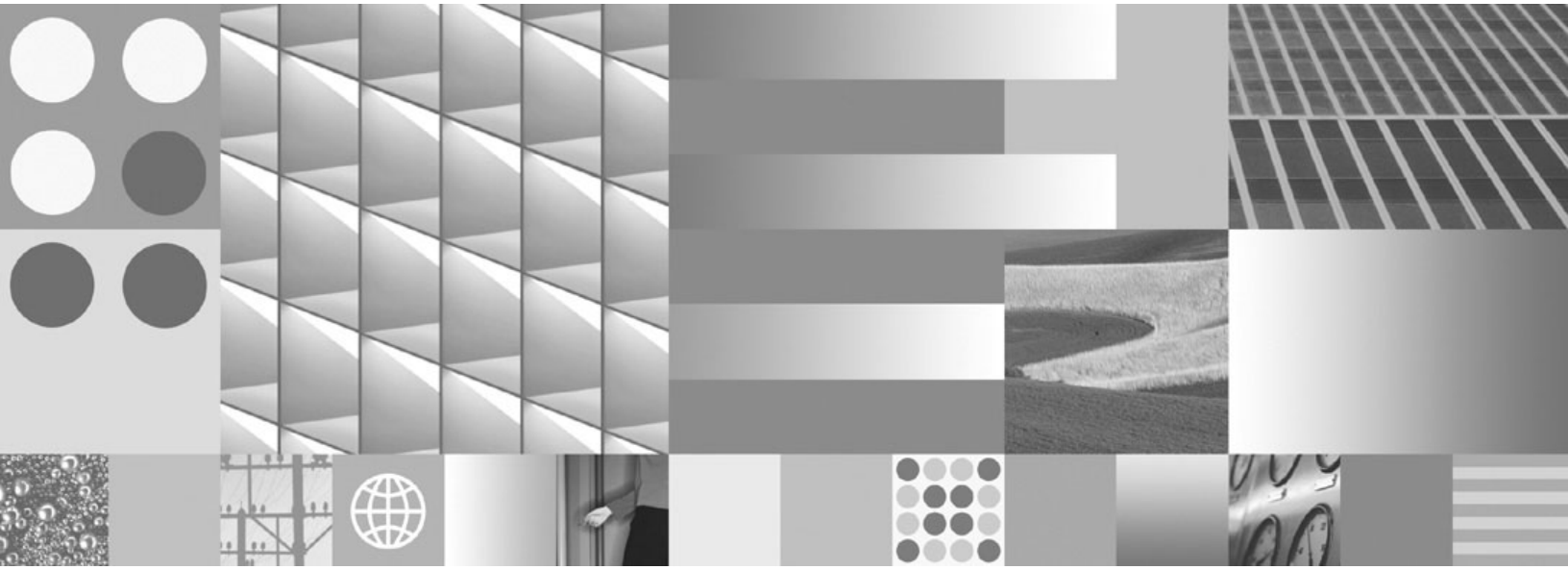
IBM FileNet Image Services

4.1.2

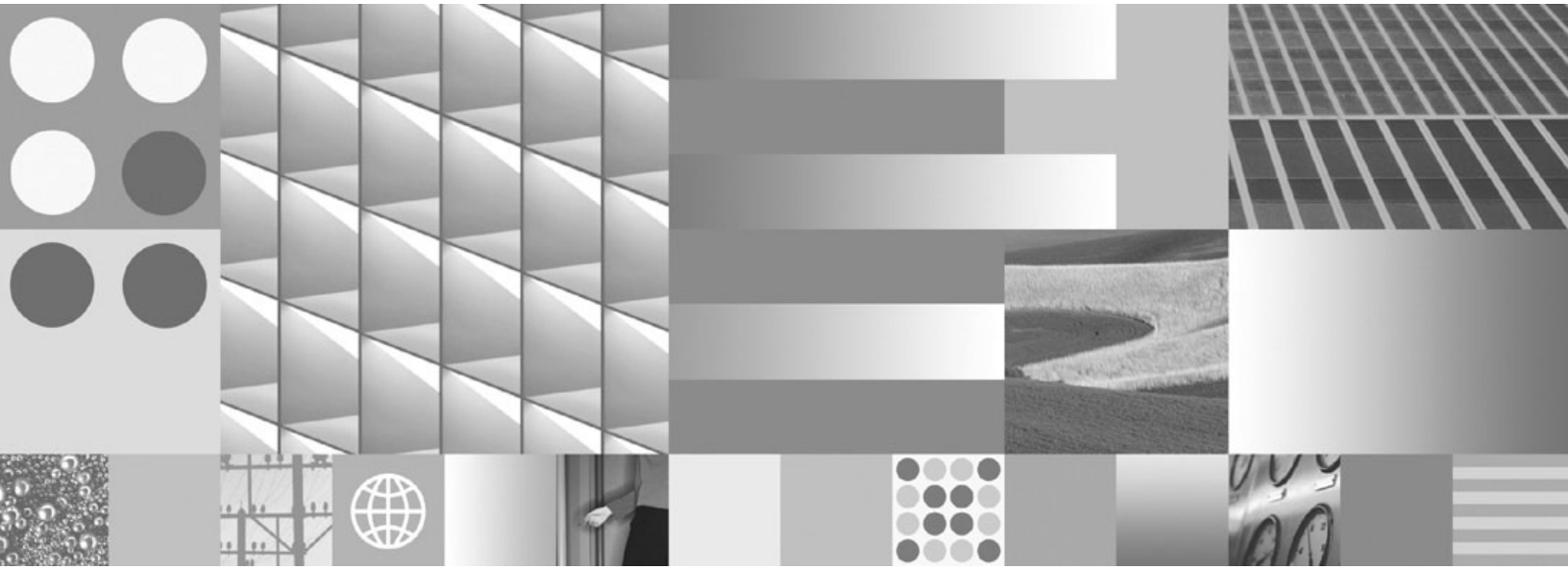


Combined Server to Dual Server Conversion Procedures

SC19-2669-00

IBM FileNet Image Services

4.1.2



Combined Server to Dual Server Conversion Procedures

SC19-2669-00

Note
Before using this information and the product it supports, read the information in "Notices" on page 89.

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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1

Preparing for the Conversion

Introduction

This procedure describes the steps needed to convert a Combined server IBM® FileNet® Image Services system into a Dual server system. The Combined server (Root/Index/Storage Library server) will become the Root/Index server of the Dual server system, and a new server will be configured as the Storage Library server.

If the Image Services system already includes one or more Application servers, they will remain unchanged.

Please read this entire document from start to finish before performing the update so you'll know what to expect as you go along.

Document revision history

IS version	Date	Comment
4.1.2	Nov. 2008	Initial release.

Strategy

This procedure describes the process of converting your existing Combined server Image Services system to a Dual server system composed of a Root/Index server and a Storage Library server.

- The existing Combined server will become the Root/Index server.
- A new server is added as the Storage Library server.

You must transfer the permanent database and certain caches from the Combined server to the Storage Library server, and you must also switch the storage library cables and, if necessary, the SCSI controller circuit board from one server to the other.

About This Manual

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. 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 FileNet provides various forms of education. Please visit the Training and certification page on IBM's Web site at (**www-306.ibm.com/software/sw-training/**).

Feedback

Documentation feedback

Send comments on this publication or other IBM FileNet Image Services documentation 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 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**. 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 takes approximately 30 minutes to complete and must be completed in a single session; there is no option to save a partially completed response.

Documentation References

To complete this conversion procedure, you will also need to refer to the following documents that apply to your server platform. To download any of these documents from the IBM support page, see **“Accessing IBM FileNet documentation” on page 13**.

- *Image Services Installation and Configuration Procedures*
- *Image Services Upgrade Procedures*

- *Image Services System Administrator's Handbook*
- *Image Services System Administrator's Companion for UNIX*
- *Image Services System Administrator's Companion for Windows Server*

2

Update the Combined Server

If the existing Combined server is running a release of FileNet Image Services software lower than Image Services 4.1.2, you need to update the Combined server to Image Services 4.1.2.

Note Make sure that both the operating system software and the FileNet Image Services software have been updated successfully before you continue with this procedure. This procedure does not support conversion and updating software at the same time.

Update the Operating System Software

Use the appropriate update procedure to update the operating system software to the currently supported operating system release.

- For AIX/6000 systems, the AIX® operating system should already have been installed by an IBM technician.
- For HP 9000 systems, the HP-UX operating system should already have been installed by a Hewlett-Packard technician.
- For Sun systems, the Solaris operating system should already have been installed by a Sun technician.
- For Windows® Server systems, follow the instructions that accompany the Windows software media.

Update the FileNet Image Services Software

Use the appropriate Image Services Software Upgrade Procedure to update the FileNet software to Image Services 4.1. To download any of these procedures from the IBM support page, see **“Accessing IBM FileNet documentation” on page 13**.

- *Image Services Upgrade Procedure for AIX/6000*
- *Image Services Upgrade Procedure for HP-UX*
- *Image Services Upgrade Procedure for Solaris*

- *Image Services Upgrade Procedure for Windows Server*

Clear the Transient Database and Cache

The following steps will make sure that information stored in the caches is not lost. These steps should be performed immediately before you back up the combined server.

If you have already cleared the Transient database as part of the Image Services Update Procedure, skip to **“Back Up Data on the Combined Server” on page 23**.

1 Print or delete all outstanding print requests.

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

2 Commit all uncommitted images.

To check uncommitted images, run CSM_tool, and check bes_cache and page_cache.

3 The CSM_tool requires the FileNet Image Services software to be running. To check, enter:

whatsup

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

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

initfnsw restart

5 Use the CSM_tool to examine the remaining contents of the cache. Enter:

CSM_tool

6 To display statistics on the bes_cache, page_cache, and print_cache, enter at the CSM_tool prompt:

<CSM_tool> **s**

The statistics display looks similar to this:

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

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

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

_____

_____

_____

_____

You need to remove as many locked objects as possible. All the caches that cannot be cleared need to be exported using the CSM_exim tool described in the next section.

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

7 To quit from CSM_tool, enter:

<CSM_tool> **q**

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

8 The remaining cache objects will be exported later in this procedure, after you have backed up the server and exported the permanent database.

Back Up Data on the Combined Server

Make sure that you make a full backup of the Combined server. Refer to your *System Administrator's Companion* for complete information on performing a full system backup. To download this document from the IBM support page, see **"Accessing IBM FileNet documentation" on page 13**.

Check Number of Documents

1 The MKF_tool requires the FileNet Image Services software to be running. To check, enter:

whatsup

If the FileNet software is up and running, skip to Step 3.

2 As the FileNet software user, such as **fnsw**, start the FileNet software by entering:

initfnsw restart

3 Before you back up the Permanent database, use the MKF_tool to determine the number of records it contains. Enter:

MKF_tool

<MKF_tool> **count docs ***

MKF_tool displays the following message:

Total of xxxxx records counted

where **xxxxx** is the number of records counted.

4 Write down this total so you can compare it with the total number or records counted when you restore the Permanent database on the new Storage Library server.

Document Count _____

5 To exit from MKF_tool, enter:

<MKF_tool> **q**

Determine How Much Data Will Be Exported

Later in this procedure, you'll need to export the permanent database and caches to tape. To make sure the tapes you are going to use are large enough to hold the data, you need to determine how much actual data is going to be exported.

1 The MKF_stats command requires the FileNet Image Services software to be inactive. To check, enter:

whatsup

If the FileNet software is **not** running, skip to Step 3.

2 Stop the FileNet software.

UNIX

- On AIX, HP-UX, and Solaris servers, enter:

  initfnsw -y stop
  killfnsw -DAy

WIN

- On Windows servers, enter:

  initfnsw -y stop
  killfnsw -A -y

The -D option (on UNIX® platforms only) kills FileNet daemons (such as the Task Manager). 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 As the FileNet software user, such as **fnsw**, run MKF_stats to determine how much data is in the permanent database.

UNIX

- On AIX/6000, HP-UX, and Solaris servers, enter:

  MKF_stats -q /fnsw/dev/1/permanent_db0

WIN

- On Windows servers, enter:

  MKF_stats -q <drive>:\fnsw\dev\1\permanent_db0

The last two lines of the display indicate the total size of the database in 1 KB blocks, and the amount and percent of space already filled with data. For example:

```
Max number of blocks in data base = 102400
Nonvirgin blocks in data base     =  33600   32.8%
```

In the display above, the maximum number of blocks is shown as 102400 KB, or about 100 MB. The number of blocks that actually contain data (nonvirgin blocks) is shown as 33600 or approximately 33.6 MB. The percent indicates that the database is about one-third full.

Write down the number of 1 KB blocks that contain data in your permanent database: _____

Make sure the capacity of the tapes you plan to use for export is large enough. If necessary, you may need to locate higher capacity tapes.

4 Next, run **MKF_stats** to find out how much data is in the transient database:

UNIX

- On AIX/6000, HP-UX, and Solaris servers, enter:

  MKF_stats -q /fnsw/dev/1/transient_db0

WIN

- On Windows servers, enter:

  MKF_stats -q <drive>:\fnsw\dev\1\transient_db0

The display should look similar to this:

```
Max number of blocks in data base = 20480
Nonvirgin blocks in data base     = 10240   50.0%
```

This sample display indicates that about 10MB of the transient database contains data.

Write down the number of 1K blocks that contain data in your transient database: _____

Make sure the capacity of the tapes you plan to use for export is large enough. If necessary, you may need to locate higher capacity tapes.

Export the Permanent Database

To copy the permanent database to tape for transfer to the Storage Library server, follow these steps:

1. Load a blank tape into the tape drive.

2. At the Combined server, make sure the FileNet Image Services software is running. Enter:

   whatsup

   If the FileNet Image Services software is not running, enter:

   initfnsw start

3. Export the permanent database to tape by entering:

UNIX

- On AIX/6000, HP-UX, and Solaris servers, enter:

  MKF_export :: /fnsw/dev/1/permanent_db0 out=tape

WIN

- On Windows servers, enter:

  MKF_export :: <drive>:\fnsw\dev\1\permanent_db0 out=tape

4 If you see the following message:

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

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

5 After the export is finished successfully, remove the tape from the drive, write-protect it, and label it with the server name, contents, and date. For example, "Corona - permanent_db0 - 6/23/2007."

Export Caches

1 On the Combined server, login as **fnsw** user.

2 Make sure you're in the appropriate directory.

UNIX

- On AIX/6000, HP-UX, and Solaris servers, enter:

  cd /fnsw/local/tmp

WIN

- On Windows servers, enter:

  cd \fnsw_loc\tmp

3 Load a blank tape into the tape drive.

4 To export a cache, use the following syntax:

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

where <tape_id> is the name of the tape drive, <domain:organization> is the domain name and organization of the Combined server, and <cache_id> is the name of the cache you want to export.

For example, if the tape device id is "tape1" and the Combined server is named "corona", and the cache you want to export is "page_cache1", the command you enter would look similar to this:

CSM_exim -evd tape1:corona:FileNet -c page_cache1

The CSM_exim command creates two files: CSM_EI_DAT.xx where xx is the cache id (shown on the CSM_tool display) you are exporting from, and CSM_EI_DAT.DIR.

For complete information on CSM_exim, refer to the *Image Services System Tools Reference Manual.* To download this manual from the IBM support page, see **"Accessing IBM FileNet documentation" on page 13**.

5 If you see the following message:

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

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

6 The first thing this command does is list the cache objects selected for export. Then as the transfer and verification take place, you see messages similar to these:

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

```
CSM_exim: the selected objects are:

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

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

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

Cache Name	Objects Selected

7 When the export is completed, remove the tape from the drive, write-protect it, and label it with the server name, contents, and date. For example, "Corona - page_cache1 - 6/23/2007."

8 Repeat Steps 2 through 6 for each cache you wish to export to tape.

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

UNIX

- On AIX, HP-UX, and Solaris servers, enter:

  rm csm_ei_rpt.*

WIN

- On Windows servers, enter:

  del csm_ei_rpt.*

10 After you have finished exporting caches, continue with the next chapter.

3

Convert Combined Server to Root/Index Server

Stop the FileNet Software

As **fnsw** user on the Combined server, enter the following command to stop the FileNet Image Services software and kill all processes.

UNIX

- On AIX, HP-UX, and Solaris servers, enter:

  initfnsw -y stop
  killfnsw -DAy

WIN

- On Windows servers, enter:

  initfnsw -y stop
  killfnsw -A -y

The -D option (on UNIX servers only) kills FileNet daemons (e.g. Task Manager). 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.

Convert the Configuration Database (CDB) File

As the FileNet software user, such as **fnsw**, convert the CDB file to a dual server configuration by entering:

cmb2dual

This command reads the information in the current CDB file and creates a new CDB file for your new dual server configuration.

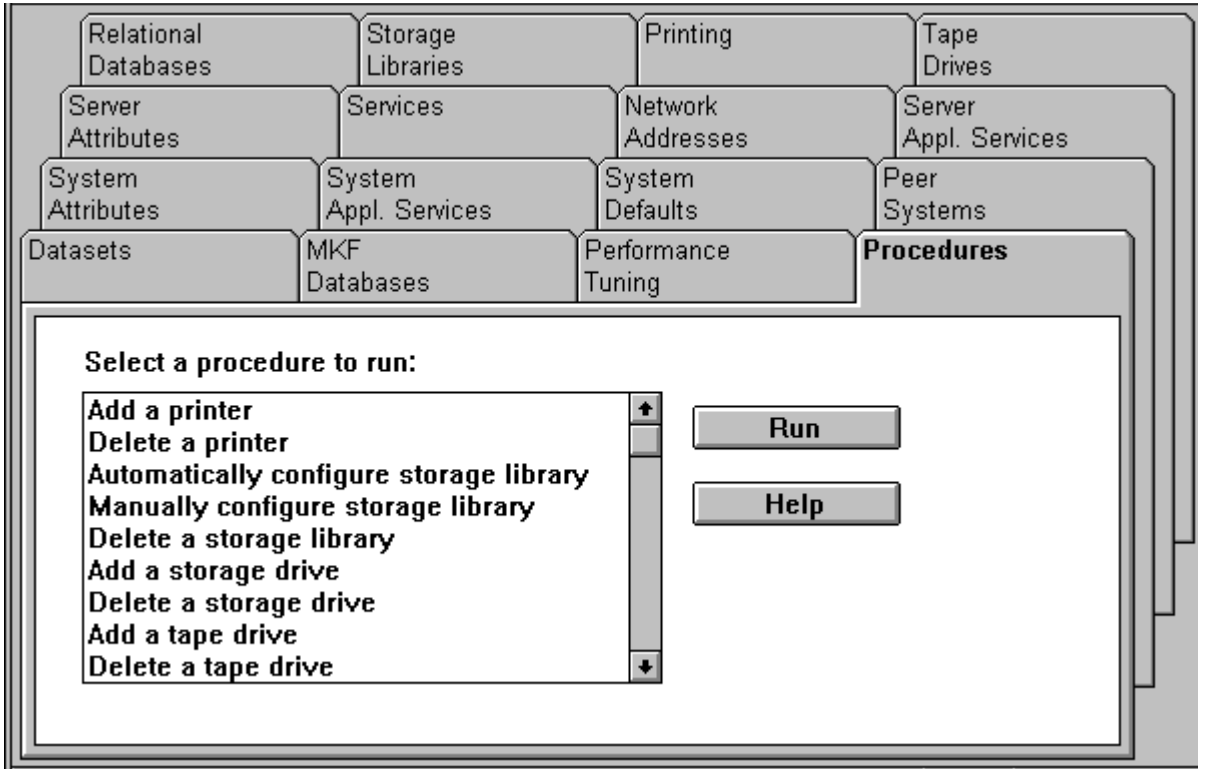
Verify the New Configuration Database

Browse through the new configuration to verify that all the data the newly generated Configuration Database. There are also a couple of modifications you need to make as you go along.

As the FileNet software user, such as **fnsw**, launch the configuration editor by entering:

fn_edit &

Click **OK** in the initial dialog box. The System Configuration Editor window displays:


Relational Databases
Storage Libraries
Printing
Tape Drives
Server Attributes
Services
Network Addresses
Server Appl. Services
System Attributes
System Appl. Services
System Defaults
Peer Systems
Datasets
MKF Databases
Performance Tuning
Procedures
Select a procedure to run:
Add a printer
Delete a printer
Automatically configure storage library
Manually configure storage library
Delete a storage library
Add a storage drive
Delete a storage drive
Add a tape drive
Delete a tape drive
Run
Help

Click on each tab in sequence to verify that the system is now configured as a dual server system. As you verify the data, make the modifications specified on the following tabs:

Server Attributes Tab

On the Server Attributes tab, change "temp lib server" to the name of the new Storage Library server.

Scroll to the right to verify the Platform. “AIX/6000” is the default.

- If the new Storage Library server is AIX/6000, leave the platform field set to AIX/6000.
- If your new Storage Library server is an HP/9000, Sun/Solaris, or Windows Server platform, click the arrow to the right of the platform and select the correct platform type for your server.

Network Addresses Tab

On the Network Addresses tab, enter the IP address of the new Storage Library server.

Tape Drives Tab

On the Tape Drives tab, verify that a tape drive is configured for the Root/Index server, if necessary.

You may also need a tape drive configured for the Storage Library server. If there is no tape drive shown for the Storage Library server, you can configure it now. Continue with the next subsection.

Procedures Tab

If you do not need to configure the tape drive on the Storage Library server, skip this subsection.

On the Procedures tab, configure the tape drive on the Storage Library by selecting "Add a Tape Drive," and click **Run**. Respond to the

prompts for the tape drive type, tape drive name, and so on, appropriately for your system.

After you've added the tape drive to the Storage Library server, return to the Tape Drives tab to make sure its configuration is displayed correctly.

System Defaults Tab

For the purposes of this procedure, for the MKF_import tool to work correctly later on, make sure the System default tape drive is the tape drive on the **Storage Library server**.

Storage Library Tab

On the Storage Library tab, should see the correct storage library information displayed.

However, you may not see any storage libraries displayed. This is all right, for now. Later in this procedure, after you have transferred the

storage library cables to the Storage Library server, you will be able to configure the libraries automatically.

Exit from the Configuration Editor

After you have made the modifications described in the previous sections and after you have verified that the rest of the data appears correct, you can exit from the Configuration Editor and save the changes you have made.

Move the Storage Libraries

At this time, both servers are configured for their roles in your new dual server FileNet Image Services system. The next task is to physically move the cables and controller circuit board to the Storage Library server.

Shutdown the Servers

Shutdown the FileNet Software on both servers.

Shutdown the operating system software on both servers using the appropriate **shutdown** command.

Turn Power Off

1. Turn off power to the Root/Index (formerly the Combined) server.
2. Turn off power to the Storage Library server.

Switch the Cables

1. Unplug the storage library cables from the Root/Index server.
2. If the Storage Library server does not already have a controller board for the storage library installed:
   a. Remove the rear panels from both servers, if necessary.
   b. Remove the controller board from the Root/Index server and install it in the same location in the new Storage Library server.

c Replace the rear panels on both servers.

3 Attach the Storage Library Cables to the new Storage Library server.

Turn Power On

Reapply power to the servers.

Note When the newly configured Root/Index server reboots, you may see a variety of error messages because the Image Services software has not been installed on the Storage Library server yet. You can ignore these messages for now.

However, make sure the Image Services software is started on the Root/Index server.

Remove Configuration Files

As the FileNet software user, such as **fnsw**, on the new Root/Index server, change to the appropriate directory and remove these files:

UNIX

- On AIX, HP-UX, and Solaris servers, enter:

```
cd  /fnsw/local/sd

rm as_conf.g
rm snt.chkpt
rm  checkpoint.osa
```

WIN

- On Windows servers, enter:

```
cd  \fnsw_loc\sd

del  as_conf.g
del  snt.chkpt
del  checkpoint.osa
```

Also on the Root/Index server, remove the following files, if they exist:

UNIX

- On AIX, HP-UX, and Solaris servers, enter:

```
cd  /fnsw/local/sd/1

rm  as_conf.s
rm  permanent.ddl
rm  transient.ddl
rm  print_config
```

WIN

- On Windows servers, enter:

```
cd  \fnsw_loc\sd\1

del  as_conf.s
del  permanent.ddl
del  transient.ddl
del  print_config
```

4

Configure the New Storage Library Server

The new Storage Library server must use the same version of the operating system software as the existing Combined server. If it is not currently running the same operating system version, you must arrange to have the correct version installed.

Install the Operating System

If necessary, install or update the operating system software:

UNIX

- For AIX/6000, HP-UX, and Solaris servers, the operating system should already have been installed by an IBM, Hewlett-Packard, or Sun Microsystems technician.

WIN

- For Windows servers, follow the instructions that accompany the Windows software media.

Install the FileNet Image Services Software

Follow instructions in the *Image Services Installation Procedure* to install the FileNet Image Services software and to configure the server as a Storage Library server. To download any of these procedures from the IBM support page, see **"Accessing IBM FileNet documentation" on page 13**.

- *Image Services Installation and Configuration Procedures*

Special Considerations

As you configure the Storage Library server, keep the following special considerations in mind:

Dataset Sizes

Also make sure you create permanent and transient datasets as large or larger than the existing ones on the Combined server.

Relational Database Management System

The Storage Library does not require an RDBMS. Also, **do not** configure RDBMS users or groups on the Storage Library server.

fn_setup

During the installation, when you are instructed to run **fn_setup**, be sure to specify:

- The Storage Library server is **not the NCH server**.
- The domain name of the **Root/Index** server as the NCH server.

Note The domain name of the Root/Index server may be different from the server name.

- The SSN of the **Root/Index** server.
- **No RDBMS** is installed on the Storage Library server.

For example, as you run **fn_setup** on the Storage Library server, reply to the prompts with the following information. If the default value shown in brackets is correct, press Return to continue.

a The NCH server is the generally the Root server. On the Storage Library 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. On the Storage Library server, enter the name of the Root/Index server.

```
Enter NCH server name [corona:FileNet]:
```

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 [1234567890]:
```

d Relational databases are only configured on servers with Index services, WorkFlo Queue Services (WQS), or SQL services. On a Storage Library server without one these services, select **0**=none.

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

4 The **fn_setup** tool then displays the information you supplied so you can confirm your entries:

```
This is the setup configuration:
     NCH server name:  hpvenice:FileNet
     SSN:  1234567890
     Relational database type:  none
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.

5 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: Changing permission on FileNet software and
 databases
```

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

a If a problem occurs during **fn_setup**, check the /tmp/fn_setup.log file to determine what went wrong. After you have corrected the problem, go back to Step 1 and run **fn_setup** again.

b If there were no problems, continue with the server installation procedure.

Edit the serverConfig file

Use your preferred text editor, such as **vi**, to edit the /fnsw/etc/serverConfig.custom file. If there is no serverConfig.custom file, edit the serverConfig file instead.

Because Security Services resides only on the Root server, you can disable the SECs request handlers on the Storage Library server by setting the maximum number to zero (0). For example:

```
SECs 0134231060 1 0 1 0 64
                  ^
```

You can also disable the request handlers for any other services that are not configured on the Storage Library server. For example, if Index Services are not configured on this server, you can disable the INXs request handlers by setting the maximum number to zero (0) .

Save the updated file as serverConfig.custom.

For more information on the serverConfig file, see the section “Generated Configuration Files” in the *Image Services System Reference Guide*. To download a copy of this manual from the IBM Web site, see **“Accessing IBM FileNet documentation” on page 13**.

Verify Server Installation

After you have finished installing the software on the Storage Library server and after you have verified that the installation was successful, you can continue with the next chapter to import the data to the storage library server.

5

Import Data to the Storage Library Server

This chapter contains instructions for importing and verifying data on the Storage Library server.

On the Root/Index Server

As the FileNet software user, such as **fnsw**, on the Root/Index server, start the FileNet software by entering:

initfnsw start
nch_flush

On the Storage Library Server

1 As the FileNet software user, such as **fnsw**, on the Storage Library server, enter:

nch_flush

The nch_flush command clears any old NCH data cached in memory.

2 Use the nch_tool command to verify that the Storage Library server is in the correct domain. Enter:

nch_tool

nch_tool> **set**

The Storage Library server and the Root/Index server should be in the same domain.

3 To exit from nch_tool, enter:

nch_tool> **q**

4 Make sure the databases are initialized by entering:

fn_util init

The fn_util init command initializes the transient and permanent databases on the Storage Library server.

Import the Permanent Database

To import the permanent database onto the Storage Library server, follow these steps:

1 At the Storage Library server, load the tape containing the Permanent database into the tape drive.

2 As the FileNet software user, such as **fnsw**, start the databases by entering:

fn_util startdb

3 Import the permanent database from tape by entering one of the following MKF_Import commands:

UNIX

- On AIX/6000, HP-UX, and Solaris servers, enter:

  MKF_import :: /fnsw/dev/1/permanent_db0 in=tape rs=/fnsw/local/tmp/restart

WIN

- On Windows servers, enter:

  MKF_import :: <drive>:\fnsw\dev\1\permanent_db0 in=tape rs=\fnsw_loc\tmp\restart fixup=yes

where **restart** is the name of a restart file that MKF_import creates to keep track of its progress in case you need to restart the import after partial completion.

4 After the MKF_import has completed successfully, remove the tape from the drive.

Verify the Permanent Database

To make sure the Permanent database was imported successfully, follow these steps:

1 Still as **fnsw** user on the Storage Library server, verify that the permanent database was imported successfully:

UNIX

- On AIX/6000, HP-UX, and Solaris servers, enter:

  MKF_verify :: /fnsw/dev/1/permanent_db0

WIN

- On Windows servers, enter:

  MKF_verify :: <drive>:\fnsw\dev\1\permanent_db0

2 On the Storage Library server, use the MKF_dump tool to verify that the database was copied correctly. Enter:

UNIX

- On AIX/6000, HP-UX, and Solaris servers, enter:

  MKF_dump /fnsw/dev/1/permanent_db0

WIN

- On Windows servers, enter:

  MKF_dump <drive>:\fnsw\dev\1\permanent_db0

3 Scan permanent_db0 by entering **s+c** at the MKF_dump prompt:

MKF_dump: **s+c**

The **s+c** argument causes MKF_dump to search forward through the permanent_db0 for corrupt blocks.

Be patient. MKF_dump may take several minutes to scan the database, and it gives you no indication that anything is happening. You may think the system has hung, but it really hasn't.

If there are no corrupt blocks, you will see only the following harmless message:

read error -- off end of file

4 To exit from MKF_dump, enter:

MKF_dump: **q**

5 If you are asked to confirm that you want to quit MKF_dump, enter **y** at the following prompt:

Enter y <cr> to confirm that you wish to terminate this program: **y**

Check Number of Documents

After you have transferred the permanent database to the Storage Library server, use the MKF_tool to determine the number of records it contains.

1 As the FileNet software user, such as **fnsw**, use the MKF_tool to count the number of documents. Enter:

MKF_tool

<MKF_tool> **count docs ***

MKF_tool displays the following message:

Total of xxxxx records counted

where **xxxxx** is the number of records counted.

2 Compare this number with the total number of records counted when you ran MKF_tool on the Combined server before the export. The counts should match. If they don't, you need to try the MKF_export again.

3 To exit from MKF_tool, enter:

<MKF_tool> **q**

Verify Cache Names

Before you import the caches to the new Storage Library server, you need to verify their names.

1 As the FileNet software user, such as **fnsw**, launch CSM_tool by entering:

CSM_tool

2 Display cache statistics by entering at the CSM_tool prompt:

<CSM_tool> **s**

The statistics display looks similar to this:

```
Cache Id  Name                                % locked  % full  % free
--------  ----                                --------  ------  ------
       5  page_cache0:corona:FileNet               0       0     100
       6  sys_print_cache0:corona:FileNet          0       0     100
       8  bes_cache0:corona:FileNet                0       0     100
       9  app_print_cache0:corona:FileNet          0       0     100
       *  Physical space summary                   7       7      93
```

Notice that the final digit of the cache names in this display is zero (0). Make sure you notice whether the cache names on your Storage Library server are different from the names of the caches you exported from the Combined server.

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

_____

_____

3 To quit from CSM_tool, enter:

<CSM_tool> **q**

Import Caches

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

If you did not export any caches using the CSM_exim tool from the Combined server, skip to step 10.

1 As the FileNet software user, such as **fnsw**, make sure you're in the /fnsw/local/tmp directory by entering:

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_id>:<destination_domain:organization> -c <cache_name>:<source_domain:organization>,<cache_name>

where <tape_id> is the name of the tape drive,

<destination_domain:organization> are the domain name and organization of the Root/Index server to which you importing the cache,

<cache_name> is the name of the cache on the tape, and

<source_domain:organization> are the domain name and organization of the Combined server from which the cache was exported.

Note Since the former Combined server is now the Root/Index server, the destination domain name and the source domain name should be identical.

The first <cache_name> in the command line is the complete NCH pathname of the cache you exported from the Combined server. The last <cache_name> is the name of the cache on the Storage Library server, as shown on the CSM_tool display. These names are separated by a comma with no surrounding spaces.

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

CSM_exim -ird tape1:corona:FileNet -c page_cache1:corona:FileNet,page_cache0

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: Saturday, June 23, 2007 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:

UNIX

- On AIX, HP-UX, and Solaris servers, enter:

  more csm_ei_rpt.a23546

WIN

- On Windows servers, enter:

edit csm_ei_rpt.a23546

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

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

8 Repeat Steps 2 through 7 for each cache that you exported from the Combined server.

9 List the contents of the /fnsw/local/tmp directory (\fnsw_loc\tmp directory on Windows), and remove all the report files:

UNIX

- On AIX, HP-UX, and Solaris servers, enter:

  rm csm_ei_rpt.*

WIN

- On Windows servers, enter:

  del csm_ei_rpt.*

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

UNIX

- On AIX, HP-UX, and Solaris servers, enter:

  cd /fnsw/local/sd

  rm snt.chkpt
  rm checkpoint.osa

WIN

- On Windows servers, enter:

  cd \fnsw_loc\sd

  del snt.chkpt
  del checkpoint.osa

Restart the FileNet Software

On the Root/Index Server

Restart the FileNet software on the Root/Index server by entering:

initfnsw restart

On the Storage Library Server

Restart the FileNet software on the Storage Library server by entering:

initfnsw restart

Verify Cache Sizes

To double check that the caches have been imported successfully, you can use CSM_tool again to verify the percent of locked objects.

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

   CSM_tool

2. Display cache statistics by entering at the CSM_tool prompt:

   <CSM_tool> **s**

The statistics display looks similar to this:

```
Cache Id  Name                                % locked  % full  % free
--------  ----                                --------  ------  ------
       5  page_cache0:corona:FileNet              29       29      71
       6  sys_print_cache0:corona:FileNet          0        0     100
       8  bes_cache0:corona:FileNet                1        1      99
       9  app_print_cache0:corona:FileNet          1        1      99
       *  Physical space summary                   7        7      93
```

Compare the numbers in this display with the percents you wrote down in the section, **"Clear the Transient Database and Cache" on page 19**.

3 To quit from CSM_tool, enter:

<CSM_tool> **q**

6

Remove Data From the Root/Index Server

Remove Logical Volumes and Datasets

The following logical volumes are no longer needed on the Root/Index server, since the data now resides on the Storage Library server:

fn_perm_db0, fn_perm_db1, ... fn_perm_db*n*
fn_perm_rl0, fn_perm_rl1, ... fn_perm_rl*n*
fn_trans_db0, fn_trans_db1, ... fn_trans_db*n*
fn_trans_rl0, fn_trans_rl1, ... fn_trans_rl*n*

Note On some platforms fn_perm_db0 is spelled out fn_permanent_db0, fn_trans_db0 is spelled out fn_transient_db0, and so on.

1 As **fnsw** user on the Root/Index server, enter the following commands to stop the FileNet Image Services software and kill all processes:

UNIX

- On AIX, HP-UX, and Solaris servers, enter:

  initfnsw -y stop
  killfnsw -DAy

WIN

- On Windows servers, enter:

  initfnsw -y stop
  killfnsw -A -y

The -A option removes all IPC segments.

The -D option kills FileNet daemons (e.g. Task Manager). 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 -y option automatically answers Yes to subsequent **killfnsw** prompts.

2 Run **whatsup** again to make sure all the processes except TM_ daemon have been killed:

whatsup

Note Running **whatsup** after **killfnsw -yAD** will restart the Task Manager Daemon.

The only process should be the TM_daemon:

```
User      PID      PPID      Start Time       Processes
fnsw      2599     1         03:40:43 PM      TM_daemon -s
```

3 If any other processes remain active, you may need to kill each one explicitly. At the system prompt, enter:

kill <process id>

where <process id> is the process number displayed in the PID column by **whatsup**.

4 Repeat steps 2 and 3 until the **whatsup** command displays only the TM_daemon process.

5 Follow the instructions in the appropriate subsection to remove the obsolete logical volumes...

“From an AIX/6000 Server” on page 79

“From an HP-UX Server” on page 80

“From a Solaris Server” on page 82

“From a Windows Server” on page 83

From an AIX/6000 Server

1. As a user with **root** privileges on the Root/Index server, change to the root directory and launch SMIT by entering:

   ```
   cd  /
   smit  rmlv
   ```

2. Press **F4** to display a list of the available logical volumes.

3. From the list of logical volumes displayed, select the logical volume you want to remove, and press **Enter**.

4. Repeat step 2 for each logical volume listed at the beginning of this section.

5. After you have finished deleting the logical volumes, exit SMIT.

6. Skip to the section, **“Restart FileNet Software” on page 84**.

From an HP-UX Server

1 As a user with **root** privileges on the Root/Index server, change to the root directory and launch SAM by entering:

```
cd /
sam
```

2 At the main System Administration Manager menu of SAM, select the Disks and File Systems option by pressing the Arrow keys. When the option is highlighted, press Return.

3 Then select the Logical Volumes option. Wait for a short time while SAM retrieves the logical volume information. After a few seconds you'll see several messages on the status line, including these:

```
Scanning the hardware ...
Retrieving logical volume information ...
```

4 Use the Arrow keys to scan the list of currently configured logical volumes. Press the space bar to select the logical volume you wish to remove.

5 On the menu bar, select the Actions menu.

6 Then select the Remove... option from the Actions menu and press Return.

7 When SAM asks you to confirm that you want to remove the logical volume from the volume group, answer yes.

8 SAM warns you:

```
Warning:  There is a file system on logical volume
oracle_link, volume group fnsw.  If you remove this
logical volume, the file system will be destroyed. Do
you want to continue and remove this logical volume?
```

Since the file system is no longer needed, tab to **yes** and press Return.

9 When the Logical Volumes window re-displays, scroll through the list of logical volumes and verify that the logical volume is no longer present.

10 Repeat steps 2 through 8 to remove all the obsolete logical volumes.

11 After you have removed the logical volumes, press the **F8** key to exit SAM and return to the system prompt.

12 Skip to the section, **“Restart FileNet Software” on page 84**.

From a Solaris Server

1 As a user with **root** privileges on the Root/Index server, use the Volume Management software, such as Sun Enterprise Volume Manager, Veritas Volume Manager, or Veritas Storage Administrator, to remove the logical volumes for the permanent and transient databases and redo logs.

2 Change to the /fnsw/dev/1 directory by entering:

```
cd  /fnsw/dev/1
```

3 Remove each of the logical volumes listed at the beginning of this section by entering a command similar to this:

```
vxedit  -rf  rm  fn_permanent_db0
```

4 Repeat the command in step 3 for each of the remaining logical volumes.

5 After you've removed the logical volumes, skip to the section, **"Restart FileNet Software" on page 84**.

From a Windows Server

You do not have to remove any logical volumes from the Windows server, but you do need to remove the permanent and transient datasets.

You can delete these datasets either by dragging their icons to the Recycle Bin, or by following these steps at a command prompt:

1 Change to the \fnsw\dev\1 directory by entering:

cd <drive>:\fnsw\dev\1

2 Remove the permanent and transient datasets by entering:

```
del  transient*
del  permanent*
```

Restart FileNet Software

On the Root/Index Server

Restart the Image Services software on the Root/Index server by entering:

```
initfnsw  restart
```

On the Storage Library Server

Wait until the IS software on the Root/Index server has restarted, then restart the IS software on the Storage Library server by entering:

```
initfnsw  restart
```

Restart Client Workstations

As soon as the IS software has started on the IS servers, restart all the client workstations. The client workstations will automatically locate the IP address of Root/Index server in the new dual server IS system.

7

Complete the Conversion

Perform System Checks

To verify that the server is up and running smoothly, test the system by scanning, indexing, committing, retrieving, and printing several documents.

Then run the Database Maintenance application to verify document classes and user indices.

Run Storage Library Control

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

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

"Calibrate Library" (OSAR storage libraries only)

"Identify Media in Library"

To download this handbook from the IBM support page, see **"Accessing IBM FileNet documentation" on page 13**.

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

Remove Temporary Directories and File Systems

As a final step before backing up the system, you should clean up and remove all the temporary directories and file systems used during the conversion. This would include any files in /tmp and /fnsw/local/tmp file systems on UNIX servers, or in <drive>:\fnsw_loc\tmp on Windows servers.

Backup the Entire System

At this time, you should make a full system backup. Refer to your FileNet System Administrator's Companion for further information on performing a full system backup:

- *Image Services System Administrator's Companion for UNIX*
- *Image Services System Administrator's Companion for Windows Server*

To download these documents from the IBM support page, see **"Accessing IBM FileNet documentation" on page 13**.

Return to Production Mode

Congratulations. The dual server Image Services system is now fully operational, and you can begin using it to scan, index, commit, and retrieve documents and images.

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