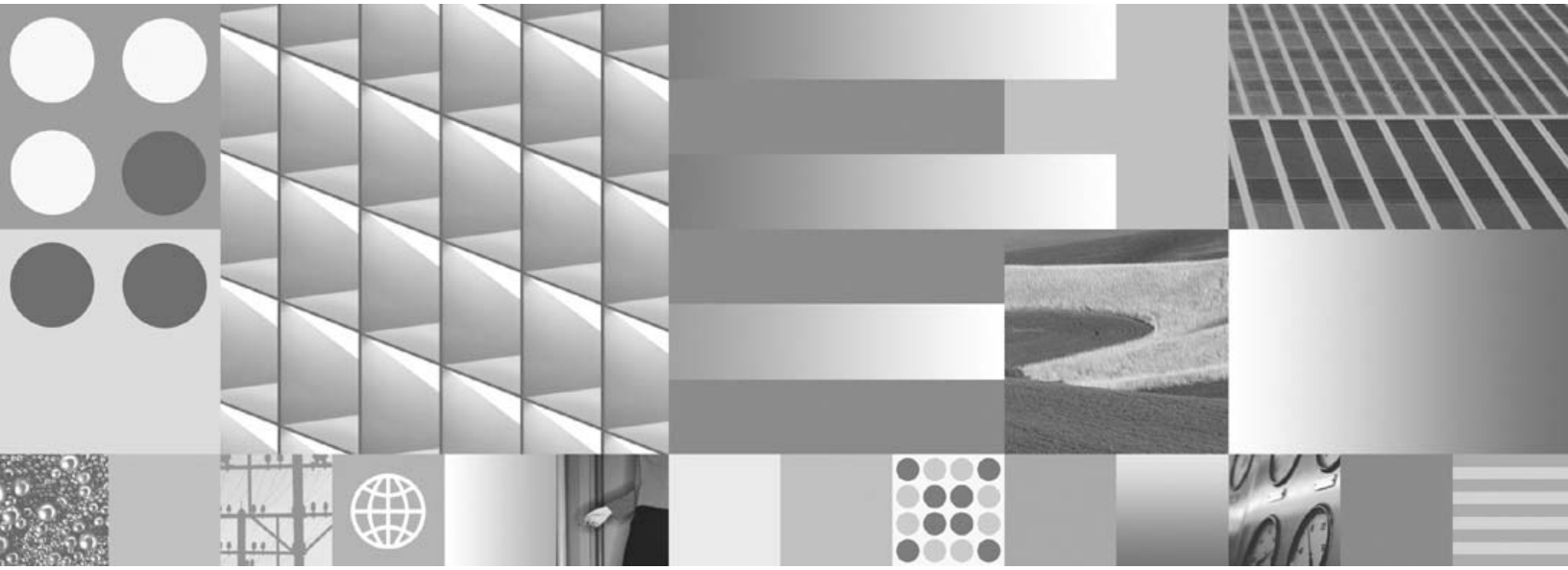
IBM FileNet Image Services

Version 4.1

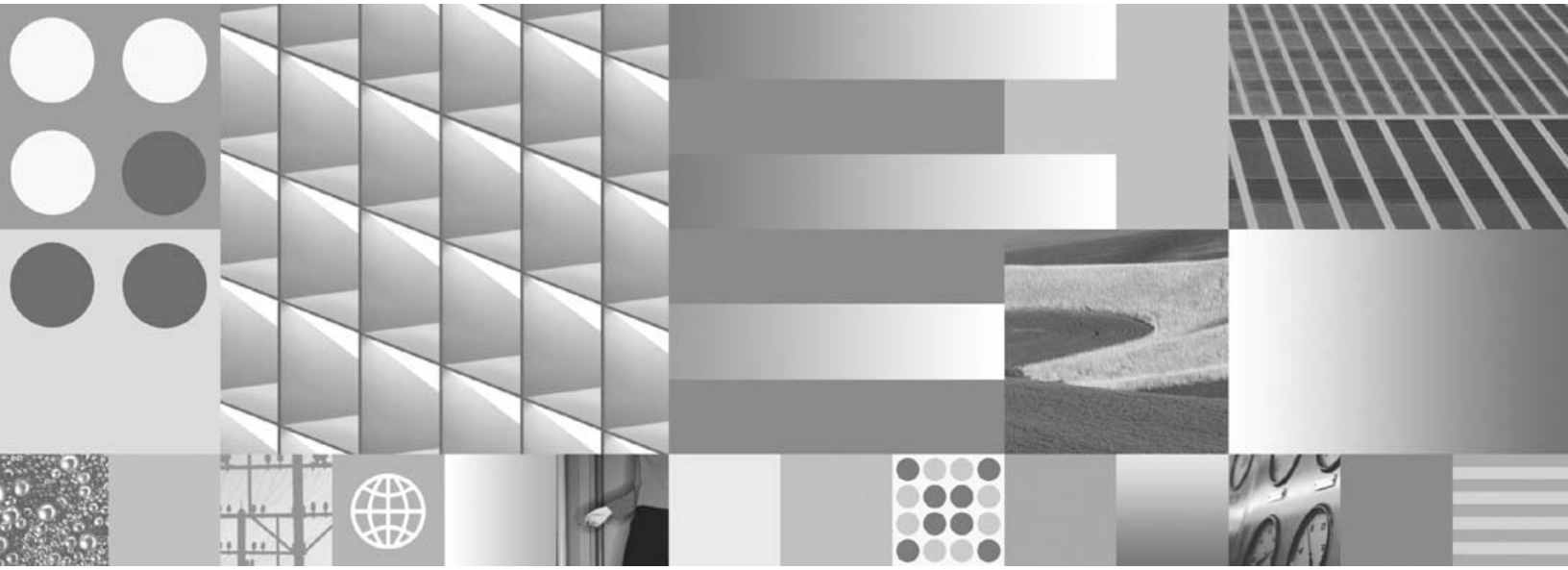


Upgrade Procedure for HP-UX on HP 9000 Servers and HP Integrity Servers

GC31-5563-01

IBM FileNet Image Services

Version 4.1



Upgrade Procedure for HP-UX on HP 9000 Servers and HP Integrity Servers

GC31-5563-01

Note
Before using this information and the product it supports, read the information in "Notices" on page 148.

This edition applies to version 4.1 of IBM FileNet Image Services (product number 5724-R95) and to all subsequent releases and modifications until otherwise indicated in new editions.

Contents

1
Getting Started

This document describes how to upgrade the IBM® FileNet® Image Services software to version 4.1 on:

- Hewlett-Packard 9000 Series 800 Business Servers (HP 9000/800)
- Hewlett-Packard Integrity servers powered by Intel® Itanium® 2 processors.

The HP servers must also be running version 11i v1, 11i v2, or 11i v3 of the HP-UX operating system.

Required Skills

Installation by a FileNet Certified Professional (FCP) is recommended. For more information about the FCP program, go to the IBM web site

(http://www.ibm.com), Products > Software > Information Management > Training and certification > FileNet Certified Professional Program (FCP). You will need an IBM-issued login name and password to access the Web site.

If an FCP is used, at least **ten days** before the installation, the FCP should contact your service representative to schedule the installation and review the list of current scheduling procedures.

The procedures included in this document assume that you are familiar with the following topics:

- UNIX® and the HP-UX operating system
- The HP System Administration Manager tool (**SAM**)
- The HP-UX 11i v2/v3 administrative command for tunable kernel parameters (**kctune)**
- Peripheral device configuration methods (for example, tape drives printers, and storage libraries.)
- A text editor such as **vi**

Comments and Suggestions

Send your comments by e-mail to **comments@us.ibm.com**. Be sure to include the name of the product, the version number of the product, and the name and and part number of the book (if applicable). If you are commenting on specfific text, include the location of the text (for example, a chapter and section title, a table number, or a help topic title).

Document revision history

IS version	Date	Comment
4.1	June 2008	Documentation refresh.
4.1	Nov. 2007	Blue wash.
4.1	June 2007	Initial release.

New Features of the Image Services 4.1 Upgrade

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

New MKF Security Database Schema

Image Services 4.1* includes a schema change to the MKF Security database to provide for enhanced user security. For this schema upgrade to occur, specific MKF configuration changes must be made and software dependencies must be verified by your service representative **before** you install IS 4.1.

* This schema change was also available in IS 4.0 SP5 and IS 4.0 HP Integrity Edition. If you are upgrading from either of these IS releases, your IS system already includes the enhanced MKF Security database schema.

Important Contact your service representative for more information or to schedule the MKF configuration changes for your IS system.

InstallShield Installer

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

- System Check only
- System Check and Install Image Services

If the installer detects a problem at any point during the System Check, you can back up to the previous screen, correct the problem in another window, and then go forward to rerun that check again. The HP-UX server must pass the System Check successfully before the Image Services software is upgraded.

IBM DB2 Universal Database Software

This release of Image Services supports the IBM DB2® Universal Database™ V8.1/V8.2. The DB2 databases are site-controlled and must reside on remote AIX® 5.1/5.2 or Solaris 9/10 servers. Image

Services on the HP server accesses the remote DB2 database by using DB2 client software installed on the IS server.

See *Guidelines for Installing and Configuring DB2 Software* for more information. To download the guidelines from the IBM support page, see **"Accessing IBM FileNet documentation" on page 22**.

Oracle Database 10g Software

This release of Image Services includes support for both Oracle Database 9i and 10g Release 2 Standard or Enterprise Edition (64-bit). The Oracle 10g software is supplied on DVD media.

Note The Oracle 10g media are not supplied by IBM.

See *Guidelines for Installing and Configuring Oracle 10g Software on UNIX Servers* for more information. To download the guidelines from the IBM support page, see **"Accessing IBM FileNet documentation" on page 22**.

SLAC Key Automation

In past IS releases, you had to install a Software License Access Control (SLAC) Key that was included with the IS software. Beginning with IS 4.1, this key is installed automatically by the InstallShield Installer.

Upgrade Paths

Because of the wide variety of possible system configurations, the following upgrade starting points have been tested and approved to simplify the upgrade process.

- **IS 3.6 / Oracle 8i (8.1.7.4)**
- **IS 3.6 ESE / Oracle 8i (8.1.7.4)**
- **IS 4.0 SP4 / Oracle 9i (9.2.0.4)**
- **IS 4.0 SP4 / DB2 8.1 FixPak12 or DB2 8.2 FixPak5**
- **IS 4.0 SP5 / Oracle 9i (9.2.0.4)**
- **IS 4.0 SP5 / DB2 8.1 FixPak12 / DB2 8.2 FixPak5**

Make sure the server you're updating is at one of these starting points before you begin this upgrade to Image Services 4.1.

Important

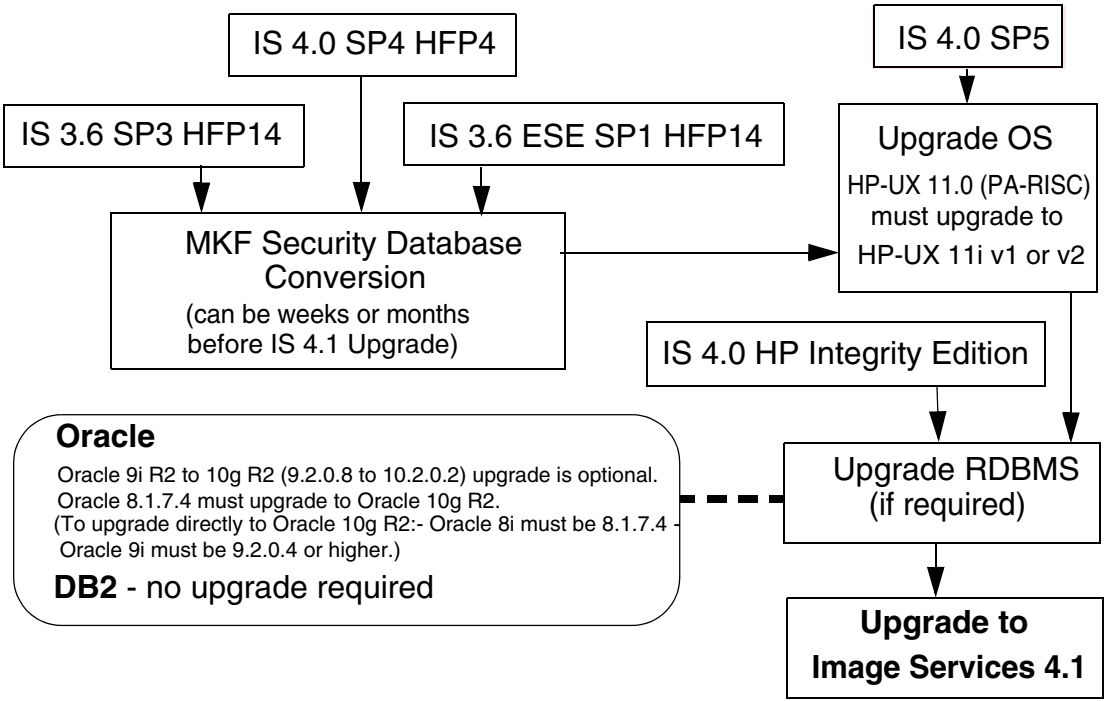
If the server has a release of FileNet Image Services software prior to IS 3.6 (such as IDMIS 3.5.0), you need to upgrade to the most recent version of IS 3.6 before continuing with this procedure.

If the server has an Oracle release prior to 8.1.7.4, you must upgrade to Oracle 8.1.7.4 or higher before continuing with this procedure.

Oracle 8i servers must be upgraded to Oracle 10g R2. Upgrades to Oracle 9i are not supported.

Oracle 9i servers can either remain at Oracle 9i or optionally upgrade to Oracle 10g R2.

Upgrade Paths



IBM Information Management support page

The latest information concerning your upgrade is available at the IBM Information Management support page at **http://www.ibm.com/software/data/support**.

Some of the documents that you can download from the IBM support page include the Release Notes for Image Services 4.1, the Release Dependancy Spreadsheet, and the Operating System Notes.

Accessing IBM FileNet documentation

To access documentation for IBM FileNet products:

1. Navigate to the Information Management support page (**www.ibm.com/software/data/support**).
2. Select the appropriate IBM FileNet product from the “Select a category” list.

3 From the Product Support page, click **Product Documentation** under Learn.

4 From the Product Documentation page

a If necessary, display the document list by clicking the Doc link for the appropriate component product.

b Click the icon in the appropriate release column to access the document you need.

Release Notes for Image Services 4.1

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

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 If the Image Services Toolkit (ISTK) is installed on the same server as Image Services, the Toolkit must be version 4.0 or higher. Verify that any IS Toolkit SCRs listed in the Release Dependency spreadsheet have been downloaded and installed.

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 Services upgrade. The System Administrator is responsible for obtaining and installing these patches.

Upgrade Prerequisites

The prerequisites for updating Image Services software are included in the following sections. It is very important that you complete all prerequisite steps and gather all pertinent information. If you do not gather this information now, you will not be able to complete this upgrade procedure correctly.

Minimum Hardware Requirements

Server Architecture

HP 9000 (PA-RISC) Servers

Servers containing PA-RISC processors that support the HP-UX11i operating system are required.

- 64-bit processors for all servers with Oracle9i software including Root/Index servers and Application servers with either WorkFlo Queue Services (WQS), SQL Services, or VWServices.

- 32-bit or 64-bit processors for servers without Oracle such as separate Storage Library servers and Application servers with only Batch, Print, and/or Cache Services.

Note Oracle 9i/10g software is compatible with only 64-bit HP-UX servers.

HP Integrity (Itanium® 2) Servers

HP Integrity servers containing 64-bit Intel Itanium 2 processors that support the HP-UX11i v2 and v3 operating system are required.

Server Memory

- Root/Index and Application Servers with Oracle:

  9i - 512 MB memory for each processor in the server.
  10g - 1024 MB memory for each processor in the server.

- Root/Index and Application Servers with DB2:

  512 MB memory for each processor in the server.

- Storage Library and Application Servers without RDBMS:

  512 MB memory for each processor in the server.

To determine the total amount of installed memory, enter on each server:

dmesg | grep Physical (HP 9000)

/usr/contrib/bin/machinfo | grep Memory (HP Integrity)

Total Swap Space for Oracle (Guidelines)

The recommended Swap Space is based on the amount of server memory as shown in the following table:

RAM	Swap Space
Up to 1024 MB	2 times the size of RAM
Between 1025 MB and 2048 MB	1.5 time the size of RAM
Between 2049 MB and 8192 MB	Equal to the size of RAM
More than 8192 MB	0.75 the size of RAM

Check to see that the total swap space size is set to at least **1000 MB**.

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

Available Disk Space for Image Services Software

The FileNet Image Services software needs the minimum amounts of free disk space in the file systems shown here:

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

Note If /fnsw/local is not a separate file system, the upgrade requires **1000 MB** (1 GB) total space in /fnsw.

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

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

Tip If you don't have enough space in /var/tmp, you can tell the Installer 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 9i and 10g Software for UNIX Servers* for more information about space requirements.
- **For IBM DB2**, refer to the *Guidelines for Installing and Configuring DB2 Software* for more information about space requirements.

To download these guidelines from the IBM support page, see **"Accessing IBM FileNet documentation" on page 22**.

Software Requirements

To perform the upgrade to Image Services 4.1, you'll need these software media:

HP-UX Operating System

The Image Services 4.1 software is compatible with:

- HP-UX 11i v1 (HP 9000 servers)
- HP-UX 11i v2 (64-bit) (HP 9000 servers and HP Integrity servers)
- HP-UX 11i v3 (64-bit) (HP 9000 servers and HP Integrity servers)

HP-UX Version

To determine the version of operating system software running on the server(s), enter the **uname -r** (release) command. The result must be:

B.11.11 (HP-UX 11i v1)
- or -
B.11.23 (HP-UX 11i v2
- or -
B.11.31 (HP-UX 11i v3)

If the version of HP-UX software is earlier than version B.11.11, or if no software has been installed on the system, refer to HP documentation.

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

ia64

Verify the character set used by the operating system by entering the **locale charmap** command.

HP-UX Patches
Go to the IBM Information Management support page at **http://www.ibm.com/software/data/support**.

Locate the *Image Services Compatibility and Dependency Matrix*, and review the patch recommendations and requirements.

If an earlier version of HP-UX is currently installed on the server, the System Administrator must upgrade to HP-UX 11i at the appropriate time (described in Chapter 2 of this procedure).

Important If you plan to install Oracle 10g on an HP-UX 11i v1 (11.11) server, verify that the following HP-UX patches have been installed:

PHCO_31923, PHCO_35743 + PHKL_34805

Common Desktop Environment (CDE)

The Common Desktop Environment is a graphical user interface that runs in conjunction with the X Windows System. Like X Windows, CDE automatically opens an Error Log window and a FileNet DT term window when you logon.

Note To disable CDE and use X Windows instead, refer to your operating system documentation. If you want to re-enable CDE in the future, run the following script as a user with **root** privileges:

/fnsw/etc/DTwindows

Non-GUI commands can be performed at either the GUI terminal or the ACSII terminal.

Note If you are using an international keyboard, 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 pull-down menu.

Image Services Software

To install Image Services 4.1, you'll need one of these software media:

- **FileNet Image Services & COLD™ 4.1 for HP 9000** (CD-ROM). This media contains the Image Services 4.1 software including COLD 4.1 software.
- **FileNet Image Services & COLD™ 4.1 for HP Integrity** (CD-ROM). This media contains the Image Services 4.1 software including COLD 4.1 software.

IBM DB2 Universal Database Software

Refer to the *Guidelines for Installing and Configuring DB2 Software* for more information. To download the guidelines from the IBM support page, see **"Accessing IBM FileNet documentation" on page 22**.

Note The **Database Administrator** must install the appropriate version of DB2 and must supply the information described in the DB2 Guidelines to the System Administrator before the FileNet Image Services software can be upgraded.

Oracle RDBMS Software

Note The Oracle software media are not supplied by IBM.

Refer to the *Guidelines for Installing and Updating Oracle 9i and 10g Software for UNIX Servers* for more information. To download the guidelines from the IBM support page, see **"Accessing IBM FileNet documentation" on page 22**.

Note The **Database Administrator** must install the appropriate version of Oracle and must supply the information described in the Oracle Guidelines to the System Administrator before the FileNet Image Services software can be upgraded.

Upgrade Prerequisites

The following table lists the documents, media, and server resources required to successfully upgrade your Image Services software to IS 4.1. Each requirement is described in detail later in this document.

Table 1-1: Upgrade Prerequisites for All IS Servers

Prerequisites	Comments
Read FileNet Release Notes.	Available at IBM Information Management support page at **http://www.ibm.com/software/data/support**. To download this document from the IBM support page, see **"Accessing IBM FileNet documentation" on page 22**.

Table 1-1: Upgrade Prerequisites for All IS Servers, Continued

Prerequisites	Comments
Install HP-UX patches, if needed.	Check the IBM Information Management support page at **http://www.ibm.com/software/data/support** for patches that might be required prior to this upgrade.
Install the Pre-Upgrade fixes that were identified in the Release Notes.	It is mandatory to have the appropriate fixes installed when you start your upgrade. Otherwise, your upgrade might fail. The fixes are available at the IBM web site and on the Tech Info CD, which is distributed to your service representative.
Back up the entire system.	Include FileNet datasets, cache, and HP-UX.
Obtain proper software for Image Services and Oracle software	Refer to the section, **"Software Requirements" on page 30**

Table 1-2: Upgrade Prerequisites for IS Servers with Oracle

For Servers with Oracle:	
Create a new file system for Oracle 10g, if necessary.	Do not use your current Oracle file system for the new version of Oracle. (Must have at least 3.5 GB of free space)

Table 1-1: Upgrade Prerequisites for All IS Servers, Continued

Prerequisites	Comments
Install HP-UX patches, if needed.	Check the IBM Information Management support page at **http://www.ibm.com/software/data/support** for patches that might be required prior to this upgrade.
Install the Pre-Upgrade fixes that were identified in the Release Notes.	It is mandatory to have the appropriate fixes installed when you start your upgrade. Otherwise, your upgrade might fail. The fixes are available at the IBM web site and on the Tech Info CD, which is distributed to your service representative.
Back up the entire system.	Include FileNet datasets, cache, and HP-UX.
Obtain proper software for Image Services and Oracle software	Refer to the section, **"Software Requirements" on page 30**

Table 1-2: Upgrade Prerequisites for IS Servers with Oracle

For Servers with Oracle:	
Create a new file system for Oracle 10g, if necessary.	Do not use your current Oracle file system for the new version of Oracle. (Must have at least 3.5 GB of free space)

Table 1-2: Upgrade Prerequisites for IS Servers with Oracle

For Servers with Oracle:	
Create a new file system for Oracle 10g, if necessary.	Do not use your current Oracle file system for the new version of Oracle. (Must have at least 3.5 GB of free space)

Table 1-3: Upgrade Prerequisites for IS Servers with DB2

For Servers with DB2:	
Create a new file system for DB2 V8.1/ V8.2	Do not use your current DB2 file system for the new version of DB2.

Related Documents

As you read this procedure, you will see references to the following documents you might need to review. Keep these documents available in case you need to use them during this upgrade.

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

To download these documents from the IBM support page, see **"Accessing IBM FileNet documentation" on page 22**.

2
Preparing for the Upgrade

Installation by a FileNet Certified Professional (FCP) is recommended. For more information about the FCP program, go to the IBM web site (http://www.ibm.com), Products > Software > Information Management > Training and certification > FileNet Certified Professional Program (FCP). You will need an IBM-issued login name and password to access the Web site.

If an FCP is used, at least **ten days** before the installation, the FCP should contact your service representative to schedule the installation and review the list of current scheduling procedures.

- Schedule the upgrade with your service representative and review the list of current scheduling procedures.

- Copy the Image Services CDB file. Send it to your service representative.
- Run spacerpt. Send the results to your service representative, and keep a printed copy for comparison after the upgrade is complete.

When you are instructed to send a file or output, you can either e-mail the file or FTP the file, copy the file to physical media, and mail the media to your service representative.

Copy the Image Services .CDB File

Your service representative will need to inspect your Image Services CDB file before you begin the upgrade. This file allows your service provider to check the configuration for database integrity.

The CDB file is built by the configuration editor (fn_edit) and is stored in the /fnsw/local/sd/conf_db directory. The naming convention is **IMS_n.cdb** where ‘n’ is a sequentially assigned number that is incremented each time the CDB file is rebuilt. You will likely find several versions of the CDB file.

Copy the most recent CDB file (the one with the highest “n” number) and send it to your service representative.

Copy the MasterSnmpd_start File

Make a backup copy the **/fnsw/bin/MasterSnmpd_start** file. SNMP is the Simple Network Management Protocol. See the *SNMP Reference Manual* for more information. To download this manual from the IBM support page, see **“Accessing IBM FileNet documentation” on page 22**.

Installing the new version of Image Services software overwrites the current version of this file. At the end of this upgrade procedures, you’ll compare the newly installed version against this saved version.

For example, as the FileNet software user, such as **fnsw**, save the current file by entering:

cp /fnsw/bin/MasterSnmpd_start /tmp/MasterSnmpd_save

Run spacerpt (Oracle only)

Your service representative will need to inspect your database configuration to verify that the Oracle RDBMS objects are correct.

You must know the f_maint password to run spacerpt.

1 As the FileNet software user, such as **fnsw**, verify that Oracle is up by entering:

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

If Oracle is running, you will see at least four Oracle processes. If not, start the Oracle software.

- If Oracle is Site-controlled, ask the DBA to start Oracle.
- If Oracle is FileNet-controlled and there are no Oracle processes running, start Oracle by entering:

```
fn_util startrdb
```

2 As the FileNet software user, such as **fnsw**, run spacerpt and send the output to an output file by entering:

spacerpt > <output_file_name>

where <output_file_name> can be any name you choose.

3 To stop Oracle:

- For Site-controlled Oracle, ask the DBA to stop Oracle.
- For FileNet-controlled Oracle, enter:

fn_util stoprdb

4 Send the output file to your service representative. Also print a copy of this file and keep it in a safe place. You can compare this copy with the spacerpt run at the end of this upgrade procedure.

Backup the /fnsw/etc/serverConfig File

1 Logon as the FileNet software user, such as **fnsw**.

2 Make a copy of the /fnsw/etc/serverConfig file by entering commands similar to the following:

```
cd  /fnsw/etc
cp  serverConfig  serverConfig.save
```

After the upgrade procedure is complete, verify that the server configuration parameters are unchanged by checking the saved file.

Disable FileNet-Related Cron Jobs

Disable any FileNet-related cron jobs for the duration of the upgrade. After the upgrade is complete, you can re-enable them.

The crontab files are located in /usr/spool/cron/crontabs.

Shutdown FileNet Software

Notify all users on the system to logout before you continue with the upgrade procedure. Warn them you are about to shutdown the FileNet software and kill all processes.

Exit IS Toolkit Applications

Exit from any Image Services Toolkit (ISTK) applications currently running on the server. (Later in this procedure you will run the killfnsw command, which clears the Image Services shared memory.)

As a user with **root** privileges, enter:

/fnsw/client/bin/wal_purge

Stop FileNet Software

Note In a multi-server system, you must stop the FileNet software in the following order:

1 - the application server(s)

2 - the storage library server(s)
3 - the root server

Startup is in the opposite order with the root server first, followed by the storage library server(s), and finally the application server(s).

1 As the FileNet software user, such as **fnsw**, shut down the FileNet Image Services software by entering:

initfnsw -y stop

2 Kill all remaining FileNet processes by entering:

killfnsw -DAy

The -D option terminates FileNet daemons (such as TM_daemon). Normally, the TM_daemon process continues to run after IS is stopped, but occasionally, it is necessary to terminate TM_daemon as well.

The -A option removes all IPC segments.

The -y option automatically answers Yes to subsequent **killfnsw** prompts.

3 To check that all the Image Services processes have been killed, enter:

ps -ef | grep fnsw

Note Also use the grep command to check for active COR_Listen processes.

4 If any fnsw processes remain active, including TM_daemon, kill each one explicitly by entering:

kill <process_id>

Verify the System Serial Number

Use the **ssn** command to display the system serial number. As a user with **root** privileges, enter:

ssn

Important The SSN 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.

Modify the /etc/inittab File

Edit the /etc/inittab file to prevent the network protocol configuration process from broadcasting error messages during the configuration process.

1 As a user with **root** privileges, change to the /etc directory by entering the following command:

cd /etc

2 Use your preferred editor (for example, **vi**), to edit the inittab file.

3 Locate and comment out (by adding a **#** before) the following line:

```
rcfn:234:wait:/bin/sh  /etc/rc.initfnsw  </dev/console>  /dev/console2 >&1
```

Commenting out this line prevents the Image Services software from starting automatically when the server is restarted.

Check FileNet Logical Volume Sizes

Server Types

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

Verify that the fnsw, local, and oracle file systems are not being accessed by anyone. Otherwise, the following steps will fail.

The steps in this section ensure that the **fnsw** and **local** logical volumes have enough disk space.

1 As a user with **root** privileges, launch SAM by entering:

sam

2 Select the Disks and File Systems option and press **Return**.

3 From the Disk and File Systems Manager menu of SAM, select the appropriate volume group where the Image Services software is installed, such as **vg00**.

4 Compare the logical volume sizes displayed with sizes shown in the following table. Your logical volume sizes must be equal to or greater than the sizes in the table. (If any logical volumes are larger than the sizes shown, do not decrease them.)

Table 2-1: Logical Volume Sizes for /fnsw and /fnsw/local

Logical Volume Names	New Logical Volume Sizes	Free Space	Mount Points
fnsw	500MB	500MB	/fnsw
local	500MB	500MB	/fnsw/local

If you need to increase the size of any of these logical volumes to match the sizes shown in the table, you'll have that opportunity when you upgrade the Image Services software later in this procedure.

Upgrade HP-UX Operating System (if necessary)

If necessary, the System Administrator must upgrade the server to HP-UX 11i v1 or HP-UX 11i v2 before installing Image Services 4.1. DO NOT install the Image Services 4.1 software until the operating system has been successfully upgraded.

Important Check the IBM Information Management support page (**http://www.ibm.com/software/data/support**) for any operating system patches that are required for compatible operation with Image Services 4.1.

Debugging Software (Optional)

Debugging software is recommended for Image Services 4.1 and, if present, must be installed on each Image Services server. A debugger enables your service representative 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 from **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 from **http://www.gnu.org/software/gdb/**. Documentation is also available for download.

Verify/Change the Operating System Kernel Limits

Both the FileNet and the RDBMS system software are very resource intensive. To satisfy the resource needs of the software, you might need to modify some default operating system parameters.

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

Tip On HP-UX 11i v2, 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 2-2, **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 2-2: Recommended Kernel Parameter Settings

Kernel Parameters	HP 9000 Recommended Minimum Settings	HP Integrity Recommended Minimum Settings
maxdsiz	117440512 (112 MB) 0x7000000 hex	268435456 (256 MB) 0x10000000 hex
maxfiles	256	1024

Table 2-2: Recommended Kernel Parameter Settings, Continued

Kernel Parameters	HP 9000 Recommended Minimum Settings	HP Integrity Recommended Minimum Settings
nproc	1005	1005
maxuprc	400	400
nfile	840 Although the minimum value for nfile is 840, you might want to set this value much higher. A value of 3000, for example, would be acceptable.	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	1085
semmns	2000	2000
semmni	2000	2000
shmmax	268435456 (256 MB) 0x10000000 hex	536870912 (512 MB) 0x20000000 hex
shmseg	120	120

Table 2-2: Recommended Kernel Parameter Settings, Continued

Kernel Parameters	HP 9000 Recommended Minimum Settings	HP Integrity Recommended Minimum Settings
semmnu	1000	1000
semume	500	500
msgmni	2048	2048
msgseg	6640	16384
msgtql	6640	6640
msgmap	msgtql + 2	msgtql + 2
dbc_max_pct	1 to 10 **	30 or less **
dbc_min_pct	5	5

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

Note These specific parameter values reflect requirements for Image Services 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

Also 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 must 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, skip to **Step 5 on page 63** 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 will 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 will 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 asked if you want to process your kernel modification now.

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

The Overwrite /stand/system option must 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 verify that the TZ environment variable is set correctly. As a user with **root** privileges, 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.

3

Updating Relational Database Software

Server Types

Perform the steps in this section on these servers:

Root/Index server during a Dual server upgrade.

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

Application server with WorkFlo Queue services or SQL services.

If you are configuring a Storage Library server or an Application server that does not require relational database software, skip to **Chapter 4, "Updating Image Services Software," on page 73**.

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

Image Services on UNIX servers supports two Relational Database Management Systems. Skip to the section for the one that is installed on this FileNet Image Services system:

- **“Oracle 9i and Oracle 10g” on page 66**
- **“IBM DB2 V8.1 and DB2 V8.2” on page 70**.

Oracle 9i and Oracle 10g

For Information on updating Oracle RDBMS software, refer to the *Guidelines for Installing and Updating Oracle 9i and 10g Software for UNIX Servers*. To download the guidelines from the IBM support page, see **“Accessing IBM FileNet documentation” on page 22**.

- If the Oracle software and datasets are going to reside on the local FileNet Image Services server, refer to **Chapter 2, “Installation Guidelines for Servers with Local Oracle Databases.”**

- The Database Administrator also has the option of installing Oracle software and datasets on a dedicated remote Oracle server. Refer to **Chapter 3, "Installation Guidelines for Remote Oracle Database Configurations"** for further information.

The Oracle Guidelines document can be given to the Database Administrator.

Oracle Database Information

After Oracle has been successfully upgraded, the Database Administrator must provide the following Oracle variables and tablespace names and sizes to the System Administrator and your service representative.

Oracle Variables

Oracle Version: _____

$ORACLE_HOME: _____

$ORACLE_SID: _____

<Oracle User name>: _____

<DBA Group>: _____

f_sw password: _____

f_sqi password: _____

f_maint password: _____

f_open password: _____

Tablespace Names and Sizes

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

CAUTION DO NOT start the FileNet software until after the Image Services software has been upgraded.

After you have this information, you're ready to upgrade the FileNet Image Services software. Continue with **Chapter 4, "Updating Image Services Software," on page 73**.

IBM DB2 V8.1 and DB2 V8.2

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

For Information on updating IBM DB2 software, refer to the *Guidelines for Installing and Configuring DB2 Software*

- The **DB2 server** software must be installed on a dedicated remote AIX or Solaris server. Also, the DB2 database for Image Services must be created on the remote AIX or Solaris server. Refer to **Chapter 2, "Guidelines for Installing DB2 ESE V8.1.x Server Software"** for further information.
- The **DB2 client** software must be installed on the HP-UX Image Services server and linked to the remote DB2 database. Refer to **Chapter 3, "Guidelines for Installing DB2 V8.1.x Client Software"** for details.

To download the guidelines from the IBM support page, see **"Accessing IBM FileNet documentation" on page 22**. The DB2 Guidelines document can be given to the Database Administrator.

DB2 Database Information

After DB2 has been successfully upgraded, the Database Administrator must provide the following information to the System Administrator and your service representative.

	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	

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)

CAUTION DO NOT start the FileNet software until after the Image Services software has been upgraded.

After you have this information, you're ready to upgrade the FileNet Image Services software. Continue with **Chapter 4, "Updating Image Services Software," on page 73**.

4

Updating Image Services Software

This chapter contains procedures to upgrade the Image Services software on your system. It assumes that compatible versions of HP-UX and relational database software have already been installed.

Server Types

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

This chapter covers software upgrade issues that include:

- Updating FileNet Image Services software
- Updating the user environment templates
- Setting file ownerships and permissions
- Performing additional relational database tasks

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

Load the Image Services Software

Note If you're going to run the Image Services Installer from a network drive, skip to section, **"Run the IS Upgrade Installer" on page 76**.

1 Log on as a user with **root** privileges, and change to the / (root) directory:

```
cd /
```

2 If you are installing from a software CD, load the appropriate media into the CD-ROM drive.

Note **COLD 4.1** is included on the FileNet Image Services eSD image or software CD. However, you must be licensed to use the COLD application.

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 Mount the CD-ROM device on the /cdrom directory with 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 verify the CD-ROM mounted successfully, enter:

mount

If the CD-ROM is mounted, you will see the CD-ROM device listed.

Run the IS Upgrade Installer

The IS upgrade installer 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.

Note The Image Services software can be running while performing only the System Check. To run both the System Check and the Installer, the FileNet Image Services software must **not** be running.

The 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/4.1.0/ directory.

Launch the Image Services Installer

1. Log on as a user with **root** privileges.
2. If you are running this program from a remote terminal, 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 installer from a remote terminal,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 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 **For Silent Installation only**, locate the appropriate options.txt file on the eSD image or software CD. The option file contains the standard responses to the installer's prompts. Copy the file to a local directory on your server. (You can rename it to something shorter, like **opt.txt**.) Use your preferred text editor to make any appropriate changes and save the file. The options and their default values are fully described in the file.

5 As a user with **root** privileges, change to the directory where the IS software is located and enter the appropriate command to invoke the Installer.

- Graphical mode – standard, graphical interface:

  ./is_4.1.0_hp.bin & (HP 9000)
  - or -
  ./is_4.1.0_hpintegrity.bin & (HP Integrity)

- Console mode – plain text interface:

  ./is_4.1.0_hp.bin -console (HP 9000)
  - or -
  ./is_4.1.0_hpintegrity.bin -console (HP Integrity)

- Silent mode – no screen display:

  ./is_4.1.0_hp.bin -silent -options /tmp/opt.txt
  - or -
  ./is_4.1.0_hpintegrity.bin -silent -options /tmp/opt.txt

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

Note If you run the System Check in silent mode, check the log file in /fnsw/local/logs/install/4.1.0/ to determine the results. The name of the log file is IS_4.1.0.log.

If you determined earlier that the /var/tmp directory does not have enough space, 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, on an HP Integrity server you might enter:

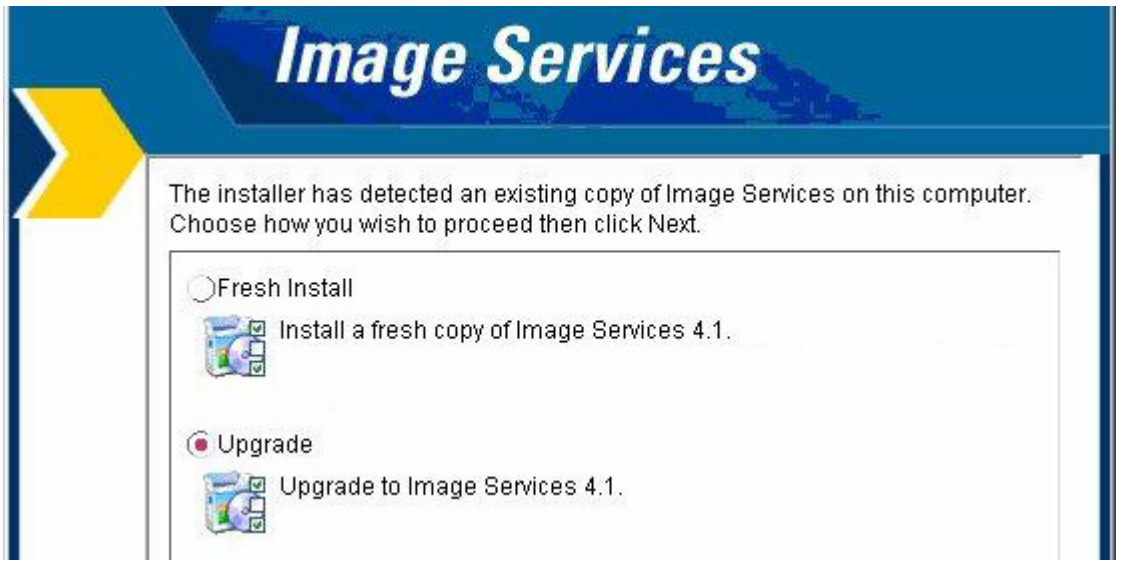
```
./is_4.1.0_hpintegrity.bin  -is:tempdir  /othertmp
```

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

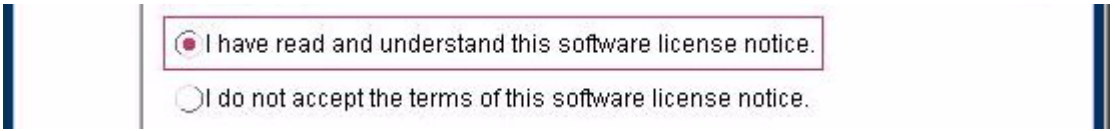
6 In graphical mode, you'll see the following screens. It might take a few minutes for them to display. In the meantime, a series of dots displays in the console window.

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

7 The installer allows you to choose either a Fresh Install or an Upgrade. Select the **Upgrade** option, and click **Next** to continue.



8 Read and accept the Notice to End Users.



9 Select the parts of the Image Services installation you want to perform. Run either the System Check only or the System Check and Install Image Services.

Note If you choose to run the System Check only, the current version of Image Services can be running. However, If you choose System Check and Install Image Services, the current version of Image Services must be shut down.

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

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

- Hardware checks
- Operating System checks
- Time zone checks

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

Some installer 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	Warning only
Kernel parameter out of range	Warning only
Missing FileNet user/group	Will prevent install

Condition	Severity
Incorrect FileNet user/group membership	Will prevent install
Image Services running	Will prevent install

Hardware Checks

The first System Check screen displays:

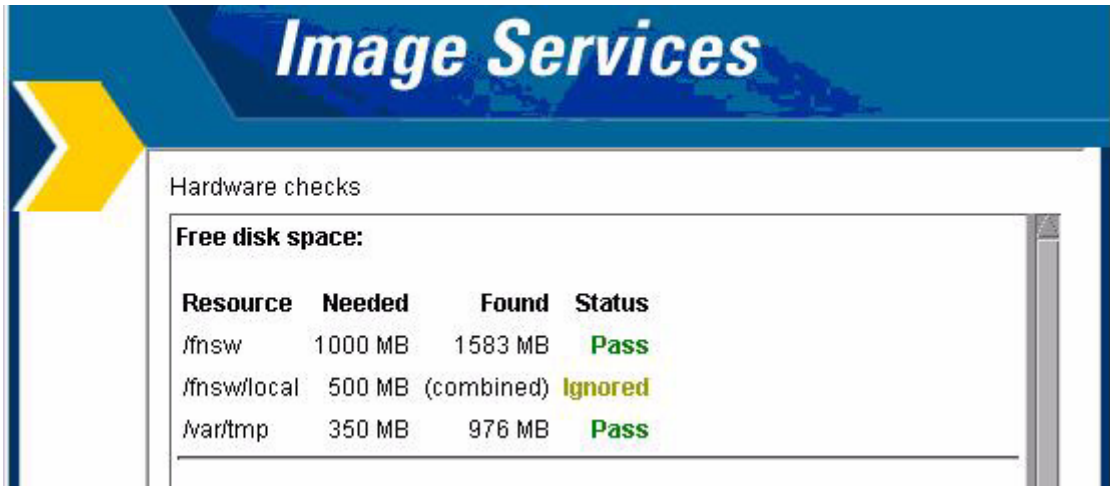
- Free disk space
- Memory
- Swap Space

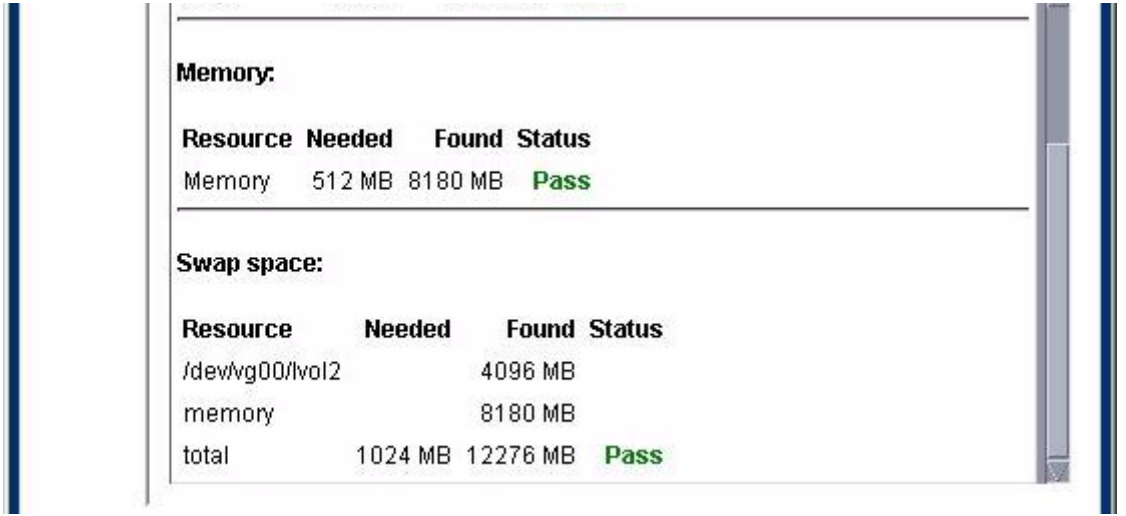
The installer lists the resource, how much you need, how much you have, and either Pass or Fail.

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

a Open another X Window on the desktop and make the necessary change. Refer to **"Minimum Hardware Requirements" on page 25** for more information.

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



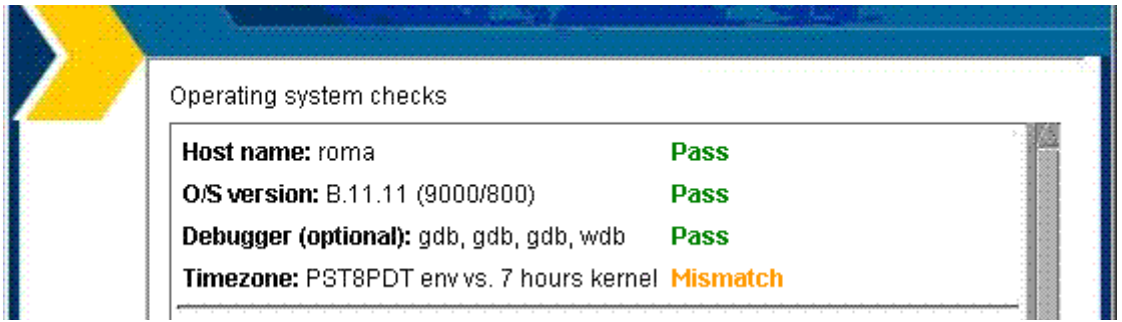


Click **Next** when you're ready to continue.

Operating System Checks

The Operating System Checks screen displays:

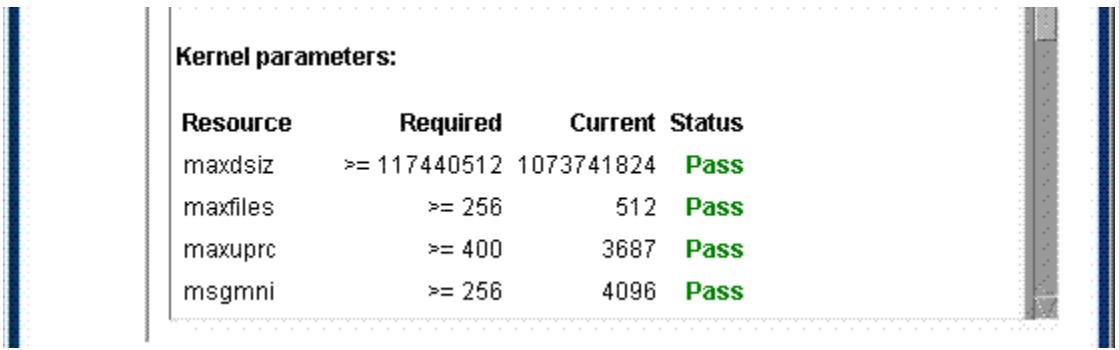
- Host name
- O/S version
- Debugger
- Timezone settings
- Kernel parameters



This example shows a mismatch between the Timezone kernel parameter and the TZ (timezone) environment variable. You'll need to correct this before you put your Image Services system into production. Refer

back to the section in Chapter 2, **"Verify/Change the Operating System Kernel Limits" on page 56** for information on setting these values.

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



Kernel parameters:

Resource	Required	Current	Status
maxdsiz	>= 117440512	1073741824	Pass
maxfiles	>= 256	512	Pass
maxuprc	>= 400	3687	Pass
msgmni	>= 256	4096	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, you can correct it.

In HP-UX 11i v1, use **SAM** to modify the kernel parameters.

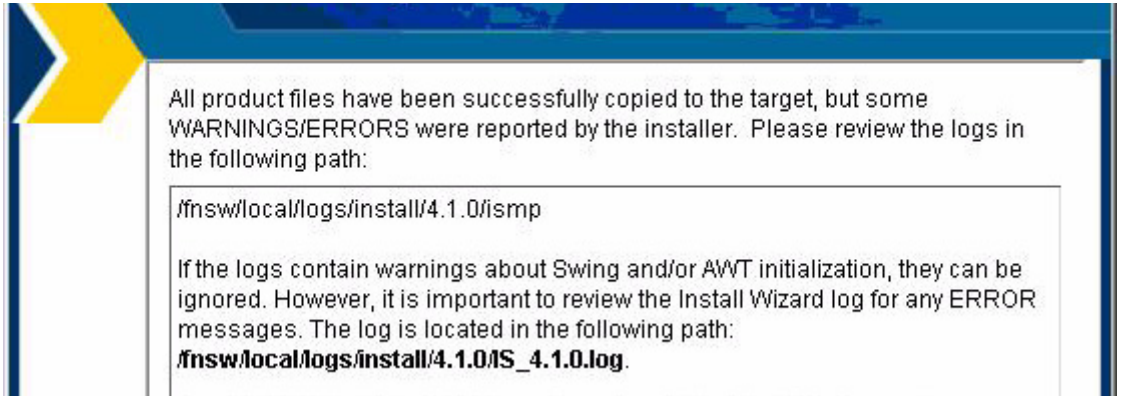
In HP-UX 11i v2, run the **kctune** utility. For example, if maxfiles is too small, you would enter:

kctune maxfiles=1024

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

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 to 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 System Check before you install the Image Services software. You can run the System Check as often as you wish.

If the System Check completed successfully and you selected the option to install Image Services software, the installer continues automatically. Skip to the section, **"Upgrading Image Services" on page 94**.

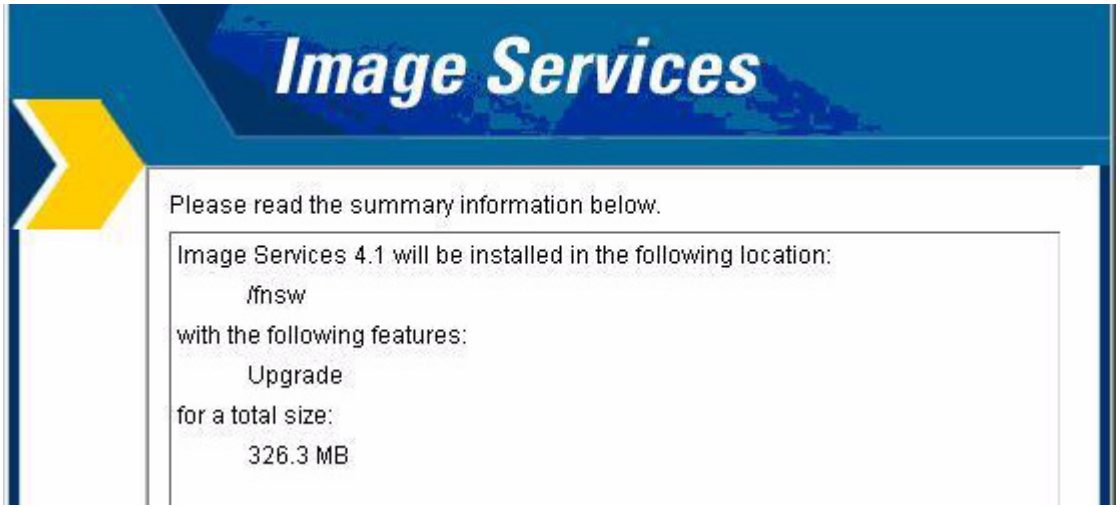
Rerunning the Upgrade Installer

If the System Check does not pass, review the log file in the /fnsw/local/logs/install/4.1.0/ directory. The most recent information is appended to the end of this file.

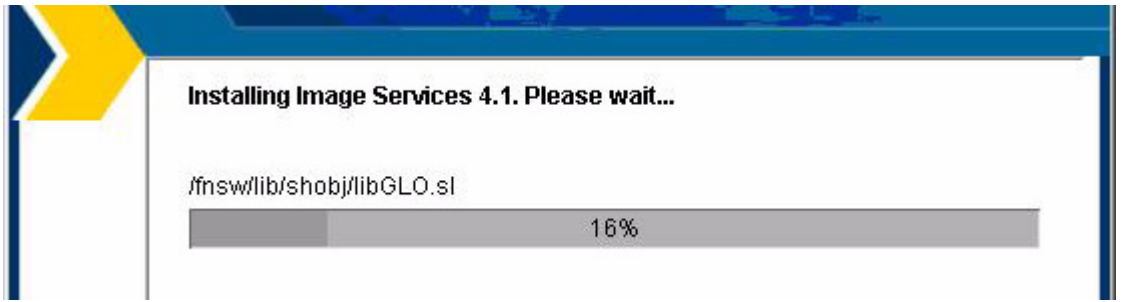
After you have made the changes required by the System Check, return to **"Run the IS Upgrade Installer" on page 76** and run the System Check again.

Upgrading Image Services

1 As the Image Services upgrade continues, the Summary screen displays. Verify that the information is correct for your system.



2 While the Image Services software installs, a progress bar displays.

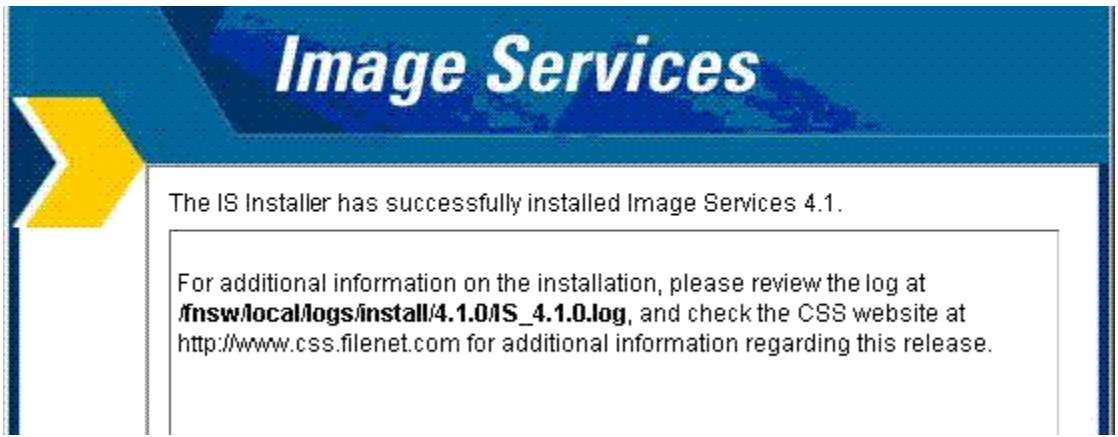


Depending on your server's processor speed, expect the upgrade to take approximately **20 minutes**. (If you're installing image Services on several servers simultaneously from the same location, it could take longer.)

3 Read the Important Note that displays to warn you that your original configuration files have been overwritten. You must manually incorporate any changes from the backup directory into the updated files, as described in the next chapter.

4 When the software upgrade is finished, the IS Installer creates an uninstaller (/fnsw/etc/uninstaller/uninstall_is.bin), and then verifies the version information.

5 The final screen indicates success. It also reminds you to check the IS Installer log and the IBM Information Management support page.



6 The final screen prompts you to restart the computer for the upgrade to tak effect.

Unmount the Image Services CD-ROM

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

If you are installing the IS software from CD-ROM media, return to the user's home directory and unmount the CD by entering:

```
cd /
umount /cdrom
```

Remove the installation media from the drive.

Configure the Image Services Software

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

The following sections describe the configuration tasks you need to perform after the Image Services 4.1 software has been installed.

Install the Required Pre-Startup Fixes

At this time, install only the fixes that directly relate to Image Services 4.1 upgrade issues.

Note These are only the fixes required to start the Image Services software successfully. Install any other appropriate Fix Packs or Service Packs after the upgrade has been successfully competed.

Retrieve these fixes from the IBM Information Management support page (**http://www.ibm.com/software/data/support**).

Install User Environment Templates

Note If you did not upgrade your RDBMS software, you can skip to the section, **"Modify TCP/IP Port Setting" on page 111**.

In this section you will use the **inst_templates** script to set up profile and environment files that are customized for Image Services. (You must run **inst_templates** as both the FileNet software user (**fnsw**) and a user with **root** privileges.)

The install templates program creates or modifies environment files (for example, .cshrc, .login, .profile, and others). You will be asked before each file is modified if you want to proceed with the change to the file.

- If you accept the change (by entering **y**), the existing file is renamed with a old.n extension (where n is incremental). A new file is created using the original file name. (You will be prompted for a response only if a file already exists.)
- If you decline the change (by entering **n**), the file will not be changed or moved.

Note If you already have customized the environment files in a particular user's directory, answer n (No) to each of the prompts. Instead, merge the settings in the templates with your customized environment files. The templates can be found in /fnsw/etc/*.template.

Set Up FileNet Software User Environment

1. Logon as a FileNet software user, such as **fnsw**. (DO NOT **su** to **fnsw**.)

Note After you logon as the FileNet software user, verify that the home directory for this user exists. If the directory does not exist, create the directory manually before performing the steps in this section.

2. Enter the following command:

   /fnsw/etc/inst_templates

3. Enter **y** (Yes) to confirm all prompts that display.

4 On servers with Oracle software, verify that the ORACLE_HOME variable (for Oracle software) is set correctly and that the ORACLE_SID variable is set correctly in the .profile and .cshrc files.

Set Up "root" User Environment

1 Logon as a user with **root** privileges.

2 Verify that the ORACLE_HOME (for RDBMS software) and the ORACLE_SID variables are set correctly in the environment. Enter:

```
env | grep ORACLE
```

Note Complete the remaining steps in this section only if you do not have a specialized root environment already established on your system (for example, a .login file with specific system-related entries). If you already have a **root** environment established, skip the rest of this section.

3 Enter the following command:

/fnsw/etc/inst_templates

4 Enter **y** (Yes) to confirm all prompts that display.

Set Up RDBMS (oracle) User Environment (if applicable)

If the Oracle RDBMS is FileNet-controlled, or if the Database Administrator wants the RDBMS user to use FileNet environment variable settings, complete the steps in this section. For example:

1 Logon as an RDBMS user, such as **oracle**.

2 Enter the following command:

/fnsw/etc/inst_templates

3 Enter **y** (Yes) to confirm all prompts that display.

Reset the Environment Variables

If you initially logged in to CDE as one of these three users, a user with **root** privileges, a FileNet software user such as **fnsw**, or **oracle**, you must log completely out of CDE and log back in again to reset the environment variables.

Otherwise, close all the current windows for these users and open new ones, which will have the new environment variable settings.

Set File Ownerships and Permissions

Use the **fn_setup** tool to verify that the permissions are set correctly for the FileNet Image Services software. The fn_setup tool also verifies 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. To download this document from the IBM support page, see **“Accessing IBM FileNet documentation” on page 22**.

Even though fn_setup runs as a user with **root** privileges, fn_setup might not be allowed to set permissions on some secured files.

If fn_setup encounters a file on which it is not allowed to set permissions, it logs an error and continues.

fn_setup must be run the **first** time as **root** user so it can set itself to be owned by root. Thereafter, fn_setup can be run by any member of the **fnusr** group.

---

1 As a user with **root** privileges, enter:

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 generally the Root server. If you are 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 must be the serial number of the server you specified in the previous step, generally the Root server.

```
Enter system serial number [1234567890]:
```

Important The SSN 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), or SQL services. If you are updating a separate Storage Library server, or an Application server without one of these services, select 0=none.

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

e If a relational database exists on the server, enter the full pathname of the directory where the RDBMS software is located.

```
Enter the RDBMS home directory [/opt/oracle/product/10gR2]:
```

f If a 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:  1234567890
     Relational database type:  oracle
     Relational database home:  /opt/oracle/product/10gR2
     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.

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: Running "nch_update hpvenice:YourCorp"
fn_setup: Changing permission on FileNet software and
databases
```

When fn_setup is finished, it exits automatically to the system prompt.

5 Review the **fn_setup** log file by entering:

less /fnsw/local/logs/fn_setup/fn_setup.log

- If **fn_setup** logged no errors, it finished successfully, you can skip to the next section, **"Reboot the Server" on page 112**.

- If **fn_setup** returns any errors that do not pertain to optical libraries, you need to troubleshoot the cause of the error and return to Step 1 to run **fn_setup** again.
- If **fn_setup** returned errors pertaining **only** to the optical libraries, as shown in this example, you need to remove the old device links.

```
fn-setup: Cannot set /fnsw/dev/1/osara to have permission mode: 0770
fn-setup: Cannot set /fnsw/dev/1/osara to have owner/group: 80/80
fn-setup: Cannot set /fnsw/dev/1/odda1 to have permission mode: 0770
fn-setup: Cannot set /fnsw/dev/1/odda1 to have owner/group: 80/80
fn-setup: Cannot set /fnsw/dev/1/osara to have permission mode: 0770
fn-setup: Cannot set /fnsw/dev/1/osara to have owner/group: 80/80
```

These errors are caused by a change in the optical library driver addressing formulas. New drivers were generated when you installed the Image Services software earlier.

6 Remove the old device links by following these steps:

a Change to the /dev directory and list the fnsod entries.

```
cd  /dev
ls  -l  fnsod*
```

b Look at the dates of each of the entries. The dates of the newly installed fnsod device links will reflect the date that Image Services software was just upgraded. The old fnsod links will have dates reflecting the previous upgrade, or older.

c As a user with **root** privileges, remove all the old fnsod device links. For example,

```
rm  fnsod.0,1,2,0
```

Later in this chapter, you can reconfigure the storage libraries to use the new device links. For now, continue with the next section.

Modify TCP/IP Port Setting

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

In this section you will make your FileNet system run more efficiently by making changes to the **/etc/rc.initfnsw** file. The modification expands the number of available ephemeral ports. These modifications are not required, but have been found to be optimal when running FileNet software. So unless you have set these options for other system reasons, we suggest you make these changes.

Ephemeral ports are temporary ports assigned by a server's IP stack, and are assigned from a designated range of ports for this purpose. When network traffic is extremely heavy, it's possible to run out of ephemeral ports unless you specify the high_port_enable option in /etc/rc.initfnsw.

1. Backup the **/etc/rc.initfnsw** file.

2. As a user with **root** privileges, make sure you have write permission on the this file by entering:

chmod 754 /etc/rc.initfnsw

3 Use your preferred text editor (such as **vi**) to modify the **/etc/rc.initfnsw** file. Locate the following statement near the end of the file:

Set up network options HPUX (parameters in half-seconds)

4 Add the following line somewhere after that statement:

/usr/contrib/bin/nettune -s tcp high_port_enable 1

5 Save your change and exit from the file. This change will go into effect the next time the server is rebooted.

Reboot the Server

As a user with **root** privileges, reboot the root 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.

After the server has restarted, log on as a user with **root** privileges.

Additional Relational Database Tasks

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.

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 reside on a remote Oracle server.

1 As the FileNet software user such as **fnsw**, copy the following script from the Image Services server to the corresponding directories on the Oracle server:

/fnsw/oracle/FileNet.sql

2 Ask the Database Administrator to run this script on the remote Oracle server:

SQL>@FileNet.sql

For All FileNet Systems

Note If the IS system is configured with a Site-controlled relational database (on a local or on a remote database server), make sure that the relational database is up before running the fn_setup_rdb command.

As the FileNet software user, such as **fnsw**, enter the following command to update the IS configuration files and RDBMS related files:

```
fn_setup_rdb  -u
```

Follow the prompts to enter the requested information for your relational database.

Configure Optical Libraries (if necessary)

If you encountered **fn_setup** errors pertaining to the optical libraries earlier in this procedure, you can now reconfigure them automatically or manually. If **fn_setup** ran successfully, skip to **Chapter 5, "Completing the IS Update," on page 120**.

Launch the Configuration Editor

As **fnsw** user, start the Configuration Editor by entering:

```
fn_edit  &
```

Automatically Configure a Storage Library or ODU

Storage libraries can be configured automatically if they are physically connected to the server on which you're running **fn_edit**, and if they are fully powered on.

To configure a storage library automatically, follow these steps:

a On the Procedures tab, scroll through the list of available procedures and select **Automatically Configure a Storage Library**.

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

b After the storage library has been configured, skip to the section, **"Verify Storage Library Information" on page 118**.

Manually Configure a Storage Library or ODU

As an alternative, you can configure the storage library or ODU manually with these steps:

a On the Procedures tab, scroll through the list of available procedures and select **Manually Configure a Storage Library**.

b Respond to the prompts with the appropriate information, and 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.

After you have answered all of the prompts, **fn_edit** completes the configuration.

Verify Storage Library Information

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.

Exit the Configuration Editor

Now you can exit fn_edit by selecting Exit from the File pulldown menu. If you haven't made any changes, it's not necessary to save the file.

Build System Configuration Files

1. Still as **fnsw** user, rebuild the system configuration files by entering:

   fn_build -a

2. Verify that this command runs successfully by checking that no errors have occurred.

CAUTION If errors were reported, identify and correct the cause of the errors before continuing with the next section.

Create Links for Optical Drivers

If you reconfigured the Storage Libraries earlier in fn_edit, you now need to update the library links. If you did not reconfigure the storage libraries, skip this section.

1 As **fnsw** user, create the links by entering:

fn_util mk_links

2 Now you can run fn_setup again:

fn_setup

3 When you view the fn_setup.log file, there must be no errors.

less /fnsw/local/logs/fn_setup.log

5
Completing the IS Update

In this chapter you will finish the Image Services software upgrade.

Verify the /fnsw/etc/serverConfig File

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

In this Image Services release, the processes that use the serverConfig file have been designed to search for a file named serverConfig.custom first, and if it does not exist, to use the default serverConfig file.

At the beginning of this update procedure, you made a backup copy the **/fnsw/etc/serverConfig** file.

As **fnsw** user, compare the file you saved (/fnsw/etc/server-Config.save, for example) with the newly installed serverConfig file by entering the following commands:

```
cd  /fnsw/etc
diff  serverConfig  serverConfig.save  |  more
```

- If the file serverConfig.save contains parameters that are different from the new serverConfig, use your preferred text editor, such as **vi**, to edit the serverConfig.save file.

  If any values in the new serverConfig file are higher than those in the serverConfig.save file, **always keep the higher value.**

Rename the resulting file **serverConfig.custom**.

Verify the MasterSnmpd_start File

At the beginning of this update procedure, you made a backup copy the **/fnsw/bin/MasterSnmpd_start** file.

View the file you saved (/tmp/MasterSnmpd_save, for example) and check the destination (IP address or server name) of the System Administrator's SNMP Management station.

In the newly installed MasterSnmpd_start file, the destination address is set to "local" by default, so you might need to edit this file to insert the correct destination. For example, you would change:

```
trap_host="local"
```

to either:

```
trap_host="135.10.0.44"     -or-
trap_host="hpvenice"
```

where "135.10.0.44" is the IP address of SNMP Management station and "hpvenice" is the DNS resolvable server name of the station.

If the destination address is not set correctly, the SNMP Management station will no longer receive event notifications (traps).

Reboot the Server

Reboot the system by entering the following commands:

shutdown -ry 0

The system will shutdown and reboot automatically. When the server finishes booting, logon as **root** user.

Set the DISPLAY Variable (Optional)

The DISPLAY environment variable, normally set by the system, is lost when the following circumstances occur:

- A user switches user (**su**) from another logon (typically **root**).
- A user performs an **rlogin** from another system.
- A user resets the default host from an Xstation connected to another system.

If there appears to be no automatic way of correctly setting this variable, perform the following steps:

1 As a user with **root** privileges, check the value of the DISPLAY variable by entering:

echo $DISPLAY

2 If the DISPLAY variable has a value, the value will display. If the variable has no value, or was never set, you'll either see an empty line (Korn shell) or an error message (C shell).

If you receive either an empty line or an error message, enter the following (depending on the shell you are using):

- 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.

Note You must verify the value of the DISPLAY variable before attempting to use the COLD software.

If the DISPLAY environment variable is not set, Motif fails with errors and exits. What must happen is that COLD must verify that DISPLAY is set, and if not, log an error message, then stop.

Start the Image Services 4.1 Software

1. Logon as a FileNet user, such as **fnsw**, and enter the following command to stop all FileNet processes:

   killfnsw -DAy

2. Start the updated FileNet application software by entering:

   Xtaskman &

   The FileNet Task Manager interface displays.

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.

5 From the Event Logs window, select the DISPLAY menu. Select Dynamic. (The Dynamic option enables screen refreshes each time the messages are logged.) Switch to the FileNet Task Manager window.

6 From the FileNet Task Manager window, select START.

You will receive system messages in the Current Status window as the FileNet software starts. Once the FileNet software startup process finishes, the CLOSE button is highlighted.

7 Select CLOSE.

8 Review the contents of the Event Log window to verify that there are no error messages from the software startup.

Run spacerpt (Oracle only)

On Servers with Local Oracle Databases

If the Oracle databases, either Site-controlled or FileNet-controlled, are on the same server as Image Services, you can run **spacerpt** after the update and compare the results to the **spacerpt** you ran before the update.

1 Test the f_maint password by running **spacerpt**. At the system prompt, enter as the FileNet software user, such as **fnsw**:

- In the Bourne or Korn shell:

  spacerpt > <output_file_name> 2&1

- In the C shell:

  spacerpt > & <output_file_name> &

where <output_file_name> can be any name you choose.

Spacerpt verifies that:

- the FileNet logon and security are intact
- the Advanced internal database structure is intact
- the FileNet metadata are intact

2 If **spacerpt** does not run, verify that the f_maint password has been set and exported correctly. See **"Run spacerpt (Oracle only)" on page 44**.

3 Send the output file to your service representative. Compare the **spacerpt** output to the **spacerpt** output you ran before the Image Services upgrade.

On Servers with Remote Oracle Databases

If the Oracle databases are located on a remote Oracle server, you cannot run **spacerpt** directly because Oracle OS authentication prevents it. Instead, you must modify two script files and login to sqlplus to get space information.

1 Copy the following files from the /fnsw/oracle Image Services server to the /fnsw/oracle directory on the remote Oracle server:

/fnsw/oracle/spacerpt_summary.sql
/fnsw/oracle/spacerpt_extended.sql

2 On the remote Oracle server, use your preferred text editor, such as **vi**, to modify these two files. Remove the first line of each file:

/ as sysdba

3 Exit and save your changes.

Now you can run the **spacerpt** scripts successfully on the remote Oracle server.

4 Login to sqlplus to run the scripts:

sqlplus

5 When you're prompted, enter the user name **f_maint** and the f_maint password. See **"Run spacerpt (Oracle only)" on page 44**.

6 To run **spacerpt**, enter the following command at the SQL> prompt:

@/fnsw/oracle/spacerpt_summary.sql

7 For a more detailed report, enter:

@/fnsw/oracle/spacerpt_extended.sql

8 Send the summary report to your service representative. Compare the **spacerpt** output to the **spacerpt** output you ran prior to updating Image Services.

Test the Updated Image Services and User Applications

Verify the updated Image Services software is running properly by testing the system in native mode. Native mode is when the Image Services products are tested with customer and vendor-written APIs disabled. Scanning, indexing, committing, faxing, and printing are achieved through the manual selection of these processes through FileNet Capture Professional or Workforce Desktop.

Native mode is preferred in this case for two reasons:

- Only Image Services errors will be displayed. API-oriented errors can be tested after Image Services processes have been tested.
- Image Services errors will display during their specific stage of document entry or retrieval. This reduces your troubleshooting time.

If the optional COLD software is installed, test it by running the COLD preview.

Also test any user applications on the server to verify that they run successfully.

Re-enable Cron Jobs

Re-enable cron jobs if you disabled them before starting the upgrade.

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 your service representative.

Determine if SIM is enabled by checking for an active entry for **/fnsw/support/fnISSIM** in the root crontab file.

- If SIM is not enabled, follow the instructions in the *System Information Messenger Manual* to enable and configure the software. To download this manual from the IBM support page, see **"Accessing IBM FileNet documentation" on page 22**.
- If SIM is already enabled, perform the following steps to update the configuration files to the latest release format:
  - As a user with **root** privileges, enter:

ISRegstr

Follow the on-screen prompts to review and update all user settings. If user settings do not need modification, just press return to accept currently defined information.

At the end, answer **Y** to the prompt "Would you like to update this information?". Answer **Y** even if no user settings were modified.

- As a user with **root** privileges, enter:

  ISSIMcfg

  Follow the on-screen prompts to update all user settings. If user settings do not need modification, just press return to accept currently defined information.

  At the end, answer **Y** to the prompt "Would you like to update this information?". Answer **Y** even if no user settings were modified.

Install Service Packs and Fix Packs (Optional)

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

Now you can install any Fix Packs or Service Packs that apply to Image Services 4.1. Read the accompanying README file, which contains the instructions for installing the software. Service Packs are available on CD. Fix Packs fare available on the IBM Information Management support page (**http://www.ibm.com/software/data/support**).

Configure Font Server for COLD Preview

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

Storage Library - (Multi-server update)

Root/Index/Storage Library - (Combined server update)

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 must be the same server where the COLD software is installed, usually the Storage Library Server.

To configure the server where you plan to run FileNet COLD software, go to **"Appendix A – Configuring a Font Server for COLD Preview" on page 138** now.

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 (Cache-only systems).

If you will be configuring and setting up an MSAR System, refer to the *MSAR Procedures and Guidelines* document for information. To down-

load this document from the IBM support page, see **"Accessing IBM FileNet documentation" on page 22**.

Make System Backups

At this time, you must make a full system backup.

Server Types

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

Make backups of your system configuration. For complete information on creating system backups, refer to:

- *Image Services System Administrator's Handbook*
- *Image Services System Administrator's Companion for UNIX*
- *Image Services Enterprise Backup and Restore*
- *Image Services Third-Party Backup/Restore Guidelines*

To download these documents from the IBM support page, see **"Accessing IBM FileNet documentation" on page 22**.

Return to Production Mode

You are now finished with the FileNet Image Services update procedure, and you can return the server to normal operation.

Remove Previous Oracle File System (Optional)

After the updated FileNet Image Services and Oracle RDBMS software have been running successfully for several months, the Database Administrator or your service representative can remove the old version of Oracle as long as no other applications are using it.

Appendix A – Configuring a Font Server for COLD Preview

This appendix contains instructions for setting up and testing a Font Server on an existing HP 9000 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 must be available to the X-servers (X-terminals) displaying CDE.

The Font Server needs to include the CDE fonts in its catalog. Do this by editing the following files:

Edit the /etc/X11/fs/config File

As a user with **root** privileges, use your preferred text editor, such as **vi**, to edit the /etc/X11/fs/config file.

1. Locate the “catalogue = ...” line.
2. Verify that 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 a user with **root** privileges, you must also 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 a user with **root** privileges, 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, copy it from the /usr/config directory.

As a user with **root** privileges, 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. To find 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 IBM Information Management support page (**http://www.ibm.com/software/data/support**).

Select your version of the HP-UX operating system from the list, and 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 will see a section that says, "Font Path:", then an entry similar to this:

tcp/:7000

This entry must 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 will see a list of fonts. The first fonts on the list will be from Adobe®.

Verify the Xstation

Note Perform the steps in this section on the Xstation where you will run the COLD Preview application.

If you are not already running COLD software on the server, 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 will 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 from 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 the section, **“MSAR Systems” on page 135** of the main procedure.

Appendix B – Uninstalling Image Services

To remove the Image Services software from your server, follow these steps:

1. Log on as a user 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.bin &

   - Console mode – plain text interface:

     /fnsw/etc/uninstaller/uninstall_is.bin -console

- Silent mode – no screen display:

  /fnsw/etc/uninstaller/uninstall_is.bin -silent

Important You must use uninstall_is.bin if you decide to uninstall the Image Services software. You cannot use the Operating System tools to remove Image Services.

5 The uninstaller will lead you through the necessary steps and prompt you when it is finished.

Note The uninstaller leaves certain critical directories intact to protect existing data.

6 After the uninstaller has finished, go to the /fnsw directory and examine the remaining contents. Manually remove any unwanted files and directories.

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U.S. Patents Disclosure

This product incorporates technology covered by one or more of the following patents: U.S. Patent Numbers: 6,094,505; 5,768,416; 5,625,465; 5,369,508; 5,258,855.

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