



Panagon WorkFlo Services for UNIX Installation Handbook

**Release 5.0.0
September 2002**

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Please take a few moments to read the License Agreement in "[Appendix A – Software License Agreement](#)" on page 37. By installing the **Panagon software**, the customer agrees to be bound by the terms of this agreement.

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About This Manual

This manual accompanies Release 5.0.0 of Panagon WorkFlo Services and provides information about installing and configuring that product, as well as setting up an eProcess system.

Conventions Used in the eProcess Documentation

The eProcess documentation uses a few special conventions.

- The form “Alt+T” describes keystrokes done in combination. This means “Hold down the Alt key and press T.” Note that the “T” can be uppercase or lowercase, unless otherwise stated. For example, Alt+Shift+T means uppercase T.
- Alt T (no “+” sign) means press the Alt key, release, then press the T key.
- *Italic* type indicates the titles of books or manuals recommended for further information.
- References to Panagon Image Services (IS) documentation are to the release 3.6 and 3.6 SP1 versions of that documentation.
- Within a manual, underlined text indicates a hyperlink to another topic within the manual. For example, [“Education” on page 6.](#)
- The term eProcess refers collectively to Panagon WorkFlo Services, Panagon Web WorkFlo, and other modules associated with WorkFlo Services or Web WorkFlo.
- Certain product names are abbreviated as shown below.

- Designer, for eProcess Designer
- Administrator, for eProcess Administrator
- Tracker, for eProcess Tracker
- Configuration Console, for eProcess Configuration Console
- Personal Work Manager, for eProcess Personal Work Manager
- Image Services or IS, for Panagon Image Services
- Content Services or CS, for Panagon Content Services

Education

FileNET provides various forms of instruction. Please visit the Global Learning Services in FileNET's Service & Support area at www.filenet.com.

Comments and Suggestions

FileNET invites all customers to communicate with the Documentation group on any question or comment related to FileNET manuals and online help. Just fax, phone, mail, or email any question or comment to Mike Calvert at one of the numbers or addresses listed below. We guarantee a response to each communication within one week. Your suggestions help us improve the products we deliver.

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1

Before You Install

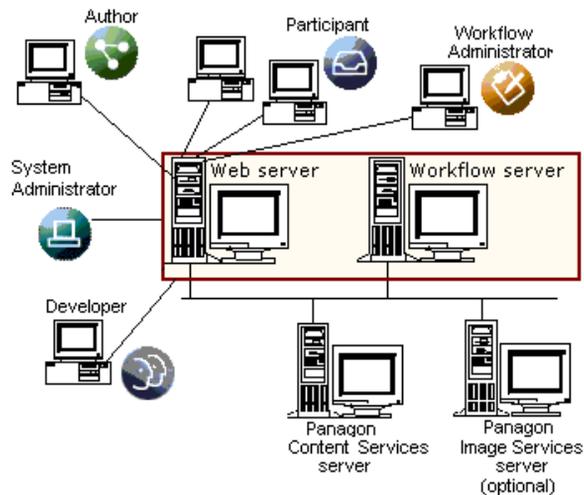
This *Panagon WorkFlo Services for UNIX Installation Handbook* includes procedures for installing and configuring Panagon WorkFlo Services for AIX, HP-UX, and Sun Solaris. As appropriate, see either the *Panagon Web WorkFlo Installation Handbook* or the *Panagon Open Client Help for Administrators*.

Prior to beginning the installation, we recommend that you:

- Read this entire chapter, other chapters, and appendices appropriate to your desired configuration. Setting up an eProcess system is a multi-part process; you should understand the steps required (and the system structure) before beginning the procedures.
- Read the release notes for both Panagon eProcess and Image Services. See the most current version of release notes on the FileNET website at <http://www.css.filenet.com>. Once you log on to the site, proceed to: *Product Info > Panagon > eProcess > Release Information*.
- Be prepared to reference additional documents as needed. For operating system or database documentation, refer to the appropriate vendor documentation. For IS and other FileNET documentation, access FileNET's CSS website: <http://www.css.filenet.com>. Once you log on to the site, proceed to: *Product Info* and select the appropriate product links.

eProcess System Overview

An eProcess system includes software that is installed and configured on workflow and web servers. End users and developers access the eProcess 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.



Workflow Server

A workflow server runs the Panagon WorkFlo Services software, which enables eProcess activity within a FileNET domain.

Web Servers

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

- Panagon Web Services with ActiveX Client and Panagon Web WorkFlo
- Panagon Open Client with eProcess Integration

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 workflow server 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 Servers

Every eProcess system must include at least one Content Services (CS) server where workflow definitions and link information are stored. An eProcess system uses CS versioning functionality and (optionally) stored CS documents as attachments in a workflows. You can optionally configure additional CS libraries containing documents used as workflow attachments.

Remote Database Server

An eProcess system can include a remote Oracle database.

Application Server

An eProcess system with Imaging configuration can optionally include an application server, where WorkFlo Services is installed only on the application server.

Image Services Libraries

Users can use images from IS libraries as workflow attachments.

SMTP Server

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

System Prerequisites

All eProcess systems must meet the hardware, software, and applicable configuration requirements documented in the eProcess Compatibility/Dependency/Hardware Matrix. The current matrix is located at: <http://www.css.filenet.com/products.asp?id=974954286&mainFolderID=1000157883>.

In addition, to meet the requirements in the matrix:

- For an eProcess with Imaging system, you must install and configure Image Services (IS) and its database prior to undertaking any procedures in this manual. See the appropriate Panagon Image Services Installation and Configuration Procedures for your UNIX platform.
- You must install any required patches or *SS fixes for WorkFlo Services, Web WorkFlo, Image Services, or Content Services before running the system. To determine whether any patches or *SS fixes are needed, contact the FileNET Response Center (FRC) or see the FileNET CSS website at <http://www.css.filenet.com>.
- Each workflow server must have a static IP address, as required by WorkFlo Services. The use of dynamic IP addresses (DHCP) is not supported.
- Each workflow server's domain name can have a maximum of 128 characters and should contain only ASCII alpha-numeric characters and hyphens; using non-alphanumeric or underscore characters is not recommended. In addition, if a workflow server will be clustered, its name should not include hyphens.

Conforming to these conventions prevents server names from changing when NCH crosses a router to find a server. When cross

ing a router, NCH converts the server's domain name to an IP host name using specific criteria, including dropping all non-alphanumeric and underscore characters. In cluster configurations, hyphens are also dropped. As a result, a name containing these dropped characters would not be converted correctly.

- A remote database server must have the same operating system and service pack level as the workflow server. In addition, both servers must use the same version of the database software.
- If you plan to use images stored in Image Services (IS) libraries as attachments in workflows, those libraries must run IS release 3.6.0.
- A minimum of 200 MB of disk space must be available for creation of the WorkFlo Services database.

2

Installing WorkFlo Services on a Root IS Server

This chapter contains installation and configuration procedures for installing WorkFlo Services on an Image Services (IS) root server. If you are instead installing WorkFlo Services on an IS application server, see [“Appendix B – Installing an Application Server” on page 41](#).

Note If you need to uninstall Panagon WorkFlo Services, you must execute the uninstaller program. Using any other method will cause discrepancies in the operating system and prevent reinstalling. To uninstall, execute the following file as the root user:
`/fnsw/_pws_uninst/pws_uninstall.bin`.

Prior to beginning any installation or configuration procedures, make sure you have read and understand [Chapter 1, “Before You Install,” on page 8](#).

Image Services 3.6 with Service Pack 1 must be installed on AIX, HP-UX, and Solaris servers prior to installation of WorkFlo Services.

Refer to the following server-specific procedures to install Panagon WorkFlo Services:

- [“Installing WorkFlo Services on an AIX Server” on page 15](#)
- [“Installing WorkFlo Services on a Solaris Server” on page 19](#)
- [“Installing WorkFlo Services on an HP-UX Server” on page 23](#)

Installing WorkFlo Services on an AIX Server

This procedure assumes you have already installed and configured the Image Services software and Oracle database. You must also have Java version 1.3.0 installed and set up for the root and fnsw users.

- 1 Shut down the FileNET and Oracle software on the system and verify that you have Java installed by executing the following steps:
 - a Log on as the **root** user if you are not logged on.
 - b As the **root** user, verify that you have Java installed by entering:
java -version
 - c As the **root** user, enter the following to shut down the FileNET software:
initfnsw -y stop
 - d Enter the following after the FileNET software is shut down:
killfnsw -A -D
- 2 Make sure the Info Explorer is not mounted on the CD. If it is, unmount it.

- 3 Make sure the `/fns` and `/fns/local` file systems are mounted before you install the WorkFlo Services software. At the system prompt, type **mount** to see a list of what is currently mounted.
- 4 Insert the *Panagon WorkFlo Services for AIX* CD in the appropriate drive. Wait for the light to stop flashing.
- 5 Mount the `CD_ROM` filesystem by doing the following sub-steps a–d:

- a At the prompt, type the following command:

```
lsdev -C | grep cd
```

A message similar to the following will display. Make sure the CD-ROM drive is available:

```
cd0 Available 00-08-00-3,0 CD-ROM Drive
```

- b Create a directory to mount the CD-ROM drive:

```
mkdir /cdrom
```

- c Mount the CD-ROM drive to the directory you just created:

```
mount -rv cdrfs /dev/cd0 /cdrom
```

where `/dev/cd0` is the device name.

- d To make sure the CD-ROM is mounted correctly, type:

```
mount
```

You should see the CD-ROM device listed.

- 6 Start Panagon WorkFlo Services Setup by doing either of the following:
 - a Double-click the icon labeled **setupaix.bin**.
 - b From the CD-ROM drive, execute **setupaix.bin**. For example, you might enter:

```
/cdrom/setupaix.bin
```

- 7 The installation screen appears. Click **Next**.
- 8 Accept the FileNET license agreement and click **Next** to proceed.
- 9 A list of components and disk space requirements is displayed. Click **Next**.
- 10 The installation executes. Click **Finish** when complete.
- 11 Unmount the CD by entering the following command as the **root**:

```
umount /cdrom
```
- 12 Remove the CD from the drive.
- 13 Set the following environment variables for the **fnsww user**. Note that Netscape must be installed in the path to view help on the workflow server:
 - LIBPATH
 - CLASSPATH

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 1.3.0, with Java installed in /usr/java130:

```
LIBPATH=$LIBPATH:/usr/java130/jre/bin:/fnsw/lib/shobj
export LIBPATH
```

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

- 14** As the **fnsw** user, verify your Java installation by typing:

```
java -version
```

Note The Java version must be 1.3.0. If the Java version is not 1.3.0, or there is no response, verify that Java is installed correctly.

- 15** Verify that permission settings for workflow files in the following directories are set as follows:

```
/fnsw/bin          -rwsr-s
```

```
/fnsw/lib/shobj    -rwxr-s
```

If permission settings are not correct, log on as **root** and change them by entering this command:

```
fn_setup -d /
```

- 16** You can optionally use a browser to view the documentation installed on the workflow server. Documentation includes Help for eProcess Administrators, Help for eProcess Task Manager, Help for vwlog, and Help for vwtool. Change your directory with this command:

cd /fnsw/lib/wf_help

In /fnsw/lib/wf_help, open the file for the help system you want to view:

- admin_hb.htm
- taskmanager.htm
- vwlog.htm
- vwtool.htm

Note that the documentation installed on the workflow server is a subset of the Panagon WorkFlo Services and Web WorkFlo (collectively referred to as eProcess) documentation. The entire set of eProcess documentation is available on the FileNET CSS website at <http://www.css.filenet.com>.

Install any patches or *SS fixes required for Image Services or Panagon WorkFlo Services. 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>.

The installation of WorkFlo Services on the AIX server is complete at this point. Proceed to [“Configuring the Workflow Server” on page 28](#).

Installing WorkFlo Services on a Solaris Server

This procedure assumes you have already installed and configured the Image Services software and Oracle database. You must also have Java version 1.4 installed and set up for the root and fnsw users.

- 1 Shut down the FileNET and Oracle software on the system and verify that you have Java installed by executing the following steps:

a Log on as the **root** user, if you are not logged on, and start X Windows.

b As the **root** user, verify that you have Java installed by entering:

java -version

c As the **root** user, enter the following to shut down the FileNET software.

initfnsw -y stop

d Enter the following after the FileNET software is shut down.

killfnsw -A -D

2 Insert the *Panagon WorkFlo Services for Solaris* CD in the appropriate drive. Wait for the light to stop flashing.

3 Start Panagon WorkFlo Services Setup by doing either of the following:

a Double-click the icon labeled **setupsun.bin**.

b From the CD-ROM drive, execute **setupsun.bin**. For example, you might enter:

/cdrom/cdrom0/setupsun.bin

4 The installation screen appears. Click **Next**.

5 Accept the FileNET license agreement and click **Next** to proceed.

6 A list of components and disk space requirements is displayed. Click **Next**.

- 7 The installation executes. Click **Finish** when complete.
- 8 Set the following environment variables for the **fns** user. Note that Netscape must be installed in the path to view help on the workflow server.
 - LD_LIBRARY_PATH
 - CLASSPATH
 - Set the LD_LIBRARY_PATH to point to the location of libjvm.so under JRE version 1.4.

For example, set the environmental variables as follows for a typical installation of Java JRE 1.4, 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
```

- 9 As the **fns** user, verify your Java installation by typing:

```
java -version
```

Note The Java version must be 1.4. If the Java version is not 1.4, or there is no response, verify that Java is installed correctly.

- 10 Verify that permission settings for workflow files in the following directories are set as follows:

```
/fns/bin          -rwsr-s
```

```
/fnsw/lib/shobj      -rwxr-s
```

If permission settings are not correct, log on as **root** and change them by entering this command:

```
fn_setup -d /
```

- 11** You can optionally use a browser to view the documentation installed on the workflow server. This documentation includes Help for eProcess Administrators, Help for eProcess Task Manager, Help for vwlog, and Help for vwtool. Change your directory with the following command:

```
cd /fnsw/lib/wf_help
```

In `/fnsw/lib/wf_help`, open the appropriate file for the help system you want to view:

- `admin_hb.htm`
- `taskmanager.htm`
- `vwlog.htm`
- `vwtool.htm`

Note that the documentation installed on the workflow server is a subset of the Panagon WorkFlo Services and Web WorkFlo (collectively referred to as eProcess) documentation. The entire set of eProcess documentation is available on the FileNET CSS website at <http://www.css.filenet.com>.

Install any patches or *SS fixes required for Image Services or Panagon WorkFlo Services. 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>.

The installation of WorkFlo Services on the Solaris server is complete at this point. Proceed to [“Configuring the Workflow Server” on page 28](#).

Installing WorkFlo Services on an HP-UX Server

This procedure assumes you have already installed and configured the Image Services software and Oracle database. You must also have Java version 1.3.1 installed and set up for the root and fnsw users.

Note In an HP ServiceGuard environment, there are no steps required on the fail over server(s) for installation and configuration of WorkFlo Services.

- 1 Shut down the FileNET and Oracle software on the system and verify that you have Java installed by executing the following steps:
 - a Log on as the **root** user if you are not logged on.
 - b As the **root** user, verify that you have Java installed by entering:
java -version
 - c As the **root** user, enter the following to shut down the FileNET software.
initfnsw -y stop
 - d Enter the following after the FileNET software is shut down.
killfnsw -A -D

- 2 Make sure the /fnsw and /fnsw/local file systems are mounted before you install the WorkFlo Services software. At the system prompt, type **mount** to see a list of what is currently mounted.
- 3 Mount the CD_ROM filesystem by executing the following steps:

- a Create a CD-ROM directory, if it doesn't already exist. Enter:

```
mkdir /cdrom
```

- b Determine the CD-ROM device file name.

```
ioscan -fn | more
```

- c Locate the CD-ROM device file name on the **ioscan** display. For example:

```
Class I   H/W Path  Driver      S/W State  H/W Type  Description
=====
disk  1   52.2.0   disk3       CLAIMED    DEVICE    TOSHIBA  CD-ROM XM-4101 TA
                /dev/dsk/c0t2d0      /dev/rdisk/c0t2d0
```

In the display above, the device file name is /dev/dsk/c0t2d0.

- d Mount the CD-ROM device on the /cdrom directory by entering a command similar to the following:

```
mount /dev/dsk/c0t2d0 /cdrom
```

where **/dev/dsk/c0t2d0** is the CD-ROM device file shown on the display from the **ioscan** in step 2-c above.

- 4 Insert the *Panagon WorkFlo Services for HP-UX* CD in the appropriate drive. Wait for the light to stop flashing.
- 5 Start Panagon WorkFlo Services Setup by doing either of the following:
 - a Double-click the icon labeled **setuphpx.bin**.
 - b From the CD-ROM drive, execute **setuphpx.bin**. For example, you might enter:

```
/cdrom/setuphpx.bin
```

- 6 The installation screen appears. Click **Next**.
- 7 Accept the FileNET license agreement and click **Next** to proceed.
- 8 A list of components and disk space requirements is displayed. Click **Next**.
- 9 The installation executes. Click **Finish** when complete.
- 10 Unmount the CD-ROM filesystem and remove the installation CD from the drive. You must unmount the filesystem before the CD can be removed from the drive.

```
umount /cdrom
```

- 11 Check the **/var/adm/sw/swagent.log** file for information regarding the install status. Look for the header information for your install. Information from other events may be in this file. The newest information is at the end of the file.

```
more /var/adm/sw/swagent.log
```

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

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

- 14** Set the Environment Variables for Java 2 on HP-UX 11.00. Note the following PATH variable; Netscape must be installed in the path to view help on the workflow server.

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

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

- 15** As the `fnsw` 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.

- 16** Verify that permission settings for workflow files in the following directories are set as follows:

```
/fnsw/bin          -rwsr-s
```

```
/fnsw/lib/shobj      -rwxr-s
```

If permission settings are not correct, log on as **root** and change them by entering this command:

```
fn_setup -d /
```

- 17** This step applies to HP-UX servers configured with FileNET-controlled or local site-controlled Oracle databases. 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 to an HP-UX system configured with a remote site-controlled Oracle database.

- 18** You can optionally use a browser to view the documentation installed on the workflow server. This documentation includes Help for eProcess Administrators, Help for eProcess Task Manager, Help for vwlog, and Help for vwtool. Change your directory with the following command:

```
cd /fnsw/lib/wf_help
```

In /fnsw/lib/wf_help, open the appropriate file for the help system you want to view:

- admin_hb.htm
- taskmanager.htm
- vwlog.htm
- vwtool.htm

Note that the documentation installed on the workflow server is a subset of the Panagon WorkFlo Services and Web WorkFlo (collectively referred to as eProcess) documentation. The entire set of eProcess documentation is available on the FileNET CSS website at <http://www.css.filenet.com>.

Install any patches or *SS fixes required for Image Services or Panagon WorkFlo Services. 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>.

The installation of WorkFlo Services on the HP-UX server is complete at this point. Proceed to [“Configuring the Workflow Server” on page 28](#).

Configuring the Workflow Server

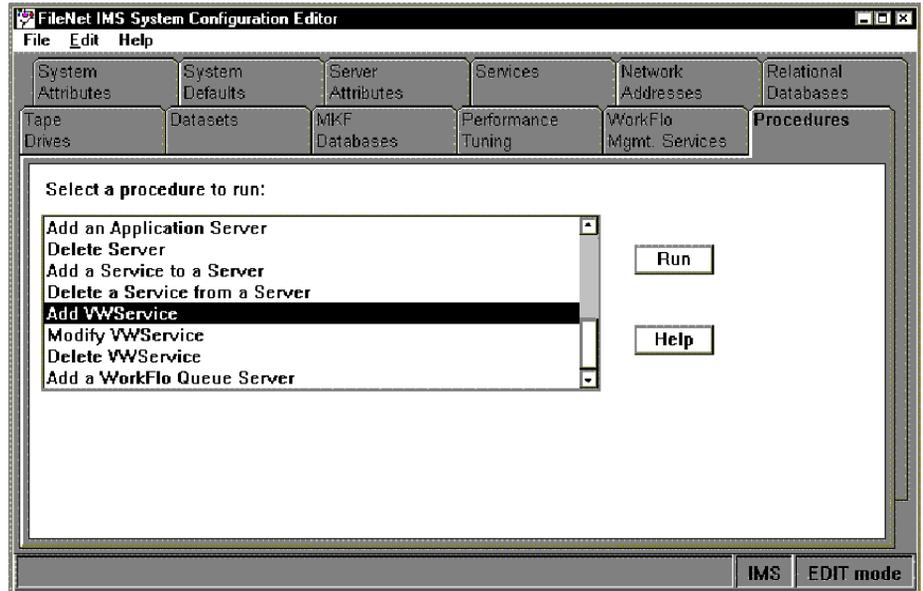
After installing WorkFlo Services, complete this procedure on the workflow server for all system configurations:

- 1 As the **fns** user, start X Windows on the workflow server and open a new window.

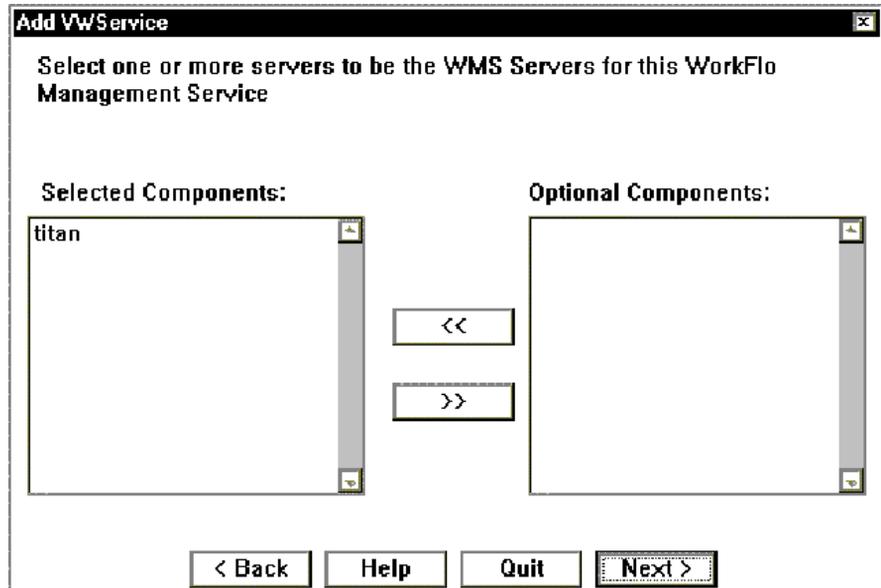
Enter at the system prompt:

```
fn_edit &
```

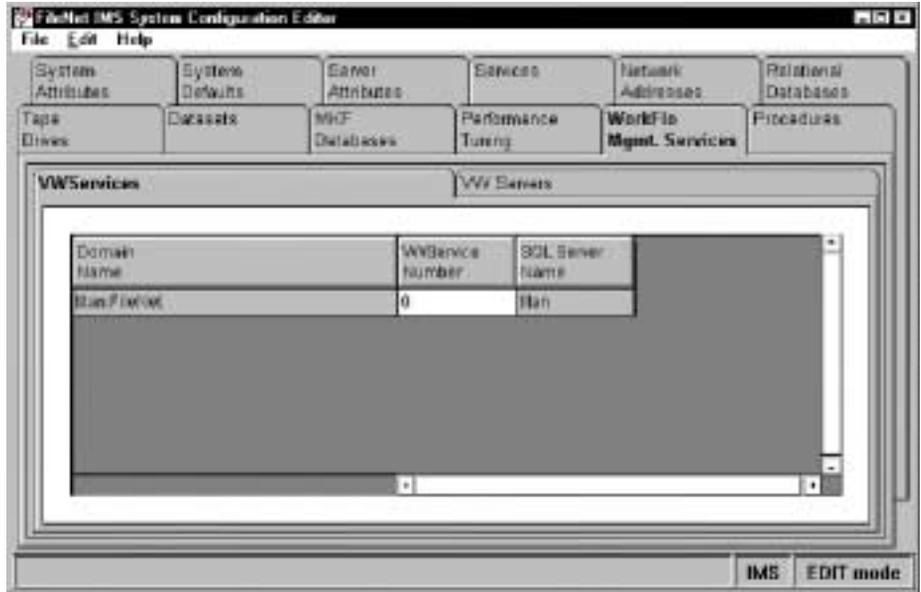
- 2 At the Open Configuration Database window, select OK to accept the default Database Name and Domain Name.
- 3 On the Procedures tab, select Add VWSservice and click on **Run**.



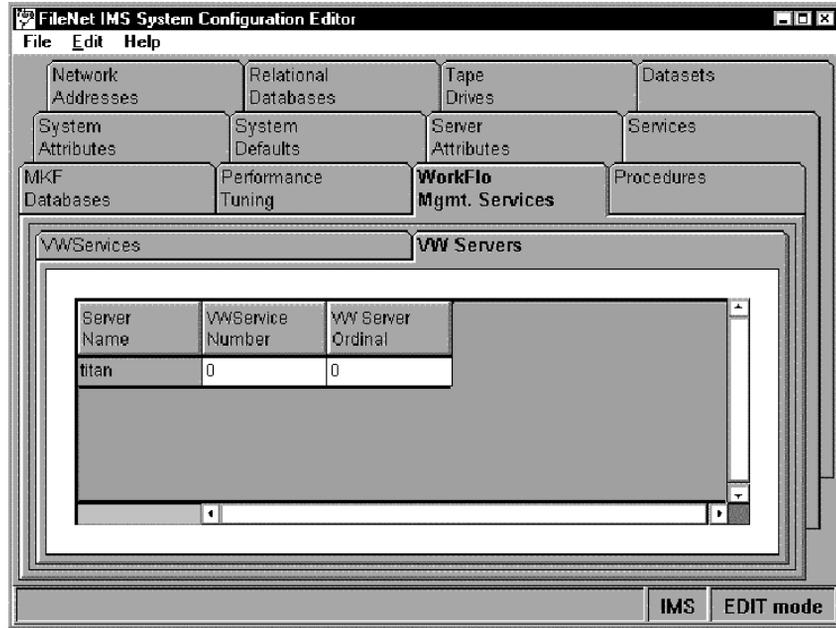
- 4 You will be presented with a list of available servers. In this example there is only one server defined within the NCH domain so its name automatically appears as a selected component. Click on **Next**.



- 5 Click on the *WorkFlo Mgmt Services* tab and select the *VWServices* subtab. On this subtab you should see that the *VWService* number has defaulted to *VWService* Number 0, and the *SQL Server Name* is titan.



- 6 Change to the *VW Servers* subtab on the *WorkFlo Mgmt. Services* tab. Here you should see the *VWService* Number, again with the default value of 0, along with the *VW Server* number.



- 7 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 33](#).

Build Configuration Files

Configuration files must be built on the workflow server.

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

```
fn_build -a
```

After **fn_build** runs, it displays messages for any errors encountered.

- 3 Make sure this command runs successfully by checking that no errors have occurred. Correct all errors before continuing.

Proceed to [“Verify the NCH database” on page 33](#).

Verify the NCH database

Along with a number of other files, **fn_build** builds the appropriate NCH database records.

- 1 If you want to verify the records, from the system prompt type:

```
nch_tool
```

- 2 At the **nch_tool** prompt, enter:

```
nch_tool> listobj VW*
```

You will see a list of all NCH database records for VWServices and VW Servers. The names of the VWServices and servers are in the format <service number>_<ordinal number>, where:

service number = the number of the VWService

ordinal number = automatically assigned, starting with 0 and incrementing by 1 for each server.

With a single server configuration, you should see NCH database entries like the following:

```
VWServer0_0:titan:FileNet
VWService0:titan:FileNet
```

- 3** To verify the VWService entry in the NCH database, enter the following at the `nch_tool` prompt:

`nch_tool> listprop VWService0`

```
Properties for VWService0:titan:FileNet
  (addressList, [10.1.44.1,32769]
    [00000001,00a024db0054,0005] )
  (VWService, "Visual WorkFlo Service")
```

This information shows the network address of the SQL Server being used by VWService0.

- 4 To verify the VW Server entry in the NCH database, enter the following at the `nch_tool` prompt:

```
nch_tool> listprop VWServer0*
```

You will see is the network address of the SQL Server being used, along with the VWService number configured on this VW server.

```
Properties for VWServer0_0:titan:FileNet
(addressList, [10.1.44.1,32769]
              [00000001,00a024db0054,0005] )
(VWServer, "Visual WorkFlo Server")
(VWServerDesc, 0 0 VWService0:titan:FileNet SQLServer:titan:FileNet)
```

- 5 Type **q** to exit `nch_tool`.

Proceed to ["Bring Up FileNET Software" on page 35](#).

Bring Up FileNET Software

Use the following procedure to bring up FileNET software and verify your installation:

- 1 Log on as the **fns** user.
- 2 In X Windows, type the following to make sure that the DISPLAY variable is set:

```
echo $DISPLAY
```

- 3 From a command prompt, enter the following to bring up the FileNET Task Manager:

Xtaskman &
- 4 Scroll through the displayed messages. Once you see the TM_daemon process message appear under the Process table, bring up the FileNET event log window by clicking on the Monitor pull-down menu and selecting the Event Logs... option.
- 5 From the Event Logs window, enable the event window to be refreshed whenever messages are logged by clicking on the Display pull-down window and selecting the Dynamic option.
- 6 To bring up the FileNET software, return to the FileNET Task Manager window and click on Restart. The system will display messages in the Current Status pop-up window as FileNET software starts up.
- 7 When the FileNET software is up, you see the Startup of FileNET Software Initiated message. The Close button should be highlighted. Click on the Close button to close the Current Status window.
- 8 View the Event Log window to make sure there are no error messages. This may take a while if the elog is large (approximately 2MB).
- 9 Proceed with the web server installation. As appropriate, see either the *Panagon Web WorkFlo Installation Handbook* or the *Panagon Open Client Help for Administrators*.

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tracted ratio of Clients to Concurrent User Licenses, End User agrees to purchase additional licenses in compliance with this Software Schedule. For a server with a combination of concurrent Dedicated, Shared and/or eBusiness User Licenses, any use beyond the total aggregate number of all Concurrent User Licenses (including previously acquired SLU type licenses) will require additional Concurrent User Licenses to be purchased. The highest ratio Concurrent User License identified on the End User's configuration and its applicable fee will be invoiced accordingly.

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Appendix B – Installing an Application Server

Prior to using the procedures in this appendix, make sure you have read and understand . In addition, complete the IS procedures for adding an application server as documented.

Those procedures include:

- *Panagon Image Services Installation and Configuration Procedures for AIX/6000*
- *Panagon Image Services Installation and Configuration Procedures for HP-UX*
- *Panagon Image Services Installation and Configuration Procedures for the Solaris Operating Environment*

In addition, perform the following:

- Installation and configuration of the root server, including Image Services and database software.
- Installation and configuration of the application server, including Image Services and database software.
- Configuration of a SQL Service on the application server. This includes building the configuration files and rebooting the application server.

Once you have completed the IS procedures, follow the procedures in [“Add a VWService to the Application Server” on page 42.](#)

Add a VWService to the Application Server

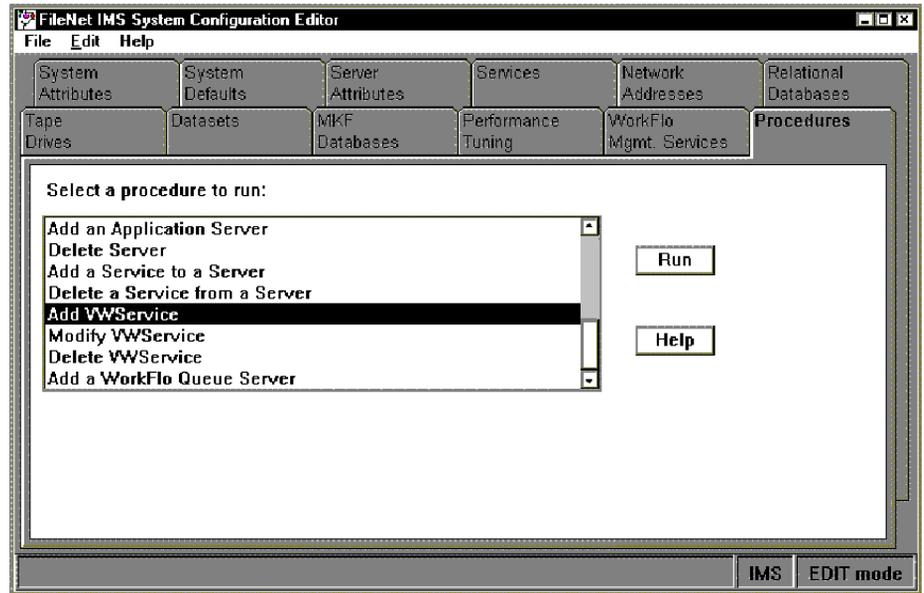
- 1 If you are not already, log on to the root server as **fns**.
- 2 Enter at a system prompt:

fn_edit &

Note The `fn_edit` interface uses the term *VWServer* as an equivalent to the term *workflow server*.

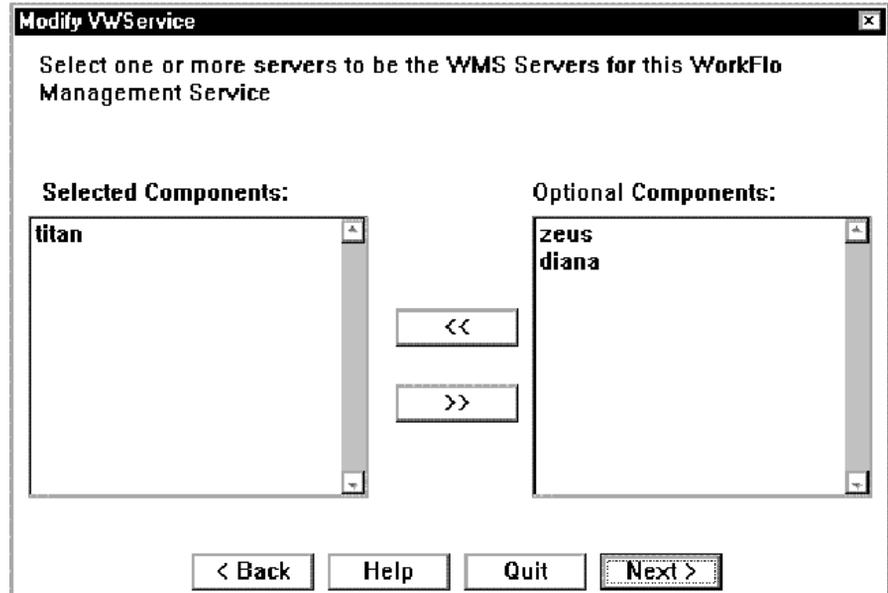
- 3 At the Open Configuration Database window, select **OK** to accept the default Database Name and Domain Name.

- 4 On the Procedures tab, select Add VWSservice and click on **Run**.

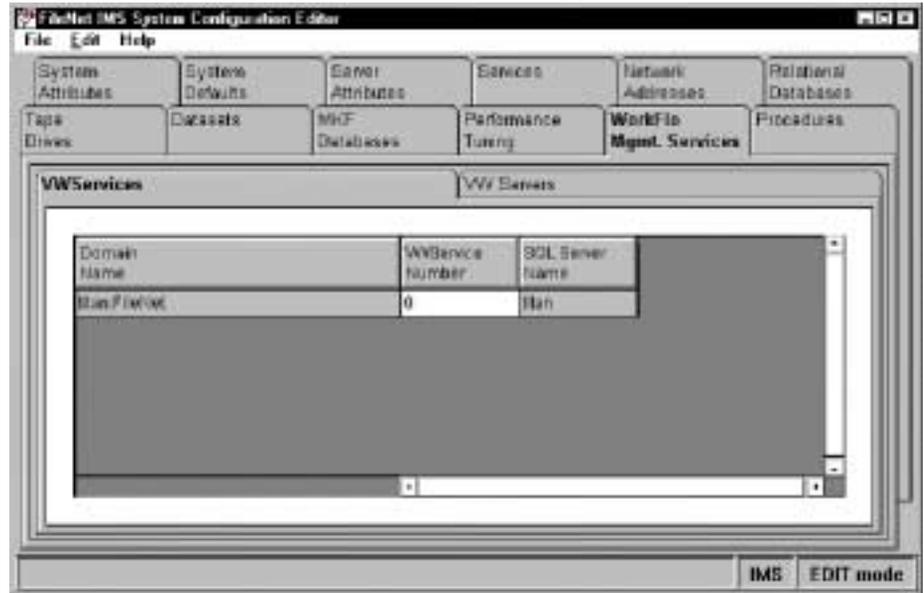


- 5 You will be presented with a list of available servers.

On your system you should see two server names. One is the Image Services root, where no eProcess software is installed. The other server is the application server on which you will install WorkFlo Services.

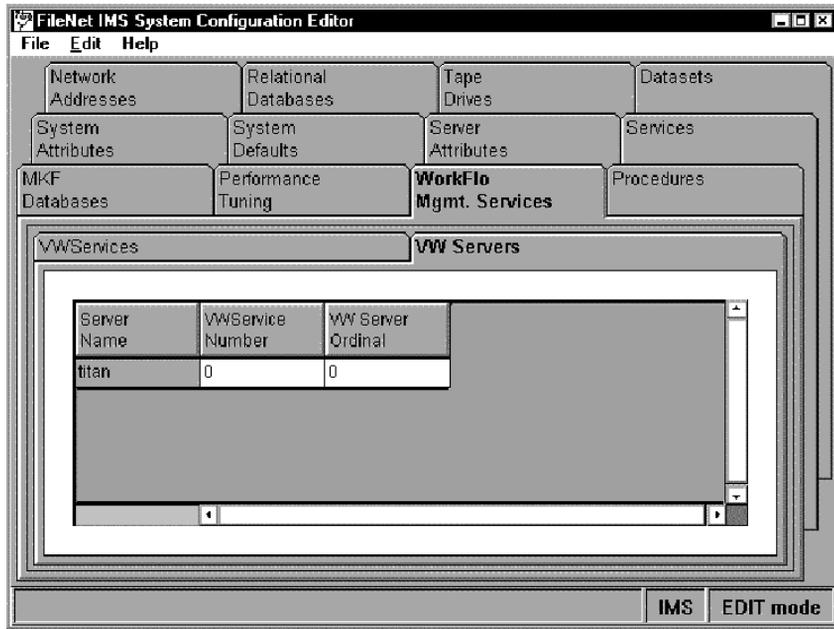


- 6 To select the server for inclusion in the VWService, click on the application server name followed by the << key. The newly selected server name moves to the left pane and into the list of selected components. Repeat the selection of any additional application servers. Click on **Next**.



- 7 Change to the *VW Servers* subtab on the *WorkFlo Mgmt. Services* tab. Here you will see the name of the server you added in step 6.

- 8 You will also see the default VWService number, 0. You must retain the VWService number.



- 9 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 46](#).

Build Configuration Files

Configuration files must be built on every server. Bring up the FileNET software on the root before running `fn_build` on any server but the Image Services root.

- 1 Log on as the **fnsw** user.
- 2 Build the configuration files by typing the following at the system prompt:

```
fn_build -a
```

After **fn_build** runs, it displays messages for any errors encountered.

- 3 Make sure this command runs successfully by checking that no errors have occurred. Correct all errors before continuing.

Proceed to [“Verify the NCH database” on page 47](#).

Verify the NCH database

- 1 Along with a number of other files, **fn_build** builds the appropriate NCH database records. If you want to verify the records, from the system prompt, type:

```
nch_tool
```

- 2 At the `nch_tool` prompt, enter:

```
nch_tool> listobj VW*
```

You will see a list of all NCH database records for VWServices and VW Servers. The names of the VWServices and servers are in the format `<service number>_<ordinal number>`, where:

service number = the number of the VWService (only 0 is supported)

ordinal number = automatically assigned to each server, starting with 0 and incrementing by 1.

Note The *VWServer* object name in the NCH database refers to the *work-flow server*.

With a single server configuration, you should see NCH database entries like the following:

```
VWServer0_0:titan:FileNet
VWService0:titan:FileNet
```

- 3** To verify the VWService entry in the NCH database, enter the following at the `nch_tool` prompt:

`nch_tool> listprop VWService0`

```
Properties for VWService0:titan:FileNet
  (addressList, [10.1.44.1,32769]
                [00000001,00a024db0054,0005] )
  (VWService, "Visual WorkFlo Service")
```

This information shows the network address of the SQL Server used by VWService0. Verify that it is the address of the Application Server.

- 4** To verify the VW Server entry in the NCH database, enter the following at the `nch_tool` prompt:

`nch_tool> listprop VWServer0*`

You will see the network address of the SQL Server being used, along with the VWService number configured on this server.

```
Properties for VWServer0_0:titan:FileNet
(addressList, [10.1.44.1,32769]
              [00000001,00a024db0054,0005] )
(VWServer, "Visual WorkFlo Server")
(VWServerDesc, 0 0 VWService0:titan:FileNet SQLServer:titan:FileNet)
```

5 Type **q** to exit `nch_tool`.

Install WorkFlo Services on an Application Server

For step-by-step procedures for installing Panagon WorkFlo Services on an Application server, see the appropriate section for your server platform:

- [“Installing WorkFlo Services on an AIX Server” on page 50](#)
- [“Installing WorkFlo Services on a Solaris Server” on page 54](#)

Note If you need to uninstall Panagon WorkFlo Services, you must execute the uninstaller program. Using any other method will cause discrepancies in the operating system and prevent reinstalling. To uninstall, execute the following file as the root user:
`/fnsw/_pws_uninst/pws_uninstall.bin.`

Installing WorkFlo Services on an AIX Server

This procedure assumes you have already installed and configured the Image Services software and Oracle database. You must also have Java version 1.3.0 installed and set up for the root and fnsw users.

- 1 Shut down the FileNET and Oracle software on the system and verify that you have Java installed by executing the following steps:
 - a Log on as the **root** user if you are not logged on.
 - b As the **root** user, verify that you have Java installed by entering:

java -version
 - c As the **root** user, enter the following to shut down the FileNET software:

initfnsw -y stop
 - d Enter the following after the FileNET software is shut down:

killfnsw -A -D
- 2 Make sure the Info Explorer is not mounted on the CD. If it is, unmount it.
- 3 Make sure the /fnsw and /fnsw/local file systems are mounted before you install the WorkFlo Services software. At the system prompt, type **mount** to see a list of what is currently mounted.
- 4 Insert the *Panagon WorkFlo Services for AIX* CD in the appropriate drive. Wait for the light to stop flashing.
- 5 Mount the CD_ROM filesystem by doing the following sub-steps a–d:

- a At the prompt, type the following command:

lsdev -C | grep cd

A message similar to the following will display. Make sure the CD-ROM drive is available:

cd0 Available 00-08-00-3,0 CD-ROM Drive

- b Create a directory to mount the CD-ROM drive:

mkdir /cdrom

- c Mount the CD-ROM drive to the directory you just created:

mount -rv cdrfs /dev/cd0 /cdrom

where /dev/cd0 is the device name.

- d To make sure the CD-ROM is mounted correctly, type:

mount

You should see the CD-ROM device listed.

- 6** Start Panagon WorkFlo Services Setup by doing either of the following:

- a Double-click the icon labeled **setupaix.bin**.

- b From the CD-ROM drive, execute **setupaix.bin**. For example, you might enter:

/cdrom/setupaix.bin

- 7 The installation screen appears. Click **Next**.
- 8 Accept the FileNET license agreement and click **Next** to proceed.
- 9 A list of components and disk space requirements is displayed. Click **Next**.
- 10 The installation executes. Click **Finish** when complete.
- 11 Unmount the CD by entering the following command as the **root**:

```
umount /cdrom
```

- 12 Remove the CD from the drive.
- 13 Set the following environment variables for the **fnswh user**. Note that Netscape must be installed in the path to view help on the workflow server:

- LIBPATH
- CLASSPATH

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 1.3.0, with Java installed in /usr/java130:

```
LIBPATH=$LIBPATH:/usr/java130/jre/bin:/fnswh/lib/shobj  
export LIBPATH
```

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

- 14 As the **fnswh** user, verify your Java installation by typing:

java -version

Note The Java version must be 1.3.0. If the Java version is not 1.3.0, or there is no response, verify that Java is installed correctly.

- 15** Verify that permission settings for workflow files in the following directories are set as follows:

`/fnsw/bin-rwsr-s`

`/fnsw/lib/shobj-rwxr-s`

If permission settings are not correct, log on as **root** and change them by entering this command:

`fn_setup -d /`

- 16** You can optionally use a browser to view the documentation installed on the workflow server. Documentation includes Help for eProcess Administrators, Help for eProcess Task Manager, Help for vwlog, and Help for vwtool. Change your directory with this command:

`cd /fnsw/lib/wf_help`

In `/fnsw/lib/wf_help`, open the file for the help system you want to view:

- `admin_hb.htm`
- `taskmanager.htm`
- `vwlog.htm`
- `vwtool.htm`

Note that the documentation installed on the workflow server is a subset of the Panagon WorkFlo Services and Web WorkFlo (collectively referred to as eProcess) documentation. The entire set of eProcess documentation is available on the FileNET CSS website at <http://www.css.filenet.com>.

Install any patches or *SS fixes required for Image Services or Panagon WorkFlo Services. 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>.

Installing WorkFlo Services on a Solaris Server

This procedure assumes you have already installed and configured the Image Services software and Oracle database. You must also have Java version 1.4 installed and set up for the root and fnswh users.

- 1 Shut down the FileNET and Oracle software on the system and verify that you have Java installed by executing the following steps:
 - a Log on as the **root** user, if you are not logged on, and start X Windows.
 - b As the **root** user, verify that you have Java installed by entering:
java -version
 - c As the **root** user, enter the following to shut down the FileNET software.
initfnswh -y stop
 - d Enter the following after the FileNET software is shut down.
killfnswh -A -D

- 2 Insert the *Panagon WorkFlo Services for Solaris* CD in the appropriate drive. Wait for the light to stop flashing.
- 3 Start Panagon WorkFlo Services Setup by doing either of the following:
 - a Double-click the icon labeled **setupsun.bin**.
 - b From the CD-ROM drive, execute **setupsun.bin**. For example, you might enter:

/cdrom/cdrom0/setupsun.bin
- 4 The installation screen appears. Click **Next**.
- 5 Accept the FileNET license agreement and click **Next** to proceed.
- 6 A list of components and disk space requirements is displayed. Click **Next**.
- 7 The installation executes. Click **Finish** when complete.
- 8 Set the following environment variables for the **fns** user. Note that Netscape must be installed in the path to view help on the workflow server.
 - LD_LIBRARY_PATH
 - CLASSPATH
 - Set the LD_LIBRARY_PATH to point to the location of libjvm.so under JRE version 1.4.

For example, set the environmental variables as follows for a typical installation of Java JRE 1.4, with Java installed in `/usr/java`:

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

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

- 9 As the **fnsw** user, verify your Java installation by typing:

```
java -version
```

Note The Java version must be 1.4. If the Java version is not 1.4, or there is no response, verify that Java is installed correctly.

- 10 Verify that permission settings for workflow files in the following directories are set as follows:

```
/fnsw/bin-rwsr-s
```

```
/fnsw/lib/shobj-rwxr-s
```

If permission settings are not correct, log on as **root** and change them by entering this command:

```
fn_setup -d /
```

- 11 You can optionally use a browser to view the documentation installed on the workflow server. This documentation includes Help for eProcess Administrators, Help for eProcess Task Manager, Help for vwlog, and Help for vwtool. Change your directory with the following command:

```
cd /fnsw/lib/wf_help
```

In `/fnsw/lib/wf_help`, open the appropriate file for the help system you want to view:

- `admin_hb.htm`
- `taskmanager.htm`
- `vwlog.htm`
- `vwtool.htm`

Note that the documentation installed on the workflow server is a subset of the Panagon WorkFlo Services and Web WorkFlo (collectively referred to as eProcess) documentation. The entire set of eProcess documentation is available on the FileNET CSS website at <http://www.css.filenet.com>.

Install any patches or *SS fixes required for Image Services or Panagon WorkFlo Services. 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>.

Installing WorkFlo Services on an HP-UX Server

This procedure assumes you have already installed and configured the Image Services software and Oracle database. You must also have Java version 1.3.1 installed and set up for the root and fnsw users.

Note In an HP ServiceGuard environment, there are no steps required on the fail over server(s) for installation and configuration of WorkFlo Services.

- 1 Shut down the FileNET and Oracle software on the system and verify that you have Java installed by executing the following steps::

- a Log on as the **root** user if you are not logged on.
 - b As the **root** user, verify that you have Java installed by entering:
- java -version**
- c As the **root** user, enter the following to shut down the FileNET software.

initfnsw -y stop

- d Enter the following after the FileNET software is shut down.

killfnsw -A -D

- 2** Make sure the /fnsw and /fnsw/local file systems are mounted before you install the WorkFlo Services software. At the system prompt, type **mount** to see a list of what is currently mounted.

- 3** Mount the CD_ROM filesystem by executing the following steps:

- a Create a CD-ROM directory, if it doesn't already exist. Enter:

mkdir /cdrom

- b Determine the CD-ROM device file name.

ioscan -fn | more

- c Locate the CD-ROM device file name on the **ioscan** display. For example:

```

Class I   H/W Path  Driver      S/W State  H/W Type  Description
=====
disk  1   52.2.0   disk3      CLAIMED   DEVICE    TOSHIBA   CD-ROM   XM-4101 TA
                               /dev/dsk/c0t2d0   /dev/rdsk/c0t2d0

```

In the display above, the device file name is `/dev/dsk/c0t2d0`.

- d Mount the CD-ROM device on the `/cdrom` directory by entering a command similar to the following:

```
mount /dev/dsk/c0t2d0 /cdrom
```

where **`/dev/dsk/c0t2d0`** is the CD-ROM device file shown on the display from the **ioscan** in step 2-c above.

- 4 Insert the *Panagon WorkFlo Services for HP-UX* CD in the appropriate drive. Wait for the light to stop flashing.
- 5 Start Panagon WorkFlo Services Setup by doing either of the following:
 - a Double-click the icon labeled **setuphpx.bin**.
 - b From the CD-ROM drive, execute **setuphpx.bin**. For example, you might enter:

```
/cdrom/setuphpx.bin
```

- 6 The installation screen appears. Click **Next**.

- 7 Accept the FileNET license agreement and click **Next** to proceed.
- 8 A list of components and disk space requirements is displayed. Click **Next**.
- 9 The installation executes. Click **Finish** when complete.
- 10 Unmount the CD-ROM filesystem and remove the installation CD from the drive. You must unmount the filesystem before the CD can be removed from the drive.

umount /cdrom

- 11 Check the `/var/adm/sw/swagent.log` file for information regarding the install status. Look for the header information for your install. Information from other events may be in this file. The newest information is at the end of the file.

more /var/adm/sw/swagent.log

- 12 On the workflow server, remove the `/fnsw/jre` directory, if it exists. Removing this directory ensures that you will not have a conflict between new and previous JRE modules after installation.
- 13 Copy JRE 1.3.1 from the installed location to the directory `/fnsw`. If the JRE 1.3.1 is installed in `/opt/java1.3.1`, enter the following commands:

cp -r /opt/java1.3.1/jre /fnsw

- 14 Set the Environment Variables for Java 2 on HP-UX 11.00. Note the following PATH variable; Netscape must be installed in the path to view help on the workflow server.

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

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

- 15** As the **fnsw** 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.

- 16** Verify that permission settings for workflow files in the following directories are set as follows:

```
/fnsw/bin-rwsr-s
```

```
/fnsw/lib/shobj-rwxr-s
```

If permission settings are not correct, log on as **root** and change them by entering this command:

```
fn_setup -d /
```

- 17** This step applies to HP-UX servers configured with FileNET-controlled or local site-controlled Oracle databases. 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 to an HP-UX system configured with a remote site-controlled Oracle database.

- 18** You can optionally use a browser to view the documentation installed on the workflow server. This documentation includes Help for eProcess Administrators, Help for eProcess Task Manager, Help for vwlog, and Help for vwtool. Change your directory with the following command:

```
cd /fnsw/lib/wf_help
```

In /fnsw/lib/wf_help, open the appropriate file for the help system you want to view:

- admin_hb.htm
- taskmanager.htm
- vwlog.htm
- vwtool.htm

Note that the documentation installed on the workflow server is a subset of the Panagon WorkFlo Services and Web WorkFlo (collectively referred to as eProcess) documentation. The entire set of eProcess documentation is available on the FileNET CSS website at <http://www.css.filenet.com>.

Install any patches or *SS fixes required for Image Services or Panagon WorkFlo Services. 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>.

WorkFlo Services Setup installs and configures

Proceed with web server installation. As appropriate, see either the *Panagon Web WorkFlo Installation Handbook* or the *Panagon Open Client Help for Administrators*.

Appendix C – Changing a Server IP Address

You might need to change a server's IP address if your system's network needs to be upgraded, if you need to replace a server, or if you add a server to your configuration.

You can safely change a server's IP address without affecting WorkFlo Services, provided you observe the following rules:

- Do not change a server's IP address while another server in the domain is in the process of being deleted.
- Do not change a server's IP address while a step processor, Work Performer, or other user-defined application has locked a work item for processing.

See your server platform documentation for information on changing your server's IP address.

For FileNET software to recognize a change of IP address, the address must be changed through `fn_edit`.

All steps can be performed as **Administrator**, provided the Administrator is a member of the `fnadmin` group.

- 1 As `fns`, (or **Administrator**, see above), run `fn_edit`.
- 2 Select the **Network Addresses** tab and change the IP address to the new address for the server, save the change and exit `fn_edit`.

- 3 Change the IP address within the operating system. For more information on changing your server's IP address, see the documentation for your server platform.
- 4 Edit the `etc/hosts` file and verify the IP address for the IS server. Change it if necessary.
- 5 From a command prompt window, type:

fn_build -a

Check for error messages when this process is finished and resolve any error conditions before continuing to the next step.
- 6 Update the NCH database by running:

nch_update [domain:org]

(EXAMPLE: "nch_update titan:FileNet")
- 7 As **fns**, restart the FileNET software and check the log files for error messages.