



FileNet Image Manager

Process Installation Guide

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Notices

For notices regarding this documentation, refer to [Notices](#) in the Process for FileNet Image Manager online documentation.

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About the Installation Guide

The *Process Installation Guide for FileNet Image Manager* is provided in PDF format for easy printing. Hypertext links in the PDF file are identified with [blue](#) text. Most links will take you to a topic within the PDF file; after you complete [Task 2 on page 14](#), other links will open an HTML file in the Process for FileNet Image Manager online documentation.

Planning

This guide includes procedures for installing and configuring Process for FileNet Image Manager.

Throughout this document there are references to two Process deployment methods:

- **Standalone Process** is a FileNet system installed with Process software and the necessary supporting software, including Image Services (IS). In a standalone Process system, IS is configured only as required for Process and is not used for imaging.
- **Process with Imaging** is a FileNet system installed with Process software, Image Services (IS) configured for both Process and imaging, and the necessary supporting software. Both Process and imaging activity occur in such a system.

This guide also includes procedures for installing the Process Java Applets and Connectivity (PJAC) software, which is available in three different client configurations:

- The **PJAC for FileNet Web Services** component enables users to run Process applications with FileNet Web Services. PJAC for FileNet Web Services must be installed on the system where FileNet Web Services is installed.
- The **PJAC for Open Client** component enables users to run Process applications with FileNet Open Client. PJAC for Open Client must be installed on the system where FileNet Open Client is installed.
- The **PJAC Standalone** component provides an interface to the Process Engine for development environments or for custom applications. Note that PJAC Standalone cannot be collocated with FileNet Web Services or FileNet Open Client.

This document provides installation procedures for both Process system types and for each PJAC component.

Pre-installation activities

This document is intended for a FileNet Certified Professional (FCP) Technician or a Certified Technical Service Provider (TSP). To learn more about the FCP Certification program, please refer to FileNet's web site (www.filenet.com) under Products, Services & Support.

At least 7 days prior to the installation, the FCP Technician or TSP **must** schedule the installation with the FileNet Upgrade/Installation Assurance Team and access the team's latest list of current scheduling procedures located at:

<http://www.css.filenet.com/install.asp>

In addition, we recommend reviewing the following sections of this document:

- The [“Process system overview” on page 6](#) for an explanation of the pieces that make up a Process system.
- The [“Sample configurations” on page 8](#).
- The [“Installation Tasks” on page 12](#) to get an overview of the installation process.

Process system overview

A Process system includes software that is installed and configured on at least one Process Engine and web server. End users and developers access the Process applications via browsers running on client workstations. Workflow definitions are checked in to a Content Services library. Image Services images and Content Services documents can be used as attachments in workflows.

Process Engine

The Process Engine software enables Process activity within a Process system.

Web Servers

A Process system must include at least one web server. A web server runs either:

- PJAC for FileNet Web Services
- PJAC for Open Client
- PJAC Standalone

Each web server runs one or more routers. A router is a process that evenly distributes the processing load for multiple users and servers. The web server-based applications communicate with the Process Engine through the router. Each router corresponds to one isolated region.

End-User and Developer Workstations

End users and developers access the web server from an internet browser. In a system with multiple web servers, the system administrator determines which web server and router a user should log on to. The end user uses a web browser to access applications to define, perform, and track workflows.

Content Services (CS) Library

Every Process system must include at least one Content Services server, where workflow definitions and link information are stored. A Process system uses CS versioning functionality and (optionally) stored CS documents as workflow attachments.

Remote Database Server

A system with a single Process Engine can include a local or remote database.

Application Server

A Process system with Imaging configuration can optionally include an application server, where Process for FileNet Image Manager is installed only on the application server. Application servers are not supported in standalone Process deployments.

Image Services (IS) Library

Users can use images from IS libraries as workflow attachments.

SMTP Server

A Process system can be configured to send email notification of workflow activity. An SMTP server is required to take advantage of this feature.

Sample configurations

This section illustrates some simple examples of how to distribute Process for FileNet Image Manager components across a variety of machines. Each example represents a minimum recommended configuration. The configurations include the major Process for FileNet Image Manager components, both core required components and some functional expansions (add-ons).

This topic includes the following sample configurations:

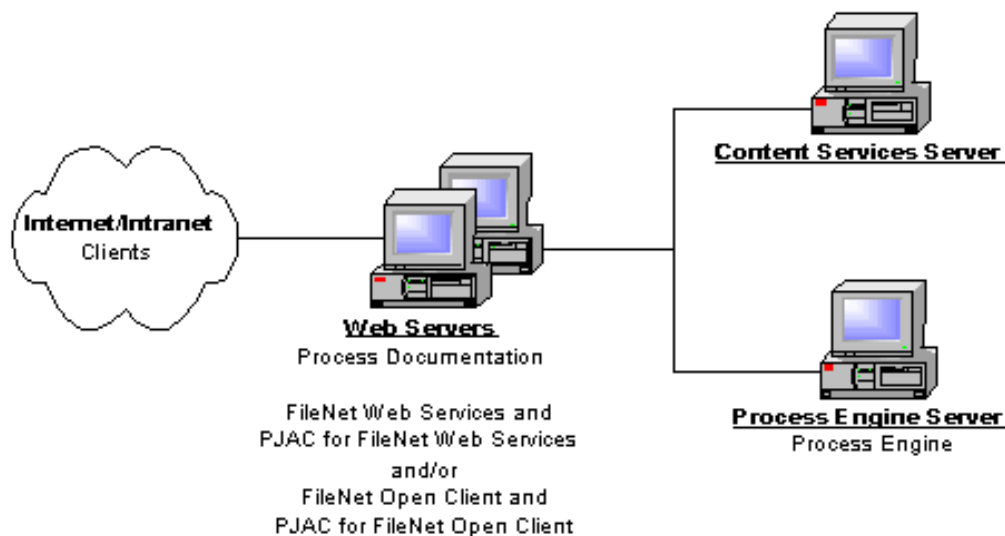
- [“Baseline Configuration” on page 8](#)
- [“Baseline Configuration With Functional Expansions” on page 9](#)
- [“Developer Configuration” on page 10](#)
- [“Demo Configuration” on page 11](#)

In all the sample configurations, note that:

- None of the samples shows a database engine; however, both the Process Engine and the Process Analyzer require a local or remote database.
- Scaling of the web components through the use of web farms is possible, but is not illustrated in any of the samples.
- The Rules Engine Integration functional expansion requires an iLOG JRules server, which is not shown in any samples.

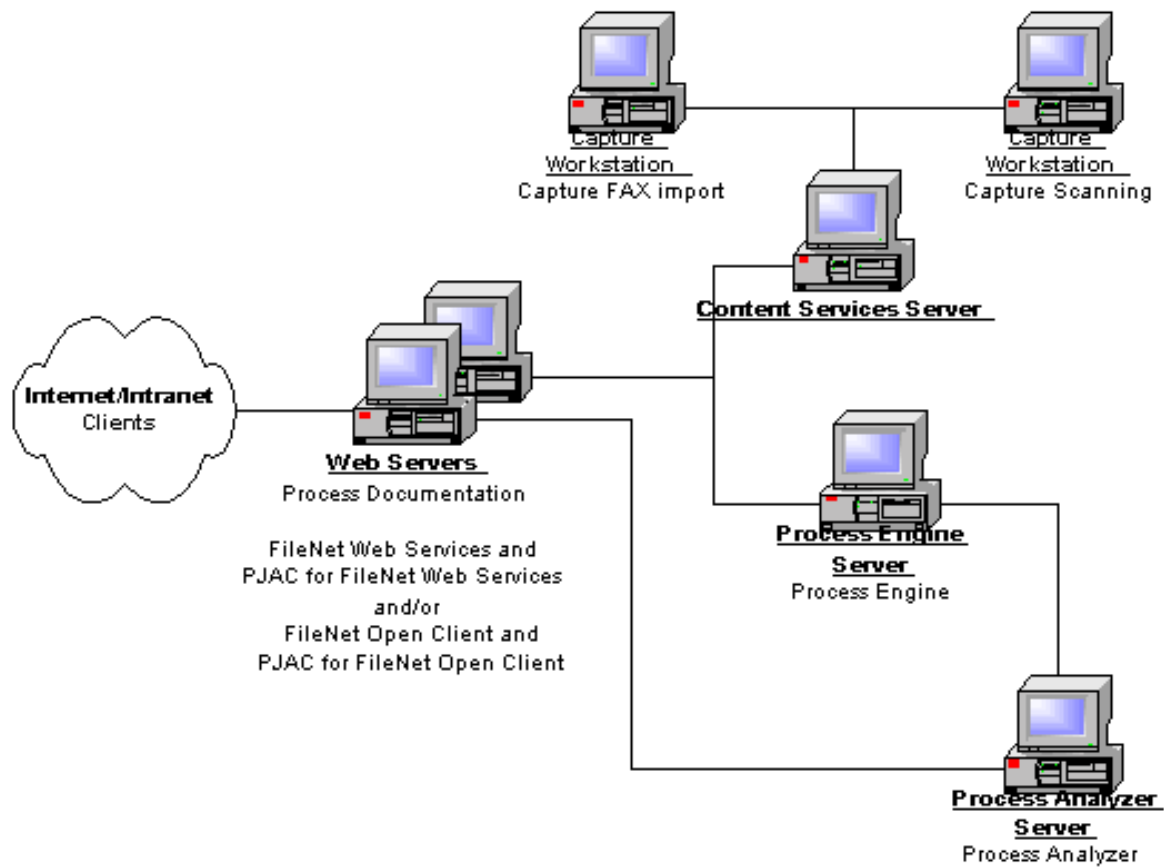
Baseline Configuration

This configuration illustrates a typical setup where basic Process and Content capabilities are required. It includes only the required core components (no functional expansions).



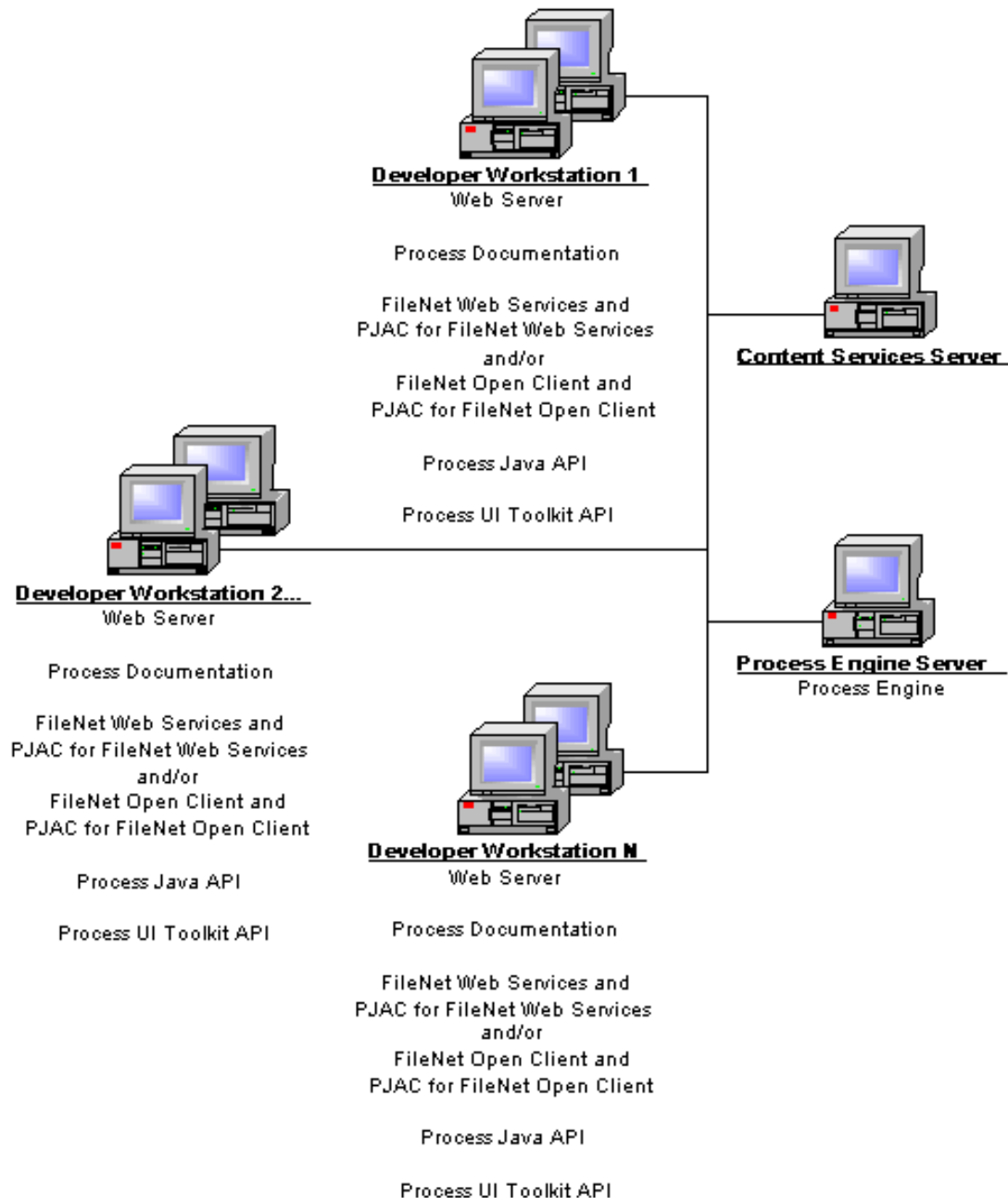
Baseline Configuration With Functional Expansions

This configuration is useful for environments that plan to utilize not only basic Process and Content capabilities, but also various functional expansion components.



Developer Configuration

This configuration illustrates how a development team might set up an environment for building an application that leverages Process for FileNet Image Manager functionality.



Notes:

- You can create multiple libraries to process isolated regions for different applications.

- It is useful to share the Content Services and Process Engine services.
- Refer to “Setting Up for Process Development” in [Help for Process Java API](#) for information on setting up your development environment.

Demo Configuration

This configuration supports demos, proof-of-concepts, and development on a single Windows server that uses a Microsoft SQL Server database engine.



Windows Server

Process Documentation

Content Services Server

Process Engine

FileNet Web Services and
 PJAC for FileNet Web Services
 and/or

FileNet Open Client and
 PJAC for FileNet Open Client

Process Analyzer

Installation Tasks

Following is an overview of the installation process. Take the steps below (in the order listed) to install and initially configure your system. Except where noted, all steps apply to all system configurations.

1. Review system requirements. Do [Task 1 on page 13](#).
2. Install the Process Documentation for FileNet Image Manager. Do [Task 2 on page 14](#).
3. Set up the Process Engine for either **standalone Process** or **Process with Imaging** activity.
 - a. Process with Imaging: Configure a VWService, add appropriate servers to the service, and install the Process Engine software. Do [Task 3a on page 25](#).
 - b. Standalone Process (Windows only):
 - i. Install a database server. For Oracle, do [Task 2a on page 16](#); for MS SQL Server, do [Task 2b on page 21](#).
 - ii. If the database server will be remote from the Process Engine, install database client software on the machine that will be the Process Engine. For MS SQL Server, do [Task 2c on page 24](#). (For Oracle, this step was done as part of [Task 2a on page 16](#).)
 - iii. Install the Process Engine software. Do **one** of the following: [Task 3b on page 30](#), [Task 3c on page 35](#), or [Task 3d on page 47](#).
4. Install Process Engine and documentation patches. Do [Task 4 on page 57](#).
5. Start the Pooled Process Manager (PPM). Do [Task 5 on page 58](#).
6. Install Process Java Applets and Connectivity (PJAC). Do [Task 6 on page 59](#).
7. Install PJAC patches. Do [Task 7 on page 62](#).
8. Start the Process router. Do [Task 8 on page 63](#).
9. Initialize the isolated region. Do [Task 9 on page 64](#).
10. Create a test workflow. Do [Task 10 on page 65](#).
11. Perform additional configuration. Do [Task 11 on page 68](#).
12. Install optional components, as desired.
 - a. Install the Process Analyzer Engine and Client. Do [Task 12 on page 69](#) and [Task 13 on page 73](#).
 - b. Enable the Rules Engine. Do either [Task 14a on page 75](#) or [Task 14b on page 77](#).
13. Install patches for optional components. Do [Task 15 on page 80](#).

Task 1: Review system requirements

Review the [eProcess Compatibility/Dependency/Hardware Matrix](#) on the [FileNet Worldwide Customer Support web site](#) (www.css.filenet.com) for the required versions, service packs, and fixes for third-party software.

Task 2: Install Process Documentation for FileNet Image Manager

Important notes:

- While you can browse the documentation directly from the *Process Documentation for FileNet Image Manager* CD or copy the content of the CD to a local drive, you must install the documentation on a Microsoft Internet Information Services (IIS)-based web server in order to:
 - Make online help accessible from the out-of-the-box FileNet Process applications.
 - Use the Search feature, which is available from all help topics.
- You can install the Process documentation on the application server where FileNet Web Services is installed, or on another Microsoft IIS-based web server.

To install the Process documentation

1. Create a folder on your web server for the FileNet Process documentation. This folder will serve as the home directory for the documentation web site. For example, you might create a folder in the following location.

C:\Program Files\FileNet\Process_Doc

2. Copy the ecm_help directory and its contents from the *Process Documentation for FileNet Image Manager* CD to the new folder.
3. Using the Microsoft IIS documentation, create a web site for the FileNet Process documentation.

NOTE Be sure to set the path for the web site home directory to the folder you created in Step 1. The online help Search feature will not operate correctly if the web site home directory is set to the ecm_help folder.

4. Add the FileNet Process documentation home page to the list of default documents for the web site.
 - a. If the Microsoft IIS dialog is not already open, open it by selecting **Start > Programs > Administrative Tools > Internet Services Manager**.
 - b. Navigate to the FileNet Process documentation web site and right-click on the web site.
 - c. Select **Properties** from the context menu.
 - d. On the web site Properties dialog, select the **Documents** tab.
 - e. Ensure that the **Enable Default Document** option is enabled and then click **Add**.
 - f. In the **Default Document Name** text box, type _start_here.htm and click **OK**.
 - g. Click **OK** to close the Properties dialog and save your changes.
5. Verify that the FileNet Process documentation web site is operating correctly.
 - a. From a web browser, access the start page of the documentation by entering the URL in the following format:

http://<web_server>:<port_number>/ecm_help

- b. On the Help Directory page, click the Search link on the toolbar, then select one of the Help systems to search, such as Process Designer.

- c. On the Search form, enter a term to search for, such as “Step” and click **Search**. A list of topics that contain the word ‘Step’ will display.

NOTE Various FileNet Setup programs you will run in subsequent installation procedures will prompt you to enter the Documentation Server URL. Enter the URL in the format shown below.

`http://<web_server>:<port_number>/ecm_help`

where `web_server` is the name of the Microsoft IIS web server and `port_number` is the web server port number.

Task 2a: Install Oracle for a Windows Process Engine (standalone)

This task is applicable only if you are installing a standalone Windows-based Process Engine with either a local or remote Oracle database. If the database is remote, it can be on a Windows, Solaris, HP-UX, or AIX server.

In a Process with Imaging deployment, the Oracle installation would have been done as a part of installing Image Services.

If your standalone Windows-based Process Engine uses a local or remote MS SQL Server database, see [Task 2b on page 21](#).

Important notes:

- All procedures in this task assume the Oracle installation is done by the Oracle user rather than the root user, per Oracle's recommendation.
- A Process Engine can use either a local or a remote database.
 - With a local database, the Oracle server software and the Process Engine software reside on the same computer.
 - With a remote database, the Oracle server software and the Process Engine software reside on different computers, Oracle client software is installed on the Process Engine computer, and the Process Engine is configured as an Oracle client.

NOTE The procedures in this task are intended to supplement Oracle's installation instructions. For supported version information, see the [eProcess Compatibility/Dependency/Hardware Matrix on the FileNet Worldwide Customer Support web site](#) (www.css.filenet.com). Also, check Oracle's website to verify that you have all required patches.

Whether your Oracle database will be local to or remote from the Process Engine, you must complete the following procedures on the computer that will be the Oracle database server:

["Install Oracle 9i Server Software" on page 16](#)

["Create the database" on page 17](#)

["Set Oracle user environment variables on the database server" on page 18](#)

["Start the database" on page 18](#)

In addition, if the database will be remote from the Process Engine, complete the procedures in ["Additional steps for a remote database" on page 18](#).

Install Oracle 9i Server Software

At a minimum, ensure that the following Oracle 9i server software is installed.

- Oracle 9i Server
- Oracle Net Services
 - Oracle Net Listener
- Oracle 9i Development Kit
 - Oracle Call Interface (OCI)
- Oracle 9i Documentation (recommended)

Create the database

There are a number of ways to create the database. We recommend that you use the Database Configuration Assistant, dbassist. Following is a list of options you might choose.

- Custom Database
- New Database
- Dedicated Server Mode
- Configure Database Options, recommended option SQL*Plus Help
- National Character Set. We recommend setting it to AL16UTF16.
- Character Set. Valid character sets follow.

Western European	WE8ISO8859P1 or WE8ISO8859P15 (UNIX) WE8MSWIN1252 (Windows)
Eastern European	EE8ISO8859P2
South European	SE8ISO8859P3
Northern & Northeastern European	NEE8ISO8859P4
Latin/Cyrillic	CL8ISO8859P5
Latin/Arabic	AR8ISO8859P6
Latin/Greek	FL8ISO8859P7
Latin/Hebrew	IW8ISO8859P8
Western European & Turkish	WE8ISO8859P9
North European	NE8ISO8859P10

FileNet Process Engine software requires two tablespaces, with an optional third. Make sure the tablespaces are set up as shown:

FileNet Recommended Tablespace Names *	Tablespace Type	Minimum Tablespace Size (MB)
vwdata_ts	Permanent	200
temp (UNIX) fntmp_ts (Windows)	Temporary	400
vwindx_ts (optional)	Permanent	200

vwdata_ts is the name of the dedicated FileNet default tablespace.
temp, or fntmp_ts, is the name of the dedicated FileNet temporary tablespace.

vwindx_ts is the name of the optional index tablespace. If this tablespace does not exist, the default tablespace will be used for indexes.

You can assign any names you wish to the tablespaces and make them any size, as long as they are at least the minimum sizes. You will be prompted for these names during the installation of the Process Engine. Be aware that the Process Engine does not allow quoted identifiers and the following characters are not allowed in Process Engine setup for tablespace names:

`*, \, #, [,], !, <, >, " ", \, -`

After you have installed the created the database, verify that the following Oracle data dictionary creation scripts have been run. They could either be run manually or automatically, depending upon which tools you use to create the database.

catalog.sql
catproc.sql

Set Oracle user environment variables on the database server

Set the following environment variables for the oracle, root, and fnsw users:

- ORACLE_SID
- ORACLE_HOME
- \$ORACLE_HOME/bin added to the PATH
- \$ORACLE_HOME/lib32 added to the LD_LIBRARY_PATH (Solaris only)
- \$ORACLE_HOME/lib32 added to the LIB (Solaris only)
- \$ORACLE_HOME/lib32 added to LIBPATH (AIX only)
- \$ORACLE_HOME/lib32 added to the SHLIB_PATH (HP-UX only)
- \$ORACLE_HOME/lib added to the SHLIB_PATH (HP-UX only)

Start the database

Start the database and verify that it successfully started. If the database is local and on Windows, ensure that the database will autostart on reboot prior to installing the Process Engine software.

If the database is local, leave the database up and running and proceed to installation of the Process Engine software as documented in [Task 3b on page 30](#). If the database is remote, continue with [“Additional steps for a remote database” on page 18](#).

Additional steps for a remote database

If your database is remote, you must complete the following additional steps. Some of the steps apply to the remote database server, the rest apply to that server's clients. (The computer on which you will subsequently install the Process Engine software must be an Oracle client.)

- Create an /fnsw/Oracle directory on the remote database server
 To facilitate the installation of FileNet-specific patches and test scripts on the database server, create a directory named /fnsw/oracle.
- Start the Oracle listener on the remote database server

We recommend using the Oracle utilities to configure the listener, which creates the listener.ora file. If for some reason you need to manually update the listener.ora file, following is an example. In the

following example, **hqvwnetra1** is the database server, **sunblock** is the dbname and **BLK** is the ORACLE_SID.

LISTENER.ORA Network Configuration File: /export/spare/ora920/network/admin/listener.ora
Generated by Oracle configuration tools.

```

LISTENER =
  (DESCRIPTION_LIST =
    (DESCRIPTION =
      (ADDRESS_LIST =
        (ADDRESS = (PROTOCOL = TCP)(HOST = hqvwnetra1.filenet.com)(PORT = 1521))
      )
    )
  )
SID_LIST_LISTENER =
  (SID_LIST =
    (SID_DESC =
      (GLOBAL_DBNAME = sunblock)
      (ORACLE_HOME = /opt/apps/ora920)
      (SID_NAME = BLK)
    )
    (SID_DESC =
      (GLOBAL_DBNAME = sunscreen)
      (ORACLE_HOME = /opt/apps/ora920)
      (SID_NAME = SCREEN)
    )
  )

```

Once the listener is configured appropriately, start it if it is not already running. As the Oracle user, execute the following commands as needed:

lsnrctl status indicates whether the listener is already running.

lsnrctl start starts the listener.

- Install and configure Oracle client software

After the remote database has been configured and started, and the listener process is started, install the Oracle client software on the server where you will later install Process Engine software.

Create a file system for the Oracle Client software. The Oracle Client software requires a minimum of 250 MB.

Install Oracle 9i client software:

- Oracle 9i Client
- Oracle Network Utilities
- Oracle Database Utilities
- SQL*PLUS

We recommend that you use the Oracle utilities to create the tnsnames.ora file. If for some reason you need to manually create the tnsnames.ora file, following is an example. In this example, **SUNBLOCK.FILENET.COM** is the name used for the TWO_TASK variable, **hqvwnetra1** is the database server name and **BLK** is the ORACLE_SID.

TNSNAMES.ORA Network Configuration File: /usr/ora/920/network/admin/tnsnames.ora
 # Generated by Oracle configuration tools.

```
SUNBLOCK.FILENET.COM =
  (DESCRIPTION =
    (ADDRESS_LIST =
      (ADDRESS =
        (PROTOCOL = TCP)
        (Host = hqvwnetra1)
        (Port = 1521)
      )
      (ADDRESS =
        (PROTOCOL = TCP)
        (Host = hqvwnetra1)
        (Port = 1526)
      )
    )
    (CONNECT_DATA = (SID = BLK)
  )
)
```

- Set environment variables on the Oracle client

Several environment variables should be set for the oracle, root, and fnsw users. Following is an example:

- ORACLE_SID
- ORACLE_HOME
- LOCAL (Windows, client only)
- TWO_TASK (UNIX, client only)
- \$ORACLE_HOME/bin added to the PATH
- \$ORACLE_HOME/lib32 added to the LD_LIBRARY_PATH (Solaris only)
- \$ORACLE_HOME/lib32 added to the LIB (Solaris only)
- \$ORACLE_HOME/lib32 added to LIBPATH (AIX only)
- \$ORACLE_HOME/lib32 added to the SHLIB_PATH (HP-UX only)
- \$ORACLE_HOME/lib added to the SHLIB_PATH (HP-UX only)

- Verify the connection from the Oracle client to the remote database.

Log on to the database and verify that you can successfully execute SQL queries. Several SQL scripts will execute during the installation of Process Engine and it will be necessary to run sqlplus logged on as "sys as sysdba." To verify that this will work, enter the following (including the quotes) at a command prompt:

```
sqlplus "sys as sysdba"
```

When prompted, enter the Oracle sys password.

With the remote database running and the connection to it established, proceed to installation of the Process Engine software as documented in [Task 3b on page 30](#) if the Process Engine is Windows.

Task 2b: Install MS SQL Server for a standalone Process Engine and/or Process Analyzer

In addition to the procedures in this section, refer to Microsoft's MS SQL Server 2000 installation instructions, available at http://msdn.microsoft.com/library/default.asp?ShowPane=false&URL=/library/psdk/sql/getstart_4fht.htm.

Important notes:

- Install MS SQL Server on either the computer where the Process Engine or Process Analyzer software will be installed (subsequently referred to as a local database) or on a separate database server (subsequently referred to as a remote database).
- Process Engines and Process Analyzer can share a remote database server, but each requires a dedicated instance.
- The MS SQL database must be configured with *Mixed Mode* authentication.
- A database instance used by Process Analyzer must be configured with a static TCP/IP port number.
- FileNet suggests that you record the values for the following settings as you work through the following database installation instructions. This information must be entered during Process Engine installation:
 - Server name
 - Instance (for example, P8_inst)
 - Dedicated database name (for example, VW_db)
 - Dedicated file group (for example, vwdata_fg)

Be aware that the Process Engine does not allow quoted identifiers, and the following characters are not allowed in Process Engine Setup for any of the settings above:

`*, \, #, [., !, <, >, " ", \, -`

To install and configure Microsoft SQL Server

1. Install the Microsoft SQL Server software.
 - a. Log on as a local user with administrator privileges on the computer where the database will be installed.
 - b. Start the Microsoft SQL Server installation program.
 - c. On the Installation Selection dialog box, choose the **Create a new instance of SQL Server, or install Client Tools**.
 - d. On the Installation Definition dialog box, choose **Server and Client Tools**.

- e. On the Instance Name dialog box, indicate an appropriate name based on whether Process Engine or Process Analyzer will use the instance, and whether the database is local or remote.

Engine	Database Location	Instance Name
Process Engine	local	default
Process Engine	remote	default or named
Process Analyzer	local	default or named
Process Analyzer	remote	default or named

- f. On the Setup Type dialog box, choose **Custom**.
- g. On the Select Components dialog box, accept defaults or select components as appropriate for your system.
- h. On the Services Accounts dialog box, choose *Use the same account*. Under Service Setting, choose **Use the Local System account**.
- i. On the Authentication Mode dialog box, choose **Mixed Mode**. Enter the appropriate sa password for your site.
- j. On the Collation Settings dialog box, select **Dictionary order, case-insensitive, for use with 1252 Character Set** (or any case-insensitive MS-SQL collation).
- k. On the Network Libraries dialog box, if your new named instance is the only instance on the server, you can accept port 1433 (default value) in the TCP/IP port number box. If you already have or will have a default or other instance on that server, set 0 as the port number. (A port number for this named instance will be dynamically assigned when the instance is started.)

WARNING If the instance will be used by the Process Analyzer you must define a static port number.

2. Download and install SQL Server 2000 Service Pack 3 (SP3) according to the instructions available at <http://www.microsoft.com/sql/downloads/2000/sp3.asp>
3. Restart the computer.

To create a database for Process Engine

Perform the following steps to create the Process Engine database. You can specify a different database name, file name, and data filegroup name. Be sure to record your entries for use during installation of the Process Engine software.

Start the **MS SQL Enterprise Manager**.

1. Expand the <server name>/<new instance name> folder you just created.
2. Create a **New Database** (example: VW_db).
3. Add a **File Name** for the database (example: vw_data).
4. Specify a disk location for the file.
5. Specify the **Initial size** (example: 200)
6. Specify a **Filegroup**, not in the primary filegroup (example: vwdata_fg).
7. Click **OK** to create the database.

8. Right click on the tempdb and select **Properties**.
9. From the **Data Files** tab, change the **Space allocated** for the tempdb to at least 80 MB.

Proceed as appropriate for your system configuration:

- If the database instance will be remote from the Process Engine, continue with installing the MS SQL Server Client software on the Process Engine as documented in [Task 2c on page 24](#). I
- If the database instance will be local to the Process Engine, continue with [Task 3b on page 30](#).

To create a database for Process Analyzer

There are no manual steps required for creation of a database for the Process Analyzer. The Process Analyzer setup program automatically creates the database.

Task 2c: Install MS SQL Server Client software for a standalone Process Engine

Both the Process Engine and the Process Analyzer support remote Microsoft SQL Server databases. A Process Engine with a remote MS SQL Server database requires the MS SQL Server Client software to be installed on every Process Engine server; the Process Analyzer does not have this requirement.

Important notes:

- The MS SQL Server can be in a separate subnet.
- Ensure that all users and groups defined on the local server are also defined and granted security permissions on the database server.

To install MS SQL Server Client software for remote database access

1. Install Microsoft SQL Server Client software and service pack and test communication.
 - a. On the Process Engine, log on as a local user with administrator privileges on the computer where the MS SQL Server client software will be installed.
 - b. Install the Microsoft SQL Server Client software using the following options:
 - i. On the Installation Selection dialog, choose **Create a new instance of SQL Server, or install Client Tools**.
 - ii. On the Installation Definition dialog, choose **Client Tools Only**.
 - iii. Accept the defaults for the rest of the installation.
 - c. When the installation is complete, click **Start > Programs > Microsoft SQL Server, and open Client Network Utility**.
 - d. On the DB-Library Options tab, de-select Automatic ANSI to OEM conversion.

If the MS SQL server and client are on separate subnets, continue with sub-steps e through j. Otherwise proceed to step 2.

- e. Select the Alias tab and click the Add button.
 - f. Select the TCP/IP option from the Network libraries.
 - g. Uncheck the Dynamically determine port option.
 - h. Enter the Server alias: (ex: <machine_name>\<instance_name>)
 - i. Enter the Server name: (ex: <machine_name>\<instance_name>)
 - j. Enter the Port number determined in setup1.
2. Download and install SQL Server 2000 Service Pack 3 (SP3) according to the instructions available at <http://www.microsoft.com/sql/downloads/2000/sp3.asp>
 3. Test the connection between the MSSQL server and MSSQL client. At a command prompt type:

```
isqlw -E -S<servername>\<instance name>
```

If the connection is valid, an SQL Query Analyzer window displays with a Query window inside. If the connection fails, be sure to resolve the problem before you install the Process Engine.

Task 3a: Install the Process Engine (Process with Imaging)

Follow the procedures in this task to install a Process with Imaging system.

Important notes:

- FileNet Image Services 4.0 with Service Pack 2 or later must be configured for imaging activity and running on each server where you will install Process Engine software prior to beginning this task.
- The Process Engine software can be installed on either the Image Services root or an application server.
- The database that the Process Engine will use:
 - Can be local to or remote from the Process Engine in a single-Process Engine configuration.
 - Must be running and fully configured for FileNet Image Services use prior to the running of Process Engine Setup. If the database is remote, the database client software must also be running on the Process Engine when Process Engine setup is started.
- There are references to logging on as the **root** and **fns** users within these procedures. The root user on AIX or HP-UX must run in the Bourne or Korn shell and on Solaris, in the Bourne shell. The fns user on AIX, HP-UX, and Solaris must run in the Korn shell.

Configure Image Services to support Process Engine

Perform the following steps on the Image Services root.

1. If you are not already, log on to the Image Services root server as **fns**.
2. Enter at a command or system prompt:

fn_edit &

NOTE The **fn_edit** interface uses the term **VWServer** as an equivalent to the term **Process Engine**. Before adding a **VWServer** you must configure a single **VWService**.

3. At the Open Configuration Database window, select **OK** to accept the default Database Name and Domain Name.
4. If this is the initial configuration of a **VWService**, Select *Add VWService* on the Procedures tab, and click on **Run**.
5. You will be presented with a list of available servers. To select a server for inclusion in the **VWService**, click on the server name followed by the << key. The newly selected server name moves to the left pane and into the list of selected components. Click on **Next**.
6. Change to the *VW Servers* subtab on the *WorkFlo Mgmt. Services* tab. Here you will see the name of the server. You will also see the default **VWService** number, 0. You must retain the **VWService** number.

NOTE If the **VWService** number is 1 you must exit from **fn_edit** without saving your edits and install IS 4.0 Service Pack 2 or later before attempting to configure a **VWService**.

7. If the **VWService** number is 0, save the changes you made in **fn_edit** and exit.

The update of the configuration database is complete at this point. To have these changes take affect within the system, complete the steps in ["Build Configuration Files" on page 26](#).

Build Configuration Files

You must build configuration files and bring up the FileNet software on every server.

Complete the following steps on the Image Services root server first, then repeat them on all other servers. The FileNet software on the root must be running before running `fn_build` on other servers.

1. Log on as the **fns** user.
2. Build the configuration files by typing the following at a command prompt:

```
fn_build -a
```

3. As necessary, correct any errors that occurred when you ran `fn_build`.
4. Bring up the FileNet software.

Install the Process Engine software

The following procedure applies to all supported Process Engine platforms. As appropriate, platform-specific differences are called out.

1. Log on as a **local** Windows administrator, or as the **root** user on AIX, HP-UX, or Solaris. This user must also be a database administrator.
2. Start Process Engine Setup:
 - On Windows, execute **setup.exe**.
 - On Solaris, double-click the icon labeled **setupsun.bin** or execute the following:
`/cdrom/ep510pesol/setupsun.bin`
 - On AIX, mount the CD_ROM drive and execute `/cdrom/setupaix.bin`.
 - On HP-UX, mount the CD_ROM drive and execute `/cdrom/setuphpux.bin`.
3. Click **Next** on the Welcome screen and accept the *License Agreement* to proceed with installation.
4. Enter the Documentation Server URL. This is the location where the FileNet Process Documentation was installed in [Task 2 on page 14](#). This can also be the full path to the documentation if it was installed on a local drive. An example URL is:
`http://<web_server>:<port_number>/ecm_help`
 where `web_server` is the name of the Microsoft IIS web server and `port_number` is the web server port number.
5. Indicate whether you want to configure the Rules Engine interface to run on this Process Engine.
 - Click **Yes** if the JRules software is already installed on this computer or if you know where on this computer JRules will be installed later. Setup then prompts you for the JRules installation directory. Later during installation (in [Task 14a on page 75](#)), you will finish setting up Rules Engine integration.
 - Click **No** if the JRules software is not and will not be installed on this computer, or if you do not know exactly where on this computer JRules will be installed later.

If you later install JRules software on this Process Engine, follow the procedures in [Task 14b on page 77](#) to enable Rules Engine integration manually.
6. On Windows, if the Java Runtime Environment (JRE) is not installed, accept the prompt to install it.

7. Click **Finish** when all files have been copied to the server.
8. For UNIX, from a command prompt, execute:
fn_setup -d /
9. Check all log files and verify that there were no errors or failures. Correct any errors before proceeding. Log files to check include:
 - All **.lst** files in the **<install drive>:\fnsw** directory (Windows)
 - All **.log** files in the **<install drive>:\fnsw_loc\logs\fn_build** directory (Windows)
 - All **.log** files in the **<install drive>:\fnsw_loc\logs\fn_util** directory (Windows)
 - All **.lst** and **.log** files in the **/fnsw** directory (UNIX)
 - All **.log** files in the **/fnsw/local/logs** directory and **all its subdirectories** (UNIX)
10. Proceed as appropriate for your operating system.
 - If Windows, proceed to [“Start the Process Engine software \(Windows\)” on page 27](#).
 - If AIX, proceed to [“Set environment variables \(AIX\)” on page 27](#).
 - If Solaris, proceed to [“Set environment variables \(Solaris\)” on page 28](#).
 - If HP-UX, proceed to [“Set environment variables \(HP-UX\)” on page 28](#).

Start the Process Engine software (Windows)

To start the software on the Process Engine, take the following steps.

1. Start **FileNet P8 Platform > Process Engine > Process Task Manager**.
2. From the **Action** menu, choose **Start**.

Each time the server is restarted, you will have to manually start the Process Engine software unless you chose to set the startup mode to automatic. To change the Process Engine software startup to automatic, see “System administration tasks” -> “Configuring the Process Engine” -> “Automatic startup (Windows)” in [Help for Process Engine Administration](#).

3. Proceed to [Task 4 on page 57](#)

Set environment variables (AIX)

1. For the fnsw user, set the LIBPATH to point to the location of libjava.a. For example, set the environment variables as follows for a typical installation of Java JRE 1.4.1, with Java installed in /usr/java141:


```
LIBPATH=$LIBPATH:/usr/java141/jre/bin:/fnsw/lib/shobj
export LIBPATH

CLASSPATH=/fnsw/bin/pw.jar:$CLASSPATH
export CLASSPATH
```
2. As the fnsw user, verify your Java installation by typing:
java -version
3. Proceed to [Task 4 on page 57](#)

Set environment variables (Solaris)

1. Set the following environment variables for the **fns** user.

- LD_LIBRARY_PATH
- CLASSPATH
- Set the LD_LIBRARY_PATH to point to the location of libjvm.so under JRE version 1.4.2.

For example, set the environmental variables as follows for a typical installation of Java JRE 1.4.2, with Java installed in /usr/java:

```
LD_LIBRARY_PATH=/usr/java/lib/sparc:
/fns/lib/shobj:$ORACLE_HOME/lib:$LD_LIBRARY_PATH
export LD_LIBRARY_PATH

CLASSPATH=/fns/bin/pw.jar:$CLASSPATH
export CLASSPATH
```

2. As the **fns** user, verify your Java installation by typing:

java -version

The Java version should be 1.4.2. If the Java version is not 1.4.2, or there is no response, verify that Java is installed correctly.

3. Proceed to [Task 4 on page 57](#)

Set environment variables (HP-UX)

1. On the Process Engine server, remove the /fns/jre directory, if it exists. Removing this directory ensures that you will not have a conflict between new and previous JRE modules after installation.
2. Copy JRE 1.3.1 from the installed location to the directory **/fns**. If the JRE 1.3.1 is installed in /opt/java1.3.1, enter the following commands:

```
cp -r /opt/java1.3.1/jre /fns
```

3. For the fns user, set the following environment variables for Java 2 on HP-UX 11.00.

```
CLASSPATH=/fns/jre/lib/rt.jar:
fns/bin/pw.jar:$CLASSPATH
export CLASSPATH

PATH=$PATH:/fns/jre/bin:<Netscape Path>
SHLIB_PATH=/fns/lib/shobj:/fns/jre/lib/PA_RISC:/fns/jre/lib/PA_RISC:server:/fns/jre/lib/
PA_RISC/classic:$ORACLE_HOME/lib;
export SHLIB_PATH
```

4. As the **fns** user, verify your Java installation by typing:

java -version

Note The Java version must be 1.3.1. If the Java version is not 1.3.1, or there is no response, verify that Java is installed correctly.

5. If the database is local, add the following entry to the file \$ORACLE_HOME/network/admin/sqlnet.ora. This single-line addition can be located anywhere in the file:

BEQUEATH_DETACH=YES

This step does not apply if the database is remote.

6. Proceed to [Task 4 on page 57](#).

Task 3b: Install the Process Engine (standalone Process)

Follow the procedures in this task to install a standalone Process system.

Important notes:

- The Process Engine server must have a static IP address.
- The Windows operating system on the Process Engine computer must be configured to allow four-character passwords.
- The Windows file system on the Process Engine computer must be configured as NTFS.
- If computers in this configuration are installed on separate subnets, the Windows hosts file must contain the PC server name and Internet Protocol (IP) address of all computers this Process Engine will communicate with remotely, including the database server. The location of the hosts file depends on where the Windows software is installed; for example, the file might be in `\winnt\system32\drivers\etc`.
- The database that the Process Engine will use:
 - Can be local to or remote from the Process Engine.
 - Must be running and be fully configured for FileNet use prior to the starting of Process Engine Setup. If the database will be remote, the database client software must also be installed and running on the Process Engine when Process Engine setup is started. Depending on your database platform, see [“Install MS SQL Server for a standalone Process Engine and/or Process Analyzer” on page 21](#) or [“Install Oracle for a Windows Process Engine \(standalone\)” on page 16](#) for installation and configuration procedures.

Note for Oracle users Part of the configuration described in [“Install Oracle for a Windows Process Engine \(standalone\)” on page 16](#) is the setting of certain environment variables. If you do not set these variables prior to running Process Engine Setup, you will be prompted to enter them.

About pre-installation SQL scripts (Oracle databases only)

A series of SQL scripts launches automatically when you start Process Engine Setup (you will be prompted for the Oracle sys password, which is required to run the scripts). These scripts must run before Process Engine Setup can run successfully; if an error message indicates that the automated execution of the scripts failed, you must resolve the errors and run the scripts manually.

There are five scripts, and they are located on the installation media in the root directory for the Process Engine.

- `pe_install_scripts.sql` (executes the other scripts)
- `pe_setup_users_defaults.sql`
- `pe_filenet_site.sql`
- `pe_create_stored_procedures.sql`
- `pe_grant_sp_permissions.sql`

Follow the steps below to manually run the scripts.

1. Enter the following (including the quotes) at a command prompt:

```
sqlplus "sys as sysdba" @pe_install_scripts.sql
```

2. When prompted, enter the Oracle sys password. If the password is entered incorrectly, sqlplus will re-prompt for the user name, which you must enter exactly as:

sys as sysdba

The password prompt then re-displays; re-enter the sys password.

Install the Process Engine software

The Process Engine installation occurs in two parts that are separated by a reboot of the system. After the reboot, the second part of the installation continues automatically.

1. Log on as a **local** Windows **Administrator**. This user must also be a database administrator.
2. Execute **setup.exe**.

If the Process Engine uses an Oracle database, the pre-installation scripts described in [“About pre-installation SQL scripts \(Oracle databases only\)” on page 30](#) will run.

If the Process Engine uses a SQL database, proceed to step 4.

3. When prompted, enter the Oracle sys password. If the password is entered incorrectly, sqlplus will re-prompt for the user name, which you must enter exactly as:

sys as sysdba

The password prompt then re-displays; re-enter the sys password.

NOTE If an error message indicates that the scripts did not run, you must resolve the errors and run the scripts manually, as described in [“About pre-installation SQL scripts \(Oracle databases only\)” on page 30](#). After the scripts have run successfully, start Process Engine Setup again.

4. Click **Next** on the Welcome screen and accept the *License Agreement* to proceed with installation.
5. Enter the Documentation Server URL. This is the location where the FileNet Process Documentation was installed in [Task 2 on page 14](#). This can also be the full path to the documentation if it was installed on a local drive. An example URL is:

http://docserver:port#/ecm_help

where web_server is the name of the Microsoft IIS web server and port_number is the web server port number.

6. Indicate whether you want to configure the Rules Engine interface to run on this Process Engine.
 - Click **Yes** if the JRules software is already installed on this computer or if you know where on this computer JRules will be installed later. Setup then prompts you for the JRules installation directory. Later during installation (in [Task 14a on page 75](#)), you will finish setting up Rules Engine integration.
 - Click **No** if the JRules software is not and will not be installed on this computer, or if you do not know exactly where on this computer JRules will be installed later.

If you later install JRules software on this Process Engine, follow the procedures in [Task 14b on page 77](#) to enable Rules Engine integration manually.

7. If the Java Runtime Environment (JRE) is not installed, accept the prompt to install it.
8. In the Network Clearinghouse (NCH) Domain Name dialog box, enter *your_machine_name*:FileNet. Your entry must be ASCII and alphanumeric. Each string, separated by a colon, can not be longer than 20 characters.

9. Leave the box checked for the primary Process Engine.
10. Select the installation location for the executable files and configuration files.
11. Indicate whether the database will be local or remote.
12. Indicate whether the database will be Oracle or SQL. Based upon the database software and location, you will be prompted for additional information, as is summarized in the following table.

Table 1: Database Information required on Primary Process Engine

Oracle	Environment Variables	Database Location	Notes
	ORACLE_SID	local or remote	
	ORACLE_HOME	local or remote	If the database is remote, the Oracle Home path you enter refers to the local Oracle Client location/ environment.
	LOCAL	remote only	This is the global database name or the server connecting string. This name must match the entry in the tnsnames.ora file.
	Tablespaces		
	Temporary tablespace	local or remote	
	Data tablespace	local or remote	
	Index tablespace	local and remote	Optional. If not indicated the data tablespace will be used.
SQL	Database		
	database name	local or remote	
	Filegroup names	local or remote	
	server name	remote only	The name of the server where the remote database is located.
	Instance name	remote only	The name of the instance that the server being configured will use.

13. If you indicated that you have a remote database, you are prompted to enter the number of additional Process Engines.
14. Enter 0.
15. Review and verify the installation summary information. Click **Next** to proceed if all information is correct, or **Back** to make changes.
16. If you are installing Process Engine with Oracle a command window appears and you will be prompted to enter the sys password to execute the Oracle pre-installation SQL scripts described earlier.

17. When setup is complete, select **Yes** I want to restart my computer now, and click **Finish** to restart the computer. Remove the CD.
18. When the system restarts, log on using the same local administrator account you used before. After you log on, the Process Engine setup will complete.
19. If the database is Oracle, an additional SQL script will run. The script was created by setup based upon information entered during setup. Enter the sys password when sqlplus prompts you for it.
20. When the dialog box informs you that the Process Engine has been successfully installed, click **Finish**.
21. Check all log files and verify that there were no errors or failures. Correct any errors before proceeding. Log files to check include:
 - All **.lst** files in the **<install drive>:\fnsw** directory
 - All **.log** files in the **<install drive>:\fnsw_loc\logs\fn_build** directory
 - All **.log** files in the **<install drive>:\fnsw_loc\logs\fn_util** directory
22. Proceed to [“Complete additional configuration” on page 33](#).

Complete additional configuration

After installing the Process Engine software, complete the following additional configuration on the Process Engine.

1. During Process Engine software installation, several local users required internally by the Process Engine are automatically created. To maintain system security, FileNet recommends resetting the passwords for these users. The following table lists the users created, the level of system access each user has, and the tool used to change the password.

Table 2: Default users created during Process Engine installation

User Name	Access level	How to modify
f_maint	DBA	Execute set_f_maint_pw. See FileNet Image Services documentation for instructions.
fnsw	Windows OS	Execute Windows Control Panel -> Administrative Tools -> Computer Management -> Local Users and Groups. Note: When you change the password for the fnsw user, you must use the Windows Services tool to update the Log On tab for the IMS ControlService accordingly (because the fnsw user is used to start that service).
SysAdmin	Process Engine	Execute Xapex -> Security Administration.
FieldService	Process Engine	See FileNet Image Services documentation for instructions.
Operator	Process Engine	

2. Proceed to [“Start the Process Engine software” on page 33](#).

Start the Process Engine software

Start the software on the Process Engine.

1. Start **Programs > FileNet P8 Platform > Process Engine > Process Task Manager**.

2. From the **Action** menu, choose **Start**.

Each time the server is restarted, you will have to manually start the Process Engine software unless you chose to set the startup mode to automatic. To change the Process Engine software startup to automatic, see “System administration tasks” -> “Configuring the Process Engine” -> “Automatic startup (Windows)” [Help for Process Engine Administration](#).

Task 3c: Configuring a Cluster Server - Standalone Process Engine with Oracle

See the Microsoft website at <http://www.microsoft.com/windows2000/techinfo/planning/server/clustersteps.asp> for information on cluster servers.

To configure a Process Engine in a clustered environment you must first obtain a Microsoft Windows 2000 Cluster Service approved hardware configuration. All hardware used in the Cluster configuration must be on the Microsoft Hardware Compatibility list (HCL). To view the Microsoft HCL go to <http://www.microsoft.com/hcl/default.asp>.

1. Install Windows 2000 Advanced Server Operating System with SP3 on both servers in your cluster system.
2. Add the cluster nodes to a domain. Configure both cluster nodes to be member servers of a Windows 2000 native mode domain.
3. Using the domain from step 2, create a domain user account under which the Cluster service will run. This user should be a **Domain Administrator**.
4. Follow the procedures provided by Microsoft to install the Cluster Server software on both servers. Install the software on the Node 1 server first. You can find the Microsoft installation procedures at: <http://www.microsoft.com/windows2000/techinfo/planning/server/clustersteps.asp>.

Install and Configure Database and Process Engine

The Oracle database can be either local or remote. Perform these procedures on the Node 1 server first and then on Node 2, unless specifically directed otherwise.

Local Oracle Server

The following are requirements specific to a cluster environment with a local Oracle database.

- Oracle software must be installed on the private drive on each node of the cluster.
- Oracle home names must be identical on each node.
- Refer to the Oracle installation documentation (found on the Oracle CD-ROM) to install the Oracle database software, create a database, and create tablespaces for the Process Engine.

After the Oracle database installation is completed, all resources must reside in only one group. Use the Cluster Administrator to check that all resources have been added to the same group.

Proceed to [“Install Oracle Fail Safe Manager \(local DB only\)” on page 35](#) if the database will be local.

Install Oracle Fail Safe Manager (local DB only)

Perform this procedure on the Node 1 server first and then on Node 2.

Refer to the Oracle installation documentation found on the Oracle CD-ROM to install the Fail Safe Manager.

Proceed to [“Create the Site DB \(local DB only\)” on page 36](#).

Download and install SQL Server 2000 Service Pack 2(SP3) per the instructions at <http://www.microsoft.com/sql/downloads/2000/sp3.asp>.

Create the Site DB (local DB only)

Perform this procedure on the Node 1 server. All files associated with the database must be located on a shared drive. This includes control files, log files, data files, and any local archive destinations defined in `init.ora` or `SPFILE`. It is also strongly recommended that the `background_dump_dest` and `user_dump_dest` be located on shared drives.

Refer to the Oracle installation documentation (found on the Oracle CD-ROM). After installing Oracle software, running several Oracle scripts to create the site DB, defining tablespaces for Process Engine use, and recording database information, return to [“Remote Oracle Server” on page 36](#) in this appendix.

Remote Oracle Server

The following are requirements specific to a cluster environment for this configuration.

- The remote server should be outside of the Process Engine cluster configuration.
- The Oracle client software should be installed on each node in the cluster. When prompted for a valid user name that has Administrator privileges on all nodes in the cluster, enter the domain administrator user name and password using the domain created earlier in this procedure.

Use the procedures in [Task 2a on page 16](#) to install the database then return to [“Add Oracle SiteDB Group \(local and remote DB\)” on page 36](#) in this appendix.

Add Oracle SiteDB Group (local and remote DB)

Perform this procedure on the Node 1 server to add the Oracle SiteDB group.

1. Open the **Cluster Administrator**.
2. Locate and right click on Groups, point to New and click Group.
3. Enter a name for the new resource group (Oracle SiteDB Group).
4. Verify that the nodes you want are in the **Preferred owners** list and click **Finish**.
5. Right click the **Oracle SiteDB** group and select **Bring Online**. The state of the Oracle SiteDB group will change from Offline to Online.

Move Shared Drive to Oracle SiteDB Group (local and remote DB)

1. Select **Cluster Group** to list the Cluster Group resources.
2. Right click on the shared drive, select **Change Group**, and click **Oracle SiteDB**. This will move the shared drive to the Oracle SiteDB group.
3. Click **Yes** at the Cluster Administrator confirmation dialog box to confirm the move. Click **Yes** again at the Move Resources confirmation window. The Cluster Administrator re-appears showing the shared drive listed in the Oracle SiteDB resources.
4. Proceed to [“Install Process Engine on Node 1” on page 38](#) if the database is remote.
5. Proceed to [“Configure Cluster Service for Oracle \(local DB only\)” on page 36](#) if the database is local.

Configure Cluster Service for Oracle (local DB only)

All configuration of cluster for Oracle MUST be done using the Oracle Fail Safe Manager.

The Cluster Administrator **cannot** be opened at the same time as the Fail Safe Manager.

1. Close the Cluster Administrator on both Node 1 and Node 2 servers.
2. Start the Oracle Fail Safe Manager from the Programs folder in the start menu.

3. Enter the user name and password, select the Cluster Alias and Domain, and click **OK**. The Oracle Fail Safe Manager opens.

Note: If you have not verified your cluster by this time you will be prompted to do so now. Do not continue until all problems have been resolved.

4. Right click on **Oracle SiteDB** group and select *Add Resource to Group*.
5. In the Add Resource to Group - Resources dialog box, select, or verify, the Group Name is Oracle SiteDB.
6. Select the resource, Virtual Address, and click **Next**.
7. To add the Virtual Address resource, enter or verify the following:
 - a. The radio button, "Show networks accessible by clients" is checked.
 - b. In the Network drop-down list box enter, or select, the connection appropriate for your site.
 - c. In the Host Name box, enter the Oracle network name.
 - d. In the IP Address box, enter the IP address for the host.
 - e. Click **Finish**.
8. Verify the properties and click **OK**.
9. The Oracle Fail Safe Manager re-appears showing the Network Name and IP Address you added for the virtual address resource.
10. Right click on Oracle SiteDB and select, *Add Resource to Group*.
11. In the Add Resource to Group - Resources dialog box, select, or verify, the Group Name is Oracle SiteDB.
12. Select the resource, **Oracle Database**, and click **Next**.
13. Enter, or verify, the following information:
 - a. Enter or select the database Service Name.
 - b. Enter the database Instance Name.
 - c. Enter the Database Name.
 - d. Enter the initialization parameter file name.
 - e. After entering the information above, click **Next**.
14. Fill-in the boxes for User Name, Password, and Confirm Password, and click **OK**.
15. Verify the information that appears is correct, and click **OK**.
16. Read the message in the window that displays and click **Yes**.
17. A window appears showing the status of the new database as it is being added. Read the output of this screen and then close the window. A message window appears showing that the operation completed successfully. Click **OK** at the window.

The Oracle Fail Safe Manager re-appears showing the database service name added as the Oracle SiteDB database resource.

18. Close the Oracle Fail Safe Manager.

Verify the Cluster Failover (local only)

1. Open the Oracle Fail Safe Manager.
2. Right click on Oracle Site DB group (or the group where Oracle is located)
3. Click *Move to a Different Node*. In a few minutes the owner of the Cluster Server will switch from Node 1 to Node 2. This will test that the cluster is setup properly and is able to failover to Node 2.
4. Verify that Oracle comes up under Cluster control on Node 2.
5. Check the Oracle logs on Node 2 to verify that the database started without error.

About pre-installation SQL scripts

A series of SQL scripts launches automatically when you start Process Engine Setup (you will be prompted for the Oracle sys password, which is required to run the scripts). These scripts must run before Process Engine Setup can run successfully; if an error message indicates that the automated execution of the scripts failed, you must resolve the errors and run the scripts manually.

There are five scripts, and they are located on the installation media in the root directory for the Process Engine.

- pe_install_scripts.sql (executes the other scripts)
- pe_setup_users_defaults.sql
- pe_filenet_site.sql
- pe_create_stored_procedures.sql
- pe_grant_sp_permissions.sql

Follow the steps below to manually run the scripts.

1. Enter the following (including the quotes) at a command prompt:

```
sqlplus "sys as sysdba" @pe_install_scripts.sql
```
2. When prompted, enter the Oracle sys password. If the password is entered incorrectly, sqlplus will re-prompt for the user name, which you must enter exactly as:

```
sys as sysdba
```

The password prompt then re-displays; re-enter the sys password.

Install Process Engine on Node 1

1. Turn on power to the Node 1 server; Node 2 should be powered off.
2. If you aren't already, logon as the domain **Administrator**.
3. Run Process Engine setup on Node1.
4. When prompted, enter the Oracle sys password. If the password is entered incorrectly, sqlplus will re-prompt for the user name, which you must enter exactly as:

```
sys as sysdba
```

The password prompt then re-displays; re-enter the sys password.

NOTE If an error message indicates that the scripts did not run, you must resolve the errors and run the scripts manually, as described in [“About pre-installation SQL scripts” on page 38](#). After the scripts have run successfully, start Process Engine Setup again.

5. Enter the Documentation Server URL. This is the location where the FileNet Process Documentation was installed in [Task 2 on page 14](#). This can also be the full path to the documentation if it was installed on a local drive. An example URL is:

`http://docserver:port#/ecm_help`

where `web_server` is the name of the Microsoft IIS web server and `port_number` is the web server port number.

6. Indicate whether you want to configure the Rules Engine interface to run on this Process Engine.
 - Click **Yes** if the JRules software is already installed on this computer or if you know where on this computer JRules will be installed later. Setup then prompts you for the JRules installation directory. Later during installation (in [Task 14a on page 75](#)), you will finish setting up Rules Engine integration.
 - Click **No** if the JRules software is not and will not be installed on this computer, or if you do not know exactly where on this computer JRules will be installed later.

If you later install JRules software on this Process Engine, follow the procedures in [Task 14b on page 77](#) to enable Rules Engine integration manually.

7. When prompted enter the NCH Domain Name.

For a local database this should be your Oracle network name with a colon followed by your organization.

For a remote database this should be your virtual cluster server name with a colon followed by your organization.

8. Install FNSW (executables) on the local drive.
9. Install FNSW_LOC (configuration files) on the shared disk drive.
10. Select *local* or *remote* database.

11. Provide the appropriate Oracle environment variables.

Oracle	Environment Variables	Database Location	Notes
	ORACLE_SID	local or remote	
	ORACLE_HOME	local or remote	If the database is remote, the Oracle Home path you enter refers to the local Oracle Client location/ environment.
	LOCAL	remote only	This is the global database name or the server connecting string. This name must match the entry in the tnsnames.ora file.
	Tablespaces		
	Temporary tablespace	local or remote	
	Data tablespace	local or remote	
	Index tablespace	local and remote	Optional. If not indicated the data tablespace will be used.

12. Enter the temporary tablespace name, for example **fntmp_ts**.
13. Enter the FileNET data tablespace name, for example **vwdata_ts**.
14. Enter the index tablespace name if desired, for example **vwindx_ts**.
15. Click **Next** to proceed with the installation.
16. Reboot the Node 1 server and logon as the domain **Administrator**. Reconnect to the installation drive as the Domain *fnsw* user if you are installing from a network drive rather than from the CD. Setup will continue with the installation and configuration.
17. Install any patches or *SS fixes required for Image Services or Process Engine now. To determine whether any additional patches or *SS fixes are needed, contact the FileNet Response Center (FRC) or see the FileNet CSS website at <http://www.css.filenet.com>.
18. Set the *f_maint* password:
 - a. Enter the following at a command prompt: **set f_maint_pw**.
 - b. Enter a carriage return to accept the default password.
 - c. Enter and confirm the password you want to use for *f_maint*.
19. Proceed to “[Install Process Engine on Node 2](#)” on page 40.

Install Process Engine on Node 2

1. Power off Node 1.
2. Turn on power to the Node 2 and logon as the domain **Administrator**.

3. Open *Cluster Administrator*.
4. In the *Cluster Administrator*, verify that the owner of the Cluster Server is now Node 2. Node 2 needs possession of the shared drive in order to setup Process Engine correctly in the next procedure.
5. Run Process Engine setup on Node 2.
6. When prompted, enter the Oracle sys password. If the password is entered incorrectly, sqlplus will re-prompt for the user name, which you must enter exactly as:

sys as sysdba

The password prompt then re-displays; re-enter the sys password.

NOTE If an error message indicates that the scripts did not run, you must resolve the errors and run the scripts manually, as described in [“About pre-installation SQL scripts” on page 38](#). After the scripts have run successfully, start Process Engine Setup again.

7. Enter the Documentation Server URL. This is the location where the FileNet Process Documentation was installed in [Task 2 on page 14](#). This can also be the full path to the documentation if it was installed on a local drive. An example URL is:
 http://docserver:port#/ecm_help
 where web_server is the name of the Microsoft IIS web server and port_number is the web server port number.
8. When prompted enter the NCH Domain Name. This should be the same NCH Domain Name that you entered when installing on Node 1.
9. Install FNSW (executables) on the local drive.
10. Install FNSW_LOC (configuration files) on the shared disk drive.
11. Select *local* or *remote* database.

12. Provide the appropriate Oracle environment variables.

Oracle	Environment Variables	Database Location	Notes
	ORACLE_SID	local or remote	
	ORACLE_HOME	local or remote	If the database is remote, the Oracle Home path you enter refers to the local Oracle Client location/ environment.
	LOCAL	remote only	This is the global database name or the server connecting string. This name must match the entry in the tnsnames.ora file.
	Tablespaces		
	Temporary tablespace	local or remote	
	Data tablespace	local or remote	
	Index tablespace	local and remote	Optional. If not indicated the data tablespace will be used.

13. Enter the temporary tablespace name, for example **fntmp_ts**.
14. Enter the FileNET data tablespace name, for example **vwdata_ts**.
15. Enter the index tablespace name if desired, for example **vwindx_ts**.
16. Click **Next** to proceed with the installation.
17. Reboot Node 2 and logon as the domain **Administrator**. Reconnect to the installation drive if you are installing from a network drive rather than from the CD. Setup will continue with the installation and configuration.
18. Install any patches or *SS fixes required for Image Services or Process Engine now. To determine whether any additional patches or *SS fixes are needed, contact the FileNet Response Center (FRC) or see the FileNet CSS website at <http://www.css.filenet.com>.
19. Set the f_maint password:
 - a. Enter the following at a command prompt: **set f_maint_pw**.
 - b. Enter a carriage return to accept the default password.
 - c. Enter and confirm the password you want to use for f_maint.
20. Turn on power to Node 1.
21. On both Node 1 and Node 2:
 - a. Open *Settings -> Control Panel -> Administrative Tools -> Services*. Double-click *Process Engine Services Manager*.

- b. In *Properties*, for Logon, change the user to <domain name>/fnsf and enter the appropriate password.
- c. Click **OK** to exit out and restart the service.

22. Proceed to [“Add Oracle SiteDB Resource” on page 43.](#)

Add Oracle SiteDB Resource

Perform the following procedure on the Node 2 server.

1. Open the *Cluster Administrator*
2. Locate and right click on **Oracle SiteDB Group** (or the group where Oracle is located), point to **New** and click **Resource**.
3. In the *New Resource* dialog box, enter the following:
 - a. A name for the new resource (FileNET IS).
 - b. A description for the new resource (FileNET Image Service).
 - c. Select **Generic Service** as the resource type.
4. Click **Next** to continue.
5. Verify that the nodes you want are in the *Possible owners* list and click **Next**.
6. Add the dependencies from the list of available resources and click **Next**. If the database is local, select the following. If the database is remote, proceed to step 7.

Network Name

Oracle Server (Oracle IDB)

Oracle ORAHome81 TNS listener (the listener configured for the database)

7. Select the following for remote database:

Image Services network name

Shared disk containing the Process Engine local files
8. In the *Generic Service Parameters* dialog, enter **IMSService** in the service name box, check **Use Network Name for computer name** and click **Next**.
9. Click **Finish**
10. Proceed to [“Add NCHBroadcast Value to Registry Editor” on page 43.](#)

Add NCHBroadcast Value to Registry Editor

Perform the following procedure on the Node 2 server:

1. Enter **regedt32** from a command prompt.
2. From HKEY_LOCAL_MACHINE navigate to the Software>FileNET>IMS>CurrentVersion folder.
3. From the Registry Editor *Edit* menu, select **Add Value**.
4. Enter NCHBroadcast for the name and select REG_DWORD for the data type. Click **OK**.
5. Enter **0** in the Data box and click **OK**.
6. Close the Registry Editor.

7. Proceed to [“Configure IS Registry Keys For Cluster Replication”](#) on page 44.

Configure IS Registry Keys For Cluster Replication

Perform the following procedure on the Node 2 server:

1. From the *Cluster Administrator* window, right-click the **FileNET IS** and click **Bring Online**.
2. Double-click the **FileNET IS** resource to display the FileNET IS properties window.
3. From the *Registry Replication* tab, click the **add** button and enter **software\filenet\ims\currentversion**.
4. Click **OK**.
5. Click the **add** button and enter
system\CurrentControlSet\Services\IMSService
6. Click **OK** twice to close the FileNET IS properties window.
7. Proceed to [“Configure the Process Engine Services Manager”](#) on page 44.

Configure the Process Engine Services Manager

After you have installed Process Engine on both cluster nodes, configure the Process Engine Services Manager per the procedures in this section:

- Set Process Engine Services Manager to Manual Startup
- Configure the PPM to run as a Service
- Add Process Engine Services Manager Resource to the cluster

Set Process Engine Services Manager to Manual Startup

Perform the following procedure on both the Node 1 and Node 2 servers:

1. Open the *Windows ->Settings->Control Panel->Administrative Tools* and double-click the **Services** icon.
2. Double-click the **Process Engine Services Manager**, in the Services window.
3. From the *properties* dialog box click the **stop** button, if the service is not already stopped.
4. Click the **Startup type** drop-down arrow and set the Startup type to **Manual**.
5. Click **OK** to exit the Properties window.

Configure the PPM to Run as a Service

Perform the following procedure on the Node 2 server.

1. Open *Cluster Administrator* and verify that the owner of the Cluster Server is Node 2. If the owner is not Node 2 then right click on the **FileNET Group** (or the group where the database is located) and click **Move Group**.
2. From the *Start* menu, open *FileNet P8 Platform ->Process Engine -> Process Task Manager*.
3. Navigate to the *PPM* item and double-click to bring up the properties dialog.
4. Check **Automatically started** and **Automatically restarted**.

5. Modify the other settings as needed and click **OK**. See [Help for Process Engine Administration](#) for details.
6. Close *Process Task Manager*.

Add Process Engine Service Manager Resource (local database)

Take this action on the Node 2 server.

1. Open *Oracle Fail Safe Manager*.
2. Locate and right click on **FileNET Group** (or the group where Oracle Server is located).
3. Point to **Add resource to group**.
4. Select the **Generic Service** resource type.
5. Click **Next**.
6. Select the Node 2 name in the node name list box.
7. Enter or select Process Engine Service Administrator in the display name list box.
8. Enter VWServices in the ServiceName text box.
9. Enter the full path to vwservices.exe.
10. Click **Next**.
11. For the *Generic Service Account*, select the *This Account* radio button and enter **fnsww** as the account name.
12. For the account **fnsww**, fill-in the boxes for password, and confirm password
13. Verify or select the domainlet from the Domain drop-down listbox.
14. Click **Next**.
15. Verify, or move, the disk used by the generic service to the selected disk list box.
16. The disk used by the generic service is the disk where the Image Services shared files are installed.
17. Click **Next**.
18. From the dependencies dialog select the Oracle database and the network name from the list of available resources.
19. Click **Next**.
20. For the *Generic Service Registry* click the **add** button and enter:
system\CurrentControlSet\Services\VWServices.
21. Click **Finish**.

Add Process Engine Service Manager Resource (remote database)

Take this action on the Node 2 server.

1. Open the *Cluster Administrator*.
2. Locate and right click on **FileNET Group** (or the group where Oracle is located), point to **New** and click **Resource**.

3. In the *New Resource* dialog box, enter the following:
 - a. A name for the new resource (Process Engine Service Manager).
 - b. A description for the new resource (Process Engine Service Manager).
 - c. Select **Generic Service** as the resource type.
4. Click **Next** to continue.
5. Verify that the nodes you want are in the *Possible owners* list and click **Next**.
6. From the dependencies dialog, select *FileNET IS* from the list of available resources. Click the **add** button and click **Next**.
7. From the *Generic Service Parameters* dialog, enter **VWServices** in the service name box. Check **Use Network Name for computer name** and click **Next**.
8. From the *Registry Replication* tab, click the add button and enter:

system\CurrentControlSet\Services\VWServices.
9. Click **OK**.
10. Click **Finish** to close the properties window.
11. From the *Cluster Administrator* window, right-click the **Process Engine Service Manager** and click **Bring Online**.

Test Cluster Server Operation

Perform the following procedures to test the fail-over of the Process Engine.

1. Open the *Cluster Administrator*.
2. Right click on the **FileNET Group** (or the group where SQL Server is located) and click **Move Group**. In a few minutes the owner of the Cluster Server will switch from Node 2 to Node 1.
3. Using the *Cluster Administrator*, verify that the FileNET IS resource comes online on Node 1.
4. Using the *Cluster Administrator*, verify that the Process Engine Service Manager resource comes online on Node 1.
5. Check the Windows Event Log for any errors.
6. Proceed with web server installation. See "Install Process Java Applets and Connectivity (PJAC)" in the *FileNet Image Manager Process Installation Guide*.

Task 3d: Configuring a Cluster Server - Standalone Process Engine with SQL

See the Microsoft website at <http://www.microsoft.com/windows2000/techinfo/planning/server/clustersteps.asp> for information on cluster servers.

To configure a Process Engine in a clustered environment you must first obtain a Microsoft Windows 2000 Cluster Service approved hardware configuration. All hardware used in the Cluster configuration must be on the Microsoft Hardware Compatibility list (HCL). To view the Microsoft HCL go to <http://www.microsoft.com/hcl/default.asp>.

1. Install Windows 2000 Advanced Server Operating System with SP3 on both servers in your cluster system.
2. Add the cluster nodes to a domain. Configure both cluster nodes to be member servers of a Windows 2000 native mode domain.
3. Using the domain from step 2, create a domain user account under which the Cluster service will run. This user should be a **Domain Administrator**.
4. Follow the procedures provided by Microsoft to install the Cluster Server software on both servers. Install the software on the Node 1 server first. You can find the Microsoft installation procedures at: <http://www.microsoft.com/windows2000/techinfo/planning/server/clustersteps.asp>.

Local SQL 2000 Server

Perform the Microsoft installation procedure from the Node 1 server. The Microsoft installation procedure will automatically install the SQL software on both nodes. Set the ISQLServer environment variable on both nodes to the SQL network name of your cluster system.

Refer to the Microsoft installation instructions to install the SQL Server 2000 software. You can find these instructions at the Microsoft web site at:

http://msdn.microsoft.com/library/default.asp?ShowPane=false&URL=/library/psdk/sql/getstart_4fht.htm

Note: You must choose Custom setup type for the installation of MSSQL 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.

Download and install SQL Server 2000 Service Pack 2(SP3) per the instructions at <http://www.microsoft.com/sql/downloads/2000/sp3.asp>.

Create the Site DB

On the database computer, use the following steps to create the database, specify the filegroup, and set the space allocations. See the Microsoft SQL Server documentation for detailed instructions.

Use the SQL Server Enterprise Manager tool to create a database, create an additional filegroup in the new database, and increase the size of the existing tempdb database

1. Start the **Enterprise Manager** tool.
2. Expand the <server name>/<new instance name> folder you just created.
3. Right-click on the **Databases** folder and select *New Database*.

4. From the *General* tab, enter a new database name, example: **VWdb**.
5. Select *Database files* tab. Here add another filegroup by clicking on the first free line in the *File Name* column.
6. Enter a new file name, example: **vw_data**.
7. Tab twice to next columns and specify a disk location for that file.
8. Tab again to the *Initial size* column and enter **200**.
9. Tab to *Filegroup* column and enter a new filegroup name, example: **vwdata_fg**.
10. Save your changes.
11. While still in the Enterprise Manager, right mouse click on the *tempdb* database.
12. Select *properties*.
13. Select the *Data Files* tab.
14. Click on the amount in *Space allocated* column and increase the space allocated to at least 80 MB.
15. Click **OK** to save.

During installation of the Process Engine software you will be prompted to provide database information. The following table shows how the SQL database component names map to both installation-time prompts and to contents of the resulting FileNet configuration database, as viewed with the FileNet configuration editor, *fn_edit*.

Setup Prompt	Database Equivalent	fn_edit Equivalent	Example
Database name	<Customer defined database >	db_name	VWdb
FileNet data filegroup	vwdata_fg	vwdata_fg	vwdata_fg

You will not need to use *fn_edit* at this time, but the information is provided here in the event that you should need to use it in the future.

Note: The SQL TempDB is used for temporary data and should be sized to allow for a minimum of 80 MB for Process Engine use.

Although the *vwtmp_ts* name appears in *fn_edit*, this database object is not used. The SQL TempDB is used by the Process Engine.

In *fn_edit*, a *usr_data* object name appears, with a location defined by default as *fnusr_fg*. This object and filegroup are not used by the Process Engine software. An object named *vwtmp_ts* also appears, but is also unused.

Proceed to [“Install Process Engine on Node 1” on page 50](#).

Remote SQL 2000 Server

Use the procedures in [Task 2b on page 21](#) and [Task 2c on page 24](#) prior to completing the procedures in this section.

Configure FileNET Resource Group (remote SQL database only)

If you have installed a local SQL Server there is no need to create and configure a new resource group, you will use the resource group where SQL Server is located. If you installed a remote SQL Server you need to create and configure a FileNET resource group.

Perform the following three procedures on the Node 1 server.

Create the FileNET Group

1. Open the **Cluster Administrator**.
2. Locate and right click on **Groups**, point to **New** and click **Group**.
3. Enter a name for the new resource group (FileNET Group).
4. Verify that the nodes you want are in the **Preferred owners** list and click **Finish**.

Create an IP address resource

1. While still in the **Cluster Administrator**:
2. Locate and right click on the **FileNET Group**, point to **New** and click **Resource**.
3. In the *New Resource* dialog box, enter the following:
 - A name for the new resource (IP Address)
 - A description for the new resource
 - **IP Address** as the resource type
 - **FileNET Group** for the resource group
4. Click **Next** to continue.
5. Verify that the nodes you want are in the **Possible owners** list and click **Next**.
6. From the *dependencies* dialog click **Next** to continue.
7. In the *TCP/IP Address* dialog box, enter the following:
 - IP address (this must be a static IP address)
 - Subnet mask
 - Network (select the network that is being used for the public connection)
8. Click **Finish**.

Create a Network Name resource

1. Locate and right click on the **FileNET Group**, point to **New** and click **Resource**.
2. In the *New Resource* dialog box, enter the following:
 - A name for the new resource (Network Name)
 - A description for the new resource
 - Select **Network Name** as the resource type
 - Select **FileNET Group** for the resource group
3. Click **Next**.

4. Verify that the nodes you want are in the **Possible owners** list and click **Next**.
5. From the *dependencies* dialog select the **IP address resource** that you have just created from the list of available resources. Click the **add** button and click **Next**.
6. Enter the **network name** and click **Finish**
7. Create a new physical disk resource or move an existing physical disk resource into the **FileNET Group**. This will be the shared disk where the Process Engine local files will be installed.
8. From the **Cluster Administrator** window, right-click the **FileNET Group** and click **Bring Online**.
9. Proceed to [“Install Process Engine on Node 1” on page 50](#).

Install Process Engine on Node 1

1. Turn on power to the Node 1 server; Node 2 should be powered off.
2. If you aren't already, logon as the domain **Administrator**.
3. Run Process Engine setup on Node1.
4. Enter the Documentation Server URL. This is the location where the FileNet Process Documentation was installed in [Task 2 on page 14](#). This can also be the full path to the documentation if it was installed on a local drive. An example URL is:

http://docserver:port#/ecm_help

where web_server is the name of the Microsoft IIS web server and port_number is the web server port number.
5. Indicate whether you want to configure the Rules Engine interface to run on this Process Engine.
 - Click **Yes** if the JRules software is already installed on this computer or if you know where on this computer JRules will be installed later. Setup then prompts you for the JRules installation directory. Later during installation (in [Task 14a on page 75](#)), you will finish setting up Rules Engine integration.
 - Click **No** if the JRules software is not and will not be installed on this computer, or if you do not know exactly where on this computer JRules will be installed later.

If you later install JRules software on this Process Engine, follow the procedures in [Task 14b on page 77](#) to enable Rules Engine integration manually.
6. When prompted enter the NCH Domain Name

For a local database this should be your SQL network name with a colon followed by your organization.

For a remote database this should be your virtual cluster server name with a colon followed by your organization.
7. Install FNSW (executables) on the local drive.
8. Install FNSW_LOC (local files) on the shared disk drive.
9. Proceed to step 10 if the database is local, go to step 13 if it is remote.
10. Enter database name, for example **VWdb**.
11. Enter FileNet data file group name **vwdata_fg**

12. Proceed to step 18.
13. Select Microsoft SQL Server.
14. Enter database server name
15. Enter database instance name
16. Enter database name, for example **VWdb**
17. Enter FileNet data file group name **vwdata_fg**
18. Click **Next** to finish the installation
19. Reboot the Node 1 server and logon as the domain **Administrator**. Reconnect to the installation drive as the Domain fnsu user if you are installing from a network drive rather than from the CD. Setup will continue with the installation and configuration.
20. Set the f_maint password:
 - a. Enter the following at a command prompt: **set_f_maint_pw**.
 - b. Enter a carriage return to accept the default password.
 - c. Enter and confirm the password you want to use for f_maint.
21. If you are using a SQL Server database in a non-English language system, see [“Change Character Conversions \(optional\)” on page 56](#).
22. Install any patches or *SS fixes required for Image Services or Process Engine now. To determine whether any additional patches or *SS fixes are needed, contact the FileNet Response Center (FRC) or see the FileNet CSS website at <http://www.css.filenet.com>.
23. Proceed to [“Install Process Engine on Node 2” on page 51](#).

Install Process Engine on Node 2

1. Power off Node 1.
2. Turn on power to the Node 2 and logon as the domain **Administrator**.
3. Open *Cluster Administrator*.
4. In the *Cluster Administrator*, verify that the owner of the Cluster Server is now Node 2. Node 2 needs possession of the shared drive in order to setup a Process Engine correctly in the next procedure.
5. Run Process Engine setup on Node 2.
6. Enter the Documentation Server URL. This is the location where the FileNet Process Documentation was installed in [Task 2 on page 14](#). This can also be the full path to the documentation if it was installed on a local drive. An example URL is:

`http://docserver:port#/ecm_help`

 where web_server is the name of the Microsoft IIS web server and port_number is the web server port number.
7. Indicate whether you want to configure the Rules Engine interface to run on this Process Engine.
 - Click **Yes** if the JRules software is already installed on this computer or if you know where on this computer JRules will be installed later. Setup then prompts you for the JRules installation directory.

Later during installation (in [Task 14a on page 75](#)), you will finish setting up Rules Engine integration.

- Click **No** if the JRules software is not and will not be installed on this computer, or if you do not know exactly where on this computer JRules will be installed later.

If you later install JRules software on this Process Engine, follow the procedures in [Task 14b on page 77](#) to enable Rules Engine integration manually.

8. When prompted enter the NCH Domain Name. This should be the same NCH Domain Name that you entered when installing on Node 1.
9. Install FNSW (executables) on the local drive.
10. Install FNSW_LOC (local files) on the shared disk drive.
11. Select local or remote database. Proceed to step 12 if the database is local, go to step 20 if it is remote.
12. Enter database name, for example **VWdb**.
13. Enter FileNet data file group name **vwsys_fg**
14. Proceed to step 20.
15. Select Microsoft SQL Server.
16. Enter database server name
17. Enter database instance name
18. Enter database name, for example **VWdb**
19. Enter FileNet data file group name **vwdata_fg**
20. Click **Next** to finish the installation
21. Reboot Node 2 and logon as the domain **Administrator**. Reconnect to the installation drive if you are installing from a network drive rather than from the CD. Setup will continue with the installation and configuration.
22. Set the f_maint password:
 - a. Enter the following at a command prompt: **set f_maint_pw**.
 - b. Enter a carriage return to accept the default password.
 - c. Enter and confirm the password you want to use for f_maint.
23. If you are using a SQL Server database in a non-English language system, see [“Change Character Conversions \(optional\)” on page 56](#).
24. Install any patches or *SS fixes required for Image Services or Process Engine now. To determine whether any additional patches or *SS fixes are needed, contact the FileNet Response Center (FRC) or see the FileNet CSS website at <http://www.css.filenet.com>.
25. Turn on power to Node 1.
26. On both Node 1 and Node 2:
 - a. Open *Settings -> Control Panel -> Administrative Tools -> Services*. Double-click *Process Engine Services Manager*.

- b. In *Properties*, for Logon, change the user to <domain name>/fnsf and enter the appropriate password.
- c. Click OK to exit out and restart the service.

Add FileNET IS Resource to the cluster

Perform the following procedure on the Node 2 server.

1. Open the *Cluster Administrator*
2. Locate and right click on **FileNET Group** (or the group where SQL Server is located), point to **New** and click **Resource**.
3. In the *New Resource* dialog box, enter the following:
 - a. A name for the new resource (FileNET IS).
 - b. A description for the new resource (FileNET Image Service).
4. Select **Generic Service** as the resource type.
5. Click **Next** to continue.
6. Verify that the nodes you want are in the *Possible owners* list and click **Next**.
7. Add the dependencies from the list of available resources and click **Next**. If the database is local, select the following. If the database is remote, proceed to step 8.
 - SQL Network Name
 - SQL Server
 - SQL Server Agent
8. Select the following for remote database:
 - Image Services network name
 - Shared disk containing the Process Engine local files
9. In the *Generic Service Parameters* dialog, enter IMSService in the service name box, check Use Network Name for computer name and click Next.
10. Click **Finish**
11. Proceed to [“Add NCHBroadcast Value to Registry Editor” on page 53.](#)

Add NCHBroadcast Value to Registry Editor

Perform the following procedure on the Node 2 server:

1. Enter **regedt32** from a command prompt.
2. From HKEY_LOCAL_MACHINE navigate to the Software>FileNET>IMS>CurrentVersion folder.
3. From the Registry Editor *Edit* menu, select **Add Value**.
4. Enter NCHBroadcast for the name and select REG_DWORD for the data type. Click **OK**.
5. Enter **0** in the Data box and click **OK**.
6. Close the Registry Editor.
7. Proceed to [“Configure IS Registry Keys For Cluster Replication” on page 54.](#)

Configure IS Registry Keys For Cluster Replication

Perform the following procedure on the Node 2 server:

1. From the *Cluster Administrator* window, right-click the **FileNET IS** and click **Bring Online**.
2. Double-click the **FileNET IS** resource to display the FileNET IS properties window.
3. From the *Registry Replication* tab, click the **add** button and enter **software\filenet\ims\currentversion**.
4. Click **OK**.
5. Click the **add** button and enter **system\CurrentControlSet\Services\IMSService**
6. Click **OK** twice to close the FileNET IS properties window.
7. Proceed to [“Configure the Process Engine Services Manager” on page 54](#).

Configure the Process Engine Services Manager

After you have installed Process Engine on both cluster nodes, configure the Process Engine Services Manager per the procedures in this section:

- Set Process Engine Services Manager to Manual Startup
- Configure the PPM to run as a Service
- Add Process Engine Services Manager Resource to the cluster

Set Process Engine Services Manager to Manual Startup

Perform the following procedure on both the Node 1 and Node 2 servers:

1. Open the *Windows ->Settings->Control Panel->Administrative Tools* and double-click the **Services** icon.
2. Double-click the **Process Engine Services Manager**, in the Services window.
3. From the *properties* dialog box click the **stop** button, if the service is not already stopped.
4. Click the **Startup type** drop-down arrow and set the Startup type to **Manual**.
5. Click **OK** to exit the Properties window.

Configure the PPM to Run as a Service

Perform the following procedure on the Node 2 server.

1. Open *Cluster Administrator* and verify that the owner of the Cluster Server is Node 2. If the owner is not Node 2 then right click on the **FileNET Group** (or the group where the database is located) and click **Move Group**.
2. From the *Start* menu, open *FileNet P8 Platform ->Process Engine -> Process Task Manager*.
3. Navigate to the *PPM* item and double-click to bring up the properties dialog.
4. Check **Automatically started** and **Automatically restarted**.
5. Modify the other settings as needed and click **OK**. See [Help for Process Engine Administration](#) for details.

6. Close *Process Task Manager*.

Add Process Service Manager Resource

Take this action on the Node 2 server.

1. Open the *Cluster Administrator*.
2. Locate and right click on **FileNET Group** (or the group where SQL Server is located), point to **New** and click **Resource**.
3. In the *New Resource* dialog box, enter the following:
 - a. A name for the new resource (Process Engine Services Manager).
 - b. A description for the new resource (Process Engine Services Manager).
 - c. Select **Generic Service** as the resource type.
4. Click **Next** to continue.
5. Verify that the nodes you want are in the *Possible owners* list and click **Next**.
6. From the dependencies dialog, select *FileNET IS* from the list of available resources. Click the **add** button and click **Next**.
7. From the *Generic Service Parameters* dialog, enter **VWServices** in the service name box. Check **Use Network Name for computer name** and click **Next**.
8. From the *Registry Replication* tab, click the add button and enter:

system\CurrentControlSet\Services\VWServices.
9. Click **OK**.
10. Click **Finish** to close the properties window.
11. From the *Cluster Administrator* window, right-click the **Process Engine Services Manager** and click **Bring Online**.

Test Cluster Server Operation

Perform the following procedures to test the fail-over of Process Engine Services.

1. Open the *Cluster Administrator*.
2. Right click on the **FileNET Group** (or the group where SQL Server is located) and click **Move Group**. In a few minutes the owner of the Cluster Server will switch from Node 2 to Node 1.
3. Using the *Cluster Administrator*, verify that the FileNET IS resource comes online on Node 1.
4. Using the *Cluster Administrator*, verify that the Process Engine Services Manager resource comes online on Node 1.
5. Check the Windows Event Log for any errors.
6. Proceed with web server installation. See "Install Process Java Applets and Connectivity (PJAC)" in the *FileNet Image Manager Process Installation Guide*.

Change Character Conversions (optional)

A SQL Server 2000 database is automatically configured to do an ANSI to OEM conversion of characters. This can cause character corruption on a FileNet system configured as a non-English language system. The SQL Server thinks the Process Engine is an OEM client and automatically does the conversion.

To disable this automatic conversion:

1. From the *Start* menu, choose *Microsoft SQL Server*, then *Client Network Utility*.
2. Click on the *DB-Library Options* tab on the *SQL Server Client Network Utility* screen.
3. Uncheck the box for the Automatic ANSI to OEM conversion option and click **OK**.

Task 4: Install Process Engine patches and documentation updates

Install any patches or *SS fixes required for the Process Engine. To determine whether additional patches or *SS fixes are needed, contact the FileNet Response Center (FRC) or go to the [FileNet Worldwide Customer Support web site](http://www.css.filenet.com) (www.css.filenet.com) and navigate to **Download Patches/FileNet Products/eProcess**.

In addition, check the [FileNet Worldwide Customer Support web site](http://www.css.filenet.com) (www.css.filenet.com) for updates to the Process for FileNet Image Manager documentation. Navigate to **Product Tech Info/Image Manager (IM)/eProcess Services/Product Documentation**.

Task 5: Start the Pooled Process Manager (PPM)

The Pooled Process Manager (PPM) is the link between the Process Router on the web server and the VWJs processes on the Process Engine. Workflow activity cannot occur unless the PPM is running.

To start the PPM

1. On the Process Engine, start the Process Task Manager.
 - a. Windows: Select **Start > Programs > FileNet P8 Platform > Process Engine > Process Task Manager**.
 - b. UNIX: Enter **vwtaskman** from the command prompt.
2. Select **PPM** in the left pane.
3. Enter the appropriate property values on the General and Advanced tabs. For property descriptions, click **Help** and navigate to *PPM/PPM Property descriptions* (in [Help for Process Task Manager](#)).

NOTE If the Process Engine and web server are on opposite sides of a firewall, you must specify the Return Port property.

4. Click **Apply** to save your changes.
5. Click **Start** on the toolbar.

Task 6: Install Process Java Applets and Connectivity (PJAC)

The Process Java Applets and Connectivity (PJAC) software enables FileNet Web Services, FileNet Open Client, and custom applications to interface with the Process Engine. There are three PJAC components:

- PJAC for FileNet Web Services
- PJAC for Open Client
- PJAC Standalone

When you install PJAC for FileNet Web Services or PJAC for Open Client, the PJAC Setup program adds a Process feature to the corresponding client interface: for FileNet Web Services clients, a **Process** button is added to the left pane, for FileNet Open Client, a **Process** menu is added to the toolbar. Note that the PJAC Standalone component provides an API-only interface to the Process Engine.

On servers running both FileNet Web Services and FileNet Open Client you can install PJAC for FileNet Web Services, PJAC for Open Client, or both, depending the clients in which you want to provide Process support.

Important notes:

- Which PJAC components you can install depends on your web server configuration, as indicated in the following table. For detailed information on system requirements, log on to the [FileNet Worldwide Customer Support](#) web site and refer to the [eProcess Compatibility/Dependency/Hardware Matrix](#).

To install...	the web server must have...	Notes
PJAC for Web Services	FileNet Web Services	The PJAC Setup program installs the PJAC software in the same location where FileNet Web Services is installed.
PJAC for Open Client	FileNet Open Client	The PJAC Setup program installs the PJAC software in the same location where FileNet Open Client is installed.
PJAC Standalone	PJAC Standalone cannot be collocated with FileNet Web Services or FileNet Open Client	For information on developing PJAC applications, see "Setting Up for Process Development" in Help for Process Java API .

- PJAC requires a Java Runtime Environment (JRE). The following table lists the version of JRE required for each of the PJAC components. If the required JRE version is not installed on the system, the PJAC Setup program will install it for you.

PJAC Component	JRE Version
PJAC for Web Services	1.3.1
PJAC for Open Client	1.3.1
PJAC Standalone	1.3.1 or higher (Setup installs JRE 1.3.1 if the JRE is missing or the system has a version earlier than 1.3.1)

- If during installation the PJAC Setup program detects that Microsoft Internet Information Services (IIS) or VWServices are running, the Setup program will stop these services before installing PJAC. When the installation is complete, Setup will restart any services it stopped.

Install the Process Java Applets and Connectivity (PJAC) software

1. Log on as the local Windows administrator.
2. Insert the installation CD into the CD-ROM drive. If Autorun is enabled, the PJAC Setup program will start. Otherwise, double-click the Setup.exe icon.
3. Click **Next** on the Welcome dialog.
4. Review the FileNet End User Software License. To proceed with the installation, select **I accept the terms of the license agreement** and then click **Next**.
5. Select the PJAC components you want to install and click **Next**. Depending upon your system configuration, some components may not be available for selection.
6. (PJAC Standalone only) In the Directory Name text box, specify the directory where you want PJAC standalone installed. The default location is C:\Program Files\FileNet\PJAC. Click **Next**.
7. Enter the Documentation Server URL, which you established when you completed [Task 2 on page 14](#).
 - a. In the text box, type the URL for the FileNet Process documentation web site. Use the format:

`http://<server_name>:<port_number>/ecm_help`

For example, `http://webServerOne:8081/ecm_help`.

NOTE If your documentation web site uses the default web server port number, you do not need to specify the `<port_number>` variable. The default port number for Microsoft IIS is 80.

- b. Click **Test** to ensure that the URL is valid.
 - c. Click **Next**.
- NOTE** If you do not specify a documentation URL in the text box, you can manually enable the Windows Start menu shortcuts and context-sensitive help for the Process applets after installation. See [FileNet Documentation Server](#) in Help for Process Engine Administration for more information.
8. Review the summary screen and click **Next**.

NOTE If the required version of JRE is not already installed on the system, Setup displays a dialog informing you that it will install JRE 1.3.1 for you. Click **Next** to proceed. The Java 2 Runtime Environment Setup program starts. Follow the instructions on the screen to perform the installation.
 9. Setup installs the PJAC components you selected. If Microsoft IIS is running, Setup stops IIS before installing the PJAC components.

NOTE Both PJAC for Web Services and PJAC for Open Client install and use the following common files. If the PJAC Setup program finds an earlier version of these files already installed on the system, Setup asks you whether you want to keep or overwrite these files. Click **Yes** to overwrite a file and **No**

to keep the existing version. Note that if you are installing PJAC for Web Services and PJAC for Open Client at the same time, the Setup program attempts to install these files twice.

- Process Help.url
- taskman.properties
- taskman.policy

10. When the installation is complete, Setup restarts Microsoft IIS. Click **Finish** to continue.

NOTE Depending upon the state of the system you may be prompted to restart the computer in order to complete the installation.

11. (Open Client only) Set permissions on the Open Client download folder.

- a. Right-click on the My Computer icon and select **Manage** from the context menu.
- b. On the Computer Management dialog, expand the Services and Applications node and then expand the Internet Information Services node.
- c. Navigate to the Open Client download folder. The default location for this folder is **Default Web Site > OpenClient > eprocess > download**.
- d. Right-click on the download folder and select **Properties** from the context menu.
- e. On the download Properties dialog, ensure that the **Execute Permissions** option is set to **None**.
- f. Click **OK** to close the download Properties dialog.

12. Once you have installed PJAC, complete the following tasks:

- a. Install any PJAC patches or *SS fixes that are available. See [Task 7 on page 62](#) for instructions.
- b. Create and start a Process Router on the server where FileNet Web Services/Open Client is installed. See [Task 8 on page 63](#) for instructions.

Task 7: Install Process Java Applets and Connectivity (PJAC) patches

Install any patches or *SS fixes required for PJAC, FileNet Web Services, or FileNet Open Client. To determine whether additional patches or *SS fixes are needed, contact the FileNet Response Center (FRC) or go to the [FileNet Worldwide Customer Support web site](http://www.css.filenet.com) (www.css.filenet.com) and navigate to **Download Patches/FileNet Products**. (See **eProcess** for PJAC patches, **IDMdesk-web** for FileNet Web Services or Open Client.)

Task 8: Start the Process Router

To enable workflow activity, at least one Process Router must be running on each web server; each router corresponds to a single isolated region.

NOTE If the Process Engine and a web server are located on opposite sides of a firewall, you must add an entry to the hosts file on the Process Engine, mapping the web server's IP address to its fully qualified name.

To start a router on a web server

1. Start Process Task Manager on the web server. Select Process Task Manager from the FileNet P8 Platform/Process Web Server group in the Start menu.
2. Select **Routers** in the feature pane.
3. If necessary, add a new router.
 - a. Select **New** from the **Action** menu.
 - b. Enter the appropriate parameter values. For a description of each parameter, click the **Help** button and navigate to *Routers/Process Router property descriptions*.
 - c. Click **OK**.
4. In the feature pane, select the router you want to start and click the **Start** button on the toolbar.

Task 9: Initialize the isolated region

Initialize an isolated region to create the default data structures (queues, workflow roster, and event log) necessary to process workflows in that region.

To initialize the isolated region

1. On a client computer (not the web server), start the Process Configuration Console:
 - a. Select **Process** on the FileNet Web Services Client or Open Client page.
 - b. Select **Process Configuration Console**.
 - c. When prompted to, log on as SysAdmin or as a member of the SysAdminG group.
2. Right-click the icon of the isolated region you want to initialize.
3. Select **Connect** from the displayed menu.
4. Select **Initialize Isolated Region** from the **Action** menu.
5. Click **Yes** at the prompt.

For further details about initializing an isolated region, see [Initialize an isolated region](#) in the Process Configuration Console Help.

Task 10: Create a test workflow

Once you have completed all applicable prior tasks in this manual, create a test workflow to validate your configuration.

Important notes:




Users who will create workflow definitions, launch or participate in workflows, or monitor and manage workflows must be defined in both the Image Services (IS) and Content Services (CS) security systems. Before you can create and run a test workflow, define a workflow participant in IS and CS. See [Defining Users \(Open Client/FileNet Web Services\)](#) in the Help for Process Engine Administration for details.


NOTE FileNet recommends that the usernames and passwords be identical (including case) in both the Image Services and Content Services security systems to minimize the number of times that workflow users need to log on. If the usernames and passwords are not identical, users will be prompted to log on when they access the Process system as well as a Content Services or Image Services library.

Create a test workflow

1. If you have not already done so, define a workflow participant in your Image Services and Content Services security systems.
2. From an Open Client or FileNet Web Services client, open the Process Designer.

FileNet Web Services	FileNet Open Client
<ol style="list-style-type: none"> 1. On the FileNet Web Services Client page, click Process. 2. Select Designer. 3. At the logon prompt, log on as the workflow participant you defined in step 1. 	<ol style="list-style-type: none"> 1. On the FileNet Open Client page, click Process. 2. On the Tools tab, select Designer. 3. At the logon prompt, log on as the workflow participant you defined in step 1.

3. Click **Workflow Properties**  on the toolbar to display the Workflow Properties dialog.
4. In the WorkFlow Name field, type **Test**. In the Subject field, type **Test workflow**. Click **Close**.
5. To create a step:
 - a. Click **Create General Step**  on the Process Designer toolbar, then click anywhere in the map area to place the step.
 - b. In the Properties pane (right side of the window), change the step name (Step 1) to **Test step**.
 - c. In the Instructions field, type **Congratulate yourself!**.
6. For this configuration test, assign yourself as the participant for this Test step as follows:
 - a. In the Properties pane, ensure that **Participants** is selected, then click the **Add**  button.
 - b. On the Participants dialog, click **Users**, then select the workflow participant you defined (the user name you used to log on) and move that name to the right column, using the right arrow button.
 - c. Click **OK**.

7. To specify a route from the Launch step to Test step:
 - a. On the workflow map, point to the edge of the **LaunchStep** until the cursor changes to a route cursor.
 - b. Press and hold the mouse button and drag to the **Test step**. The route displays as a red arrow from the Launch step to the Test step.
8. On the **File** menu, select **Validate** to verify that the workflow has no errors.
9. Save the new workflow definition to the Content Services (CS) library and launch the workflow as follows:
 - a. On the **File** menu, select **Launch**.
 - b. On the **Save a workflow definition to Content Services** dialog box, under Document Name, enter a filename for the workflow definition. The system will append the extension.pep.
 - c. Click **Browse**, then locate a folder in your Content Services library.
 - d. With the selected folder open, click **Save**.
 - e. On the **Save a workflow definition to Content Services** dialog box, click **Next**.
 - f. Enter a title string, such as **First Test Workflow**, that will appear in the Content Services library as the document title. Click **Next**.
 - g. Give other users access to your workflow definition, if you wish. Do this as follows:
 - i. Select a user or group from the first drop-down list in the lower portion of the screen.
 - ii. Select an access level from the second drop-down list.
 - iii. Click the Add button.
 - iv. Click **Finish**. The Launch page displays.
10. On the Launch page, click **Launch**  to start the workflow, sending the Test step to the assigned participant (you).
11. Exit Process Designer by selecting **File > Exit**.
12. Process Designer displays a dialog box informing you that the workflow definition is checked out. Select **Cancel the checkout** and click **Cancel**.

13. Locate the work (Test Step) assigned to you as follows:

FileNet Web Services	FileNet Open Client
<ol style="list-style-type: none"> 1. On the FileNet Web Services client page, click Manager. (You are already logged on, so there is no logon prompt.) 2. Click on the folder with your user name, then open the Inbox to display the items in your workflow inbox. 3. Double-click the Test workflow item to open it. 4. Check the Instructions. 5. Click Complete <input checked="" type="checkbox"/> to complete the step and end the workflow. 	<ol style="list-style-type: none"> 1. On the FileNet Open Client page, click Process. 2. On the Tools tab, select Log on to workflow server. 3. At the logon prompt, log on as the workflow participant you defined in step 1. 4. Click Inbox 5. Double-click the Test workflow item to open it. 6. Click Complete to complete the step and end the workflow.

You have now run your first workflow. If you encountered problems running the workflow, log on to the [FileNet Worldwide Customer Support](#) web site and see the [Troubleshooting Guide](#).

Task 11: Perform additional configuration tasks

Once you have completed all applicable prior tasks listed in [“Installation Tasks” on page 12](#), review and complete, as appropriate, the tasks listed below to prepare the system for workflow activity.

- Create additional users and groups. Refer to [Configuring users and groups](#) in Help for Process Engine Administration.
- Set Process-specific site preferences in Open Client. Refer to Help for Open Client Administrators in the FileNet IDM group on the Start menu.
- Configure automatic workflow launch. Refer to [Automatic workflow launching](#) in Help for Process Engine Administration.
- Add any Content Services (CS) and Image Services (IS) libraries you will use for workflow activity (for example, a CS library where workflow definitions will be stored or an IS library containing files that will be routed as workflow attachments). Refer to Help for Open Client Administrators or Help for Administrators in the FileNet IDM group on the Start menu.
- (Windows only) Configure the Process Engine for automatic startup. Refer to [Configuring the Process Engine for automatic startup](#) in Help for Process Engine Administration.
- Configure email notification. Refer to [Email notification](#) in Help for Process Engine Administration.
- Set Process Engine runtime options. Refer to [Set runtime options](#).
- Set the default date/time mask for the Process Service. Refer to [General properties](#) in Help for Process Task Manager.
- Define additional isolated regions. Refer to [Using isolated regions to separate groups of users](#) in Help for Process Engine Administration.
- For each isolated region:
 - Define workflows. Refer to [Welcome to FileNet Process Designer](#) in Help for Process Designer.
 - Configure event logging options. Refer to [Configure event logging options](#).
 - Configure step processors. Refer to [Configure step processors](#).
 - Define and configure work queues. Refer to [Configuring work queues](#).
 - Define and configure component queues. Refer to [Configuring component queues](#).
 - Define and configure workflow rosters. Refer to [Configuring workflow rosters](#).

Task 12: Install the Process Analyzer Engine

Install prerequisite software

Prior to installing the FileNet Process Analyzer Engine software, you must:

- Install a Microsoft SQL Server 2000 Enterprise database. This database:
 - Can be local or remote from the Process Analyzer Engine.
 - Cannot be the same database instance used by the Process Engine.
 - Can use either the default instance or a named instance for Process Analyzer data.
 - Must be configured with *Mixed Mode* security.
 - Must be configured with a static TCP/IP port number.
- Install the following software on the server where you will install Process Analyzer Engine. As is noted below, these software requirements depend on whether the database is local or remote.

Database location relative to Process Analyzer Engine	Required software
Local	Microsoft Windows 2000 Server, Advanced Server, or DataCenter Server
	Microsoft Windows Scripting Engine
	Microsoft XML
	Microsoft SQL Server 2000 Analysis Services
Remote	Microsoft Windows 2000 Server, Advanced Server, or DataCenter Server
	Microsoft Windows Scripting Engine
	Microsoft XML
	Microsoft Data Access Components (MDAC)
	Microsoft SQL Server 2000 Desktop Engine (in the MSDE directory on the SQL Server 2000 installation media)
	Microsoft Analysis Manager (in the OLAP directory SQL Server 2000 installation media)

For version requirements for the prerequisite software, see the [eProcess Compatibility/Dependency/Hardware Matrix](#) on the [FileNet Worldwide Customer Support web site](#) (www.css.filenet.com).

Collect required information

Prior to installing and configuring the Process Analyzer Engine, collect the information you will need during installation and configuration:

- The documentation server URL.
- The port number that the Process Analyzer Engine will use to communicate with the Process Engine.

- The database server name, if the database is remote from the Process Analyzer Engine.
- The database instance name, if the Process Analyzer will use a named instance.
- The name of the Process Router on the web server.
- The username and password used to connect to the Process Router.

Install the Process Analyzer Engine Software

1. Ensure that the database this Process Analyzer Engine will use—whether local or remote—is running.
2. Log on as a user who has administrative privileges on both the local computer and the database that the Process Analyzer Engine will use.
3. Insert the installation CD. If Autorun is enabled, the Setup program starts. Otherwise, execute splashd.exe at the root directory of the CD.
4. Click **Install Process Analyzer Engine** to start the installation process.
5. If you do not have the required software prerequisites installed, a message listing the necessary software displays. Exit Process Analyzer setup, install the indicated software, then start this procedure again.
6. If you do not have JRE 1.4 installed, it installs at this time as described in steps a—e. Otherwise, skip to step 7.
 - a. The Java 2 Runtime Environment - InstallShield Wizard starts. At the Welcome screen, click **Next**.
 - b. Accept the license agreement to proceed with the installation.
 - c. At the Choose Destination Location screen, choose the destination drive and directory. Click **Next**.
 - d. At the Select Browsers screen, modify the selected default browsers, if desired. Click **Next**.
 - e. The install process then installs and configures the necessary files. When the installation completes, it briefly displays a “successful” message and returns to the **Process Analyzer Engine Installing Java Runtime Environment** screen. Click **Next** to continue with the Process Analyzer Engine installation process.
7. The Welcome screen appears. Click **Next**.
8. Accept the *License Agreement* to proceed with the installation.
9. At the Choose Destination Location screen, choose the destination drive and directory. Click **Next**.
10. Enter the Documentation Server URL. This is the location where the FileNet Process Documentation was installed in [Task 2 on page 14](#). This can also be the full path to the documentation if it was installed on a local drive. An example URL is:

 http://<web_server>:<port_number>/ecm_help

 where web_server is the name of the Microsoft IIS web server and port_number is the web server port number.
11. Select the options that apply to the database this Process Analyzer Engine will use:
 - Remote Database
 - Named Database Instance
 After making your selections, or if neither option applies, click **Next**.

12. Specify the port that the Process Analyzer Engine will use to communicate with the Process Engine. Depending on your selections in the previous step, you might also be prompted for a database server name and/or a database instance name.

Port: Accept the default port number of 32772 or enter a different number.

Database Server Name: Required if you selected *Remote Database* in the previous step.

Database Instance Name: Required if you selected *Named Database Instance* in the previous step.

Click **Next**.

13. The install process installs and configures the necessary files; upon completion, the Setup Complete dialog screen displays.

Configure services for remote Process Analyzer database

If the Process Analyzer Engine uses a remote database, you must configure the AEEEngine, SQLServerAgent, and MSSQLServer services as follows.

Service	Configuration requirement
AEEEngine	Must log on as a user who has administrative access to the OLAP database.
SQLServerAgent	Must log on as a user who has administrative access to the OLAP database.
MSSQLServer	Must log on as a user who has administrative access to the Process Analyzer database.

Configure the Process Analyzer Engine

1. In Windows, navigate to **Control Panel > Administrative Tools > Services** and verify that both **AEEEngine** and **VMAE Publisher Service** have not been started.
If either service is running, right-click the service name, click **Properties**, and choose **Stop**.
2. From **Start/Programs/FileNet P8 Platform/Process Analyzer**, start the **Process Analyzer Engine Configuration Tool**.
3. In the Server Information section on the General tab, enter router and user information to enable the user lookup option. For details about this option and the required entries, click **Help** and navigate to *Process Analyzer Engine Configuration Tool/Specify general properties*.
4. If you have upgraded from version 1.0, you must enter the information necessary to access the database using SQLServer authentication. In the Database Information section on the General tab, enter the database login name and password. For details about this option and the required entries, click **Help** and navigate to *Process Analyzer Engine Configuration Tool/Specify general properties*.
5. As desired, configure additional Process Analyzer options. For details, navigate to *Process Analyzer Engine Configuration Tool* in the help.
6. Close the Configuration Tool to save your changes.
7. Start the Process Analyzer services.
 - a. In Windows, navigate to **Control Panel > Administrative Tools > Services**.

- b. Right-click the **AEEngine** service, click **Properties**, and choose **Start**.
 - c. Right-click the **VMAE Publisher Service**, click **Properties**, and choose **Start**.
8. Use the Microsoft Analysis Manager to grant the appropriate users access to the Process Analyzer database. For further information and a sample procedure:
 - a. From **Start/Programs/FileNet P8 Platform/Process Analyzer**, start the **Process Analyzer Configuration Help**.
 - b. In the help, navigate to *Administrative Tasks/As needed tasks/Grant access rights*.

Configure the Process Engine

1. From **Start/Programs/FileNet P8 Platform/Process Engine**, start the Process Task Manager.
2. If the Process Service is running, stop it by selecting the Process Service node and clicking **Stop** on the toolbar.
3. Select the Process Service node in the left panel, then select the **Server Connections** tab in the Properties panel.
4. Enter the host name of the **Process Analyzer Engine** and the **Process Analyzer Port**. The port must be the same number you entered in step 12 of [“Install the Process Analyzer Engine Software” on page 70](#).
5. Click **Apply** to save your changes.
6. Start the Process Service by selecting the Process Service node and clicking **Start** on the toolbar.

Enable the Process Analyzer

1. On a client computer (not the web server), start the Process Configuration Console:
 - a. Select **Process** on the FileNet Web Services Client or Open Client page.
 - b. Select **Process Configuration Console**.
2. Right-click the icon of the VWService and select **Properties**.
3. On the **Runtime Options** tab, check the **Enable Process Analyzer** box. For more information about this option, open Help from the menu bar and navigate to *VWServices/Set runtime options*.
4. Click **OK** to save your changes.
5. To make the changes take effect, use Process Task Manager on the Process Engine to restart the Process Service.

Task 13: Install the Process Analyzer Client

The Process Analyzer client software consists of out-of-the-box reports and templates. You can install the Process Analyzer client in a single location that multiple end users will access or on each end user workstation. Determining factors should be the number of end users who will access the reports and the sophistication of those users.

Important notes

- The client user must be in the same domain as the Process Analyzer Engine/SQL Server user in order to connect to the Process Analyzer Engine.
- During Process Analyzer client installation, you will need the name of server where the Process Analyzer database is located and (if applicable) the named database instance used.

Install prerequisite software

Microsoft Excel with query analyzer and pivot table support must be installed on the Process Analyzer client machine and all end user workstations that will access the out-of-the-box reports or create reports. For Excel version requirements, see the [eProcess Compatibility/Dependency/Hardware Matrix](http://www.css.filenet.com) on the [FileNet Worldwide Customer Support web site](http://www.css.filenet.com) (www.css.filenet.com).

If necessary, you can install Pivot Table Services from the **Process Analyzer** CD-ROM:

1. Load the installation CD-ROM into the CD-ROM drive. Select **Install Pivot Table Services** to start the installation process.
2. At the Welcome screen, click **Next**.
3. The install process installs the necessary files. When the Setup Complete window for Microsoft SQL Server 2000 Pivot Table Services appears, click **Finish**.

Install and configure the Process Analyzer Client software

1. Load the **Process Analyzer** CD-ROM into the CD-ROM drive.
2. Select **Install Process Analyzer Client**.

If you do not have the required software prerequisites installed, a message displays, listing the necessary software. See [“Install prerequisite software” on page 73](#) for further information. You can restart this process after installing the indicated software.

3. At the Welcome screen, click **Next**.
4. Accept the *License Agreement* to proceed with the installation.
5. Indicate the destination drive and directory. Click **Next**.
6. Enter the Documentation Server URL. This is the location where the Process Documentation for FileNet Image Manager was installed. This can also be the full path to the documentation if it was installed on a local drive. An example URL is:

http://docserver:port#/ecm_help

where docserver is the name of the Java web server, port# is the port number and ecm_help is the root folder of the documentation website.

7. When all the files have been installed, the Setup Complete screen displays. To configure the out-of-the-box reports for your system, check the box to **Run the Process Analyzer Client Configuration Tool**, and click **Finish**.

TIP If you forget to check the box prior to clicking **Finish**, you can access the configuration tool referenced in steps 8—11 from the Start menu on the Process Analyzer Client machine once the Setup Complete screen closes. From the Start menu, navigate to *Programs/FileNet P8 Platform/Process Analyzer/Process Analyzer Client Configuration Tool*.

8. Enter the name of the server where the Process Analyzer database is located. Depending on whether the Process Analyzer Engine has a local or remote database, your entry will be the name of either:
 - the server where the Process Analyzer Engine software was installed, or
 - the remote database server used by the Process Analyzer Engine
9. If the Process Analyzer Engine uses a named instance of the database, enter the name of that instance. If the default database instance is used, no entry is required.
10. The folder where Setup installed the out-of-the-box reports is listed in the **Report Folder** field. It is not necessary to modify this field unless you moved the reports (outside of Setup).
11. Click **Configure**.

The Client Configuration Tool configures the out-of-the-box reports (Excel spreadsheets) in the **Report Folder** field as well as all reports in all folders one level below the indicated folder.

Following configuration, on the Process Analyzer client machine you can view and modify the sample reports or create new reports. For details, see the *Process Analyzer User Guide* (accessible from *Start/Programs/FileNet P8 Platform/Process Analyzer*).

12. Optionally, make the reports available to remote workstations by sharing the drive where the reports are located on the network, saving the reports to a network drive, or saving the reports to an object store. If you take one of these actions, you must tell end users:
 - To ensure that the prerequisite software is installed on their workstations. See [“Install prerequisite software” on page 73](#) for details.
 - Where the reports are located.
 - How to access the *Process Analyzer User Guide* on the documentation server you specified in step 6. The top-level file is ecm_help\pa_help\userguide.htm.

Task 14a: Enable Rules Engine integration

Enabling the Rules Engine integration consists of:

- Enabling the Rules Engine interface in the Process Task Manager and Process Configuration Console.
- Configuring the Rules Builder startup file. For information about using the Rules Builder startup file, see [Starting ILOG Rules Builder](#) in the Process Reference help.

Instructions for each of these procedures appear below. For information about using Rules, see [About Business Rules](#) in the Process Reference help.

Important notes:

During the Process Engine installation procedure, the setup program asked if you wanted to configure the Rules Engine interface. If you answered No or if you left the JRules path information blank, you can enable the Rules Engine integration manually. For instructions on manually enabling Rules Engine, see [Task 14b on page 77](#). If you answered Yes and entered the JRules path, continue with the steps below.

To enable the Rules Engine interface

- Start Process Task Manager on the Process Engine.
 - Windows: Select **Start > FileNet P8 Platform > Process Engine > Process Task Manager**.
 - UNIX: Enter **vwtaskman** from the command prompt.
- Select **Process Service** in the left pane (also known as the feature pane). If the Process Service is running, right-click on **Process Service** and select **Stop** from the context menu.
- Select the Server Connections tab and modify the Rules Engine fields as appropriate. For details, click the **Help** button and navigate to *Process Service/Server Connections*.
- Restart the Process Service by right-clicking on **Process Service** and select **Start** from the context menu.
- Select **Rules Engine** in the feature pane.
- Modify the Rules Engine properties as appropriate. For details, click the **Help** button and navigate to *Rules Engine/General properties*.
- Click **Start** on the toolbar.
- Open the Process Configuration Console.

FileNet Web Services	FileNet Open Client
<ol style="list-style-type: none">On the FileNet Web Services Client page, click Process.Select Configuration Console.Log on as a member of the SysAdminG group.	<ol style="list-style-type: none">On the FileNet Open Client page, click Process.On the Tools tab, select Configuration Console.Log on as a member of the SysAdminG group.

NOTE If your computer does not have the appropriate Java Runtime Environment (JRE) installed, you will be prompted to download the JRE the first time you run any of the Process Java applications:

Process Designer, Process Configuration Console, Process Administrator, and so on. The JRE needs to be downloaded only once. During installation of the JRE, de-select the Internet Explorer option on the Select Browsers screen. If you are using Netscape 6, select the Netscape 6 option on the Select Browsers screen. For additional information see [Install the Java Runtime Environment](#) in the Process Reference help.

9. In the left pane, locate the VW host for which you want to enable Rules Engine support and right-click on one of the routers located under it.
10. Select **Connect** from the context menu.
11. In the left pane, right-click on the VW host and select **Properties** from the context menu.
12. Select the **Runtime Options** tab.
13. Select the **Enable Rules** check box and click **OK**.
14. Select **File > Exit** from the Process Configuration Console menu. Note that in FileNet Open Client you must manually close the window.
15. Start the Process Task Manager and restart (stop and start) the Process Service.

To configure the Rules Builder startup file

1. Change permission for the startup file (runilog.bat on Windows or runilog on UNIX) to writable. The default location of the startup file is:
 - (Windows) \fnsw_loc\connectors\ILOG\runilog.bat
 - (UNIX) /fnsw/local/connectors/ILOG/runilog
2. Edit the startup file and update the path information in the JDKHOME, ILRHOME, FNJARDIR entries as appropriate for your system.
 - JDKHOME indicates the location of JRE 1.4.0.
 - ILRHOME indicates the location of JRules 4.0.
 - FNJARDIR indicates the location of the Rules Engine program files and folders.

For example:

(Windows)

```
JDKHOME=C:\Program Files\Java\j2re1.4.0
ILRHOME=D:\ILOG\JRules40
FNJARDIR=E:\fnsw_loc\connectors\ILOG
```

(UNIX)

```
JDKHOME=/usr/j2re1.4.0_04
ILRHOME=/opt/ILOG/JRules40
FNJARDIR=/fnsw/local/connectors/ILOG
```

3. Save the modified file.

Task 14b: Enable Rules Engine integration manually

If you elected not to configure Rules Engine interface when installing the Process Engine or if you left the JRules path information blank, you can enable the Rules Engine integration manually without reinstalling Process Engine by:

1. Editing the taskman.properties file and the fnrules.properties file so that Rules Engine can find the necessary files.
2. (UNIX only) Assigning ownership of /fnsf/local/connectors and its subdirectories to the fnsf user.
3. Enabling the Rules Engine interface in the Process Task Manager and Process Configuration Console.
4. Configuring the Rules Builder startup file. For information about using the Rules Builder startup file, see [Starting ILOG Rules Builder](#) in the Process Reference help.

Instructions for each of these procedures appear below. For information about using Rules, see [About Business Rules](#) in the Process Reference help.

To edit the taskman.properties and fnrules.properties files

1. On the Process Engine, open the taskman.properties file in a text editor and add the following lines. The taskman.properties file is located in /fnsf/bin (UNIX) or <install drive>\fnsf\bin (Windows).

```
TaskManager.RulesEngine=true

TaskManager.RulesEngine.ClassPath=<connector_home>/re.jar;<connector_home>/ri.jar;
<connector_home>/fnbal.jar;<jrules_home>/lib/jmi.jar;<jrules_home>/lib/xmlbinding.jar;
<jrules_home>/lib/logging.jar;<jrules_home>/lib/xalan.jar;<jrules_home>/lib/rulesall.jar

TaskManager.RulesEngine.Props=<connector_home>/fnrules.properties
```

where

<jrules_home> is the location where JRules is installed.

<connector_home> is the location where the Rules Engine is installed. The default location in Windows is <install drive>:\FNSF_LOC\connectors\ILOG\ . The default location in UNIX is /fnsf/local/connectors/ILOG.

NOTE When entering the TaskManager.RulesEngine.ClassPath and TaskManager.RulesEngine.Props statements on UNIX, replace the semicolons shown in the above example (;) with colons (:).

2. Save and close the file.
3. Open the fnrules.properties file in a text editor and edit the following lines. The fnrules.properties file is located in /fnsf/local/connectors/ILOG (UNIX) or <install drive>:\fnsf_loc\connectors/ILOG (Windows).

```
JRULES_HOME = <jrules_home>

JRULES_CONNECTOR.HOME = <connector_home>

JRULES_CONNECTOR.REPOSITORY_HOME = <connector_home>/repositories

JRULES_CONNECTOR.RULES_HOME = <connector_home>/rules
```

4. Save and close the file.

(UNIX only) To assign ownership of /fnsw/local/connectors and its subdirectories to the fnsw user

- At the command prompt, execute the following command:

```
chown -R fnsw:fnusr fnsw/local/connectors
```

To enable the Rules Engine interface

- Start Process Task Manager on the Process Engine.
 - Windows: Select **Start > FileNet P8 Platform > Process Engine > Process Task Manager**.
 - UNIX: Enter **vwtaskman** from the command prompt.
- Select **Process Service** in the feature pane. If the Process Service is running, right-click on **Process Service** and select **Stop** from the context menu.
- Select the Server Connections tab and modify the Rules Engine fields as appropriate. For details, click the **Help** button and navigate to *Process Service/Server Connections*.
- Restart the Process Service by right-clicking on **Process Service** and select **Start** from the context menu.
- Select **Rules Engine** in the feature pane.
- Modify the Rules Engine properties as appropriate. For details, click the **Help** button and navigate to *Rules Engine/General properties*.
- Click **Start** on the toolbar.
- Open the Process Configuration Console.

FileNet Web Services	FileNet Open Client
<ol style="list-style-type: none"> On the FileNet Web Services Client page, click Process. Select Configuration Console. Log on as a member of the SysAdminG group. 	<ol style="list-style-type: none"> On the FileNet Open Client page, click Process. On the Tools tab, select Configuration Console. Log on as a member of the SysAdminG group.

NOTE If your computer does not have the appropriate Java Runtime Environment (JRE) installed, you will be prompted to download the JRE the first time you run any of the Process Java applications: Process Designer, Process Configuration Console, Process Administrator, and so on. The JRE needs to be downloaded only once. During installation of the JRE, de-select the Internet Explorer option on the Select Browsers screen. If you are using Netscape 6, select the Netscape 6 option on the Select Browsers screen. For additional information see [Install the Java Runtime Environment](#) in the Process Reference help.

- In the scope pane, locate the VW host for which you want to enable Rules Engine support and right-click on one of the routers located under it.
- Select **Connect** from the context menu.
- In the scope pane, right-click on the VW host and select **Properties** from the context menu.
- Select the **Runtime Options** tab.

13. Select the **Enable Rules** check box and click **OK**.
14. Select **File > Exit** from the Process Configuration Console menu and then close the window.
15. Start the Process Task Manager and restart (stop and start) the Process Service.

To configure the Rules Builder startup file

1. Change permission for the startup file (runilog.bat on Windows or runilog on UNIX) to writable. The default location of the startup file is:
2. Edit the startup file and update the path information in the JDKHOME, ILRHOME, FNJARDIR entries as appropriate for your system.

(Windows) \fnsw_loc\connectors\ILOG\runilog.bat
 (UNIX) /fnsw/local/connectors/ILOG/runilog

- JDKHOME indicates the location of JRE 1.4.0.
- ILRHOME indicates the location of JRules 4.0.
- FNJARDIR indicates the location of the Rules Engine program files and folders.

For example:

(Windows)

JDKHOME=C:\Program Files\Java\j2re1.4.0
 ILRHOME=D:\ILOG\JRules40
 FNJARDIR=E:\fnsw_loc\connectors\ILOG

(UNIX)

JDKHOME=/usr/j2re1.4.0_04
 ILRHOME=/opt/ILOG/JRules40
 FNJARDIR=/fnsw/local/connectors/ILOG

3. Save the modified file.

Task 15: Install patches for optional components

Install any patches or *SS fixes required for the Process Analyzer or Rules Engine Integration. To determine whether additional patches or *SS fixes are needed, contact the FileNet Response Center (FRC) or go to the [FileNet Worldwide Customer Support web site](http://www.css.filenet.com) (www.css.filenet.com) and navigate to **Download Patches/FileNet Products/Process Analyzer** or, for Rules Engine Integration, **Download Patches/FileNet Products/eProcess**.

Removing the Process Engine (Windows)

WARNING You must remove the software in the order listed below. Removing Image Services (step 6) prior to removing the Process Engine (step 3) will leave the Process Engine software in a state that will not allow removal with this procedure.

1. Use Process Task Manager to stop any of the following components that are running, in the order listed:

Any custom applications that require the router
 CrossWorlds Connector
 Component Manager
 Application Engine
 Content Engine (because of Workflow Launch Service)
 Process Simulator
 Process Analyzer
 Routers
 PPM
 Process Service

2. Start the **Control Panel > Add/Remove Programs**.
3. Click **Remove** for the Process Engine application.
4. Click **Yes** to confirm you want to remove the Process Engine installation.
5. Click **Finish**.
6. Click **Remove** for the FileNet Image Services 4.0.0 software.
7. Click **Yes** to confirm you want to remove the Image Services software.
8. Press **Enter** to continue with the uninstall.
9. Close the Add/Remove window.
10. Close the Control Panel.

If you will re-install the Process Engine and will configure the Process Engine to use a different MS-SQL database, you must also remove the database that was previously configured (and so will lose all data in that database).

In addition, you must remove the following FileNet user ids from the SQL Server Security folder before re-installing Process Engine software:

- f_sw
- f_cso
- f_maint
- f_open
- f_operator
- f_sqi

Removing Process Java Applets and Connectivity (PJAC)

The PJAC Setup program created an Uninstall program during the PJAC installation process. You can use this Uninstall program to remove the PJAC software, registry entries, and menu icons from your system. Note that the PJAC Uninstall program does not remove JRE 1.3.1 or the FileNet Process documentation.

To remove PJAC from your system

1. Log on as the local Windows administrator.
2. Start the PJAC Uninstall program by doing one of the following.
 - Select **Start > Settings > Control Panel > Add/Remove Programs**. Select **Process Java Applets and Connectivity (PJAC)** from the list box and click **Change/Remove**.
 - In Windows Explorer, navigate to C:\Program Files\FileNet\PJAC_uninst and double-click on the Uninstall program.

NOTE If you are uninstalling PJAC Standalone, the Uninstall program is located in PJAC_uninst folder where you installed PJAC.

3. Click **Next** on the Welcome dialog.
4. Select the PJAC components you want to uninstall and click **Next**.
5. Review the summary screen and click **Next**.

NOTE If you are uninstalling all PJAC components, the Uninstall program display a series of prompts asking you to confirm the removal of the following files. You may want to keep one or more of these files if you plan to reinstall PJAC after upgrading to a newer version of FileNet Web Services or FileNet Open Client.

- taskman.properties
This file stores the property settings for the Process Task Manager.
 - taskman.policy
taskman.login.properties
(PJAC for Web Services and PJAC for Open Client only) This file specifies the Component Integrator functionality.
 - Process Help.url
This file is an internet shortcut for the Process online help.
 - Developer's Guide.url
(PJAC Standalone only) This file is an internet shortcut for the Process Developer's Guide online help.
6. Setup removes the PJAC components you selected. An information dialog appears when the PJAC Uninstall program is complete.
 - (PJAC for Web Services and PJAC for Open Client) Click **Next** to continue. You must restart the computer in order to complete the uninstall. To restart the computer, select **Yes, restart my computer** and click **Finish**.
 - (PJAC Standalone) Click **Finish** to complete the uninstall process.

Removing the Process Analyzer Engine

Before removing the Process Analyzer Engine, you must stop the AEEEngine and VMAE Publisher services.

To stop the Process Analyzer services:

1. Start the **Control Panel > Administrative Tools > Services**.
2. Right-click the **AEEEngine** service and choose **Stop**.
3. Right-click the **VMAE Publisher Service** and choose **Stop**.

To remove the Process Analyzer Engine:

1. Start the **Control Panel > Add/Remove Programs**.
2. Click **Remove** for the **FileNet Process Analyzer Engine** application.
3. Click **Yes** to confirm you want to remove the Process Analyzer Engine installation.
4. Click **Finish**.
5. Close the Add/Remove window.
6. Close the Control Panel.

Removing Rules Engine Integration

Before removing the Rules Engine integration, modify your workflows so that they produce the results you expect without using rules. Once you remove the Rules Engine integration, any workflows that use rules will run without exception but will not execute the rules.

To remove the Rules Engine integration

1. Stop the Rules Engine.
 - a. On the Process Engine, start Task Manager by selecting **Start > Programs > FileNet P8 Platform > Process Engine > Process Task Manager**.
 - b. Right-click on **Rules Engine** and select **Stop** from the context menu.
 - c. Right-click on **Process Service** and select **Stop** from the context menu.
 - d. Select the **Server Connections** tab and clear the entries in the Rules Engine fields.
 - e. Restart the Process Service by right-clicking on **Process Service** and select **Start** from the context menu.
2. Disable the Rules Engine integration.
 - a. Open the Process Configuration Console.

FileNet Web Services	FileNet Open Client
<ol style="list-style-type: none"> 1. On the FileNet Web Services Client page, click Process. 2. Select Configuration Console. 3. Log on as a member of the SysAdminG group. 	<ol style="list-style-type: none"> 1. On the FileNet Open Client page, click Process. 2. On the Tools tab, select Configuration Console. 3. Log on as a member of the SysAdminG group.

NOTE If your computer does not have the appropriate Java Runtime Environment (JRE) installed, you will be prompted to download the JRE the first time you run any of the Process Java applications: Process Designer, Process Configuration Console, Process Administrator, and so on. The JRE needs to be downloaded only once. During installation of the JRE, de-select the Internet Explorer option on the Select Browsers screen. If you are using Netscape 6, select the Netscape 6 option on the Select Browsers screen. For additional information see [Install the Java Runtime Environment](#) in the Process Reference help.

- b. In the left pane, locate the VW host that is using Rules Engine and right-click on one of the routers located under it.
- c. Select **Connect** from the context menu.
- d. In the left pane, right-click on the VW host and select **Properties** from the context menu.
- e. Select the **Runtime Options** tab.
- f. Clear the **Enable Rules** check box and click **OK**.
- g. Select **File > Exit** from the Process Configuration Console menu. Note that in FileNet Open Client you must manually close the window.

- h. Start the Process Task Manager and restart (stop and start) the Process Service.
3. Remove Rules Engine from the Task Manager feature pane.
 - a. On the Process Engine, open the taskman.properties file in a text editor and delete the following lines. The taskman.properties file is located in /fnsb/bin (UNIX) or <install drive>:\fnsb\bin (Windows).
 - TaskManager.RulesEngine
 - TaskManager.RulesEngine.ClassPath
 - TaskManager.RulesEngine.Props
 - b. Save and close the file.
 - c. If the Task Manager window is open, close and reopen the window for the changes to take effect.
4. Uninstall iLog JRules.
 - Windows
 - a. Select **Start > Settings > Control Panel > Add/Remove Programs**. Select **ILOG JRules** from the list box and click **Change/Remove**.
 - b. The ILOG JRules uninstaller starts. Follow the instructions on the screen to uninstall JRules.
 - UNIX

Execute UnInstallJRules40 from <ILOG installed dir>/UninstallerData. For example, if ILOG JRules is installed under /export/home/ILOG/JRules40, execute /export/home/ILOG/JRules40/UninstallerData/UnInstallJRules40 to uninstall JRules.
5. (Optional) Remove the Rules Engine repository files. The repository files are located under the Rules repository root folder; fnsb_loc\connectors\ILOG\ on Windows or fnsb/local/connectors/ILOG/ on UNIX.

NOTE Delete only the files and folders under the root folder. Do not delete the Rules repository root folder itself.