Installation and Configuration Procedures for HP-UX

on HP Integrity Servers

IS 4.0 HP Integrity Edition

9844141-001

November 2006

Notices

This document contains information proprietary to FileNet Corporation (FileNet). Due to continuing product development, product specifications and capabilities are subject to change without notice. You may not disclose or use any proprietary information or reproduce or transmit any part of this document in any form or by any means, electronic or mechanical, for any purpose, without written permission from FileNet.

FileNet has made every effort to keep the information in this document current and accurate as of the date of publication or revision. However, FileNet does not guarantee or imply that this document is error free or accurate with regard to any particular specification. In no event will FileNet be liable for direct, indirect, special incidental, or consequential damages resulting from any defect in the documentation, even if advised of the possibility of such damages. No FileNet agent, dealer, or employee is authorized to make any modification, extension, or addition to the above statements.

FileNet may have patents, patent applications, trademarks, copyrights, or other intellectual property rights covering subject matter in this document. Furnishing this document does not provide any license to these patents, trademarks, copyrights, or other intellectual property.

Please take a few moments to read the ***End User License Notice*** on the IS 4.0 Documentation CD. By installing the Image Services 4.0 HP Integrity Edition software, the customer agrees to be bound by the terms of this agreement.

This product includes software developed by the Mozilla Foundation (**http://www.mozilla.org/**). License agreement available at **http://www.mozilla.org/MPL/MPL-1.1.html#exhibit-a**.

FileNet, ValueNet, Visual WorkFlo, and OSAR are registered trademarks of FileNet Corporation. Document Warehouse and UserNet are trademarks of FileNet Corporation.

All other product and brand names are trademarks or registered trademarks of their respective companies.

FileNet Corporation
3565 Harbor Boulevard
Costa Mesa, California 92626-1420
800.FILENET (345.3638)
Outside the U.S., call:
1 . 7 1 4 . 3 2 7 . 3 4 0 0
www.filenet.com

Contents

5 Configuring FileNet Image Services Software 155

Appendix B – Adding a Storage Library Server 304

1
Getting Started

This document explains how to install and configure FileNet Image Services 4.0 HP Integrity Edition software and either Oracle9i RDBMS software or IBM DB2 Client software on Hewlett-Packard Integrity servers powered by Intel® Itanium® 2 processors.

Overview

You can use the software installation and configuration procedures in this document to perform the following server-related tasks:

- Installing and configuring Image Services on either a Combined server system, Dual servers System, or Remote Entry System (RES)

- Adding a single Storage Library server to an existing Root/Index server
- Installing and configuring multiple Storage Library servers on an existing system
- Installing and configuring (adding services) an Application server to an existing system

Tip Reconfiguring an existing server should be handled the same as installing and configuring a new server.

If you're going to be using **HP MC/ServiceGuard**, you also need to perform many sections in this document on your fail over server(s).

Required Skills

The software installation and configuration procedures described in this document must be performed by a **FileNet Certified Professional (FCP)**. To learn more about the FCP certification program, please refer to FileNet's Web site at **http://www.filenet.com** under Products > Services & Support > Global Learning Services. FileNet Professional

certification is available to FileNet customers, FileNet employees, FileNet partners, and other Technical Service Providers (TSP).

At least **seven days** prior to the installation, the FCP must contact the Upgrade/Install Assurance Team to schedule the installation and access the team's latest list of current scheduling procedures.

This procedure assumes you have knowledge of:

- UNIX, specifically, the HP-UX operating system
- the HP System Administration Manager tool (**SAM**)
- the administrative command for HP-UX kernel tunable parameters (**kctune)**
- a text editor such as **vi**

Documentation Conventions

We have tried to make this procedure easy to follow, whether you're a new or experienced technician. The organization and format of this procedure are designed to clarify the tasks you are about to perform.

To familiarize yourself with the conventions used in this document and for other general information, link to the ***Documentation Conventions*** file on the FileNet Image Services documentation CD.

New Features of the IS 4.0 HP Integrity Edition Installation

This release of FileNet Image Services includes some changes you need to be aware of when installing the new software.

InstallShield Installation Wizard

This version of Image Services incorporates a new InstallShield Multi-Platform Installation Wizard. Before installing the Image Services software, the Wizard performs a series of system configuration checks to verify the HP Integrity server is ready for the Image Services installation.The Wizard gives you two options:

- System Check only
- System Check and Install Image Services

If the Wizard detects a problem at any point during the System Check, you can back up to the previous screen, correct the problem, and then

go forward to rerun that check again. The HP Integrity server must pass the Wizard System Check successfully before the Wizard installs the Image Services software.

CSS Worldwide Customer Support

The following sub-sections describe various support documents and tables that will give you additional, up-to-the-minute information concerning your installation. These are all available on the FileNet CSS Web site at **http://www.css.filenet.com**. Login to Worldwide Customer Support to review these topics.

Release Notes for Image Services 4.0 HP Integrity Edition

The **Release Notes** are available in two places.

The latest Release Notes file can be retrieved at any time from the FileNet Web site. Click on:

Product Tech Info
Image Manager
Image Services

Release Information
All Release Notes
Release Notes IS 4.0.x

The latest Release Notes are located on the FileNet Web site. It is **highly recommended** that you obtain the Release Notes file from that location instead using the file on the IS 4.0 CD-ROM.

The **Release Notes** contain valuable information you need to install and configure Image Services software. Do not start the update without first reading the **Release Notes**.

Pay special attention to the **"Patches"** mentioned in the Release Notes. (Search for the keywords **PRE-INSTALL** and **REQUIRED** to locate information about HP-UX, Oracle, DB2, and FileNet patches that need to be applied before starting this installation.)

Operating System Notes

Review the Operating System Notes for your current version of HP-UX to determine if any patches need to be installed prior to this Image Ser-

vices installation. The System Administrator is responsible for obtaining and installing these patches.

Go to the FileNet Web site **http://www.css.filenet.com** and log into Customer Service & Support. Click on:

Product Tech Info
Image Manager
Image Services
Compatibility & Dependency
IS 4.0.x

Select your operating system from the list, and review the patch recommendations and requirements. Make sure the most recent patch bundle has been installed.

Release Dependency Spreadsheet

Review the Image Services Release Dependency spreadsheet for information that might be pertinent to the entire system configuration. The Release Dependency spreadsheet contains software compatibility information for client workstations, fax servers, and printer servers.

You might see this spreadsheet referred to as the Support Matrix or the Compatibility/Dependency Matrix.

Note When running Image Services and the Image Services Toolkit on the same server, the Image Services Toolkit must be version 4.0 or later.

Installation Prerequisites

The prerequisites for an installation are outlined in the following sections. You will be asked to gather specific information in the following sections. After you find each piece of information, enter it in the appropriate space in the **“FileNet TC Worksheet” on page 83**.

Server Types Perform the steps in this section on these servers:

Root/Index and **Storage Library** during a Dual server installation.

Root/Index/Storage Library server during a Combined server or Entry server installation.

Application server during an Application server installation.

Note If you are going to be using **HP ServiceGuard**, you also need to perform these steps on your fail over servers.

It is very important that you complete all prerequisite checks and gather all pertinent information now, or you will have difficulties later during the procedure.

Minimum Hardware Requirements

Note These requirements have changed from previous FileNet Image Services releases.

Server Architecture

HP Integrity servers containing 64-bit Intel Itanium 2 processors that support the HP-UX11i v2 operating system are required.

Server Memory

HP Integrity entry-class servers come with a minimum of **512 MB** of memory, which should be sufficient.

Total Swap Space

Recommended swap space is **2 times** the amount of server memory.

However, if the server has more than 1 GB of server memory, we recommend that swap space be **1.5 to 2 times** that amount.

Total Disk Space

- For FileNet Image Services software and minimum datasets only:
  - At least **1.0 GB**

    This includes a 30% growth factor, but does not include space required for the HP-UX operating system or for RDBMS software.

The System Administrator and Database Administrator should refer to the HP-UX and RDBMS documentation for space requirements for these products.

Note FileNet recommends that the server have **at least three physical magnetic disks** -- one for the vg00 volume group and at least two for the “fnvg” volume group, or whatever you name it, in which the master database resides. Mirroring this database will minimize downtime and avoid interruption of business in the event of a hardware failure.

Available File System Space for FileNet Software

Within the total disk space shown on the previous page, FileNet Image Services software requires the following amounts of free disk space:

- **500 MB** total space in /fnsw.
- **500 MB** total space in /fnsw/local.

In addition, the Installation Wizard needs the following amount of temporary space for decompressing files:

- **500 MB** total space in /var/tmp

Tip If you don’t have enough space in /var/tmp, you can tell the Wizard to use another directory that does have enough space.

Space for RDBMS Software

The amount of disk space required for RDBMS software depends on whether Server or Client software is installed and the products selected.

Refer to vendor's documentation for additional information about space requirements for RDBMS software products.

- **For Oracle**, refer to the ***Guidelines for Installing and Updating Oracle Software for UNIX Servers*** for more information about space requirements.
- **For DB2**, refer to the ***Guidelines for Installing and Configuring DB2 Software*** for more information about space requirements.

FileNet's SCouT system configuration and output tool can help estimate the actual amount of disk space needed for FileNet, DB2, and Oracle datasets on this Image Services system.

Graphics Monitor

You must use an X-station, a workstation that supports X Windows or Common Desktop Environment (CDE), or a PC with an X Windows emulator to use FileNet's graphical user interface (GUI) capabilities to:

- Configure the system running the fn_edit tool to access the Configuration Editor.
- Run FileNet system administration programs, such as the Application Executive, Database Maintenance, and Storage Library Control (SLC).

When the documentation directs you to perform a command requiring any GUI capabilities on the Root/Index/Storage Library server, for example, you need to be at the X-station or PC you have attached to your Root/Index/Storage Library server. ASCII commands can be performed at either the X-station or PC you have attached to your server(s) or at the server's terminal.

International Keyboard

If you are using an international keyboard, remember to select the keyboard language when you first logon to CDE.

At the logon box, select Options, Language. Then choose the appropriate keyboard language from the pulldown menu.

Failover Server

If you are going to be using **HP ServiceGuard,** you are going to need a duplicate system of your main Image Services system as a fail over system and a disk array attached to both the production system and the fail over system.

Software Requirements

Software requirements described in this document are for the following:

- Operating system and related information
- FileNet Image Services (including COLD)
- Relational Database Management Software
  - Oracle9i for HP-UX Itanium Release 2 plus Patchset 4 (9.2.0.4) or higher

  - IBM DB2 Version 8.1.0 plus FixPak 7 or higher
    (DB2 8.1.0 plus FixPak 7 is equivalent to DB2 8.2.0)
    (DB2 7.2.0 is not supported in this release.)

- Release Notes file (available on the CSS Web site)
- Appropriate patches for your HP-UX operating system and RDBMS
- HP ServiceGuard installed and configured by HP

Server Naming Convention

Properly naming Image Services servers is an important step when setting up your Image Services system. Server names can have a maximum of **20 characters** and should only contain ASCII alpha-numeric characters and hyphens.

Note Non-alphanumeric and underscore characters should not be used.

Every system resource is identified by a three-part name stored in the NCH database. The three parts of the resource name identify an object, a domain (system name), and an organization, in this format:

object:domain:organization

The maximum length of a three-part name is **82 characters**—40 for the object, 20 for the domain, 20 for the organization, two for the colons separating the parts.

Important!

When you specify an object from a PC workstation, the maximum length of a three-part name is **79 characters**—39 for the object, 19 for the domain, 19 for the organization, two for the colons.

The reason for this convention is that when NCH (Network Clearing House) has to cross a router to find a server, it converts the domain name to an IP host name using specific criteria, one of which is dropping the underscore character. In fact, all non-alphanumeric and underscore characters are eliminated.

Object Name

An **object** is a resource like a tape, printer, database, software service, logon name, etc. Some objects have names predefined by the system. For example, DefaultIMS is the name used to access the index database.

Domain Name

The **domain** (or system) name is set up at FileNet system configuration time using the **fn_setup** tool. In a multi-server system, each server has a different server name, so the domain name is usually the server name of the Root/Index server.

Organization Name

The third part of the NCH resource name is the **organization** name. This can be your company or department name, such as ABCDEnterprises or FileNetAccounting.

Operating System and Related Information

HP-UX Version

Determine the version of operating system software running on the server(s) and enter it on the **“FileNet TC Worksheet” on page 83**.

Enter the **uname -r** (release) command. The result should be:

B.11.23

If the version of HP-UX software is earlier than version B.11.23, or if no software has been installed on the system, refer to HP documentation.

Your server must already be running:

HP_UX 11.23 (64-bit) or higher

Enter the **uname -m** (platform) command. On an HP Integrity server, the result should be:

ia64

Verify the character set used by the operating system and enter it on the worksheet. Enter the **locale charmap** command.

HP-UX Patches
After installing HP-UX 11i v2, go to the FileNet Web site **http://www.css.filenet.com** and log into Customer Service & Support. Click on:

Product Tech Info
Image Manager

Image Services
Compatibility & Dependency
Image Service Compatibility Matrix

Locate your operating system in the list, and review the patch recommendations and requirements.

Font Server for COLD Preview
If you plan to run FileNet COLD Preview software from an Xstation, you must configure a Font Server to enable fonts to display and align correctly on the Xstation. The Font Server should be the same server on which the COLD software is installed, usually the Storage Library Server.

To configure the server on which you plan to run FileNet COLD software, go to **“Appendix D – Configuring a Font Server for COLD Preview” on page 379** now.

TCP/IP Address
FileNet Image Services software requires that the server have a static IP address. Use SAM to verify that a specific IP address has been

assigned to the server. Use of a dynamic IP address (DHCP) is not supported.

Debugging Software

Debugging software is required for Image Services 4.0 HP Integrity Edition and must be installed on each Image Services server. A debugger enables FileNet support personnel to troubleshoot both FileNet and HP-related problems.

WDB 5.4

The HP Wildebeest Debugger (WDB) is an HP-supported implementation of the Open Source GNU debugger (GDB). HP WDB supports source-level debugging of object files written in HP C, HP aC++, and Fortran 90 on HP-UX 11i v1.6 and later for HP Integrity servers (Itanium®-based), and HP-UX 11.0 and later for HP 9000 (PA-RISC) servers.

HP WDB 5.4 is the recommended debugger for Integrity systems running HP-UX 11i v1.6 or later and HP 9000 (PA-RISC) systems running HP-UX 11.0 and 11i.

Other debuggers, such as xdb and HP DDE are no longer supported.

You can download a version that's compatible with your current version of the HP-UX operating system for no charge by going to **http://www.hp.com/go/wdb/**. Documentation is also available for download.

GDB 6.4

GDB, the GNU Project debugger, allows you to see what is going on `inside' another program while it executes – or what another program was doing at the moment it crashed. GDB is free software, protected by the GNU General Public License (GPL). GDB can run on most popular UNIX and Microsoft Windows variants.

The program being debugged can be written in C, C++, Pascal, Objective-C (and many other languages). Those programs might be executing on the same machine as GDB (native) or on another machine (remote).

You can download the current version for no charge by going to **http://www.gnu.org/software/gdb/**. Documentation is also available for download.

HP ServiceGuard

If you are going to be using HP ServiceGuard, you must have HP ServiceGuard installed on both the production and fail over system. You can determine if HP ServiceGuard software is installed with the following command at the system prompt:

/usr/sbin/swlist -l product | grep ServiceGuard

You should see output similar to the following:

```
ServiceGuard    A.11.14  Service Guard
```

Note More information on HP MC/ServiceGuard is available at **http://www.software.hp.com**. The FileNet Web site has more ServiceGuard information available in the form of required HP-UX patches, Release Notes, and sample ServiceGuard scripts for FileNet.

FileNet Image Services Software

- **FileNet Image Services 4.0 HP Integrity Edition for HP-UX** CD-ROM. This media contains the Image Services 4.0 HP Integrity Edition software including COLD 4.0 software for HP-UX 11i v2and the Universal SLAC Keys.

Oracle RDBMS Software

Note Oracle9i software media are not supplied by FileNet.

- **Oracle9i Database Release 2 Enterprise/Standard Edition for HP-UX Itanium** (4 CD-ROMs). These compact disks contain all the Oracle9i RDBMS software products, and are compatible with only HP-UX Itanium.
- **Oracle9i Patch Set 4 (9.2.0.4) or higher**

The patch sets are available for download from the Oracle MetaLink Web site.

Note The **Database Administrator** must install the appropriate version of Oracle and supply the information described in the FileNet ***Guidelines***

for Installing and Updating Oracle Software for UNIX Servers to the System Administrator and the FileNet Technical Consultant before the FileNet Image Services software can be installed.

IBM DB2 Universal Database Software

Note IBM DB2 software media are not supplied by FileNet.

For the DB2 Database Server

- **IBM DB2 V8.1.0** (1 CD). **DB2 UDB Enterprise Server Edition (ESE) for AIX 5L**. This compact disk contains the IBM DB2 RDBMS software for the DB2 database server.
- **IBM DB2 Universal Database Version 8 FixPak 7** or higher. (download from IBM's Web site, **www.ibm.com**.)

  (DB2 V8.1.0 plus FixPak 7 is equivalent to DB2 V8.2.0.)

For the Image Services Server

- **IBM DB2 V8.1.0** (1 CD). **DB2 UDB Administration /Runtime Client for HP-UX 11i**. This compact disk contains the IBM DB2 RDBMS software for the DB2 client on the Image Services server.
- **IBM DB2 Universal Database Version 8 FixPak 7** or higher. (download from IBM's Web site, **www.ibm.com**.)

Go to the FileNet Web site **http://www.css.filenet.com** and log into Customer Service & Support. Click on:

Product Tech Info
Image Manager
Image Services
Compatibility & Dependency
Image Service Compatibility Matrix

Locate your releation database in the list, and review the version recommendations and requirements.

Note The **Database Administrator** must install the appropriate version of DB2 and must supply the information described in the FileNet ***Guidelines for Installing and Configuring DB2 Software*** to the System Administrator and the FileNet Technical Consultant before the FileNet Image Services software can be installed.

National Language Support

This release of Image Services provides additional information on using character sets other than US7ASCII and ISO 8859-1. It's extremely important that the character set you select for one product matches the character sets you select for all the others.

For example, when you install the operating system, be sure to select the character set you plan to use with Image Services and your relational database software, such as DB2 or Oracle. Likewise, when you install the relational database software, be sure to select the same character set as you did for the operating system.

And when you install the FileNet Image Services software, be sure to select the appropriate character set on both the System Attributes tab

in the System Configuration Editor and on the Relational Databases/DB2 tab or the Relational Databases/Oracle tab.

Later, when you create indexes, document classes, and media families, you'll be able to use the appropriate alphanumeric characters for your locale.

Note Folders are created and named using Desktop client software. Because the folders are stored in the index database, their names must also use the Windows code page character set that is the equivalent of the character set used by the RDBMS and IS on the Image Services server.

For FileNet systems configured with Western European character sets, valid alphanumeric characters must be in the 7-bit ASCII range. For FileNet systems configured with non-Western European character sets, any valid 8-bit alphanumeric character is acceptable.

Both Western and non-Western 8-bit character sets (character values range from 0 to 255) have valid alphanumeric characters above the ASCII range. ASCII characters occupy the first half of all 8-bit char-

acter sets and range in value from 0 to 127. Non-ASCII characters have values ranging from 128 to 255.

The following table summarizes FileNet support for both ISO and MS single-byte character sets.

Table 1-1: Character Sets

Character Sets			Decimal Values	
ISO (International Organization for Standardization)		Microsoft Windows Code Page	ASCII (0 to 127)	Non-ASCII (128 to 255)
Western European	8859-1	CP 1252	Yes	**No**
Eastern European	8859-2	CP 1250	Yes	Yes
South European	8859-3	**	Yes	Yes
Northern and North-eastern European	8859-4	CP 1257	Yes	Yes
Latin/Cyrillic	8859-5	CP 1251	Yes	Yes
Latin/Arabic	8859-6	CP 1256	Yes	Yes
Latin/Greek	8859-7	CP 1253	Yes	Yes

Table 1-1: Character Sets

Character Sets			Decimal Values	
ISO (International Organization for Standardization)		Microsoft Windows Code Page	ASCII (0 to 127)	Non-ASCII (128 to 255)
Latin/Hebrew	8859-8	CP 1255	Yes	Yes
Western European and Turkish	8859-9	CP 1254	Yes	Yes
North European	8859-10	**	Yes	Yes

****** Microsoft does not have character set code pages that correspond to ISO 8859-3 and ISO 8859-10. If your Image Services system configuration includes Microsoft Windows clients or workstations, be sure to choose an ISO character set for the RDBMS and Image Services that has a corresponding Windows code page.

Related Documentation

The following documents contain information related to the installation of FileNet Image Services on HP-UX. Locate these documents on the FileNet Image Services Documentation CD-ROM, and print or read them before you install the Image Services software.

- ***Image Services System Administrator's Handbook***
- ***Image Services System Administrator's Companion for UNIX***
- ***Enterprise Backup and Restore User's Guide***

You will also see references to the on-line referencing tool. You can use this tool when you have any questions.

2

System Administrator Tasks

System Administrator Checklist

The following checklist summarizes the tasks described in this chapter that the **System Administrator** is responsible for completing.

1. ❒ Operating System Requirements
2. ❒ Check Kernel Parameters
3. ❒ Check Swap Space
4. ❒ Configure a TTY Port for the Serial Robotic Arm of a FileNet OSAR Library
5. ❒ Extend the Root Volume Group (Optional)
6. ❒ Create the FileNet Volume Group (fnvg) (Optional)
7. ❒ Create fnadmin and fnop Groups
8. ❒ Create FileNet Users and fnusr Group
9. ❒ Create File Systems

At the customer site, the **System Administrator** or the **FileNet Technical Consultant** needs to gather specific information about each server comprising the FileNet Image Service system.

Operating System Requirements

Server Types

Perform the steps in this section on **all servers**.

Log on as **root** user to check and gather the information in this section.

1 You need to make sure that the system has the following hardware/software configuration:

- An HP Itanium Server with at least **512 MB** of memory.

  To determine the amount of memory installed in a server, enter the **machinfo** command and look for the Memory line.

/usr/contrib/bin/machinfo

```
Memory = 4080 MB (3.984375 GB)
```

Note If you have, or are going to have, an X Station on your system, you need to make sure your X Station also has enough memory to run the necessary FileNet applications (for example, COLD).

Enter your system's memory in the **"FileNet TC Worksheet" on page 83**.

- One or more Ethernet interface cards (Media Access Controller Type). Enter type(s) in the **"FileNet TC Worksheet" on page 83**. Refer to the back of the server for the card type.
- The appropriate Media device(s) for the software you are installing (for example, CD-ROM, DVD, etc.). FileNet Image Services software is available only on CD-ROM at this time.
- An X-station, a workstation that supports X Windows or Common Desktop Environment (CDE), or a PC with an X Windows emulator to use FileNet's graphical user interface (GUI) capabilities.

Verify HP-UX Patches

After installing HP-UX 11i v2, go to the FileNet Web site **http://www.css.filenet.com** and log into Customer Service & Support. Click on:

Product Tech Info
Image Manager
Image Services
Compatibility & Dependency
Image Services Compatibility Matrix

Select your operating system from the list, and review the patch recommendations and requirements. Make sure the most recent patch bundle has been installed. For example:

Mar ‘06 (11.23 Standard Patch Bundles)

Note HP supercedes its patches from time to time, so be sure to check the FileNet CSS Web site for the latest requirements.

Check Kernel Parameters

1 Check the **Pending Value** for the parameters shown below.

Tip You can also use the **kctune** command line tool to query and set tunable kernel parameters. See the man page for **kctune**.

To use the traditional SAM method, enter the following commands.

a As **root** user, enter:

sam &

b Select the Kernel Configuration option.

c Then select the Configurable Parameters option, and check the **Pending Value** for the kernel parameters in the following order:

Note If the kernel parameters on your server are larger than the minimum values shown in Table 2-1, **DO NOT** lower them!

However, if the values are smaller than any of these recommended minimum values, you MUST increase them.

(The only exception to this rule, is **dbc_max_pct**, which has a maximum setting of 30.)

Table 2-1: FileNet Recommended Kernel Parameter Settings

Kernel Parameters	Recommended Minimum Settings
maxdsiz	268435456 (256 MB) 0x10000000 hex
maxfiles	1024
nproc	1005
maxuprc	400

Table 2-1: FileNet Recommended Kernel Parameter Settings, Continued

Kernel Parameters	Recommended Minimum Settings
nfile	2048 Although the minimum value for nfile is 2048, you might want to set this value much higher. A value of 5000, for example, would be acceptable.
ninode	1085
semmns	2000
semmni	2000
shmmax	536870912 (512 MB) 0x20000000 hex
shmseg	120
semmnu	1000
semume	500

Table 2-1: FileNet Recommended Kernel Parameter Settings, Continued

Kernel Parameters	Recommended Minimum Settings
msgmni	2048
msgseg	16384
msgtql	6640
msgmap	msgtql + 2
dbc_max_pct	30 or less **
dbc_min_pct	5

**The dbc_max_pct kernel parameter must be set no higher than 30. A value of 7 would be acceptable. (The other FileNet recommended kernel parameter settings are minimum values.

Note These specific parameter values reflect FileNet requirements only. If you receive a “dependency error” when changing any of these parameters, change the dependent parameter mentioned in the error first.

If the values displayed by SAM are **smaller** than any of the recommended values shown above, increase them.

On servers with DB2 software installed, verify these settings:

Table 2-2: DB2 Recommended Kernel Parameter Settings

Kernel Parameters	Recommended Minimum Settings
msgmnb	65535
msgmax	65535

You also need to verify the timezone setting for your location:

Table 2-3: Timezone Kernel Parameter Setting

Kernel Parameters	Default Setting
timezone	420*

*The default value is 420 minutes west of Greenwich Mean Time (GMT), which is the U.S. Mountain timezone.

Determine the number of minutes east or west of GMT for your location by multiplying the number of hours east or west of GMT by 60 minutes per hour. For example, the U.S. Pacific timezone is 8 hours west of GMT. Multiply 8 x 60 to get 480 minutes.

If your timezone location is east of GMT, you should use a negative number. For example, Middle European Time is one hour east of GMT. Multiply -1 x 60 to get -60 minutes for MET (Middle European Time).

Tip You can easily determine the number of minutes for the timezone kernel parameter by multiplying the number of hours in the TZ environment variable (discussed later) by 60 minutes.

2 If you do not need to make any changes to these kernel parameters, you can skip to **Step 5 on page 59** now. If you do need to make changes, continue with the next step.

3 Change the kernel parameter values by following these sub-steps:

a Select (highlight) the parameter you wish to change (for example, **maxfiles**).

b From the Actions menu, select the Modify Configurable Parameter option and press **Return**.

c In the popup window that displays, the Specify New Formula/Value option should already be selected.

d In the Formula/Value field, type the new value.

e Click **OK** and press **Return**. When the popup window disappears, you should see the new value in the Pending Value column.

f Repeat sub-steps a through f for each parameter you need to change.

4 If you changed any of the kernel parameters in the previous step, you might need to rebuild the kernel by completing the following sub-steps:

a From the Action menu, click the Process New Kernel option.

b Click **Yes** when you're asked if you want to process your kernel modification now.

c On the next screen, make sure the Move Kernel into Place and Shutdown/Reboot the System Now option is selected.

The Overwrite /stand/system option should also be selected, unless the System Administrator has a reason not to overwrite this file.

Refer to HP's on-line Help for complete information.

d Click **OK** to reboot the server and put the new changes into effect.

5 Next, verify the TZ (timezone) environment variable. HP-UX has two timezone settings: the kernel parameter 'timezone' and the environment variable 'TZ'. Both timezone settings must agree so that Image Services utilities can report the time correctly. In Step 2, you verified that the 'timezone' kernel parameter was set correctly.

a Now you must make sure that the TZ environment variable is set correctly. As **root** user, enter:

/sbin/set_parms timezone

b Choose the correct timezone from the menus displayed. (If you change the current setting, you will be prompted to reboot the server.)

If the HP-UX **set_parms** command is not available on your server, the System Administrator must check the documentation for the currently installed version of the HP-UX operating system for the appropriate way to set this variable.

Check Swap Space

Check to see if the total swap space size is set to at least **1000 MB**. FileNet recommends that swap space be **2 times** the amount of server memory. However, if the server has more than 1 GB of server memory, FileNet recommends that swap space be **1.5 to 2 times** that amount.

Note If there is more than one swap space, make sure that the total of all of the swap spaces is greater than or equal to **1000 MB**.

1 On the Disk and File Systems menu of SAM, select (highlight) the Swap option.

Check the amount of Swap space available. If the total amount of Swap space is equal or greater than the minimum required, skip to Step 10.

If you need to add more Swap space, continue with the next step.

2 Return to the Disk and File Systems menu and select the Logical Volumes option. The Logical Volumes menu displays.

3 From the Action menu, select the Create option and then press **Return**.

4 Click the Select a Volume Group option, and then select the appropriate volume group (for example, **vg00**). Click **OK** and press **Return**.

5 Click the Define a New Logical Volumes option. In the LV Name field type the name of the additional swap space logical volume (for example, **swap2**).

6 In the LV Size (Mbyte): field type the size of your logical volume. For example, if the server has 1 GB of memory, you can determine what number to enter into this field by completing the following formula:

(<current RAM> x multiplier) - <current swap size> = # Mbytes

where:

current RAM	is the amount of memory currently installed in the server
multiplier	is 2 (or 1.5 if <current RAM> is large than 1GB
current swap size	is the amount of Swap space already configured on this server
# Mbytes	is the amount of Swap space you need to add

7 Click on the Usage: field and select Swap Device.

8. Click the Swap Priority: field and select **1**. Click the **Add** button and then click **OK**.

9. Click **OK** again to create the logical volume. The new Swap logical volume displays in the Define New LV window.

10. Return to the main System Administration Manager menu of SAM.

System Configuration Issues

Server Types

Perform the steps in this section and its subsections on these servers:

Root/Index and **Storage Library** server during a Dual server installation.

Root/Index/Storage Library server during a Combined server or Entry server installation.

Application server during an Application server installation.

For **HP ServiceGuard** users, these steps need to be performed on **both** the production server(s) **and** the fail over server(s).

At this point, you need to log on as **root** user and use SAM to verify several configuration issues.

Note Throughout this section, you will see the mention of **<volume group>**. You have to determine what you want to call your volume groups (vg00, for example), how many you will have, and what software you will install on which **<volume group>**. The number of disk drives you have on your server will help determine your number of volume groups.

Extend the Root Volume Group (vg00) (Optional)

Important! This section is not an option for those using **HP ServiceGuard**. **HP ServiceGuard** users must create a new volume group on the disk array.

If you want to extend the Root <Volume Group> (**vg00**) by adding a second disk to the volume group, and you are not going to install FileNet software datasets in a new volume group, complete this section. If you want to create a volume group for your FileNet datasets (**fnvg**) on a separate disk(s), skip this section.

In this section you will extend the Root <Volume Group> (**vg00**) using SAM. To extend the Root volume group, you will have to complete the following steps:

1 You should already be at the System Administration Manager menu of SAM. Select the Disks and File Systems option.

2 From the Disk and File Systems Manager menu of SAM, select the Volume Groups option.

3 From the Action pulldown menu, select the Create or Extend. . . option.

- Extend the Root <Volume Group> (**vg00**).
- Select the disk to which you want to extend the volume group.

Create the FileNet Volume Group (fnvg) (Optional)

If you want to create a volume group for your FileNet datasets (**fnvg**), complete this section. If you extended the Root <Volume Group> (**vg00**) in the previous section, and you are not going to install FileNet software and FileNet datasets in a new volume group, skip this section.

Note It is suggested that all software be installed on the root volume group Disk (such as **vg00**), and the FileNet datasets be installed on the other Disk(s) (such as **fnvg**).

In this section you will use SAM to create the FileNet <Volume Group> and call it **fnvg**. To create the FileNet volume group, follow these steps:

1. You should already be at the System Administration Manager menu of SAM. Select the Disks and File Systems option, and press **Return**.

2. From the Disk and File Systems Manager menu of SAM, select the Volumes Groups option.

3 You need to create a <Volume Group> for the FileNet datasets (**fnvg**, for example). From the Action pulldown menu, select the Create or Extend.

4 At the Select a Disk pop-up window, select the disk(s) you want to add within the volume group.

5 At the Add a Disk Using LVM screen, select the Create or Extend a Volume Group ... option.

6 At the Create a Volume Group screen, decide a name for the new <Volume Group> (for example, **fnvg**) and type this name in the Volume Group name field and click **OK**.

7 At the Add a Disk Using LVM screen, click **OK**.

8 When you see a Note saying the volume group has been successfully created/extended, click **OK**.

9 The new volume group (**fnvg**) now displays in the **Disk and File Systems** menu.

This information can be viewed in more detail by using the **vgdisplay** command. Enter:

```
vgdisplay -v
```

Create FileNet Users and Groups

Create fnadmin and fnop Groups

Use SAM to create three groups; first the **fnadmin** group, then the **fnop** group, and finally the **fnusr** group:

- Members of the **fnadmin** group have the highest privileges. This group is reserved for System Administrators who must be able to make configuration changes, run diagnostics, and restore backups. Members of this group can read, write, and execute the FileNet Image Services software.
- Members of the **fnop** group are FileNet Operators. They have privileges to start and stop the FileNet Image Services software, perform backups, and run other everyday operation activities. Members of this group also have access to diagnostic and hard-

coded passwords, such as MKF_tool and CSM_tool. Members of fnadmin group should also be members of this group.

- Members of the **fnusr** group, which will be created when you add the **fnsw** user in the next section, can operate any FileNet software, including COLD. All adminstrators and operators must belong to this group.

Note Members of the fnadmin and fnop groups should also be members of the fnusr group and the dba group in the next section.

Use SAM to set up the fnadmin and fnop users and groups.

1 At the main System Administration Manager menu of SAM, select the Accounts for Users and Groups option.

2 Click the Groups option.

3 From the Action pulldown menu, select **Add**.

4 On the Add a new group screen, ...

In the Group Name field, type **fnadmin**

In the Users to Include in Group field, select a user with administrative privileges, such as **root**. (Also select the names of any other users you wish to include in this group.)

5 Click **OK** button to create the **fnadmin** group.

6 Click **OK** at the Message screen to return to the Groups menu.

7 Once again, from the Action menu, click **Add**.

8 On the Add a new group screen, ...

In the Group Name field, type **fnop**.

In the Users to Include in Group field, if you wish to include the names of any existing users in this group, click on those users to select them.

9 Click **OK** to create the **fnop** group.

10 Click **OK** at the Note screen.

11 Return to the Accounts for Users and Groups screen.

Create FileNet Users and fnusr Group

Note There are no RDBMS users and groups on a Storage Library Server.

For **HP ServiceGuard** users, this needs to be done on both the production server(s) and the fail over server(s).

Important! Although using SAM to create users and groups is the preferred method, SAM makes it difficult to assign a primary group to a user. If you encounter this difficulty, you can edit the /etc/group file instead.

1 You should already be at the Accounts for Users and Groups screen.

2 To create new users, click the Users icon. The Users window displays.

3 On the Action pulldown menu, click **Add**.

4 In the Add a User Account window, type **fnsw** in the Login Name field and make sure the Create Home Directory option is checked.

5 Click on the Primary Group Name... button and type the user's primary group (for example, **fnusr**). Since the fnusr group does not exist yet, this will create it. (When you're prompted to create a new group, click **Yes** to create it.) Click **OK** to continue.

Group Name	Members	Group Description
fnusr	fnsw, root, <dba user>	Members can operate any FileNet software (including COLD). All operators and administrators must belong to this group.
fnadmin	fnsw, root	Members can perform administrative functions. Administrators must belong to this group to change configuration, perform diagnostics, or restore backups.
fnop	fnsw	Members can start and stop all FileNet software (including COLD). Administrators must also belong to this group.

Note If you want to log in as a specific user and want to run the FileNet tools and software, you need to add this user into the **fnadmin** and **fnop** groups.

If Oracle software is installed on the local server, you also need to create a <dba group>, such as **oragrp**.

Group Name	Members	Group Description
<dba group>	<dba user>, fnsw	The Database Administration group <dba group> and user <dba user> are created by the Database Administrator. The FileNet user, fnsw, needs to be a member of the <dba group>.

6 Click the Start-Up Program... button and select the user's start-up program (shell) from the list. Click **OK** to continue.

7 Fill in the other optional fields as desired.

8. Click the Set Password Options... button and select the appropriate password behavior option from the drop-down list. Click **OK** to continue.

9. In the Set User Password window, type the user's password. Click **OK**.

10. Re-type the password and click **OK** again.

11. When the Note screen displays to let you know the user has been added to the system, click **OK** to continue.

12. Select the **fnadmin** group.

13. On the Action pulldown menu, select the Modify. Then in the Users not in Group field, select **fnsw**. Click **Add** to add the user, **fnsw**, to the fnadmin group.

14. Click the **OK** button to modify the fnadmin group. Also click **OK** at the message screen(s) until you return to the Accounts for Users and Groups screen.

15 Repeat Steps 12 through 14 for the **fnop** and **fnusr** groups (and <dba group>, if present on this server) and add the users as indicated above.

16 Exit the Groups screen and return to the System Administration Manager main menu.

Create Logical Volumes and File Systems

Server Types Perform the steps in this section on **all servers**.

Tip The Actual Size You Create each file system is determined by FileNet's SCouT planning tool.

In this section you will create the **/fnsw** and **/fnsw/local** file systems for Image Services.

1 Now you can use SAM to create the file systems and logical volumes. You should already be at the System Administration Manager menu of SAM.

2 On the **System Administration Manager** menu, select the **Disks and File Systems** option.

3 From the Disk and File Systems Manager menu, select the **Logical Volumes option**.

4 From the Action pulldown menu, select the **Create** option.

5 Select the appropriate volume group for logical volume you're going to create and click **OK**. (Refer to **"Table 3-3: FileNet Logical Volume Sizes" on page 89**.)

MC/ServiceGuard users need to select the volume group you created in the disk array.

Press **Return** at the Define new Logical Volumes field. Refer to **"Table 3-3: FileNet Logical Volume Sizes" on page 89** to see the list of logical volumes.

6 Fill in the LV Name field with the Logical Volume Names (begin by typing in **fnsw** for the first Logical Volume entry listed in Figure 3-3 of

the Configuration Worksheet). Add the logical volume names for all of the applicable logical volumes listed in Figure 3-3.

7 See the “Minimum Logical Volume Size (MB)” column of Figure 3-3 for the suggested logical volume sizes. Refer to the “Your Logical Volume Size (MB)” column for your selected logical volume and then type the **<Size in MB>** for the logical volume you are adding in the LV Size (Mbytes) field.

8 Select **VxFS** (Journaled) File System.

9 Click **Modify FS Defaults**.

Make sure the following When to Mount options are checked:

- Now
- Every System Boot

10 Also make sure Enable Set User ID Execution is checked.

11 Set the Usage: field to **File System**, and type in the file system mount directory. (Refer to **“Table 3-3: FileNet Logical Volume Sizes” on page 89**.) Then click **Add.**

12 Repeat Steps 3 - 11 for all the file systems you need to create. Refer to **“Table 3-3: FileNet Logical Volume Sizes” on page 89**.

13 When you are finished adding all the File Systems, click **OK**.

14 At the Create New Logical Volumes screen, click **OK**.

15 At the Logical Volumes screen, the new logical volumes are listed on the display.

Create Logical Volumes for Image Services Datasets

You are now going to add the logical volumes for all of the FileNet datasets.

1 From the **System Administration Manager** menu of SAM, select the **Disks and File Systems** option and press **Return**.

2 From the Disk and File Systems Manager menu, select the **Logical Volumes** option. When the entry is highlighted press **Return**.

3 From the Action pulldown menu, select the **Create** option.

4 Select the appropriate volume group for logical volume and click **OK**. Press Return at the **Add new Logical Volumes** field. Refer to the **“FileNet TC Worksheet” on page 83** to see the listing of the volume groups.

5 Fill in the LV Name field with the Logical Volume Names (for example, type in fn_cache0 for the first Logical Volume entry listed in Table 2-4). Add logical volume names for all of the applicable logical volumes listed in Table 2-4.

6 See the “Minimum Size (in MB)...” column of Table 2-4 for the minimum logical volume sizes. Also refer to the **“Dataset Sizes” on page 90** for your customer-specific sizing requirements. Refer to the “Size (MB)” column for your selected logical volume and then type the **<Size in MB>** for the logical volume you are adding in the LV Size (Mbytes) field.

7 In the Usage field, display the options (File System, Swap, or None). Select **None**, and press **Return**. Then tab to **add**, and press **Return**.

8 Repeat Steps 3-7 for all of the logical volumes you need to create on each server.

Table 2-4. FileNet Datasets

Logical Volume Name	Server Type			Minimum Size of Logical Volumes (in MB)	Increment
	Com-bined	Root/ Index	Stor. Libr.		
rfn_cache0	x	-	x	100	100
rfn_perm_db0	x	-	x	100	100
rfn_perm_rl0	x	-	x	72	72
rfn_trans_db0	x	-	x	64	64
rfn_trans_rl0	x	-	x	72	72
rfn_sec_db0	x	x	-	64	64
rfn_sec_rl0	x	x	-	64	64
NOTE: If you are going to increase the size of any of the logical volumes, you must increase the size by a multiple of the number shown in the “Increment” column.					

9 When you are finished adding all the logical volumes, click **OK**.

10 At the Create New Logical Volumes screen, click **OK**.

11 At the Logical Volumes screen, the new logical volumes are listed on the display.

12 Exit SAM and return to the system prompt.

3

Preparing for the Installation

This chapter contains a worksheet to record system information for the FileNet Technical Consultant to use during the Image Services software installation and configuration.

Server Types

Except where indicated, perform the procedures in this section on these servers:

Root/Index and **Storage Library** server during a Dual server installation.

Root/Index/Storage Library server during a Combined server or Entry server installation.

Application server if adding an Application server to your system.

FileNet TC Worksheet

Use the following worksheet to help you gather the information needed to successfuily complete this Image Services installation.

System Information

1 Version of operating system Software:_____
(use **uname -r**) (needs to be version **B.11.23** or higher)

2 Character set used by the operating system:_____
(use **locale charmap**)
(USASCII7, ISO8859-1, ISO8859-2, for example)

3 Media Device Type(s) (CD-ROM, DAT Cartridge, 8mm, for example):

Device Type(s):_____

Device Driver Name(s) (path):_____
(use **ioscan -fn**) (**/dev/dsk/c2t2d0** for CD-ROM, for example)
(**/dev/rmt/0m** for tape, for example)

4 System memory (in MB):_____
(use **/usr/contrib/bin/machinfo**)

5 FileNet Domain Name:_____
Organization Name:_____

6 System Serial Number (ssn):_____

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.

7 Media Access Controller Type (Ethernet, FDDI, for example)

_____

System Server Information

The server names, network addresses, and descriptions of servers comprising this Image Services system. The network address should contain four numbers separated by decimals (**197.0.0.146**, for example). The description can be Combined, Root/Index, Storage Library, Application, etc.

Table 3-1: Server Information

Server Names	Network Address	Description

FileNet Printer Server Information

If your Image Services system contains a Printer Server, record the NCH Name, Printer Type, and Printer Server IP Address for all of the printers on the system. The address(es) should contain four numbers separated by decimals (for example, **197.0.0.146**).

Table 3-2: NCH Names, Printer Types, and Printer Server IP Addresses

NCH Name	Printer Type	Printer Server IP Address

Storage Library Information

Determine the number of storage library units that you plan to connect to the Image Services system (up to 8 per server/ 64 per system), (1-8): _____

Important! Make sure the SCSI adapter card is configured for a **maximum of 80 MB/second** data transfer for best optical library performance. See **"Appendix E – Setting the Maximum Data Transfer Rate for SCSI Host Bus Adapters" on page 387**

1 Collect the following information for each Storage Library on your system:

- Storage Library Type (HP Autochanger, FileNet OSAR Library, Plasmon ODU, for example):

  _____

- Bus Device Location: _____
  (Skip this if your system does not have a bus converter.)
- SCSI Board Slot ID: _____

- Number of Optical Drives: _____
- If you have a FileNet OSAR Library and it has an RS-232 ARM device, collect the following information:
  - Logical Unit Number of RS-232 port:_____
  - RS-232 of TTY port number (0-31): _____
- For each Optical Drive in the Storage Library, collect the following information:
  - SCSI Board Slot ID: _____
    (This number is usually the same as the Library Slot ID above.)
  - Optical Drive Type: _____
    (This can be C1716T, etc.)
  - Optical Drive SCSI ID: _____
    (Refer to the storage library manual for instructions on how to obtain the SCSI ID for each library device.)
  - Optical Drive Logical Unit (LU) Number: _____
    (This number is usually 0, unless you have a FileNet OSAR library, which is configured as “Master/Slave.” Then the LU

number of the Master drive would be 0 and the Slave drive would be 1.)

File System Sizes

Determine how large the file systems need to be, in Megabytes. A certain portion of disk space is lost during the creation of a file system, depending on the type of file system selected, so make sure the total amount of space in each file system is equal to or greater than these minimum sizes.

Table 3-3: FileNet Logical Volume Sizes

FileNet Logical Volume Name	Usable File System Space (MB)	Minimum Logical Volume Size (MB)	Your Logical Volume Size (MB)	Mount Directory
fnsw (All servers)	500	510 VxFS		/fnsw
local (All servers)	500	510 VxFS		/fnsw/local
vartmp (All servers)	500	510 VxFS		/var/tmp

Dataset Sizes

Determine how large the datasets need to be, in Megabytes, and which volume group to install each dataset on.

The dataset names map to raw Logical Volume names as follows:

Dataset		Raw Logical Volume
cache0	-----	rfn_cache0
permanent_db0	-----	rfn_perm_db0
permanent_rl0	-----	rfn_perm_rl0
transient_db0	-----	rfn_trans_db0
transient_rl0	-----	rfn_trans_rl0
sec_db0	-----	rfn_sec_db0
sec_rl0	-----	rfn_sec_rl0

FileNet recommends that the FileNet datasets reside in the **fnvg** volume group, unless you have a single disk drive. In the case of a single disk drive, you need to use the **vg00** volume group. Complete the following table appropriately for your system.

Note FileNet recommends that each of your servers have at least three magnetic disks (one for the vg00 volume group and at least two for the “fnvg” volume group, or whatever you name it, in which the master database resides). Mirroring this database will minimize customer downtime and avoid interruption of business in the event of a hardware failure.

Dataset	Minimum Size (MB)	Your Actual Size (MB)	Volume Group
cache0	100		
permanent_db0	100		
permanent_rl0	72		
transient_db0	64		
transient_rl0	72		
sec_db0	64		
sec_rl0	64		

Note The actual minimum dataset size depends on how the volume manager configures the partitions. They can be multiples of 16 or 32.

2 When you are setting up an Application server, logical volumes or file systems will be created so they apply to the services that are being configured as shown in the table below - (fs) - File System:

Logical Volume	Batch Entry/ Print/Cache	SQL/ WorkFlo Queue	Storage Library
Cache0	X		X
transient_db0	X		X
transient_rl0	X		X
permanent_db0			X
permanent_rl0			X

Cache Percentages

Determine the cache min./max. sizes (in%) for the following caches: .

Table 3-4: Cache Information

Cache Type	Default Size Min./Max.(%)	Min. Size (%)	Max. Size (%)
Retrieval	20% / 20%		
System Print	10% / 20%		
Application Print	10% / 30%		
Batch	10% / 60%		

Most of this information can be determined by the SCouT program.

Install Relational Database Software

Server Types

Perform the steps in this section on these servers:

Root/Index server during a Dual server installation.

Root/Index/Storage Library server during a Combined server or Entry server installation.

Application server with WorkFlo Queue services or SQL services.

For **HP ServiceGuard** users, this needs to be done on **both** the production server(s) and the fail over server(s).

The Database Administrator is responsible for installing the appropriate version of the Relational Database Management software.

Image Services on HP-UX supports two Relational Database Management Systems. Skip to the section for the one that is going to be installed on this FileNet Image Services system:

- **“Oracle 9i” on page 95**
- **“IBM DB2 V8.x” on page 98**.

Oracle 9i

If the Oracle software and datasets are going to reside on the local FileNet Image Services server, refer to Chapter 2 of the ***Guidelines for Installing and Updating Oracle Software for UNIX Servers***.

The Database Administrator also has the option of installing Oracle software and datasets on a dedicated remote Oracle server. Refer to Chapter 3 of the ***Guidelines for Installing and Updating Oracle Software for UNIX Servers*** for further information.

This document can be given to the Database Administrator.

Oracle Password Complexity Verification

Image Services does not support Oracle Password Complexity Verification during the installation process. Make sure this Oracle feature is turned off for the IS run-time user (f_sw or alias) when you install the IS 4.0 software.

After the installation of IS 4.0 is complete and the f_sw (or alias) user password has been changed via the **set_f_maint_pw** utility, Oracle Password Complexity Verification can be turned back on.

Oracle Database Information

After Oracle9i has been successfully installed, the Database Administrator needs to provide the following Oracle variables and tablespace names and sizes to the System Administrator and the FileNet Technical Consultant.

Oracle Variables

$ORACLE_HOME: _____
$ORACLE_SID: _____
<Oracle User name>: _____
<DBA Group>: _____

Tablespace Names and Sizes

FileNet Recommended Tablespace Names	Tablespace Names You Actually Assign	Minimum Tablespace Size (MB)	Tablespace Size You Actually Create
fnsys_ts		200	
fntmp_ts		400	
fnusr_ts (optional for WorkFlo Queue Services)		200	

After you have this information, you're ready to install the FileNet Image Services software. Continue with **Chapter 4, "Installing FileNet Image Services Software," on page 101**.

IBM DB2 V8.x

The **Database Administrator** is responsible for installing the DB2 software and creating the DB2 database for Image Services.

- The **DB2 server** software must be installed on a dedicated remote AIX server. Also, the DB2 database for Image Services must be created on the remote AIX server. Refer to **Chapter 2** of the ***Guidelines for Installing and Configuring DB2 Software*** for further information.
- The **DB2 client** software needs to be installed on the HP-UX Image Services server and linked to the remote DB2 database. Refer to **Chapter 3** of the FileNet ***Guidelines for Installing and Configuring DB2 Software*** for details.

The Guidelines document can be given to the Database Administrator.

DB2 Database Information

After DB2 has been successfully installed, the Database Administrator needs to provide the following information to the System Administrator and the FileNet Technical Consultant.

	Default User Name	User Name You Chose	Default Group Name	Group Name You Chose
Instance Owner	db2inst1		db2iadm1	
Fenced User	db2fenc1		db2fadm1	
DB2 Administration Server User	db2as		db2asgrp	

FileNet Recommended Tablespace	Tablespace Name Actually Assigned	Minimum Size (MB)	Tablespace Size Actually Created
userspace1		200	

f_sw password: _____

f_sqi password: _____

f_maint password: _____

f_open password: _____

DB2 Database Alias Name: _____
(indexdb, for example)

User Tablespace Location: _____
(userspace1, for example)

After you have this information, you're ready to install the FileNet Image Services software. Continue with **Chapter 4, "Installing FileNet Image Services Software," on page 101**.

4

Installing FileNet Image Services Software

This chapter explains how to Install the Image Services software. It covers software installation issues that include:

- Installing FileNet Image Services software
- Installing the user environment templates
- Setting up FileNet passwords
- Setting file ownerships and permissions

Note If you want to log in as a specific user to run the FileNet tools and software, you need to add this user into the **fnadmin** and **fnop** groups.

- Installing the Universal SLAC Key

Note For **HP ServiceGuard** users, the sections in this chapter need to be done only on the production server(s), not the fail over server(s).

Check the Link to the Remote Oracle Database

Server Types Perform the steps in this section only on **servers with Oracle Client software**.

If the Oracle database is located on a remote server, you can check the connection between the Oracle Client and the remote Oracle database.

Verify that the internal Oracle networking is active and functional, by entering an sqlplus command in this format:

sqlplus <user>/<password>@<GLOBAL_DBNAME>

For example, you might enter:

sqlplus sys/<sys_password>@Michigan_IDB.world

If there are no errors, Oracle networking is working successfully. Exit from sqlplus.

Tip As a double-check, you can enter:

tnsping Michigan_IDB.world

Check the Link to the DB2 Database

Server Types Perform the steps in this section only on **servers with DB2 Client software**.

Since the DB2 database is located on a remote AIX server, you can use the Command Line Processor (CLP) to check the connection between the DB2 Client and the remote DB2 database.

Log onto the Image Services server as the DB2 Client instance owner (such as **fnsw**), and enter:

db2
DB2> **connect to <db_alias_name> user f_sw using <f_sw password>**

where <db_alias_name> is the database alias name of the DB2 database on the remote server, and <f_sw password> is the f_sw user's password set up by the Database Administrator.

Mount the Image Services CD-ROM

Server Types Perform the steps in this sub-section on **all servers**.

Note If you're going to run the Installation Wizard from a network drive, skip to the section, **"Run the IS Installation Wizard" on page 106**.

1. Make sure you're logged on as **root** user, and change to the / (root) directory:

   cd /

2. Load the appropriate media into the CD-ROM drive.

3 Mount the CD-ROM filesystem by doing the following sub-steps:

a Create a CD-ROM directory, if it doesn't already exist. Enter:

mkdir /cdrom

b Determine the CD-ROM device file name.

ioscan -fnC disk

c Locate the CD-ROM device file name on the **ioscan** display. For example:

```
Class   I   H/W Path      Driver S/W State   H/W Type     Description
=============================================================================
  .
  .
disk    5   0/0/2/0.1.0   sdisk  CLAIMED     DEVICE      HP  DVD-ROM 305
                         /dev/dsk/c2t2d0    /dev/rdsk/c2t2d0
  .
  .
```

In the display above, the device file name is **/dev/dsk/c2t2d0**.

4 Then mount the CD-ROM device on the /cdrom directory by entering a command similar to the following:

mount /dev/dsk/c2t2d0 /cdrom

where **/dev/dsk/c2t2d0** is the CD-ROM device file name shown on the ioscan display.

5 To make sure the CD-ROM mounted successfully, enter:

mount

You should see the CD-ROM device listed.

Run the IS Installation Wizard

The IS Installation Wizard performs two tasks.

- First it runs a System Check to verify configuration prerequisites.
- Then it installs the Image Services software.

You can choose to run both, or just the System Check only.

The Wizard System Check inspects the server for prerequisites and lists any warning and error conditions in two locations:

- Pop-up windows on your screen.
- Report and log files in the /fnsw/local/logs/install/ directory.

Launch the Image Services Installer

1. Make sure you're logged on as **root** user.
2. If you are running this program from a remote terminal, make sure you export the display from the server to your current terminal.

   - In the Bourne or Korn shell, enter:

     export DISPLAY=<host_identifier>:0

   - In the C shell, enter:

     setenv DISPLAY <host_identifier>:0

where <host_identifier> is the server identifier, either a name or IP address.

3 If you're going to run the Wizard from a remote terminal, make sure you allow access to the host display by entering this command at the remote terminal:

```
xhost +
```

If the server has an Xconsole, rather than an ASCII terminal, enter the xhost + command there, too.

Note If you used the **su** command to switch from any user to **root** user, you must enter the **xhost +** command at the original CDE login window.

Tip You can test your DISPLAY setting by entering:

```
xclock &
```

If the clock appears on your remote terminal screen, the DISPLAY vari-

able was exported correctly. If you don't see the clock, try the export or setenv command again using the IP address rather than the server name.

4 **For Silent Installion only**, locate the option.txt file on the CD-ROM. The option file contains the standard responses to the installer's prompts. View the options and their default values, which are fully described in the file, and if you decide to modify any of the defaults for your Image Services installation, copy the file to a local directory on your server. (If you wish, you can rename it to something shorter, like **opt.txt**.) Use your preferred text editor to make the appropriate changes and save the file.

5 As **root** user, change to the root directory and enter the appropriate command to invoke the Wizard.

```
cd /
```

CAUTION Do not **cd** to /cdrom to run the program. Run the Wizard from the / (root) file system.

- Graphical mode – standard, graphical interface:

  /cdrom/is_4.0.hpintegrity.bin &

- Console mode – plain text interface:

  /cdrom/is_4.0.hpintegrity.bin -console

- Silent mode – no screen display whatsoever:

  /cdrom/is_4.0.hpintegrity.bin -silent

  If you copied and modified the option.txt file, the command might look like this:

  /cdrom/is_4.0.hpintegrity.bin -options /tmp/opt.txt -silent

  where /tmp/opt.txt is the location of the text file you copied from the CD-ROM and modified. Be sure to specify its full path on the command line. For example, "... -options /fnsw/local/tmp/opt.txt".

  If you do not specify -options and the file path, the installer uses the standard defaults from the option.txt file on the CD-ROM.

Note If you run the Wizard System Check in silent mode, you'll need to check the log file in /fnsw/local/logs/install to determine the results. The name of the log file is IS_4.0Integrity.GA.log.

If you determined earlier that the /var/tmp directory does not have enough space, you can specify an alternate directory. Adding **-is:tempdir <directory>** to the command line overrides the default /var/tmp directory, as long as the <directory> you specify already exists. This optional temporary directory must be outside the /fnsw directory structure. For example, you might enter:

/cdrom/is_4.0.hpintegrity.bin -is:tempdir /othertmp

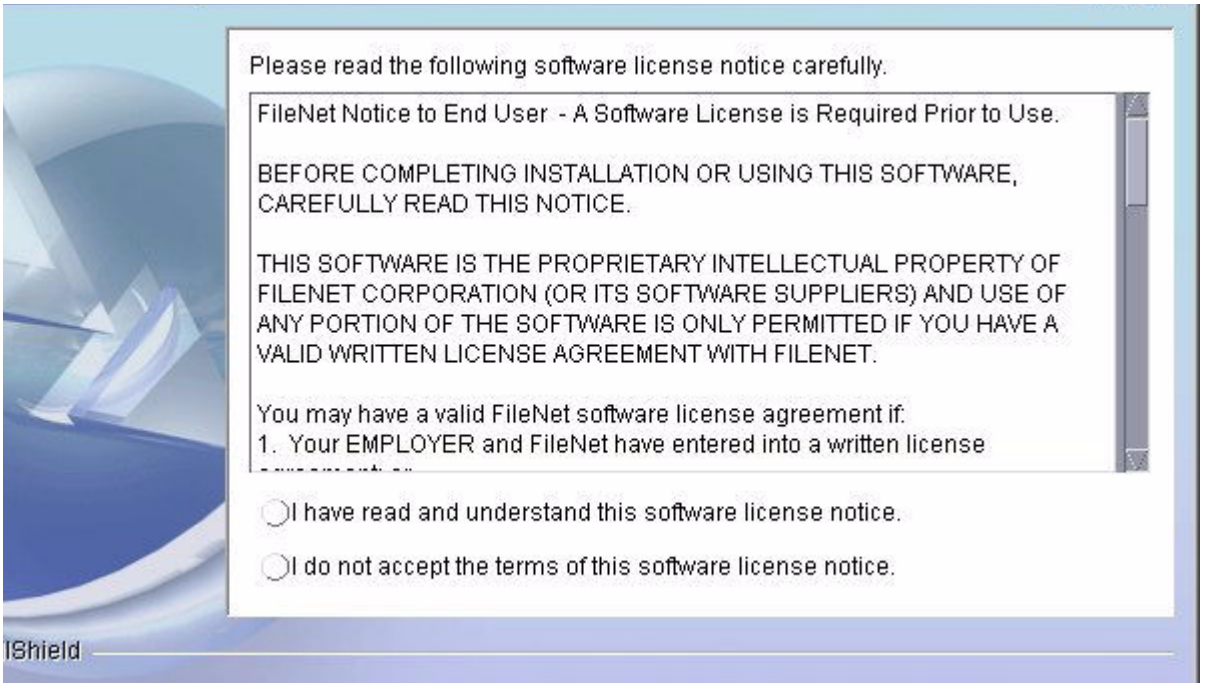
where /othertmp is the specific temporary directory you want to use.

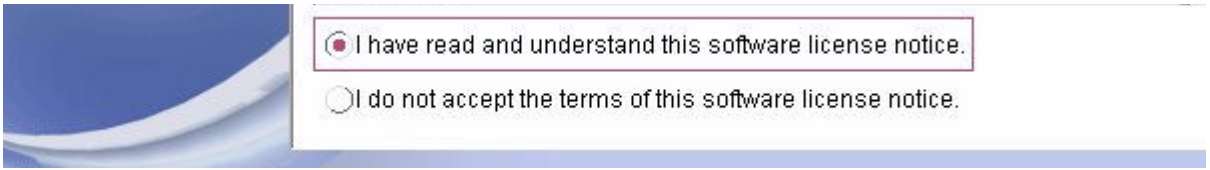
6 In graphical mode, you'll see the following Welcome screen. It might take a few minutes to display. In the meantime, a series of dots displays in the console window.

The following pages illustrate many, but not all, of the screens you'll see.


Welcome to the Install Wizard for
FileNet Image Services
The Wizard will install a fresh copy of Image Services 4.0 HP Integrity Edition on your computer.
To continue, choose Next.
llShield

7 Take a moment to read the FileNet Notice to End Users.



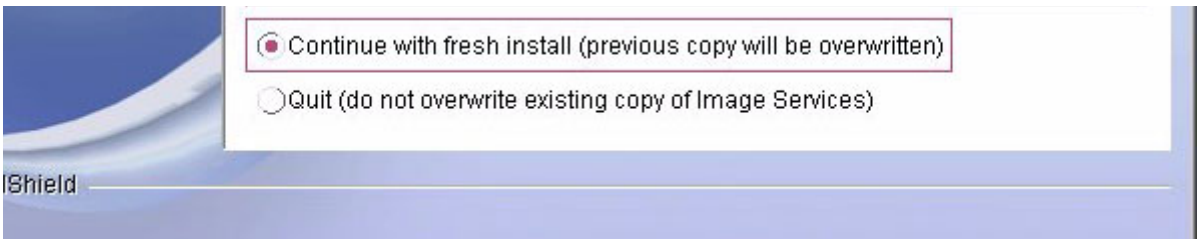


Select the appropriate radio button, then click **Next** to continue.

- If you do not accept the terms of software license notice, you are given the opportunity to cancel the installation.
- If you accept, the Installation Wizard continues.

8 If you've already installed a version of Image Services software on this server, you'll see this message:

Select the appropriate radio button to either continue or to quit.



9 Select the appropriate radio button and click **Next**.

During the System Check, the Wizard verifies the status of server characteristics in these categories:

- Hardware checks
- Operating System checks
- Time zone checks
- FileNet users and groups

The same checks are performed for both the System Check only and the System Check and Install Image Services options.

Some Wizard System Checks produce only warnings while others prevent the installation of the Image Services software:

Condition	Severity
Not logged on as superuser	Will prevent install
Insufficient file system space	Will prevent install
Insufficient swap space	Warning only
Incompatible host name	Will prevent install
Incompatible O/S	Will prevent install
Missing debugger	Warning only
Inconsistent timezone	Will prevent install
Kernel parameter out of range	Warning only
Missing FileNet user/group	Will prevent install
Incorrect FileNet user/group membership	Will prevent install
Image Services running	Will prevent install

Hardware Checks

The first System Check screen displays:

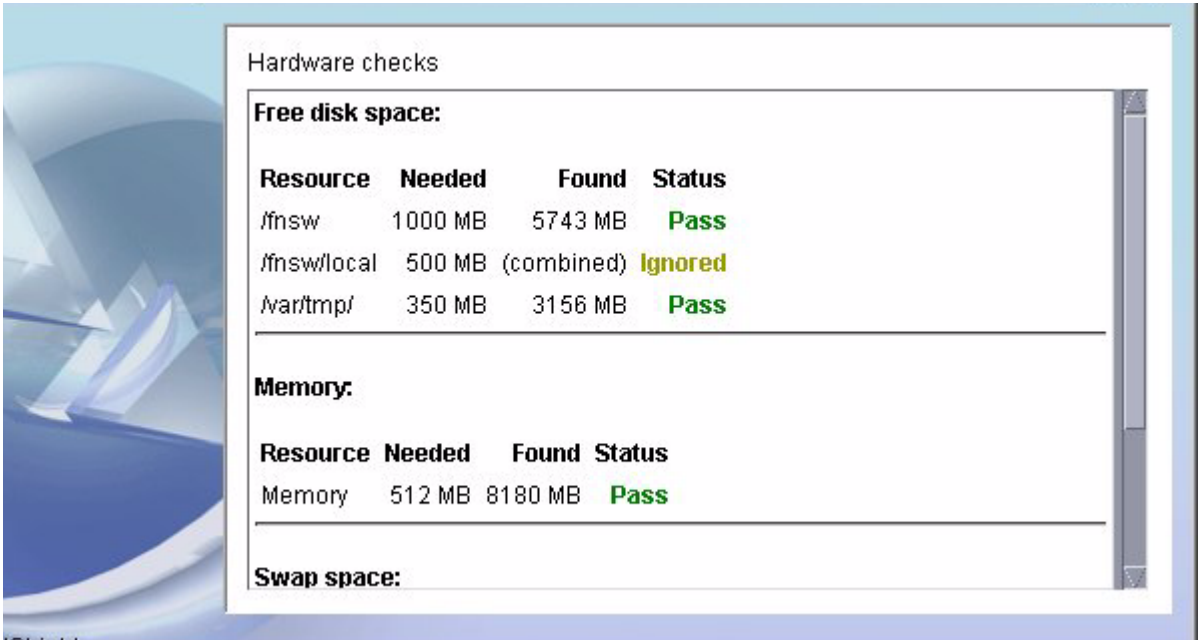
- Free disk space
- Memory
- Swap Space

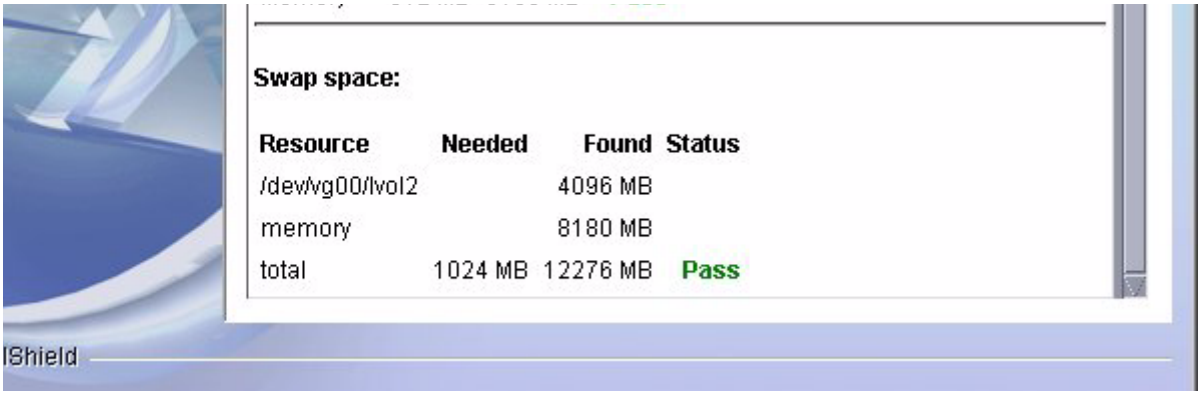
The Wizard lists the resource, how much you need, how much you have, and either Pass or Fail.

If a configuration item, such as “insufficient file system space” or “kernel parameter out of range” does not pass the System Check, you can correct it while the Wizard is still running.

a Open another X Window on the desktop and make the necessary change. You might need to refer to **Chapter 2, “System Administrator Tasks,” on page 48**.

b Then, click the **Back** button on the Wizard display to return to the previous screen, and click **Next** again to rerun the check.


Hardware checks
Free disk space:
Resource Needed Found Status
/fnsw 1000 MB 5743 MB Pass
/fnsw/local 500 MB (combined) Ignored
/var/tmp/ 350 MB 3156 MB Pass
Memory:
Resource Needed Found Status
Memory 512 MB 8180 MB Pass
Swap space:



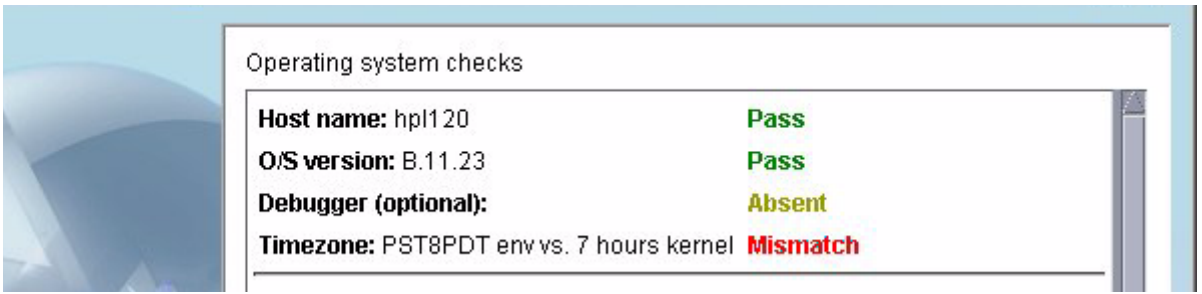
Click **Next** when you're ready to continue.

Operating System Checks

The Operating System Checks screen displays:

- Host name
- O/S version

- Debugger
- Timezone settings
- Kernel parameters



This example shows a mismatch between the Timezone kernel parameter and the TZ (timezone) environment variable. You'll be able to correct this on a subsequent screen.

As you scroll down the display, you see the minimum and current kernel parameter settings.

Kernel parameters:

Resource	Required	Current	Status
maxdsiz	>= 268435456	1073741824	Pass
maxfiles	>= 1024	250	Fail
maxuprc	>= 400	400	Pass
msgmni	>= 2048	2048	Pass

Tip If any kernel parameters fail the system check, click the **Back** button to return to the previous screen.

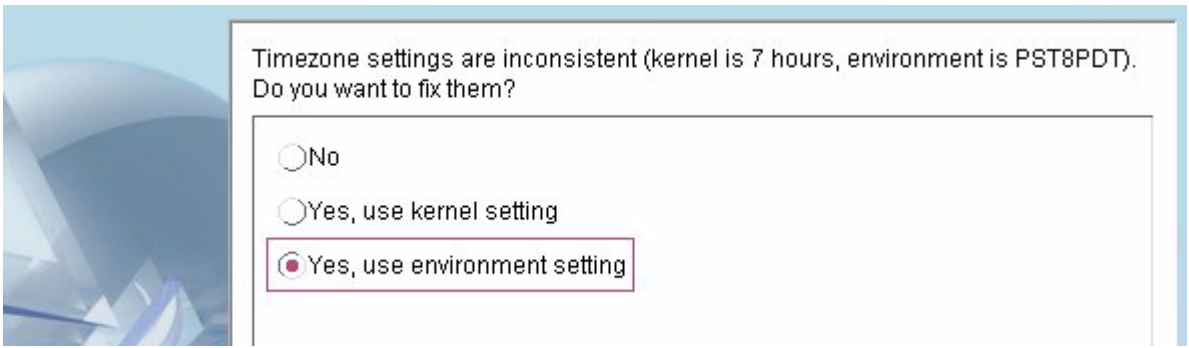
Then, in a separate window, run the **kctune** utility. For example, if maxfiles is too small, you would enter:

kctune maxfiles=1024

Finally, click **Next** on the Installation Wizard screen to run the kernel parameter check again.

Time Zone Check

If the Wizard System Check detected a mismatch between the Time-zone kernel parameter and the TZ (timezone) environment variable, a screen similar to the following displays. Make the appropriate change, and click **Next** to continue.

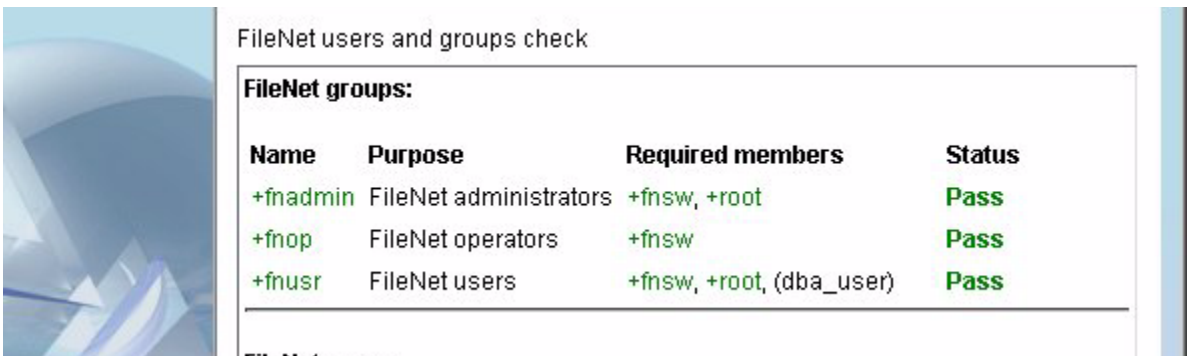


Note If you choose to use the kernel setting, be sure to verify that the TZ environment variable is the correct one for your locale. In some countries there can be multiple TZ values to choose from.

FileNet Users and Groups Check

The FileNet Users and Groups Check screen displays the required user and group memberships for FileNet Image Services.

- FileNet groups
- FileNet users
- Database user and group (Oracle only)



+ green indicates the group and member users are present;
– red indicates the group or member users are missing.

The Status column indicates whether the group in the Name column exists and contains the appropriate users listed in the Required Members column.

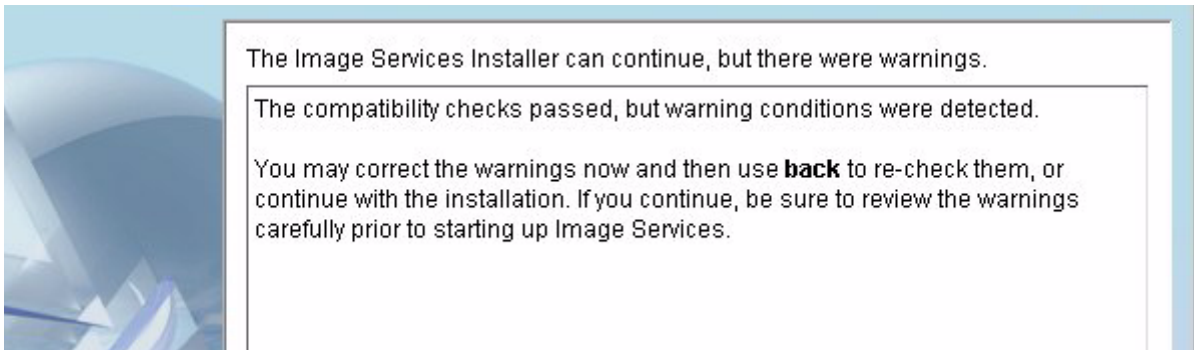
Tip You can click the **Back** button, create the missing users and add the users to the appropriate groups, then click **Next** again to rerun this check.

Note Oracle requires an additional user and group (DB2 does not). Since the Wizard doesn't know whether Image Services will be configured to use Oracle or DB2, it shows a place holder for the Oracle user and group. This is for informational purposes only, and does not prevent the System Check from completing successfully.

Click **Next** to continue.

Finishing the System Check

If the System Check passed all its tests, but generated warnings for the swap space, debugger, or kernel parameter tests, the following screen displays.



Be sure the check the log file if you're not sure which additional items you need to correct.

You must fix all the error conditions reported by the Wizard System Check before you install the Image Services software. You can run the System Check as often as you wish.

- If the Wizard System Check completed successfully and you selected the option to install Image Services software, the Wizard continues automatically with the section, **"Installing Image Services 4.0 HP Integrity Edition" on page 128**.
- If the Wizard System Check did not pass all its tests, return to the previous chapter to resolve the inconsistencies.

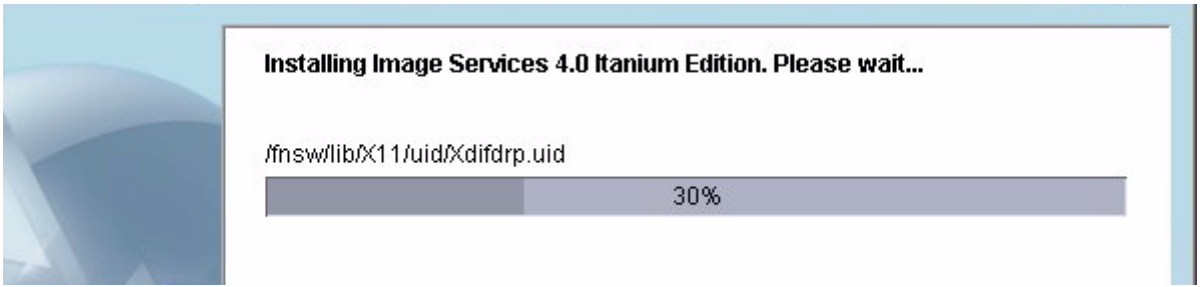
Rerunning the Installation Wizard

If the Wizard System Check does not pass, be sure to review the log file in the /fnsw/local/logs/install/ directory. The most recent information is appended to the end of this file.

After you have made the changes required by the Wizard System Check, return to **"Run the IS Installation Wizard" on page 106** and run the System Check again.

Installing Image Services 4.0 HP Integrity Edition

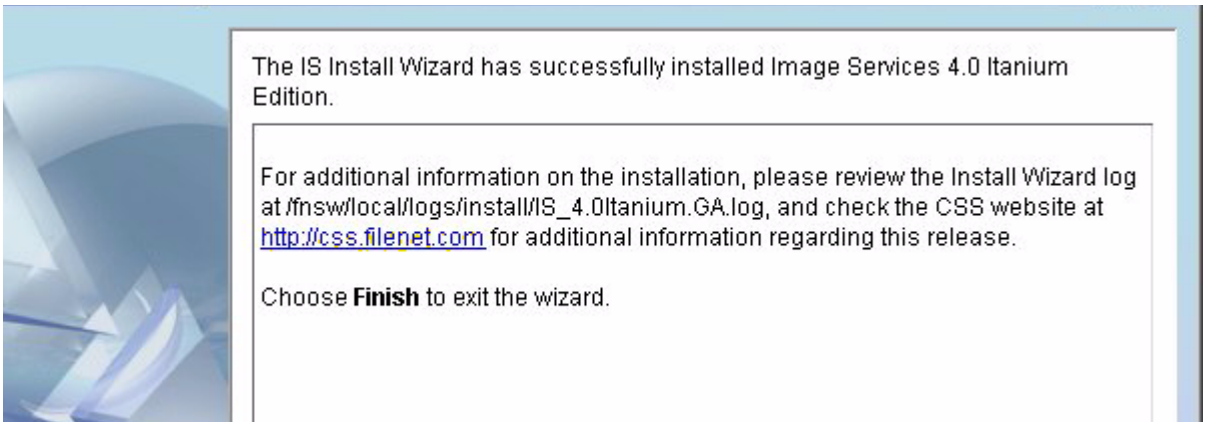
1 As the Image Services installation continues, a progress bar displays.



Depending on your server's processor speed, expect the installation to take approximately **10 minutes**. (If you're installing image Services on several servers simultaneously from the same location, it might take a while longer.)

2 When the software installation is finished, the InstallShield Wizard creates an uninstaller (/fnsw/etc/uninstaller/uninstall_is), and then verifies the version information.

3 The final screen indicates success! It also reminds you to check the Installation Wizard log and the FileNet CSS Web site.



Unmount the Image Services CD-ROM

Server Types Perform the steps in this section on **all servers**.

Unmount the CD-ROM by entering:

umount /cdrom

And remove the installation media from the drive.

Verify/Update the /etc/services and /etc/inittab Files

The Installation Wizard automatically ran a customizing script after the Image Services software has been successfully loaded. This script did the following:

- Added **cor**, **nch** and **tms** entries to /etc/services if they are not there yet (See the paragraph below concerning Yellow Pages [**YP**]).
- Added an **rcfn** entry to the /etc/inittab file to optionally start up Image Services software if an entry does not exist there yet.

By default, this entry is commented out, so the Image Services software will **not start** automatically unless you explicitly remove the comment character.

If you just installed Image Services software and you have **NIS** (Network Information Service, formerly called Yellow Pages, a trademark of British Telecom) set-up on your system, you must enter the ypcat services command on your “Master” server to check for the following entries at the bottom of the file:

```
tms     32768/tcp
cor     32769/tcp
nch     32770/udp
```

If the **cor**, **nch** and **tms** entries are present, you’re okay. If the entries are not present, add the above entries to the /etc/services file on the “Master” server. Then ask the System Administrator to enter the following yppush command to make the changes permanent.

yppush -d <server domain name> /etc/services

where <server domain name> is the domain name of the server onto which you have just installed Image Services software.

Install the Required Pre-Startup Fixes

Server Types

Perform the steps in this section on **all servers**.

At this time, install only the fixes that directly relate to Image Services 4.0 HP Integrity Edition initial configuration issues. (You'll install any general Image Services 4.0 HP Integrity Edition patches in a later section.) Search through the Release Notes file for the key words **PRE-STARTUP** and **REQUIRED**.

Note

These are only the fixes required to start the FileNet Image Services software successfully. Install any other fixes after the update has been successfully competed.

You can retrieve these fixes either from the Tech Info CD or from the FileNet CSS Web site **http://www.css.filenet.com**. Click on:

Product Tech Info
Image Manager
Image Services
Release Information
All Release Notes
Release Notes IS 4.0.x

Install the User Environment Templates

Server Types Perform the steps in this section on **all servers**.

In this section, you will use the **inst_templates** script to set up profile and environment files that are pre-customized for the Image Services installation. The **inst_templates** command asks you, one by one, if you want to replace the existing files.

- If you enter **y** for yes in response to each prompt, the existing files are renamed with a .old extension and the new files are created using the original file name.

- If you enter **n** for no to any prompt, that file will not be installed.

Note If you already have customized the environment settings files in a particular user's directory, answer **n** to each of the prompts. You should merge the settings in the templates with your customized files. The templates can be found in /fnsw/etc/*.template.

If you run inst_templates more than once, existing .old files are not overwritten. The new .old files are given .old.0 extensions, and each time you run inst_templates after that, the last digit of the file name increases.

For example, if you've run inst_templates several times, you might see .login, .login.old, .login.old.0, .login.old.1, and .login.old.2 files in the user's home directory. The .login file is the current file, while the .login.old.2 is the most recent .old file.

Set Up the fnsw User Environment

The **fnsw** user must have its own FileNet environment variables set. Depending upon the shell you are using, an appropriate environmental setup can be installed by copying the corresponding template file from /fnsw/etc. After they've been copied, you can add your own preferences to these files.

1 In a CDE window, logon as **fnsw** user. You might be prompted to change the password again. You can type in the same password or a different one.

2 Enter the following command to copy all of the template files into the correct directory, setting up the **fnsw** user environment:

/fnsw/etc/inst_templates

a Answer the prompts as appropriate for your server.

b Relational databases are only configured on servers with Index services, WorkFlo Queue Services (WQS), VWServices, or SQL services. If you are configuring a separate Storage Library server,

or an Application server without one these services, select 0=none; if the server has Oracle software installed on it, select **1**=Oracle; if the server has DB2 software installed, select **2**=DB2.

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

Note If you're planning to use an existing Oracle or DB2 instance, accept the default RDBMS-related values listed at each prompt.

c If **DB2** software exists on this server, enter the user ID of the relational database instance owner.

```
Enter the DB2 instance owner [fnsw]:
```

d 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 is installed on this server, enter the path to the sqllib directory within the DB2 Client instance owner's home directory.

```
Enter the relational database home directory [/home/client_920]:
```

3 When inst_templates is finished, log out as **fnsw** user and log back in to put the templates into effect.

Set Up the root User Environment

Note Setting up the **root** User environment is required for server with DB2 software. It is optional for all other servers such as Storage Library servers and certain Application servers that do not have DB2.

The **root** user might need its own FileNet environment variables set. You need to complete this section if you do not have a specialized root environment already established on your system (For example, a .login file with specific system-related entries). Otherwise, skip this section.

Depending upon the shell you're using, an appropriate environmental setup can be installed by copying the corresponding template file from /fnsw/etc. Once copied, you can add your own preferences to these files.

1 Log on as **root** user.

2 Enter the following command to copy all of the template files into the correct directory, setting up the **root** user environment:

/fnsw/etc/inst_templates

a Answer the prompts as appropriate for your server.

b Answer the relational database prompts exactly the same as you did for the **fnsw** user on this server.

3 When inst_templates is finished, log out to the system prompt and log back in as **root** user to put the templates into effect.

Set Up Passwords for the fnsw User (Optional)

Server Types

Perform the steps in this section on these servers:

Root/Index and **Storage Library server** (Multi-server installation)

Root/Index/Storage Library (Combined or Entry server installation)

If you have not previously established passwords for the RDBMS user and the fnsw user, you should do it now.

1. Log on as **root** user.
2. To set up the fnsw password, at the system prompt enter:

   passwd fnsw

3. You are then prompted **New password:**

4 After you enter the password, you are prompted **Re-enter new password**.

5 When you enter the password a second time, you return to the system prompt.

Verify File Ownerships and Permissions

Server Types

Perform the steps in this section on **all servers**.

The Installation Wizard automatically ran the **fn_setup** program during the software installation and created all the directories needed for the installation. In addition, it set the appropriate file ownerships and permissions for the directories.

To verify the information, you can run fn_setup and compare its settings with the values you entered on the **“FileNet TC Worksheet” on page 83**.

Note 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.

1 Make sure you're logged on as **root** user.

/fnsw/bin/fn_setup

2 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. If you're updating a separate Storage Library server or an Application server, select 2=no.

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

b The NCH server name is generally the name of the Root server. If you are updating a separate Storage Library server or an Application server, enter the name of the Root server.

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

c The system serial number should be the serial number of the server you specified in the previous step, generally the Root 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 only configured on servers with Index services, WorkFlo Queue Services (WQS), VWServices, or SQL

services. If you are configuring a separate Storage Library server, or an Application server without one these services, select 0=none; if the server has Oracle software installed on it, select **1**=Oracle; if the server has DB2 software installed, select **2**=DB2.

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

Note If you're planning to use an existing Oracle or DB2 instance, accept the default RDBMS-related values listed at each prompt.

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]:
```

3 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
     Relational database ID:  IDB
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 1 and run **fn_setup** again.

4 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: Calling fn_util initnch
fn_setup: Changing permission on FileNet software and
databases
```

On a new installation, you will see that the NCH_db0 is zeroed out as **fn_setup** initializes the nch_db the first time. (The **fn_setup** program modifies the **nch_update** after NCH_db initialization.)

5 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 1 and run fn_setup again.

b If there were no problems, continue with the next section.

Install Universal SLAC Key on the Root Server

Server Types

Perform the steps in this section on these servers:

Root/Index server during a Dual server installation

Root/Index/Storage Library server during a Combined server or Entry server installation)

The Installation Wizard automatically copied the Universal SLAC Keys onto your server.

1 Choose the appropriate SLAC Key for your Image Services system:

- **uisora.key** - Image Services with eProcess for Oracle
- **uisdb2.key** - Image Services with eProcess for DB2
- **uissql.key** - Image Services with eProcess for MS SQL
- **uvwora.key** - eProcess only (no Imaging) for Oracle
- **uvwsql.key** - eProcess only (no Imaging) for MS SQL

2 As **fnsw** user, create a directory for the SLAC Key on your root server, and copy the appropriate key. As an example, for an IS system with a DB2 relational database management system, you might enter:

```
mkdir  /fnsw/local/SLAC
cp  /cdrom/SLAC/uisdb2.key  /fnsw/local/SLAC
```

3 To install the SLAC Key, enter the following command as **fnsw** user to start the Software License Manager:

```
/fnsw/bin/lic_admin  -f  /fnsw/local/SLAC/uisora.key
```

Note The SLAC key is stored in the NCH database, so if you reintialize the NCH database (after the first initialization), you must reinstall the SLAC key.

Additional Relational Database Tasks

Server Types

Perform the steps in this section only if Oracle software is installed on these servers:

Root/Index server during a Dual server installation.

Root/Index/Storage Library server during a Combined server or Entry server installation.

Application server with WorkFlo Queue services, SQL services, or VWServices.

Depending on the relataional database software installed on this server, skip to one of the following sections:

- **“Additional Oracle Tasks” on page 150**
- **“Additional DB2 Tasks” on page 152**

Additional Oracle Tasks

For FileNet Systems with Remote Oracle Servers

Perform the steps in the following subsections only on FileNet servers that have Oracle **Client** software.These additional steps are only needed if the Oracle server software and datasets will reside on a remote Oracle server.

Link the Client Shared Library

The link from FileNet Image Services to Oracle is controlled by the file /fnsw/lib/shobj/liboracle.

1 As **fnsw** user, change to the /fnsw/lib/shobj directory:

```
cd  /fnsw/lib/shobj
```

2 Check the symbolic link by listing the contents of the directory.

```
ls  -l
```

Verify that liboracle.sl is linked to the libclntsh.sl client shared library in the Oracle home directory.

3 If necessary, set the symbolic link. For example, if the Oracle9i Client software is located in /usr/ora/client_920, you would enter this command:

```
ln -s /usr/ora/client_920/lib32/libclntsh.sl liboracle.sl
```

Verify the setup_config File

As **root** user, use your preferred text editor (such as **vi**) to view the setup_config file. Enter:

```
cd /fnsw/local
vi setup_config
```

Make sure the value of RDBMS_HOME is set to the location of the Oracle Client software, such as /usr/ora/client_920. If not, change it to the correct value.

Exit from the file and save changes, if necessary.

Skip to the section, **"Reboot the Server" on page 153**.

Additional DB2 Tasks

Verify the setup_config File

As **root** user, use your preferred text editor (such as **vi**) to view the setup_config file. Enter:

```
cd  /fnsw/local
vi  setup_config
```

Make sure the value of RDBMS_HOME is set to the DB2 Client instance owner's DB2 home directory, such as /home/fnsw/sqllib. If not, change it to the correct value.

Exit from the file and save changes, if necessary.

Reboot the Server

Important! All RDBMS users should be logged off the server and the RDBMS instance be shutdown before doing the following system 'shutdown' command. Failure to do so could result in a corrupted database!

As **root** user, reboot the server by entering:

```
shutdown  -ry  0
```

You might see errors (for example, **.env :hostname not found**) as the system reboots because the software is not completely configured yet.

Continue with Server Configuration

For a **Combined server or Dual server** system, continue with the next chapter, **Chapter 5, "Configuring FileNet Image Services Software," on page 155**.

If you're adding an **Application server**, skip to the section, **"Configure the Root Server" on page 249** in Appendix A.

If you're adding a **Storage Library server**, skip to the section, **"Configure the Root Server" on page 309** in Appendix B.

If you're migrating to an HP Integrity server from an HP 9000 server, skip to the document, ***Guidelines for Migrating from HP 9000 Servers to HP Integrity Servers***.

5

Configuring FileNet Image Services Software

This chapter explains how to configure your Image Services software. It covers software configuration issues that include:

- Using the FileNet configuration editor tool (fn_edit) to initially set up a server type (such as, Combined, Dual, etc.)
- Using fn_edit to further configure the system by changing some of the default settings
- Verifying HP storage library drivers
- Creating optical device files
- Building and initializing the Root server
- Configuring RES or Multi-Committal systems

Note For **HP ServiceGuard** users, the sections in this chapter need to be done only on the production server(s), not the fail over server(s).

Logon to the Configuration Database

Server Types Perform the steps in this section on these servers:

Root/Index server during a Dual server installation

Root/Index/Storage Library server during a Combined server or Entry server installation)

Application server running WorkFlo Queue Services or SQL Services.

1 Go to an X-station, a workstation that supports X Windows or Common Desktop Environment (CDE), or a PC with an X Windows emulator and logon to the Image Services server.

2 Export the display from the server to your current terminal.

- In the Bourne or Korn shell, enter:

  export DISPLAY=<host_identifier>:0

- In the C shell, enter:

  setenv DISPLAY <host_identifier>:0

where <host_identifier> is the server identifier, either a name or IP address.

3 Make sure you allow access to the server display by entering this command at your current terminal:

xhost +

Note If you used the **su** command to switch from any user to **root** user, you must enter the **xhost +** command at the original CDE login window.

Tip You can test your DISPLAY setting by entering:

xclock &

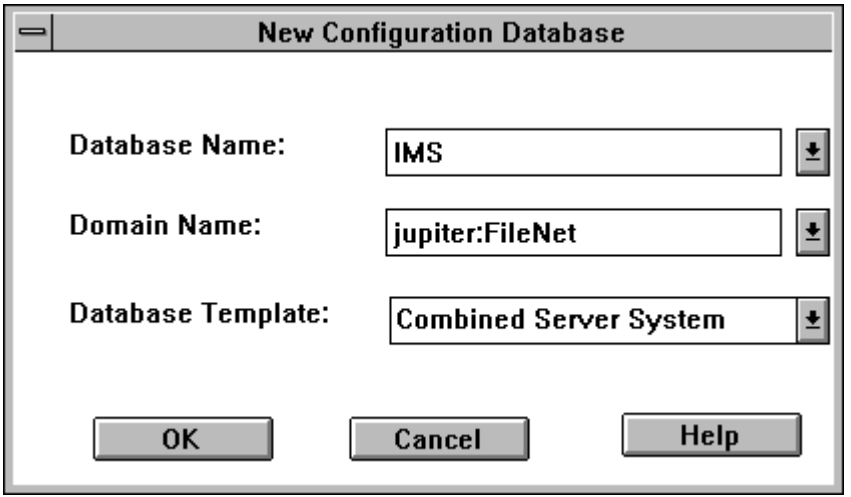
If the clock appears on your remote terminal screen, the DISPLAY variable was exported correctly. If you don't see the clock, try the export or setenv command again using the IP address rather than the server name.

4 Logon as **fnsw**, and start X Windows (if you have not already done so).

5 Open a new X window, and enter the following command:

fn_edit &

A dialog box similar to the following displays:



CAUTION If the Open Configuration Database dialog box displays instead of the New Configuration Database dialog box, you have an existing Image Services configuration (cdb) file. Click **Cancel**, then from the File pull-down menu, select **New**.

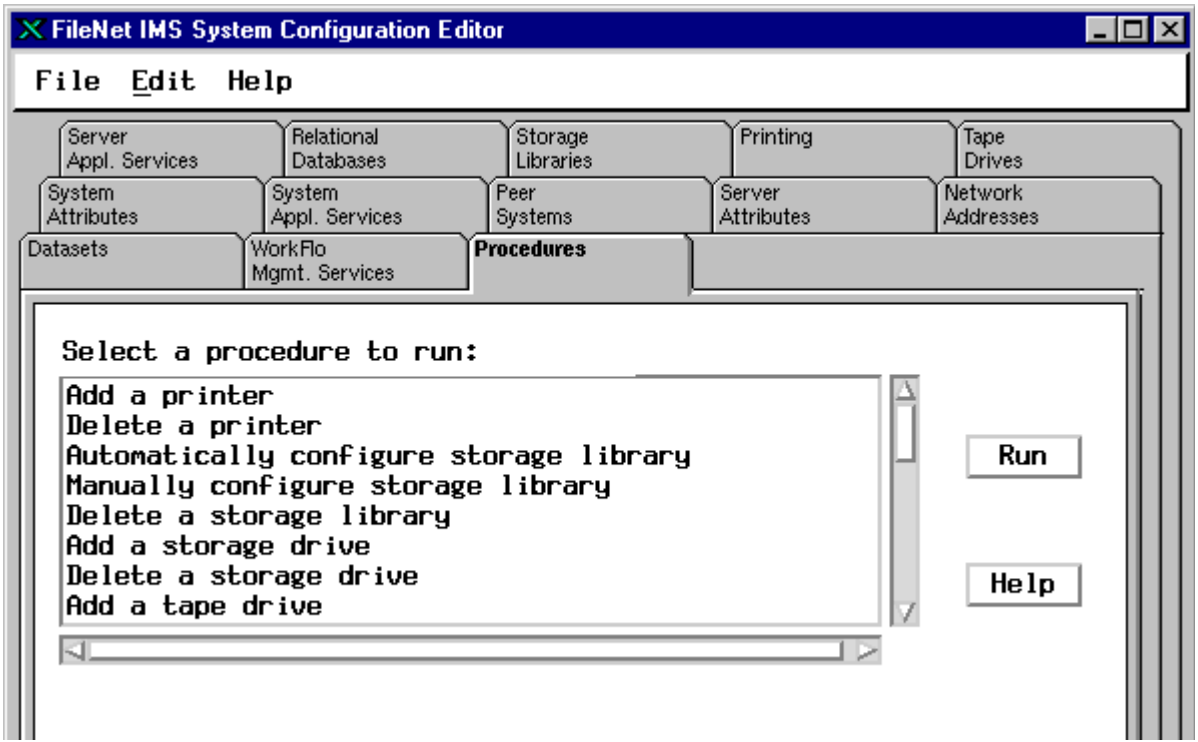
If you are installing Image Services software on the system for the first time, the Configuration Editor program will detect that no databases exist and will open a New Configuration Database automatically. Otherwise, Configuration Editor will determine your database name and use it, along with your Domain Name.

6 Verify that the database and domain names are correct. (The two-part domain name is set up as follows: <Domain>:<Organization>.)

7 From the Database Template pull-down list, select a template type from the following template choices:

- Combined server System
- Dual servers System
- Remote Entry System
- WorkFlo Management System

8 After you have verified the domain information and selected the template type, click **OK**.


FileNet IMS System Configuration Editor
File Edit Help
Server Appl. Services
Relational Databases
Storage Libraries
Printing
Tape Drives
System Attributes
System Appl. Services
Peer Systems
Server Attributes
Network Addresses
Datasets
WorkFlo Mgmt. Services
Procedures
Select a procedure to run:
Add a printer
Delete a printer
Automatically configure storage library
Manually configure storage library
Delete a storage library
Add a storage drive
Delete a storage drive
Add a tape drive
Run
Help

9 **You will receive several query prompts.** The prompts you receive depend on which template you selected in Step 7. Refer to the **"FileNet TC Worksheet" on page 83** to provide the appropriate answers.

Tip Use the on-line help for more instruction on answering the prompts for each template type. Select the Help menu option in the Configuration Editor.

When you're prompted for information about your Relational Database Management system, Oracle or DB2, use the information that was supplied to you by the Database Administrator when the RDBMS software was installed. Refer to **"Oracle Database Information" on page 96** or the **"DB2 Database Information" on page 99**.

In addition to prompts for other system information, you'll be asked to:

- Select the relational database type (Oracle9i, DB2 8.1/8.2).
- For DB2, enter and verify the passwords assigned to:
  - f_sw

- f_maint
- f_sqi
- f_open

- Enter the relational database name.
- Enter the user tablespace name.

After you've answered all the template prompts, you'll receive a message stating that configuration is complete.

10 Now you can select any of the available tabs from the FileNet System Configuration Editor window to review or change the current configuration settings.

Note When using the various configuration tabs in the System Configuration Editor window, you will click on a tab, complete the fields as instructed, and immediately click on the next tab (without exiting), as directed.

Each screen and pop-up window has an on-line help button designed to provide information you might need to complete the screen or window.

Select and Configure the Relational Database Instance (if applicable)

Important!

This procedure assumes that the tablespaces and databases that you specify in the System Configuration Editor either already exist or that you will create them before you initialize the FileNet databases.

For **Oracle**, see the FileNet ***Guidelines for Installing and Updating Oracle Software for UNIX Servers***.

For **DB2**, see the FileNet ***Guidelines for Installing and Configuring DB2 Software***.

The Database Administrator has probably already supplied this information in the section, **"Install Relational Database Software" on page 94** in Chapter 3.

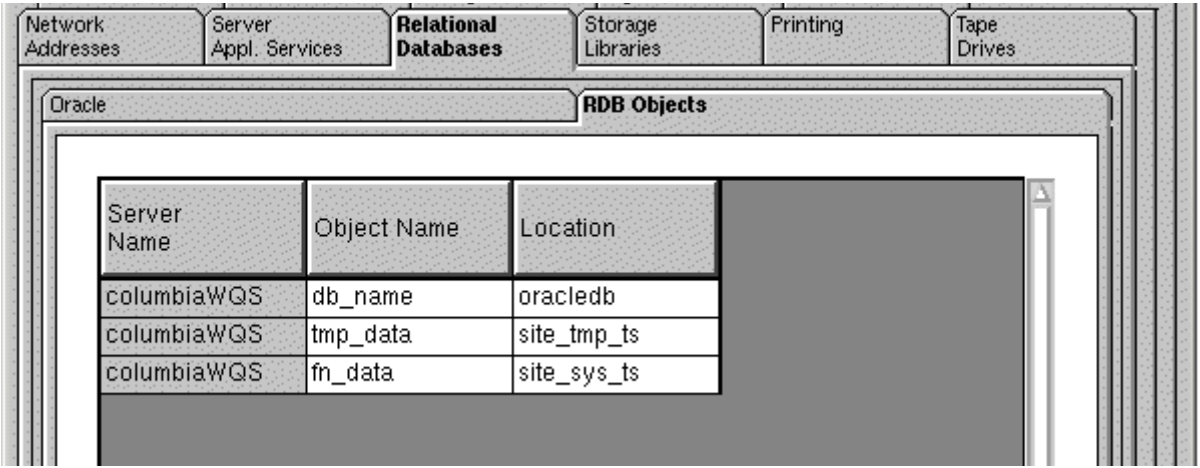
Contintue with the appropriate sub-section:

- **"Oracle 9i" on page 165**
- **"DB2 V8" on page 167**

Oracle 9i

Define the Tablespace Names

1 Click the Relational Databases tab, then click the RDB Objects subtab.



2 In the Location column of the RDB Objects window, click on a cell and replace the default FileNet tablespace names with the site-specific table names. While replacing the tablespace names, use the following criteria:

- Change all occurrences of **fnsys_ts** to the name of your dedicated FileNet default tablespace.
- Change all occurrences of **fntmp_ts** to the name of your dedicated FileNet temporary tablespace.
- If an optional **fnusr_ts** was created for WorkFlo Queue Services, change all occurrences of the name to your dedicated FileNet user tablespace

The Image Services software will use the tablespace names entered in the RDB Objects subtab.

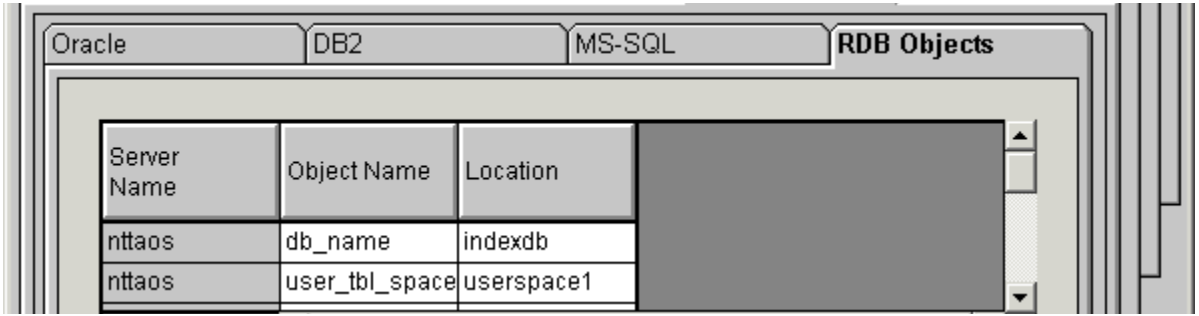
Note The tablespace names specified in the RDB Objects list must exist before you initialize the FileNet Image Services databases.

3 Skip to the section, **“Verify the Image Services Character Set” on page 169**.

DB2 V8

Verify the Database and User Tablespace Names

1 Click the Relational Databases tab, then click the RDB Objects subtab.

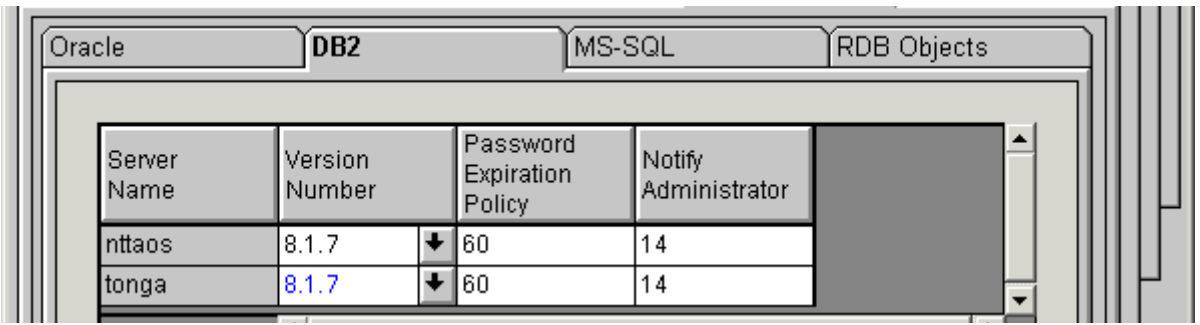


2 On the RDB Objects subtab, verify the database name and the tablespace name in the Location column:

- **Database name**, such as indexdb.

- **User Tablespace name**, such as userspace1.

3 On the DB2 subtab, verify the following fields:



- **Version** - must be **8.1.7** or later (DB2 version 8.1.0 plus FixPak 7 or later). DB2 version 7.2.0 is not supported at this time.
- **Password Expiration Policy** This field lists the number of days that the f_sw, f_maint, f_sqi, and f_open passwords remain in effect before they expire. The default value is **60 days**. To change the default, enter a new value in this field.

Note A blank field is not permitted, and a value of 0 is equivalent to "Never Expires."

- **Notify Administrator** This field lists the number of days prior to password expiration that the administrator will be reminded to update the password. The default value is **14 days** before the password expires. To change the default, enter a new value in this field.

Note This value must always be less than or equal to the password expiration value. A blank field is not permitted, and a value of 0 would mean notification the day the password expires.

Verify the Image Services Character Set

On the System Attributes tab, scroll to the right and check the settings for **Default Character Set** and **Former Character Set**. On a new server, both are initially set to ISO 8859-1.

Change the Default Character Set to match the current operating system character set and the RDBMS character set; for example, ISO 8859-2. Refer to the **“FileNet TC Worksheet” on page 83**.

If the FileNet system has been converted from an older character set, such as FileNet International, set the Former Character Set appropriately. If the system has never been converted, set the Former Character Set to match the Default Character Set.

Modify Dataset File Sizes (Optional)

Click on the Datasets Tab to view a list of the datasets added by default. All of the dataset sizes are set by default by the system. If you want to change any of them, change them in their respective File Size (MB) spreadsheet cells.

Refer to the **“File System Sizes” on page 89** that were determined by the SCouT planning tool. Your dataset sizes should match the sizes recorded in that table.

When creating larger datasets, note the following:

- The sizes of all of the datasets can be changed in this Datasets tab in the Dataset Size column.
- Maximum and minimum sizes in number of megabytes is checked by the Editor program.
- Minimum size for security datasets is **64 MB**.
- Maximum size for cache datasets is **16 GB**.

  If you need a larger cache, you need to run the Add an Additional Dataset procedure on the Procedures tab.

- You can have a total of 255 cache dataset partitions, each 16 GB in size.

Note Supporting 255 cache dataset partitions, each 16 GB in size, allows for terabyte caches. The maximum cache size is 4080 GB, or 4 TB (terabytes).

Refer to the **“FileNet TC Worksheet” on page 83** for previously defined or calculated dataset sizes.

Configure Logical Cache (Optional)

1. Click on the Server Application Services Tab in the System Configuration Editor window.

2. Select the Cache sub-tab to view a list of caches configured on your server. Default values are automatically given to each of the caches.

Note Refer to the **"FileNet TC Worksheet" on page 83** for information concerning your cache percentages.

3. To modify the minimum or maximum allocation for each cache configured, click on the white box below the minimum or maximum column of each cache allocation you want to change, and enter the new value into the field.

4. The Locked, Daemon, and Write Threshold (%) values are set to default values. It is recommended that these values are left set to their default values.

The following sub-tabs in the Server Application Services Tab do not need to be configured unless you want to assign non-default values to them:

- Scheduling: sets up station document services parameters.
- Cache Duration: sets up the prefetch, migrate, and refresh duration for the System Cache.
- Batch: sets up station batch services parameters.

Configure System Document Services Parameters

1. Click on the System Application Services tab in the System Configuration Editor window.

2. Select the Document Services sub-tab if you want to change the values of any of the document services parameters. Document and surface id ranges can be changed from this menu.

Note Consult your Help Text if you have any questions on the parameter options.

3 If you want to change the way images are sent to the optical disk, select the Others sub-tab. These parameters are set to default values by the software. To change any of these parameters, click on the field of each parameter you want to change, and type in the new value.

Configure MKF Database Parameters (Optional)

Server Types Perform the steps in this section on servers with an MKF database.

1 Click on the MKF Databases Tab in the System Configuration Editor window.

2 The MKF database parameters are set to default values by the software. These parameters should be left at their default values unless changes are necessary.

Note The default MKF database block size in Image Services 4.0 HP Integrity Edition is **8 KB**. You can also choose a block size of 16 KB. Click Help if you have any questions on the parameter values.

Important! The Security database **SEC_db** and redolog **SEC_rl must use 8 KB blocks**.

Configure Network Parameters

This section assumes that you have already installed and configured the appropriate network protocol on the Root/Index server.

Before beginning the steps in this section, you must know the server's TCP/IP address. (Refer to the **"FileNet TC Worksheet" on page 83** for this information.)

To configure the network parameters, complete the following steps:

1. In the System Configuration Editor window, select the Network Addresses tab.

2. Enter the network address (if one is not already present).

   For Multi-Homing support you can enter up to eight network addresses, one for each network card in the server. The format for a TCP/IP address is shown in the following example:

10.2.53.33

After the FileNet Image Services software restarts, fn_build will determine if any changes have occurred in the **fn_edit** configuration.

Modify the System and Server Parameters

Use this procedure to modify your system and server parameters.

Note Consult your Help Text if you have any questions on the parameter values.

1. Click on the Performance Tuning Tab in the System Configuration Editor window.
2. To modify the system processes parameters (for example, ds_notify, rmt_commit), click on the System Processes sub-tab and type in the new values in the fields of the system processes you want to change.
3. To modify the server processes parameters (for example, bes_commit, dtp, etc.), click on the Server Processes sub-tab and type in the new values in the fields of the system processes you want to change.

4 To modify other specific server processes parameters (Document Buffer Count, Document Buffer Size, for example), click on the Server Memory sub-tab. The parameters should be left at default values unless changes are necessary.

Exit the System Configuration Editor

1 In the System Configuration Editor window, Click on the File pull down menu and select the **Exit** option.

2 You will then be asked if you want to save the changes you've just made to the current configuration database before you exit. Click on the **Yes** button to save the configuration and exit the System Configuration Editor.

Build and Initialize the Root Server

Server Types

Perform the steps in this section on these servers:

Root/Index - (Multi-server installation)

Root/Index/Storage Library - (Combined server or Entry server installation)

Build Configuration Files on the Root Server

Note

The **fn_build** command checks the validity of the software license. You must have already installed the SLAC key successfully. If you have not installed the SLAC key, do it now before running the **fn_build** command.

1 As **fnsw** user, enter the following command to build the system configuration files:

fn_build -a

This command generates configuration files used by the components of the Image Services software. Each file is produced in two steps:

- First, a temporary file is produced with a .new extension.
- Second, if there is a difference between the .new version and the existing version, the .new version of the file is copied over the existing version of the file.

Make sure this command runs successfully by checking that no errors have occurred.

2 Run the **fn_setup** tool to set file permissions by entering:

/fnsw/bin/fn_setup

Accept current value at each prompt.

Initialize RDBMS and FileNet Datasets on the Root Server

Configure FileNet Datasets on the Root Server

Skip to the appropriate subsection:

- **“On Servers with Oracle Software” on page 180**
- **“On Servers with DB2 Client Software” on page 184**

On Servers with Oracle Software

Note This section applies to both local and remote Oracle instances.

Ask the **Database Administrator** to start Oracle before initializing the FileNet databases.

1 Verify that the following Oracle variables are set to match the existing Oracle instance:

ORACLE_HOME (set for instance)
ORACLE_SID (set for System ID)

ORACLE_UID (set for Oracle database administrator user)
TWO_TASK (set if Oracle database is on a remote Oracle server)

As each user, enter the following commands:

```
echo  $ORACLE_SID
echo  $ORACLE_HOME
```

2 Compare the output of the above command to the setting determined in **“Oracle Variables” on page 96**. If the ORACLE_SID and the ORACLE_HOME are not set correctly, see the Database Administrator for the system to have the settings changed.

CAUTION In addition, the Database Administrator must create the default tablespaces with the names you entered in the FileNet System Configuration Editor. Refer to the Tablespace table in **“Tablespace Names and Sizes” on page 97** for this information.

If the Oracle software is not running and if the new tablespaces haven’t been created, the initialization process will fail.

3 Remote Oracle Servers Only:

Important! Verify with the Database Administrator that the Oracle9i Client software has been successfully installed on the Image Services server.

a Copy these four scripts from the /fnsw/oracle directory on the Image Services server to the /fnsw/oracle directory on the Oracle server:

/fnsw/oracle/FileNet_site.sql
/fnsw/oracle/fn_oraupgrade_sp.sql
/fnsw/oracle/fn_CreateStoredProcedures.sql
/fnsw/oracle/fn_GrantSPPermissions.sql

b Ask the Database Administrator to run these two scripts on the remote Oracle server:

FileNet_site.sql
(creates FileNet Image Services users)
fn_oraupgrade_sp.sql
(installs two stored procedures in the database)

(The fn_oraupgrade_sp.sql script calls the fn_CreateStoredProcedures.sql and fn_GrantSPPermissions.sql scripts.)

When you're prompted to enter a password, enter "filenet". (This password is only temporary and you will reset it when the fn_oraupgrade_sp.sql script is finished.) Enter the same password when you're asked to confirm it.

The **fn_oraupgrade_sp.sql** utility runs very quickly. When the utility is finished, you return to the system prompt.

Important! Reset the password by entering the following command on the Image Services server :

fndba -s f_sw

---

4 Skip to the section, **"Set Up Links Required for Image Services" on page 185**.

On Servers with DB2 Client Software

Note This section applies only to remote DB2 instances.

Ask the **Database Administrator** to start the RDBMS software before initializing the FileNet databases.

Make sure the DB2 Home and Instance environment variables are set appropriately for both **root** and **fnsw** users. As each user, enter the following commands:

echo $DB2_INST
should be set to the name of the DB2 instance owner, such as **fnsw**.

echo $DB2_HOME
should be set to the sqllib directory within the DB2 Instance owner's DB2 home directory, such as **/home/fnsw/sqllib**.

Compare the output of the above commands to the settings determined in the FileNet ***Guidelines for Installing and Configuring DB2***

Software. If DB2_HOME and the DB2_INST are not set correctly, return to **"Install the User Environment Templates" on page 133** and run the **inst_templates** command again.

Set Up Links Required for Image Services

In this section you will create links to the actual logical volumes that will be used to create the FileNet Image Services datasets.

1. Verify that you're logged on as **fnsw** user.
2. Change to the /fnsw/dev/1 directory:

   cd /fnsw/dev/1

Tip If one or more of the sub-directories in this path don't exist yet, you can create them with the **mkdir** command.

3. Create (and edit) the **filenet.links** file using your preferred editor (for example, **vi**).

Include a soft link command for each of the databases that you created or configured in the previous sections. Link the database name to the logical volume where you placed the database by entering a command structured similar to the following:

ln -s /dev/<volume group>/<logical volume> dbname

where **<logical volume>** is the disk location of the volume and **dbname** is the data base name. For example:

ln -s /dev/fnvg/rfn_cache0 cache0

Note The **filenet.links** file contents shown below are examples ONLY. (The links you create must reflect the actual allocation of the volumes on your system.)

In the **filenet.links** file, you MUST have unique logical volume assignments for all volumes. (Make sure that no two volumes share the same logical volume assignment and that no volume is assigned to a logical volume occupied by any part of the operating system.)

Your filenet.links should contain link information similar to the following:

On a Combined (Root/Index/Storage Library) Server

```
ln -s /dev/fnvg/rfn_cache0 cache0
ln -s /dev/fnvg/rfn_perm_db0 permanent_db0
ln -s /dev/fnvg/rfn_perm_rl0 permanent_rl0
ln -s /dev/fnvg/rfn_trans_db0 transient_db0
ln -s /dev/fnvg/rfn_trans_rl0 transient_rl0
ln -s /dev/fnvg/rfn_sec_db0 sec_db0
ln -s /dev/fnvg/rfn_sec_rl0 sec_rl0
```

On a Root/Index Server

```
ln -s /dev/fnvg/rfn_sec_db0 sec_db0
ln -s /dev/fnvg/rfn_sec_rl0 sec_rl0
```

On a Storage Library Server

```
ln -s /dev/fnvg/rfn_cache0 cache0
ln -s /dev/fnvg/rfn_perm_db0 permanent_db0
ln -s /dev/fnvg/rfn_perm_rl0 permanent_rl0
ln -s /dev/fnvg/rfn_trans_db0 transient_db0
ln -s /dev/fnvg/rfn_trans_rl0 transient_rl0
```

4 Close the file and save the changes.

5 Use **chmod** to change the permission of the **filenet.links** file by entering the following:

chmod 755 filenet.links

Note If you do not change the permission of **filenet.links**, you will not be able to execute the file.

6 Execute the **filenet.links** file by entering the following commands:

```
cd  /fnsw/dev/1
./filenet.links
```

7 Examine the contents of the /fnsw/dev/1 directory by entering the following command:

```
ls  -l
```

Tip To verify that the links are pointing to the correct logical volumes, enter:

```
ls  -lL
```

The directory should contain the linked directories specified in the **filenet.links** file. If the /fnsw/dev/1 directory does not contain the links as shown above, verify and, if necessary, update the **filenet.links** file with any changes and verify the permissions are correct for the file. Execute the links file again.

Set File Ownerships and Permissions

1 Use the **fn_setup** tool to make sure permissions are set correctly for the FileNet Image Services software and datasets. 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 **fnsw** 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 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 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. Select 1=Oracle or 2=DB2.

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

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) is installed on this server, enter the full pathname of the directory on this server where that software is located.

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

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

f Enter the user and group IDs at the following prompts.

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

2 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 1 and run **fn_setup** again.

3 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:YourCorp”
fn_setup: Changing permission on FileNet software and
databases
```

4 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 8 and run fn_setup again.

b If there were no problems, continue with the next step.

5 As a user with **root** privileges, enter the following command to initialize all databases configured on your server:

fn_util init

This command could take about 10 or 15 minutes to complete, so wait for the system prompt to return before continuing.

6 Check the /fnsw/local/logs/fn_util/fn_util.log file after the fn_util init command is complete. If you see any of the following message, you can ignore them:

```
ORA-00942: table or view does not exist.
ORA-01432: public synonym to be dropped does not exist.
ORA-01434: private synonym to be dropped does not exist.
ORA-01919: role 'EXP_FULL_DATABASE' does not exist.
ORA-01919: role 'IMP_FULL_DATABASE' does not exist.
```

These warning messages might result from the system trying to remove RDBMS tables when they have already been removed.

Note The message "MKF irrecoverable read error" might appear in the fn_util.log file. This is acceptable due to the current state of the system, and you can ignore this message.

Bring Up Image Services Software on the Root/Index or Combined Server

Server Types

Perform the steps in this section on these servers:

Root/Index server during a Dual-server installation.

Root/Index/Storage Library server during a Combined server or Entry server installation.

Important!

For remote Oracle databases: If the Oracle database is located on a remote server, make sure the Oracle instance is up and running.

For local Oracle databases: If the Oracle database is located this server, you need to verify that the Oracle Instance has the correct SID. As **root** user, enter:

```
ps -ef | grep -i ora
```

The output is similar to the following example in which the SID appears at the end of process name. In this example, the SID is IDB.

```
<oracle user>  1127    1  0  Mar 11  ?        0:18 ora_pmon_IDB
<oracle user>  1129    1  0  Mar 11  ?        0:34 ora_dbwr_IDB
<oracle user>  1131    1  0  Mar 11  ?        0:18 ora_lgwr_IDB
<oracle user>  1133    1  0  Mar 11  ?        0:01 ora_smon_IDB
```

Make sure the Oracle SID is set appropriately for both **root** and **fnsw** users. As each user enter the following command to see how they are set:

echo $ORACLE_SID

Compare the output of the above command to the setting determined in **"Oracle Variables" on page 96**. If it is not set correctly, check with the System Database Administrator to have it reset.

CAUTION The Database Administrator must start the RDBMS software before attempting to start the FileNet Image Services software for the first

time. If the Oracle or DB2 software is not available when the Image Services software starts, the Image Services software will fail and will display error messages. If you receive error messages, start the RDBMS software and restart the Image Services software.

From the command line prompt, log on as **fnsw** user and enter the following command to bring up the FileNet software:

```
initfnsw  start
```

Automatic HP-UX Kernel Parameter Checking

Server Types

If you receive a **cfg_verify** error, perform the steps in this section on these servers:

Root/Index server during a Dual server installation.

Root/Index/Storage Library server during a Combined or Entry server installation.

Every time you start the FileNet Image Services, the software automatically runs the **cfg_verify** program, which verifies the HP-UX kernel parameter settings.

If **cfg_verify** detects an invalid kernel parameter, it logs an error for each incorrect parameter. For example, you might see an error similar to this during Image Services startup:

Exec of 'cfg_verify' returned non-zero status of '0x1'.

To fix the error, read the system log to determine which kernel parameter is set incorrectly. Use the **vl** tool to find the cfg_verify assertion errors. From any directory, enter:

vl

The system log might contain an entry similar to this:

```
98/02/20 10:17:06.222 212,4,7 <root> cfg_verify (2958) ... [WARNING]
cfg_verify: HP.HPUX.MAXFILES (0x80 )
            must be greater than or equal to ( 0x200 )
```

In this case, the value of the maxfiles kernel parameter was set to an incorrect value of 0x80, the hexadecimal equivalent of 128 decimal. However, the value of the maxfiles parameter must be at least 512 decimal (200 hexadecimal). Note that FileNet recommends a minimum value of 1024 decimal (400 hexadecimal) for Remote Entry servers.

You would need to use SAM or kctune to modify the incorrect kernel parameter maxfiles to a recommended value of 0x200 (512 decimal), or 0x400 (1024 decimal) and reboot the server to make it take effect.

Note Even though SAM and kctune display the kernel parameters in decimal, you can enter modified values in hexadecimal, like this: 0x200 SAM and kctune automatically translate the hex value to decimal.

Fix all invalid kernel parameters, reboot the server indicated by SAM or kctune, and return to Step 1 of the previous section to try starting Image Services again.

If you're configuring a Root/Index server, skip to the section, **"Modify the /etc/inittab File on the Root Server (optional)" on page 225**.

Verify HP Storage Library Device Drivers on a Combined Server

Server Types

Perform the steps in this section on these servers:

Root/Index/Storage Library - (Combined server or Entry server installation)

If you're configuring a Root/Index server, skip to the section, **"Modify the /etc/inittab File on the Root Server (optional)" on page 225**.

If you're configuring a cache-only or MSAR system (no optical devices attached to the Storage Library server), skip to the section, **"Configure Storage Library Device(s)" on page 215**.

In this section, you need to verify that the HP optical disk drive software and the HP storage library system software have been configured correctly.

Tip

Even though an ODU (Optical Disk Unit) is technically not a storage library because it lacks a robotic arm, for the purposes of configuration

be sure to perform the same steps for an ODU that you would perform for a storage library.

To verify the new driver for the HP optical disk drive and the HP Storage Library system, follow these steps:

1. Make sure the SCSI adapter card is configured for a **maximum of 80 MB/second** data transfer for best optical library performance. Refer to **“Appendix E – Setting the Maximum Data Transfer Rate for SCSI Host Bus Adapters” on page 387**.

2. Make sure that the storage library devices are powered on and are active.

3. **Return to your server’s terminal**, and as **root** user, use **ioscan** to determine the addresses of the HP optical drives and storage libraries.

   ```
   ioscan -fn | more
   ```

   Look in the **ioscan** display for your storage libraries and drives. You can identify the storage drives by locating the vendor ID and the product ID in the Description column.

If necessary, refer to the documentation that accompanies your storage library to determine the vendor and product IDs to look for.

```
Class       I  H/W Path      Driver      S/W State   H/W Type     Description
=============================================================================
...
ba          2  0/2           lba         CLAIMED     BUS_NEXUS    Local PCI-X Bus
Adapter (122e)
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    sctl        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
...
```

In the previous example, the vendor ID is HP and the product IDs are C1118J and C1113J.

Notice that for HP C1118J, the S/W State and H/W Type are UNCLAIMED and UNDEFINED, which indicates that this device is the robotic arm. The two HP C1113J devices are the optical drives.

Tip If you cannot locate the storage library devices in the **ioscan** display, you can try this method as a last resort:

a. Shutdown the server and turn power off to all the storage library devices.

b. Turn power back on only to the server and run the **ioscan** command, saving the output to a file. For example:

ioscan -fn > /fnsw/local/tmp/ioscan_pwr.off

c. Shutdown the server again and turn power back on to all the storage library devices.

d. Turn power on to the server and run the **ioscan** command, saving the output to a different file. For example:

ioscan -fn > /fnsw/local/tmp/ioscan_pwr.on

e. Find the differences between the two files by entering:

diff /fnsw/local/tmp/ioscan_pwr.off /fnsw/local/tmp/ioscan_pwr.on

f. The resulting display should contain only the lines pertaining to the storage library devices.

Write down the **full** H/W Paths (for example, **0/3/2/0.1.0**), the Class, and the Description (model numbers) of each storage library device shown on the display.

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

1 Change to the appropriate directory and use your preferred text editor, such as **vi**, to create the sod.conf file:

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

2 Add 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
```

4 Save your changes to the file, and exit the editor.

Create Optical Device Files

Note If there are no optical devices attached to your server, skip this section.

Use the **FNPoll** 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 **root** user, 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 Device(s)” on page 215**

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 a TTY Port for a FileNet Serial OSAR Arm

Note If the storage library devices in this system **do not** include a FileNet OSAR storage library with a TTY robotic arm, skip this section.

If you're connecting a FileNet OSAR storage library to the server, use SAM to set up a tty port for the OSAR's TTY robotic arm. Within SAM you will have to **Add** a terminal and select the mux card as opposed to a Serial card. You will also need to enter the Port number of the OSAR arm. Also, make sure the mux card is installed on your system before proceeding with this step by looking at the back of your server and locating the card.

1. On the System Administration Manager menu, select the Peripheral Devices option.
2. Next, select the Terminals and Modems option.
3. From the Action pulldown menu, select the Add Terminal option.

4 In the Port Number field, type in the port number that the OSAR arm is going to be connected to.

5 In the Speed (Baud Rate). . . field type **9600** for your terminal.

6 Click **OK** to create device files.

7 Click **OK** at the Messages screen to return to the Terminals and Modems screen. Note the name of the device file created (for example, **/dev/tty1p0**).

8 Return to the main System Administration Manager menu of SAM.

9 Press **F8** to return to the system prompt.

10 Change the permission of the device file by entering the command below. Assuming the device file created is named **/dev/tty1p0**, you would enter:

chmod 777 /dev/tty1p0

11 Use a text editor to remove the **ao.2:respawn:/etc/getty -h <dev> 9600** entry from the /etc/inittab file (where <dev> is the name of the device file mentioned in Step 7.

12 Enter the following command to re-read the updated /etc/inittab file and kill the getty process you removed from the file in the previous step.

```
/etc/init  q
```

Configure Storage Library Device(s)

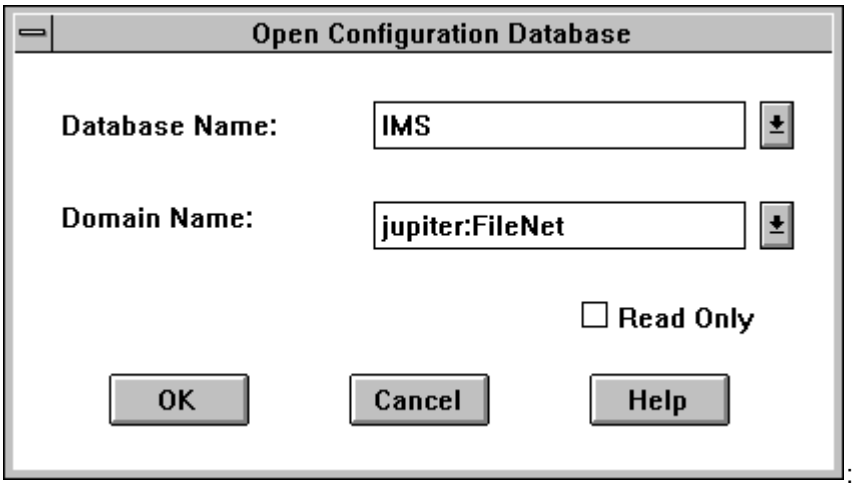
Note If there are no storage libraries on the server, skip to the next section, **"Modify the /etc/inittab File on the Root Server (optional)" on page 225**.

Tip Even though an ODU (Optical Disk Unit) is technically not a storage library because it lacks a robotic arm, for the purposes of configuration be sure to perform the same steps for an ODU that you would perform for a storage library.

1 As **fnsw** user, launch the FileNet Configuration Editor by entering:

fn_edit &

A dialog box similar to the following displays.



:

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.

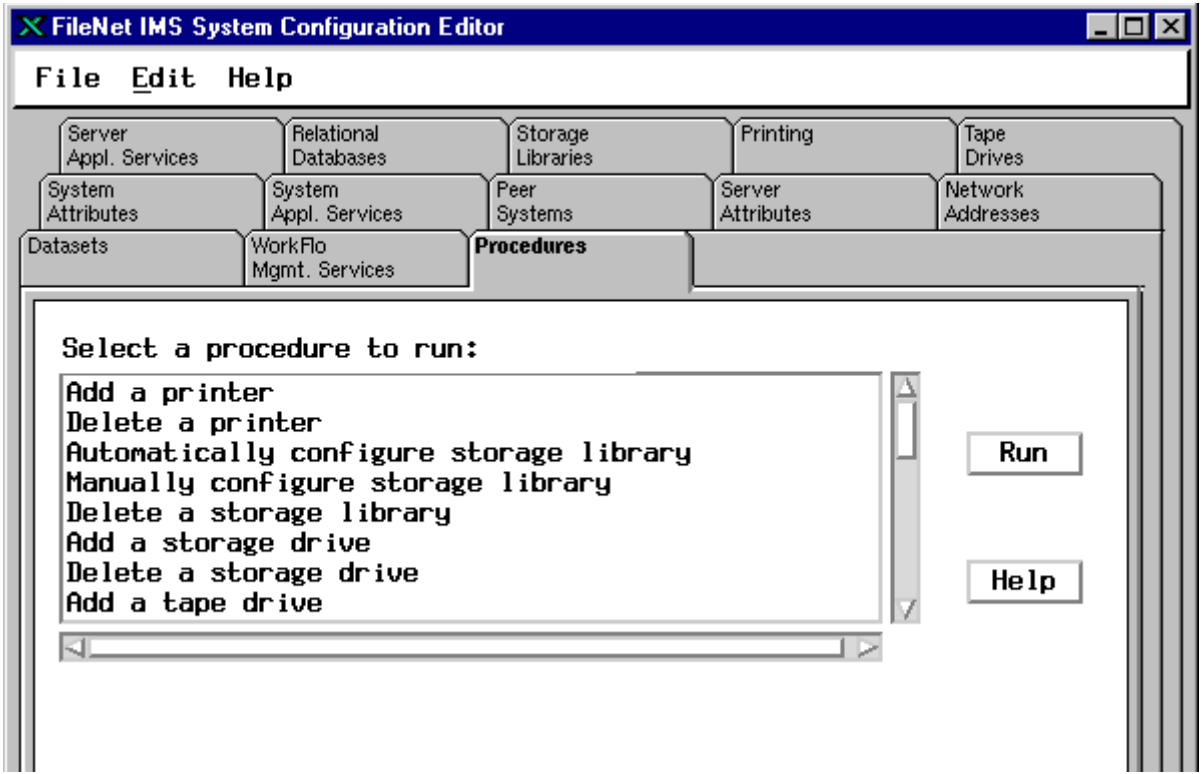
Note The online help contains information on all of the tabs. You can access the online template information by selecting the Help menu option in the System Configuration Editor window.

1 If you want to view the information concerning the storage library device(s) configured on your server, select the Storage Libraries tab from System Configuration Editor window.

Refer to the **"FileNet TC Worksheet" on page 83** for information concerning your optical library devices.

2 If you need to configure a storage library or an ODU, you have two choices:

- **"Automatically Configure Storage Library" on page 219**


FileNet IMS System Configuration Editor
File Edit Help
Server Appl. Services
Relational Databases
Storage Libraries
Printing
Tape Drives
System Attributes
System Appl. Services
Peer Systems
Server Attributes
Network Addresses
Datasets
WorkFlo Mgmt. Services
Procedures
Select a procedure to run:
Add a printer
Delete a printer
Automatically configure storage library
Manually configure storage library
Delete a storage library
Add a storage drive
Delete a storage drive
Add a tape drive
Run
Help

- **“Manually Configure Storage Library” on page 220**

Automatically Configure Storage Library

Storage libraries can be configured automatically if they are attached correctly to the server, and if they are fully powered on.

To configure a storage library automatically, follow these steps:

a Click on the Procedures tab.

b Scroll through the list of available procedures and select Automatically Configure Storage Library.

fn_edit gets all the information it needs directly from the storage library and does not display any messages unless it encounters an error.

c 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.

d After the storage library has been configured, skip to Step 3.

Manually Configure Storage Library

As an alternative, 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          2  0/2            lba        CLAIMED     BUS_NEXUS    Local PCI-X Bus
Adapter (122e)
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    sctl       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. For example, in the previous display, locate the lines that contain **sctl** in the Class and Driver columns.

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 server that is running **fn_edit**.

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:

- Library type
- Library number
- 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 information you wrote down from the **ioscan** display earlier. For example, you might

enter:

4 0 1 0

where:

the first number is the SCSI adapter ID
(the number you copied from the **I** (Instance) column of the **ioscan** display)
the second number is the bus ID
(the first of the three numbers from the H/W Path column)
the third number is the target device ID
(the second of the three numbers from the H/W Path column)
the fourth number is the Logical Unit Number (LUN)
(the third number from the H/W Path column)

After you have answered all the prompts, **fn_edit** 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.

- After the storage library has been configured, continue with Step 3.

3 Exit the Configuration Editor and save your changes.

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

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

5 Restart the Configuration Editor by entering:

```
fn_edit  &
```

Modify the /etc/inittab File on the Root Server (optional)

Edit the /etc/inittab file so the Image Services software will start automatically during a server/system restart.

Note If you do not know whether the Relational Database software will be started when the Image Services software starts, you might choose not to uncomment the line in the inittab file.

If the Relational Database is not available when the Image Services software starts, the Image Services software generates error messages. If you receive error messages of this type, start the DB2 or Oracle software, and then restart the Image Services software.

1 Log on as **root** user and change to the /etc directory by entering:

cd /etc

2 Using your preferred editor, such as **vi**, open and prepare to edit the inittab file.

Important! If this command is re-enabled, the Database Administrator must ensure the Oracle or DB2 software is up and running before the FileNet Image Services software restarts.

3 Locate and re-enable the following line by removing the comment character:

rcfn:234:wait:/bin/sh /etc/rc.initfnsw </dev/console >/dev/console 2>&1

4 Save the file and then exit.

5 This completes the basic configuration of your Root/Index or Combined server.

Add Peer Systems to the /etc/hosts File

Server Types

Perform the steps in this section on **all servers**.

If this server uses DNS (Domain Name Service) or NIS (Network Information Service), the steps in this section are not needed. Contact the network administrator for further information. Skip to the section, **"Configure a TTY Port for a FileNet Serial OSAR Arm" on page 213**.

Using SAM, add server name(s) and address(es) to the /etc/hosts. For any server on your network that you want to remotely log in to, you

must add the server to the /etc/hosts file of your HP Integrity server. Conversely, if you want that server to be able to communicate remotely with your HP Integrity server, you need to edit the /etc/hosts file on that server as well.

If you don't want any server to be able to communicate remotely with any other server on the network, you can skip this section.

1 Select (highlight) the Networking and Communications option. When the option is highlighted, press **Return**.

2 Next, select the Internet Addresses option. When the entry is highlighted, press **Return**.

3 From the Action pulldown menu, click **Add**.

4 Enter the internet address and the remote system name of the server you want to be able to communicate with remotely into the appropriate fields. You can configure a total of 16 peer systems. Click **OK** to continue.

5 Return to the Add Internet Address screen and repeat Step 2 for any other servers you want to be able to communicate with remotely.

6 Return to the main System Administration Manager menu of SAM.

7 Press **F8** to return to the system prompt.

Configure RES, Cross-Committal, or Multi-Committal Systems

This section presents a brief description of these systems; for detailed information, refer to the ***Image Services Multi-Committal and Cross-Committal Configuration Handbook*** .

Each of the FileNet systems in an RES configuration, Cross-Committal configuration, or a Multi-Committal System configuration is technically an independent system with a Root/Index server and is considered a **peer system** by all the others.

- A Cross-Committal System is composed of a **source** Image Services system and a **target** Image Services system. The source

system commits images to the target system, but does not retain the images locally.

- A Remote Entry Server (RES) is a specific type of Cross-Committal system that has no storage library and is used only for entering images for committal to another independent system (the target) that does have a storage library. The target system is also capable of entering and committing images, so in this situation the two systems must be “compatible,” that is, they must have non-overlapping document IDs and surface IDs.

- A Multi-Committal System is an independent FileNet system that contains a Storage Library server and commits images both to its own Storage Library and to the Storage Library of another independent FileNet system. Multi-Committal Systems might or might not be “compatible” systems with non-overlapping document IDs. If they aren’t compatible, new doc IDs are assigned on the target system, a minor performance consideration.

6
Completing the Installation

This chapter explains steps that need to be followed to complete the server installation. It covers several procedures including:

- Software tuning for COLD users
- Setting the FileNet relational database users' passwords
- Adapting the system for Xstation use
- Configuring the System Information Messenger
- Installing any remaining fixes
- Making system backups

Note For **HP ServiceGuard** users, the sections in this chapter need to be done only on the production server(s), not the fail over server(s), except where specifically noted.

Software Tuning for COLD Users (Optional)

Server Types Perform the steps in this section on the server that has COLD software installed on it, usually the **Storage Library server**.

When the following circumstances occur, the DISPLAY environment variable, normally set by the system, might change, and there appears to be no automatic way of correctly setting this variable:

- User switches user (su -) from another login (typically **root**).
- User performs an rlogin from another system.
- User resets the default host from an x-station hooked to another system.

The following work around exists:

1. Log on as **root** user. Before running COLD, you should check the value of DISPLAY. This can be done with the following UNIX command:

   echo $DISPLAY

2. If it has a value, it will print. If it has no value, or was never set, you'll either see an empty line (Bourne/Korn shell) or an error message (C shell). In that case, you must provide a value, as follows:

   - For Bourne or Korn shell, enter:

     export DISPLAY=<host_identifier>:0

   - For C shell, enter:

     setenv DISPLAY <host_identifier>:0

   where <host_identifier> is the server identifier, either a name or IP address.

If the DISPLAY environment variable is not set, Motif fails by displaying errors and fails. What should happen instead is that COLD should verify that DISPLAY is set, and if not, log a clear error message, then cease.

Set the FileNet Relational Database Users' Passwords

Server Types

Perform the steps in this section on these servers:

Root/Index server during a Dual server installation.

Root/Index/Storage Library server during a Combined server or Entry server installation.

Application server with WorkFlo Queue services, SQL services, or VWServices.

The FileNet and Oracle software must be up and running in order to change the passwords for the FileNet database users.

Each of the FileNet Database users requires a password.

f_sw
f_open
f_maint
f_sqi

1 To set the password for **f_sw**, for example, enter:

set_f_maint_pw f_sw

2 The first time you run **set_f_maint_pw** for each of these users on a new system, just press Return when you are prompted for the current password.

Enter current password for f_sw
(CR = initial default):

Press **Return** to accept the initial default.

Note This tool does not echo any password you enter.

Normally, changing the password requires you to know the previous password. However, the first time you run **set_f_maint_pw** after initializing the Image Services databases (fn_util init), you can just press Return.

3 When asked for new password, enter a new password that is between 6 to 30 characters, and if you plan to use Oracle Password Complexity Verification, the new password must also conform to its rules.

4 When you are prompted to confirm the new password, enter the password again.

Note If you don't see an error message, the password was changed successfully.

5 When you return to the system prompt, repeat these steps for the remaining FileNet database users.

Note If you receive an error message, or forget a previously entered password, see the entry for **set_f_maint_pw** in the ***IS System Tools Reference Manual*** for troubleshooting information.

Oracle Password Complexity Verification

Server Types Perform the steps in this section only on **servers with Oracle**.

If you turned off this Oracle feature before you installed the IS 4.0 software, you can turn it back on now.

After the installation of the Image Services software is complete and the f_sw (or alias) user password has been changed via the **set_f_maint_pw** command, Oracle Password Complexity Verification can be turned back on. Refer to Oracle documentation for more details.

Configure the System Information Messenger

Server Types Perform the steps in this section on **all servers**.

The System Information Messenger is a utility that automatically collects performance statistics, license usage data, system configuration data, and software registration information from the server and sends

the data to FileNet. Follow the instructions in the ***System Information Messenger Manual*** to enable and configure the software.

Install Service Packs and Hot Fix Packs (Optional)

Server Types Perform the steps in this section on **all servers**.

Now you can install any Hot Fix Packs or Service Packs that apply to Image Services 4.0 HP Integrity Edition. Be sure to read the accompanying README file, which contains the instructions for installing the software. Services Packs are available on CD-ROM. You can retrieve the latest Hot Fix Packs from the FileNet Web site **http://www.css.filenet.com**.

MSAR Systems

The Magnetic Storage and Retrieval (MSAR) storage library provides high speed and high capacity storage libraries on magnetic disk media instead of using optical media or large magnetic disk caches (Cacheless systems).

If you plan to configure an MSAR System, refer to the ***MSAR Procedures and Guidelines*** document for information.

Bring Up the FileNet Software

Server Types Perform all of the procedures in this section on **all servers**.

1 As **fnsw** user, stop any FileNet processes that might be running by entering the following command:

killfnsw -DAy

2 Start the Image Services software by entering:

Xtaskman &

The FileNet Task Manager interface displays.

CAUTION If RDBMS software is installed on this server, be sure to start it before attempting to start the FileNet Image Services for the first time. If the

RDBMS software is not available when the Image Services software starts, the Image Services software will fail and will display error messages. If you receive Image Services error messages, start the RDBMS software and restart the Image Services software.

3 After the **TM_daemon.exe** message displays in the Process table, select the Monitor menu.

4 From the Monitor menu, select the Event Logs option. (The FileNet Event Logs window displays.)

5 From the Event Logs window, select the DISPLAY menu, and select Dynamic. (The Dynamic option enables screen refreshes each time the messages are logged.) Return to the FileNet Task Manager window, but do not close the Event Logs window.

6 From the FileNet Task Manager window, select START.

You will receive system messages in the Current Status window as the IS software starts. After the IS software startup process finishes, the CLOSE button is highlighted.

7 Select the CLOSE button. (The Current Status window closes.)

8 Review the contents of the Event Log window to make sure that there are no error messages from the software startup.

Make System Backups

Server Types Perform the steps in this section on **all servers**.

Regular backups of the system configuration and data are essential.

1 Go to an X-station, a workstation that supports X Windows or Common Desktop Environment (CDE), or a PC with an X Windows emulator and login to your server as **root** user.

2 Make a copy of the **inittab** file, and stop the FileNet software by entering the following series of commands:

```
cd /
cp /etc/inittab /fnsw/etc/inittab.backup
initfnsw -y stop
```

Note If you have a Dual server, shutdown the FileNet software on the Storage Library server before the Root/Index server.

3 Create a backup of your LVM configuration to protect the system from potential disk crashes. Refer to the **man** page for more information regarding the **vgcfgbackup** command. Complete the following bullets:

- If you have the root volume group (**vg00**) on your system, enter the following command:

  vgcfgbackup /dev/vg00

- If you have the FileNet volume group (**fnvg**) (or some other <volume group>) on your system, also enter the following command:

  vgcfgbackup /dev/fnvg

- This step will make restores easier if the system ever crashes. These LVM configuration backups are stored in an area that is automatically accessed during a restore.

Note In the event of a disk crash, it will be beneficial to have copies of the following files or command output listings (hard copies at least) to help in the recovery:

system
fstab
vgdisplay -v vg00 (command output)
vgdisplay -v fnvg (if applicable) (command output)
ioscan -fn (command output)

4 Next, make a system backup tape using the Backup and Recovery option in SAM. **This backup will take about 45 minutes.** Refer to the HP-UX System Administration Tasks for information about system backups and restores.

5 From the command line prompt, enter the following command to bring up the FileNet software:

initfnsw restart

6 For information on developing the backup and restore scripts for the MKF databases using FileNet's EBR, refer to:

- ***Image Services Enterprise Backup and Restore User's Guide***

For additional information on making backups of your system configuration, refer to:

- ***Image Services System Administrator's Handbook***
- ***Image Services System Administrator's Companion for UNIX***

Begin Production Mode

This concludes the Image Services 4.0 HP Integrity Edition Installation and Configuration Procedures for HP-UX. The FileNet Image Services system is now ready to put into production.

Appendix A – Adding an Application Server

This Appendix describes how to add an Application server on your Image Services system. All of the steps in this appendix should be done on the Application server unless specified otherwise.

In addition to installing and configuring a new Application server, you can also use this appendix for:

- Adding services to an existing server (for example, adding Batch Entry Services to an existing Application server). See the section, **“Add Services” on page 257**.
- Reconfiguring an old server because the functions it performs are no longer required. (Reconfiguring an old server should be handled the same as installing and configuring a new Application server.)

Before You Begin

This appendix assumes that FileNet Image Services 4.0 HP Integrity Edition and the Oracle or DB2 Relational Database software have already been installed and configured on a Combined or Dual server system. The Combined or Root/Index server will be the Root server for the Application server. If a Root server has not already been established, follow the procedures in this manual for installing and configuring the Root server, then return to this appendix to set up the Application server.

Installation Prerequisites

Make sure the server is ready for the software installation by completing the procedures and gathering the information for the worksheet in **Chapter 2, “System Administrator Tasks,” on page 48**.

When the server is ready, you can begin installing the necessary software:

- If you're configuring an Application server with only Batch, Print, and/or Cache Services, which do not require RDBMS software, skip to **"Install Image Services Software" on page 248**.
- If the DB2 V8.1.x or Oracle 9i Relational Database software is already installed, you can also skip to **"Install Image Services Software" on page 248**
- If you're configuring an Application server with either WorkFlo Queue Services, SQL Services, or VWServices, continue with the next section to install the DB2 or Oracle software.

Install Relational Database Software (if applicable)

Server Types

Perform the steps in this section only on an **Application** server with either WorkFlo Queue Services, SQL Services, or VWServices.

Oracle 9i

- For guidelines on installing the Oracle RDBMS software, refer to the ***Guidelines for Installing and Updating Oracle Software for UNIX Servers***.

IBM DB2 V8.1.x

- For guidelines on installing the IBM DB2 RDBMS software, refer to the ***Guidelines for Installing and Updating DB2 Software for UNIX Servers***.

Install Image Services Software

Server Types Perform the steps in the section on the **Application** server.

Install the Image Services 4.0 HP Integrity Edition software on the Application server by completing the the procedures in **Chapter 3, "Preparing for the Installation," on page 82** and **Chapter 4, "Installing FileNet Image Services Software," on page 101**.

At the end of Chapter 4 there is a link to return to this appendix. Continue with the next section, and perform the procedures only on the server indicated at the beginning of each section. (You might not need to perform some of the procedures included in this appendix.)

Configure the Root Server

Server Types

Perform the steps in this section and its sub-sections on these servers:

Root/Index server during a Dual server installation

Root/Index/Storage Library server during a Combined server installation)

You must modify the configuration database on the Root server to allow for the presence of an Application server on your system.

Define the New Application Server

To create the new Application server complete the following steps:

1 Go to an X-station, a workstation that supports X Windows or Common Desktop Environment (CDE), or a PC with an X Windows emulator and login to the server as **fnsw** user.

2 As **fnsw** user, open a new X Window, and enter the following command to launch the Image Services Configuration Editor:

fn_edit &

3 Verify that the database and domain names are correct, and click **OK**. (The two-part domain name is structured as follows:<Domain>:<Organization>.)

The Image Services Configuration Editor window displays.

4 Click on the **Procedures** Tab in the Configuration Editor window.

5 Select the Add an Application Server option from the Procedure List Box, and then click **Run**.

Note Use online help when completing the following steps.

6 Enter the name of the Application server. The server name of the Application server is user-defined. Click **Next**.

7 At the prompt, “Is this a Windows Application Server?”, answer **Yes** if the new Application server is a Windows server. The default is **No**.

8 Enter the network address of the Application server (refer to the **“FileNet TC Worksheet” on page 83**). Click **Next**.

9 If you want to add another Application server, click on the Procedure Tab in the System Configuration Editor window and repeat Steps 5 through 9.

Select and Configure the Relational Database Instance (if applicable)

Important! This procedure assumes that the tablespaces and devices that you specify in the System Configuration Editor either already exist or that you will create them before you initialize the FileNet databases.

For **Oracle**, see the FileNet ***Guidelines for Installing and Updating Oracle Software for UNIX Servers***.

For **DB2**, see the FileNet ***Guidelines for Installing and Configuring***

DB2 Software.

The Database Administrator has already supplied this information in the section, **"Install Relational Database Software" on page 94** in Chapter 3.

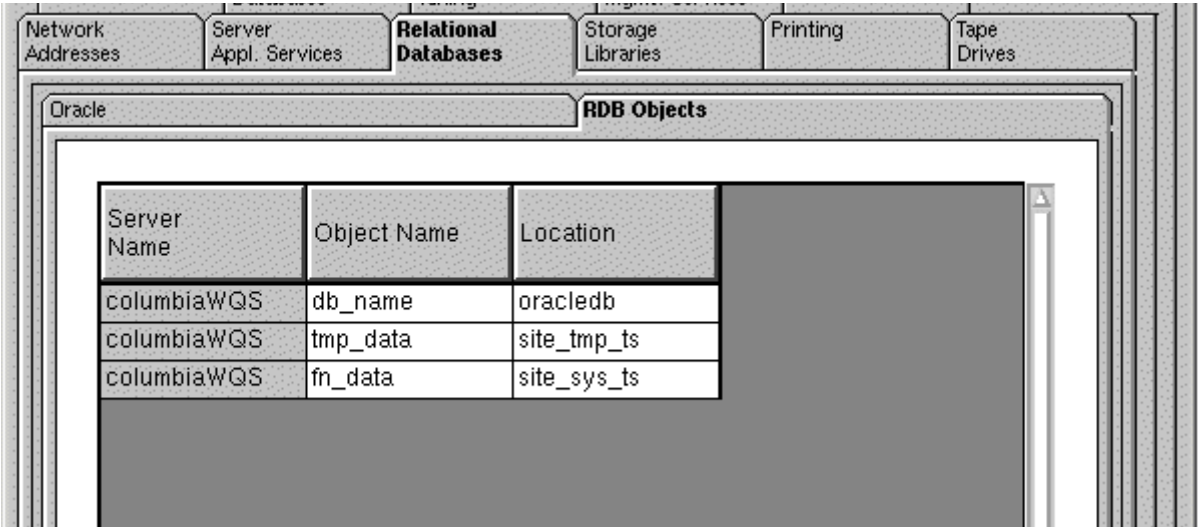
Continue with the appropriate sub-section:

- **"Oracle 9i" on page 252**
- **"DB2 V8.1.4" on page 254**

Oracle 9i

Verify the Tablespace Names

1 Click the Relational Databases tab, then click the RDB Objects sub-tab.



In the Location column of the RDB Objects window, click on a cell and replace the default FileNet table names with the site-specific table names. While replacing the table names, use the following criteria:

- Change all occurrences of **fnsys_ts** to the name of your dedicated FileNet default tablespace.
- Change all occurrences of **fntmp_ts** to the name of your dedicated FileNet temporary tablespace.

The Image Services software will use the tablespace names entered in the RDB Objects sub-type.

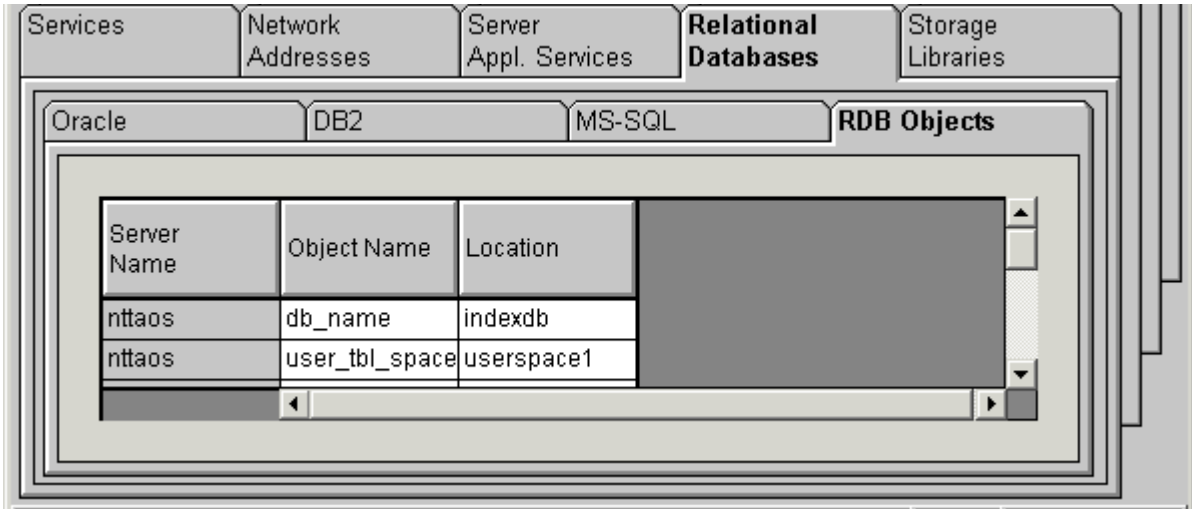
Note The tablespace names specified in the RDB Objects list must exist before you initialize the FileNet Image Services software databases.

2 Skip to the section, **“Add Services” on page 257**.

DB2 V8.1.4

Verify the Database and User Tablespace Names

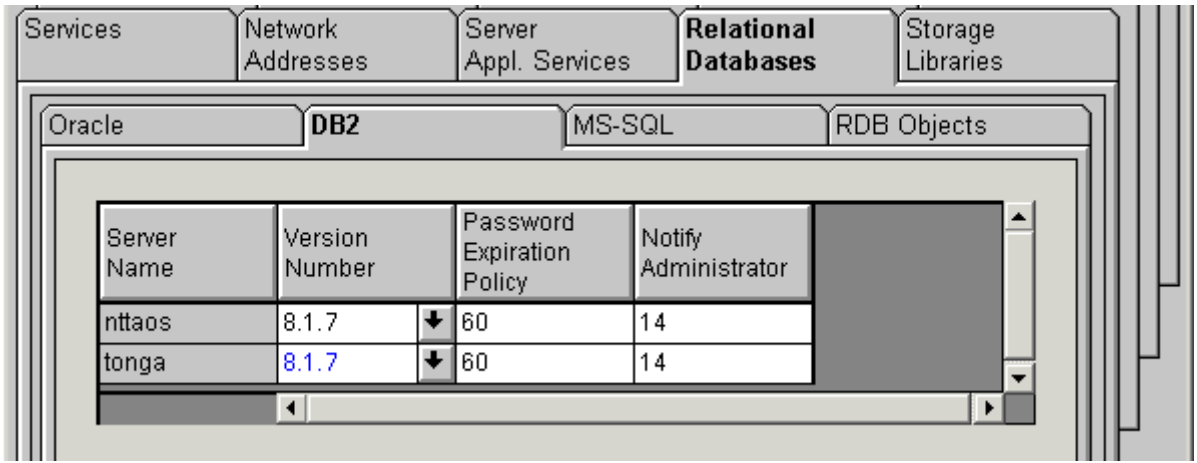
1 Click the Relational Databases tab, then click the RDB Objects subtab.



2 On the RDB Objects subtab, verify the database name and the tablespace name in the Location column:

- **Database name**, such as indexdb.
- **User Tablespace name**, such as userspace1.

3 On the DB2 subtab, verify the following fields:



- **Version** - must be **8.1.7** or later (DB2 version 8.1.0 plus FixPak 7 or later). DB2 version 7.2.0 is not supported at this time.
- **Password Expiration Policy** This field lists the number of days that the f_sw, f_maint, sqi, and f_open passwords remain in effect

before they expire. The default value is **60 days**. To change the default, enter a new value in this field.

Note A blank field is not permitted, and a value of 0 is equivalent to "Never Expires."

- **Notify Administrator** This field lists the number of days prior to password expiration that the administrator will be reminded to update the password. The default value is **14 days** before the password expires. To change the default, enter a new value in this field.

Note This value must always be less than or equal to the password expiration value. A blank field is not permitted, and a value of 0 would mean notification the day the password expires.

Add Services

Server Types All services must be added on the **Root** server.

Now you will add the services you want to be able to use on the Application server. You can add the following services:

- Batch Entry services
- Print services
- Cache services
- Structured Query Language (SQL) services
- WorkFlo Queue Services (WQS)
- VWServices

  If you will be adding VWServices to this Application server, use the procedures in the appendix to install and configure the Image Services and RDBMS software, and configure a SQL Service on this Application server. After completing those procedures, see the installation handbook for your Process Engine platform for instructions on adding VWServices to the server.

Add only the services you want. After you have added the desired services, go to the section **“Exit the Configuration Editor” on page 268**.

Add Batch Entry Services

1. Click on the Procedures Tab in the System Configuration Editor window.

2. Select the Add a Service to a Server option from the Procedure List Box, then click **Run**.

   A dialog box displays prompting you for the domain name in which the Application server resides.

3. Select the Application server domain name.

   A new dialog box displays containing a list of services that can be added to an Application server.

4. From the list of available services, choose Batch Entry Services.

5. You are prompted for dataset path for the Image Services cache on your Application server.

   - The default cache path is **/fnsw/dev/1/cache_0.**

6 You are prompted for the size of the cache. (The default is 100 MB.)

7 You are prompted for the transient dataset paths on your Application server.

- The default transient dataset path is **/fnsw/dev/1/transient_db0.**
- The default transient redolog dataset path is **/fnsw/dev/1/transient_rl0.**

8 You are prompted for the size of the transient dataset sizes. (The defaults are as follows: transient_db0 - 20 MB and transient_rl0 - 40 MB.)

9 Respond to the Do you want to use fast batch committal? prompt by clicking **yes** or **no**. (If you select yes, default settings are automatically entered into the system. You can change the settings later if necessary.)

Note If fast batch committal is configured, you cannot use cluster indexes. See the ***System Administrator's Handbook*** for more details on fast batch committal and clustering.

The maximum document size for remote committals using fast batch is 2.1 GB. See the ***Multi-Committal and Cross-Committal Configuration Handbook*** for more information on remote committal.

10 You are prompted for the number of BES commitment processes. Choose **2** (the default) or **4**.

11 If this is the last service you're adding to the Application server, skip to the section, **"Exit the Configuration Editor" on page 268**.

Add Print Services and a Printer

1 Click on the Procedures Tab in the System Configuration Editor window.

2 Select the Add a Service to a Server option from the Procedure List Box, then click **Run**.

3 Click on the domain name of the Application server.

4. Choose Print Services. You will be asked if you want to add print services. Click **Yes**.

5. Click on the Procedures Tab in the System Configuration Editor window.

6. Choose Add Printer.

7. You will be asked if this is the default printer you are adding. If it is, click **Yes**. If you are not adding the default printer, click **No**.

8. Enter the printer name, which is user-defined.

9. Enter the NCH printer name (for example, LJ4M).

10. Enter the network address for the printer (for example, 125.0.85.245).

11. Select the paper printer size.

12. Select the printer eject tray.

13 You are prompted regarding adding additional printers. Add more printers as necessary.

14 If this is the last service you're adding to the Application server, skip to the section, **"Exit the Configuration Editor" on page 268**.

Add Cache Services

1 Click on the Procedures Tab in the System Configuration Editor window.

2 Select the Add a Service to a Server option from the Procedure List Box, then click **Run**.

3 Click on the domain name of the Application server.

4 Choose Cache Services. Click **OK**.

5 If this is the last service you're adding to the Application server, skip to the section, **"Exit the Configuration Editor" on page 268**.

Add SQL Services

Use this procedure to add SQL services.

Note If you add SQL services to your system, you MUST install RDBMS software on the Application server, or on a site-controlled remote RDBMS server. Continue adding the necessary services to your system. After you have added all of the needed services, skip to **"Exit the Configuration Editor" on page 268**.

1. Click on the Procedures Tab in the System Configuration Editor window.
2. Select the Add a Service to a Server option from the Procedure List Box, then click **Run**.
3. Click on the domain name of the Application server.
4. Choose SQL Services.
5. You might also be prompted for:

- f_sw password
- f_maint password
- f_sqi password
- DB2 Database Alias Name
- User Tablespace Location

6 If this is the last service you're adding to the Application server, skip to the section, **"Exit the Configuration Editor" on page 268**.

Add WorkFlo Queue Services (WQS)

Follow these steps to add WorkFlo Queue Services (WQS).

Note If you add WorkFlo Queue Services to your system, you MUST install DB2 client software on the Application server and DB2 server software on a remote database server. Continue adding the necessary services to your system. After you have added all of the needed services, skip to **"Exit the Configuration Editor" on page 268**.

1. Click on the Procedures Tab in the System Configuration Editor window.

2. Select the Add a Service to a Server option from the Procedure List Box, then click **Run**.

3. Click on the domain name of the Application server.

4. Choose WorkFlo Queue Services.

5. You might also be prompted for:

   - f_sw password
   - f_maint password
   - f_sqi password
   - DB2 Database Alias Name
   - User Tablespace Location

6. If this is the last service you're adding to the Application server, skip to the section, **"Exit the Configuration Editor" on page 268**.

Add VWServices

See the installation handbook for your Process Engine platform for instructions on adding a VWServices to the server.

Add Tape Drive (Optional)

If you wish, you can add a tape drive to your Application server. Make sure the tape drive is configured using the system configuration editor tool.

1. Click on the Tape Drives Tab in the System Configuration Editor window.
2. If no tape drive is shown in the Tape Drives tab, click the Procedures tab and run the procedure to Add a Tape Drive.
3. Select the Tape Drives tab again to verify that it was configured successfully.

Exit the Configuration Editor

1. From the System Configuration Editor window, click on the File pull down menu and click on the Exit option.

2. You will then be asked if you want to save the changes you have just made to the current configuration database before you exit. Click on the **Yes** button to save the configuration and exit the System Configuration Editor.

Rebuild the Root Server's Configuration Files

Server Types Perform the steps in this section on the **Root server** only.

1. Verify that the FileNet Image Services software is not running. If the software is running, enter the following command as the **fnsw** user:

   initfnsw -y stop

2 Enter the following command to build the system configuration files:

fn_build -a

This will generate configuration files used by components of the Image Services software. Running **fn_build** automatically creates the Network Clearinghouse database file (/fnsw/local/NCH_db0) if the program does not find an existing file. **fn_build -a** also checks the validity of the software license.

3 Make sure this command runs successfully by checking that no errors have occurred. (Any errors that occurred must be corrected before running the command again.)

4 Start the Image Services software by entering:

initfnsw start

Configure the Application Server

Server Types

This section and its sub-sections need to be performed on the **Application server**. FileNet Image Services software must be up and running on the Root server.

Now you need to configure the Application server for compatibility with the services you added earlier on the Root server.

The procedures in this section assume that the same version of Image Services software is installed on both the Root server and the Application server.

Important!

Even though RDBMS software might already be installed, there must be no RDBMS database or NCH database already existing on the Application server.

Note Make sure Image Services is running on the Root server, and **not** running on the Application server. (You can run **whatsup** on the Root server.)

If the Image Services software is running on the Application server, enter the following commands:

```
initfnsw -y stop
killfnsw -DAy
```

Set File Ownerships and Permissions

In this section, you create all directories needed for the installation using fn_setup. In addition, you will set the appropriate file ownerships and permissions for the directories. You will be asked for system-specific information, refer to the **"FileNet TC Worksheet" on page 83** for the appropriate information.

1. Verify that you are logged on as **root** user **(the first time)**.
2. Run fn_setup utility by entering the following command:

/fnsw/bin/fn_setup

Several prompts display. Answer the prompts with appropriate information for this system.

a The NCH server is the generally the Root server. On an Application server, select **2**=no.

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

b The NCH server name is generally the name of the Root server. On an Application server, enter the name of the Root server.

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

c The system serial number should be the serial number of the server you specified in the previous step, generally the Root 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 only configured on servers with Index services, WorkFlo Queue Services (WQS), VWServices, or SQL services. If you are configuring an Application server without one these services, select 0=none; if the server has Oracle software installed on it, select 1=Oracle; if the server has DB2 software installed, select 2=DB2.

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

Note If you're planning to use an existing RDBMS instance, accept the default RDBMS-related values listed at each prompt.

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

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.

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

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

f If an Oracle relational database 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]:
```

3 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
     Relational database ID:  IDB
Do you want to continue (y/n) [y]:
```

4 Determine whether or not you want to continue: y/n (default: yes).

You then receive messages similar to the following:

```
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: Calling fn_util initnch
fn_setup: Changing permission on FileNet software and
databases
```

On a new installation, you will see that the NCH_db0 is zeroed out as **fn_setup** initializes the nch_db the first time. (The **fn_setup** program modifies the **nch_update** after NCH_db initialization.)

When **fn_setup** is finished, you might receive a message indicating "exit status = 0 (success)(this is not an error.)" If necessary, press **Return** to go the system prompt.

Build Configuration Files on the Application Server

Note Make sure that the FileNet software is running on the Root server. (You can run **whatsup** on the Root server.)

Now you need to build the correct configuration files and initialize the Application server. The same version of Image Services software must already be installed on both the Root server and Application server.

Note There must be no NCH database already existing on the Application server.

1. As **fnsw** user, verify that the FileNet Image Services software is not running. If the software is running, enter the following command:

   initfnsw -y stop
   killfnsw -DAy

2. Enter the following command to build the system configuration files:

   fn_build -a

This command takes data from the Configuration Database (CDB) on the Root server to construct the configuration files on the Application server. Running **fn_build** automatically creates the Network Clearing-house database file (/fnsw/local/NCH_db0) if the program does not find an existing database.

Make sure this command runs successfully by checking that no errors have occurred. (Any reported errors must be corrected before running the command again.)

3 Verify that the following files do not exist on your Application server:

- /fnsw/sd/local/root.station
- /fnsw/local/sd/1/as_conf.s

If the files exists, delete them from the Application server only, and run **fn_build -a** again.

Initialize Application Server Datasets

Server Types Perform procedures in this section (and associated sub-sections) on the **Application server**.

Note If there is **NO** relational database software, either server or client, installed on this Application server, skip to **"Create Logical Volumes on the Application Server" on page 285**.

If relational database software **IS** installed on this Application server, continue with the following steps.

Configure FileNet Datasets on the Application Server

Skip to the appropriate subsection:

- **"On Application Servers with Oracle Software" on page 280**
- **"On Application Servers with DB2 Client Software" on page 284**

On Application Servers with Oracle Software

Note This section applies to both local and remote Oracle instances.

Ask the **Database Administrator** to start the RDBMS software before initializing the FileNet databases.

1 Verify that the Oracle Instance has the correct SID. As **root** user, enter:

ps -ef | grep -i ora

You will receive output similar to the following where the SID appears at the end of process name. (In this example, the SID is IDB.)

```
<oracle user> 1127  1  0  Mar 11 ?  0:18  ora_pmon_IDB
<oracle user> 1129  1  0  Mar 11 ?  0:34  ora_dbwr_IDB
<oracle user> 1131  1  0  Mar 11 ?  0:18  ora_lgwr_IDB
<oracle user> 1133  1  0  Mar 11 ?  0:01  ora_smon_IDB
```

2 Verify that the following Oracle variables are set to match the existing Oracle instance:

ORACLE_HOME (set for instance)
ORACLE_SID (set for System ID)
ORACLE_UID (set for Oracle database administrator user)
TWO_TASK (set if Oracle database is on a remote Oracle server)

Note These variables do not need to be the same as those specified on the Root server.

3 In addition, make sure the Oracle ID is set appropriately for both **root** and **fnsw** users. As each user, enter the following commands:

```
echo $ORACLE_HOME
echo $ORACLE_SID
```

4 Compare the output of the above commands to the setting determined in the FileNet ***Guidelines for Installing and Updating Oracle Software for UNIX Servers***. If the ORACLE_SID and the ORACLE_

HOME are not set correctly, ask the Database Administrator to have the settings changed.

CAUTION

In addition, the Database Administrator must create the default tablespaces with the names you entered in the FileNet System Configuration Editor. Refer to the Tablespace table in the FileNet ***Guidelines for Installing and Updating Oracle Software for UNIX Servers*** for this information.

If the Oracle software is not running and if the new tablespaces haven't been created, the initialization process will fail.

5 **Remote Oracle Only:** If the Oracle database is located on a remote Oracle server:

Important!

Verify with the Database Administrator that the Oracle9i Client software has been successfully installed on the Image Services server.

a Copy these four scripts to the /fnsw/oracle directory on that server:

/fnsw/oracle/FileNet_site.sql
/fnsw/oracle/fn_oraupgrade_sp.sql
/fnsw/oracle/fn_CreateStoredProcedures.sql
/fnsw/oracle/fn_CreateSPPermissions.sql

b Ask the Database Administrator to run these two scripts on the remote Oracle server:

FileNet_site.sql
(creates FileNet IS users)
fn_oraupgrade_sp.sql
(installs two stored procedures in the database)

(The fn_oraupgrade_sp.sql script calls the fn_CreateStoredProcedures.sql and fn_CreateSPPermissions.sql scripts.)

Skip to the section, **“Create Logical Volumes on the Application Server” on page 285**.

On Application Servers with DB2 Client Software

Note This section applies only to remote DB2 instances.

Ask the **Database Administrator** to start the RDBMS software before initializing the FileNet databases.

Make sure the DB2 Home and Instance environment variables are set appropriately for both **root** and **fnsw** users. As each user, enter the following commands:

```
echo  $DB2_HOME
echo  $DB2_INST
```

Compare the output of the above commands to the settings determined in the FileNet ***Guidelines for Installing and Configuring DB2 Software***. If the DB2_HOME and the DB2_INST are not set correctly, ask the Database Administrator to have the settings changed.

Create Logical Volumes on the Application Server

You are now going to manually add the logical volumes for all of the FileNet datasets used by the Application server.

1 As **root** user, enter:

sam

2 From the **System Administration Manager** menu of SAM, select the **Disks and File Systems** option by pressing the Arrow Up or Arrow Down keys. When the option is highlighted, press **Return**.

3 From the Disk and File Systems Manager menu of SAM, select the Logical Volumes option. When the entry is highlighted press **Return.**

4 Press **F4** to access the menu bar.

5 Type **A** to select the Action option.

6 From the Action menu, select the Create option and press **Return**.

7 Select the appropriate volume group for logical volume and Tab to **OK**. Press Return at the Add new Logical Volumes field. Refer to the **"FileNet TC Worksheet" on page 83** to see the listing of the volume groups.

8 Fill in the **LV Name** field with the Logical Volume Names (for example, type in **fn_trans_db0** for the first Logical Volume entry listed in Figure A-1). Add logical volume names for all of the applicable logical volumes listed in Figure A-1.

9 See the "Minimum Size (in MB)..." column of Table A-1 for the suggested logical volume sizes. Also refer to the **"FileNet TC Worksheet" on page 83** for your customer-specific sizing requirements. Refer to the "Size (MB)" column for your selected logical volume and then type the **<Size in MB>** for the logical volume you are adding in the **LV Size (Mbytes)** field.

10 Next, in the Usage field, press **Return** to display the options (File System, Swap, or None), Arrow Down to **None**, and press **Return**. Then Tab to Add, press **Return**.

11 Repeat Steps 8-10 for all of the logical volumes you need to create.

Table A-1. FileNet Datasets (Application Server)

Logical Volume Name	Minimum Size of Logical Volumes (in MB)	Increment
fn_cache0 (for BES/CS/PS)	100	100
fn_trans_db0 (for BES/CS/PS)	20	20
fn_trans_rl0 (for BES/CS/PS)	40	40
NOTE: If you are going to increase the size of any of the logical volumes, you must increase the size by a multiple of the number shown in the “Increment” column.		

12 **When you are finished adding all of the logical volumes**, tab to **OK** and press **Return** again. Finally, at the Create New Logical Volume screen tab to **OK** and press **Return** to create the logical volumes.

13 Return to the System Administration Manager menu and exit SAM.

Create Symbolic Links for Each Dataset

The database programs used by FileNet require the use of raw partitions instead of normal HP-UX datafiles. This generally allows the Image Services software to optimize speed and efficiency. In this section, you will create symbolic links for these partitions.

1. Make sure you're logged on as **fnsw** user.

2. Change to the /fnsw/dev/1 directory:

   cd /fnsw/dev/1

Tip If one or more of the sub-directories in this path don't exist yet, you can create them with the **mkdir** command.

3. Create (and edit) the **filenet.links** file using your preferred editor (for example, **vi**).

   Include a soft link command for each of the databases that you created or configured in the previous sections. Link the database name to the

logical volume where you placed the database by entering a command structured similar to the following:

ln -s /dev/<volume group>/<logical volume> dbname

where **<logical volume>** is the disk location of the volume and **dbname** is the data base name. For example:

ln -s /dev/fnvg/rfn_cache0 cache0

Note The **filenet.links** file contents shown below are examples ONLY. (The links you create must reflect the actual allocation of the volumes on your system.)

In the **filenet.links** file, you MUST have unique logical volume assignments for all volumes. (Make sure that no two volumes share the same logical volume assignment and that no volume is assigned to a logical volume occupied by any part of the operating system.)

Your filenet.links should contain link information similar to the following:

On an Application Server

```
ln -s /dev/fnvg/rfn_cache0 cache0
ln -s /dev/fnvg/rfn_trans_db0 transient_db0
ln -s /dev/fnvg/rfn_trans_rl0 transient_rl0
```

4 Close the file and save the changes.

5 Use **chmod** to change the permission of the **filenet.links** file by entering the following:

chmod 755 filenet.links

Note If you do not change the permission of **filenet.links**, you will not be able to execute the file.

6 Execute the **filenet.links** file by entering the following commands:

cd /fnsw/dev/1
./filenet.links

7 Examine the contents of the /fnsw/dev/1 directory by entering the following command:

ls -l

Tip To display the volume owner and group use information, enter:

ls -lL

The directory should contain the linked directories specified in the **filenet.links** file. If the /fnsw/dev/1 directory does not contain the links as shown above, verify and, if necessary, update the **filenet.links** file with any changes and verify the permissions are correct for the file. Execute the links file again.

8 Enter the following command to initialize all FileNet databases configured on this server:

fn_util init

9 If **DB2** or **Oracle** software is installed on this server (servers with WQS or SQL services), enter the following command to initialize all local and remote RDBMS databases configured for use with this server:

fn_build -a
fn_util initrdb

This program could take about 10 or 15 minutes. A message displays as the new database partitions are initialized and zeroed out.

Set File Ownerships and Permissions

1 Run fn_setup utility by entering the following command:

/fnsw/bin/fn_setup

Refer to information gathered in the **"FileNet TC Worksheet" on page 83** of this guide to respond to the following prompts.

2 Determine whether or not this is the NCH server,1 = yes, 2 = no. Reply **no** for the Application server.

3 Enter the NCH server name (for example, root/index_ domain:YourCorp). Enter the domain of the root server.

4 Enter the system serial number (ssn). Enter the ssn of the root server.

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.

5 Enter the RDBMS software configured on the server: 0 = None, 1 = Oracle, 2 = DB2

6 Enter the RDBMS software home directory.

If **DB2** software exists on this server, enter the DB2 Client instance owner's DB2 home directory, such as /home/fnsw/sqllib.

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.

7 Enter the RDBMS user ID (for example, oracle).

8 Enter the RDBMS group ID (for example, dba).

9 Determine whether or not you want to continue: y/n (default: yes). When you choose yes, you receive a display similar to the following, recapping the selections you have made, followed by fn_setup status messages.

10 You receive a series of messages displaying the information you entered. An example of the output is displayed below:

```
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
```

11 You then receive messages similar to the following:

```
fn_setup: Creating file /fnsw/local/setup_config
fn_setup: Creating file /fnsw/local/ssn
fn_setup: Creating file /fnsw/local/sd/nch_domain
fn_setup: Calling fn_util initnch
fn_setup: Changing permission on FileNet software and databases
```

12 If the RDBMS is Oracle, check the ownership of **ctl.ora** by looking at the oracle control file directories using the following commands:

cd /fnsw/local/oracle/control0
ls -al

Then repeat the same command for the **control1** directory. **ctl.ora** should be owned by **oracle:dba**.

13 From the command line prompt, logon as **fnsw** user and enter the following command to bring up the FileNet software:

initfnsw restart

Start the FileNet Software

Server Types

Perform all of the procedures in this section (and associated sub-sections) on the **Application server**.

1 Logon as **fnsw** user (if you aren't already), and start X Windows (if you have not already done so).

2 Stop all FileNet processes by entering the following command:

killfnsw -DAy

3 Start the updated FileNet Application server software by entering:

Xtaskman &

The FileNet Task Manager interface displays.

CAUTION

If RDBMS software is installed on this Application server, be sure to start it before attempting to start the FileNet Image Services for the first time. If the RDBMS software is not available when the Image Services

software starts, the Image Services software will fail and will display error messages. If you receive Image Services error messages, start the RDBMS software and restart the Image Services software.

4 After the **TM_daemon.exe** message displays in the Process table, select the Monitor menu.

5 From the Monitor menu, select the Event Logs option. (The FileNet Event Logs window displays.)

6 From the Event Logs window, select the DISPLAY menu, and select Dynamic. (The Dynamic option enables screen refreshes each time the messages are logged.) Return to the FileNet Task Manager window, but do not close the Event Logs window.

7 From the FileNet Task Manager window, select START.

You will receive system messages in the Current Status window as the FileNet software starts. After the FileNet software startup process finishes, the CLOSE button is highlighted.

8 Select the CLOSE button. (The Current Status window closes.)

9 Review the contents of the Event Log window to make sure that there are no error messages from the software startup.

Modify the /etc/inittab File (Optional)

You must edit again the /etc/inittab file to allow the Image Services software to automatically start during the boot process.

Note If you do not know whether the relational database software will be started when the Image Services software starts, you might choose not to uncomment the line in the inittab file.

If the Relational Database is not available when the Image Services software starts, the Image Services software generates error messages. If you receive error messages of this type, start the Oracle or DB2 software, and then restart the Image Services software.

1 Verify that you are logged on as **root** user and change to the /etc directory by entering the following command:

cd /etc

2 Using your preferred editor (for example, **vi**), open and prepare to edit the inittab file.

3 Locate and re-enable the following line:

rcfn:2:wait:/bin/sh /etc/rc.initfnsw </dev/console >/dev/console 2>&1

Reboot the Application Server

Important! All RDBMS users should be logged off the server and the RDBMS instance should be shutdown before doing the following system 'shutdown' command. Failure to do so could result in a corrupted database!

In this section, you need to reboot your server(s).

1 Verify that you are logged on as **root** user.

2 Move to your root directory and reboot the server by entering the following series of commands:

```
cd /
shutdown  -ry  0
```

Make System Configuration Backups

Server Types

Perform the steps in this appendix on both the **Root server** and the **Application server**.

You need to make backups of your system configuration in case something unforeseen occurs.

1 Go to an X-station, a workstation that supports X Windows or Common Desktop Environment (CDE), or a PC with an X Windows emulator and login to your server as **root** user.

2 Make a copy of the **inittab** file, and stop the FileNet software by entering the following series of commands:

```
cd  /
cp  /etc/inittab  /fnsw/etc/inittab.backup
initfnsw  stop
```

Note Shutdown the FileNet software on the Application server before the Root/Index server.

3 Create a backup of your LVM configuration to protect the system from potential disk crashes. Refer to the **man** page for more information regarding the **vgcfgbackup** command. Complete the following bullets:

- If you have only the root volume group (**rootvg**) on your system, enter the following command:

  vgcfgbackup /dev/vg00

- If you have the FileNet volume group (**fnvg**) (or some other <volume group>) on your system, also enter the following command:

  vgcfgbackup /dev/fnvg

- This step will make restores easier if the system ever crashes. These LVM configuration backups are stored in an area that is automatically accessed during a restore.

Note In the event of a disk crash, it will be beneficial to have copies of the following files or command output listings (hard copies at least) to help in the recovery:

system
fstab
vgdisplay -v vg00 (command output)
vgdisplay -v fnvg (if applicable) (command output)
ioscan -fn (command output)

4 Next, make a system backup tape using the Backup and Recovery option in SAM. **This backup will take about 45 minutes**. Refer to the *HP-UX System Administration Tasks* for information about system backups and restores.

5 From the command line prompt, enter the following command to bring up the FileNet software:

initfnsw restart

Begin Production Mode

After you've backed up the system, the Application server is ready to be put into production.

Appendix B – Adding a Storage Library Server

This appendix describes how to configure multiple Storage Library servers on your system, and it is structured for use with some of the procedures already documented in the main body of the installation procedure. Where necessary, this appendix references procedures (by section name and page number) of the procedure you must perform, even though the note at the beginning of the section might not mention the server type you are installing. Some procedures necessary for adding multiple Storage Library servers are not documented elsewhere and have been included (in the appropriate sections) in this appendix.

Before You Begin

To successfully complete the instructions in this appendix, you must have already performed the following actions:

1. Gathered the information requested in **“FileNet TC Worksheet” on page 83** relevant to the Storage Library server(s).

2. Done all of the steps in the sub-section **“Operating System Requirements” on page 49**.

3. Transferred the information to the **“FileNet TC Worksheet” on page 83**.

   If you have not completed these steps for the Storage Library server, do them now before continuing with the rest of this appendix.

Multiple Optical Library Server Uses

The portion of the FileNet Image Services software that files and retrieves document images is known as Storage Library Services. This software controls every activity in the Optical Disk Library to make sure that all documents are stored and retrieved from the optical disks in an orderly manner. Storage library services can be added to any system on a Combined server, Dual server, or multi-server installation. The Storage Library server keeps track of the name and location of every

document stored in the Optical Disk library. In addition, the server contains one or more magnetic disk drives to store images temporarily before they are written to optical disk permanently.

Multiple Storage Library servers are setup on a system to enhance capacity and/or performance:

- If you already have as many optical disk libraries on a server as possible, or if you cannot physically fit another optical disk library in close enough proximity to the existing server, you might need another server in order to add an optical disk library to the system and to allow the system to handle more disks on-line.
- If the CPU, I/O bus, or magnetic disks on a Storage Library server are already pushed to their maximum throughput, adding another Storage Library server will increase system performance. However, if the existing server has not reached its performance limit, adding another optical library server will decrease system performance slightly because of the overhead of controlling the additional server.

Multiple Storage Library servers are **not** a solution for a disaster recovery plan because you cannot write the primary copy of one document to one Storage Library server and the transaction log copy to another Storage Library server. Both copies will always be written to the same Storage Library server. Note that Database Maintenance will not let you select destination Storage Library servers for a transaction log family.

Prepare Storage Library Server(s)

Perform the procedures only on the Storage Library server(s). Perform the referenced procedures listed below in the order in which they appear.

1. Set up the volume group(s) by completing either **“Extend the Root Volume Group (vg00) (Optional)” on page 64**, or **“Create the FileNet Volume Group (fnvg) (Optional)” on page 66**, depending on your preference.

2. Create the Image Services file systems by completing **“Create Logical Volumes and File Systems” on page 75**.

3 Create the **fnadmin** and **fnop** groups by completing **“Create fnadmin and fnop Groups” on page 68**.

4 Using the procedures in **“Create FileNet Users and fnusr Group” on page 71**, create the **fnsw** user and the **fnusr** and **dba** groups.

Note On the Storage Library server you don’t need to create an RDBMS user or group.

Install Image Services Software

1 Install the Image Services 4.0 HP Integrity Edition software on the Storage Library server(s) by completing the section **“Mount the Image Services CD-ROM” on page 104** and **“Run the IS Installation Wizard” on page 106**.

2 Install show stopper fixes on the Storage Library server(s) by completing **“Install the Required Pre-Startup Fixes” on page 132**.

3 Set up the installation environment using **inst_templates** on the Storage Library server(s) by completing **“Install the User Environment Templates” on page 133** along with its sub-sections.

4 Set the **fnsw** user password by completing **“Set Up Passwords for the fnsw User (Optional)” on page 139**.

5 Continue with the next section. Perform the procedures only on the server indicated at the beginning of each section. (You might not need to perform some of the procedures included in this appendix.)

Configure the Root Server

Server Types

Perform the steps in this section and its sub-sections on the **Root server**, or on each server with a cache.

Commit Uncommitted Batches

You must make sure that any uncommitted batches are not lost while you configure the Storage Library server.

1 Verify that the FileNet Image Services software is up and running by entering the following command:

whatsup

You will receive a display similar to the following. (Your local System Administrator can tell you if anything appears to be abnormal.)

```
USER     PID     PPID   Start Time    Processes
fnsw     12427   1      06/14/2004    COR_Listen -px -s5 -d20
fnsw     21133   1      06/14/2004    COR_Listen -px -s1099
fnsw     21385   1      06/14/2004    COR_Listen -pt -d20
fnsw     22708   1      06/14/2004    CSM_daemon
fnsw     14810   1      06/14/2004    CSMs
fnsw     15256   1      06/14/2004    DOCs
fnsw     16275   1      06/14/2004    INXbg -s IndexServer
fnsw     16515   1      06/14/2004    MKF_clean
fnsw     11420   1      06/14/2004    PRI_daemon
fnsw     12193   1      06/14/2004    PRI_fetch 0
```

```
USER   PID     PPID  Start Time  Processes
fnsw   12427   1     06/14/2004  COR_Listen -px -s5 -d20
fnsw   21133   1      06/14/2004  COR_Listen -px -s1099
fnsw   21385   1      06/14/2004  COR_Listen -pt -d20
fnsw   22708   1      06/14/2004  CSM_daemon
fnsw   14810   1      06/14/2004  CSMs
fnsw   15256   1      06/14/2004  DOCs
fnsw   16275   1      06/14/2004  INXbg -s IndexServer
fnsw   16515   1      06/14/2004  MKF_clean
fnsw   11420   1      06/14/2004  PRI_daemon
fnsw   12193   1      06/14/2004  PRI_fetch 0
```

2 Print or delete all outstanding print requests.

3 Commit or delete all uncommitted batches.

4 To examine the remaining contents of cache, enter:

CSM_tool

Note FileNet Image Services software must be running for **CSM_tool** to work properly.

5 To obtain statistics on bes_cache, page_cache, and print_cache, enter the following at the **CSM_tool** prompt:

st

All caches should show no locked objects. These represent uncommitted batches, unwritten images, and pending print jobs.

Note If you have any FAX servers, there will be two locked objects per FAX server in print_cache.

6 Type the following to quit the **CSM_tool**:

q

Add Storage Library Server(s)

1. Go to an X-station, a workstation that supports X Windows or Common Desktop Environment (CDE), or a PC with an X Windows emulator and login to your server.

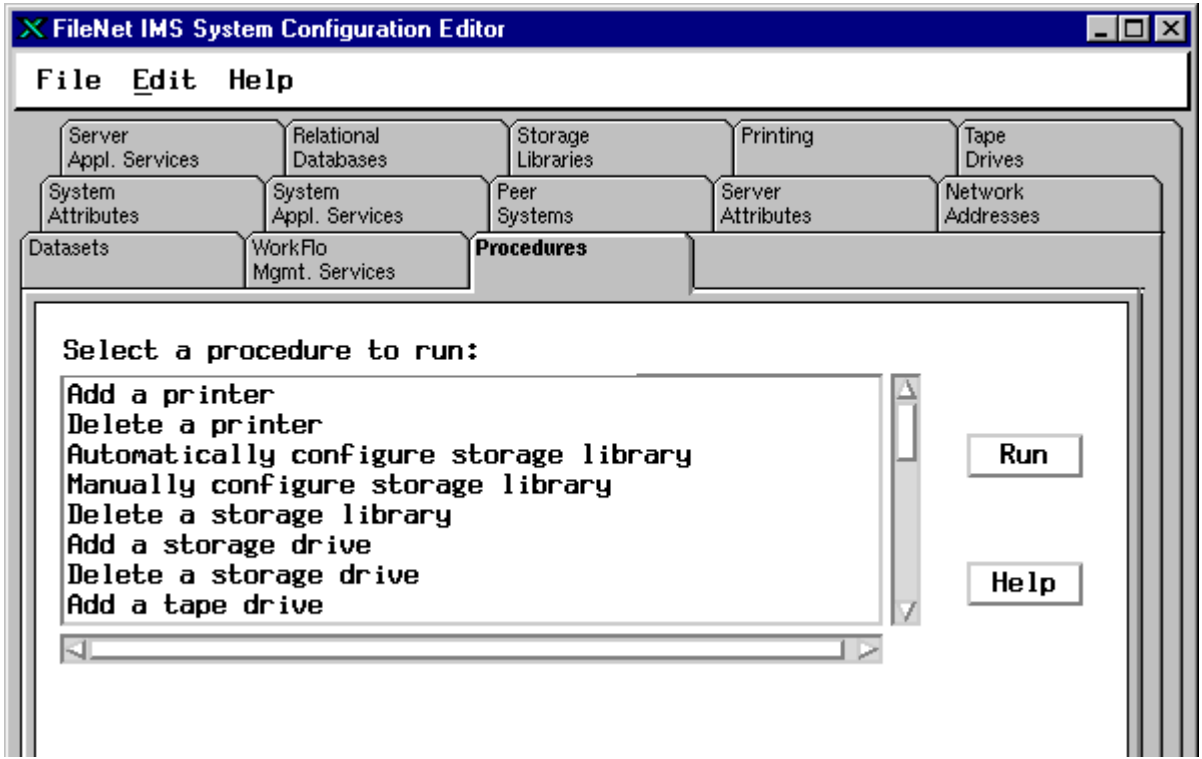
2. With Windows running, verify you are logged on as **fnsw** user.

3. Open a new window and enter the following command:

   fn_edit &

4. Verify the two-part domain information is correct. (The two-part domain name is set up as follows: <Domain>:<Organization>.)

   The System Configuration Editor window displays.


FileNet IMS System Configuration Editor
File Edit Help
Server Appl. Services
Relational Databases
Storage Libraries
Printing
Tape Drives
System Attributes
System Appl. Services
Peer Systems
Server Attributes
Network Addresses
Datasets
WorkFlo Mgmt. Services
Procedures
Select a procedure to run:
Add a printer
Delete a printer
Automatically configure storage library
Manually configure storage library
Delete a storage library
Add a storage drive
Delete a storage drive
Add a tape drive
Run
Help

5 Click on the Procedures Tab in the System Configuration Editor window.

6 Select the Add a Storage Library server option from the Procedure List Box, then click **Run**.

Note Use online help when completing the following steps.

7 Enter the name of the Storage Library server. The server name of the storage library server is user defined. Click **Next**.

8 Enter the network address of the Storage Library server (refer to the **"FileNet TC Worksheet" on page 83**). Click **Next**.

9 Enter the path for the cache partition (default: /fnsw/dev/1/cache0).

10 Enter the cache dataset size.

11 Enter the path for the transient database (default: /fnsw/dev/1/transient_db0).

12 Enter the dataset size for the transient database.

13 Enter the path for the transient database redo log (default: /fnsw/dev/1/transient_rl0).

14 Enter the dataset size for the transient database redo log.

15 Respond to the “Do you want to use fast batch committal?” prompt by clicking **yes** or **no**. (If you select yes, default settings are automatically entered into the system. You can change the settings later if necessary.)

Note If fast batch committal is configured, you cannot use cluster indexes. See the ***System Administrator’s Handbook*** for more details on fast batch committal and clustering.

The maximum document size for remote committals using fast batch is 2.1 GB. See the ***Multi-Committal and Cross-Committal Configuration Handbook*** for more information on remote committal.

---

16 You are prompted for the number of BES commitment processes. Choose **1 - 4**.

17 Enter the path for the permanent database (default: /fnsw/dev/1/permanent_db0).

18 Enter the dataset size for the permanent database.

19 Enter the path for the permanent database redo log (default: /fnsw/dev/1/permanent_rl0).

20 Enter the dataset size for the permanent database redo log.

21 You can make sure you have entered the information correctly by clicking on the Network Tab in the System Configuration Editor window. You should see the Storage Library server listed.

In addition, click on Server Application Services Tab; you should see the Storage Library server listed.

Click on the Dataset Tab to see the datasets you added to the Storage Library server including cache0, transient_db0, transient_rl0, permanent_db0, permanent_rl0.

22 From the System Configuration Editor window, click on the **File** pull down and click on the **Exit** option.

23 You will then be asked if you want to save the changes you have just made to the current configuration database before you exit. Click on this button to save the configuration and exit the System Configuration Editor.

Update Root Server Configuration Files

1 On the Root server, logon as **fnsw** user.

2 Verify the FileNet software is not running. If the software is running, enter the following command:

initfnsw stop

3 Update the entire configuration for the server by entering the following command at the shell prompt:

fn_build -a

This will generate configuration files used by the components of the Image Services software. Each file is produced in two steps. First a temporary file is produced with a **.new** extension. Then, if there is a difference between the **.new** version and the existing version, the **.new** version of the file is copied over the existing version of the file. (**fn_build -a** also checks the validity of the software license.)

4 Make sure the command runs successfully by checking that no errors have occurred. (Any error that occur must be corrected before running the command again.)

Configure the Storage Library Server

Server Types

Perform this section and its sub-sections on each **Storage Library server** being added to the system.

Make sure that the FileNet software is running on the Root server. (You can do a **whatsup** on the Root server.)

Set File Ownerships and Permissions

The **fn_setup** tool is used to set the Storage Library server's file ownerships and permissions. You will be asked for system-specific information, refer to the **"FileNet TC Worksheet" on page 83** of this guide for the correct information.

1. Verify that you are logged on as **root** user (the first time).
2. Run the fn_setup utility by entering the following command:

   /fnsw/bin/fn_setup

Several prompts display. Answer the prompts with information related to your system.

3 Determine whether or not this is the NCH server,1 = yes, 2 = no (default: no). Reply **No** for the Storage Library server.

4 Enter the NCH server name (for example, root/index_ domain:YourCorp). Enter the domain and organization of the **Root** server.

5 Enter the system serial number (ssn). Enter the ssn of the **Root** server (for example, 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.

6 Enter the RDBMS software configured on the server: 0 = None, 1 = Oracle, 2 = DB2. (For a Storage Library server, select **0=none**.)

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

You receive a series of messages displaying the information you entered. An example of the output is displayed below:

```
This is the setup configuration:
NCH server name: clark:YourCorp
SSN: 11008016xx
Relational database type: None
Do you want to continue (y/n) [y]:
```

7 Determine whether or not you want to continue: y/n (default: yes).

You then receive messages similar to the following:

```
fn_setup: Creating file /fnsw/local/setup_config
fn_setup: Changing permission on FileNet software
and databases
```

When **fn_setup** is finished, you might receive a message indicating "exit status = 0 (success)(this is not an error.)" If necessary, press **Return** to go the system prompt.

Build Configuration Files

1. Go to an X-station, a workstation that supports X Windows or Common Desktop Environment (CDE), or a PC with an X Windows emulator and login to your server as **root** user (a member of the **fnadmin** group) (the first time).

2. Enter the following command to build the system configuration files:

   fn_dataset_config -i

   The fn_dataset_config tool will create logical volumes, will create the device files in /fnsw/dev/1, and will run the appropriate tools to initialize the databases on the server.

3. When you receive the following prompt, "Initialization will remove all FileNet logical volumes", click on **Y** (Yes).

4 In the FileNet Dataset Configuration Box window, verify that the datasets are shown correctly with accurate sizes. Refer to the **"FileNet TC Worksheet" on page 83** for your site-specific requirements. Click the up and down arrows in the Modified Size columns to adjust the dataset sizes, if necessary. Click the **OK** button to create and initialize the datasets. The initialization of the FileNet databases on the server will take about 20 minutes. You should see a screen with information similar to the following when the tool is finished:

```
Increasing Mirror copies Phase
Initializing Databases
Initializing Transient Database
Initializing Permanent Database

fn_dataset_config:Finished successfully Mon Feb 2
15:05:03 2004
```

5 Make sure this command runs successfully by checking the log file and other files in /fnsw/local/tmp to see that no errors have occurred. Do not accept the "Finished successfully . . ." message alone. Also check the log files. If you determine the command has run successfully go to

“Configure Network Parameters (Optional)” on page 332. If **fn_dataset_config** is not successful continue with the next section.

Create Logical Volumes on the Storage Library Server

You are now going to manually add the logical volumes for all of the FileNet datasets used by the Storage Library server.

1. As **root** user, enter:

   sam

2. From the **System Administration Manager** menu of SAM, select the **Disks and File Systems** option by pressing the Arrow Up or Arrow Down keys. When the option is highlighted, press **Return**.

3. From the Disk and File Systems Manager menu of SAM, select the Logical Volumes option. When the entry is highlighted press **Return**.

4. Press the **F4** key to access the menu bar.

5. Type **A** to select the Action option.

6 From the Action menu, select the Create option using the Arrow keys and press **Return**.

7 Select the appropriate volume group for logical volume and Tab to **OK**. Press Return at the Add new Logical Volumes field. Refer to the **“FileNet TC Worksheet” on page 83** to see the listing of the volume groups.

8 Fill in the LV Name field with the Logical Volume Names (for example, type in fn_perm_db0 for the first Logical Volume entry listed in Table B-1). Add logical volume names for all of the applicable logical volumes listed in Table B-1.

9 See the “Minimum Size (in MB)...” column of Table B-1 for the suggested logical volume sizes. Also refer to the **“FileNet TC Worksheet” on page 83** for your customer-specific sizing requirements. Refer to the “Size (MB)” column for your selected logical volume and then type the **<Size in MB>** for the logical volume you are adding in the LV Size (Mbytes) field.

10 Next, in the Usage field, press **Return** to display the options (File System, Swap, or None), Arrow down to **None**, and press **Return**. Then tab to **add**, press **Return**.

11 Repeat Steps 8-10 for all of the logical volumes you need to create.

Table B-1. FileNet Datasets (Storage Library Server)

Logical Volume Name	Minimum Size of Logical Volumes (in MB)	Increment
fn_cache0	100	100
fn_perm_db0	100	100
fn_perm_rl0	72	64
fn_trans_db0	64	40
fn_trans_rl0	72	64
NOTE: If you are going to increase the size of any of the logical volumes, you must increase the size by a multiple of the number shown in the “Increment” column.		

12 When you are finished adding all of the logical volumes, tab to **OK** and press **Return** again. Finally, at the Create New Logical Volume screen tab to **OK** and press **Return** to create the logical volumes.

13 Return to the System Administration Manager menu of SAM and press **F8** to exit SAM.

Create Symbolic Links for Each Dataset

The database programs used by FileNet require the use of raw partitions instead of normal HP-UX datafiles. This generally allows the Image Services software to optimize speed and efficiency. In this section, you will create symbolic links for these partitions.

1 Make sure you're logged on as **fnsw** user.

2 Change to the /fnsw/dev/1 directory:

```
cd  /fnsw/dev/1
```

Tip If one or more of the sub-directories in this path don't exist yet, you can create them with the **mkdir** command.

3 Create (and edit) the **filenet.links** file using your preferred editor (for example, **vi**).

Include a soft link command for each of the databases that you created or configured in the previous sections. Link the database name to the logical volume where you placed the database by entering a command structured similar to the following:

ln -s /dev/<volume group>/<logical volume> dbname

where **<logical volume>** is the disk location of the volume and **dbname** is the data base name. For example:

ln -s /dev/fnvg/rfn_cache0 cache0

Note The **filenet.links** file contents shown below are examples ONLY. (The links you create must reflect the actual allocation of the volumes on your system.)

In the **filenet.links** file, you MUST have unique logical volume assignments for all volumes. (Make sure that no two volumes share the same logical volume assignment and that no volume is assigned to a logical volume occupied by any part of the operating system.)

Your filenet.links should contain link information similar to the following:

On a Storage Library Server

```
ln -s /dev/fnvg/rfn_cache0 cache0
ln -s /dev/fnvg/rfn_perm_db0 permanent_db0
ln -s /dev/fnvg/rfn_perm_rl0 permanent_rl0
ln -s /dev/fnvg/rfn_trans_db0 transient_db0
ln -s /dev/fnvg/rfn_trans_rl0 transient_rl0
```

4 Close the file and save the changes.

5 Use **chmod** to change the permission of the **filenet.links** file by entering the following:

chmod 755 filenet.links

Note If you do not change the permission of **filenet.links**, you will not be able to execute the file.

6 Execute the **filenet.links** file by entering the following commands:

cd /fnsw/dev/1
./filenet.links

7 Examine the contents of the /fnsw/dev/1 directory by entering the following command:

ls -l

Tip To display the volume owner and group use information, enter:

ls -lL

The directory should contain the linked directories specified in the **filenet.links** file. If the /fnsw/dev/1 directory does not contain the links

as shown above, verify and, if necessary, update the **filenet.links** file with any changes and verify the permissions are correct for the file. Execute the links file again.

8 On the new Storage Library server(s), enter the following command:

fn_util init

The **fn_util init** script initializes the transient and permanent databases on the Storage Library server(s). After the databases are initialized, the scripts check for the presence of permanent.ddl and transient.ddl files in the /fnsw/local/sd/1 directory. A message displays as the new database partitions are initialized and zeroed out.

Configure Network Parameters (Optional)

This section assumes that you have already installed and configured the appropriate network protocol on the Root/Index server.

Before beginning the steps included in this section, you must know the following information: the Internal Network Number for your system,

the File server name, and the MAC address. (Refer to the **"FileNet TC Worksheet" on page 83** for this information.)

Note If you are configuring Dual Homing support, you must have two network adapter cards installed on your system: one for Ethernet, one for Token Ring.) Configure the appropriate protocol for each network adapter card on your system.

To configure the network parameters, complete the following steps:

1. Go to an X-station, a workstation that supports X Windows or Common Desktop Environment (CDE), or a PC with an X Windows emulator and login to your server(s).
2. With Windows running, verify you are logged on as **fnsw**.
3. Open a new window and enter the following command:

   fn_edit &

4 Verify the two-part domain information is correct. (The two-part domain name is set up as follows: <Domain>:<Organization>.)

5 Select the System Attributes Tab and select Network Protocols from the Options list.

6 From the Protocol Preference option choose the TCP option for TCP/IP protocol.

7 From the Protocol Preferences option field, select the system appropriate preference from the pull down options list.

8 From the System Configuration Editor window, select the Network Addresses Tab.

9 Enter the network address (if one is not already present).

You can enter up to eight network addresses for each network card in the server. The format for a TCP/IP address is shown in the following example:

10.2.53.33

After the FileNet Image Services software restarts, fn_build will determine if any changes have occurred in the **fn_edit** configuration.

Starting Databases and Network Software

1. On the new Storage Library server(s), log on as **fnsw** user.

2. Run a start database command on every Storage Library server to start up the MKF databases and the Network Clearinghouse background processes that are needed during the installation process.

   As **fnsw** user, enter the following command on every Storage Library server:

   fn_util startdb

   Running **fn_util startdb** shuts down the FileNet Image Services software and starts up all FileNet databases present on the Storage Library server.

Adding a New Storage Library Server

After you have executed the **fn_util startdb** script on every Storage Library server, you are ready to run the **add_osvr** utility which adds a new Storage Library server.

In addition to adding a new Storage Library server, the **add_osvr** utility updates the permanent and transient databases on each Storage Library server to reflect the new server(s). The **add_osvr** utility updates the family and surface locator tables on the Document Locator server and the family disk table on each new Storage Library server.

1. Go to an X-station, a workstation that supports X Windows or Common Desktop Environment (CDE), or a PC with an X Windows emulator and login to your server.

2. With Windows running, verify you are logged on as **fnsw** user.

3. Type **Xtaskman** at the system prompt. Click **Backup**. This starts COR.listen.

4. Obtain the server id assigned to each new Storage Library server.

Run **nch_tool** and list the properties to view the Storage Library server id in the NCH database. For the above example, the **nch_tool** command would be:

listprop OsarServer2

5 To run **add_osvr**, enter the following from any station with Storage Library Services:

add_osvr <server id 1> <server id 2> ... <server id *n*>

where **<server id 1> <server id 2> ... <server id n>** are the Storage Library server identification numbers of the servers you are adding. (These are **not** the station numbers.) Enter a space between each server id.

Entering **add_osvr** with no parameters displays a description of the program and a usage statement. After the **add_osvr** utility has completed successfully, you will see the following message:

program terminated successfully

Note If the system crashes or is rebooted while **add_osvr** is running, you can rerun the program. If **add_osvr** fails for any reason, correct the problem and rerun the program. DO NOT run any other programs until **add_osvr** completes successfully. If the process cannot be completed, restore your system from the backup tape.

Verify Optical Device Files on the Storage Library Server

Note If you're configuring a cache-only server (no optical devices are attached to the server), skip to section, .**"Reboot the Server" on page 349**

Otherwise, make sure the optical devices are powered on and active (you can use ioscan to check this). If the optical device is not powered on, the optical device will not be found.

To verify the new driver for the HP optical disk drive and the HP Storage Library system, follow these steps:

1 Make sure that the storage library devices are powered on and are active.

2 **At your Storage Library server's terminal**, and as **root** user, use **ioscan** to determine the addresses of the HP optical drives and storage libraries.

```
ioscan  -fn  |  less
```

Look in the **ioscan** display for your storage libraries and drives. You can identify the storage drives by locating the vendor ID and the product ID in the Description column.

If necessary, refer to the documentation that accompanies your storage library to determine the vendor and product IDs to look for.

```
Class       I  H/W Path      Driver      S/W State   H/W Type     Description
=============================================================================
...
ba          2  0/2           lba         CLAIMED     BUS_NEXUS    Local PCI-X Bus
Adapter (122e)
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    sctl        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
...
```

In the previous example, the vendor ID is HP and the product IDs are C1118J and C1113J.

Notice that for HP C1118J, the S/W State and H/W Type are UNCLAIMED and UNDEFINED, which indicates that this device is the robotic arm. The two HP C1113J devices are the optical drives.

Tip If you cannot locate the storage library devices in the **ioscan** display, you can try this method as a last resort:

a. Shutdown the server and turn power off to all the storage library devices.

b. Turn power back on only to the server and run the **ioscan** command, saving the output to a file. For example:

ioscan -fn > /fnsw/local/tmp/ioscan_pwr.off

c. Shutdown the server again and turn power back on to all the storage library devices.

d. Turn power on to the server and run the **ioscan** command, saving the output to a different file. For example:

ioscan -fn > /fnsw/local/tmp/ioscan_pwr.on

e. Find the differences between the two files by entering:

diff /fnsw/local/tmp/ioscan_pwr.off /fnsw/local/tmp/ioscan_pwr.on

f. The resulting display should contain only the lines pertaining to the storage library devices.

Write down the **full** H/W Paths (for example, **0/3/2/0.1.0**), the Class, and the Description (model numbers) of each storage library device shown on the display.

_____

_____

_____

Verify the /fnsw/local/sd/sod.conf File

Server Types Perform the steps in this subsection on all HP-UX servers.

1 Change to the appropriate directory and display the contents of the file:

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

(If the sod.conf file does not exist, use **vi** or your preferred text editor to create it.)

2 Look for 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.

Important! Make sure the SCSI adapter card is configured for a **maximum of 80 MB/second** data transfer for best optical library performance. Refer to **“Appendix E – Setting the Maximum Data Transfer Rate for SCSI Host Bus Adapters” on page 387**.

Create Optical Device Files

Note If there are no optical devices attached to your server, skip this section.

Use the **FNPoll** 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 **fnsw** user, 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 **“Reboot the Server” on page 349**.

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:

  spt 56/52.5.0 spt
      ^^^^^^^^^ 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.

Reboot the Server

CAUTION All DB2 or Oracle users should be logged off the server and the RDBMS instance be shutdown before doing the following system 'shutdown' command. Failure to do so could result in a corrupted database!

As **root** user, move to the root directory and reboot the server by entering:

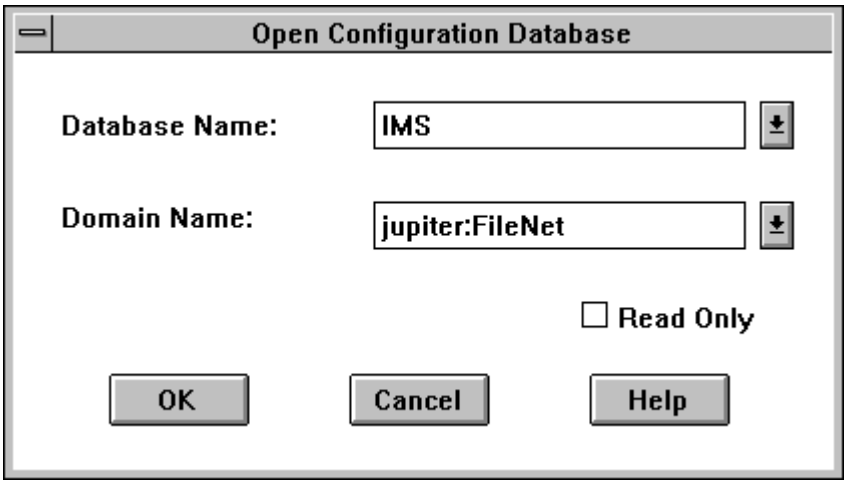
```
cd /
shutdown -ry 0
```

Logon to Configure Database

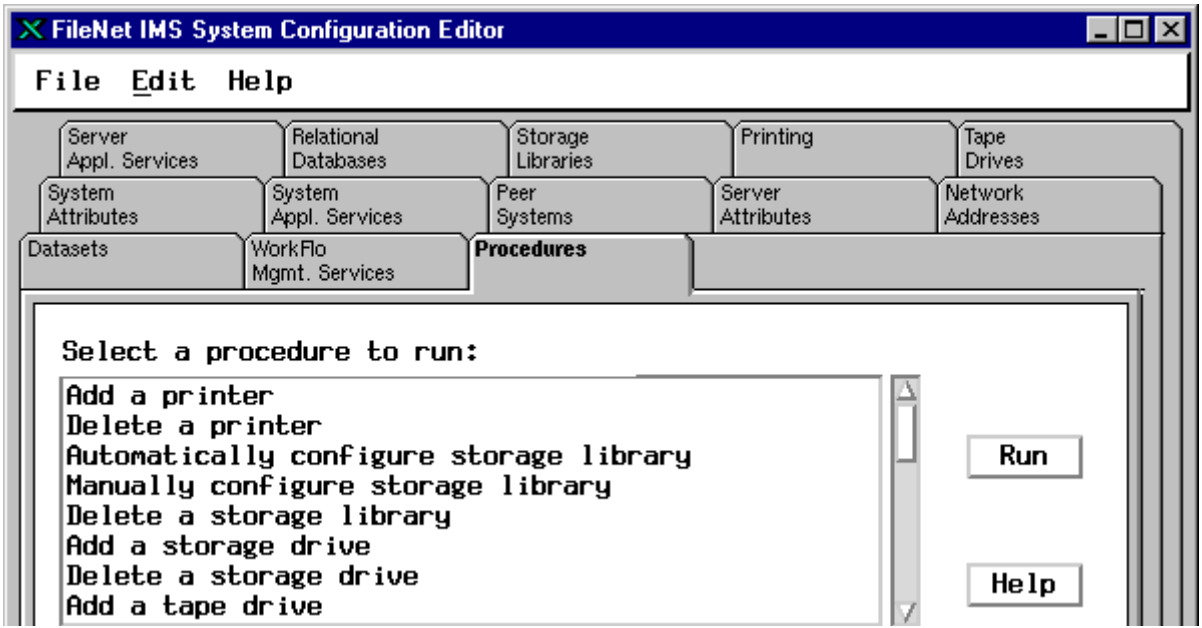
1. Go to an X-station, a workstation that supports X Windows or Common Desktop Environment (CDE), or a PC with an X Windows emulator and login to your server.
2. With Windows running, verify you're logged on as **fnsw** user.
3. Open a new window, and enter the following command:

fn_edit &

A dialog box similar to the following displays:



4 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.



Note The online help contains information on all of the tabs. You can access the online template information by selecting the **Help** menu option in the System Configuration Editor window.

Configure Storage Library Device(s)

If there are no storage libraries on the server, skip to the next section,**"Start the FileNet Software" on page 357**.

Tip Even though an ODU (Optical Disk Unit) is technically not a storage library because it lacks a robotic arm, for the purposes of configuration be sure to perform the same steps for an ODU that you would perform for a storage library.

1 If you want to view the information concerning the optical library device(s) configured on your server, select the Storage Libraries Tab from System Configuration Editor window.

Refer to the **“FileNet TC Worksheet” on page 83** for information concerning your optical library devices.

2 If you need to configure a storage library you have two choices:

Automatically Configure Storage Library

Storage libraries can be configured automatically if they are attached correctly to the server, and if they are fully powered on.

To configure a storage library automatically, follow these steps:

a Click on the Procedures Tab.

b Scroll through the list of available procedures and select Automatically Configure Storage Library.

fn_edit gets all the information it needs directly from the storage library and does not display any messages unless it encounters an error.

c 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.

3 Exit the Configuration Editor and save your changes.

Set File Ownerships and Permissions

Server Types

Perform the steps in this section on the **Storage Library server(s)** only if you configured optical devices.

After configuring optical devices, you need to re-set the file permissions. You will be asked for system-specific information, refer to the **"FileNet TC Worksheet" on page 83** for the correct information.

1 Logon as **fnsw** user.

2 Run the fn_setup utility by entering the following command:

/fnsw/bin/fn_setup

Several prompts display. Answer the prompts with information related to your system.

3 Determine whether or not this is the NCH server,1 = yes, 2 = no. Reply **No** for the Storage Library server.

4 Enter the NCH server name (for example, root/index_ domain:YourCorp). Enter the domain and organization of the **Root** server.

5 Enter the system serial number (ssn). Enter the ssn of the **Root** server.

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.

6 Enter the RDBMS software configured on the server: 0 = None, 1 = Oracle, 2 = DB2. Enter **0** for None, unless the Storage Library server has WorkFlo Queue Services (WQS) or SQL services.

You receive a series of messages displaying the information you entered. An example of the output is displayed below:

```
This is the setup configuration:
NCH server name: clark:YourCorp
SSN: 11008016xx
Relational database type: None
Do you want to continue (y/n) [y]:
```

7 Determine whether or not you want to continue: y/n (default: yes).

You then receive messages similar to the following:

```
fn_setup: Creating file /fnsw/local/setup_config
fn_setup: Changing permission on FileNet software
and databases
```

When **fn_setup** is finished, you might receive a message indicating "exit status = 0 (success)(this is not an error.)" If necessary, press **Return** to go the system prompt.

Start the FileNet Software

Server Types

Perform the steps in this section on **all servers**: Root server first, then the Storage Library server(s).

1. From the command line prompt, logon as **fnsw** user and enter the following command to bring up the FileNet software on all servers; Root server first, then the Storage Library server.:

   initfnsw restart

2. Launch **Xapex**, and use Database Maintenance (on any server) to re-save all media families, and resolve any warning or error messages that appear.

3. Use the **vl** command to check the event log. If any documents were committed before the media families were resaved, you might see a warning message. If so, add or change the preferred library information to match the current storage library configuration.

Storage Library Server Utilities (Optional)

This section briefly describes the function and uses of the following Storage Library server utilities:

- **move_disk**, which allows you to move optical disks from one optical disk library to another.
- **del_osvr**, which allows you to remove a Storage Library server from your system.

The utilities described in this section need not be used on any Storage Library server unless a specific need exists. For more information about Storage Library server utilities, refer to the ***System Tools Reference Manual***.

CAUTION Whenever any change in Storage Library configuration occurs–especially when a Storage Library is deleted–it's extremely important to re-save all the media families manually and resolve any errors. See the Database Maintenance chapter of the ***System Administrator's Handbook*** for information on saving media families.

Moving Disks Between Storage Library Servers

Run the **move_disk** utility if you want to move optical disks from an Optical Disk Library attached to your old Storage Library server to an Optical Disk Library attached to your new Storage Library server in order to balance disks equally between each server.

The **move_disk** utility does the following:

- Reads optical disk information from the Storage Library server database where it currently resides.
- Inserts the optical disk information into the destination Storage Library server database.
- Updates the surface locator table to point to the new location of the optical disk.
- Deletes the optical disk information from the source Storage Library server database where the disk previously resided.

To run **move_disk**, follow these steps:

1. Eject all disks to be moved from the Optical Disk Library as described in the “Storage Library Control” chapter of the ***Image Services System Administrator’s Handbook***.

2. Run the **move_disk** utility from the source Storage Library server attached to the Optical Disk Library where the disks currently reside. Type:

   move_disk <surfid 1> ... <surfid*n*> <dest_server_name>

   where **<surfid 1> ... <surfidn>** represents the surface ids and **<dest_server_name>** represents the server id of the Storage Library server attached to the Optical Disk Library to which you want to move the disks.

3. Insert the disks into the Optical Disk Library attached to the destination Storage Library server using Storage Library Control (SLC). This is described in the “Storage Library Control” chapter of the ***Image Services System Administrator’s Handbook***.

Deleting a Storage Library Server

You can delete a Storage Library server using the **del_osvr** utility. This utility removes a Storage Library server from a system and moves references to the optical disks from the deleted Storage Library server to a remaining Storage Library server.

The **del_osvr** utility does the following:

- Checks the Storage Library server(s) for documents not written yet. If it finds any unwritten documents, it notes the problem and terminates. You must then either start the Storage Library server and let it finish the outstanding write_requests, or run **WRT_clean** to remove them. Refer to the ***Image Services System Tools Reference Manual*** for information about **WRT_clean**.

- Copies all optical disk database information from each Storage Library server to be deleted to the destination Storage Library server. It then deletes this information from the Storage Library server being deleted.

- Updates the family disk information on each deleted Storage Library server to remove all current, future, and previous write surfaces. It adds this information to the destination Storage Library server so that partially full disks will continue to be written. If a partially full disk cannot be added to the destination family's current surfaces because the current surface array is full, a message is logged to the system error log.

- Updates the surface locator and family locator tables. If only one Storage Library server remains, the entries in the surface and family locator tables are deleted. If multiple Storage Library servers remain, the pointer in the surface locator table is changed to point to the destination Storage Library server, and the pointer to the deleted Storage Library server in the family locator table is removed. Optical disks assigned to deleted Storage Library servers will be assigned to the destination Storage Library server. However, families referencing a deleted Storage Library server will have that reference removed, but will not have a reference to the destination Storage Library server explicitly added. Also, if all the servers referenced by a family are deleted, that family will be changed to reference all remaining Storage Library servers.

Run the **del_osvr** utility from the source Storage Library server (the server that you are deleting) to update the permanent and transient MKF databases on each Storage Library server with the necessary changes.

To use **del_osvr**, perform the following steps:

1. Backup the system to tape.

Note If you get partially through deleting a Storage Library server and have a problem, restoring the backups is the **only** way to return to the original state. There is no other program that can undo an uncompleted attempt to delete a Storage Library server.

2. Make sure there are no pending write requests for the Storage Library server(s) to be deleted. If there are, delete them.

3. Eject all disks to be moved from the Optical Disk Library(s) of the Storage Library server to be deleted.

4 Bring down the FileNet software on all Storage Library servers by entering:

initfnsw stop

5 Run the **fn_util startdb** tool on every Storage Library server to start up the permanent and transient databases by typing the following:

fn_util startdb

6 On each server, enter a command similar to the following:

del_osvr <svrid1> <svrid2> ... <svrid*n*> <dest_server_num>

<svrid1> <svrid2> ... <svridn> are the server ids of the Storage Library servers to be deleted, and **<dest_server_num>** is the destination Storage Library server to move information to from the Storage Library servers being deleted.

Note If the Storage Library server on which optical disks are referenced is not correct, or the Storage Library server's families referenced are not

the desired ones after you run the **del_osvr** utility, you can run the **move_disk** utility to move optical disks, and you can also run database maintenance to change families.

7 After **del_osvr** is completed, run **fn_edit** on the Root server to delete the Storage Library server. Be sure to delete the logical cache allocation before removing the station.

8 In **Xapex**, use Database Maintenance to re-save all media families, and resolve any warning or error messages that appear by adding or changing the preferred library information to match the current storage library configuration.

Make System Configuration Backups

Note Perform the steps in this appendix on both the Root server and the Storage Library server(s).

Regular backups of the system configuration and data are essential.

1 Go to an X-station, a workstation that supports X Windows or Common Desktop Environment (CDE), or a PC with an X Windows emulator and login to your server as **root** user.

2 Make a copy of the **inittab** file, and stop the FileNet software by entering the following series of commands:

```
cd  /
cp  /etc/inittab  /fnsw/etc/inittab.backup
initfnsw  stop
```

Note If you have a Dual server, shutdown the FileNet software on the Storage Library server(s) before the Root/Index server.

3 Create a backup of your LVM configuration to protect the system from potential disk crashes. Refer to the **man** page for more information regarding the **vgcfgbackup** command. Complete the following bullets:

- If you have only the root volume group (**rootvg**) on your system, enter the following command:

```
vgcfgbackup  /dev/vg00
```

- If you have the FileNet volume group (**fnvg**) (or some other <volume group>) on your system, also enter the following command:

  vgcfgbackup /dev/fnvg

- This step will make restores easier if the system ever crashes. These LVM configuration backups are stored in an area that is automatically accessed during a restore.

Note In the event of a disk crash, it will be beneficial to have copies of the following files or command output listings (hard copies at least) to help in the recovery:

system
fstab
vgdisplay -v vg00 (command output)
vgdisplay -v fnvg (if applicable) (command output)
ioscan -fn (command output)

4 Next, make a system backup tape using the Backup and Recovery option in SAM. This backup will take about 45 minutes. Refer to the *HP-UX System Administration Tasks* for information about system backups and restores.

5 From the command line prompt, enter the following command to bring up the FileNet software:

initfnsw restart

Begin Production Mode

This concludes the Image Services 4.0 HP Integrity Edition Installation and Configuration Procedures for HP-UX. The Storage Library server is now ready to put into production.

Appendix C – National Language Support

This appendix contains steps to setup an HP 700/RX Xstation with an AT/2 keyboard so you can enter the characters for any of the supported languages. The following prerequisites must be met in order to complete the National Language Support (NLS) Environment setup:

- You must have one of the HP 700/RX Xstations with an AT/2 keyboard.
- You must be running the HP VUE application on your Xstation.

Note The steps in this appendix can be performed on any of the HP 700/RX Xstations, but the only keyboard supported for the imaging software is the AT/2 keyboard.

Configuring the HP Integrity Server

The HP Integrity Server the Xstation boots from must contain certain items to be configured correctly for NLS.

1 You must make sure the server contains the NLS ISO 8859-1 character set for the language you want the Xstation to be dedicated to. To check this:

a Logon to the HP Integrity server as **root** user.

b Check for the **/usr/lib/nls/config** file by listing it with the **ls** command. If it does not exist, you need to have your HP System Administrator install the NLS product on your HP Integrity server. This product is an optional product, but more than likely is installed on your server when the operating system is installed.

You cannot continue with the next step until the NLS product has been installed on your server.

2 Make sure the following line exists in the /usr/lib/nls/config file:

<locale>.iso88591	where <locale> is the abbreviated national language name your Xstation is dedicated to. For example: German is de_DE.iso88591

If the line does not exist in the **config** file, refer to your HP documentation or have your HP System Administrator set it up.

3 Make sure the /usr/lib/nls/<language>/iso88591 directory exists. If the directory does not exist, refer to your HP documentation or have your HP System Administrator set it up.

4 Make sure the **locale.inf** file exists in the /usr/lib/nls/<language>/iso88591 directory.

Regardless of which version of HP-UX you are running, if the file(s) do not exist, refer to your HP documentation or have your HP System Administrator set them up.

Setting Up the Xstation

1. Turn on the Xstation (if it isn't already). If you are in a current session, exit completely by selecting the **exit** button in the bottom right corner of the screen.

2. At the login screen, click the **Options** box, press and hold down the **F12** function key while selecting the **Restart Server** option until the Configuration menu displays.

3. Click the **Terminal** button at the top left of the Configuration menu.

4. In the Terminal menu, click the box to the right of the AT/2 keyboard field.

5. From the AT/2 keyboard language menu, select the language you want the Xstation to be dedicated to and click **OK** to return to the Configuration menu.

6. Click the **Server** button at the top left of the Configuration menu.

7 At the bottom of the Server menu, make sure the Font Path field includes the following lines:

/usr/lib/X11/700X/fonts/iso_8859.1/100dpi/
/usr/lib/X11/700X/fonts/iso_8859.1/75dpi/

If these font paths are not specified in this menu and you want to add them, try clicking on the Reset Font Path button and these paths should be added to your font menu setting by default. If the paths are not added automatically, add them manually at the bottom of the font menu.

8 Save and exit out of the Configuration menu by clicking on the **OK** button. Wait about two seconds and then **power cycle** the Xstation to force the Xstation to boot and download the files form your HP Integrity server. The Xstation should take a few minutes to finish booting.

If you receive error messages concerning the iso_8859 fonts, you need to contact your HP System Administrator to load the necessary fonts.

Note Complete the following Steps 9 through 16 for every user.

9 At the login screen, click the **Options** box and select the HP VUE Session option.

Then, log in with your User Name and Password.

10 From the HP VUE User Interface screen, select a window and export the **DISPLAY** environment variable by completing one of the following bulleted steps, depending upon the shell you are using:

- For **Bourne** and **Korn shell** users, enter:

  export DISPLAY=<Xstation-name>:0

  where <Xstation-name> is the name given to your Xstation when it is setup on your HP Integrity server.

- For **C shell** users, enter:

  setenv DISPLAY <Xstation-name>:0

  where <Xstation-name> is the name given to your Xstation when it is setup on your HP Integrity server.

11 Using your preferred editor (**vi**, for example), edit the **/fnsw/etc/Xresources.template** file. First, in this file look for a line similar to the following line:

```
vuesession*sessionLanguage:      en_US.iso88591
```

Replace the word **en_US** with the language you want. Then save the change to this file.

12 Enter the following command to merge the **Xresources.template** file content to your current HP VUE session resources file:

```
xrdb  -merge  /fnsw/etc/Xresources.template
```

This command updates your VUE session with the information in the given resources file.

13 If you want to permanently save the changes made to the **Xresources.template** file in your home resources file, complete the following bullets. **Otherwise, skip this step completely and go to step 14**.

- Activate the Style Manager icon from the VUE front panel and click on the Startup icon.
- Click on the **Set Home Session** button and select **OK** to update your home session with the current session, which you have just modified with the **xrdb** command in Step 13.
- When this is completed, exit out of the Style Manager window completely.

14 Set up the **LANG** variable in your shell environment files using your preferred editor (**vi**, for example). From your **HOME** directory, edit the necessary files by completing one of the following bulleted steps, depending upon the shell you are using:

- For **sh** and **ksh**, add the following lines to both your **.profile** and **.vueprofile** files:

```
LANG=<locale>.iso88591
export  LANG
```

where <locale> is the abbreviated national language name your Xstation is dedicated to. For example:

German is de_DE.iso88591

- For **csh**, add the following line to both your **.login** and **.vueprofile** files:

  setenv LANG <language>.iso88591

  where **<language>** is the language your Xstation is dedicated to.

15 Continue to edit the **.vueprofile** by adding the following lines at the end of the file:

```
xmodmap -e “keysym Print = F13”
xmodmap -e “keysym Scroll_Lock = F14”
xmodmap -e “keysym Pause = F15”
xmodmap -e “keysym Insert = F16”
xmodmap -e “keysym Home = F17”
xmodmap -e “keysym Delete = F18”
xmodmap -e “keysym End = F19”
```

Make sure there are no typos, otherwise the function keys won't be mapped properly. These key mappings allow APEX to map its function keys to the AT/2 keyboard.

16 Reboot the Xstation by selecting the **exit** button in the bottom right corner of the screen to exit from HP VUE, and then log back in.

Return to Production Mode

This concludes the procedure to configure National Language Support on FileNet Image Services for HP-UX. The server is now ready to put into production.

Appendix D – Configuring a Font Server for COLD Preview

This appendix contains instructions for setting up and testing a Font Server on an existing HP Integrity Storage Library server that will be running FileNet COLD Preview software.

Note These instructions are adapted from Hewlett-Packard procedures, and are designed to be run by an HP professional. For further information on configuring and testing the Font Server, contact HP.

Configure the Font Server

The Common Desktop Environment (CDE) includes a small set of fonts and font aliases that are not part of the standard distribution of X Windows. For CDE to function correctly, these fonts need to be available to the X-servers (X-terminals) displaying CDE.

The Font Server needs to include the CDE fonts in its catalog. You can do this by editing the following files:

Edit the /etc/X11/fs/config File

As **root** user, use your favorite text editor, such as **vi**, to edit the /etc/X11/fs/config file.

1. Locate the “catalogue = ...” line.
2. Make sure the first item in the catalogue list is:

   /usr/lib/X11/fonts/type1.st

3. At the end of the catalogue line append the following phrase:

   ,/usr/dt/config/xfonts/C

4. Save your changes and exit the file.

Edit the /etc/rc.config.d/xfs File

As **root** user, you also need to edit the /etc/rc.config.d/xfs file.

Add or modify the line for the following variable:

```
RUN_X_FONT_SERVER=1
```

Start the Font Server

As **root** user, start the Font Server by entering:

```
/sbin/init.d/xfs  start
```

If the Font Server is already running, kill it and repeat the xfs start command.

Edit the /etc/dt/config/Xsetup File

Before you edit this file, you need to copy it from the /usr/config directory.

As **root** user, enter:

cp /usr/config/Xsetup /etc/dt/config/Xsetup

Edit the /etc/dt/config/Xsetup file you just copied. Add this line at the end of the file:

$XDIR/xset fp+ tcp/<server_id>:7000 1>/dev/null

where <server_id> is either the **server name** as found in the /etc/hosts file, or the **TCP/IP address** of the server. If you need to find out the TCP/IP address, enter:

nslookup 'hostname'

Install HP-UX Patches, if necessary

Depending on the version of HP-UX operating system installed on your server, you might need to install patches from Hewlett-Packard.

Go to the FileNet Web site **http://www.css.filenet.com** and log into Worldwide Customer Support. Click on:

Product Tech Info
Image Manager
Image Services
Compatibility & Dependency
Image Services Compatibility Matrix

Select your version of the HP-UX operating system from the list, and scroll down to review the patch recommendations and requirements.

Reboot the Server

Reboot the server by entering:

shutdown -ry 0

Verify the Font Server

After the server reboots, log in as **root** user and verify that the Font Server is working properly.

1 Verify that the Font Server has started by entering:

```
ps -ef | grep xfs
```

If the Font Server has started successfully, the process status information displays.

2 Verify that the Font Server is at the head of the Xserver's font path by entering:

```
xset -q
```

You should see a section that says, "Font Path:", then an entry similar to this:

```
tcp/:7000
```

This entry should appear before you see any specific font directory path names.

3 Verify that your Xserver can find scalable fonts by entering:

xlsfonts -fn "*-0-0-0-0-*"

You should see a list of fonts. The first fonts on the list should be from Adobe.

Verify the Xstation

Note Perform the steps in this section on the Xstation you will be using to run the COLD Preview application.

If you are not already running COLD software on the server, you might have to postpone this test until after you have completed the rest of the Image Services update procedure.

To verify that the Xstation is selecting the correct font, run the Xstation's Configuration Diagnostics (for example, hold down the F12 key and select the Diagnostics icon. You should see a button to display font logging.)

Then run COLD Preview. The font logging will show whether font selections are coming from the Font Server or the Xserver, and it will also show you which specific font is being selected.

Return to the Main Procedure

After you have finished configuring and verifying the Font Server, you can return to **"TCP/IP Address" on page 36** of the main procedure.

Appendix E – 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, the speed of the SCSI adapter channel that an optical library is connected to might need to be adjusted. 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       _____ Number of Connections
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
```

2 First you need to find the driver handle designation (<drvr_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 (<drvr_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 <drvr_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 <drvr_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               duct  Control  Status
<53C1030  80   01   01>   -----   1.03.35.65  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  Device Identifier            MB/Sec    MT/Sec    Data    Scan    Scan
 ID                                                    Width   ID      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]
  7    53C1030                       80      [40]     [16]   [Yes]   [Yes]
  8    -                             80      [40]     [16]   [Yes]   [Yes]
  9    -                             80      [40]     [16]   [Yes]   [Yes]
 10    -                             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 to all the devices attached to the adapter.

To change the maximum data transfer rate, use the arrow keys to highlight the corresponding option under 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, then the Global Properties screen displays.

However, if you modified any of the SCSI parameters, then 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 Press **Esc**. The following screen displays:

```
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 manufacter'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.

Appendix G – Uninstalling Image Services

If it becomes necessary to remove the Image Services software from your server, follow these steps:

1. Make sure you're logged on with **root** privileges.
2. Stop the Image Services software.
3. Back up any log files or other data in the /fnsw and /fnsw/local directories that you want to save.
4. Run the uninstall program by entering:
   - Graphical mode – standard, graphical interface:

     /fnsw/etc/uninstaller/uninstall_is &

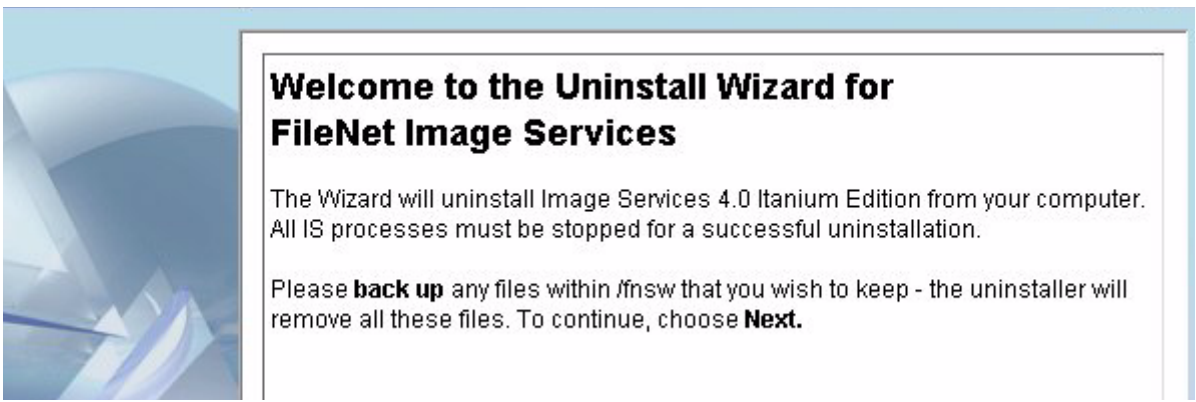
   - Console mode – plain text interface:

     /fnsw/etc/uninstaller/uninstall_is -console

- Silent mode – no screen display whatsoever:

  /fnsw/etc/uninstaller/uninstall_is -silent

Important! It's essential that you use the uninstall_is command if you decide to uninstall the Image Services software. You cannot use the Operating System tools to remove Image Services.



When the uninstallation is finished, a screen similar to the following displays: