

IBM FileNet Image Services  
Version 4.2

*Guidelines for Installing and Updating  
Site-Controlled Oracle and MS SQL  
Software for Windows Server*





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**Note**

Before using this information and the product it supports, read the information in "Notices" on page 67.

**This edition applies to version 4.1.2 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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# Getting Started

This document provides guidelines for installing and updating Oracle and MS SQL software on a Windows® Server.

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**Note** The RDBMS software must be installed, or updated, before you install, or update, the Image Services software.

---

Only **Site-controlled** database installations are supported for new installations, but existing **FileNet-controlled** databases are still supported for updates.

The Database Administrator (DBA) will install/update the RDBMS software. Because FileNet Image Services software requires that certain RDBMS products be installed and certain table spaces be defined, the DBA needs to follow the guidelines outlined in this document.

## Document revision history

| IS version | Date     | Comment          |
|------------|----------|------------------|
| 4.2        | May 2011 | Initial release. |

## 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](http://www.ibm.com/software/data/support)).
- 2 Select the appropriate IBM FileNet product from the “Select a category” list.
- 3 On the Product Support page, click **Documentation** and then click **Product Documentation**.
- 4 On the Product Documentation page, locate the document you need, then click the icon in the appropriate release column to access the document.

## IBM FileNet Education

IBM provides various forms of education. Please visit the IBM Information Management support page at ([www.ibm.com/software/data/support](http://www.ibm.com/software/data/support)).

## Feedback

We value your opinion, experience, and use of our products. Please help us improve our products by providing feedback or by completing a consumability survey.

### Documentation feedback

Send comments on this publication or other IBM FileNet Image Services documentation by e-mail to [comments@us.ibm.com](mailto: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 help topic title, a chapter and section title, a table number, or a page number).

### Product consumability feedback

Help us identify product enhancements by taking a Consumability Survey (<http://www-306.ibm.com/software/data/info/consumability-survey/>). The results of this comprehensive survey are used by product development teams when planning future releases. Although we are especially interested in survey responses regarding the most recent product releases, we welcome your feedback on any of our products.

The survey will take approximately 30 minutes to complete and must be completed in a single session; there is no option to save a partially completed response.

## Supported RDBMS Software

The following RDBMS software is supported in Image Services 4.2.

**Note** For detailed information on Microsoft® or Oracle® products, refer to the documentation that came with your software.

For the latest supported software release information, refer to the *IBM FileNet Image Services, Image Services Resource Adapter, and Print Hardware and Software Requirements* document. To download this document from the IBM support page, see **“Accessing IBM® FileNet® Documentation” on page 11**.

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### Microsoft SQLServer 2005, 2008 and, 2008 R2

If you will be using a SQL Server relational database for the 4.2 version of Image Services. SQL Server offers a Windows Authentication Mode and a Mixed Authentication Mode, but Image Services **only** supports Mixed Authentication Mode.

- Windows Authentication Mode grants the user access on a security token assigned during a successful domain logon by a Windows account, which then requests access to SQL Server resources. Windows Authentication Mode is not supported by Image Services.
- Mixed Authentication Mode grants the user access by SQL Server Authentication which relies on the verification of credentials stored and maintained by the SQL Server as well as Windows Authentication. Mixed Authentication Mode is supported by Image Ser.

Users can manage SQL Server account password and lockout properties with SQL Server. Restrictions can be enforced on password complexity, password expiration, and account lockout. CHECK\_

EXPIRATION controls password expiration and CHECK\_POLICY determines both state of password complexity and account lockout settings. IS database users are created with CHECK\_EXPIRATION = OFF and CHECK\_POLICY = ON.

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**Note** Be aware that SQL Server does not enable remote access by default. You will need to enable remote access on your SQL Server servers.

---

For an MS SQL Server database on a remote server, you must set up a trusted SQL Server connection on the Image Services remote server, since it uses Windows authentication in the initial configuration to create database users and privileges. Use the same password on the client and the remote database when setting up trusted SQL Sever. You can change the password back after you are finished.

---

**Tip** Image Services now supports 64-bit SQL Services, local, or remote to the Image Services server.

---

## Updating MS SQLServer

You can upgrade from MS SQL Server 2005 to MS SQL Server 2008, or 2008 R2 several weeks or months after upgrading to Image Services 4.2.0. If you are upgrading to MS SQL Server 2008 or 2008 R2, independently of Image Services installation or upgrade, run `fn_setup_rdb` to update the Image Services configuration files and create the Open Database Connectivity (ODBC) data source name.

This step is also included in the IS 4.2.0 Installation and Upgrade procedures, so you do not need to run this command now if you are also upgrading to IS 4.2.0 at this time.

**Note** If the Image Services system is configured with a site-controlled relational database on a local or on a remote database server, verify that the relational database is up before running the `fn_setup_rdb` command.

---

As an IS software user, such as `fns`, enter:

**`fn_setup_rdb -u`**

## Oracle RDBMS Software

Image Services 4.2 supports Oracle 10g and Oracle 11g

### Oracle 10g R2 - 10.2.0

#### Required Oracle Patch Set

Also required is:

- Oracle Patch Set 3(10.2.0.4) or higher

Oracle patch sets are available for download from the Oracle MetaLink Web site at: <http://www.oracle.com/support/metalink/index.html>

### Oracle 11g R1 - 11.1.0

#### Required Oracle Patch Set

- Base release 11.1.0.6

## **Oracle 11g R2 - 11.2.0**

### **Required Oracle Patch Set**

- Base release 11.2.0.1

## **Oracle 64-bit database support on Windows**

The Oracle database can be collocated with the image Services server or be remote on another server.

Remote Oracle databases can be located on any platform that Image Services supports. A 32-bit Oracle client is needed because image Services is a 32-bit application. The 64-bit Oracle client is not supported.

Local Oracle databases support a 64-bit database server on a 64-bit Windows server. Oracle does not support a 32-bit database server on a 64-bit Windows server. In order for Image Services to work with an Oracle 64-bit64-bit64-bit local database, the following is required:

- Install Oracle instant client for Microsoft Windows 32-bit Instant Client Package Basic.
- Image Services must be set up with a remote Oracle database, even though the Oracle database is collocated with Image Services.



## **Undo Segments and Rollback Segments**

Oracle 10g and Oracle 11g allow you to use either rollback segments or undo segments to recreate the "before" image.

You must choose either rollback or undo segments. You cannot use both at the same time.

To use undo segments, all data is placed in an undo tablespace. Performance can be increased by using undo segments because the undo tablespace is locally managed.

The rollback data is managed via system-managed undo (SMU).

Image Services supports the undo feature only with site-controlled Oracle databases. FileNet-controlled databases will continue to use rollback segments.

Refer to Oracle documentation for further details.

## Installation Prerequisites

The prerequisites for installing and updating RDBMS software (hardware and software requirements) are included in the following sections.

### Hardware Requirements

To complete the installation/update procedures in this document, your server must meet the following hardware requirements.

- Minimum Processor: 800Mhz Pentium
- 256 MB or more memory per CPU (512 MB recommended)
- 512 MB or more memory per CPU (1 GB recommended) **-MS SQL Server 2005 and up**

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**Tip** To check the amount of memory, logon on the server as **fns** or **Administrator**. From the Command Prompt window, enter the **winmsd** command, click the Memory... tab, and look for the entry that says Physical Memory Total:

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- A tape device (such as DAT Cartridge, 8mm, QIC) (Record the tape device type here: \_\_\_\_\_.)
- An NTFS file system with the required amount of disk space as described in the Total Disk Space section below.

---

**Tip** To see how much disk space is available, use the Windows Explorer, and select the drive where you plan to install the Image Services software. The available free disk space appears in the message area at the bottom of the window. Refer to the *FileNet Disk Sizing Spreadsheet* for actual FileNet dataset sizes.

---

- A modem installed (and configured for operation) on your server
- An HP Optical Disk Library (optional)

### Minimum Disk Space

For Windows Operating System software, FileNet Image Services software, minimum FileNet datasets, and Oracle or Microsoft SQL Server software:

- At least 6.5 GB with Oracle
- At least 4.35 GB with SQL Server

These sizes include a 30% growth factor.

---

**Note** The above disk space does not reflect the space needed for Oracle or Microsoft SQL datasets. It is the responsibility of the site DBA to correctly estimate the size that will be needed for the RDBMS datasets.

---

### Minimum Disk Space Requirements

For FileNet Image Services software, RDBMS software, and temporary working storage, the following minimum disk space is required for Combined Root/Index servers and Storage Library servers.

| Software                 | SQL Combined or Root/Index Server | Oracle Combined or Root/Index Server | Storage Library Server |
|--------------------------|-----------------------------------|--------------------------------------|------------------------|
| Windows Operating System | 3 GB                              | 3 GB                                 | 3 GB                   |
| FileNet datasets         | 1 GB                              | 1 GB                                 | 1 GB                   |
| SQL Server 2005 Software | 660 MB                            | -                                    | -                      |
| SQL Server 2008, 2008 R2 | 1 GB                              |                                      |                        |

| Software  | SQL Combined or Root/Index Server | Oracle Combined or Root/Index Server | Storage Library Server |
|---|-----------------------------------|--------------------------------------|------------------------|
| Oracle 10g/11g Software                                     | -                                 | 2 GB                                 | -                      |
| Free space on drive c: for Oracle installation software*    | -                                 | 500 MB*                              | -                      |
| Free space on drive c: for SQLServer installation software* | 2 GB                              | -                                    | -                      |
| <b>Total disk space</b>                                     | 7.1 GB                            | 6.5 GB                               | 4 GB                   |

\* Oracle Updates ONLY. This space is required for decompressing Oracle files from the media onto the c: drive, and is only needed temporarily for an update. These files are automatically deleted when the update is finished. If desired, this space can be moved to another drive by setting the TEMP variable.

To check your free disk space, open the Windows Explorer, right click on the drive containing your FileNet or RDBMS software, and choose Properties.

## Software Requirements

To complete the installation/update and configuration procedures in this document, your server must meet the following software requirements:

### Windows 2003 R2, 2008 or 2008 R2 Operating Systems

The Windows 2003 R2, Windows 2008 or 2008 R2 operating systems are supported in this release of Image Services.

If you are installing or updating a remote database system, and both the FileNet server and the RDBMS server are Windows systems, then

both must be running the same version of the Windows operating system.

The following versions are supported:

- Windows Server 2003 R2 SP2
- Windows Server 2008
- Windows Server 2008 R2

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**Note** You can download the service packs from: <http://www.microsoft.com/downloads/search.asp?>

---

## RDBMS Software Media

Depending on the RDBMS software you intend to install/update on your system, you will need one of the following:

- Microsoft SQL Server 2005
- Microsoft SQL Server 2008
- Microsoft SQL Server 2008 R2
- Oracle 10g Release 2 - 10.2.0.3 or 10.2.0.4
- Oracle 11g Release 1 Base Release 11.1.0.6
- Oracle 11g Release 2 Base Release 11.2.0.1

---

**Note** The Oracle media are **not** shipped with the FileNet Image Services software.

---

If you plan to set up your own Oracle RDBMS user (such as default=**oracle**) and database administration group (default=**dba**\* and default=**ora\_dba**\*), make sure that both the FileNet Image Services user (default=**fns****w**) and the RDBMS user belong to the existing database administration group.

\* ora\_dba is the default group names for FileNet-controlled Oracle databases. Your Oracle database may use the existing group name.

## Additional Information (Microsoft SQL Server ONLY)

When you install the Microsoft SQL Server server software, you'll be asked to provide certain information for the SQL Server Database, as shown in the following table. Write this information in the spaces provided in the table below so you'll have it available when you need it.

| Information  | SQL Server Database |
|--|---------------------|
| Server Name  |                     |
| Instance Name  |                     |
| License Mode<br>(per seat or per number of processors) |                     |
| * Number of processor licenses                         |                     |
| Location (path) for<br>Image Services Datasets         |                     |

\* If licensed by number of processors.

## Preparing for the Installation/Update

This chapter contains information that is necessary to prepare your system environment. Perform the steps in these sections before beginning your relational database installation or update.

---

**Note** These procedures are necessary to prepare your server for an installation/update of RDBMS software only. Before installing or updating the FileNet software, you still need to complete the preparation steps in Chapter 2 of the install or update document.

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To prepare for an **installation** of RDBMS software, continue to the section [\*\*“Preparing to Install RDBMS Software” on page 23.\*\*](#)

To prepare for an **update** of RDBMS software, continue to the section [\*\*“Preparing to Update RDBMS Software” on page 25.\*\*](#)

### Preparing to Install RDBMS Software

This section contains required steps to prepare your server for a successful installation of RDBMS software.

#### File System and Dataset Information (SQL Only)

You must determine the expected size of the SQL datasets (in Mb), and on which NTFS file system to install each dataset. Refer to your

Scout analysis report and complete the following table appropriately for your system.

| Dataset Name | RDBMS | Recommended Minimum Size | Actual System Size (Mb) |
|--------------|-------|--------------------------|-------------------------|
| ms_db0.mdf   | SQL   | 200 Mb                   |                         |
| ms_pri0.mdf  | SQL   | 20 Mb                    |                         |
| ms_tl0.ldf   | SQL   | 20 Mb                    |                         |
| ms_udb0.dat  | SQL   | 200 Mb                   |                         |
| ms_tmp0.mdf  | SQL   | 80 Mb                    |                         |
| master.mdf   | SQL   | 52 Mb                    |                         |

---

**Note** The FileNet Image Services software and all FileNet configuration files and datasets must reside on NTFS file systems to maintain data integrity, security, and file naming requirements.

---

## Verify Disk Space Requirements

Before you install the RDBMS software, you must ensure that you have adequate space for the new Image Services and RDBMS software.

Refer to the table in the section, **“Minimum Disk Space Requirements” on page 19** of Chapter one of this document to make sure you have the required space.



## Local Server Installations

If you are installing RDBMS software on a Local server, continue to **Chapter 3, “Installing RDBMS Software on a Local Server,” on page 30.**

## Remote Server Installations

If you will be configuring a dedicated remote database Server with the FileNet server as the client, continue to **Chapter 4, “Installing RDBMS Software on a Remote Server,” on page 43.**

## Preparing to Update RDBMS Software

This section contains required steps to prepare your server for a successful update of RDBMS software.

### Tasks for Your Service Representative/ValueNET Partner

Your service representative or the ValueNET Partner will complete the following tasks at least four weeks before the software update:

- Schedule the update with your service representative and access the latest list of current scheduling procedures.
- Copy the Image Services CDB file. Send this file to your service representative.
- Run spacerpt. Send the results to the Upgrade/Install Assurance Team, and keep a printed copy for comparison after the update is complete.

When you send a file or output to the FileNet Upgrade/Install Assurance Team, you can either email the file or send the file on disk to your service representative.

## Check Current Software Release

Before updating your software, check the current versions of the software you are currently running.

### Windows Operating System

You must be running Windows 2003 R2 and up to run this release of Image Services software. If you are running an earlier version, you must upgrade to the Windows 2003 R2 and up operating system **BEFORE** you update your RDBMS and IS software.

### FileNet and RDBMS Software

Check your current version of FileNet and RDBMS software to see if it can be updated with this document. To see what versions of software can be updated with this document, see the section, “Update Paths” in the *Image Services Upgrade Procedures, Release 4.2*. To download this document from the IBM support page, see [\*\*“Accessing IBM® FileNet® Documentation” on page 11.\*\*](#)

To find out which FileNet Image Services software release is currently running on your system, open the FileNet System Configuration Editor and check the System Attributes tab.

To find out which RDBMS software release is currently running on your system, do the following:

- For Oracle, use the FileNet System Configuration Editor and check the Relational Databases tab, Oracle sub tab.
- For Microsoft SQL Server, click Start on the task bar and then click Programs. Microsoft SQL Server is in the Programs list and the SQL Server version number is in the title.

## Verify the System Serial Number

Use the **ssn** command to display the system serial number. At a Command Prompt, enter the following command:

**ssn**

### 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.

---

## Exit Image Services Toolkit Applications

If you are running any ISTK applications, you must exit these applications before you continue with this update procedure. Later in this chapter you will need to stop the FileNet IS software, which clears ISTK shared memory.

After you have exited all ISTK applications, continue to the next section.

## Back Up the System

If you do not have a recent full backup of the FileNet system, especially the \fnsf and \fnsf\_loc file systems, you need to backup the system datasets onto cartridge tapes. Refer to your *Systems Administrator's Companion for Windows Server*, for complete information on performing a system backup. To download this document from the IBM support page, see [\*\*“Accessing IBM® FileNet® Documentation” on page 11.\*\*](#)

## Shutdown the FileNet Software

- 1 Log on as the FileNet software user, such as **fnsf**.
- 2 Open the FileNet Task Manager and Stop the FileNet software by clicking **STOP** in the Task Manager window.
- 3 Close the FileNet Task Manager.

## Update to Windows 2003 R2, 2008 or 2008 R2 (If Necessary)

Only the Windows 2003 R2, 2008 and 2008 R2 Operating Systems are supported in this release of Image Services software. If you are not running these releases, you must update your operating system before you install the Relational Database software and FileNet Image Services software.

In addition to updating to Windows, you must also install the required Windows Service Pack. Refer to the FileNet Image Services Resource Adapter, and Print Hardware and Software Requirements

Refer to the Microsoft documentation and installation procedures to upgrade your operating system and install the required service pack.

**Tip** You can download the service pack from: <http://www.microsoft.com/downloads/search.asp?>

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## Local or Remote Updates

To update an existing Image Services system with a local or remote database server, skip to the appropriate section listed below.

- [“Guidelines for Updating a Site-Controlled Microsoft SQL Server RDBMS” on page 64](#)
- [“Guidelines for Updating a Site-Controlled Oracle RDBMS” on page 61](#)

---

**Note** If you are updating an Image services system that accesses a remote Oracle database server, you **do not** need to update the Oracle software or datasets on the remote server. Just update the Oracle client software on the Image Services server to the supported Oracle release.

---

## Installing RDBMS Software on a Local Server

This chapter contains guidelines for installing the following versions of RDBMS software on a **local** server.

- Oracle 10g Release 2 (10.2.0.4)
- Oracle Database 11g Release 1 (11.1.0.6)
- Oracle Database 11g Release 2 (11.2.0.1)
- Microsoft SQL Server

To configure an Oracle RDBMS on the local server continue to, **“Install Oracle Server Software” on page 31.**

To configure an Microsoft SQL Server RDBMS on the local server continue to, **“Local Microsoft SQL Server RDBMS Guidelines” on page 39.**

## Install Oracle Server Software

You will be installing either Oracle 10g R2, Oracle 11g R1 or Oracle 11g R2 as your Oracle Server software.

### Install Oracle Database Software

- 1 Load the first Oracle DVD for your platform.
- 2 As the Oracle user, launch the Oracle Universal Installer:  
  
**runInstaller**
- 3 Select the **Advanced Installation** option.
- 4 Select either the **Standard Edition** or the **Enterprise Edition** option. Image Services is compatible with both.  
  
(Do not create a demo database.)
- 5 Select the **Install Software only** option.
- 6 Accept the default values for the remaining prompts and change DVDs as requested.

(There is no need to select individual products.)

---

**Note** You can ignore Warnings for patches that refer to older patch versions.

---

- 7 When the installation is finished, you are ready to install the patch set.

### Install the Oracle Patch Set

Install the appropriate patch set for your version of Oracle.

#### Oracle 10g

After you've installed the Oracle 10.2.0.1 software, install:

- Oracle Patch Set 3(10.2.0.4)

#### Oracle 11g R1

IS 4.2 supports the base release of Oracle 11g (11.1.0.6). No patch is required at the time of the IS 4.2 release.

#### Oracle 11g R2

IS 4.2 supports the base release of Oracle 11g (11.2.0.1). No patch is required at the time of the IS 4.2 release.

---

**Note** Install the Oracle 64-bit database server collocated with the IBM FileNet Image Services server. See, **[“Oracle 64-bit database support on Windows” on page 16](#)**

---



## Report to Sys Admin and Your Service Representative

Please provide the following information to the System Administrator and your service representative.

Guidelines for FileNet-Used Tablespaces

| FileNet Default Tablespace Names*                | Tablespace Names You Assigned | Minimum Tablespace Size (MB) | Tablespace Size (MB) You Created |
|--|-------------------------------|------------------------------|----------------------------------|
| fnsys_ts   |                               | 200                          |                                  |
| fntmp_ts   |                               | 400                          |                                  |
| fnidx_ts<br>(optional for indexes)               |                               | 200                          |                                  |
| fnusr_ts<br>(optional for WorkFlo Queue Service) |                               | 200                          |                                  |

- \* **fnsys\_ts** is the name of the dedicated FileNet default tablespace.  
**fntmp\_ts** is the name of the dedicated FileNet temporary tablespace.  
**fnidx\_ts** is the name of the optional FileNet index tablespace, which can be used to keep indexes separate from tables in the fnsys\_ts tablespace, if necessary  
**fnusr\_ts** is the name of the optional user tablespace for WorkFlo Queue Services. If your IS system will not be using this feature, you do not need to create this tablespace.

## Database Users for Image Services

Image Services requires four database users, f\_sw, f\_sqi, f\_open, and f\_maint. These users will be created on the local server during the

Image Services software installation procedure. Image Services will grant specific privileges to these users, assign quotas, and temporary tablespaces.

### Oracle Variables

Please return the following information to the System Administrator and your service representative.

**Oracle Version:** \_\_\_\_\_  
(Oracle software version) (10.2.0.4, for example)

**\$ORACLE\_HOME:** \_\_\_\_\_  
(Oracle software directory) (\opt\oracle\10gR2, for example)

**\$ORACLE\_SID:** \_\_\_\_\_  
(instance identifier) (IDB, for example)

**<Oracle User ID>:** \_\_\_\_\_  
(the Oracle administrator) (oracle, for example)

**<DBA Group>:** \_\_\_\_\_  
(for database administration) (dba, for example)

The FileNet software user, such as **fns**w, must be made a member of this group.

### Defining Additional RDB Objects (Optional)

A brand new Image Services system has a basic set of default objects. Defining additional RDB objects allows you to customize the data layout of your relational database. The object name, in conjunction with the location, tells the Image Services software where in the database that object (or group of objects) is to be created.

An object can be a table like doctaba, a retrieval key (rdb index) like f\_docnumber, or a whole group of objects like everything created from WFL, queues, workspaces, and so on. The scope of the RDB object depends on how the RDB object name is formatted or built.

It's very important to build the object name string correctly. When the Image Services software is directed to create an RDB object (WFL queue, table, and so on), it dynamically builds a string that must exactly match the one that is defined in the object name column. The Image Services software searches the configuration database for a matching RDB\_Object to find the location of the object. If it's not found, the search continues for the location of the parent object.

### RDB Object Name Basic Syntax

The object name is a multi-part character string, separated by periods. Its maximum length is 255 characters plus a null terminator. The object name is built in a hierarchy where all names begin with fn\_data. For example:

Object name format:

```
fn_data[.services_name[.subname1[.subname2[.subname3] ] ] ]
```

fn\_data.services\_name.subname1.subname2 is the parent of  
.subname3

fn\_data.services\_name.subname1 is the parent of .subname2

fn\_data.services\_name is the parent of .subname1

---

**Note** Not all services support all the subnames. See the following examples.

---

### **Index Services Example**

To have the Image Services software create all index services tables and indexes in a specific location in your database, define an RDB Object using the following name:

**fn\_data.INXdb**

To have the Image Services software create doctaba in its own location, define the object name as one of the following examples:

**fn\_data.INXdb.doctaba**

To have the Image Services software create a specific index (retrieval key) in its own location, define the object name as one of the following examples:

**fn\_data.INXdb.doctaba.f\_docnumber**

**fn\_data.INXdb.table\_name.index\_name**

### **WFL Services Example**

To have the Image Services software create all WQS Database Objects in one location, you would define an RDB Object with the following object name:

**fn\_data.WFLdb**

Then, to create an index (retrieval key) of a queue in its own location, you would enter:

**fn\_data.WFLdb.Workspace\_name.queue\_name.index\_name**

## VW Services Example

The object name is composed of the following values:

### VW queues

For indexes:

```
fn_data.vw.region<region#>.server<server#>.  
queue.<logical_queue_table_name>.<logical_index_name>
```

For base data sets:

```
fn_data.vw.region<region#>.server<server#>.  
queue.<logical_queue_table_name>
```

### VW rosters (indexes and base data set)

For indexes:

```
fn_data.vw.region<region#>.server<server#>.  
roster.DefaultWCTable.<logical_index_name>
```

For base data sets:

```
fn_data.vw.region<region#>.server<server#>.  
roster.DefaultWCTable
```

### All other VW tables

For indexes:

```
fn_data.vw.region<region#>.server<server#>.  
table.<table_name>.<index_name>
```

For base data sets:

**fn\_data.vw.region<region#>.server<server#>.  
table.<table\_name>**

**Key** In the previous examples:

<region#> is the isolated region number>

<server#> is the VW server number.

<logical\_queue\_table\_name> is the name of the table for the queue as specified in Composer.

<table\_name> is the actual table name.

<index\_name> is the actual index name.

---

## Continue the Image Services Installation

After the Oracle software has been successfully installed, continue with the Image Services installation in Chapter 3 of the *IS Installation and Configuration Procedures, Release 4.2*. To download this document from the IBM support page, see [\*\*“Accessing IBM® FileNet® Documentation” on page 11.\*\*](#)

## Local Microsoft SQL Server RDBMS Guidelines

If you have a Local Microsoft SQL Server database, the Database Administrator needs to perform the following steps.

Refer to the Microsoft installation instructions to install the SQL software and create the Site DB for your system.

For SQL 2005, you can find these instructions on the Microsoft Web site at:

<http://msdn2.microsoft.com/en-us/library/ms143516.aspx>

### Important

You must choose **Custom** setup type for the installation of SQL Server and enter the following information:

- In the Authentication Mode dialog box, choose **Mixed Mode**.
- In the Collation Settings dialog box, choose **Latin1\_General** as the Collation designator and choose **Binary** Sort order.  
**Binary** is the fastest sorting order and is case-sensitive.

## Reboot the Server

After you finish installing the SQLServer software, you must reboot the server so that newly installed device drivers can take effect.

- 1 Close all applications and windows.
- 2 Reboot the server.

## Verify the File Names and Filegroups

Ensure the File Names and Filegroups have been setup properly. Refer to the Overview of Installing SQL Server installation documentation on the Microsoft Web site to create the Site Database.

### Guidelines for Site-Controlled/FileNet-Used File Groups

| FileNet Equivalent/Default File Group Names | Site-Controlled File Group Names |
|---|----------------------------------|
| fnsys_fg                                    |                                  |
| fnusr_fg                                    |                                  |
| fnidx_fg                                    |                                  |

Required for full-use RDBMS

**fnsys\_fg** is the name of the dedicated FileNet default file group.

**fnusr\_fg** is the name of the user file group.

Optional

**fnidx\_fg** is the name of the file group for storing indexes.

---

**Note** Release 4.2 now allows for an optional file group to store indexes. Using the optional file group can increase performance by storing the indexes in a different location from the dedicated or user file groups. The file group name should match what is put in fn\_edit RDB objects.

---

## Install Image Services

After the Microsoft SQL Server software has been successfully installed, continue with the Image Services installation in the *IS Installation and Configuration Procedures, Release 4.2*. To download this document from the IBM support page, see [\*\*“Accessing IBM® FileNet® Documentation” on page 11.\*\*](#)







## Installing RDBMS Software on a Remote Server

Typically, Image Services and RDBMS software run on the same server; however, there are advantages to running these software products on separate servers. This chapter provides guidelines on how to configure a remote database server and configure the FileNet server as the database client.

---

**Note** Remote relational databases can reside on either Windows or UNIX servers. If you are installing the remote Oracle database on a UNIX server, see the *Guidelines for Installing/Updating Oracle Software on UNIX Servers*, for more information. To download this document from the IBM support page, see [\*\*“Accessing IBM® FileNet® Documentation” on page 11.\*\*](#)

---

### Strategy

The RDBMS software will be installed on the remote database server, and the RDBMS Client Software will be installed on the FileNet Image Services server.

The first step is to get the new remote database server up and running. This involves the following:

- Installing the same version of RDBMS software that you plan to install on the FileNet IS server.

After installing the RDBMS software on the new remote database server, install the RDBMS Client software on the FileNet server.

- To configure a remote Oracle server system continue to the section, **“Remote Oracle RDBMS Guidelines” on page 44.**
- To configure a remote Microsoft SQL Server system continue to the section, **“Remote Microsoft SQL Server RDBMS Guidelines” on page 55.**

## Remote Oracle RDBMS Guidelines

If you have a Remote Oracle database, the Database Administrator needs to perform the procedures in the following sections.

### Configure the Remote Oracle Server

After the new server has been set up with the appropriate version of the Windows operating system and has been connected to the network, you can begin the Oracle configuration.

#### Create a Directory for FileNet Software Use

To facilitate the installation of FileNet-specific patches and test scripts, create a directory named \fns\oracle.

Use the Windows Explorer to create the new folders:

**<drive>:\fns\oracle**

#### Prepare a Location for the Oracle Server Software

Make sure the server has enough free disk space. The Oracle Server software requires a minimum of: 2.0 GB.

## Install Oracle Server Software

You will be installing either Oracle 10g R2, Oracle 11g R1 or 11g R2 as your Oracle Server software.

### Install Oracle Database Software

- 1 Load the first Oracle DVD for your platform.
- 2 As the Oracle user, launch the Oracle Universal Installer:  
  
**runInstaller**
- 3 Select the **Advanced Installation** option.
- 4 Select either the **Standard Edition** or the **Enterprise Edition** option. Image Services is compatible with both.  
  
(Do not create a demo database.)
- 5 Select the **Install Software only** option.
- 6 Accept the default values for the remaining prompts and change DVDs as requested.

(There is no need to select individual products.)

---

**Note** You can ignore Warnings for patches that refer to older patch versions.

---

- 7 When the installation is finished, you are ready to install the patch set.

### Install the Oracle Patch Set

Install the appropriate patch set for your version of Oracle.

### Oracle 10g

After you've installed the Oracle 10.2.0.1 software, install:

- Oracle Patch Set 3(10.2.0.4)

### Oracle 11g R1

Image Services 4.2 supports the base release of Oracle 11g (11.1.0.6). No patch required at the time of the Image Services 4.2 release.

### Oracle 11g R2

Image Services 4.2 supports the base release of Oracle 11g (11.2.0.1). No patch required at the time of the Image Services 4.2 release.

## Create listener.ora and tnsnames.ora Files

Run the Oracle net configuration assistant tool to create the listener.ora and the tnsnames.ora files. Change to the **<drive>:\\$ORACLE\_HOME\network\admin** directory to verify the listener.ora and the tnsnames.ora files. The following are samples of these two files:

## The tnsnames.ora File

```
# TNSNAMES.ORA Configuration File
# Oracle Server and Client Server

<Same name as the GLOBAL_DBNAME in the Listener.ora file> =
  for example: Michigan_IDB.world
(DESCRIPTION =
  (ADDRESS = (PROTOCOL = TCP) (HOST = <Oracle Server IP address>) (PORT = 1521))
  (CONNECT_DATA = (SID = <Same SID as in the Listener.ora file>))
)
```

## The listener.ora File

```
# LISTENER.ORA Configuration File
# Oracle Server only

LISTENER_<the SID you named your database instance> = FileNET Default: IDB
(ADDRESS = (PROTOCOL = TCP) (HOST = <Oracle server IP address>) (PORT = 1521))

SID_LIST_LISTENER =
  (SID_LIST =
    (SID_DESC =
      (GLOBAL_DBNAME = <ServerName_<oracleSID>.world> )
      Example: Michigan_IDB.world
      (ORACLE_HOME = <Oracle Server software location> )
      FileNET default: \<oracle_home>
      (SID_NAME = <the SID you named your database instance> )
      FileNET default: IDB)
    )
  )
```

#### Start the Oracle Listener

On the Oracle Server, open a Command Prompt and start the listener by entering:

```
lsnrctl  
LSNRCTL> start
```

---

**Note** Ensure that listener.ora and tnsnames.ora files are correctly setup.

---

#### Execute the Oracle Loopback Test on the Oracle Server

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

```
sqlplus <user>\<password>@<GLOBAL_DBNAME from  
tnsnames.ora file>
```

For example, you might enter:

```
sqlplus system\manager@Michigan_IDB.world
```

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

## Configure the FileNet Image Services (Client) Server

The remote Oracle server has been successfully configured, and now you're ready to configure the FileNet Image Services (client) server.

You can use the procedures in this section to configure either:

- an Image Services Combined server or Root/Index server or



- an Image Services Application Server with WorkFlo Queue Services, SQL Services, or VWServices.

---

**Note** Be sure to configure the Combined or Root/Index server first.

---

When adding an Application server to the configuration, use the same ORACLE\_SID (For example, **IDB**) and ORACLE\_UID (For example, **oracle**) as the Combined or Root/Index server.

### Install Oracle Client Software 32-bit

You will be installing Oracle 10g R2, Oracle 11g R1 or 11g R2 as your Oracle Server software. Because Image Services is a 32-bit application it is necessary to install 32-bit Oracle client on the Image Services server.

#### Install Oracle

- 1 Load the Oracle DVD for Windows.
- 2 Change directories to the **Client** folder.
- 3 In the Client folder, double-click on the **setup.exe** file.
- 4 At the **Installation Types** screen, select the Custom option.
- 5 Make sure the following products are installed:
  - ✓ Oracle Client
    - ✓ SQL\*PLUS
    - ✓ Oracle Call Interface (OCI)
    - ✓ Oracle Net

## Install the Patch Set

Install the appropriate patch set for your version of Oracle.

### Oracle 10g

After you've installed the Oracle 10.2.0.1 software, install:

- Oracle Patch Set 2(10.2.0.3) or
- Oracle Patch Set 3(10.2.0.4)

### Oracle 11g R1

Image Services 4.2 supports the base release of Oracle 11g (11.1.0.6). No patch required at the time of the Image Services 4.2 release.

### Oracle 11g R2

Image Services 4.2 supports the base release of Oracle 11g (11.2.0.1). No patch required at the time of the Image Services 4.2 release.

## Ensure the Remote Environment is Setup Correctly

Make sure the following are setup correctly on your system.

- Ensure the local environment variable is setup correctly in the system. (Michigan\_IDB.world, for example).
- Ensure ORACLE\_HOME is set up correctly in the Registry.

- Verify that the NLS\_LANG parameter is set to the appropriate value (AMERICAN\_AMERICA.WE8ISO8859P1, for example) for your locale.
- Check the values of the NLS\_TERRITORY (America, for example) and NLS\_CHARACTERSET (US7ASCII, for example) parameters.

### Copy the tnsnames.ora file onto the FileNet (Client) Server

Copy the **tnsnames.ora** file from the <drive>:\<oracle home directory>\network\admin directory on the Oracle server to the **same** directory on the FileNet IS (Client) server. This ensures that the two tnsnames.ora files are identical on both servers.

#### Note

The tnsnames.ora file on the Oracle server can describe more than one listener process if more than one independent FileNet Image Services system is configured to access the same Oracle server.

The tnsnames.ora file on the Image Services (client) server should describe only one listener process.

On an Application server, the tnsnames.ora file should be identical to the tnsnames.ora file on the Combined or Root/Index server. That is, it should describe only one listener process.

---

### Test Oracle Networking on the FileNet IS (Client) Server

Oracle Networking has already been configured and tested on the Oracle server.

- 1 Test the Oracle Client's ability to access the database on the remote Oracle server by entering the following command:

#### **tnsping <GLOBAL\_DBNAME>**

where <GLOBAL\_DBNAME> is the global database name used in the tnsnames.ora and listener.ora files. For example: Michigan\_IDB.world. This verifies that the tnsnames file on the IS server can communicate successfully with the listener.ora file on the Oracle server.

- 2 To verify that you can access the Oracle database from the Image Services server, enter an sqlplus command in the following format:

```
sqlplus <user\password>@<GLOBAL_DBNAME>
```

where the user and password are the ones the Database Administrator set up earlier. For example:

```
sqlplus system\manager@Michigan_IDB.world
```

You should now be logged on to the Oracle server with no errors.

## **Test the Local Environment Setting**

- 1 To verify the local environmental settings, enter a sqlplus command in the following format:

```
sqlplus <user/password>
```

For example:

```
sqlplus system/manager
```

You should now be logged on to the Oracle server via NET 8 and the LOCAL environment setting, the same as the IS software will be.

- 2 Exit from sqlplus.

## Report to Sys Admin and Your Service Representative

The new Oracle server has been successfully installed and configured, and the server on which you plan to install Image Services software has been configured as an Oracle client.

Please return the following information to the System Administrator and your service representative.

### Set ORACLE\_SID

When you set the \$ORACLE\_SID, write it in the space below:

**\$ORACLE\_SID:** \_\_\_\_\_  
(instance identifier) (for example, IDB)

### Name Oracle Database Administration Group

When you create the users and groups for administering the RDBMS databases, write down the name of the group that will be used for database administration. Later, the FileNet user **fns**w must be made a member of this group.

**Name of DBA Group:** \_\_\_\_\_  
(for database administration) (for example, dba)

## Tablespace Names

Make sure the tablespaces are set up as shown:

Guidelines for FileNet-Used Tablespaces

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

- \* **fnsys\_ts** is the name of the dedicated FileNet default tablespace.  
**fntmp\_ts** is the name of the dedicated FileNet temporary tablespace.  
**fnidx\_ts** is the name of the optional FileNet index tablespace, which can be used to keep indexes separate from tables in the fnsys\_ts tablespace, if necessary.  
**fnusr\_ts** is the name of the optional user tablespace for WorkFlo Queue Services. If your IS system will not be using this feature, you do not need to create this tablespace.

## Install Image Services

After the Oracle software has been successfully installed, install the Image Services software on the client server. These procedures are found in the *IS Installation and Configuration Procedures, Release 4.2*. To download this document from the IBM support page, see [\*\*“Accessing IBM® FileNet® Documentation” on page 11.\*\*](#)

## Remote Microsoft SQL Server RDBMS Guidelines

If you have a **Remote SQL Server** database, the Database Administrator needs to perform the procedures in the following sections.

### Configure the Remote Microsoft SQL Server

After the new server has been set up with the appropriate version of the Windows operating system and has been connected to the network, you can begin installing and configuring the SQL Server software.

#### Shutdown All Applications

Before installing Microsoft SQL Server software, make sure that any SQL server-related applications are shut down. This is especially important, if you have any applications running that are using ODBC drivers. If these applications are left running, they could cause installation errors.

#### Installing Remote Microsoft SQL Server Software

In this section you will install the Microsoft SQL Server software. For instructions on doing this.

For SQL 2005, you can find these instructions on the Microsoft Web site at:

<http://msdn2.microsoft.com/en-us/library/ms143516.aspx>

---

**Note** Certain SQL Server information will need to be entered during the installation procedure. Refer to the table in the section **“Additional**

**Information (Microsoft SQL Server ONLY)” on page 22** for this information.

---

As you install the SQL Server software, use the following guidelines:

- When the Installation Definition dialog box appears, select the **Server and Client Tools** option.
- When the Instance Name dialog box appears, clear the Default checkbox and enter an Instance name, such as INSTANCE1, PAY-ROLL, CLAIMS, and so on.

---

**Note** Named instances are recommended. In addition, the instance name you specify must be different from any other SQL instance already defined on this server.

---

- When the Authentication Mode dialog box appears, select the Mixed Mode.

### Reboot the Server

After you finish installing the SQLServer software, you must reboot the server so that newly installed device drivers can take effect.

- 1 Make sure that all applications and windows have been closed.
- 2 Reboot the server.

### Verify the File Names and Filegroups

Ensure the File Names and Filegroups have been setup properly.

Refer to the Overview of Installing SQL Server installation documentation on the Microsoft Web site to create the Site Database.



**Guidelines for Site-Controlled/FileNet-Used File Groups**

| FileNet Equivalent/Default File Group Names | Site-Controlled File Group Names |
|---|----------------------------------|
| fnsys_fg                                    |                                  |
| fnusr_fg                                    |                                  |
| fnidx_fg                                    |                                  |

Required for full-use RDBMS

**fnsys\_fg** is the name of the dedicated FileNet default file group.

**fnusr\_fg** is the name of the user file group.

Optional

**fnidx\_fg** is the name of the file group for storing indexes.

---

**Note** Release 4.2 now allows for an optional file group to store indexes. Using the optional file group can increase performance by storing the indexes in a different location from the dedicated or user file groups. The file group name should match what is put in fn\_edit RDB objects.

---

## Configure the FileNet Image Services (Client) Server

After the remote SQL database server has been successfully configured, you're ready to install the Microsoft SQL database software on the FileNet Image Services (client) server.

Use the procedures in this section to configure either:

- an Image Services Combined server or Root/Index server or

- an Image Services Application Server with WorkFlo Queue Services, SQL Services, or VWServices.

---

**Note** Be sure to configure the Combined or Root/Index server first.

---

### Installing the Client Microsoft SQL Server Software

In this section you will install the Microsoft SQL Server software. Refer to the Overview of Installing SQL Server installation documentation on the Microsoft Web site.

---

**Note** Certain SQL Server information will need to be entered during the installation procedure. Refer to the table in the section **“Additional Information (Microsoft SQL Server ONLY)” on page 22** for this information.

---

### Test SQL Networking on the FileNet IS (Client) Server

IBM FileNet Image Services uses Windows authentication to create database users and grant privileges. Therefore, you must set up a trusted SQL Server connection for Windows authentication to be successful. Use the same password on the local and the remote servers when setting up trusted SQL Sever. You can change the password back after you are finished.

- 1 Verify that the SQL networking is active and functional by entering the appropriate osql command.
  - With Windows Authentication, enter the osql command in the following format:

osql -E -S <server\instance> -d Indexdb

For example:

```
osql -E -S Maui\payroll -d indexdb
```

- 2 If the commands were successful, the select prompt will appear.

## Install Image Services Software

After the Microsoft SQL Server software has been successfully installed, continue with the Image Services installation in the *IS Installation and Configuration Procedures, Release 4.2*. To download this document from the IBM support page, see [\*\*“Accessing IBM® FileNet® Documentation” on page 11.\*\*](#)

## Updating RDBMS Software

This chapter contains guidelines for updating a Site-controlled Oracle or Microsoft SQL Server database.

If your server has a FileNet-controlled Oracle or Microsoft SQL Server database, use the procedures in the *Image Services Upgrade Procedures, Release 4.2*. To download this document from the IBM support page, see [\*\*“Accessing IBM® FileNet® Documentation” on page 11.\*\*](#)

Because the FileNet Image Services software requires certain RDBMS products to be installed, the DBA needs to follow these guidelines.

- **Oracle** - To update a site-controlled Oracle RDBMS, continue to the next section, [\*\*“Guidelines for Updating a Site-Controlled Oracle RDBMS” on page 61.\*\*](#)
- **MS SQL** - To update a site-controlled Microsoft SQL Server RDBMS, skip to the section, [\*\*“Guidelines for Updating a Site-Controlled Microsoft SQL Server RDBMS” on page 64.\*\*](#)

## Guidelines for Updating a Site-Controlled Oracle RDBMS

If you have a site-controlled Oracle database, the Database Administrator must perform the following steps.

### Turn Off Archive Logging (if necessary)

If Archive Logging is active on the server, you can turn it off before updating the Oracle software.

Turning off Archive Logging will prevent non-essential records from being written to the log file and will accelerate the update.

### Install Oracle Products

- To install Oracle **Server** software on a FileNet Image Services server **or** an independent (remote) Oracle server accessed by FileNet Image Services, continue to the next section, [\*\*“Oracle Server” on page 61.\*\*](#)
- To install Oracle **Client** software on a FileNet Image Services server used to access a remote server, skip to the section, [\*\*“Oracle Client” on page 63.\*\*](#)

### Oracle Server

Follow the steps in this section to install Oracle server software.

---

**Note** If you are updating an Image services system that accesses a remote Oracle database server, you need to update the Oracle software or datasets on the remote server so they match.

---

- 1 As the Oracle user, make sure the Oracle DVD is loaded and launch the Oracle Universal Installer.

- 2 Follow the Oracle document to upgrade your database server to 10g R2, 11g R1 or 11g R2.

### Run Upgrade Scripts

Prior to installing Oracle patch set you must run the oracle upgrade scripts.

#### **CAUTION**

---

It is imperative that the upgrade scripts be run at this time to prevent database corruption.

---

### Install Oracle Patch Set

If you have installed the Oracle 10g software, install:

- Oracle Patch Set 3(10.2.0.4)

You can find the patch set on the Oracle MetaLink Web site at: <http://www.oracle.com/support/metalink/index.html>

If you have installed Oracle 11g software, IS 4.2 supports the base release of Oracle 11g R1 (11.1.0.6) or Oracle 11g R2 (11.2.0.). No patch is required at the time of the IS 4.2 release.

If you are updating a **remote** Oracle system, continue to the next section, **“Oracle Client”** to install Oracle Client software on the FileNet Image Services server.

If you are **not** updating a remote Oracle System, skip to the section, **“Report to Sys Admin and Your Service Representative” on page 63.**

## Oracle Client

Follow these steps to install Oracle Client software:

- 1 Load the Oracle DVD for Windows (32-bit).
- 2 Change directories to the **Client** folder.
- 3 In the Client folder, double-click on the **setup.exe** file.
- 4 At the **Installation Types** screen, select the Custom option.
- 5 Make sure the following products are installed:

- ✓ Oracle Client
  - ✓ SQL\*PLUS
  - ✓ Oracle Call Interface (OCI)
  - ✓ Oracle Net

## Report to Sys Admin and Your Service Representative

Please provide the information below to the System Administrator and your service representative.

### ORACLE\_SID

Ensure that the ORACLE\_SID is known, written in the space below, and set correctly.

**Site-Controlled ORACLE\_SID:** \_\_\_\_\_  
(instance identifier) (for example, IDB)

### Name Oracle Database Administration Group

Write down the name of the group that will be used for database administration. Later, the FileNet user **fns**w must be made a member of this group.

**Name of DBA Group:** \_\_\_\_\_  
(for database administration) (for example, dba)

### Update Image Services

After the Oracle software has been successfully updated, continue with the Image Services update in Chapter 4 of the *Image Services Update Procedures, Release 4.2*. To download this document from the IBM support page, see [“Accessing IBM® FileNet® Documentation” on page 11](#).

## Guidelines for Updating a Site-Controlled Microsoft SQL Server RDBMS

If your SQL Server RDBMS is Site-controlled, the Database Administrator needs to perform the following steps.



## Minimum Microsoft SQL Server 2005, 2008 and 2008 R2 Components

Ensure that, at a minimum, the following SQL Server 2005 components are installed.

| SQL Server Component         |
|------------------------------|
| SQL Server Database Services |
| Management Tools             |
|                              |

## File Group Names

Set up the file group names as shown in the table below.

### Guidelines for Site-Controlled/FileNet-Used File Groups

| FileNet Equivalent/Default File Group Names | Site-Controlled File Group Names |
|---|----------------------------------|
| fnsys_fg                                    |                                  |
| fnusr_fg                                    |                                  |
| fnidx_fg                                    |                                  |

Required for full-use RDBMS

**fnsys\_fg** is the name of the dedicated FileNet default file group.

**fnusr\_fg** is the name of the user file group.

Optional

**fnidx\_fg** is the name of the file group for storing indexes.

---

**Note**

Release 4.2 now allows for an optional file group to store indexes. Using the optional file group can increase performance by storing the indexes

in a different location from the dedicated or user file groups. The file group name should match what was put in fn\_edit RDB objects.

---

## Notify System Users

Notify system users that during the Image Services update the Microsoft SQL Server software will be shut down several times.

## Report to Sys Admin and Your Service Representative

Please provide the information above to the System Administrator and your service representative.

## Continue the Image Services Upgrade

After the Microsoft SQL Server software has been successfully updated, continue with the Image Services update in the *Image Services Upgrade Procedures, Release 4.2*. To download this document from the IBM support page, see [\*\*“Accessing IBM® FileNet® Documentation” on page 11.\*\*](#)

# Notices

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