



Xerox[®] Print Advisor Installation Guide



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Xerox® Print Advisor Architecture



Delivered as a hosted service, there are two components that make up Xerox® Print Advisor:

- The Xerox® Print Advisor Client, which is deployed within your organization.
- The Xerox® Print Advisor Application Server (hosted by Xerox®).

The components communicate over the Internet. To ensure the highest level of security, all communication is encrypted using SSL (Secure Sockets Layer).

Xerox® Print Advisor Client

The Xerox® Print Advisor Client is deployed in your organization and is used to track printing activity. When a user prints, Xerox® Print Advisor tracks the printing and analyzes it, determining the number of pages, pages printed in color, page coverage, application, printer used, duplex selection, etc. Based on the information about the print job, Xerox® Print Advisor may or may not display a user notification.

Note: The print job NEVER leaves your organization's network. Xerox® Print Advisor analyzes the print job internally and only gathers the print-job attributes or meta-data.

To address the different print architectures, Xerox® Print Advisor offers several different deployment options. To learn more, see the “Planning Your Deployment” section in the Xerox® Print Advisor *Administration Guide*.

Xerox® Print Advisor Application Server

The Xerox® Print Advisor Application Server is hosted by Xerox®. It is responsible for delivering the administration portal, as well as storing the meta-data about each print job. This architecture allows for the fast deployment of Xerox® Print Advisor into your organization.

Note: The availability of the Xerox® Print Advisor Application Server does not affect your organization's printing capabilities. For example, if the Xerox® hosting service is not available, printing will continue within your organization.

Preparing For Installation

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This section describes the system requirements, impact on workstations and print servers, as well as the planning steps for installing Xerox® Print Advisor.

Note: The same software package is used for all installations.

System Requirements

The following are the system requirements for both the print server and workstations:

System	Requirements
Operating System	Microsoft Windows 2000 Professional (SP4 or later) or Microsoft Windows XP Professional (SP2 or later) or Microsoft Windows Server 2003 (32-bit and 64-bit) or Microsoft Windows Vista (32-bit and 64-bit) or Microsoft Windows 2008 Server (32-bit and 64-bit)
System Software	Microsoft Windows .NET Framework (2.0 or later)
Disk Space	25 MB
Internet and Firewall	Internet access over SSL (Secure Socket Layer) port 443 * Name resolution between Xerox® Print Advisor-monitored print servers and workstations. Port 49218 to 49219 or alternative ports opened internally for communication between Xerox® Print Advisor-monitored print server and workstations. Note: This is the recommended default configuration when installing Xerox® Print Advisor on print servers and workstations. Other configurations are also supported. Please contact Technical Support for additional information.
Directory	All workstation user logins must be to an Active Directory domain within your organization. Note: The same software is installed on both the workstations and print server.

Supported Platforms

Along with the basic Windows Operating Systems, Xerox® Print Advisor also supports the following platforms:

- Print Clusters (Active/Passive)
- Terminal Server
- Citrix

Note: Please note that at this time, Active / Active print clusters are not supported.

Using a Proxy Server

If your organization uses a proxy server, it is highly recommended the Xerox® Print Advisor service run as a Domain Service Account (DSA). While Xerox® Print Advisor can run as the Network Service account, it rarely has sufficient authorization to navigate an organization's proxy server.

Using a Domain Service Account (DSA) with a proxy server creates many advantages:

- The DSA can be set up to communicate through the proxy server to the hosted Xerox® Print Advisor Application Server.
- DSA communication can be restricted to a known IP address range.
- The DSA can be set to a non-expiring password.
- Permissions can be restricted to only those needed to run Xerox® Print Advisor.
- The DSA can be centrally controlled.

The account you select for Xerox® Print Advisor must have the ability to navigate through your organization's proxy server.

Some proxy servers restrict traffic for processes that are allowed to communicate to the Internet and to which IP addresses they can contact. If your organization implements these server settings, you can apply the following:

For process names **prprn.exe** and **prprnct.exe**:

- Allow access to port 443
- Allow access to printadvisor.corp.xerox.com

Using a Domain Service Account

If a Domain Service account is used for Xerox® Print Advisor, it must be able to communicate to the hosted Xerox® Print Advisor Application Server over port 443 (SSL).

Note: Be sure to set up the Domain Service Account PRIOR to starting your installation. Altering the account information after installation is difficult and time-consuming if you have installed Xerox® Print Advisor on all your organization's workstations.

Securing the Domain Service Account

The Domain Service Account you install should be secured with Group Policy in accordance with your security policies for Service Accounts, or Microsoft's Service Account Guidelines available at <http://www.microsoft.com/downloads>

Applying Security Settings

If your organization does not currently have security policies in place for locking down service accounts, Xerox® recommends at a minimum that you apply the following settings:

Account	Settings
User Account	Set Password to never Expire. Use complexity requirements: <ul style="list-style-type: none"> • Minimum Password Length 8 with Special Characters). • Avoid using these special characters: \ " < > & (A password with these characters cannot be passed on the command line when you attempt to create an Administrative Installation Point.)
Group Policy	Deny logon locally (User Rights Assignments). Disable Shut Down the System (User Rights Assignments). Account Lockout Policy (three invalid attempts lock the account for 10 minutes). Requires Logon as a Service (User Rights Assignments). Deny log on through Terminal Services (User Rights Assignments). Disable Allow Logon Locally (User Rights Assignments). Set options to Enforcement (no override). Takes precedence over any Group Policy Object linked to child containers. Set Block inheritance flag. Create account as an Organization Unit-controlled subtree. Enable auditing on controlled subtree. Use the AdminSDHolder function; compares the privilege level every hour and ensures that the settings have not been altered.

Using a Network Service Account

Xerox® Print Advisor can be installed to run under the Network Service account. The advantages of using the Network Service account are as follows:

- Network Service is a built-in account defined on your workstations and servers.
- The Network Service account has sufficient privileges to run Xerox® Print Advisor.

The disadvantage with using a Network Service Account is that information does not have permission to pass through the proxy server in most organizations.

If your organization is contemplating moving to a proxy server in the future, you must change the login credentials for every Xerox® Print Advisor installed in the organization.

Notes:

- Windows 2000 does not have a Network Service account. In this environment, Xerox® Print Advisor uses the Local System account in place of Network Service.
- Always use a Domain Service Account if one is available. Only use the Network Service account if you are sure there is no requirement to navigate through a proxy server.

Impact on Workstations and Servers

Xerox® Print Advisor does not interfere or change your existing printing environment. It does not change your existing print queues or print drivers.

Note: Xerox® Print Advisor does NOT alter or change your existing print infrastructure.

Planning Checklist for Installation

The Xerox® Print Advisor installation takes only minutes to complete. Before starting however, you will need some basic information about your organization’s environment.

Below is a pre-installation checklist of the information required before starting the installation.

Pre-Installation Checklist

Item	Comments
Registration Information	The Company Name and Registration Key provided by Xerox® .
Port Assignments	If you are installing Xerox® Print Advisor on workstations and print servers, a minimum of two internal ports are required for these Xerox® Print Advisor sessions to communicate. Default ports are provided during installation.
Proxy Information	If your organization uses a proxy server, you will need to confirm the proxy information during installation.
Domain Service Account Information	If your organization uses dedicated service accounts to run Windows Services, you will need the Domain Service Account information.
Internet Access	Xerox® Print Advisor requires Internet access to communicate with the hosted Xerox® Print Advisor Application Server. Internet access is tested during installation.

Installing Xerox® Print Advisor on the Administrator’s Computer First

Xerox® Print Advisor has been designed to run and track file printing with little to no administration. To support this feature, it is important that Xerox® Print Advisor is first installed on the computer used by the person designated as the Xerox® Print Advisor Administrator. This setup will ensure that the Administrator is assigned correctly within Xerox® Print Advisor. After installation, the Administrator can assign new administrators or reassign administrator roles.

Additional Installation Notes

The Xerox® Print Advisor installation package includes the following:

- Standard MSI (Microsoft Windows Installer) package when deploying to the desktop.
- An installation package that is the same for workstations and print servers.
- Industry-standard installation procedures, including a completely automated uninstall procedure, should it be necessary.
- Installation without the need to reboot the workstations or print servers.
- The ability to be silently installed in many different ways, including SMS (Short Message Service) or any other network-management technology that can use an MSI.
- An application footprint which is only 25 MB.

Printer Drivers

A custom print driver is not installed with Xerox® Print Advisor. Use the same print drivers you have already installed.

- When you add a new printer or driver, Xerox® Print Advisor automatically monitors it. You do not have to take any additional action for the printer or driver to be monitored by Xerox® Print Advisor.
- We do not change any of your existing print drivers, print processors, port monitors or any print-environment setting. You can be sure the print environment you have today will be the same environment after installing Xerox® Print Advisor.
- We do not install a new print spooler. Continue to use the Windows print spooler.

Installing to Workstations and Print Servers

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To install Xerox® Print Advisor:

1. Launch the Xerox® Print Advisor set-up program by double-clicking **XeroxPrint AdvisorSetup_4.0_platform.exe**; the Install Shield Wizard appears. Platform is x86 or x64, depending on whether you are installing the application on a 32-bit or 64-bit operating system.
2. Click **Next**; the License Agreement appears.
3. To accept the licensing agreement terms, select **I accept the terms in the license agreement**.
4. Click **Next**; the Registration Information window appears.
5. Type the **Company Name** and **Registration Key** information for your organization.
6. Click **Next**; the Destination Folder window appears.
7. Click **Next**; the Proxy Server window appears.
8. Make your selection based on whether your organization uses a proxy server.
9. Click **Next**. If you selected **Yes** in the Proxy Server window, the Proxy Server Settings window appears.
10. Click **Next**; the Logon Information window appears.
11. Select the account where you wish to run the Xerox® Print Advisor service.

Note: If you use a proxy server in your organization, you must select **This Account** and enter the Proxy server's domain account credentials.

12. Click **Next**; the Xerox® Print Advisor Port window appears.
13. Enter the port range that Xerox® Print Advisor can use to communicate with computers on the local network. The Xerox® Print Advisor installer's suggested port range is acceptable in most organizations.

Note: These ports are used for communication between the Print Server and Client.

14. Click **Next**; the Ready to Install the Program window appears, asking if you want to review or change your installation settings.
15. Click **Install**; the Setup program will now verify your network connection.
16. Click **Install**. If the connection test fails, the Connection Test window appears. To review your settings, click **Back**.
17. Click **Install**. After a few seconds, if the Setup is unable to establish a network connection, you will see the following error message:

```
Verify that your connection to the Internet is active
Verify that you specified the correct proxy settings
```
18. If you are using a proxy server in your organization, ensure that you have selected a valid domain account and not the Network Service Account in the Logon Information window.

Note: Many organizations do not permit Network Service accounts access to the Internet through a proxy server.
19. After you have checked your settings and verified that you have an active Internet connection, click **Install** again; the Install Shield Wizard Completed window appears.
20. Click **Finish**. Xerox® Print Advisor has successfully installed.

Ensuring Xerox® Print Advisor is Running

Xerox® Print Advisor is not installed into the Start menu of Windows; it runs as a service. To confirm that Xerox® Print Advisor is running:

1. Open the Services Panel.
2. Locate the entry for the Xerox® Print Advisor service; the status of the service is displayed.

Performing an Unattended Installation

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The recommended method to deploy the application across your organization is to use an Administrative Installation Point (AIP).

Creating the Administrative Installation Point

1. Run the Xerox® Print Advisor setup program with the **PR_CREATE_ADMIN_CMDLINE=1** command-line option:

```
XeroxPrintAdvisorSetup_4.0_platform.exe /v"PR_CREATE_ADMIN_CMDLINE=1"
```

2. Advance through the installation steps, selecting custom options as advised by the previous sections of this manual. When installation completes, the file `setupadmin.txt`, in the application folder (for example, `C:\Program Files\Xerox\Print Advisor`) contains the customized Administrative Installation Point command line options.

For example:

```
/a /v"PR_REGISTRATION_NAME=\"Company Name\" PR_REGISTRATION_KEY=PR12-3456-7890-1234-5678 PR_PORT_START=49218 PR_PORT_END=49219 PR_RUN_AS_LOCALSYSTEM=0 IS_NET_API_LOGON_USERNAME=\"DOMAIN\username\" IS_NET_API_LOGON_PASSWORD=\"Password\" PR_PROXY_SET=1 PR_PROXY_SERVER=proxysrv:8080"
```

Note: Line breaks in the above example are for readability only; replace line breaks with a space character.

3. To create the Administrative Installation Point, run the installer and append the contents of the `setupadmin.txt` file to the setup command line; this launches the installer in administrative mode.

For example:

```
XeroxPrintAdvisorSetup_4.0_platform.exe /a /v"PR_REGISTRATION_NAME=\"Company Name\" PR_REGISTRATION_KEY=PR12-3456-7890-1234-5678 PR_PORT_START=49218 PR_PORT_END=49219 PR_RUN_AS_LOCALSYSTEM=0 IS_NET_API_LOGON_USERNAME=\"DOMAIN\username\" IS_NET_API_LOGON_PASSWORD=\"Password\" PR_PROXY_SET=1 PR_PROXY_SERVER=proxysrv:8080"
```

4. The installer prompts for a network location where the `.MSI` file and other supporting files are placed. Choose a location that you can access later to install the application throughout your organization.

Example

[\\computer\share\Xerox](#)

To create the administrative installation point, click **Install**. The Administrative Installation Point (AIP) can now be used to deploy the application to other computers.

Installing from the Administrative Installation Point

Before using a deployment tool to roll out Xerox® Print Advisor throughout your organization, it is strongly recommended that you run the installation manually to verify that it works correctly.

1. Run Setup manually using the Windows Installer command line program, MSIEXEC. Use the **/i** option, followed by the full path to the Xerox® Print Advisor file, enclosed in double quotes. For readability, an optional space character may be used after the **/i** option. For example:

```
msiexec /i "\\computer\share\Xerox\Xerox Print Advisor.msi"
```

The example command line above launches Setup in interactive mode, with the full sequence of installer dialogs, pre-populated with whatever custom settings you defined when creating the Administrative Installation Point.

For example, if you specified the product registration information (company name and registration key) when creating the Administrative Installation Point, then the Registration Information dialog automatically contains your company name and registration key when you run Setup.

2. When you have successfully tested the MSI package, you are ready to deploy Xerox® Print Advisor. If you use a deployment tool such as SMS or Group Policy, you may proceed to add the Administrative Installation Point in your deployment package. If you do not use a deployment tool, the following section describes how to run the MSI package manually, in silent mode.

Installing Xerox® Print Advisor using Silent Mode

1. The installation can be launched in silent mode: Specify the **/quiet** option on the MSIEXEC command line. The application is installed silently, without any installer UI displayed.
2. To suppress any system restart that the installer might request (should it encounter a locked file that it cannot update), use the **/noreboot** option.

Note: If the **/noreboot** option is used and a locked file is found, that file is replaced automatically the next time the system is manually restarted.

For example:

```
msiexec /i "\\computer\share\Xerox\Xerox Print Advisor.msi"  
/quiet /norestart
```

Installing Xerox® Print Advisor using Installer Logging

Note: <LogFile> is a full path to a log file. If the path contains space characters, enclose the entire path in double quotes. Make sure that the path exists and that you have write permission to that directory.

An installer log file can be generated to help troubleshoot any installation problems that may occur. This is especially important for a silent install, which does not display any user interface feedback. Logging can be enabled with the /l option on the MSIEXEC command line:

```
Logging Option Syntax

/l*v! <LogFile>

* - Log all information
v - Verbose output
! - Flush each line to the log
```

In this example, Setup is run from an Administrative Installation Point on a shared network, in quiet mode, with verbose logging enabled:

```
msiexec /i "\\computer\share\Xerox\Xerox Print Advisor.msi" /quiet
/norestart /l*v! "C:\TEMP\msilog.txt"
```

Note: Line breaks in the above example are for readability only; replace line breaks with a space character.

Automated Uninstall

Xerox® Print Advisor can be removed automatically, with no user interface displayed. Replace **\\computer\share\Xerox\Xerox Print Advisor.msi** with the actual path to the MSI originally created for your installation.

In the following example, the application is removed silently, with any (potential) reboots suppressed:

```
msiexec /X "\\computer\share\Xerox\Xerox Print Advisor.msi"
/quiet /norestart
```

Note: Line breaks in the above example are for readability only; replace line breaks with a space character.

For further reference, see Standard Installer Command-Line Options at <http://msdn.microsoft.com>

Installing to Print Clusters

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For information on installing Xerox® Print Advisor into a Print Cluster environment, please contact Technical Support at 1-800-821-2797.

Installing Xerox® Print Advisor on a Terminal Server

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Xerox® Print Advisor has no special requirements for installation on a Microsoft Terminal Server.

To install Xerox® Print Advisor on a Terminal Server:

1. Ensure that you are logged into the Terminal Server at the console or through a remote session.
2. Start the Xerox® Print Advisor installer and complete the installation as noted in “Installing Xerox® Print Advisor to Workstations and Print Servers.”

Impact on User Sessions

Each user initiating a Terminal Server session is assigned a Xerox® Print Advisor Client. The Xerox® Print Advisor Client is represented by an icon in the System Tray and functions the same as if Xerox® Print Advisor had been installed on a user’s workstation.

Impact on System Resources

- Each user session is assigned a Xerox® Print Advisor Client, taking up approximately 1 MB of memory.
- The Xerox® Print Advisor Service is shared between all user sessions. The Xerox® Print Advisor Service requires about 10 MB of memory.
- An additional amount of memory is required when a print job is created through a Terminal Server session. The amount of memory is dependent on the size of the spool file, the complexity of the document, and the nature of the user notification triggered (if any).
- All memory allocated during analysis and business-rule presentation is immediately recovered when the print job completes.

Installing Xerox[®] Print Advisor on a Citrix Server

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Xerox[®] Print Advisor has no special requirements for installation on a Citrix Server.

To install Xerox[®] Print Advisor on a Citrix server:

1. Ensure that you are logged into the Citrix Server at the console or through a remote session.
2. Start the Xerox[®] Print Advisor installer.
3. Complete the installation procedure following the instructions in “Installing Xerox[®] Print Advisor to Workstations and Print Servers.”

Impact on User Sessions

Each user initiating a Citrix server session is assigned a Xerox[®] Print Advisor Client. The Xerox[®] Print Advisor Client is represented by an icon in the System Tray and functions the same as if Xerox[®] Print Advisor had been installed on a user’s workstation.

Impact on System Resources

- Each user session is assigned a Xerox[®] Print Advisor Client, requiring approximately 1 MB of memory.
- The Xerox[®] Print Advisor Service is shared between all user sessions. The Xerox[®] Print Advisor Service requires about 10 MB of memory.
- An additional amount of memory is required when a print job is created through a Citrix server session. The amount of memory is dependent on the size of the spool file, the complexity of the document, and the nature of the user notification triggered (if any).
- All memory allocated during print-job analysis and business-rule presentation is immediately recovered when the print job completes.