Files, If Necessary

If you are going to transfer MSAR surface files to the new HP Integrity server, create the appropriate directories for the MSAR storage library and move the MSAR surface files from the HP 9000 server to these newly created directories.

#### **Important!**

---

Be sure to use the same absolute path as on the HP 9000 server.

You might not need to move the MSAR surface files. For example, if your MSAR surface files are stored on an NFS file system, use the same mount point names on the HP Integrity system as you used on the HP 9000 system.

---

### Move the Optical Storage Libraries

If you are going to transfer storage libraries to the new HP Integrity server, you must first turn power off to both systems.

- 1 On the HP 9000 server, stop the Image Services software. As **fns** user, enter:

**initfns -y stop**

- 2 Shutdown the HP-UX operating system. As a user with **root** privileges, shutdown the server by entering:

**shutdown -y 0**

- 3 Turn power off to the servers on both systems.
- 4 Disconnect the storage libraries from the HP 9000 server and reconnect them to the HP Integrity server.
- 5 Apply power to the HP Integrity server and restart HP-UX.

**Important!**

---

Make sure the SCSI host bus adapter card is configured for the appropriate data transfer rate for best optical library performance. See [\*\*“Appendix A – Setting the Maximum Data Transfer Rate for SCSI Host Bus Adapters”\*\*](#) on page 49.

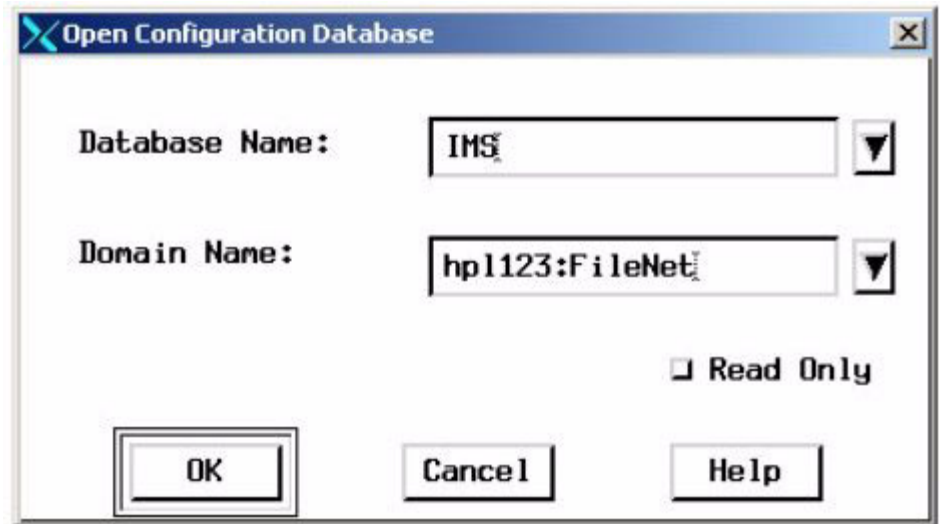
---

## **Edit the Image Services Configuration Database File**

- 1 On the HP Integrity server, logon as **fns** user and enter the following command:

**fn\_edit &**

When the Open Configuration Database screen displays, verify that the Database Name and Domain Name are correct.



(Fn\_edit detects the CBD file you copied from the HP 9000 server and opens it.)

**Note** Because the system is not fully configured at this point, you might see pop-up messages similar to these:

Could not get system identity -- See log file.

Can't get the platform type of the system!

You can ignore these messages for now.

Now you can customize the CBD file for the new HP Integrity server. Select the following tabs:

## Network Tab

Change the network address to the network address of the new HP Integrity server.

## System Attributes Tab

Verify that the domain name of the new HP Integrity server is the same as domain name of the HP 9000 server.

- If there were no optical storage libraries configured on the HP 9000 system, skip to [“Exit the Configuration Editor and Rebuild System Configuration Files” on page 31](#).
- If there were optical storage libraries configured on the HP 9000 system, leave `fn_edit` running while you complete the following sections in another X Window.

## Create the `/fnsw/local/sd/sod.conf` File

If there were no optical storage libraries configured on the HP 9000 system, skip to [“Exit the Configuration Editor and Rebuild System Configuration Files” on page 31](#).

- 1 Use `vi` or your preferred text editor to create the `sod.conf` file.

```
cd /fnsw/local/sd
vi sod.conf
```

- 2 This file must contain a line for each of the storage library devices shown on the `ioscan` display. The `sod.conf` file should include lines for both optical devices and robotic arm devices, using the following format:

```
driver <H/W Path> <driver>
driver <H/W Path> <driver>
...
driver <H/W Path> <driver>
```

where:

The <H/W Path> is the entire H/W path field shown on the `ioscan` display line for each library device.

The <driver> is `sctl`.

- 3 The `sod.conf` file must specify a driver for each storage library device shown on the `ioscan` display. Your `sod.conf` file might have lines that look similar to this:

```
driver 0/3/2/0.1.0 sctl
driver 0/3/2/0.2.0 sctl
driver 0/3/2/0.3.0 sctl
```

- If lines similar to this already appear and are correct, the file has been updated successfully.
  - If you are not able to locate these lines or if they're inaccurate, you need to add or change them manually. Use your preferred text editor, such as `vi`, to edit the file.
- 4 Save your changes to the file, and exit the editor.

## Create Optical Device Files

Use the `FNPoII` command to create the optical device files. Make sure that the optical device is powered on and active. (You can use `ioscan` to check this.) If the optical device is not powered on, or needs to have



a disk in the drive to be recognized, **FNPoll** will not find it. **FNPoll** will report No FileNet Device Found.

As a user with **root** privileges, enter the following command at the system prompt:

**/fnsw/bin/FNPoll**

The FNPoll display is similar to this:

```
Found HPUX Version 11.23

Removing old device nodes and files used by FNPoll.

Determining model, series and device driver information.

This appears to be a(n) i-Series platform (ia64 hp server rx4640).
Looking up driver and class information for this platform.

Expected driver-class for single-ended SCSI: sctl-ctl
Alternate driver-class for single-ended SCSI: unknown-unknown
Allowable single-ended controller(s): C1010 and (alternate) none

Expected driver-class for differential SCSI: sctl-ctl
Alternate driver-class for differential SCSI: unknown-unknown
Allowable differential controller(s): C87x and (alternate) none

HP SCSI Pass-Through Driver:
    Single-Ended Major # 203 and (alternate) -1 unknown.
    Differential Major # 203 and (alternate) -1 unknown
```

If FNPoll is successful, you will also see:

```
Searching for FileNet Devices:
```

```
disk      10  0/3/2/0.1.0   sdisk      UNCLAIMED  UNKNOWN    HP          C1118J
disk      3   0/3/2/0.2.0   sdisk      CLAIMED     DEVICE     HP          C1113J
disk      4   0/3/2/0.3.0   sdisk      CLAIMED     DEVICE     HP          C1113J
```

```
Building FileNet Devices, Mon Jun 5 15:45:59 PDT 2006
```

```
crw-rw-rw- 1 fnsw      fnusr      203 0x041000 Jun 5 15:45 /dev/fnsod.4,0,1,0
crw-rw-rw- 1 fnsw      fnusr      203 0x042000 Jun 5 15:45 /dev/fnsod.4,0,2,0
crw-rw-rw- 1 fnsw      fnusr      203 0x043000 Jun 5 15:45 /dev/fnsod.4,0,3,0
-rw-rw-rw- 1 fnsw      fnusr           4 Jun 5 15:45 /dev/fnsod.major
-rw-rw-rw- 1 fnsw      fnusr           4 Jun 5 15:45 /dev/fnsod.major.DIFF
-rw-rw-rw- 1 fnsw      fnusr           4 Jun 5 15:45 /dev/fnsod.major.DIFF1
-rw-rw-rw- 1 fnsw      fnusr          11 Jun 5 15:45 /dev/fnsod.major.DIFF2
-rw-rw-rw- 1 fnsw      fnusr           4 Jun 5 15:45 /dev/fnsod.major.SE
-rw-rw-rw- 1 fnsw      fnusr           4 Jun 5 15:45 /dev/fnsod.major.SE1
-rw-rw-rw- 1 fnsw      fnusr          12 Jun 5 15:45 /dev/fnsod.major.SE2
```

After FNPoll has completed successfully, you can continue with the section, **[“Configure Storage Library Devices” on page 27.](#)**

However, if FNPoll is not able to locate the `/fnsw/local/sd/sod.conf` file, you will see:

```
Searching for FileNet Devices:

ERROR: /fnsw/local/sd/sod.conf must be created with the configuration
       information for your system.

The entries in /fnsw/local/sd/sod.conf are of the form:

sctl 56/52.5.0 sctl
^^^^^^^^^^ This is the 'H/W Path' from the output of a call to
'ioscan -f'. Put in a line for every device (library and disk
drive) to be used by the FileNet Image Services.

ERROR: No devices created.
```

Make sure the `sod.conf` file is in the correct directory, and that it contains the appropriate entries for your system. Then return to the beginning of this section and run FNPoll again.

## Configure Storage Library Devices

The FileNet System Configuration Editor should still be running on your HP Integrity server. If so, you can skip to the next sub-section. If not, you need to restart it now.

- 1 As **fnsw** user, launch the FileNet Configuration Editor by entering:  
**fn\_edit &**
- 2 Verify that the database and domain names are correct, and click **OK**. (The two-part domain name is set up as follows: `<Domain>:<Organization>`.) The System Configuration Editor window displays.

## Procedures Tab

- 1 Select the procedure Delete an Optical Storage Library and remove the current Storage Library definitions, as they will probably be different on the new HP Integrity server.

---

**Note** You will undoubtedly see warning messages about the Document Families, which you can ignore for now.

---

- 2 Now you can redefine the optical storage libraries on the HP Integrity system.

---

**Important!** Make sure the SCSI host bus adapter card is configured for the appropriate data transfer rate for best optical library performance. See [“Appendix A – Setting the Maximum Data Transfer Rate for SCSI Host Bus Adapters” on page 49.](#)

---

## Manually Configure the Storage Library

You can configure the storage library manually by following these steps:

- a At the server to which the storage library is attached, log on as root user.
- b Make sure the storage library is cabled to the server correctly and that power is turned on.
- c Use **ioscan** to determine the addresses of the storage libraries:

**ioscan -fn | more**

The **ioscan** display on an HP Integrity server looks similar to this:

Class	I	H/W Path	Driver	S/W State	H/W Type	Description	
=====							
...							
ba	3	0/3	lba	CLAIMED	BUS_NEXUS	Local PCI-X Bus Adapter (122e)	
ext_bus	4	0/3/2/0	c8xx	CLAIMED	INTERFACE	SCSI C1010 Ultra2 Wide LVD A6829-60101	
target	6	0/3/2/0.1	tgt	CLAIMED	DEVICE		
disk	10	0/3/2/0.1.0	sdisk	UNCLAIMED	UNKNOWN	HP	C1118J
target	7	0/3/2/0.2	tgt	CLAIMED	DEVICE		
disk	3	0/3/2/0.2.0	sdisk	CLAIMED	DEVICE	HP	C1113J
target	8	0/3/2/0.3	tgt	CLAIMED	DEVICE		
disk	4	0/3/2/0.3.0	sdisk	CLAIMED	DEVICE	HP	C1113J
target	10	0/3/2/0.7	tgt	CLAIMED	DEVICE		
ctl	5	0/3/2/0.7.0	setl	CLAIMED	DEVICE	Initiator	
ext_bus	5	0/3/2/1	c8xx	CLAIMED	INTERFACE	SCSI C1010 Ultra2 Wide LVD A6829-60101	
target	12	0/3/2/1.7	tgt	CLAIMED	DEVICE		
...							

- d Locate the lines that apply to the storage library you are going to configure. In the previous example, the vendor ID is HP and the product IDs are C1118J (robotic arm) and C1113J (optical drives).
- e Determine the Instance number for the storage library devices by locating **ext\_bus** in the Class column above the storage library devices. Find the Instance number in the **I** column. (The Instance number in the example above is **4**.) Use the same Instance number for all devices in the storage library.
- f Now write down the last three numbers (separated by dots) of the hardware paths for each storage library device in the H/W Path column. Also write down the description (model number) of each

device. The Configuration Editor `fn_edit` will ask you for this information in a later step.

Instance	H/W Path	Description

- g Return to the window where `fn_edit` is running.
- h Click on the Procedures tab.
- i Scroll through the list of available procedures and select Manually Configure Storage Library.
- j Respond to the prompts with the appropriate information. You will be asked to supply the following details:

---

**Tip** Be sure to use the same Library type and Library ID letter as on the HP 9000 system. The number, types, and positions of the optical drives should also be the same.

---

- Library type
- Library ID letter
- Number of optical drives in the library
- Types of optical drives in the library
- Position of the optical drives in the library

- SCSI address of each optical drive and the library's robotic arm.

---

**Note** The four part SCSI address values are taken from the **ioscan** display. For example, you might enter: **4 0 1 0**

---

After you have answered all the prompts, **fn\_edit** automatically completes the configuration.

- k To view the result of the procedure and to see information on other storage libraries already configured on the system, select the Storage Libraries tab.
- l After the storage library has been successfully configured, continue with the next section.

## Exit the Configuration Editor and Rebuild System Configuration Files

Exit the Configuration Editor and save your changes.

To put your configuration changes into effect, stop the FileNet software and rebuild the system files by entering the following commands as a user with **root** privileges:

```
killfnsw -DAy  
fn_build -a
```

## Initialize RDBMS and FileNet Databases on the Root Server

### Configure FileNet Datasets Manually on the Root Server

- 1 Verify with the System Administrator that the logical volumes have already been created in the sizes equal or larger than the HP 9000 server.
- 2 You need to have device files for all of the logical volumes you have created. If some device files are missing from `/fnsw/dev/1`, this step will create these missing device files.
  - a Make sure you're logged on as a user with **root** privileges.
  - b Display the major and minor numbers for each logical volume you've created and make note of them to complete this section.

To position to the `/dev/<volume group>` directory, enter:

```
cd /dev/<volume group> (for example, <volume group> is  
fnvg or whatever you named it)
```

To list the contents of the directory, enter the following command:

```
ls -l rfn*
```

A directory list displays the major and minor numbers for each logical volume. Make a note of the numbers in the spaces below, because you are going to be using them on the next page. Do not create any character devices for file systems if any file systems happened to be made as part of your fnvg (for example, rfnsw). The following is a sample line from the listing: 64, is the major number; 0x01000a, the minor.



```
crw-rw--- 1 root sys 64 0x01000a May 5 13:13 rfn_cache0.
```

```

rfn_cache0 _____
rfn_perm_db0 _____
rfn_perm_r10 _____
rfn_trans_db0 _____
rfn_trans_r10 _____
rfn_sec_db0 _____
rfn_sec_r10 _____

```

Logical volumes for systems with FileNet-controlled Oracle:

```

rfn_oracle_db0 _____
rfn_oracle_r10 _____
rfn_oracle_r11 _____
rfn_oracle_sys0 _____
rfn_oracle_tr0 _____
rfn_oracle_udb0 _____

```

- c Enter the following commands to create and go to the `/fnsw/dev/1` directory:

```
mkdir -p /fnsw/dev/1
cd /fnsw/dev/1
```

**Note** The `/dev` and/or `/1` directories may already exist. If you get a message similar to the following:

```
mkdir: cannot create dev: File exists
```

one or both of the directories already exist. Continue.

---

- d Refer to the list of major and minor numbers you made earlier.

The general syntax for the command to create a missing character device is:

```
mknod <dataset> c <major#> <minor#>
```

**Note** Do not mix up the name of the logical volume (such as, fn\_perm\_db0) with the name needed for a device driver (such as, permanent\_db0). Also, when you enter the following commands, replace X with the appropriate major number; replace Y with the appropriate minor number for each dataset.

---

To create a character device for a missing dataset on the Combined or Root/Index server, enter one or more of the following, depending on which are missing:

```
mknod sec_db0 c <X> <Y>  
mknod sec_r10 c <X> <Y>
```

To create a character device for a missing dataset on the Combined or Storage Library server, enter one or more of the following, depending on which are missing:

```
mknod cache0 c <X> <Y>  
mknod permanent_db0 c <X> <Y>  
mknod permanent_r10 c <X> <Y>  
mknod transient_db0 c <X> <Y>  
mknod transient_r10 c <X> <Y>
```

- 3 Login to your server as a user with **root** privileges from an X-station, a workstation that supports X Windows or Common Desktop Environment (CDE), or a PC with an X Windows emulator, and make sure X Windows is running.
- 4 Use the **fn\_setup** tool to make sure permissions are set correctly for the FileNet Image Services software. The **fn\_setup** tool also makes sure that all the necessary directories have been created, and sets the permissions for these directories and system files appropriately.

---

**Tip** The **fn\_setup** program attempts to set the permissions for all files under **/fnsw** and **/fnsw/local** directories using a **permission\_table** that is updated with each new Image Services release. If non-FileNet files are placed in the **/fnsw** directory structure, a **local\_permission\_table** needs to specify the appropriate permissions for these files. See Chapter 3, "Directories and Files," of the System Administrator's Companion for UNIX for details.

---

As the **fns** user, enter:

**/fnsw/bin/fn\_setup**

Reply to the prompts with the requested information. If the default value shown in brackets is correct, press **Return** to continue.

- a The NCH server is the generally the Root server. Enter **1** for yes.

```
Is this the NCH server (1=yes, 2=no) [1]:
```

- b The NCH server name is generally the name of the Root server.

```
Enter NCH server name [hpvenice:YourCorp]:
```

- c The system serial number should be the serial number of the Root server. Enter the same ssn as the HP 9000 server. .

```
Enter system serial number [11008016xx]:
```

**Important!**

The 10-digit ssn, which is assigned by FileNet, is written onto all storage media and **must** be unique for each Image Services system. If you have more than one Image Services system (domain), each **must** use its own unique ssn to prevent potential problems if media are ever transferred from one IS system to another.

---

- d Relational databases are configured on servers with Index Services, WorkFlo Queue Services (WQS), SQL Services, or VWServices.

```
Enter the relational database type configured on this server (0=none, 1=Oracle, 2=DB2) [1]:
```

**Note**

If you plan to use an existing RDBMS instance, you must accept the default values offered as they relate to the RDBMS installed on this server.

---

- e If **Oracle** software (either client or server software) exists on this server, enter the full pathname of the directory on this server where that software is located.

If **DB2** software exists on this server, enter the DB2 Client instance owner's DB2 home directory.

```
Enter the RDBMS home directory [/home/client_920]:
```

**Note** If you're configuring a FileNet system with a **remote Oracle database server**, the RDBMS home directory is the location of the client software on the FileNet server.

- f If Oracle software (either client or server software) exists on the server, enter the user and group IDs at the following prompts.

```
Enter the RDBMS user ID [oracle]:  
Enter the RDBMS group ID [dba]:
```

- 5** The **fn\_setup** tool then displays the information you supplied so you can confirm your entries:

```
This is the setup configuration:  
NCH server name:  hpvenice:YourCorp  
SSN:  11008016xx  
Relational database type:  oracle  
Relational database home:  /home/client_920  
Relational database user ID:  oracle  
Relational database group ID:  dba  
Do you want to continue (y/n) [y]:
```

Press **Return** to continue with the next step. If you type **n** for no, you exit to the system prompt; return to Step 5 and run **fn\_setup** again.

- 6** As **fn\_setup** creates files and changes permissions, a series of messages displays on your screen to indicate its progress.

For example:

```
fn_setup: Creating file /fnsw/local/setup/config
fn_setup: Creating file /fnsw/local/sd/root_station
fn_setup: Creating file /fnsw/local/ssn
fn_setup: Creating file /fnsw/local/sd/nch_domain
fn_setup: Running "nch_update hpvenice:FileNet"
fn_setup: Changing permission on FileNet software and
databases
```

- 7 When **fn\_setup** is finished, it exits automatically to the system prompt.
  - a If a problem occurs during `fn_setup`, check the `/fnsw/local/logs/fn_setup/fn_setup.log` file to determine what went wrong. After you have corrected the problem, go back to Step 5 and run `fn_setup` again.
  - b If there were no problems, continue with the next step.
- 8 Change to the proper directory and list the directory contents:

```
cd /fnsw/dev/1
ls -l
```

The following types of entries should be listed (depending upon server type):

odda1 (one for each optical drive)
permanent_db0
permanent_r10
transient_db0
transient_r10

sec_db0*
sec_r10*
cache0
osara (one for each optical library)

\*During a Dual server install, the Root/Index server commonly has device files marked with asterisks (\*) only.

On systems with FileNet-controlled Oracle, you should also see:

oracle_db0
oracle_r10
oracle_r11
oracle_tr0
oracle_sys0
oracle_udb0

---

**Note** If incorrect entries are present, remove them and return to Step 2. Otherwise, continue with the next step.

---

- 9 Enter the following commands to initialize the MKF databases configured on your server:

**fn\_util initperm**

**fn\_util inittrans**

**fn\_util initsec**

**fn\_util initrdb** (FileNet-Controlled Oracle Only)

These commands may take about 10 or 15 minutes to complete, so wait for the system prompt to return before continuing.

## Restore the Databases onto the HP Integrity System

- 1 As **fns** user, enter the following command to bring up the FileNet Image Services software in Restore mode:

**initfns restore**

- 2 Restore the MKF databases from the HP 9000 system onto the HP Integrity system using the EBR restore script you created earlier. On systems with FileNet-controlled Oracle, use EBR to restore the Oracle databases also.

Again, refer to the *Enterprise Backup and Restore User's Guide* for full information.

## Import Cache Objects onto the HP Integrity System (Cache-Only Systems)

If your HP 9000 system includes MSAR, optical storage libraries, or other external storage such as NetApp Snaplock, skip to the section, [\*\*“Remove Checkpoint Files” on page 44.\*\*](#)

### Verify Cache Names

Before you import the caches to the new cache-only system, you need to verify the cache names.

- 1 As **fns** user, launch `nch_tool` by entering:

**nch\_tool**



- 2 Display a list of page caches by entering:

```
nch_tool> listobjects page*
```

The page cache name display looks similar to this:

```
page_cache0:roma:FileNet  
page_cache1:roma:FileNet
```

- 3 Write down the names of the caches you need to import:

---

---

- 4 To quit from nch\_tool, enter:

```
nch_tool> q
```

### Import Caches

Repeat the steps in this section for each cache that you exported from the HP 9000 server.

If you did not export any caches using the CSM\_exim tool from the HP 9000 server, skip to **[“Remove Checkpoint Files” on page 44.](#)**

---

**Note** The Cache Export/Import Program uses the same tape and file formats as CSM\_exim, allowing data interchange between the programs. You can use either method to import the caches. See the “Backup” chapter in your **[System Administrator’s Companion for UNIX](#)** or **[System Administrator’s Companion for Windows Server](#)** for details on the Cache Export/Import Program.

---

- 1 As **fns** user, make sure you're in the /fns/local/tmp directory by entering:

```
cd /fns/local/tmp
```

(You could have backed up cache either to a file system or to magnetic tape. The following steps illustrate restoring from tape.)

- 2 Load the tape containing the cache you wish to import into the tape drive.
- 3 To import a cache, use the following syntax:

```
CSM_exim -ird <tape_id>:<destination_domain:organization>  
-c <cache_name>:<source_domain:organization>
```

where:

<tape\_id> is the name of the tape drive,

<destination\_domain:organization> are the domain name and organization of the HP Integrity server to which you importing the cache,

<cache\_name> is the name of the cache on the tape, and

<source\_domain:organization> are the domain name and organization of the HP 9000 server from which the cache was exported.

---

**Note** Since the former HP 9000 server is now the HP Integrity server, the destination domain name and the source domain name should be identical.

---

For example, if you are importing the page cache, and if the tape drive is named `tape1`, the source domain named “corona”, and the destination domain named “corona”, the command you enter would look similar to this:

```
CSM_exim -ird tape1:corona:FileNet -c page_cache1:corona:FileNet
```

- 4 The CSM\_exim tool then selects the cache objects to import from the tape. For example:

```
CSM_exim: number of objects selected from <cache>:<server>  
print = nnn.
```

Verify that the number of objects selected matches the number of objects exported earlier.

- 5 After CSM\_exim selects the objects to import, the transfer takes place, and the following messages display:

```
Importing objects...
```

```
CSM_exim completed: Friday, June 24, 2006 16:43:27
```

```
See report file csm_ei_rpt.a23546 for details.
```

- 6 Look at the report file to make sure the import was successful. For example:

```
more csm_ei_rpt.a23546
```

The `csm_ei_rpt.*` files are located in the current directory, `/fnsw/local`.

- 7 When the import is successfully completed, remove the tape.
- 8 Repeat Steps 2 through 7 for each cache that you exported from the HP 9000 server.

- 9 List the contents of the /fnsw/local/tmp directory, and remove all the report files:

```
rm csm_ei_rpt.*
```

### Remove Checkpoint Files

Change to the appropriate directory and remove these two checkpoint files, if they exist.

```
cd /fnsw/local/sd
```

```
rm snt.chkpt
```

```
rm checkpoint.osa
```

## Import the Oracle Databases onto the HP Integrity System (Site-Controlled Oracle Systems Only)

If the Oracle databases were located on the local Image Services server, ask the Database Administrator to use Oracle's IMP import utility to restore them onto the HP Integrity system.

### Important!

---

Reset the password by entering:

```
fndba -s f_sw
```

---

## Restart the Image Services Software

### Important!

---

The first time you start the Image Services software after a fresh installation or update, it may take slightly longer than usual.

The Identify Media procedure is performed on each Storage Library configured on the server to build a new checkpoint.osa file. The actual amount of time depends on the number of Storage Libraries configured on the server and the number of slots in each library.

---

- 1 As **fns** user, start the task manager by entering:  
**Xtaskman &**
- 2 Click on the Monitor pull-down menu, then select Event Logs. You will see a new window displaying event logs.
- 3 Click on the DISPLAY pull-down menu from the Event Log window, then select the option Dynamic. This allows the event window to be refreshed whenever messages are logged.
- 4 Click the **Start** or **Restart** button on the Task Manager window to start Image Services and dynamically display system events in the Event Log window.
- 5 View the Event Log window to make sure the Image Services software starts successfully with no errors.

---

**Note** If you see messages about the optical or MSAR devices, you may need to troubleshoot the configuration. For example, if the MSAR directories were not replicated exactly as they were on the HP 9000 system, you need to change the mount point. Then start the Image Services software again.

---

- 6 Close the Event Log and Xtaskman windows.

## Check the NCH Database

- 1 As **fns** user, use `nch_tool` to list the objects in the NCH database:

```
nch_tool
nch_tool> listobjects *
nch_tool> quit
```

- 2 If your Image Services system uses WorkFlo queues and the expected WorkFlo queues are not listed, use WQS\_tool to update the NCH database. As **fns** user, enter:

**WQS\_tool**

```
wqs_tool> allowupdates
```

```
wqs_tool> <password>
```

```
wqs_tool> qnch * *
```

```
wqs_tool> quit
```

## Run Storage Library Control

If you have moved the storage libraries during this migration, you may want verify that the robotic arm and gripper mechanisms are still in alignment.

Refer to the "Storage Library Control" chapter in your *FileNet System Administrator's Handbook* for complete information on running the Storage Library Control program to:

"Calibrate Library" (FileNet OSAR storage libraries only)

"Identify Media in Library"

For other brands of Storage Libraries, refer to the manufacturers' documentation for calibration instructions.

## Perform System Checks

Verify that the server is up and running smoothly.

- Run the Database Maintenance application to verify document classes, user indexes, and disk families.

**Note** If there are any MSAR surfaces missing, make sure they were copied successfully from the HP 9000 system, then reinsert them in the HP Integrity system. See the section, "Moving an MSAR Surface File to Another System" in Chapter 3 of the *MSAR Procedures and Guidelines*.

---

- Run the Security Administration application to verify users and groups.
- Test the system by scanning, indexing, committing, retrieving, and printing several documents.

## Return to Production Mode

Image Services 4.0 Integrity Edition and either Oracle 9i or DB2 are successfully installed on your HP Integrity system, and your datasets have been successfully transferred. You can start FileNet Image Services and place the system in normal operation.



# Appendix A – Setting the Maximum Data Transfer Rate for SCSI Host Bus Adapters

This appendix provides instructions for setting the maximum data transfer rate for a SCSI host bus adapter (HBA) installed in your HP Itanium-based server.

For best performance, you may need to adjust the speed of the SCSI adapter channel that an optical library is connected to. The A7173A SCSI adapter runs at 320 MB/second.

UDO libraries can operate at these maximum SCSI adapter rates. But for use with all other storage library types, the SCSI adapter channel needs to be set to **80 MB/second**.

The following sections describe how to use the HP Lights-Out Configuration Utility and the Extended Firmware Interface flash utility to verify and set the data transfer rate for your SCSI host bus adapters.

## Using the HP Lights-Out Configuration Utility

The HP Lights-Out Configuration Utility is a Windows®-based utility that connects to iLO (integrated Lights-Out) using a secure connection over the network. This utility requires a valid user ID and password with the appropriate privileges.

- 1 Using your preferred Internet browser, enter the TCP/IP address of the HP Integrity server console on the address line and press **Enter** to display the iLO login window.

- 2 When the Lights-Out window displays, select the Remote Console tab, and click the "View Console" button.
- 3 In the console window, logon to the HP Integrity server as a user with **root** privileges and reboot the server by entering:

```
shutdown -r -y 0
```

- 4 Wait until a menu appears with several options including **go to an EFI shell**.

---

**Important!** **Immediately** scroll down with the arrow key to the **EFI shell** option and press **Enter**. You have only a few seconds before this menu disappears. You now have access to enter EFI commands.

---

## Entering EFI Commands

The Extended Firmware Interface (EFI) flash utility allows you to set the maximum data transfer rate for a SCSI host bus adapter. Follow these steps.

- 1 At the EFI shell prompt, enter:

```
drivers
```

The command display is shown in the following example.

```
Shell> drivers
          T   D
          Y C I   |
          R   P F A |
          V VERSION E G G #D #C DRIVER NAME                IMAGE NAME
          == =====
11 00000010 B - - 6 13 PCI Bus Driver                      PciBus
1B 01030000 D X X 1 - LSI Logic Ultra320 SCSI Driver       PciROM:20:01:01:000
1C 01030000 B X X 1 2 LSI Logic Ultra320 SCSI Driver       PciROM:20:01:00:000
1D 00002160 B - - 1 1 Intel(R) PRO/1000 v2.16 EFI-64      PciROM:20:02:01:000
1E 00002160 B - - 1 1 Intel(R) PRO/1000 v2.16 EFI-64      PciROM:20:02:00:000
23 01030000 B X X 1 3 LSI Logic Ultra320 SCSI Driver       PciROM:80:01:01:000
24 01030000 D X X 1 - LSI Logic Ultra320 SCSI Driver       PciROM:80:01:00:000
27 0000002A D - - 2 -  Usb Ohci Driver                      UsbOhci
28 00000010 B - - 2 4 USB Bus Driver                        UsbBus
29 00001010 D X - 1 -  Usb Keyboard Driver                    UsbKb
2A 00000011 ? - - - -  Usb Mouse Driver                      UsbMouse
2B 00000010 ? - - - -  Usb Bot Mass Storage Driver          UsbBot
2C 00000010 ? - - - -  Usb Cbi0 Mass Storage Driver         UsbCbi0
2D 00000010 ? - - - -  <UNKNOWN>                          UsbCbi1
2E 00000011 ? - - - -  Generic USB Mass Storage Driver        UsbMass Storage
2F 00000010 ? - - - -  UGA Console Driver                      GraphicConsole
30 00000000 D - - 1 -  PCI VGA Mini Port Driver                PciVgaMiniPort
31 00000010 D - - 1 -  VGA Class Driver                      VgaClassDriver
32 00000010 B - - 1 1 Serial 16550 UART Driver              Serial16550
```

- 2 First you need to find the driver handle designation (<drv\_handle>) in the **DRV** column for your optical library on this display.

To do this, you need to know which driver is associated with your SCSI device. For example, for an A7173A host bus adapter that uses the **LSI Logic Ultra320 SCSI Driver**, look in the DRIVER NAME column.

There are four occurrences of this driver listed in the sample display, so look for the one that has the appropriate number of connections in the #C (number of connections) column .

If your storage library has three connections (for two optical drives and a robotic arm), locate the **LSI Logic Ultra320 SCSI Driver** line that has **3** in the **#C** column.

Now you can find the driver handle designation (<drv\_handle>) in the **DRV** column, which is **23** in the sample display.

- 3 Next you need to find the controller handle designation, <cntrl\_handle>.

At the EFI shell prompt, enter:

**drvcfg**

The command display is shown in the following example.

```
Shell> drvcfg
Configurable Components
  Drv[1B]  Ctrl[20]  Lang [eng]
  Drv[1C]  Ctrl[1F]  Lang [eng]
  Drv[23]  Ctrl[26]  Lang [eng]
  Drv[24]  Ctrl[25]  Lang [eng]
  Drv[29]  Ctrl[40]  Lang [eng]
  Drv[49]  Ctrl[19]  Lang [eng]
```

From the output of the **drvcfg** command, look for the line(s) where the NN in Drv[NN] is same as the <drv\_handle> for the driver(s) you determined in the previous step. For example, locate Drv[23].

The second column, Ctrl [NN], contains the corresponding <cntrl\_handle>, where NN is the controller handle. In the example, the controller handle that corresponds to driver handle 23 is Ctrl [26].

- 4 Now that you have identified both the driver handle and the controller handle, you can display the SCSI parameters and set them for any driver and corresponding host bus adapter on the SCSI bus.

At the EFI shell prompt, enter:

```
drvcfg -s <drv_handle> <cntrl_handle>
```

The Global Properties screen displays containing information about the host bus adapter to which the controller handle corresponds, as in this example:

```
Shell> drvcfg -s 23 26
LSI Logic Host Bus Adapters
Adapter  PCI  PCI  PCI  RAID  FW Revision  Pro-  LSI  RAID  IRQ
          Bus  Dev  Fnc  Alert  1.03.35.65  duct  Control  Status
<53C1030 80  01  01>  -----  IT  Enabled  -----  0
```

Press **Enter** to display the Adapter Properties screen containing the host bus adapter settings.

On the Adapter Properties screen, use the arrow keys to highlight the Device Properties option, and press **Enter**.

The Device Properties screen displays, as shown in this example:

Device Properties							
SCSI ID	Device	Identifier	MB/Sec	MT/Sec	Data Width	Scan ID	Scan LUNs > 0
0	HP	C1118M	5.14	80	[40]	[16]	[Yes] [Yes]
1	HP	C1113M	1.18	80	[40]	[16]	[Yes] [Yes]
2	-			80	[40]	[16]	[Yes] [Yes]
3	-			80	[40]	[16]	[Yes] [Yes]
4	-			80	[40]	[16]	[Yes] [Yes]
5	HP	C1113M	1.18	80	[40]	[16]	[Yes] [Yes]
6	-			80	[40]	[16]	[Yes] [Yes]
<b>7</b>	<b>53C1030</b>			<b>80</b>	<b>[40]</b>	<b>[16]</b>	<b>[Yes] [Yes]</b>
8	-			80	[40]	[16]	[Yes] [Yes]
9	-			80	[40]	[16]	[Yes] [Yes]
10	-			80	[40]	[16]	[Yes] [Yes]
11	-			80	[40]	[16]	[Yes] [Yes]
12	-			80	[40]	[16]	[Yes] [Yes]
13	-			80	[40]	[16]	[Yes] [Yes]
14	-			80	[40]	[16]	[Yes] [Yes]
15	-			80	[40]	[16]	[Yes] [Yes]

The default speed is the maximum for the SCSI adapter:

- 320 MB/second for A7173A adapters

UDO libraries can operate at these maximum SCSI adapter rates. But for use with all other storage library types, the SCSI adapter channel needs to be set to **80 MB/second**.

**Tip** Assign the data transfer rate to the SCSI host bus adapter (in this example, **53C1030, SCSI ID 7**), so the same maximum data transfer rate is set for all the devices attached to the adapter.

To change the maximum data transfer rate, use the arrow keys to highlight the corresponding option in the **MT/Sec** column, and then use the plus (+) or minus (-) keys to change the values.

**Important!**

For example, to change the transfer rate to 80 MB/Sec, you must change the MT/Sec transfer rate to **40**.

- 5 After making the necessary changes, press **Esc** to exit the Device Properties screen. This takes you back to the Adapter Properties screen.
- 6 Press **Esc** again to exit the Adapter Properties screen.

If you did not modify any of the SCSI parameters, the Global Properties screen displays.

If you did modify any of the SCSI parameters, however, the following screen displays:

```
Adapter and/or device property changes have been made.  
<Cancel Exit>  
<Save changes then exit this menu>  
<Discard changes then exit this menu>  
Exit the Configuration Utility
```

Use the arrow keys to highlight your selection from the listed choices, and then press **Enter** to return to the Global Properties screen.

- 7 On the Global Properties screen, press **Esc**.

```
Are you sure you want to exit?  
<Cancel Exit>  
Save changes then exit this menu  
Discard changes then exit this menu  
<Exit the Configuration Utility>
```

Use the arrow keys to highlight your selection from the listed choices, and then press **Enter** to return to the EFI shell prompt.

- 8 At the EFI shell prompt, enter the following command to reboot the system:

```
reset
```

---

**Note** The system reboot is required for the new setting to take effect.

---



# Appendix B – Installing the HP AD278A PCI MUX 8-port Adapter Card

This appendix provides instructions for installing and configuring the HP AD278A Peripheral Component Interconnect (PCI) Multiplexer (MUX) adapter.

The AD278A PCI MUX adapter is a high-speed serial communication multiple port product. It combines various signals for transmission over a single channel and provides intelligent communication functions to off-load CPU serial communication processing tasks.

The AD278A PCI MUX 8-port adapter is supported on HP-UX 11i v1 (B.11.11) and HP-UX 11i v2 (B.11.23) operating systems.

## Installation Steps

- 1 Shutdown Image Services, and turn power off to the IS storage library server.
- 2 Follow the manufacturer's instructions to install the AD278A adapter into the storage library server.
- 3 Connect the serial OSAR library to the MUX cable using one of the following FileNet Cables:
  - 3100611-025 (25 feet long)
  - 3100611-050 (50 feet long)
- 4 Apply power on to the storage library server and restart HP-UX.

- 5 Follow the instructions to download the device driver software from the HP Web site.
- 6 Install the driver software.
- 7 After you install the driver, the server automatically restarts.
- 8 List the MUX ports by entering the following command:

```
ioscan -knfC tty
```

Verify that the newly configured adapter appears in the list.

- 9 Determine the MUX port number the OSAR library is connected to. Using that port number, find the device name. For example, the port 1 (P1) Connector has a device name like:

```
/dev/tty2a1
```

- 10 Change the owner to fnsw.

```
chown fnsw /dev/tty2a1
```

- 11 And change the permissions.

```
chmod 660 /dev/tty2a1
```

- 12 Launch the IS System Confoiguration Editor:

```
fn_edit &
```

- 13 Select the Storage Libraries tab, and enter that name (/dev/tty2a1, for example) into the device address for the serial FileNet OSAR library. Exit and save your changes.

14 Rebuild the system configuration files by entering:

**fn\_build -a**

15 Start Image Services.