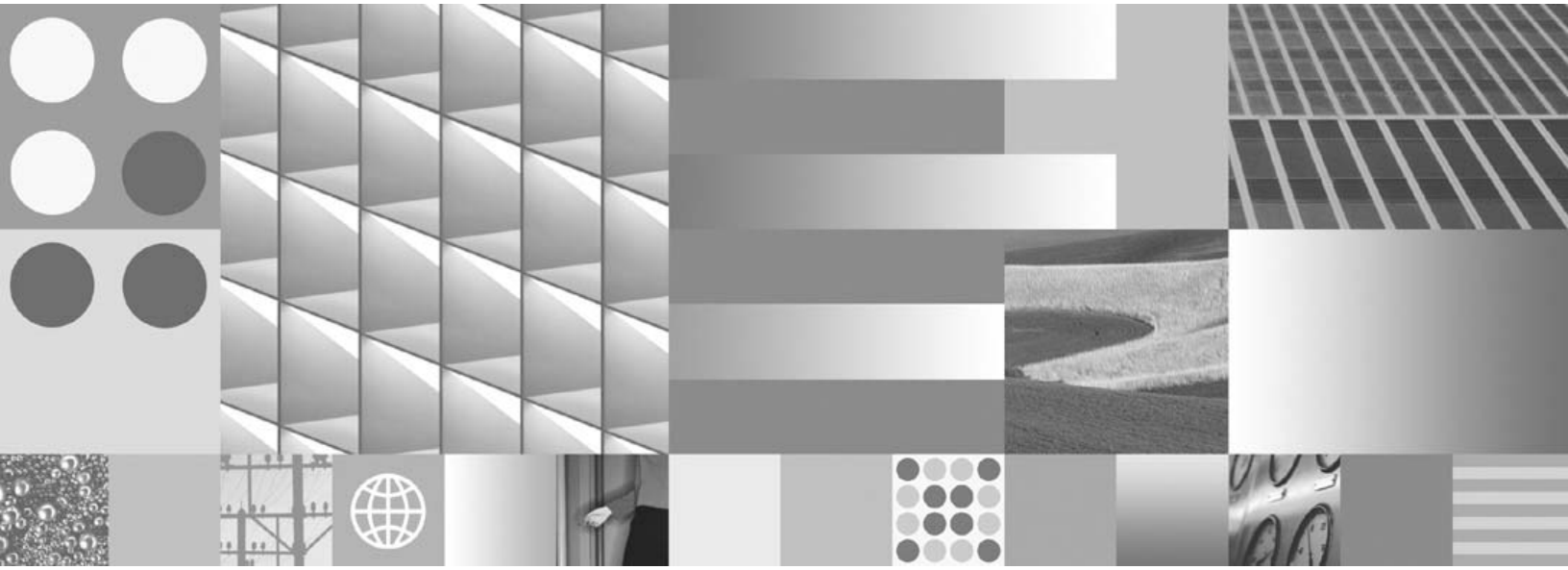
IBM FileNet Image Services

Version 4.1

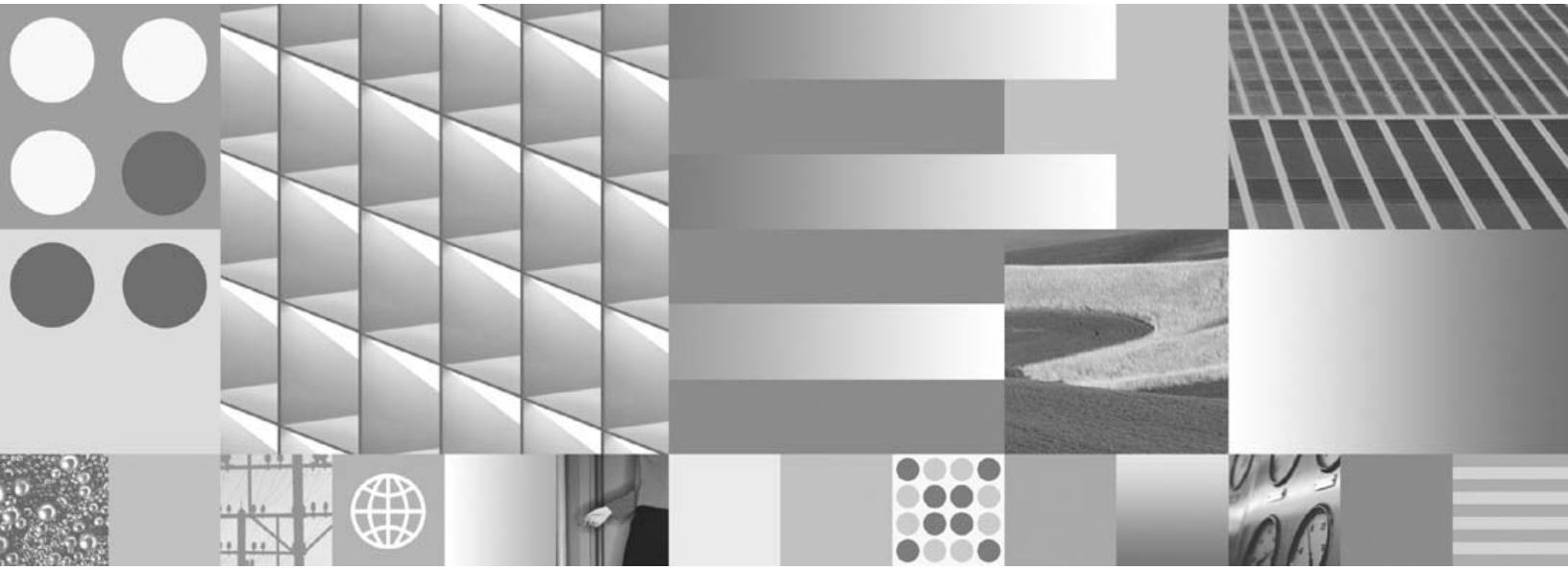


Upgrade Procedure for AIX/6000

GC31-5562-01

IBM FileNet Image Services

Version 4.1



Upgrade Procedure for AIX/6000

GC31-5562-01

Note
Before using this information and the product it supports, read the information in "Notices" on page 141.

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.

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Contents

1 Getting Started 14

Required Skills 14

Comments and Suggestions 15

Document revision history 16

New Features of the Image Services 4.1 Upgrade 16

InstallShield Installer 16

IBM DB2 Support 17

Oracle Database 10g Software 17

New MKF Security Database Schema 18

SLAC Key Installation No Longer Required 19

Upgrade Paths 20

IBM Information Management support 22

Accessing IBM FileNet documentation 23

Release Notes for Image Services 4.1 24

Release Dependency Spreadsheet 24

Operating System Notes 25

Upgrade Prerequisites 25

Minimum Hardware Requirements 26

- Server Hardware 26
- Paging Space 27
- Total Swap Space 28
- Total Disk Space 28
  - Available File System Space for Image Services Software 29
  - Space for RDBMS Software 30
- X Terminal or Equivalent 31

Software Requirements 32

- AIX Operating System Software 32
- Image Services Software 32
- IBM DB2 Universal Database Software 33

Oracle RDBMS Software 33
Upgrade Prerequisites 34

Related Documentation 36

2 System Administrator Tasks 37

Copy the Image Services .CDB File 38

Run spacerpt (Oracle only) 39

Backup the /fnsw/etc/serverConfig File 40

Shutdown FileNet Software 41

Exit IS Toolkit Applications 41
Stop FileNet Software 42

Upgrade Your System 44

Software Upgrade 44
Upgrade Image Services 44
Upgrade AIX 45
Update the Rollback Segments (Oracle 8.1.x only) 45
Run a System Check 48

Server Upgrade 49

Transitioning to a new 64-bit server 50

Install 64-bit AIX 50

Install Oracle and Image Services 51

Copy Configuration Files from the Current Root Server 51

Manually Edit the Configuration Database File 52

Initialize FileNet Databases on the Root Server 53

Perform a Full EBR Backup on the 32-bit System 53

Restore the EBR Backup onto the 64-bit System 54

Update and Verify the Oracle Version 55

Start the Image Services Software 57

Backup the System 58

Return to Production Mode 59

Continue with the Image Services 4.1 Upgrade 59

Switching from 32-bit to 64-bit Operation on an Existing Server 59

Continue with the Image Services 4.1 Upgrade 60

3 Updating Relational Database Software 61

Oracle 9i and Oracle 10g 62
Oracle Database Information 63
Oracle Variables 63
Tablespace Names and Sizes 64

IBM DB2 V8.1 and V8.2 64
DB2 Database Information 66

4 Upgrading FileNet Image Services Software 68

Back Up the System 69

Disable FileNet Related Cron Jobs 69

Load the Image Services Software 70

Run the IS Upgrade Installer 71
Launch the Image Services Installer 72
Hardware Checks 82
Operating System Checks 84
Finishing the System Check 85
Rerunning the Image Services Installer 85

Upgrading Image Services 4.1 86
Unmount the Image Services CD-ROM 88

Configure the Image Services Software 89

Install the Required Pre-Startup Fixes 89
Install the User Environment Templates 90
- Set Up the FileNet Software User Environment 91
- Set Up the root User Environment (Oracle only) 92
- Set Up RDBMS (Oracle) User Environment (if applicable) 94

Reset the Environment Variables 95
Remove TWO_TASK Variable (FileNet-Controlled Oracle Only) 95
Set File Ownerships and Permissions 96
Verify Network Options 103
Reboot the Server 104
Verify the Configuration Database 105
- Verify Oracle Version Number 106
- Verify Image Services Version Number 107
- Verify the Language and Character Set 107
- Automatically Configure a Storage Library or ODU 109
- Manually Configure a Storage Library or ODU 110
- Verify Storage Library Information 111

Increase the Size of Shared Memory 111
Exit the Configuration Editor 111

Additional Relational Database Tasks 112
For FileNet Systems with Remote Oracle Servers 112
For All FileNet Systems 113
Update IS Configuration Files 113
Reboot the Server 114
Build System Configuration Files 115
Create Links for Optical Drivers 115

5 Completing the Upgrade 117

Login and Set the Display Variable 117

Verify the /fnsw/etc/serverConfig File 118

Start the Image Services Software 121
Check for Errors 121

Run spacerpt (Oracle Only) 122
On Servers with Local Oracle Databases 122

On Servers with Remote Oracle Databases 124

Import Caches (if necessary) 126

Check Cache Partitions 129

Test The Upgraded Image Services and User Applications 131

Native Mode 131

Production Mode 132

Re-enable Cron Jobs 132

Configure the System Information Messenger 132

Install Remaining Fixes 134

Copy User Profile and Environment Files 134

Install MSAR 137

Back Up the System 138

Return to Production Mode 138

Remove Previous Oracle File System (Optional) 138

Appendix A – Uninstalling Image Services 139

Notices 141

Trademarks 146

U.S. Patents Disclosure 147

Index 149

1
Getting Started

This document describes how to upgrade to IBM® FileNet® Image Services Version 4.1 software with either Oracle 9i/10g RDBMS software or IBM DB2® RDBMS software server running the AIX/6000 operating system.

Required Skills

Upgrade 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.

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

- UNIX®
- A text editor such as **vi**
- AIX® logical volume management
- System Management Interface Tool - SMIT (this document uses the command line version of SMIT known as **smitty**)
- Relational Database Administration

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 part number of the book (if applicable). If you are commenting on specific text, include the location of the text (for example, a chapter and section title, a table number, a page 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 Image Services includes the following new features:

InstallShield Installer

This release of Image Services incorporates an InstallShield MultiPlatform Installer. Before installing the Image Services software, the installer performs a series of system configuration checks to verify that the AIX 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, and then go forward to rerun that check again. The AIX server must pass the System Check successfully before the Installer installs the Image Services software.

IBM DB2 Support

This release of Image Services supports IBM DB2 Universal Database™ V8.1/V8.2. The DB2 databases are site-controlled and must reside on remote AIX 5.2/5.3 or Solaris 9/10 servers. See Guidelines for Installing and Configuring DB2 Software for more information.

Oracle Database 10g Software

In addition to support for Oracle 9i, this release of Image Services includes support for Oracle Database 10g Standard or Enterprise Edition (32-bit or 64-bit). This applies to FileNet-controlled as well as site-

controlled Oracles installations. The Oracle 10g software requires **3.5 GB** of free space for installation.

Note The Oracle media are not supplied by IBM.

The Database Administrators of Site-controlled Oracle installations should refer to the *Guidelines for Installing and Updating Oracle Software for UNIX Servers* for information they need to provide to the System Administrator and the service representative for this upgrade. To download the guidelines from the IBM support page, see **"Accessing IBM FileNet documentation" on page 23**.

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.

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

If you are updating from IS 4.0 SP5, your MKF Security database has already been upgraded.

SLAC Key Installation No Longer Required

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 Installer.

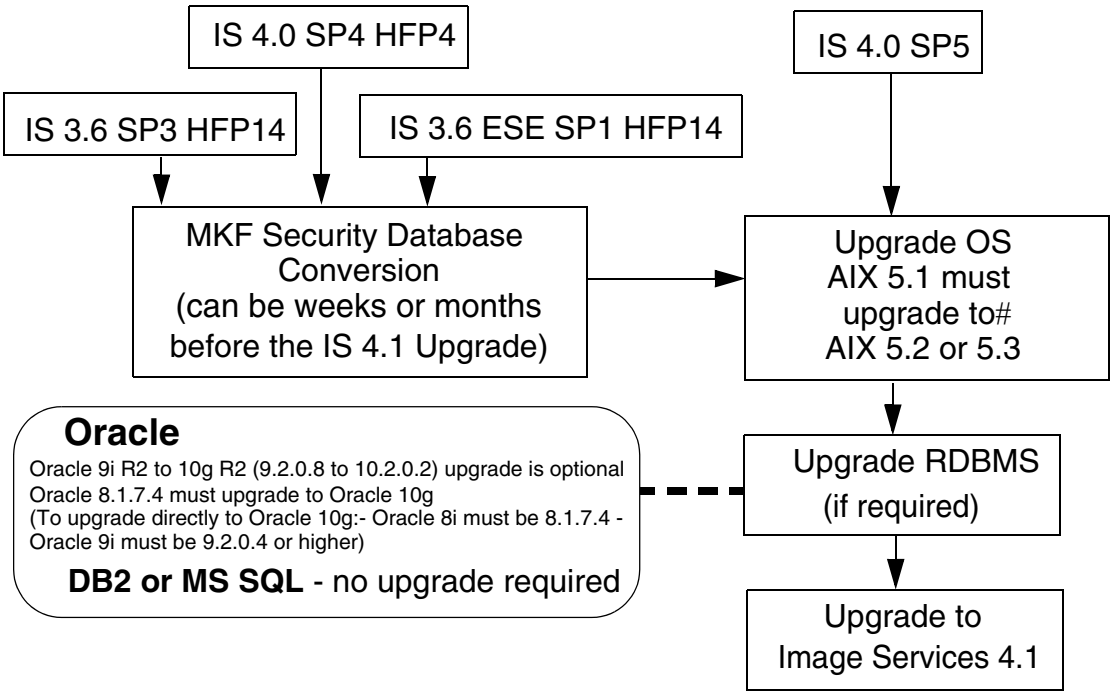
Upgrade Paths

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)/AIX 5.1
- IS 3.6 ESE / Oracle 8i (8.1.7.4)/AIX 5.1
- IS 4.0 SP4 / Oracle 9i (9.2.0.4)/AIX 5.1, AIX 5.2, AIX 5.3
- IS 4.0 SP4 / DB2 8.1 FixPak12 or DB2 8.2 FixPak5
- IS 4.0 SP5 / Oracle 9i (9.2.0.4)//AIX 5.1, AIX 5.2, AIX 5.3
- 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.

Upgrade Paths



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.

IBM Information Management support

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

You will need an IBM-issued login name and password to access the Web site.

Some of the documents that you can download 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 that you need, to install and configure Image Services software. Do not start the update without first reading the Release Notes.

Release Dependency Spreadsheet

Review the Release Dependency spreadsheet for information that might pertain 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.

Operating System Notes

Review the Operating System Notes for your current version of AIX to determine if any patches need to be installed prior to this Image Services update. The System Administrator is responsible for obtaining and installing these patches.

Upgrade Prerequisites

The prerequisites for upgrading Image Services software are included in the following sections. It is 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 update procedure correctly.

Minimum Hardware Requirements

Server Hardware

- **AIX 64-bit** processors for all servers with Oracle9i or 10g software including Root/Index servers and Application servers with either WorkFlo Queue Services, SQL Services, or VWServices.

Note Oracle 9i software is compatible with both 32-bit and 64-bit AIX servers. Oracle 10g is compatible with only 64-bit servers. DB2 databases must be located on remote AIX or SUN servers.

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

Note For Oracle, the kernel can be 32- or 64-bit but the hardware must be 64-bit.

- Root/Index and Application Servers with DB2:

  512 MB memory or more for each processor in the server.

- Storage Library and Application Servers without Oracle:

  512 MB memory for each processor in the server.

- To see the amount of usable memory, enter:

  lsattr -E -l sys0 -F 'description value' -a 'realmem'

Paging Space

- Oracle recommends that paging space be **2 times** the amount of server memory. For example, a server with 512 MB of memory would require 1 GB of paging space.

Note On systems with more than 2 GB of physical RAM memory, the requirements for paging space can be lowered, but it should never be less than the amount of physical RAM memory.

Note For more information on IBM recommendations on paging space, see the IBM AIX Web site at **http://www.rs6000.ibm.com/doc_link/en_US/a_doc_lib/aixbman/baseadmn/pg_space_vm.htm#pagingsp**

Total Swap Space

Oracle recommends that swap space be **2 times** the amount of server memory. For example, a server with 512 MB of memory should have at least 1 GB of swap space.

However, if the server has more than 1 GB of server memory, Oracle recommends 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 Solaris Operating System or for RDBMS software.

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

Available File System 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** total space in /fnsw.

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

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

Tip If you don't have enough space in /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 9i**, refer to the *Guidelines for Installing and Updating Oracle 9i Software for UNIX Servers* for more information about space requirements.
- **For Oracle 10g**, refer to the *Guidelines for Installing and Updating Oracle 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 23**.

- The FileNet SCouT system configuration and output tool can help estimate the actual amount of disk space needed for FileNet and RDBMS datasets on this Image Services system.

X Terminal or Equivalent

You must use an X-station, or a workstation that supports X Windows or Common Desktop Environment (CDE), or a PC with an X Windows emulator when running the Installer.

Software Requirements

To perform the upgrade to Oracle 9i, Oracle 10g, DB2 and Image Services 4.1, you'll need these media:

AIX Operating System Software

The following AIX operating systems are supported with this release of Image Services software:

- AIX 5.2 TL 8,9
- AIX 5.3 TL 3,4

Note Be sure to upgrade to one of these versions of AIX **BEFORE** you upgrade the IS and RDBMS software.

Image Services Software

- **Image Services 4.1 for AIX/6000** (eSD image or software CD). 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 UNIX* for more information. To download the guidelines from the IBM support page, see **"Accessing IBM FileNet documentation" on page 23**.

Oracle RDBMS Software

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

Refer to the *Guidelines for Installing and Configuring Oracle 9i Software for UNIX* or *Guidelines for Installing and Configuring Oracle 10g Software for UNIX* for more information. To download these guidelines from the IBM support page, see **"Accessing IBM FileNet documentation" on page 23**.

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

Prerequisites	Comments
Read FileNet Release Notes.	Available at IBM Information Management support page at **www.ibm.com/software/data/support**.To download this document from the IBM support page, see **"Accessing IBM FileNet documentation" on page 23**.
Install HP-UX patches, if needed.	Check the IBM Information Management support page 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 at **www.ibm.com/software/data/support**.
Back up the entire system.	Include FileNet datasets, cache, and AIX.

Table 1-1: Upgrade Prerequisites, Continued

Prerequisites	Comments
Obtain proper software for Image Services and Oracle software	Refer to the section, **"Software Requirements" on page 32**
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)
Create a home directory for the **oracle** user, if necessary	Do not use /usr/oracle or the same directory where Oracle software is stored.
Verify/Add sufficient contiguous Oracle System tablespace.	Do this immediately prior to running the Upgrade.
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 Documentation

As you read this procedure, you may see references to other documents you may need to review. They are included on the following list. You may want to keep these documents handy in case you need to use them during this upgrade.

The following documents are contained in the *Image Services 4.1 Documentation suite:*

- *Image Services System Administrator's Handbook*
- *Image Services System Administrator's Companion for UNIX*
- *Image Services Installation and Configuration Procedures for AIX/6000*
- *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 23**.

2
System Administrator Tasks

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 access the team's latest list of current scheduling procedures.

- Schedule the upgrade and review the 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.

You can send files or other output using e-mail or you can FTP the files, copy them to physical media, and mail them.

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 may 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.

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 **fnsw** user, 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 **fnsw** user, 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 **fnsw** user.

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.

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 displayed by entering:

```
killfnsw  -DAy
```

The -D option kills FileNet daemons (such as TM_daemon). It can be specified if the TM_daemon process is to be terminated. Normally, this

process stays running across initfnsw stop cycles, but on occasion, 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>

Upgrade Your System

Before you can use the Installer to upgrade Image Services, you will need to upgrade your system. This section describes software and operating system upgrades as well as transitioning to 64 bit server operation.

Software Upgrade

Before updating to IS 4.1 you must complete the following steps in order.

Upgrade Image Services

Upgrade Image Services to:

- IS 3.6 SP3, IS 3.6 ESE SP1
- IS 4.0 SP4 or SP5

Upgrade AIX

Upgrade the AIX operating system to:

- AIX 5.2 TL 8,9 or above
- AIX 5.3 TL 4,5 or above

Update the Rollback Segments (Oracle 8.1.x only)

Note If you have a Site-controlled Oracle system, the DBA should consult the Oracle documentation for information on updating rollback segments.

The Oracle Universal Installer cannot install Oracle9i or Oracle 10g until the rollback segments have been expanded. Image Services provides software to do this automatically for FileNet-controlled Oracle systems.

1 To update the rollback segments, locate the following files on your server:

- Copy **oraaltrbs8** into the **/fnsw/bin** directory.
- Copy **fn_oraaltrbs8.sql** into the **/fnsw/oracle** directory.

2 Use the chmod command to set the permissions for each of these files to 755.

3 As **oracle** user, start the Oracle software by entering:

fn_util startrdb

4 Make sure all FileNet production rollback segments are online. (If they're listed in the init.ora file, they will be.)

Use **svrmgrl** to execute the following select statement to report the status of the rollback segments:

select segment_name, owner, status from dba_rollback_segs;

The expected output will be similar to this:

```
SEGMENT_NAME                   OWNER    STATUS
SYSTEM                         SYS      ONLINE
RSYS                           SYS      OFFLINE
RS0                            PUBLIC   ONLINE
RS1                            PUBLIC   ONLINE
RS2                            PUBLIC   ONLINE
RS3                            PUBLIC   ONLINE
```

The FileNet production rollback segments should be owned by PUBLIC or SYS, and will usually have names such as RS0, RS1, and so on. (All rollback segments should be listed in the init.ora file.) A secondary SYSTEM rollback segment, usually called RSYS, may be present. It's all right if this segment is offline.

If a production rollback segment is not online, the fn_oraaltrbs.sql script will fail and produce an error message. An offline production rollback indicates a problem.

Tip Use your preferred text editor, such as **vi**, to examine the init.ora file and verify that all the rollback segments displayed by the select statement are also specified there. For example:

rollback_segment = rs0, rs1, rs2, rs3

If necessary, add any missing rollback segments to this line, and restart Oracle.

5 Update the rollback segments by entering:

/fnsw/bin/oraaltrbs8

Oraaltrbs8 calls the fn_oraaltrbs8.sql SQL script to update the rollback segments.

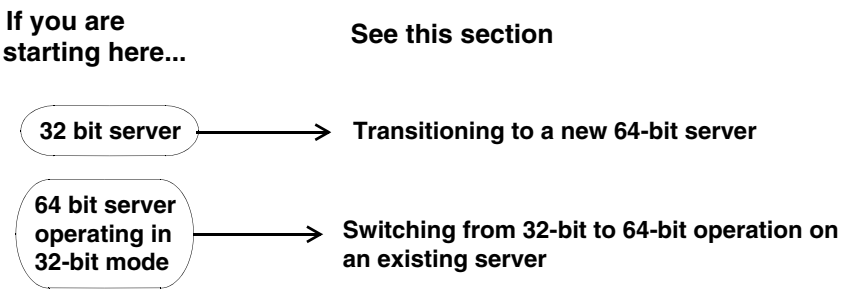
Run a System Check

Perform a system check on the running AIX 5L 32-bit/Oracle 8.1.7/IS 3.6 SP 2 system to verify your rollback segments.

CAUTION **Do not skip this step!** Later in this procedure, the Installer will check previous system check files to verify that you had a running system under the AIX 5L 32-bit/Oracle 8.1.7/IS 3.6 SP 2 configuration. If you try and run the installer after you upgrade to the AIX 64-bit system, but have not run the system check described at this point, the Installer will not let you proceed.

Server Upgrade

To upgrade to Image Services 4.1 and Oracle 10g, you must upgrade to an AIX 5L 64-bit server. If you currently use a 32-bit AIX server or a 64-bit AIX server operating in 32-bit mode, you must upgrade as shown below:



Note If you are using a 64-bit server, ensure that it is configured for 32-bit operation before attempting to upgrade.

Transitioning to a new 64-bit server

On the new server, install your current version of 32-bit AIX, 32-bit Oracle 8.1.7 and 32-bit Image Services 3.6. Refer to the *Image Services Installation and Configuration Procedures for AIX*. To download this document from the IBM support page, see **"Accessing IBM FileNet documentation" on page 23**.

You can name the new system anything you wish (within the standard guidelines described in the installation procedure).

Install 64-bit AIX

Upgrade your operating system to AIX 5.3 64-bit.

Install Oracle and Image Services

Install the Oracle 10g software and the Image Services 4.1 software according to the *Image Services Installation and Configuration Procedures for AIX*. To download this document from the IBM support page, see **“Accessing IBM FileNet documentation” on page 23**.

Make sure the new server is attached to the network.

Copy Configuration Files from the Current Root Server

On the Root server, use **ftp** (file transfer protocol) binary transfer to copy the following configuration files from the 32-bit Root server to the new 64-bit Root server:

- The most recent CDB file (/fnsw/local/sd/conf_db/IMSxxx.cdb)
- The Server Configuration file (/fnsw/etc/serverConfig)
- The EBR backup datafile and Oracle signature file
- Copy the Oracle initialization file (init.ora)...
  - From /fnsw/local/oracle on the 32-bit server

- To /fnsw/local/tmp on the 64-bit server

Manually Edit the Configuration Database File

Use your preferred text editor, such as **vi**, to edit the Configuration Database.

CAUTION

The Configuration Database file is normally edited only by using the **fn_edit** tool. This is probably the only time you'll ever have to modify the CDB file by hand! Please be extremely careful!

- Locate the server name in the CDB file and change it to the name of the new 64-bit server.
- Locate the IP address in the CDB file and change it to the IP address of the new 64-bit server.

Exit from the text editor and save your changes.

Important!

Make sure the name of the newly edited CDB file has the highest sequence number of any other CDB files that may already be on this

server. If necessary, rename the file.

The **fn_build** tool will use the highest numbered CDB file to rebuild the configuration files on the server.

Initialize FileNet Databases on the Root Server

As the FileNet software user, such as **fnsw**, initialize all databases configured on your server:

```
fn_setup_rdb  -u
```

Perform a Full EBR Backup on the 32-bit System

When you're ready to make the transition to the new 64-bit system, use the FileNet Enterprise Backup and Restore program to make a full backup of the 32-bit system.

Refer to the *Image Services Enterprise Backup and Restore User's Guide* for complete information on using EBR. To download this guide

from the IBM support page, see **"Accessing IBM FileNet documentation" on page 23**.

Restore the EBR Backup onto the 64-bit System

Restore the data from the 32-bit system onto the 64-bit system. Again, refer to the *Enterprise Backup and Restore User's Guide* for full information. To download this guide from the IBM support page, see **"Accessing IBM FileNet documentation" on page 23**.

- In the EBR dataset definition file (.ddf) and the device definition file (.dev), make sure the location parameters are set to the name of the new 64-bit server.
- In the EBR restore script (.res), add the following statement under the **restore_option** heading for the Oracle index database:

  rollforward = false;

Update and Verify the Oracle Version

1. As the FileNet software user, such as **fnsw,** launch the FileNet System Configuration Editor by entering:

   fn_edit &

2. Click **OK** in the initial dialog box.

3. When the main System Configuration Editor window displays, click the Relational Databases tab.

   The Oracle sub-tab should be on top. If not, click the Oracle sub-tab to bring it to the front.

4. On the Oracle sub-tab, locate the Version field. The Oracle version should be **10.2.0.2**.

   - If the version is not 10.2.0.2, you need to install the correct version of Oracle on the server.
   - If the version is correct, continue with the next step.

5 Now you can exit fn_edit by selecting Exit from the File pulldown menu. Be sure to save your changes to the configuration database when you are prompted.

6 Make sure the Image Services software is shutdown by entering:

```
initfnsw -y stop
```

7 As the FileNet software user, such as **fnsw**, rebuild the configuration files and start Oracle again by entering:

```
fn_build -a
fn_util startrdb
```

Note Stopping the database as you did in the previous step and then starting it again takes it out of migrate mode.

8 Then run the following command to add new stored procedures to the Oracle database:

```
oraupgrade_sp
```

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

9 Stop Oracle by entering:

fn_util stoprdb

Start the Image Services Software

1 As the FileNet software user, such as **fnsw**, start the task manager by entering:

Xtaskman &

2 Click on the Monitor pull-down menu, then select Event Logs. You will see a new window displaying event logs.

3 Click on the DISPLAY pull-down menu from the Event Log window, then select the option Dynamic. This allows the event window to be refreshed whenever messages are logged.

4 Click the Start or Restart button on the Task Manager window. This will start Image Services and dynamically display system events in the Event Log window.

5 View the Event Log window for possible error messages. Take any necessary corrective action.

6 Close the Event Log and Xtaskman windows.

Backup the System

After successfully making all of the configuration changes, make a system backup. For information about system backups, refer to:

- *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 23**.

Return to Production Mode

Image Services 4.1 and Oracle 9i or 10g are successfully installed on your 64-bit AIX system, and your datasets have been successfully transferred. You can start FileNet Image Services and place the system in normal operation.

Continue with the Image Services 4.1 Upgrade

When you're ready to upgrade to Oracle9i or 10g and Image Services 4.1, continue with **"Updating Relational Database Software" on page 61**.

Switching from 32-bit to 64-bit Operation on an Existing Server

If your system is already running on a 64-bit server running in 32-bit mode, you simply have to upgrade the operating system kernel.

Use the following commands to make the 64-bit kernel the running kernel:

ln -fs /usr/lib/boot/unix_64 /unix

ln -fs /usr/lib/boot/unix_64 /usr/lib/boot/unix

bosboot -ad/dev/ipldevice

Reboot your system after running these commands.

Continue with the Image Services 4.1 Upgrade

When you're ready to upgrade to Oracle10g and Image Services 4.1 continue with **"Updating Relational Database Software" on page 61**.

3

Updating 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.

If you are configuring a Storage Library server or an Application server that does not require Oracle, skip to **Chapter 4, "Upgrading FileNet Image Services Software," on page 68**.

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

Image Services on Unix servers 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 and Oracle 10g” on page 62**
- **“IBM DB2 V8.1 and V8.2” on page 64**.

Oracle 9i and Oracle 10g

If the Oracle software and datasets will 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.

To download this guidelines from the IBM support page, see **“Accessing IBM FileNet documentation” on page 23**.

Give this document to the Database Administrator.

Oracle Database Information

After Oracle9i has been successfully installed, the Database Administrator must provide the following Oracle variables and tablespace names and sizes.

Oracle Variables

$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	
fninx_ts (optional for indexes)		200	
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, "Upgrading FileNet Image Services Software," on page 68**.

IBM DB2 V8.1 and V8.2

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. Refer to ***Chapter 2*** of the *Guidelines for Installing and Configuring DB2 Software for UNIX Servers* for further information.
- The ***DB2 client*** software must be installed on the AIX 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 UNIX Servers* for details.

To download the guidlines from the IBM support page, see **“Accessing IBM FileNet documentation” on page 23**.

Give the Guidelines document to the Database Administrator.

DB2 Database Information

After DB2 has been successfully installed, the Database Administrator must provide the following information.

	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)

After you have this information, you're ready to install the FileNet Image Services software. Continue with **Chapter 4, "Upgrading FileNet Image Services Software," on page 68**.

4

Upgrading FileNet Image Services Software

This chapter contains procedures to upgrade the Image Services Software. It assumes that compatible versions of AIX and relational database software have already been installed.

Server Types

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

This chapter covers software update issues that include:

- Updating FileNet Image Services software and fixes
- 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, if necessary.

Back Up the System

You should make sure that you made a recent full backup of your server before you proceed. This especially applies if you made changes to your system due to system check errors.

Disable FileNet Related Cron Jobs

There may be some FileNet-related cron jobs that access the FileNet databases. You will need to disable these cron jobs for the duration of the upgrade. You will re-enable the cron jobs after the upgrade is complete.

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

Load the Image Services Software

Note If you're running the upgrade Installer from a network drive, skip to section, **"Run the IS Upgrade Installer" on page 71**.

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

```
cd /
```

2 If your are installing from a CD, 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
```

4 Mount the CD-ROM device on the /cdrom directory with a command similar to the following:

mount -rv cdrfs /dev/cd0 /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.

- It runs a System Check to verify configuration prerequisites.
- It upgrades the Image Services software.

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

Note The Image Services software can be running when performing the System Check. To run both the System Check and the upgrade installer, the FileNet Image Services software must not be running.

The Installer 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.

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

Launch the Image Services Installer

The Image Services Installer can be run in graphical, console or silent mode.

- Graphical mode is the default graphical interface and is described later in this section.

- Console mode offers a plain text interface for workstations that do not support graphical mode.
- Silent mode displays nothing on the screen while the installer is running. The user should review the install log file for access to the progress and results of the installation.

1 Log on as a user with **root** privileges.

2 If you are running this program in graphical mode 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 are running the Installer in graphical mode 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 the appropriate options.txt file on the eSD image or software CD. The option file contains 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.

- Graphical mode

  ./is_4.1.0_aix.bin &

Note The trailing “&” detaches the installer from the console window, thereby freeing up the console window for use in correcting any configuration errors reported by the installer as it is running.

- Console mode

  ./is_4.1.0_aix.bin -console

- Silent mode

  ./is_4.1.0_aix.bin -silent -options /tmp/opt.txt

  where /tmp/opt.txt is the location of the text file you modified in step 4. 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, you might enter:

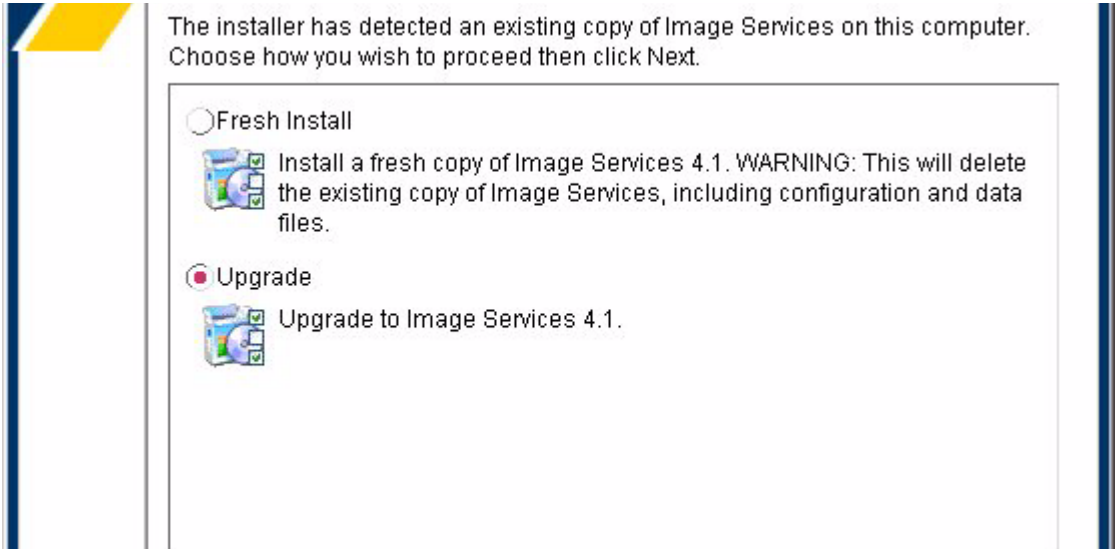
./is_4.1.0_aix.bin -is:tempdir /othertmp

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

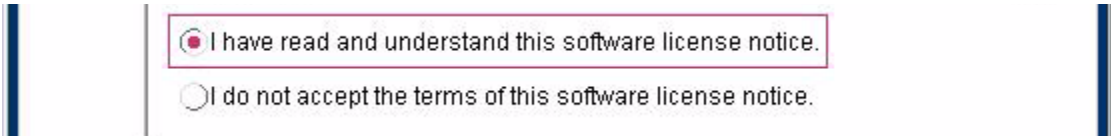
6 In graphical mode, you'll see the following screens. It might take a few minutes to display. In the meantime, a series of dots displays in the console window.

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

7 The installer allows you to choose from a Fresh install or an Upgrade. Select the Upgrade option.


The installer has detected an existing copy of Image Services on this computer.
Choose how you wish to proceed then click Next.
Fresh Install
Install a fresh copy of Image Services 4.1. WARNING: This will delete the existing copy of Image Services, including configuration and data files.
Upgrade
Upgrade to Image Services 4.1.

8 Take a moment to read 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**.

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

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

- Hardware checks
- Operating System 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. Items in the status column are color coded to indicate:

- **Green** indicates the check has passed.
- Yellow indicates that the item has failed but the installer can continue
- **Red** indicates that a check has failed and the installer cannot continue

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
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:

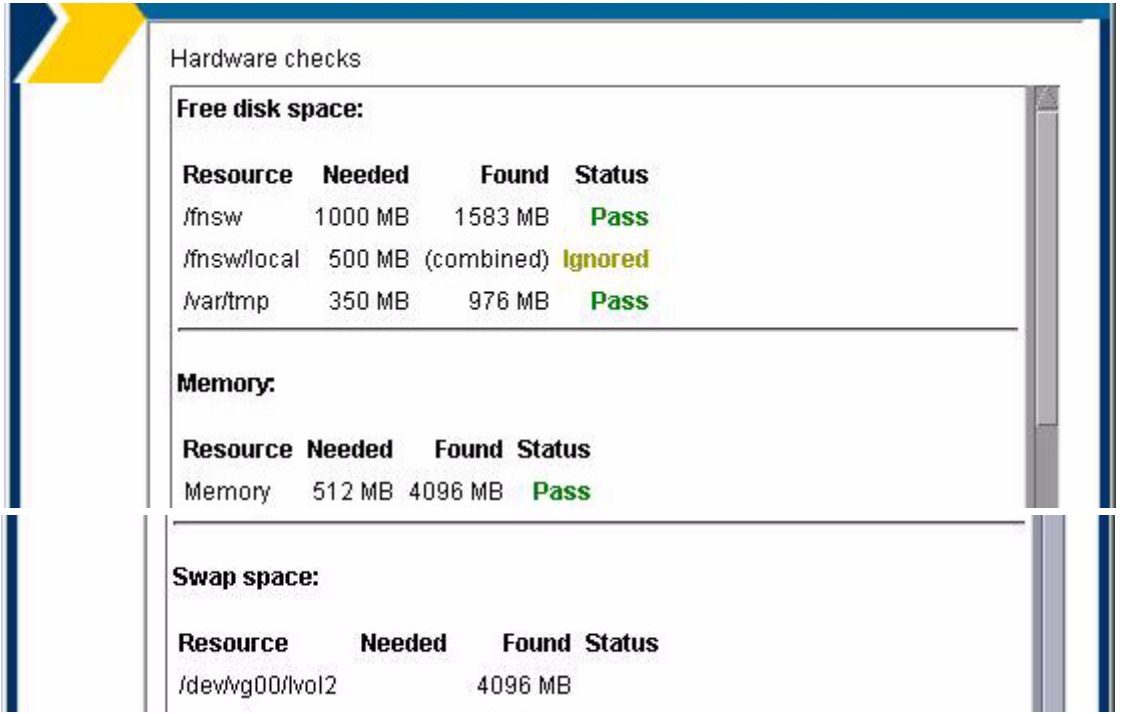
- Free disk space
- Memory
- Swap Space

The 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 as follows:

a In a separate window, make the necessary change.

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** to continue.

Operating System Checks

The Operating System Checks screen displays:

- Host name
- O/S version
- Debugger
- Kernel Parameters

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

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

In a separate window, enter the correct values.

Click **Next** on the installer screen to run the hardware check again.

Finishing the System Check

When the System Check is complete it has either passed or failed.

If the System Check failed with errors, you must fix all the error conditions reported. You can then run the System Check again.

If the System Check passed all its tests, but generated warnings for the swap space, debugger, or kernel parameter tests, check the log file for additional items you need to correct.

If the Installer System Check completed successfully and you selected the option to install Image Services software, the Installer continues with the section, **“Upgrading Image Services 4.1” on page 86**.

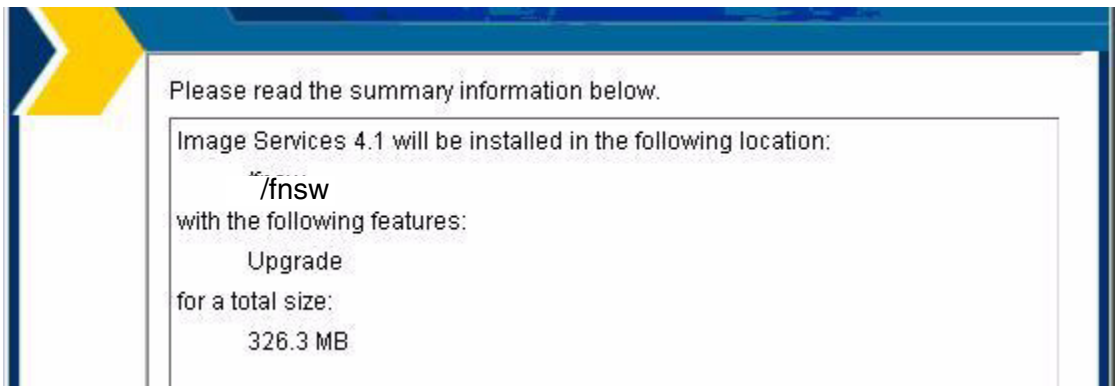
Rerunning the Image Services Installer

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

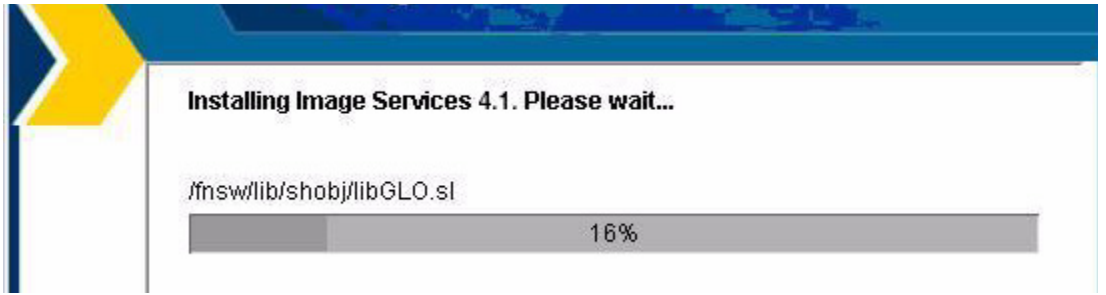
After you have made the changes required by the Installer System Check, return to **"Launch the Image Services Installer" on page 72** and run the System Check again.

Upgrading Image Services 4.1

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



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



Depending on your server's processor speed, expect the update to take approximately **20 minutes**. (If you're updating 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 prompts you to restart your computer so that the upgrade can take effect.

Unmount the Image Services CD-ROM

If you are installing the IS software from CD-ROM media, unmount the CD by entering:

```
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 upgraded.

Install the Required Pre-Startup Fixes

Note You need to perform this task only if you upgraded the RDBMS.

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 fixes after the upgrade has been successfully competed.

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

Install the User Environment Templates

Note You need to perform this task only if you upgraded the RDBMS.

In this section, you will use the **inst_templates** script to set up profile and environment files that are customized for Image Services. (You should run **inst_templates** as both the FileNet user and a user (fnsw) with **root** privileges.) 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 .old files are given .old extensions, and each time you run inst_templates after that, n 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 FileNet Software User Environment

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

Note After you logon as **fnsw** 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 (for Oracle software) is set correctly and that the ORACLE_SID variable is set correctly in the .profile and .cshrc files.

Set Up the root User Environment (Oracle only)

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

2 On servers with Oracle software, verify that the ORACLE_HOME (for RDBMS software) and the ORACLE_SID variables are set correctly in the /etc/rc.initfnsw file.

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** user.

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, **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.

Remove TWO_TASK Variable (FileNet-Controlled Oracle Only)

Note The TWO_TASK variable is only used with site-controlled Oracle databases located on remote Oracle servers.

If you answered **n** (No) to any of the **inst_templates** prompts to preserve the customized environment files (for example, .cshrc, .login, .profile, and so on), the FileNet customized template files were not installed.

In the case of the templates not being installed automatically, you must manually edit the settings in your customized environment files. The template files are located in /fnsw/etc/*.template.

Users of FileNet-controlled Oracle should remove every occurrence of the TWO_TASK variable from each of their customized environment files.

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 upgraded 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 the guidelines from the IBM support page, see **“Accessing IBM FileNet documentation” on page 23**.

Even though fn_setup runs as the **root** user, 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 a user with **root** privileges 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 [sunrise: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 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 [/usr/ora/920]:
```

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 displays the information you supplied so you can confirm your entries:

```
This is the setup configuration:
     NCH server name:  sunrise:YourCorp
     SSN:  11008016xx
     Relational database type:  oracle
     Relational database home:  /usr/ora/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.

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 sunrise: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 104**.

- 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.

Verify Network Options

Ephemeral ports are assigned for temporary use from a designated range of port numbers. When network traffic is extremely heavy, your

system might run out of ephemeral ports unless you specify a wider range of port numbers.

Run the following commands to maximize the range of ephemeral ports in the **/etc/tunables/nextboot** file:

```
/usr/sbin/no –p –o tcp_ephemeral_high=65535
/usr/sbin/no –p –o tcp_ephemeral_low=42767
/usr/sbin/no –p –o udp_ephemeral_high=65535
/usr/sbin/no –p –o udp_ephemeral_low=42767
```

Reboot the Server

As a user with **root** privileges, reboot the root server by entering:

```
shutdown -Fr
```

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

Verify the Configuration Database

1. To start the FileNet System Configuration Editor, start CDE or X Windows.
2. Open a new X Window, and as a FileNet user such as **fnsw**, enter:

   fn_edit &

3. Verify that the two-part domain information is correct. (The two-part domain name is structured as follows: <Domain>:<Organization>.)
4. Verify that the Read Only box is NOT checked. Click **OK**.
5. In the Configuration Editor, examine each tab in sequence to verify that the Configuration Database contains accurate information about your system.

Note The online help contains information on all of the available Configuration Editor settings and options. Access the online information by

selecting the Help menu option in the FileNet System Configuration Editor window.

Verify Oracle Version Number

Click the Relational Databases tab. The Oracle sub-tab will be on top. If not, click the Oracle sub-tab to bring it to the front.

Scroll to the right and locate the Version Number field. Verify that the Oracle version number is correct. This version number is updated automatically for FileNet-controlled installations, but might not be updated for Site-controlled installations.

If necessary, change the version number to reflect the version of Oracle currently installed. For example, for a Site_controlled system on which Oracle 9i Patch Set 6 has already been installed, you would enter:

9.2.0.6.0

Verify Image Services Version Number

Verify the Image Services version number listed in the System Configuration database matches the actual version number of the software currently installed.

1. From the main System Configuration Editor window, select the System Attributes tab.

2. Click on the Software Release field to display the version number. If the correct number, 4.1, is not shown, return to the section, **"Launch the Image Services Installer" on page 72**, and re-install Image Services 4.1.

Verify the Language and Character Set

1. On the Relational Databases tab, click on the Oracle subtab. Scroll to the right to see the Language and Character Set fields.

2. The default language is American (American English). Other valid languages are French and German. Choose the language in which you want FileNet system messages to appear.

CAUTION **Do not** change the character set unless you are sure that no Oracle index values will be affected.

3 The default character set is American, US7ASCII. Other valid character sets are:

Western European	WE8ISO8859P1
Eastern European	EE8ISO8859P2
South European	SE8ISO8859P3
Northern & Northeastern European	NEE8ISO8859P4
Latin/Cyrillic	CL8ISO8859P5
Latin/Arabic	AR8ISO8859P6
Latin/Greek	EL8ISO8859P7
Latin/Hebrew	IW8ISO8859P8
Western European & Turkish	WE8ISO8859P9
North European	NE8ISO8859P10

The character set must match the operating system character set and the NLS national language you chose during the Oracle installation. This is the character set that will be used for indexing.

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 111**.

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.

Increase the Size of Shared Memory

On the Performance tuning tab, verify that Max Shared Memory is set to 640 (MB).

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.

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 will 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

Update IS Configuration Files

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

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 fn_setup_rdb.

Reboot the Server

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

As a user with **root** privileges, reboot the server by entering:

```
shutdown -r 0
```

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

Build System Configuration Files

1 Still as a FileNet software user, rebuild the system configuration files by entering:

fn_build -a

2 Make sure 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 upgrade the library links. If you did not reconfigure the storage libraries, skip this section.

1 As a FileNet software 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 should be no errors.

less /fnsw/local/logs/fn_setup.log

5
Completing the Upgrade

This is the final phase of the upgrade procedure. In this chapter you will verify that the upgrade was successful. You need to:

- Verify the Configuration Database and Other Files
- Perform Various System Tests
- Re-enable cron jobs

Login and Set the Display Variable

1. Login as the FileNet software user, such as **fnsw**.
2. If you are running this program from a remote terminal, make sure you export the display to your current terminal. For Korn shell, enter:

   export DISPLAY=<your hostname:0.0>

For C-shell, enter:

setenv DISPLAY <your hostname:0.0>

3 If you are running this program from a remote terminal or from an X console at the server, make sure you allow access to the host display by entering the following:

xhost +

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

Verify the /fnsw/etc/serverConfig File

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

The Installer handles the /fnsw/etc/serverConfig file differently in the Image Services 4.1 release. Also, the processes that use the server-Config file have been designed to search for a file named server-

Config.custom first, and if it does not exist to use the default serverConfig file.

When the Installer upgrades the serverConfig file, it looks to see if you already have a customized file named serverConfig.custom.

- If the Installer cannot find a serverConfig.custom file, it copies your existing serverConfig file to a temporary serverConfig_YYMMDD_HHMM file (where YYMMDD are the year, month, and day; and HHMM are the hour and minute). Then the Installer installs the new serverConfig file in its place.
  - If the contents of the two files are **different** (except for the file stamps), the Installer renames the temporary date/time-stamped file to serverConfig.custom.
  - If the contents of the two files are **identical** (except for the file stamps), the Installer removes the temporary serverConfig file, and the newly installed serverConfig file becomes the default.
- If the Installer finds a serverConfig.custom file, or if the format of the new serverConfig file has changed from previous IS software releases, the existing serverConfig or serverConfig.custom file is

copied to serverConfig.conflict, and the Installer installs the new serverConfig file.

In this situation, the System Administrator must compare the two files (serverConfig and serverConfig.conflict) to determine which one to keep (or edit) and rename to serverConfig.custom, and which one to remove.

To compare the two files, you would enter, as the FileNet software user, such as **fnsw**:

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

As long as a serverConfig.conflict file exists, the System Administrator will receive a warning message in the error log each time the serverConfig file is consulted as a reminder to resolve the conflict.

Start the Image Services Software

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

1 As a FileNet software user, such as **fnsw**, start the task manager by entering the following:

Xtaskman

Check for Errors

1 Click on the Monitor pull-down menu, then select Event Logs. You will see a new window displaying event logs.

2 Click on the DISPLAY pull-down menu from the Event Log window, then select the option Dynamic. This allows the event window to be refreshed whenever messages are logged.

3 Click the Start or Restart button on the Task Manager window. This will start Image Services and dynamically display event logs in the Event Log window.

4 View the Event Log window for possible error messages. Take any necessary corrective action.

5 Close the Event Log and Xtaskman windows.

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 upgrade and compare the results to the **spacerpt** you ran before the upgrade.

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

- In the Bourne or Korn shell:

  spacerpt > <output_file_name>

- 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, make sure the f_maint password has been set and exported correctly. See **"Run spacerpt (Oracle only)" on page 39**.

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 Use your preferred text editor, such as **vi**, to modify these two files:

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

The first line of each of these two files is:

/ as sysdba

2 Exit and save your changes.

Now you can run the **spacerpt** scripts successfully on the Image Services system with remote Oracle databases.

3 Login to sqlplus to run the scripts:

sqlplus

4 When you're prompted, enter the user name f_maint and f_maint password. See **"Run spacerpt (Oracle only)" on page 39**.

5 To run **spacerpt**, enter the following command at the sqlplus prompt:

@/fnsw/oracle/spacerpt_summary.sql

6 If you want to get a more detailed report, enter:

@/fnsw/oracle/spacerpt_extended.sql

7 Send the summary output file to your service representative. Compare the **spacerpt** output to the **spacerpt** output you ran prior to running the Installer Upgrade.

Import Caches (if necessary)

Server Types

Do this section for each server where you had previously exported cache.

Repeat the steps in this section for each cache that you need to restore from tape.

If you did not export any caches using the CSM_exim tool earlier in this procedure, skip this section and go to **"Check Cache Partitions" on page 129**.

1 As the FileNet software user, such as **fnsw**, make sure you're in the location you exported from, for example:

```
cd  /fnsw/local/tmp
```

2 Load the tape containing the cache you wish to import into the tape drive.

3 To import a cache, use the following syntax:

CSM_exim -ird <tape> -c <cache_name>

where <tape> is the name of the tape drive you want to use (the name specified in fn_edit), and <cache_name> is the name of the cache you want to import.

For example, if you are importing the FolderView cache, the command you enter would look similar to this:

CSM_exim -ird tape -c folder_cache

4 The CSM_exim tool then selects the cache objects to import from the tape. For example:

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

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

5 After CSM_exim selects the objects to import, the transfer takes place, and the following messages display:

Importing objects...

CSM_exim completed: Thursday, Aug 28, 1997 16:43:27
See report file csm_ei_rpt.a23546 for details.

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

more csm_ei_rpt.a23546

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

7 When the import is successfully completed, remove the tape.

8 Repeat Steps 2 through 7 for each cache that you need to import.

9 After the caches have been imported successfully, list the contents of the /fnsw/local/tmp directory, and remove all the report files:

rm csm_ei_rpt.*

Check Cache Partitions

Server Type Do this section on servers with Cache.
Image Services must be running for CSM_tool to work.

To check Cache partitions:

1 As the FileNet software user, such as **fnsw**, enter:

CSM_tool

2 To display the cache partition status enter the following at the **CSM_tool** prompt:

s

The display should look similar to:

```
Cache Id  Name                              % locked  % full  % free
--------  ----------------------------      --------  ------  ----
 0        page_cache1:eastwood:FileNet       0         0       100
 1        print_cache1:eastwood:FileNet      0         0       100
 2        fillin_cache1:eastwood:FileNet     0         0       100
 3        bes_cache1:eastwood:FileNet        0         0        99
 4        folder_cache1:eastwood:FileNet     1         1        99
 *        Physical space summary             1         1        99
```

3 Ask the local System Administrator if values in the display are correct for the system.

4 To quit the CSM_tool enter:

q

Test The Upgraded Image Services and User Applications

Native Mode

Verify the upgraded Image Services software is running properly by testing the system in native mode. Native mode is when FileNet 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 Capture 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.

Production Mode

Once you're satisfied that the system works error free in native mode, you should activate the APIs and test the system further.

Re-enable Cron Jobs

Re-enable cron jobs if you disabled them prior to starting the upgrade installer.

Configure the System Information Messenger

Server Types Perform the steps in this section on the **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 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 23**.
- If SIM is already enabled, perform the following steps to upgrade the configuration files to the latest release format:
  - As a user with **root** privileges, enter:

    ISRegstr

    Follow the on-screen prompts to review and upgrade 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 upgrade 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 Remaining Fixes

Now install the fixes that pertain to regular Image Services operations. Read the README file. Retrieve the latest fixes from the IBM Information Management support page at **www.ibm.com/software/data/support**.

Copy User Profile and Environment Files

If you use only **root**, **fnsw** or **oracle** users to run Image Services, skip to the next section, **"Back Up the System" on page 138**.

The installer will upgrade the profile and environment files in the applicable **root**, **fnsw** and **oracle** home directories. You must set up the profile and environment files in any other user home directory for any other operating system user who will be running Image Services. The **inst_templates** command does this for you.

The **inst_templates** command prompts you, one by one, if you want to replace existing files in the applicable home directory.

- If you enter **y** for yes in response to each prompt, the existing files are renamed with a **.old.n** extension where **n** represents the version of the changed file. 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.
- You will be prompted for the Oracle SID (for example, **IDB**)
- You will also be prompted for the relational database home directory. This is the directory where the Oracle software resides (for example, **/usr/ora/920**), not the user directory you just created.

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.

For each operating system user that runs Image Services, do the following:

1 Switch to the user you are going to alter. Use the '**su -**' command**:**

su - <username>

CAUTION Do not neglect to use the dash in the **su** command. Otherwise, the inst_templates command will not make the changes you want.

2 Make sure you are in the user's home directory by entering the **pwd** command.

3 Bring in the new templates by entering:

/fnsw/etc/inst_templates

Answer all the prompts with the appropriate information for your system.

Install MSAR

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).

For information on installing and configuring an MSAR System, refer to the *MSAR Procedures and Guidelines for Image Services* document for information. To download the guidelines from the IBM support page, see **“Accessing IBM FileNet documentation” on page 23**.

Back Up the System

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

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

To download these documents from the IBM support page, see **"Accessing IBM FileNet documentation" on page 23**.

Return to Production Mode

The Image Services for AIX/6000 Software Upgrade Procedure, Release 4.1 is completed.

Remove Previous Oracle File System (Optional)

After the upgraded 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 – Uninstalling Image Services

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 that you want to save.
4. Change to the root directory and run the uninstaller by entering:

   cd /

   - 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 Use the uninstall_is.bin command 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 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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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.

Symbols

/fnsw/etc/serverConfig file
    verifying 120

A

AIX
    update 45

C

caches
    importing 126
CDB file 38
commands
    fn_setup 96
    inst_templates 90
    spacerpt 39
configuration files 51
cron jobs 69, 132
CSM_exim 126, 127
CSM_tool 129

D

documentation references 36

E

EBR 53

F

file ownerships
    setting Image Services permissions 96
file permissions
    setting Image Services ownerships 96
FileNet Web site 134
fixes 134
fn_setup command 96
ftp 51

H

hardware requirements 26, 31

I

Image Services
    installation 51
    software
        requirements 32
    supported releases 14
    uninstalling
        uninstalling IS software 139

updating 44
import caches 126
inst_templates
as RDBMS user 94
as root user 93
command 90
fnsw environment 91
root environment 92
installer
description 16

M

Magnetic Storage and Retrieval (MSAR) 137
mount cdrom 71

N

native mode 131
network
modifying options 104
network options
modify 104
new features 16

O

operating system 25
Operating system notes 25
Oracle
installation 51
Oracle software 17
ownerships
setting Image Services permissions 96

P

patches
operating system notes 25
permissions
setting Image Services ownerships 96
prerequisites 14
disk space 28
hardware requirements 31
required skills 14
swap space 28
production mode 132

R

reboot server(s) 114
release dependency spreadsheet 24

requirements
software 32
rollback segments
updating 45

S
server
paging space 27
upgrade 49
server reboot 114
serverConfig file
verifying 120
software requirements 32
Image Services 32
sources of information 36
spacerpt 122
spacerpt command 39
system check 48

T
task manager 57
Tech Info CD 134

X
Xtaskman 57

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