
Xerox Web Document Submission Software Version 2.0.1
Installation and Configuration Guide

Document version 1.02
September, 2002
Part Number 701P37978

Xerox Corporation
Global Knowledge and Language Services
800 Phillips Road
Building 845, 845-17S
Webster, New York 14580
USA

©2002 XEROX CORPORATION. All rights reserved.

Copyright protection claimed includes all forms and matters of copyrightable material and information now allowed by statutory or judicial law or hereinafter granted, including without limitations, material generated from the software programs which are displayed on the screen such as styles, templates, icons, screen displays looks, and so on.

XEROX®, The Document Company®, the digital X®, Xerox Canada Ltd.®, Xerox Europe®, and all identifying numbers used in connection with the Xerox products mentioned in this publication are trademarks of XEROX CORPORATION.

Adobe, the Adobe logo, Acrobat, the Acrobat logo, Acrobat Reader, Reader, Distiller, and Adobe PDF Transit are either registered trademarks or trademarks of Adobe Systems Incorporated in the United States and/or other countries.

All non-Xerox brands and product names are trademarks or registered trademarks of their respective companies.

This product includes software developed by the Apache Software Foundation (<http://www.apache.org/>).

While every care has been taken in the preparation of this material, no liability will be accepted by Xerox Corporation arising out of any inaccuracies or omissions.

Changes are periodically made to this document. Changes, technical inaccuracies, and typographical errors will be corrected in subsequent editions.

Revision History

Reviser	Date	Revision	Resulting Revision	Description
Brian Laing	06/20/2002	1	.80	Added XGS cover page. Modified all occurrences of Xerox Documents Xpress to Xerox Web Document Submission.
Brian Laing	07/16/2002	2	1.02	<ol style="list-style-type: none"> 1. Added a section to reveal file extensions on the server. 2. Revised the WinZip portion of installing the XPD for Windows NT 4.0 and Windows 2000. 3. Modified the License Generation section to reflect that the license can now be generated on the server and that a floppy disk is no longer required. The license is now saved in the My Documents folder on the server. 4. Revised Installation Workflow diagrams to reflect the product name change and the addition of the optional Adobe PDF Transit software. 5. Added a supplemental step to the installation procedure so that installers can monitor the installation progress. 6. Modified all occurrences of the XDX Control Center to reflect the new method of starting, stopping, and monitoring the Web Document Submission system 7. Modified the section on configuring the Apache Administrator e-mail address for the new version of Apache. 8. Modified the Troubleshooting chapter to show the correct locations of the Tomcat log files and change to modifying the logging messages. 9. Section added on disabling IIS. 10. Added designation that the document is for the 2.0.1 release of Web Document Submission.
Brian Laing	09/20/2002	3	1.02	<ol style="list-style-type: none"> 1. Corrected version number in Introduction to read 2.0.1

Table of Contents

Revision History	iv
1. Introduction	1-1
Xerox Web Document Submission Software	1-1
Intended Audience	1-1
Assumptions	1-2
Conventions	1-2
Related Documentation	1-3
2. Product Overview	2-1
Responsibilities	2-1
System Administrator	2-1
Print Shop Administrator	2-2
Print Shop Operator	2-2
User	2-3
Optional Modules	2-3
3. Installation Requirements	3-1
Hardware Requirements	3-1
Server Requirements	3-1
Client Requirements	3-1
Software Requirements	3-2
Server Requirements	3-2
Client Requirements	3-2

Information Requirements.....	3-3
4. Installing the Software.....	4-1
Display File Extensions.....	4-2
Displaying File Extensions.....	4-2
Third-party Software and Printer Driver Installation	4-3
Installing Adobe Acrobat Reader.....	4-3
Adding the Print Driver.....	4-3
Windows NT 4.0 Server.....	4-4
Windows 2000 Server.....	4-6
Installing Microsoft Office XP.....	4-8
Post Installation Tasks.....	4-9
Web Document Submission License Generation.....	4-9
Installing Web Document Submission.....	4-13
Web Document Submission Software Installation.....	4-14
Exit the Installation Program.....	4-18
Configuring the Web Document Submission Core Installation.....	4-18
Configure Apache Administrator E-mail Address	4-21
5. Starting Up and Shutting Down.....	5-1
Starting Web Document Submission	5-1
Starting Web Document Submission For the First Time.....	5-1
Testing Web Document Submission.....	5-3
Testing Web Document Submission.....	5-3
Shutting Down Web Document Submission	5-5
Shutting Down Web Document Submission	5-5
6. Troubleshooting.....	6-1
Installation Problems.....	6-1
Debugging Apache and Tomcat	6-1
Debugging Web Document Submission Services.....	6-2

7. Contacts and Escalation Process	7-1
Web Document Submission Support Process	7-1
Support Contacts	7-2
A. Install Verification Procedure	A-1
Functional Areas Being Verified.....	A-1
Administrative Functions.....	A-1
Client Functions	A-2
Operator Functions	A-3
Install Verification Procedures	A-4
1. Administrator Verification Procedures	A-4
1.1 Logging on as Administrator	A-4
1.2 Adding a Printer	A-5
1.3 Editing the User Interface Using Admin Tools	A-5
2. Client Verification Procedures	A-7
2.1 Registering a Client Account – Self Registration	A-7
2.2 Logging on as a User.....	A-8
2.3 Editing a User Profile	A-9
2.4 Submitting a Print Job Request – MS Word Document.....	A-9
2.5 Submitting a Print Job Request – MS Excel Document.....	A-10
2.6 Submitting a Print Job Request – Hard Copy Document.....	A-11
2.7 Editing the Personal Address Book	A-12
2.8 Editing the Document Repository	A-12
3. Operator Verification Procedures	A-13
3.1 Logging on as Operator	A-13
3.2 Editing a Client Job Request – MS Word Document	A-14
3.3 Fulfilling a Client Job Request – MS Word Document.....	A-14
3.4 Fulfilling a Client Job Request – MS Excel Document.....	A-15
3.5 Fulfilling a Client Job Request – Hard copy Document	A-16
3.6 Sending a Job to Each Installed Printer.....	A-17

Install Verification RecordA-18
 Results..... A-18
 Administrative Functions..... A-19
 Client Functions A-19
 Operator Functions A-20

Index **Index-1**

1. Introduction

This chapter describes Xerox Web Document Submission Software Version 2.0.1 and how to use this guide.

Xerox Web Document Submission Software

Web Document Submission allows end users to submit print jobs electronically using industry standard browsers. Once submitted, production personnel efficiently update job status as documents move through the production cycle, providing users with information about their jobs. Web-based printing generates cost savings and improvements in quality, productivity, and turnaround time.

The system uses several services that can be loaded on one or more servers, depending on the print shop configuration.

Intended Audience

This guide is intended for use by Xerox personnel who are responsible for the installation of this system.

Assumptions

The person installing Web Document Submission software should have experience in the following areas:

- Windows NT and / or Windows 2000 server administration
- Applicable workstation operating systems experience
- Hypertext Markup Language (HTML)
- Extensible Markup Language (XML)
- JavaServer Pages (JSP)
- Structured Query Language (SQL)

Conventions

This guide uses the following conventions:

- Menu items and buttons appear in **bold text**.
- Screen, text box, and drop-down list titles are spelled and punctuated exactly as they appear on the screen.
- Document titles appear in *italics*.
- Content representative of text that is displayed on a computer monitor is displayed in Courier New font and enclosed in a shaded table as shown in Table 1-1.

Table 1-1. Example of text displayed on a computer monitor

<pre>INSERT INTO Field {field_name,custom_name}</pre>

Related Documentation

The following guides provide further information on the Web Document Submission system:

- *Xerox Web Document Submission Software Installation Planning Guide* – Part Number 701P37977
- *Xerox Web Document Submission Software System Administration Guide* – Part Number 701P37979
- *Xerox Web Document Submission Software Adobe PDF Transit Installation and Configuration Supplement (Optional)* – Part Number 701P38642

Note: Operator / Administrator and User instructions are available as online help while using the Web Document Submission system.

2. Product Overview

Web Document Submission is a web-based application used to submit and track jobs.

System users access the software via three web interfaces:

- A User interface for submitting print jobs
- An Operator interface for printing jobs
- A Printer Administrator interface for setting up printers and templates, customizing the user interface, and establishing pricing

Responsibilities

System Administrator

The System Administrator manages user, operator, and print shop administrative permissions for a print shop installation. Specific tasks include:

- Managing Web Document Submission software
- Customizing the Web Document Submission user interface
- Managing user / operator permissions for a single print shop

The System Administrator will have a detailed understanding how the Web Document Submission software works.

Print Shop Administrator

The Printer Administrator is a user who manages a print shop. Specific tasks include:

- Establishing specific print shop policies
- Configuring printers
- Generating reports using Web Document Submission tools
- Load pricing data into Web Document Submission
- Creating templates

The Print Shop Administrator must understand how to configure a printer and how printer communications work.

Print Shop Operator

The Print Shop Operator is a user who manages the printing workflow in a print shop. Specific tasks include:

- Printing jobs sent by end users
- Modifying the job status as jobs move through the workflow
- Distributing printed materials

The Print Shop Operator must have detailed knowledge of scheduling and prioritizing print jobs as well as a solid understanding of the capabilities and capacities of the print shop.

User

The User submits documents and jobs to Web Document Submission over the Internet using a web browser, the Xpress Print Driver (XPD), or in some installations through DocuShare and / or Adobe PDF Transit. Specific tasks include:

- Using Web Document Submission as the interface to the print shop and local printers
- Uploading documents into Web Document Submission
- Requesting printing and resubmission services using Web Document Submission

The User must be knowledgeable about basic web browser use, general Internet use (downloading, uploading, and navigation), and printer driver installation.

Optional Modules

There are two optional modules available for installation with Web Document Submission:

- DocuShare Link to Web Document Submission
- Adobe PDF Transit for Web Document Submission

3. Installation Requirements

Web Document Submission requires a specific combination of hardware, software, and information to ensure a successful installation. These requirements are documented in the *Xerox Web Document Submission Software Installation Planning Guide*.

These installation instructions assume that the Web Document Submission server has had the proper operating system installed and has a working connection to the Internet.

Hardware Requirements

Server Requirements

- One Windows NT 4.0 **or** Windows 2000 server
- 8-GB hard disk
- 512-MB random access memory (RAM)
- One 10 / 100 Megabytes per second (Mbps) network interface card (NIC)
- One available drop on a 100 Mbps network
- Simple Mail Transfer Protocol (SMTP) server supporting Anonymous SMTP connections for outgoing mail
- An uninterruptible power supply (UPS) for the server

Client Requirements

- Workstation capable of using a supported operating system and a supported browser

Software Requirements

Server Requirements

- Microsoft Windows NT Server 4.0 **or** Microsoft Windows 2000 Server
 - **CAUTION:** Ensure that Microsoft Internet Information Services (IIS) are disabled on the Web Document Submission server. The Web Document Submission server uses Apache as the web server software and will not function with IIS installed. Consult article Q321141 – *HOW TO: Disable or Remove Unnecessary IIS Services* – on the Knowledge Base section of the Microsoft support site (<http://support.microsoft.com>) for instructions on how to stop IIS services.
- Microsoft TCP / IP Printing service (LPR service) installed (Windows NT Server 4.0 only)
- Microsoft Office XP
- Adobe Acrobat Reader 4.05 (or later)
- Web Document Submission Software
- Internet Explorer 5.5 (or later) **or** Netscape Navigator 4.75 (or later)
- WinZip

Client Requirements

- Any one of the following operating systems:
 - Windows NT Workstation 4.0
 - Windows 2000 Professional
 - Windows 95 / 98 / ME
- Adobe Acrobat Reader 4.05 (or later)

- Internet Explorer 5.5 (or later) **or** Netscape Navigator 4.75 (or later)
- WinZip

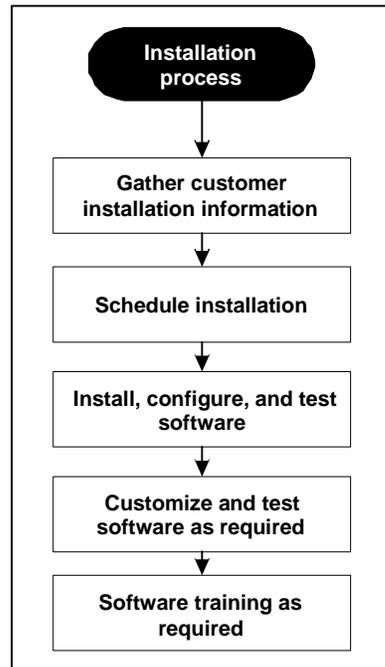
Information Requirements

See the *Xerox Web Document Submission Software Installation Planning Guide* for a complete list of the information requirements.

4. Installing the Software

Obtain the *Xerox Web Document Submission Software Version 2.0 – Installation Planning Guide* before installing the software. The following figure, Figure 4-1 gives an overall look at the workflow for the complete installation process.

Figure 4-1. Web Document Submission installation process

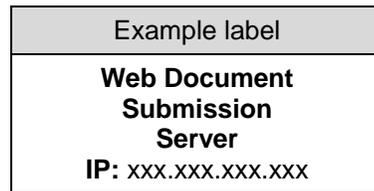


When performing an installation, the following, including third-party software and printer driver, must be present and properly configured on the server before installing Web Document Submission software:

- Adobe Acrobat Reader
- PDFwriter print driver
- Microsoft Office XP

It is recommended that the server be assigned a name and physically labeled with the applicable name and machine IP address. An example is shown in Figure 4-2.

Figure 4-2. Example server label



Display File Extensions

In order to simplify product installation it is recommended that file extensions be turned on. By default, when Windows 95/98/ME, Windows NT 4.0, and Windows 2000 are installed, file extensions are turned off.

Displaying File Extensions

Perform the following to display file extensions:

1. Double-click **My Computer**. Click **View > Folder Options** (or choose **Options** from the View menu in Windows 95 or Windows NT 4.0).

2. Click the **View** tab. Locate **Hide file extensions for known file types**. Ensure that the check box is cleared. Click **OK**. Close all open windows.

Third-party Software and Printer Driver Installation

Installing Adobe Acrobat Reader

The system uses Adobe Acrobat Reader to convert documents to PDF format. If Adobe Acrobat Reader is not already installed on the Web Document Submission server, it must be downloaded from Adobe and then installed.

Perform the following to install Adobe Acrobat Reader:

1. Go to <http://www.adobe.com> and download a copy of Acrobat Reader. Choose either the base version, or the version that can search PDF files. Either free version will work with Web Document Submission.
2. Follow the instructions from Adobe to install Adobe Acrobat Reader.

Note: Restarting the server is not necessary at this time. The server will be restarted as part of the final installation procedure.

Adding the Print Driver

The Xpress Print Driver (XPD) is used to convert documents to PostScript before they are sent to the printer.

Perform the following to add the XPD:

Windows NT 4.0 Server

1. Create a folder named **XPD** on the **C:** drive of the server.
2. To unzip **xpd-1.1.3.zip**, a Java archive (jar) file on the installation CD, into the newly created XPD folder:
 - a) Insert the installation CD in the CD drive.
 - b) Open WinZip and click **File > Open Archive**.
 - c) The **Open Archive** window appears. From the **Files of type** drop-down menu, select **All files (*.*)**
 - d) Click the **Look in** drop-down and locate and double-click the **installer.jar** file on the installation CD. This file is located at **<CD ROM drive> \ installer.jar**.
 - e) When the file listing appears in WinZip, click the **Name** header to alphabetize the file listing.



- f) Locate and double-click **webAppServer_dist.zip**.



- g) The **webAppServer_dist.zip** file is extracted. Click the **Name** header to alphabetize the file listing.



- h) Locate and click **xpd-1.1.3.ZIP** to highlight the file name.



- i) On the WinZip toolbar click **Extract**.
- j) The **Extract** window opens. Select **Selected Files** from the **File** area. In the **Folders/drives** area, browse to **C:\XPD**.
- k) Click **Extract**. The Xerox Print Driver files are extracted into the XPD folder on the server.
3. Click **Start > Settings > Printers**.
 4. Double-click **Add Printer**.
 5. Ensure **My Computer** is selected and click **Next**.
 6. For the port, select **LPT1**. Click **Next**.
 7. The list of manufacturers of printers appears. Click **Have Disk**.
 8. The **Install from Disk** dialog box appears. Browse to **C:\XPD**.
 9. When in the XPD folder click **webxpd.inf**. Click **Open**.
 10. The **Install From Disk** dialog box appears. Click **OK**.
 11. Select **Web Document Submission PS Color Plugin**. Click **Next**.

Note: Only the color driver needs to be selected for the server since it will handle both color and black and white jobs.

12. Type **XDX PDFwriter** in the Printer name text box. Click **Next**.

Note: This is case and space sensitive. There is a space between the letter X and the letter P.

13. Click **Not shared**. Click **Next**.

14. Click **No** to bypass printing a test page. Click **Finish**.

Windows 2000 Server

1. Create a folder named **XPD** on the **C:** drive of the server.
2. To unzip **Xpdy2k.zip**, a Java archive (jar) file on the installation CD, into the newly created XPD folder:
 - a) Insert the installation CD in the CD drive.
 - b) Open WinZip and click **File > Open Archive**.
 - c) The **Open Archive** window appears. From the **Files of type** drop-down menu, select **All files (*.*)**
 - d) Click the **Look in** drop-down and locate and double-click the **installer.jar** file on the installation CD. This file is located at **<CD ROM drive> \ installer.jar**.
 - e) When the file listing appears in WinZip, click the **Name** header to alphabetize the file listing.



- f) Locate and double-click **webAppServer_dist.zip**.



- g) The **webAppServer_dist.zip** file is extracted. Click the **Name** header to alphabetize the file listing.



- h) Locate and click **Xpdy2k.zip** to highlight the file name.



- i) On the WinZip toolbar click **Extract**.
- j) The **Extract** window opens. Select **Selected Files** from the **File** area. In the **Folders/drives** area, browse to **C:\XPD**.
- k) Click **Extract**. The Xerox Print Driver files are extracted into the XPD folder on the server.
3. Click **Start > Settings > Printers**.
 4. Double-click **Add Printer**.
 5. The **Add Printer Wizard** appears. Click **Next**.
 6. The **Local or Network Printer** window appears. Click **Local Printer**. Clear **Automatically detect and install my Plug and Play Printer**. Click **Next**.
 7. For the port select **LPT1**. Click **Next**.

8. The list of manufacturers of printers appears. Click **Have Disk**.
 9. The **Install from Disk** dialog box appears. Click **Browse** and browse to **C:/XPD**.
 10. When in the XPD folder click **webxpd.inf**. Click **Open**.
 11. The **Install From Disk** dialog box reappears. Click **OK**.
 12. Select **Web Document Submission PS Color Plugin**. Click **Next**.
- Note:** Only the color driver needs to be selected since it will handle both color and black and white jobs.
13. Type **XDX PDFwriter** in the Printer name text box. Click **Next**.
- Note:** The print name is case and space sensitive. There is a space between the letter X and the letter P.
14. Click **Do not share this printer**. Click **Next**.
 15. To ensure that a test page is not printed click **No**. Click **Next**.
 16. The **Completing the Add Printer Wizard** window appears. Click **Finish**. The Wizard indicates that files are being copied.
 17. A warning that the **Digital Signature not found** appears. Click **Yes**.
 18. Close all open windows. The XDX printer driver has been installed.

Installing Microsoft Office XP

Microsoft Office XP must be installed in order for print drivers to process Office documents.

Perform the following to install Microsoft Office:

1. Insert the Microsoft Office XP CD in the CD-ROM drive.

Note: If the Microsoft Office installation does not begin after inserting the CD, follow the instructions distributed with Microsoft Office on manually starting an installation.

2. Start the installation process and choose **Typical** installation.
3. Accept all defaults ensuring that Word, Excel, and PowerPoint are installed.
4. Remove the CD from the CD-ROM drive.
5. Restart Windows when prompted.

Post Installation Tasks

In order for the Web Document Submission system to operate, Adobe Acrobat Reader, and Microsoft Office must be started to accept license agreements. Failure to do so will keep the system from operating.

Start both Adobe Acrobat and Microsoft Office. Accept their licensing agreements, activate the products, and then close Acrobat and Office before installing Web Document Submission.

Note: Microsoft Office must be activated. Failure to activate the product will cause Microsoft Office to reduce features after 30 days resulting in a malfunction of Web Document Submission.

Web Document Submission License Generation

Generate a license using the XDX License Generation Tool 1.0 before installing Web Document Submission.

Tip: This procedure saves the license file to the **My Documents** folder on the Web Document Submission server. The standard installation of Windows 2000 Server has this folder as a default. Windows NT needs to have this folder created before creating the license. Create the My Documents folder at the root directory of the C: drive.

Perform the following to generate a license:

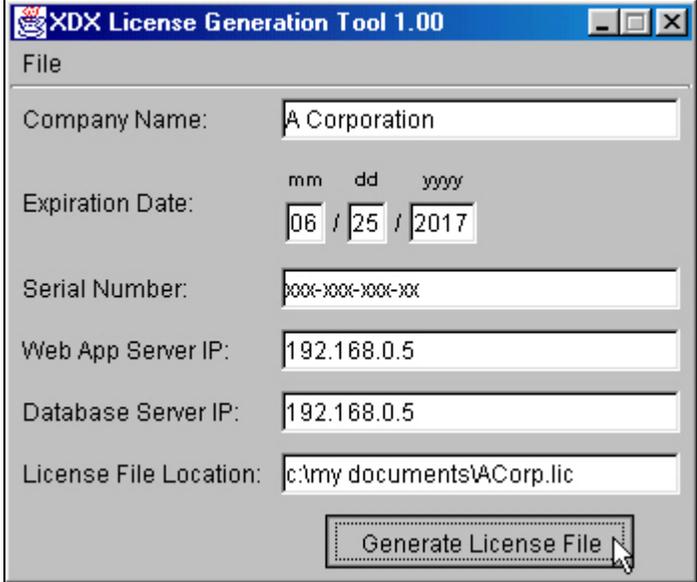
1. Insert the Web Document Submission installation CD into the CD-ROM drive on the Web Document Submission server.
2. Double-click **My Computer**.
3. Double-click the CD-ROM drive where the Web Document Submission software appears.
4. Double-click **license_gen.bat**.
5. After a few moments the **XDX License Generation Tool 1.00** window appears. Type the following information into the appropriate fields:
 - **Company Name** – Type the full company name
 - **Expiration Date** – Type the date that is 15 years from the installation date
 - **Serial Number** – Type the serial number
 - **Web App Server IP** – Type the IP address of the Web Document Submission server
 - **Database Server IP** – Type the IP address of the Web Document Submission server
 - **License File Location** – Type the name of the license file in the following format:

c:\my documents\<<license file name>.lic

The license file name should be no more than eight characters long.

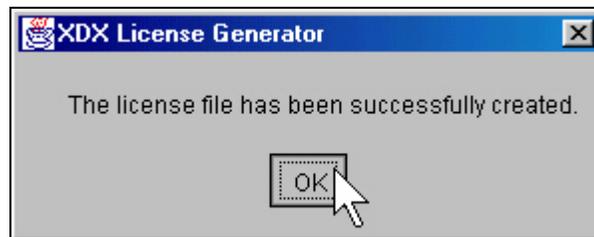
Tip: Saving the license file to the **My Documents** folder on the server to simplifies locating the license file and eliminates the need to recreate a license if the system needs to be reinstalled.

When all the fields are complete click **Generate License File**.



The screenshot shows the 'XDX License Generation Tool 1.00' window. It has a 'File' menu and several input fields. The 'Company Name' field contains 'A Corporation'. The 'Expiration Date' field is split into three boxes for 'mm', 'dd', and 'yyyy', with values '06', '25', and '2017' respectively. The 'Serial Number' field contains 'xxx-xxx-xxx-xx'. The 'Web App Server IP' and 'Database Server IP' fields both contain '192.168.0.5'. The 'License File Location' field contains 'c:\my documents\ACorp.lic'. A 'Generate License File' button is located at the bottom right of the window.

6. The **License Generator** window appears. Click **OK**.



Note: If the program indicates an error with the expiration date, exit the program and start the licensing process again. The expiration date cannot be edited once set.

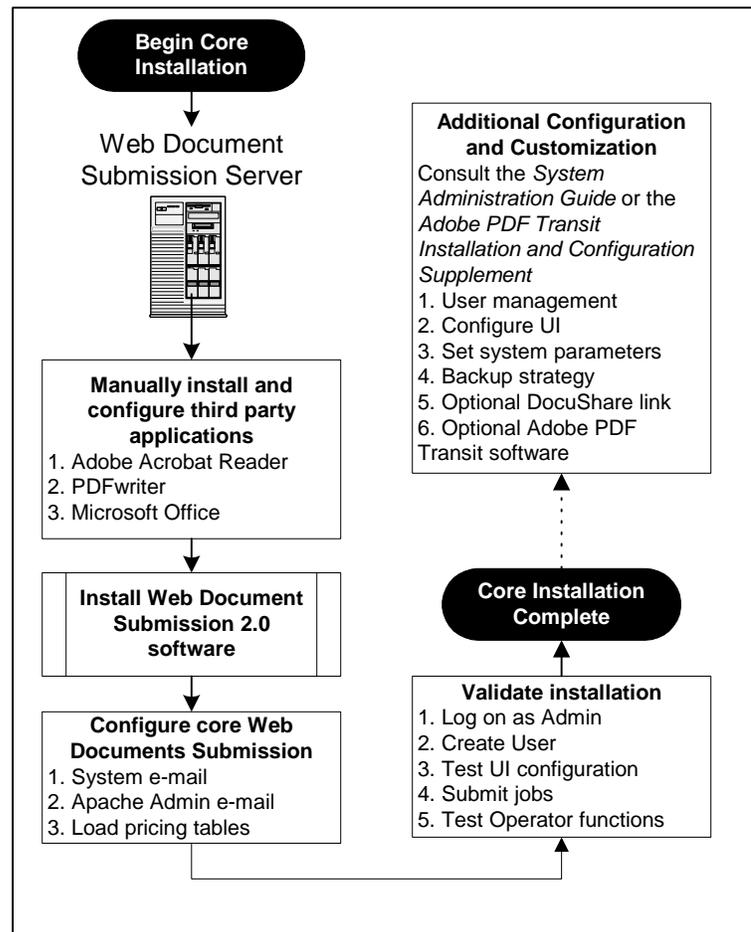
Installing Web Document Submission

This section gives procedures on installing the core Web Document Submission software. Once operational, the chapters that follow give procedures on testing the installed configuration of the software at a customer site.

CAUTION: Ensure that the Display Properties for the server monitor is set to a minimum of 256 colors. The installation program will not appear on the screen if a lower number of colors is selected.

The Web Document Submission server contains the application server software, the database server, the web server software and the repository. Figure 4-3 illustrates the workflow for installing the core product.

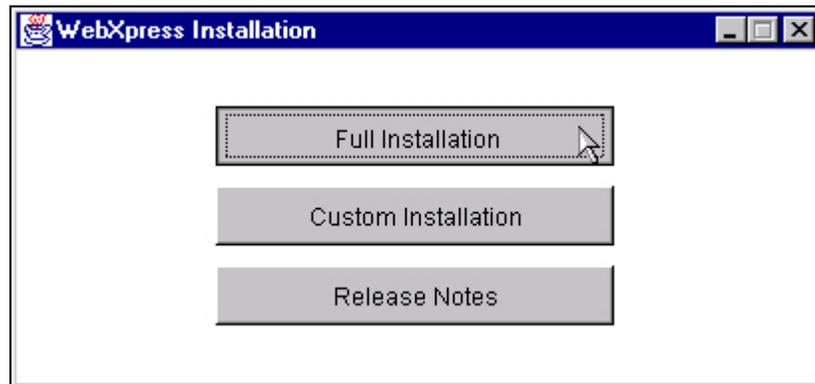
Figure 4-3. Web Document Submission software installation workflow



Web Document Submission Software Installation

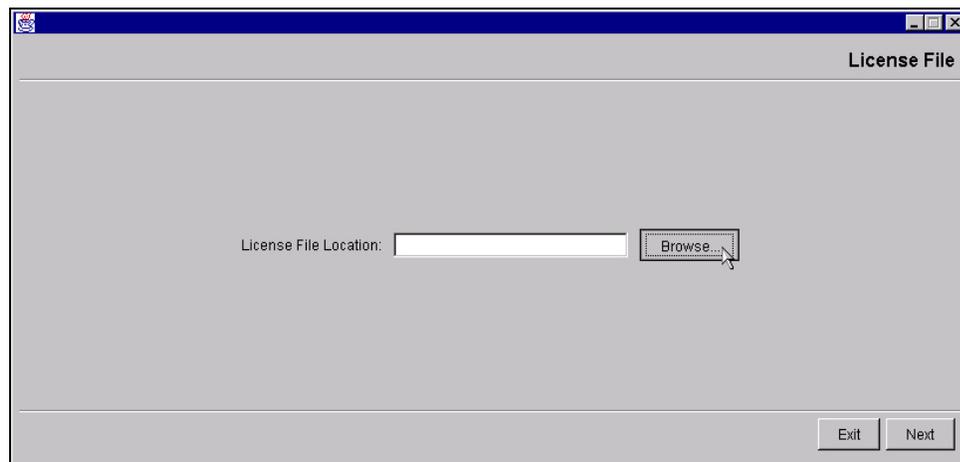
Perform the following to install Web Document Submission software on the server:

1. Insert the Web Document Submission installation CD into the CD-ROM drive of the server.
2. Double-click **My Computer**.
3. Double-click the CD-ROM drive where the Web Document Submission software appears.
4. Double-click **runInstaller.bat**.
5. A command window appears followed the **WebXpress Installation** window. Click **Full Installation**.

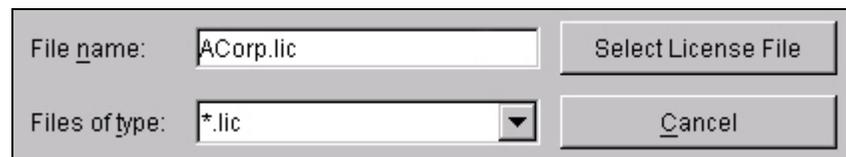


Note: The WebXpress Installation window may appear behind the Command window when installing on a Windows 2000 server. Minimize the Command window to see the Installation window.

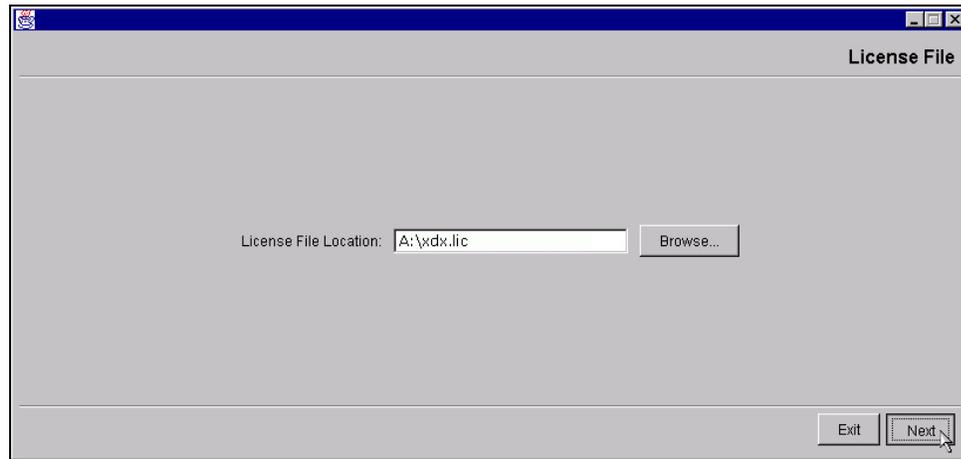
6. The **License File** window appears. Click **Browse**.



7. Browse to **C:\My Documents**. The filename for the license created will appear. Click the file name and then click **Select License File**.



8. The **License File** window reappears. Click **Next**.

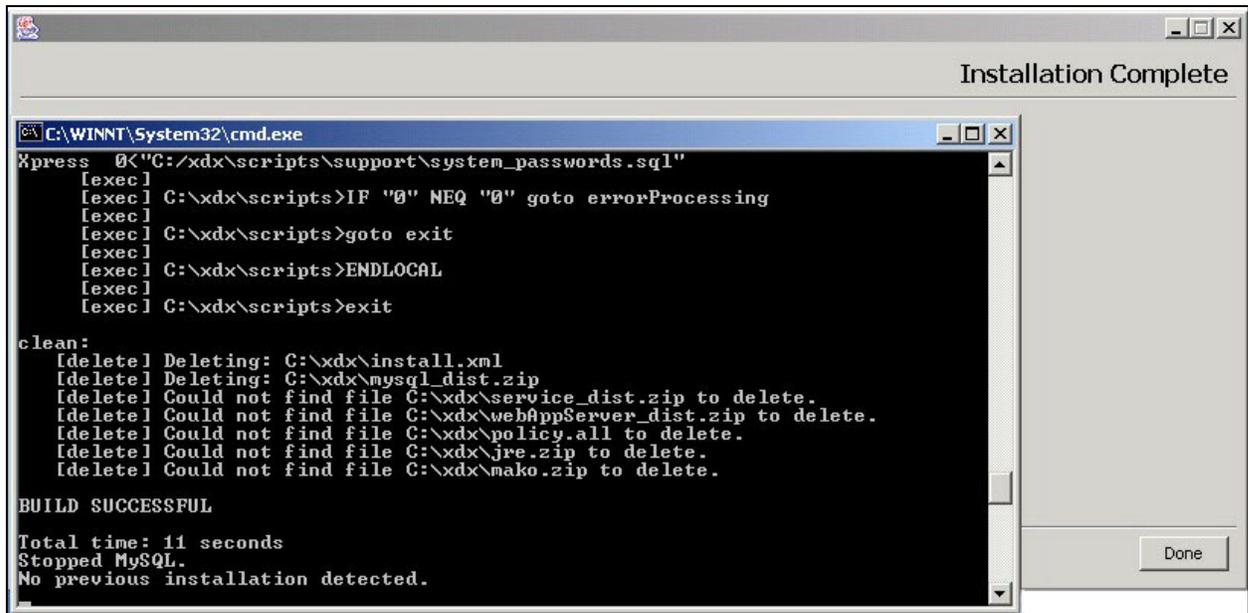


9. The **Installation Location** window appears. The default installation directory is **C:/wdx**. Ensure the **Server address** is the IP address of the server where Web Document Submission is being installed. Click **Install**.



Tip: The Command Window will disappear behind the Installation Window. Move the command window in front of the Installation window in order to monitor the status of the installation. The message **BUILD SUCCESSFUL** will appear several times. This does not mean the installation is complete.

10. After several minutes, the **Installation Complete** window appears. Click **Done**.



Exit the Installation Program

Perform the following to exit the installation program:

1. The **WebXpress Installation** window reappears. To exit the installation program, click **X**.



2. Remove the installation CD.
3. Restart the server.

If there were problems and the installation did not complete properly, consult *Chapter 6 – Troubleshooting*.

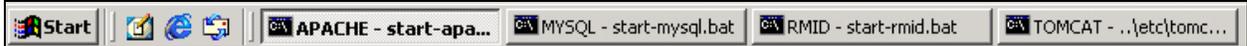
Configuring the Web Document Submission Core Installation

The addresses for the e-mail server and administrator must be configured for the Web Document Submission system to operate properly.

CAUTION: Without these addresses configured, the Web Document Submission system will not accept any new users.

Perform the following to set e-mail server and administrator addresses for the system:

1. On the server, double-click **My Computer**. Go to **C:\xdx\scripts** and double-click **xwdss-startup.bat**.
2. As Web Document Submission services begin, buttons appear on the taskbar to show running processes. Processes started are **APACHE**, **MYSQL**, **RMID**, and **TOMCAT**.



3. Almost instantly, the **APACHE** button disappears from the taskbar. To see any system messages delivered to any of these processes, simply click the button to view the window for the desired process. The window may have to be resized in order to see the system messages.

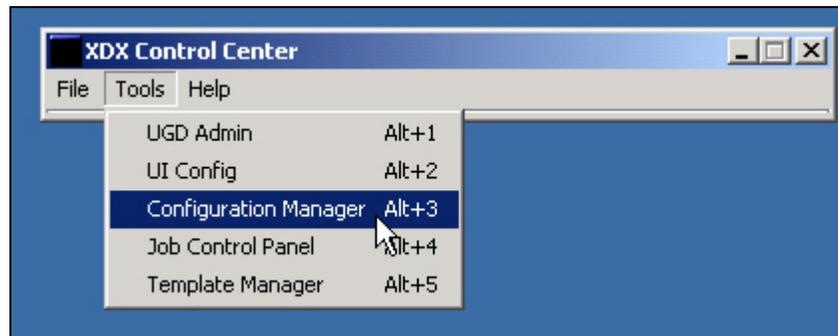


4. Once the Web Document Submission processes have started go to **C:\xdx\scripts** and double-click **ControlCenter.bat**.

Note: To simplify startup of Web Document Submission, create shortcuts to **xwdss-startup.bat**, **xwdss-shutdown.bat**, and **ControlCenter.bat** batch files and place them on the desktop.



5. On the **XDJ Control Center** click **Tools > Configuration Manager**.



6. The **configuration_control_panel** window opens. Click the **+** next to the **xdxConf** folder.
7. Click the **+** next to **properties**.
8. Click the **+** next to the **Email** folder.

Note: This next set of configuration items deals with e-mail properties. Consult the *Web Document Submission Installation Planning Guide* for the required information for this section.

9. Click **Email Subject**. Replace the default subject line with the subject line of the e-mail messages sent to warn users that their documents will be deleted.
10. Click **Admin Email Address**. Type the Web Document Submission administrator e-mail address in place of the default property value.
11. Click **Email Enabled**. Ensure that the value is set to **true** if users are to be notified by the system about the status of their jobs.
12. Click **Email Footer**. Type the text to be appended to the end of every outgoing e-mail message.
13. Click **Printshop Name**. Type the name of the print shop, used in e-mails to users in place of the default property value.

WARNING! Do not use an ampersand (&) in the Print Shop name. Doing so will cause the Web Document Submission system to malfunction.

14. Click **Email Server**. Type the IP address of the designated e-mail server.
15. Click **File > Save** to save all changes.
16. If required, enter the Username **Admin** and the Password **22222**. Click **OK**.

17. Click **X** to close the **configuration_control_panel** window.



18. Click **X** to close the **XDX Control Center**.
19. Go to **C:\xdx\scripts** and double-click **xwdss-shutdown.bat**.
All processes stop. The core system is now installed.

Configure Apache Administrator E-mail Address

The Apache web server software can e-mail the system administrator if there are internal problems with the web server. Follow these instructions to set the e-mail address:

Perform the following to configure the Apache Administrator e-mail address:

1. On the server double-click **My Computer**.
Go to **C:\xdx\etc\Apache2\conf**.
2. Open **httpd.conf** in a text editor.
3. Search for the line **ServerAdmin user@domain.com** and replace **user@domain.com** with the System Administrator e-mail address.

```
#  
# ServerAdmin: Your address, where problems with the server should be  
# e-mailed. This address appears on some server-generated pages, such  
# as error documents.  e.g. admin@your-domain.com  
#  
ServerAdmin user@domain.com
```

4. Save the file, overwriting the existing httpd.conf.
5. Close all open windows.

5. Starting Up and Shutting Down

Web Document Submission is started and shut down from the Web Document Submission server.

CAUTION: After starting Web Document Submission services, the process windows are minimized. **DO NOT** close the process windows since doing so shuts down Web Document Submission.

Starting Web Document Submission

Starting Web Document Submission requires activating a batch file on the Web Document Submission server. The following procedure starts the system for the first time.

Starting Web Document Submission For the First Time

Perform the following to start Web Document Submission for the first time:

1. On the server, double-click **My Computer**. Go to **C:\xdx\scripts** and double-click **xwdss-startup.bat**.

2. As Web Document Submission services begin, buttons appear on the taskbar to show running processes. Processes started are **APACHE**, **MYSQL**, **RMID**, and **TOMCAT**.



3. Almost instantly, the **APACHE** button disappears from the taskbar. To see any system messages delivered to any of these processes, simply click the button to view the window for the desired process. The window may have to be resized in order to see the system messages.



The following figure, Figure 5-1, describes the components started.

Figure 5-1. Description of components started with the Control Center

Component	Description
RMID (Remote Method Invocation Daemon)	A utility that Web Document Submission services use for activation
MySQL (Database Server)	The database management system that tracks users and jobs in the system
Tomcat (used by Web Server)	Tomcat is a servlet container with a Java Server Pages (JSP) environment. A servlet container is a runtime shell that manages and invokes servlets on behalf of users.
Apache (Web Server)	The web server for the Web Document Submission system

4. Once the Web Document Submission processes have started go to **C:\xdx\scripts** and double-click **ControlCenter.bat**. Double-click **Admin-LoadPricing.bat**. This batch file loads the base pricing tables into MySQL.

CAUTION: Pricing Tables are loaded only this one time. Loading the Pricing Tables again will erase any changes made since the tables were initialized the first time.

Testing Web Document Submission

Once Web Document Submission has been installed, test the software to ensure that it is operating correctly. The following steps are only a basic test to see if the software is functioning. To test system operations completely, consult the *Install Verification Procedure* chapter in *Appendix A*.

Testing Web Document Submission

Perform the following to test the Web Document Submission user log on:

1. Open a browser window on a workstation connected to the network or on the Web Document Submission server.
2. In the address line, type the IP address that will point to the Web Document Submission Web server. In most cases, it is the IP address of the Web Document Submission server, which hosts the web server software.

http:// <Web Document Submission server IP address>/xdx

3. The initial log on screen appears after several moments. Log on with the User name **admin** and the Password **22222**. Attempt to submit a job.

Perform the following to test the Web Document Submission administrator log on:

1. Open a browser window on a workstation connected to the network or on the Web Document Submission server.
2. In the address line, type the IP address that will point to the Web Document Submission Web server. In most cases, it is the IP address of the Web Document Submission server, which hosts the web server software.

http:// <Web Document Submission server IP address>/xdx/admin

3. The initial log on screen appears after several moments. Log on with the User name **admin** and the Password **22222**. Attempt to view the job that was submitted in the procedure above.

Shutting Down Web Document Submission

To shut down the system, first close the XDX Control center and then use a batch file to shut down Web Document Submission.

Shutting Down Web Document Submission

Perform the following to shut down Web Document Submission components:

1. Close the **Control Center** by clicking **X**.



2. Go to **C:\xdx\scripts** and double-click **xwdss-shutdown.bat**.
All processes close their corresponding command windows and the Web Document Submission system stops.

6. Troubleshooting

This section describes two methods for helping to diagnose problems that may occur. For further assistance with troubleshooting problems, consult *Chapter 7 – Contacts and Escalation Process*.

Installation Problems

The simplest way to ensure there are no installation problems is to have a clean server. Remove old versions of Web Document Submission or Documents Xpress. Any existing versions of MySQL and any Java must also be removed using their own uninstall programs.

Ensure that Microsoft Internet Information Services (IIS) is disabled.

If an installation is not working, often it is easier to delete the **C:\xdx** folder and begin the installation again. Shut down Web Document Submission and reboot the server. After the server has restarted, remove the **C:\xdx** folder. Complete instructions are given in the *Web Document Submission Software Version 2.0 System Administration Guide*.

Debugging Apache and Tomcat

The Apache server logs are located in C:\xdx\etc\Apache2\logs and the Tomcat logs are located in C:\xdx\etc\tomcat4.0\logs. These logs provide valuable troubleshooting information if the software is not operating properly.

Note: Each time Apache is started, the previous error log is reopened and new information is appended to the end of the file. If there is an error in the system, the logs will contain debugging information.

Debugging Web Document Submission Services

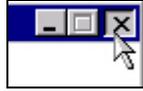
Debugging output is saved to file by each Web Document Submission service. If there is an error with the system, examine the service window of the appropriate service to determine where the error has occurred. Generally, if there is a problem, a Java exception will be displayed in the window. This message can be used to determine exactly what errors have occurred in the system.

The log file messages that appear for Tomcat can be modified by starting the **Configuration Control Panel** from the XDX Control Center. These steps assume the XDX Control Center is operational and the Web Document Submission system is running.

Perform the following to modify the logging messages for Tomcat:

1. On the **DXD Control Center** click **Tools > Configuration Manager**.
2. The **configuration_control_panel** window opens. Click the **+** next to the **xdxConf** folder.
3. Click the **+** next to **properties**.
4. Click the **+** next to the **Logging** folder.
5. Click **Log Status**.
6. Change the Property Value from **info** to **debug**. This will increase the level of information returned from the system.
7. Click **File > Save** to save all changes.

8. If required, enter the Username **Admin** and the Password **22222**.
Click **OK**.
9. Click **X** to close the **configuration_control_panel** window.



7. Contacts and Escalation Process

This chapter describes the support process and support contacts available for Web Document Submission.

Web Document Submission Support Process

At the time of installation, a Customer Solution Administrator (CSA) is identified. The CSA is available to manage all software-related issues. The CSA, who has the skills of a system administrator, handles the day-to-day service and support operations at the customer site. The CSA is the main interface to the Web Document Submission Support Center.

Note: If a problem relates to a Xerox output device and not the software please contact the appropriate Xerox Support Center for that product. If a problem relates to the computer server hardware, contact the manufacturer of the server.

This is the process for initiating support:

1. When the end user or operator encounters an error with the software, they should contact the CSA.
2. The CSA performs system level isolation and problem resolution for Web Document Submission.
3. If the CSA is not able to resolve the problem, the problem is escalated to Web Document Submission Support Center for support.

Note: Only the CSA can call the hotline for support.

Support Contacts

Web Document Submission has an e-Support website available at <http://www.xerox.com/webdocumentsubmission/support>. The e-Support website provides a searchable knowledgebase, Frequently Asked Questions (FAQs), and the ability to submit a support request via e-mail.

Contact the designated CSA for support. The CSA will contact the Web Document Submission Support Center if they require additional assistance. The Support Center can be reached at **1-888-508-5244**, 8:00 a.m. to 5:00 p.m., Monday through Friday, local time, Continental USA.

A. Install Verification Procedure

Use this chapter to verify a successful installation of Web Document Submission. Record all test results pertinent to a specific install in the worksheets provided in this chapter.

Functional Areas Being Verified

This section provides an overview of the functional areas verified after software installation.

Administrative Functions

Administrative functions that will be tested are listed in Table A-1.

Table A-1. Administrative functions and procedures

Function	Test Procedure
Log on as Administrator	1.1
Add Printer (Default and others in print shop)	1.2
Edit User Interface Using Admin Tools	1.3

Client Functions

Client functions that will be tested are listed in Table A-2.

Table A-2. Client functions and procedures

Function	Test Procedure
Register Your Account	2.1
Log on as End User	2.2
Edit User Profile	2.3
Submit Print Job Request – MS Word Document	2.4
Submit a Print Job Request – MS Excel Document	2.5
Submit a Print Job Request – Hard copy Document	2.6
Edit Personal Address Book	2.7
Edit Document Repository	2.8

Operator Functions

Operator functions that will be tested are listed in Table A-3.

Table A-3. Operator functions and procedures

Function	Test Procedure
Log on as Operator	3.1
Edit a Client Job Request – MS Word Document	3.2
Fulfill a Client Job Request – MS Word Document	3.3
Fulfill a Client Job Request – MS Excel Document	3.4
Fulfill a Client Job Request – Hard copy Document	3.5
Send a Print Job to Each Installed Printer	3.6

Install Verification Procedures

These install verification procedures test the basic system functionality of Web Document Submission. Run the Administrator and Operator verification procedures from any workstation on the system network except where noted. Test the Client verification procedures from a corporate client workstation.

Record all Pass / Fail results and provide a summary in the *Install Verification Record* at the end of this chapter.

1. Administrator Verification Procedures

The Administrator verification procedures test the major functions of a System Administrator using Web Document Submission.

1.1 Logging on as Administrator

Perform the following to log on as Administrator:

1. Open a browser window on a workstation connected to the network, or one of the Web Document Submission servers.
2. In the address line, type the IP address for the Web Document Submission server:

http:// <Web Document Submission server IP address>/xdx/admin

3. Type **admin** in the Username text box, type the admin password **22222** in the Password text box and click **Log On**.

Verify that the log on was successful. If unsuccessful, please note the observed system response.

1.2 Adding a Printer

Perform the following to add a printer:

1. While logged on as Administrator, click **Printers**. From the **Manage Printers** drop-down menu chose **Add Printer**.
2. Type the **Printer Name**, **Server Address**, **Printer Location**, and **Printer Description** in the text boxes provided. Select and click **Add Printer** to save the printer data.
3. On the **Manage Printers** drop-down menu, click **View Printers**.

Verify that the added printer is displayed according to the definition just supplied. If unsuccessful, please note the observed system response.

1.3 Editing the User Interface Using Admin Tools

Perform the following to edit the user interface using the Admin tools:

1. Move to the Web Document Submission server and restore the **DXD Control Center** screen.

2. Click **Tools > UI Config**. From the **Configure Colors** drop-down menu, select **Main Page Text Color**.
3. In the **Current Color** text box type:

#0000ff
4. Click **Commit Changes** and type the Admin Username and Password if requested.
5. Open a web browser to verify that, after logging on, the welcome message has blue text.
6. Change the **Current Color** for the **Main Page Text Color** back to:

#000000
7. Click **Commit Changes** and type the Admin Username and Password if requested.
8. Click **C:\xdx\scripts\wdss-shutdown.bat**. Close the **DXD Control Center**.
9. Click **C:\xdx\scripts\wdss-startup.bat** to restart Web Document Submission and return to the Home page.

Verify that the changes were saved and UI updates are visible on the affected web pages. If unsuccessful, please note the observed system response.

2. Client Verification Procedures

The Client verification procedures exercise the major end user functions of Web Document Submission.

2.1 Registering a Client Account – Self Registration

Perform the following to register a client account:

1. Open a browser window on a workstation connected to the network, or one of the Web Document Submission servers.
2. In the address line, type the IP address for the Web Document Submission server:

http:// <Web Document Submission server IP address>/xdx
3. Click **Self Registration**.
4. Type a user name and a valid e-mail address. To send the registration request click **Continue**.
5. In the **Temporary Password** field, type the temporary password provided on the system generated e-mail.

Note: The temporary password will be e-mailed to the address entered in step 4. The password can also be located at the end of the Tomcat window in the XDX Control Center.

6. In the **New Password** and the **Verify Password** fields, type a new password.
7. To log on to Web Document Submission click **Finish**.

Verify that a system-generated e-mail was sent to the registering end user containing the assigned system password. If unsuccessful, please note the observed system response.

2.2 Logging on as a User

Perform the following to log in as an end user:

1. Close the browser window from procedure 2.1. Open a new browser window.
2. In the address line, type the IP address for the Web Document Submission server:

http:// <Web Document Submission server IP address>/xdx

3. Type the user name registered in procedure 2.1.
4. Type the registered password in the Password box. Click **Log On**.

Verify that the log on was successful. If unsuccessful, please note observed the system response.

2.3 Editing a User Profile

Perform the following to edit a user profile:

1. From the Home page, click **User Profile**.
2. Fill in or modify User Profile fields for the user.
3. Click **Update Profile**. Click **Finish** to save the updates.

Verify that the user profile updates were successful by clicking **Log Off**, logging back on as the same user, and selecting **User Profile** from the menu. If unsuccessful, please note the observed system response.

2.4 Submitting a Print Job Request – MS Word Document

Perform the following to submit an MS Word document print job request:

1. From the User Home page, click **Submit**.
2. Click **Browse**. Select any MS Word document and click **Open**.
3. Click **Next** to upload the MS Word document to the repository on the Web Document Submission server.
4. Type **Test description** in the **Description** text box. Click **Next**.
5. The recipients for the job appear. Click **Next**.

6. Type **These are special instructions** in the **Special Instructions** text box. Click **Next**.
7. The **Verify your order** window appears. Review the order and then click **Submit Order**. Wait for the screen to refresh.
8. Record the **Job ID** for this job. This Job ID will be required for test procedure 3.2. Click **Finish**

Verify that the submitted job was successful. If unsuccessful, please note the observed system response.

2.5 Submitting a Print Job Request – MS Excel Document

Perform the following to submit an MS Excel document print job request:

1. From the User Home page, click **Submit**.
2. Click **Browse**. Select any MS Excel document and click **Open**.
3. Click **Next** to upload the MS Excel document to the repository on the Web Document Submission server.
4. Select any print options for this document job. Click **Next**.
5. The recipients for the job appear. Click **Next**.
6. Type **These are special instructions** in the **Special Instructions** text box. Click **Next**.
7. The **Verify your order** window appears. Review the order and then click **Submit Order**. Wait for the screen to refresh.

Verify that the submitted job was successful. If unsuccessful, please note the observed system response.

2.6 Submitting a Print Job Request – Hard Copy Document

Perform the following to submit a hard copy document print job request:

1. From the User Home page click **Submit**.
2. Click **Hard Copy**.
3. Select the print options for this document. Click **Next**.
4. The **Choose recipients for this job** window appears. Click **Next**.
5. Type **These are special instructions** in the **Special Instructions** text box. Click **Next**.
6. The **Verify your order** window appears. Review the order.
7. Click **Submit Order** to submit the print job order to the print shop. Wait for the screen to refresh.

Verify that the submitted job was successful. If unsuccessful, please note the observed system response

2.7 Editing the Personal Address Book

Perform the following to edit the Personal Address Book:

1. From the User Home page, click **Personal Address Book**.
2. Click **Add User**.
3. Fill in the fields with an imaginary user. When finished click **Add User**.

Verify that the new address was successful saved by clicking the name link of the user just added. Ensure the edits made were saved. If unsuccessful, please note the observed system response.

2.8 Editing the Document Repository

Perform the following to edit the Document Repository:

1. From the User Home page, click **Repository**.
2. Select a document from the repository. Select **Extend**. Click **Delete or Extend Document**.

Verify that the document selected for extension was extended from the repository. Typically, since there is just one document in the repository from these tests, the number of days remaining should not change. If unsuccessful, please note the observed system response.

3. Operator Verification Procedures

The Operator verification procedures test the major functions of an Operator using Web Document Submission.

3.1 Logging on as Operator

Perform the following to log on as Operator:

1. Open a browser window on a workstation connected to the network.
2. In the address line, type the IP address for the Web Document Submission server:

http:// <Web Document Submission server IP address>/xdx /admin

3. Type **operator** in the User Name text box.
4. Type the operator password **22222** in the Password text box and click **Log On**.

Verify that the log on was successful. If unsuccessful, please note the observed system response.

3.2 Editing a Client Job Request – MS Word Document

Perform the following to edit an MS Word document client job request:

1. From the Operator Home page locate the Job ID of the MS Word document previously submitted.
2. From the **Options** drop-down menu, choose **Edit Job**. Make some type of change to the job.
3. Click **Submit Edits**. The screen refreshes. Click **Finish**.
4. From the **Options** drop-down menu, choose **Inspect Job**.

Verify that the job properties were updated. If unsuccessful, please note the observed system response.

3.3 Fulfilling a Client Job Request – MS Word Document

A printer must already be added to the Web Document Submission system and the installer logged in as Administrator for this test to work.

Perform the following to fulfill an MS Word document client job request:

1. Using the job just edited in 3.2, from the **Options** drop-down menu, choose **Print Job**.
2. Under **Print Full Job**, select a printer from the drop-down menu.

3. Clear the **Skip Job Ticket** checkbox and click **Print**.
4. Click **Job Status**. Select **Succeeded** from the **Change Status to:** drop-down menu.
5. Click **Submit** to update the job status.
6. Click **Set Page Count** to confirm status change and update the page count if necessary.
7. Click **Job Status Page**.

Verify that the Job Status is **Succeeded**. If unsuccessful, please note the observed system response.

Note: If e-mail notification is activated, verify that the end user received an e-mail notification of job completion.

3.4 Fulfilling a Client Job Request – MS Excel Document

Perform the following to fulfill an MS Excel document client job request:

1. Using the job just edited in 3.2, from the **Options** drop-down menu, choose **Print Job**.
2. Under **Print Full Job**, select a printer from the drop-down menu.
3. Clear the **Skip Job Ticket** checkbox and click **Print**.
4. Click **Job Status**. Select **Succeeded** from the **Change Status to:** drop-down menu.
5. Click **Submit** to update the job status.

6. Click **Set Page Count** to confirm status change and update the page count if necessary.
7. Click **Job Status Page**.

Verify that the Job Status is **Succeeded**. If unsuccessful, please note the observed system response.

Note: If e-mail notification is activated, verify that the end user received an email notification of job completion.

3.5 Fulfilling a Client Job Request – Hard copy Document

Perform the following to fulfill a hard copy document client job request:

1. From the Operator Home page, locate the Job ID of the hard copy document previously submitted.
2. From the **Options** drop-down menu, click **Inspect Job**.
3. Click **Edit job ticket** to examine the job options selected for the hard copy document.
4. Print the job according to the client print request.
5. On the Web Document Submission Operator page click **Job Status**. Select **Succeeded** from the **Change Status to:** drop-down menu.
6. Click **Submit** to update the job status.
7. Click **Set Page Count** to confirm status change and update the page count if necessary.

8. Click **Job Status Page**.

Verify that the Job Status is **Succeeded**. If unsuccessful, please note the observed system response.

Note: If e-mail notification is activated, verify that the end user received an e-mail notification of job completion.

3.6 Sending a Job to Each Installed Printer

Perform the following to send a job to each installed printer:

1. From the Operator Home page, locate any Job ID with status of **Received in Print Shop**.

Note: If there is no job with the status of **Received in Print Shop**, change the status of any job to **Received in Print Shop**.

2. From the **Options** drop-down menu, click **Inspect Job** to view the job properties.
3. Click **Print Job**.
4. Under the heading **Print Full Job**, select a printer from the drop-down menu.
5. Click **Print** to send the job to the selected printer.
6. Repeat steps 4 and 5 for each installed printer.
7. Click **Job Status**. Select **Succeeded** from the **Change Status to:** drop-down menu.
8. Click **Submit** to update the job status.

9. Click **Set Page Count** to confirm status change and update the page count if necessary.
10. Click **Job Status Page**.

Verify that the job was successful and all printers could print job requests. If unsuccessful, please note the observed system response.

Install Verification Record

Use the following section to record results of the installation verification procedures. Comments concerning failure observations are recorded at the bottom of each procedure the previous section.

Results

Record results using the following tables. Describe what is observed if a procedure fails.

Administrative Functions

Test results for Administrative functions are recorded in Table A-4.

Table A-4. Administrative functions and test procedures

Function	Test Procedure	Results P – Pass or F – Fail
Log on as Administrator	2.1.1	
Add Printers (Default and others in print shop)	2.1.2	
Edit User Interface Using Admin Tools	2.1.3	

Client Functions

Test results for Client functions are recorded in Table A-5.

Table A-5. Client functions and test procedures

Function	Test Procedure	Results P – Pass or F – Fail
Register Your Account	2.2.1	
Log on as End User	2.2.2	
Edit User Profile	2.2.3	
Submit Print Job Request – MS Word Document	2.2.4	
Submit a Print Job Request – MS Excel Document	2.2.5	
Submit a Print Job Request – Hardcopy Document	2.2.6	
Submit a File Conversion Job Request – PDF	2.2.7	

Table A-5. Client functions and test procedures (continued)

Function	Test Procedure	Results P – Pass or F – Fail
Submit a File Conversion Job Request – PostScript	2.2.8	
Edit Personal Address Book	2.2.9	
Edit Document Repository	2.2.10	

Operator Functions

Test results for Operator functions are recorded in Table A-6.

Table A-6. Operator functions and test procedures

Function	Test Procedure	Results P – Pass or F – Fail
Log on as Operator	2.3.1	
Edit a Client Job Request – MS Word Document	2.3.2	
Fulfill a Client Job Request – MS Word Document	2.3.3	
Fulfill a Client Job Request – MS Excel Document	2.3.4	
Fulfill a Client Job Request – Hard copy Document	2.3.5	
Send a Job to Each Installed Printer	2.3.6	

Index

A

- Acrobat Reader
 - installation, 4-3
- Apache web server
 - debugging, 6-1
 - e-mail address setup, 4-21

D

- display properties. See installation – display properties

E

- e-mail properties configuration, 4-20

G

- generating license, 4-9

H

- hardware requirements, 3-1

I

- information requirements, 3-3
- installation, 4-1
 - Acrobat Reader, 4-3
 - administrator e-mail address, 4-18
 - configuring core installation, 4-18
 - display properties, 4-13
 - e-mail properties configuration, 4-20
 - e-mail server address, 4-18
 - license file, 4-15
 - Microsoft Office XP, 4-8
 - post installation tasks, 4-9
 - process, 4-1
 - testing, 5-3
 - verification procedure
 - administrative functions, A-1
 - administrator procedures, A-4
 - client functions, A-2
 - client procedures, A-7
 - install verification record, A-18
 - operator functions, A-3
 - operator procedures, A-13
 - workflow diagram, 4-13
 - Xpress Print Driver, 4-3

L

- license
 - generating, 4-9
- license file, 4-15

M

- Microsoft Office XP
 - installation, 4-8

P

- post installation tasks, 4-9
- printers

- Xpress Print Driver
 - adding, 4-3

R

- requirements
 - hardware, 3-1
 - client, 3-1
 - server, 3-1
 - information, 3-3
 - software, 3-2
- roles and responsibilities
 - print shop administrator, 2-2
 - print shop operator, 2-2
 - system administrator, 2-1
 - user, 2-3

S

- shutdown, 5-5
- software requirements, 3-2
- startup, 5-1
- support contacts, 7-2
- support process, 7-1

T

- testing solution installation, 5-3

V

- verification
 - installation, A-1

W

- Web Document Submission
 - overview, 2-1
 - related documentation, 1-3
 - support contacts, 7-2
 - support process, 7-1

Web server

- debugging, 6-1

X

- Xpress Print Driver
 - adding, 4-3

