IBM

System i

Connecting to System i
System i Access for Windows: Installation and setup

Version 6 Release 1

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> **Note**
>
> Before using this information and the product it supports, read the information in "Notices," on page 73.

Contents

Chapter 1. Introduction

IBM® System i® Access for Windows® is a key offering in the System i Access Family. It offers a powerful set of capabilities for connecting PCs to System i platforms.

System i Access for Windows is compatible with Windows 2000, Windows XP, Windows Vista, and Windows Server 2003 operating systems. Users and application programmers can use it to leverage business information, applications, and resources across an enterprise by extending the System i resources to the PC desktop. Integrated graphical user interface (GUI) functions deliver increased productivity for users who access resources on System i platforms.

System i Access for Windows has the following features:

- It is a Windows client used over TCP/IP.
- It is a full-function client that includes a 5250 display and printer emulator, includes System i Navigator to manage your system, provides accessibility to DB2® for i5/OS® files, and more.
- It communicates with System i platforms over a secure connection that uses Secure Sockets Layer (SSL) encryption. In addition, it supports FIPS-compliance (Federal Information Processing Standards), by a client-side, SSL encryption switch.
- It provides a streamlined installation that also gives administrators more flexibility and control.
- It is Java-compatible.
- It uses file and print serving capabilities integrated into the System i Support for Windows Network Neighborhood (i5/OS NetServer™) function.
- It includes an extensive number of application programming interfaces (APIs), such as APIs for ODBC, Active X, ADO, OLE DB, and ADO.NET.

    Related concepts

    System i Access for Windows: Administration

    System i Access for Windows: Programming

System i Access for Windows: Installation and setup

To use System i Access for Windows, it needs to be installed and configured on both the System i platform and the PC.

This topic assumes that the system administrator installs and configures the System i platform, while the users install System i Access for Windows on the PC.

Note: By using the code examples, you agree to the terms of the Code license and disclaimer information.

    Related concepts

    System i Access for Windows: Administration

    System i Access for Windows: Programming

What's new for V6R1

There is new and changed installation and set up information for this release of System i Access for Windows.

- The Windows Installer technology is being used.
- Support for Windows Vista has been added.

- Previously, the Tailored Installation Wizard let administrators control which System i Access for Windows components users could install. This ability has been replaced by Windows Installer Transforms. See "Transforms" on page 33 in the Methods to tailor an install package topic.
- Silent Installations have been replaced by User Level Interface.
- You can use Public Properties to control the user's environment. For information, see "Public properties" on page 40.
- Service Packs are implemented by using minor upgrades. See "Preparing to install service packs on multiple PCs" on page 55 for more information.
- EZ-Setup and the ADO Wizards for Visual Basic have been removed.

What's new as of 24 October 2008

Service pack SI31390 provides secondary language support for System i Access for Windows V6R1M0.
- After you install service pack SI31390 or later, you can install secondary languages on the PC.
- You can migrate secondary languages during an upgrade of System i Access for Windows to V6R1M0 on the PC only if you use a V6R1M0 installation image that contains service pack SI31390 or later to perform the upgrade.

The following topics have been updated:
- "Installing other language versions" on page 66
- "Upgrading System i Access for Windows" on page 67

What's new as of 26 August 2008

Intel® 64-bit Xeon® processors are based on the AMD64 (also known as x64) architecture; therefore, System i Access for Windows support for AMD64 also includes Intel 64-bit Xeon. The following topics have been updated:
- "i5/OS storage requirements" on page 5
- "Prerequisites to set up the PC for System i Access for Windows" on page 12
- "Finding the installation image to be tailored" on page 33
- "Using Licensed Program 5761-XE1 as the installation source" on page 51
- "Using the *System i Access for Windows* DVD as the installation source" on page 52
- "Creating your own installation DVD" on page 52
- "Using command line parameters to change the installation behavior" on page 53

How to see what's new or changed

To help you see where technical changes have been made, the information center uses:
- The ≫ image to mark where new or changed information begins.
- The ≪ image to mark where new or changed information ends.

In PDF files, you might see revision bars (|) in the left margin of new and changed information.

To find other information about what's new or changed this release, see the Memo to users.

PDF file for System i Access for Windows: Installation and setup

You can view and print a PDF of this information.

To view or download the PDF version of this document, select System i Access for Windows: Installation and setup (about 773 KB).

Saving PDF files

To save a PDF on your workstation for viewing or printing:
1. Right-click the PDF link in your browser.
2. Click the option that saves the PDF locally.
3. Navigate to the directory in which you want to save the PDF.
4. Click **Save**.

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License information for System i Access for Windows

IBM System i Access for Windows is a licensed program. Some features require an System i Access Family (5761-XW1) license before you can use them. All features are installed with the System i Access for Windows program.

To use the System i Access Family licensed program (5761-XW1), you must determine the usage limit of the license, update the usage limit on your System i platform, and enter the license key information.

The following features require an System i Access Family license and an i5/OS license before you can use them:
- 5250 Display and Print Emulator
- Data Transfer

Important: A software license key is required for System i Access Family 5761-XW1. System i Access Family is included on the Keyed Stamped Media that comes with all i5/OS software orders for the specific release. You receive a license key if you order 5761-XW1. If you have not ordered 5761-XW1, you can evaluate the product from the keyed stamped media for 70 days. At the end of the 70-day evaluation period, the product will be disabled if you have not ordered the product and received a software license key. The software license key is an 18-digit authorization code that allows the software product and feature on the keyed stamped media to be used on a specified System i platform.

All features other than 5250 Display and Print Emulator and Data Transfer features require only an i5/OS license before you can use them.

The type of installation you choose to perform determines which features are installed. Following are the types of installations you can choose and whether or not the feature requires a license to install:
- The **Complete** and **PC5250 User** installation types include features that require an System i Access Family license.
- With the **Custom** install choice, you can choose which features to install. Depending on the features you select, you might not be required to have an System i Access Family license. The setup program lists the features that require a license.

Note: A license is not required to install the 5250 Display and Print Emulator feature or the Data Transfer feature, but a license is required to **run** these features.

Usage limit for a license

System i Access for Windows clients are licensed by the number of concurrently active PCs accessing System i platforms. A PC running System i Access for Windows holds a license through the duration of

the licensed function plus additional time that is specified in the System i Access for Windows properties page. When this time expires, the license is available for another PC to use. If a PC accesses a licensed program on more than one System i platform, that PC requires a license on each System i platform to which it connects using a licensed function.

When using System i Access for Windows on a PC, more than one session to the System i platform can be established on that PC, but only one System i Access Family license is used. For example, you can start many 5250 emulation or Data Transfer sessions, but the PC requires only one license.

System i Access for Web (5761-XH2) is another product that requires System i Access Family licenses. Be aware that if the System i Access for Web product is being used on the same PC as System i Access for Windows, each of those products will use a separate license. Therefore, when using both products, one PC will use a minimum of two System i Access Family licenses. For more information about license usage for System i Access for Web, see the License information for System i Access for Web topic.

Licensing is managed at the System i Access Family level, not at the individual client level. Therefore, any combination of the System i Access for Windows and System i Access for Web clients is allowable up to the license limit.

To determine the System i Access license usage limit, do the following:
1. Type the WRKLICINF command on the System i platform to which you intend to connect. A list of products appears.
2. Type 5 in the entry field next to the product 5761XW1, Base, Feature 5050. This will display the details for the System i Access Family License product, including the usage limit. The usage limit should be equal to the number of licenses that are purchased for System i Access Family. Any number exceeding the purchased limit violates the IBM license agreement.

Use the System i Access Family licensed program

To use the System i Access Family licensed program (5761-XW1), you must update the usage limit and enter the license key information.
1. To update the usage limit for the 5761-XW1 product on your system, do the following:
   a. Type the WRKLICINF command on the System i platform to which you intend to connect. A list of products appears.
   b. Type 2 in the entry field next to the product 5761XW1 Base, Feature 5050. Change the usage limit to the number of licenses that you have purchased for System i Access. If you have purchased the processor-based option for System i Access, enter the value *NOMAX for usage limit. Entering any number that exceeds the purchased limit violates the IBM license agreement.
2. To enter the license key information, do the following:
   a. Type the WRKLICINF command on the System i platform to which you intend to connect. A list of products appears.
   b. Type 1 in the entry field next to the product 5761XW1 Option 1, Feature 5101.
   c. Enter the license key information. For information about entering license key information, see "Required and optional programs to install" on page 5.

Setting up the system for System i Access for Windows

Use this information to guide you through the steps necessary to install and configure System i Access for Windows on the System i platform.

You must install System i Access for Windows on your system before you can install System i Access for Windows service packs. After the installation on your system is complete, you can install System i Access for Windows from the System i platform to the client PCs.

Related concepts

"Setting up the PC" on page 11
After System i Access for Windows is installed and configured on i5/OS, you need to install and configure System i Access for Windows on your PC.

Related reference

"Related information" on page 68
Find other sources of information about System i Access for Windows.

Prerequisites to install System i Access for Windows on i5/OS

This information steps you through determining which required and optional programs you should install on i5/OS.

You should install all required and optional programs at the same time.

Choose from the following topics to verify that your System i platform meets the requirements for installing System i Access for Windows.

i5/OS release requirements:

System i Access for Windows supports certain versions and releases of the system.

System i Access for Windows V6R1 (5761-XE1) only installs on systems with i5/OS V5R4 or later. If you are installing on a system that does not meet this criteria, you need to follow the Install, update, or delete i5/OS and related software instructions before you install 5761-XE1.

Also, you might need to upgrade other systems to which your PC connects, after System i Access for Windows has been installed on your PC. IBM only supports PC connections to systems with i5/OS V5R3 and later. If these systems do not meet this criteria, you need to upgrade the i5/OS on these systems to a supported release by following the Install, update, or delete i5/OS and related software instructions.

In order to install on the System i platform, you need a security level of Security Officer (*SECOFR). This is the highest level of security on the System i platform. This security level is required for installation only, not for regular use of System i Access for Windows.

Related information

Installing, upgrading, or deleting i5/OS and related software

i5/OS storage requirements:

Your system must have sufficient storage to install System i Access for Windows.

Table 1. Space required on system to install System i Access for Windows

Amount	Purpose
168MB	Installation image for 32-bit processors
174MB	Installation image for 64-bit AMD processors, or for Intel 64-bit Xeon processors
153MB	Installation image for 64-bit Itanium® Processors
28.5MB*	Online help information, online User's Guide, messages
*This size is for the 2924 (English) national language version (NLV). Sizes vary according to the NLV.	

See Installing i5/OS and related software on a new server or logical partition for instructions on checking the amount of storage that is available on your system.

Required and optional programs to install:

There are programs you should install, depending on the System i Access for Windows functions that you will use.

As you go through this topic, make note of the programs you need to install. The names are needed as you walk through the installation steps.

Note: The System i Access for Windows primary language on the System i platform is set to the first System i Access for Windows language that you install. However, if you install a subsequent System i Access for Windows language that matches the i5/OS primary language, that language becomes the new System i Access for Windows primary language on the System i platform.

Required licensed program options

Table 2. Required programs to install for System i Access for Windows

Program	Option	Description
5761-SS1	12	Host Servers
5761-XE1	Base	System i Access for Windows
5761-XW1	Base, 1	System i Access Family
5761-TC1		TCP/IP Utilities
Note: Each product that you install needs to be at the latest level.		

Notes:

1. You only need to install System i Access Family 5761-XW1 Base and Option 1 if you want to use Data Transfer or PC5250 Display and Printer Emulation.

2. 5761-XE1 does not necessarily have to be installed on your system. Nevertheless, you need to install 5761–XE1 if you want to use the following parts of System i Access for Windows:
   - Service Pack management
   - Install through the System i platform

3. To use 5761-XW1, update the usage limit for the 5761-XW1 product on your system by doing the following:

   a. Type the `WRKLICINF` command on the System i platform to which you intend to connect. A list of products appears.

   b. Type 2 in the entry field next to the product 5761XW1 Base, Feature 5050. Change the usage limit to the number of licenses that you have purchased for System i Access Family. If you have purchased the processor-based option for System i Access Family, enter the value `*NOMAX` for usage limit. Entering any number that exceeds the purchased limit violates the IBM license agreement.

4. To use 5761-XW1, enter the license key information by doing the following:

   a. Type the WRKLICINF command on the System i platform to which you intend to connect. A list of products appears.

   b. Type 1 in the entry field next to the product 5761XW1 Option 1, Feature 5101. Enter the license key information.

      Note: ADDLICKEY values for Usage Limit and Processor Group for Feature 5101:
      - In the **Usage Limit** field on the ADDLICKEY display, always enter the value `*NOMAX`, as indicated on your key sheet, regardless of the usage limit entered for 5761XW1 Base (Feature 5050) when you updated your usage limit. The usage limit value of *NOMAX is required as part of the software key, but it is not a representation of the number of users licensed under a usage based license.

- In the **Processor Group** field on the ADDLICKEY display, enter the value *ANY for a user-based license. A processor-based license will have a processor group value that corresponds to the processor group licensed.

Optional licensed programs

Secure Sockets Layer (SSL) support with System i Access for Windows is available. To use SSL, order and install the products listed below. For these products, you are responsible for making sure that you are using the correct encryption for your region and for the regions in which your System i platform does business.
- 5761-SS1 - Digital Certificate Manager (Boss Option 34)
- 5761-DG1 (HTTP Server)

Notes:

1. Beginning with V5R4M0, SSL support is automatically installed on an upgrade of System i Access for Windows, if the PC already has a version of Client Encryption installed.
2. The SSL component contains encryption software from RSA Data Security, Inc.

See SSL descriptions in System i Access for Windows: Administration to learn more about configuring SSL.

Related tasks

"Installing System i Access for Windows on the i5/OS operating system"
When installing System i Access for Windows on the i5/OS operating system, you also need to install the required and optional programs.

Related information

Required and optional programs to install
See this topic for additional information on required and optional programs to install.

Installing System i Access for Windows on the i5/OS operating system

When installing System i Access for Windows on the i5/OS operating system, you also need to install the required and optional programs.

To install System i Access for Windows on the operating system, follow these steps:
1. Sign off all workstation users and end all connections.
2. Sign on to the system with Security Officer (*SECOFR) authority.
3. Load the medium containing the licensed programs on the installation device. If the licensed programs are contained on more than one medium, you can load any one of them.
4. If you are installing 5761-SS1, Option 12 (Host Servers), put the system in a restricted state. To put the system in a restricted state, follow these steps:
   a. At the command prompt, type the following command and press Enter:
      `CHGMSGQ QSYSOPR *BREAK SEV(60)`
   b. If the Display Messages display appears, press Enter. You return to the command prompt.
   c. At the command prompt, type the following command and press Enter.
      `ENDSBS *ALL *IMMED`

      This message is shown: `System ended to restricted condition`
   d. Press Enter to continue.
   e. At the command prompt, type the following command and press Enter.
      `CHGMSGQ QSYSOPR SEV(95)`
   f. If the Display Messages display appears, press Enter. You return to the command prompt.

The operating system is now in a restricted state.

| **Note:** After you have installed the programs, you can end the restricted state by starting the controlling subsystem. Use the Start Subsystem (STRSBS) command to start subsystems. The controlling subsystem is specified in the Controlling Subsystem (QCLTLSBSD) system value.

5. At the command prompt, type GO LICPGM, and then select option 11 (Install licensed programs).
6. Type 1 in the Option column next to each of the licensed programs that you need to install. Press Enter to continue. To determine which programs to install, see "Required and optional programs to install" on page 5.
7. On the Confirm Install of Licensed Programs display, confirm your choices and press Enter.
8. On the Install Options display, specify the following values and press Enter.

Parameter	Value
Installation Device	Name of the installation device. For example, OPT01.
Objects to Install	1
Automatic IPL	N

The installation of the licensed programs starts.

You can see a display that indicates the status of the installation. You do not need to respond to the status display.

If the licensed programs that you have selected are on multiple volumes, the installation program prompts you for a new volume. Load the next media volume, press G, and then press Enter. If you do not have any additional media volumes, press X, and then press Enter.

When the installation completes, the Work with Licensed Programs display is shown.
- If the installation is successful, this message is shown: `Work with licensed programs function has completed.` Press F3 to return to the command prompt.
- If the installation has failed, this message is shown: `Work with licensed programs function not complete.` See Installing, upgrading, or deleting i5/OS and related software to determine the problem.

Verify whether System i Access for Windows is installed correctly. At the command prompt, type `CHKPRDOPT 5761XE1`. If System i Access for Windows is installed correctly, you receive a message that CHKPRDOPT did not detect any errors.

Install the latest cumulative PTF package on the system.

Related tasks

"Obtaining and installing PTFs" on page 9
Fixes for System i Access for Windows are integrated into service packs, which are packaged into a program temporary fix (PTF) for delivery. Administrators can obtain the latest PTFs for their systems to avoid unnecessary service calls, to create a more stable operating environment for the System i Access for Windows client, and to correct known problems.

Related reference

Start Subsystem (STRSBS) command

Related information

Options for displaying, installing, deleting, and saving from a list

Option 11. Install licensed programs

Restart system values: Controlling subsystem/library

Obtaining and installing PTFs

Fixes for System i Access for Windows are integrated into service packs, which are packaged into a program temporary fix (PTF) for delivery. Administrators can obtain the latest PTFs for their systems to avoid unnecessary service calls, to create a more stable operating environment for the System i Access for Windows client, and to correct known problems.

Service pack PTFs update the System i Access for Windows installation image on the system. All client installations based on this image reflect the latest service pack level of the host system.

Note: Only users with administrator authority can perform installations, service pack updates, and upgrades to new releases. However, you can let your users without administrator privilege access scheduled tasks remotely. Alternatively, you can set the AlwaysInstallElevated policy. The AlwaysInstallElevated policy is one of the Windows Installer policies that you can use to control the Windows Installer behavior on client computers.

You have several options to obtain PTFs:

- Use the Send PTF order (SNDPTFORD) command to order PTFs for your system.

  Because the service pack PTFs generally exceed the size limit to be sent electronically, you can receive PTFs on media by changing the Delivery Method, DELIVERY parameter, to *ANY.
- Use Fix Central to obtain PTFs for your system.
- Order a service pack CD electronically, and place it directly in the integrated file system in a Virtual Optical Device from which you can install. To use this option, you must prearrange it with IBM service.

To learn more about PTF ordering options, go to the Support for IBM System i Web site (www.ibm.com/servers/eserver/support/iseries/index.html). Under **Popular links**, select **Fixes**.

To install PTFs, see Installing fixes for instructions. After you have installed PTFs on the host system, you can use the **Check service level** function to distribute service packs to client PCs.

Related concepts

"Check Service Level function" on page 56
Check Service Level is a function of System i Access for Windows. You can use it to detect updates to System i Access for Windows and related components on the system as well as to distribute service packs to client PCs.

"Windows Installer Policies" on page 48
You can control the Windows Installer behavior on your client computers by using System Policies for Windows Installer. This lets you configure some settings, like preventing users from installing or uninstalling Windows Installer-based applications, and letting restricted users run installations with elevated privileges.

Related tasks

"Using remote scheduled tasks" on page 25
You can use the scheduled tasks function of the Windows operating system with remote access to let your users install and upgrade System i Access for Windows, and install service packs, without administrator privileges.

"Using Windows Installer policies" on page 49
You can use Windows Installer policies to control the Windows Installer behavior on your client computers.

"Installing System i Access for Windows on the i5/OS operating system" on page 7
When installing System i Access for Windows on the i5/OS operating system, you also need to install the required and optional programs.

Related reference

You can avoid unnecessary calls to service for problems that might already have fixes, and create a more stable operating environment for your System i Access for Windows client by ensuring that you have the most recent service pack.

Service packs that you can run on a PC are available from the IBM FTP site. System i Access for Windows must be installed on the PC before you can install the service pack.

Configuring TCP/IP on the System i platform

TCP/IP is a licensed program that is supplied with the i5/OS operating system. You must configure TCP/IP appropriately, depending on how you connect the PC to the System i platform.

This information is based on the assumption that you have TCP/IP installed on the System i platform. For information about installing TCP/IP (5761-TC1) on the system, see Installing additional licensed programs.

If you have already set up TCP/IP on your system, you do not need to perform any additional TCP/IP configuration for System i Access for Windows.

Note: You can use a virtual private network (VPN) for secure remote connections.

Configuring TCP/IP for LAN use

If you plan to use System i Access for Windows over a LAN, you must configure TCP/IP for LAN use. For information about configuring TCP/IP on your system, see TCP/IP setup.

Configuring TCP/IP for PPP or SLIP connections

If you use SLIP or PPP to connect the PC to the system, see PPP connections for information about configuring point-to-point TCP/IP.

> **Related information**
>
> Virtual Private Networking

Configuring i5/OS NetServer on i5/OS

You can use i5/OS NetServer to make the System i Access for Windows installation image on the System i platform available to PC users.

System i Access for Windows uses the network drive or network printer capabilities provided by i5/OS NetServer. By relying on i5/OS NetServer, System i Access for Windows can use the file and print sharing capabilities integrated into Microsoft® Windows operating systems.

Notes:

1. i5/OS NetServer allows a Kerberos ticket for user authentication. Kerberos is a third-party authentication mechanism where the client proves its identity to a Kerberos server (or Key Distribution Center), and then receives a ticket in return. The client can then use that ticket to cryptographically prove its identity to other systems on the network. The Kerberos ticket is used to authenticate a user to a system rather than passing user ID and password as the authentication data. Microsoft has added Kerberos authentication abilities to Windows 2000 and Windows XP clients.

   For more information about Kerberos tickets, see Network authentication service protocols.

2. For information about domain logon support from i5/OS NetServer, see i5/OS NetServer domain logon support.

3. To configure i5/OS NetServer file and print sharing capabilities, see these instructions:
   - i5/OS NetServer file shares

- i5/OS NetServer print shares

Additional configuration instructions are available at Getting started with i5/OS NetServer.

PCs can access and benefit from i5/OS NetServer without additional software. However, if you need to administer i5/OS NetServer properties from your PC client, you must install the Network feature of System i Navigator.

To configure your system for i5/OS NetServer, follow these steps:

Prerequisites:

- Ensure that you have TCP/IP installed and configured on your system. If you do not, follow the instructions in "Prerequisites to install System i Access for Windows on i5/OS" on page 5 and "Configuring TCP/IP on the System i platform" on page 10.
- You must already have access to a PC that has System i Navigator installed.

1. Use the i5/OS NetServer wizard. To open the wizard, follow these steps:
   a. From System i Navigator, expand *yoursystem* → **Network** → **Servers** → **TCP/IP**.
   b. Right-click **i5/OS NetServer** and click **Configuration**.
2. Follow the prompts provided by the wizard. For additional information about i5/OS NetServer configuration, see i5/OS NetServer.
3. For easier management and resolution of TCP/IP addresses, add an entry for the i5/OS NetServer to a Domain Name Server (DNS). Configuration instructions are located in the System i Navigator online help and Configuring and connecting your PC client.
4. Restart i5/OS NetServer. Changes made to your i5/OS NetServer properties do not take effect until the next time i5/OS NetServer is started. To start or stop i5/OS NetServer, follow these steps:
   a. From System i Navigator, expand *yoursystem* → **Network** → **Servers** → **TCP/IP**.
   b. Right-click **i5/OS NetServer** and click **Start** or **Stop**.

Removing System i Access for Windows from i5/OS

To save disk space or to remove features that you no longer use, you can delete features from i5/OS.

1. Sign on to the System i platform with a user ID that has security officer (*SECOFR) authority.
2. Type `DLTLICPGM` at the System i command prompt. Specify the following parameters and values, and use the defaults for the other parameters.

Parameter	Value
Product	5761XE1
Language for licensed program	The default value for this field is *ALL. If you want to remove a specific language, type xxxx, where xxxx is the national language version (NLV) identifier.

Note: Any optional programs for System i Access for Windows that you installed, will need to be uninstalled separately.

Setting up the PC

After System i Access for Windows is installed and configured on i5/OS, you need to install and configure System i Access for Windows on your PC.

Note: Only users with administrator authority can perform installations, service pack updates, and upgrades to new releases. You can use the Windows Scheduled tasks feature with remote access to allow your users to do installations, service pack updates, and upgrades without administrator privileges.

Related concepts

"Setting up the system for System i Access for Windows" on page 4
Use this information to guide you through the steps necessary to install and configure System i Access for Windows on the System i platform.

Related tasks

"Publishing directory information to LDAP" on page 66
Publishing directory information to Lightweight Directory Access Protocol (LDAP) lets you put i5/OS information about a directory into LDAP. Applications can then use this information.

Prerequisites to set up the PC for System i Access for Windows

Before you set up your PC, verify that it meets the prerequisite requirements to use System i Access for Windows.

Table 3. PC requirements — Processor, memory, and service pack level

Operating system	System i Access for Windows	System i Access for Windows with System i Navigator
Windows 2000	Pentium® 133 MHz and at least 64 MB	Pentium 850 MHz minimum and at least 256 MB (512 MB, or more, recommended)
Windows XP Professional	Pentium 233 MHz and at least 128 MB	Pentium 850 MHz and at least 256 MB (512 MB, or more, recommended)
Windows XP Professional, x64 edition	Any CPU supported by Windows XP Professional, x64 edition and at least 256 MB RAM	1 GHz and 512 MB RAM
Windows XP Tablet	300 MHz and 256 MB RAM	1 GHz and 512 MB RAM
Windows Vista Business, Enterprise, or Ultimate (32-bit editions)	1 GHz CPU and 1 GB RAM	1 GHz CPU and 1 GB RAM
Windows Vista Business, Enterprise, or Ultimate (64-bit editions)	1 GHz CPU and 1 GB RAM	1 GHz CPU and 1 GB RAM (Itanium processor not supported)
Windows Server 2003, 32-bit PC	Pentium 133 MHz and at least 128 MB	Pentium 850 MHz and at least 256 MB (512 MB, or more, recommended)
Windows Server 2003, x64 Editions	Pentium 733 MHz and at least 192 MB	Pentium 850 MHz and at least 256 MB (512 MB, or more, recommended)

Notes:

1. Microsoft Windows Server 2003 comes in several editions. The hardware requirements vary by edition. See the Microsoft Web site (http://www.microsoft.com)for base requirements information for all editions.
2. If you do not plan to use System i Navigator for anything other than managing your system connections (adding, removing, and changing connection properties), you do not need to install the System i Navigator base feature. That feature requires higher memory usage when managing your system connections.
3. Windows Vista Home Basic edition and Windows Vista Home Premium edition are not supported.
4. You must run on Windows service pack levels that Microsoft supports.
5. Intel 64-bit Xeon processors are based on the AMD64 (also known as x64) architecture; therefore, System i Access for Windows support for AMD64 also includes Intel 64-bit Xeon.

Table 4. Other PC requirements

PC requirement	Value
Disk Space - Install	• **PC5250 User** - 27 MB (approximately) • **Complete** - 256 MB (approximately) • **Custom** - varies, depending on features installed
Adapter Card	A communications adapter card that supports TCP/IP.

Notes:

1. The Disk Space - Install values are approximate. For the most current values, see PC requirements (www.ibm.com/eservers/iseries/access/pcreq.html).

2. You need 3 MB available on the drive where the Windows operating system is installed to accommodate temporary files that the System i Access for Windows setup program creates.

3. Additional files are downloaded from the System i platform when you use the File Systems function of System i Navigator.

4. Service pack patches require additional space.

Related tasks

"Upgrade Windows operating system"
Upgrade the operating system on your PC.

Related information

System i Access for Windows - PC and Disk Requirements Web site

Upgrade Windows operating system:

Upgrade the operating system on your PC.

If you want to upgrade your PC's operating system to one of the supported Windows operating systems, follow these steps:

1. Uninstall System i Access for Windows.
2. Upgrade the Windows operating system.
3. Install System i Access for Windows.

Setting up TCP/IP on the PC

You must correctly install and configure TCP/IP on the PC before you try to connect to a System i platform.

Notes:

1. This information is based on the assumption that you have TCP/IP configured on your System i platform. If TCP/IP is not configured on your system, see "Configuring TCP/IP on the System i platform" on page 10.

2. Virtual private network (VPN) is an option for secure remote connections. VPN is supported on PCs running Windows 2000, Windows XP, Windows Vista, or Windows Server 2003. Beginning with OS/400® V5R1, VPN is supported on the i5/OS operating system.

   For information about how to configure PC clients to access VPN and connect to your system, see Scenario: VPN connection to remote users. This scenario shows how the administrator configures a VPN connection to remote users.

To set up TCP/IP on the PC, complete these tasks.

Related information

Virtual Private Networking

Installing a network adapter or modem:

If you connect to the System i platform over a LAN, you need to install a network adapter. If you connect to the System i platform using a serial line internet protocol (SLIP) or PPP connection from a remote location, you need to install a modem.

For information about installing a network adapter or modem, see the manufacturer's documentation provided with the hardware. The manufacturer's documentation should also provide information about installing a driver for the hardware.

If you connect to the System i platform over a SLIP or PPP connection (using a modem), you also need to install Dial-Up Networking and Remote Access Services on your PC.

You can find the instructions to install Dial-up Networking and Remote Access Services at the Microsoft's Web site:

1. Go to the Microsoft's Web site (www.microsoft.com) .
2. Click **Search**.
3. In the search field, type Dial-Up Networking and press Enter.

Notes:

1. If you see an unwanted Dial-Up Networking, you might either have Internet Access, or you might need to change your Dial-Up Networking configuration.
2. To get full autodial support, you need to have Internet Explorer 2.x or higher installed. Within the properties of Internet Explorer, there is a setting called "Connect to the Internet as needed." This prompt enables or disables a setting called autodial feature for the TCP/IP stack.

Configuring TCP/IP support on the PC:

You must configure the Microsoft TCP/IP support that is supplied with the Windows operating system. Depending on your setup, you might also need to add the system name to the HOSTS file or configure TCP/IP over a twinaxial connection.

Configuring TCP/IP on Windows operating systems:

Configuring Windows clients for TCP/IP involves installing and configuring the TCP/IP network protocol.
1. Click **Start** → **Settings** → **Control Panel**.
2. On the control panel, double-click **Network and Dial-Up Connections**.
3. Right-click **Local Area Connection**.
4. Click **Properties**. If **Internet Protocol (TCP/IP)** does not appear in the list, do the following:
   a. Click **Install**.
   b. Select **Protocol**, and then click **Add**.
   c. Select **Internet Protocol (TCP/IP)**.
   d. Click **OK**. This returns you to the Local Area Connection Properties window.
5. Select **Internet Protocol (TCP/IP)**, and then click on **Properties**.
6. Select **Using the Following IP Address**. Check with your network administrator to determine the correct settings for this tab. If your PC does not automatically obtain IP and DNS addresses, do the following:
   a. Enter the IP address of your PC (for example, 199.5.83.205).
   b. Enter the subnet mask (for example, 255.255.255.0).
   c. Enter the default gateway (for example, 199.5.83.1).

     d. Enter the preferred DNS server (for example, 199.5.100.75).

     e. Enter the alternate DNS server (for example, 199.5.100.76).

7. If you are using a Windows Internet Name Server, click the **Advanced** tab, select **WINS Address**, and do the following:

     a. Click **Add**.

     b. Enter the primary WINS server (for example, 199.5.83.205).

     c. Enter the secondary WINS server (for example, 199.5.83.206).

     d. The remaining settings should remain as the defaults.

8. Click **OK** on the **Local Area Connection Properties** window. It is not necessary to restart your PC.

Adding the system name to the HOSTS file:

If you are not using a domain name server, you need to add the System i name with which you want to communicate to the HOSTS file in order to identify your system to the network.

You also need to add the i5/OS NetServer server name to the LMHOSTS file if you are relying on i5/OS NetServer for file and print serving. For instructions on updating your LMHOSTS file, see Configure the PC for i5/OS NetServer Use.

To create or change the HOSTS file, do the following:

Note: The directory in the following examples could be \winnt\system32 instead of \windows\system32 for some Windows operating systems.

1. Open a command prompt.

2. Change to the directory that should contain the HOSTS file, the directory in which the HOSTS file must remain. For example:

   ```
   c:\>cd \windows\system32\drivers\etc
   ```

3. Optional: If a file named HOSTS already exists in this directory, skip this step. Create a file named HOSTS by copying the sample file (supplied by the Windows operating system). The file is in the same directory and is called `hosts.sam`.

   For example:

   ```
   c:\windows\system32\drivers\etc>copy hosts.sam hosts
   ```

4. Edit the HOSTS file. For example:

   ```
   c:\windows\system32\drivers\etc>edit hosts
   ```

   Follow the instructions in the HOSTS sample file to add the IP address and name of the System i platform to which you want to connect.

5. Save the HOSTS file.

   Note: For PC5250, if you do not use a name server or hosts table, you cannot start the 5250 emulator delivered with System i Access for Windows. The left bottom corner of your emulation display indicates a 657 communication error (*Resolving TELNET 5250 server host-domain name*).

   You can choose to use a HOSTS file if you have only a few machines using TCP/IP. This requires that you maintain an up-to-date list on each computer. When a System i address changes, you must change the HOSTS file entry if one exists.

Verifying the TCP/IP configuration:

After configuring TCP/IP, you should verify that the configuration is correct.

You can verify that TCP/IP is set up correctly on your PC by issuing a PING command to the System i platform:

1. Open a command prompt.

2. Type `PING` *system* where *system* is the name of the System i platform that you want to connect to.
3. If your TCP/IP configuration is correct, you should see reply messages from the System i platform. If you do not see these reply messages, here are some possible reasons why the PING command failed:
   - You might be trying to PING the wrong address. Check the address of the System i platform.
   - You might have an incorrect IP address listed for the System i platform in your HOSTS file or DNS entry. This occurs only when you try to PING a System i platform by name (as opposed to the IP address). If so, try `PING` *nnn.nnn.nnn.nnn* where *nnn.nnn.nnn.nnn* is the IP address of the System i platform that you want to connect to. You can obtain the IP address of the System i platform from your system administrator. If that works, update your HOSTS file or DNS entry with the correct address.
   - Incorrect LAN adapter address is set in the adapter properties on the PC.
   - There is no physical connection to the System i platform.
   - The System i platform or network name is not correct.
   - TCP/IP is not configured correctly on the PC.
   - TCP/IP is not installed or configured correctly, or is not started, on the System i platform. These problems need to be addressed by the system administrator.
   - The System i platform is down.
   - The System i platform is located behind a firewall that will not allow you to PING. Try `telnet` *systemname*.
   - If none of the above explain your problem, restart and go through the configuration process again.

Configuring the PC to use i5/OS NetServer

Configuring the PC as an IBM System i Support for Windows Network Neighborhood (i5/OS NetServer) client lets you share resources, such as files and printers, across the network.

Installing System i Access for Windows over a network can be done using i5/OS NetServer. This support does not require any additional software on your PC. i5/OS NetServer takes advantage of the integrated file and print sharing capability in Windows operating systems, enabled using the X/Open Company industry-standard Server Message Block (SMB) protocol.

Prerequisites to configure the PC for i5/OS NetServer use

In order to configure the PC for i5/OS NetServer use, you must have:
- TCP/IP configured on both the System i platform and the PC (see "Configuring TCP/IP on the System i platform" on page 10 and "Setting up TCP/IP on the PC" on page 13).
- i5/OS NetServer configured on the System i platform (see "Configuring i5/OS NetServer on i5/OS" on page 10).

Configure the PC as an i5/OS NetServer Client

To configure your PC for i5/OS NetServer support, the steps vary depending on which operating system you are using. Go to the section below for your operating system.

Check Windows 2000 settings::
1. From the Windows desktop, right-click **My Network Places**. Then, click **Properties**.
2. Click **Network identification**. Make sure that you have a unique computer name and a valid domain (workgroup) name configured (preferably the same one as the i5/OS NetServer). Close this dialog.
3. Right-click the **Local Area Connection** icon and click on **Properties**. Make sure that the TCP/IP Protocol is there and is configured properly.
4. Continue with "Check TCP/IP Support" on page 17.

Check Windows XP/Windows Server 2003 settings:

1. From the Windows desktop, right-click **My Network Places**. Then, click **Properties**.
2. Right-click **Local Area Connection** and click on **Properties**. Make sure that the TCP/IP Protocol is there and is configured properly.
3. Continue with "Check TCP/IP Support."

Check TCP/IP Support:

1. Open a command prompt.
2. There are two ways to check the connectivity from the PC client to i5/OS NetServer. Type the following to make sure that your PC can communicate with the i5/OS NetServer.

   `NBTSTAT -a i5/OS-NetServer-server-name`

   If the NBTSTAT command fails, verify that your IP address resolution strategy is correct by trying the following:

   `PING i5/OS-NetServer-server-name`

3. If your results fail, try adding an entry to the i5/OS NetServer to the PC's local LMHOSTS file. Do the following:

   a. Look in the \WINDOWS\system32\drivers\etc directory for the LMHOSTS file.

      Notes:
      - The directory could be \WINNT\system32 instead of \WINDOWS\system32, depending on your operating system.
      - If you cannot find the LMHOSTS file in the specified directory, you have two options:
        – Create a new LMHOSTS file
        – Copy or rename LMHOSTS.SAM in that same directory to LMHOSTS

      Complete instructions are provided in the LMHOSTS.SAM file.

   b. Type the following to reload PC cache from the updated LMHOSTS file.

      `NBTSTAT -R`

4. Do one of the following:
   - If you are using Windows 2000, continue to "Find i5/OS NetServer and shared resources from Windows 2000."
   - If you are using Windows XP, continue to "Find i5/OS NetServer and shared resources from Windows XP/Windows Server 2003."

Find i5/OS NetServer and shared resources from Windows 2000:

1. From the Windows desktop, right-click **My Network Places**.
2. Select **Search for Computers**.
3. Fill in the NetServer name and select **Search Now**.

Find i5/OS NetServer and shared resources from Windows XP/Windows Server 2003:

1. From the Windows desktop, right-click **My Network Places**.
2. Select **Search for Computers**.
3. Fill in the NetServer name and select **Search**.

Configure i5/OS NetServer file and print shares:

To configure i5/OS NetServer file and print sharing capabilities, see these instructions:
- i5/OS NetServer file shares.
- i5/OS NetServer print shares.
-

Additional configuration instructions are available at Getting started with i5/OS NetServer.

Installation considerations

Consider this information before installing System i Access for Windows on your computer.

Attention: It is recommended that you exit all applications before installing System i Access for Windows. This includes applications that may be running in the background such as spyware, adware, anti-virus, and other malware detection programs.

- Administrative authority and privileges are required to run the install.
- Only users with administrator authority can install new releases. You can use the Windows Scheduled tasks feature with remote access to let your users install without administrator privileges.
- System i Access for Windows only supports a per-machine installation. It does not support a per-user installation.
- System i Access for Windows does not support the Windows Installer advertisement feature.
- It is recommended that you use the default destination folder. However, if you change the folder, consider the following:
  - It is not advisable to select the root directory of a drive.
  - It is not advisable to select a directory that already contains files not related to the System i Access for Windows product.
  - You should not select a network drive. Installing to a network drive is not supported.
- You should use setup.exe or cwblaunch.exe to install the product, but if you do choose to install using cwbinstall.msi, be aware that you will have to manually install Windows Installer engine 3.0 and you will not be able to select a non-default installation language and logging will not automatically start.
- Manual intervention is required to install the AFP and SCS printer drivers features. See the "Installing printer drivers" on page 19 topic for details.
- System i Access for Windows supports 64-bit versions of ODBC, OLE DB, and Secure Sockets Layer (SSL) features. The 64-bit versions do not appear as separate features, but are simply included with the 32-bit versions of these features when installed on a 64-bit edition of Windows. If you uninstall the 32-bit versions, the 64-bit versions will also be uninstalled.
- System i Access for Windows supports a 32-bit and 64-bit version of the AFP Printer Driver; however, the 32-bit version of the AFP Printer Driver does not install on a 64-bit edition of Windows. The 64-bit version of the AFP Printer Driver only installs on a 64-bit IA64 (Itanium family) edition of Windows.
- The SCS Printer Driver does not install on 64-bit editions of Windows.
- The System i Access for Windows .NET provider can be called from both 32-bit and from 64-bit applications. The mode it runs in is dependent upon the application calling the provider.
- Prior to installing the .NET Managed Provider, the .NET Framework 2.0 must first be on your PC. See www.msdn.com ![icon] for instructions about downloading and installing the .NET Framework.
- If Toolbox for Java™ is not installed, then the IBM Key Management shortcut can not be opened. This is because this shortcut requires the JRE to be installed. The IBM Key Management shortcut is part of SSL. If a user wants a minimum configuration but needs SSL, then he will not want to install the JRE because the JRE takes up a large amount of space. If you are unable to use the IBM Key Management shortcut or if this shortcut is missing, remove SSL and then install both Toolbox for Java and SSL.
- System i Navigator features and Java Programmer's Tools are not installed or supported on Itanium hardware.
- System i Access for Windows does not install MDAC. Be aware that the System i Access ODBC driver and System i Access for Windows OLE DB provider do, however, have some specific requirements on the MDAC level on your PC. The Windows operating systems that are supported by this release of System i Access for Windows already have the required MDAC level.

  Required MDAC levels:
  - System i Access ODBC driver - MDAC 2.5 or later for connection pooling and MTS support

| – System i Access OLE DB provider - MDAC 2.5 for all functions
| • To install System i Access for Windows on a PC that is running Microsoft Windows Terminal Server
| Edition or Terminal Services, follow the install instructions in Information APAR II11373. For
| information about obtaining APARs, see Information APARs ![icon] .
| • In rare instances where a problem occurs during the installation or uninstallation of System i Access
| for Windows, it may happen that you can not use the regular installation or uninstallation method to
| repair or remove the product. Microsoft provides a cleanup tool for this situation, described here:
| Description of the Windows Installer CleanUp Utility ![icon] .
| This tool does not remove any files installed with System i Access for Windows, it only removes the
| Windows Installer configuration information that is related to those programs. After the cleanup utility
| is run, the you can install again, but you should install to the same location as before to prevent
| multiple copies of files.
| **Related concepts**
| "Installing printer drivers"
| If you install a printer driver, you must take action before using the printer driver, because the printer
| drivers are not digitally signed by Microsoft and cannot be automatically added or updated during
| installation.
| "Installing System i Access for Windows on the PC" on page 50
| You can install System i Access for Windows on a PC from the Licensed Program 5761-XE1, from the
| System i Access for Windows DVD, or from a location that your administrator has prepared to be
| used as your installation source.

| **Installing printer drivers:**

| If you install a printer driver, you must take action before using the printer driver, because the printer
| drivers are not digitally signed by Microsoft and cannot be automatically added or updated during
| installation.

| The printer driver files are copied to a subdirectory under the destination path that is chosen during the
| installation wizard and you are required to add or update your Printer Driver using Microsoft's
| directions in their help text. As prompted, specify one of the following directory locations (assuming that
| you installed to the default destination path) for your printer driver:
| • For AFP: c:\Program Files\IBM\Client Access\CWBAFP directory
| • For SCS: c:\Program Files\IBM\Client Access\CWBSCS directory

| On 64-bit Windows operating systems, only the AFP printer driver is available for installation.

| If you are installing on a PC that has upgraded the System i Access for Windows product over multiple
| release, some old information is possibly displayed when you configure a printer driver. To remove the
| obsolete information from .inf files, do the following after you have completed the installation:
| 1. Open a command prompt window.
| 2. Change the directory to your installation directory. The default installation directory is c:\Program
| Files\IBM\Client Access.
| 3. Type cwbrminf and press **Enter**.

| ## SSL considerations
| Consider this information before installing System i Access for Windows on your computer.

| With the institution of new security policies for many customers (banks and hospitals as examples), many
| times customers are reducing the number of additional components they are willing to install on client
| PCs. Currently, if a customer chooses to block port 23 from remote locations and allow only port 992
| (PC5250 SSL connection port), the customer will need to use an alternative method to install the

| Certificate Authority (CA) from the System i system rather than downloading it via System i Navigator.
| To do so, the customer will need to use the IBM Key Management utility.

| IBM Key Management allows you to work with key databases for use with Secure Sockets Layer (SSL)
| connections. It allows you to register certificates from the System i system to the PC. In order for it to
| have all of its functionality available, this tool requires the following components to be installed:
| • Required Programs
| • SSL
| • Toolbox for Java

| Failure to install the required minimum components will result in the failure of IBM Key Management. If
| you are not going to be registering and managing certificates with IBM Key Management on the PC, then
| you are not required to install the Toolbox for Java.

| For example, to use the PC5250 emulator over an SSL connection and register and manage certificates
| with IBM Key Management, you must install at least the following components of System i Access for
| Windows:
| • Required Programs
| • PC5250 Emulator
| • SSL
| • Toolbox for Java

| **Related concepts**
| "Installing System i Access for Windows on the PC" on page 50
| You can install System i Access for Windows on a PC from the Licensed Program 5761-XE1, from the
| System i Access for Windows DVD, or from a location that your administrator has prepared to be
| used as your installation source.

| ## Preparing an installation image to install on multiple PCs
| You can tailor the installation image to control how System i Access for Windows is installed and what
| gets installed on the users' PCs.

| You have several ways to provide the installation image. Follow the links for instructions about
| deploying an installation image using one of the listed methods of deployment.

| *Table 5. Methods of deployment*

Process you want to follow	Appropriate method of deployment
You apply PTFs to System i Access for Windows and your users receive updates from this location. You want users to be able to install System i Navigator plug-ins at installation time.	Deploy from NetServer **Note:** Deploy the installation image from NetServer if you follow either of the listed processes.
Copy the installation image to a network share from which end users can install System i Access for Windows.	Deploy from a network drive
Use Group Policy Software Installation to deploy on an Active Directory environment.	Deploy on Active Directory using Group Policy
Use Microsoft's Systems Management Server.	Deploy using SMS
You want users to run setup.exe with predefined parameters. You intend to apply different transforms to different users depending on some organizational criteria.	Use batch programs

Table 5. Methods of deployment (continued)

Process you want to follow	Appropriate method of deployment
Use a different deployment tool.	Other deployment methods: Several deployment systems developed by third-party vendors are available. If you are using one of these systems, refer to the documentation provided by your independent software vendor.

You might want to create an administrative installation image for any of the deployment methods. An administration installation image lets you apply Windows Installer patches rather than the full image service pack.

Deploying from i5/OS NetServer:

You might want to deploy the System i Access for Windows installation image from i5/OS NetServer if you apply PTFs to System i Access for Windows and your users receive updates from this location. You can also use i5/OS NetServer if you want users to be able to install System i Navigator plug-ins at installation time. You can create transforms to modify the installation package so that users can install only the functions that are necessary.

Prerequisites: Before following these instructions, ensure that you have met these prerequisites:

- System i Access for Windows must be installed and configured on the system. If you have not already done so, follow the steps in "Installing System i Access for Windows on the i5/OS operating system" on page 7.
- i5/OS NetServer must be configured on the system. If you have not already done so, follow the steps in "Configuring i5/OS NetServer on i5/OS" on page 10.
- Your PC must be configured to use i5/OS NetServer. If you have not already done so, follow the steps in "Configuring the PC to use i5/OS NetServer" on page 16.

To deploy from i5/OS NetServer, follow these steps:

1. Find the installation image to be tailored.
2. Optional: Tailor the installation image to modify the default behavior of the installation.
3. Direct your users to use these instructions to install System i Access for Windows. These instructions might vary, depending on their operating system:
   a. From the Windows desktop, right-click **My Network Places**, and then click **Search for Computers**.
   b. Enter the i5/OS NetServer name that you want to use to install System i Access for Windows and click **Find Now**.

   Note: If your users cannot find i5/OS NetServer by name, they must enter the IP address instead.
   c. Double-click the computer name when it appears. Windows Explorer starts.
   d. Navigate to **QIBM** → **ProdData** → **Access** → **Windows** and double-click **cwblaunch.exe** to start the setup program. The program determines the appropriate source image to use, based on the PC processor.
   e. Follow the instructions in the System i Access for Windows installation wizard.

   Note: If your users are installing System i Access for Windows for the first time, Check Service Level automatically receives new service packs and new releases from the drive and directory where the initial installation occurred. If you plan to store service packs or new releases in a different location, instruct your users to use the Service page of System i Access for Windows properties to set the new source location after the installation completes.

Administrative installation image:

You can perform an administrative installation of System i Access for Windows to create an administrative source image. You can put the image onto the network from which your users can install the application, or you can make it the source of a distribution package if you are using a deployment system.

An administrative installation does not actually install the application on the target computer; it just spans the source files out from the cabinet files to a network location. The resulting image is called an *administrative image*. An administrative image is functionally identical to the original, compressed image from which it was generated.

You can upgrade an administrative image to a newer service level by applying Windows Installer patches to it. Then you can instruct your users to reinstall from the upgraded administrative image to get service pack updates. Alternatively, you can redeploy the installation package if you are using a software deployment method. Any new client installations from the upgraded administrative image automatically include the updated version of System i Access for Windows.

Note: Administrative installations provide a function called Run from source, which lets client users run features directly from the administrative image. System i Access for Windows does not support the Run from source feature of Windows Installer.

Related tasks

"Deploying on Active Directory using Group Policy" on page 29
Active Directory supports distributing MSI-based applications to remote computers using the Group Policy Software Installation feature. To deploy a Windows Installer package, create a Group Policy object (GPO) and associate it with a specific domain, site, or organizational unit. An installation package is then created within the GPO. You distribute this package to the members of the container to which the GPO is linked.

Creating an administrative installation image:

You can create an administrative image for deploying an installation package from a network drive, Active Directory, or SMS.

To create an administrative source image of System i Access for Windows, follow these steps:

1. From a command prompt, run `setup.exe /a` to start an administrative installation.
2. In the Network Location dialog, select the destination network directory for the administrative image. Make sure that the directory has the right access permissions to be used as the installation source for your users. This directory can be a NetServer location or a network drive location.
3. Click **Install**.

The administrative source image is created under the network location.

Note: An administrative image burned on a CD or DVD might not work properly. If you experience problems in installing System i Access for Windows from an administrative image on a CD or DVD, copy the image to a directory on the local hard disk and run the setup.exe file from there.

Related tasks

"Patching an administrative installation image"
You can update an administrative image by applying a patch from the download site. Your users get the latest updates when they reinstall System i Access for Windows from the updated administrative image. New installations from this location also contain the latest service fixes.

Patching an administrative installation image:

You can update an administrative image by applying a patch from the download site. Your users get the latest updates when they reinstall System i Access for Windows from the updated administrative image. New installations from this location also contain the latest service fixes.

Note: You cannot patch a source image that was copied from the DVD. You need to create an administrative installation image.

To patch an administrative source image, follow these steps:

1. Download the appropriate UPDATE_*XX*.EXE file from the System i Access Service Packs for Supported Releases Web page ![icon] (www.ibm.com/systems/i/software/access/windows/casp.html). For more information, see "Site for downloading service packs" on page 59.

2. Copy UPDATE_*XX*.EXE to the administrative image root directory.

3. Run this command: `Update /v"/a cwbinstall.msi"`

   If the cwbinstall.msi file is in a different location from UPDATE_*XX*.EXE, you need to specify the path to cwbinstall.msi in the command: `Update /v"/a path_to_cwbinstall\cwbinstall.msi"`

   If the path contains spaces, use quotation marks, as in this example. Note that the interior quotation marks need to be escaped with a backslash: `Update /v"/a \"C:\Admin Image\cwbinstall.msi\""`

   Related tasks

   "Creating an administrative installation image" on page 22
   You can create an administrative image for deploying an installation package from a network drive, Active Directory, or SMS.

Deploying from a network drive:

You can set up an installation package on a network drive that your users can access.

Notes:

1. During an installation from a Windows network drive, users cannot install System i Navigator plug-ins from the i5/OS.

   Users can install System i Navigator plug-ins after installation by using the System i Navigator environment task **To install plug-ins**.

2. If your users are installing System i Access for Windows for the first time, Check Service Level automatically receives new service packs and new releases from the drive and directory where the initial install occurred. If you plan to store service packs or new releases in a different location or if you want to change the install source for automatic service pack and release upgrades, use the System i Access for Windows Properties Service page after the installation completes.

To have your users deploy from a network drive, complete the following steps:

1. Find the installation image to be tailored.

2. Copy the installation image to the deployment location on your network.

3. Determine which languages you will be allowing your users to install, and copy only those MRI29xx directories to your deployment location. See Table 6 on page 24 to for a list of available national languages and the corresponding MRI29xx codes.

4. Optional: Tailor the installation image to modify the default behavior of the installation.

5. Direct your users to install System i Access for Windows using these instructions:

   a. Map a drive to the location where the installation image is located.

   b. Double-click setup.exe to start the setup program, or enter `setup` from a command prompt. If your users need to apply one or more transforms to the installation, they should specify the

TRANSFORMS property from the command line, as in the following example: `setup /vTRANSFORMS=transform1.mst,transform2.mst,...` where *transform1*.mst, *transform2*.mst, and so on, are the transforms you want to be applied.

Table 6. National language MRI29xx equivalents

Language code	National language
2902	Estonian
2903	Lithuanian
2904	Latvian
2905	Vietnamese
2906	Laotian
2909	Belgian English
2911	Slovenian
2912	Croatian
2913	Macedonian
2914	Serbian
2922	Portuguese
2923	Dutch Netherlands
2924	English
2925	Finnish
2926	Danish
2928	French
2929	German
2930	Japanese
2931	Spanish
2932	Italian
2933	Norwegian
2937	Swedish
2938	English Uppercase DBCS
2939	German Multinational Character Set
2940	French Multinational Character Set
2942	Italian Multinational Character Set
2954	Arabic
2956	Turkish
2957	Greek
2958	Icelandic
2961	Hebrew
2962	Japanese Kanji
2963	Belgian Dutch
2966	Belgian French
2972	Thai
2974	Bulgarian
2975	Czech

Table 6. National language MRI29xx equivalents (continued)

Language code	National language
2976	Hungarian
2978	Polish
2979	Russian
2980	Brazilian Portuguese
2981	Canadian French
2984	English DBCS
2986	Korean
2987	Traditional Chinese
2989	Simplified Chinese
2992	Romanian
2994	Slovakian
2995	Albanian
2996	Portuguese Multinational Character Set
2998	Farsi

Using batch programs:

You can automate the installation process by creating a batch (.bat) file to run setup.exe with predefined parameters. In this situation, users do not need to specify options at the command prompt.

The .bat file can include any of the valid parameters for setup.exe that are listed in the "Using command line parameters to change the install behavior" topic.

You should consider using .bat files if you intend to apply different transforms to different users depending on some organizational criteria. Because you must specify transforms at command line by setting the TRANSFORMS public property, your users would need to enter the right parameters and you must trust that they entered the right choices. One alternative is to set the command line options in setup.ini, but a disadvantage to that is that all clients running from the same source image would get the same set of transforms applied. By creating separate .bat files, you can define different settings and have each user run the appropriate .bat file.

Related concepts

"Using command line parameters to change the installation behavior" on page 53
A user can install, upgrade, or modify the features that are installed by using command line parameters on the setup.exe command.

Using remote scheduled tasks:

You can use the scheduled tasks function of the Windows operating system with remote access to let your users install and upgrade System i Access for Windows, and install service packs, without administrator privileges.

Normally, you can only install System i Access for Windows and apply service packs if you sign-on as an administrator because of the restrictions built into Windows operating systems. By creating a scheduled task on your local computer and copying the task to a remote computer account, a network administrator can create task files for maintenance and add them to users' computers as needed. The task runs under an existing administrator account in the remote computer without needing to be signed on. You can send and receive task files in e-mail messages, and you can share the Scheduled Tasks folder on your computer so that users can access it remotely by using My Network Places

Important: To guarantee the successful implementation of remote scheduled tasks to install or upgrade System i Access for Windows, an administrator account with the same name and the same password should exist on your local computer (where the scheduled task will be created), on the remote computer (the destination of the scheduled task), and on the System i or network server where the source installation image resides.

The following instructions are based on the Scheduled Tasks function of Windows XP.

To create a scheduled task to install System i Access for Windows:

1. Open the **Start** menu and click **Control Panel**.
2. Double-click **Scheduled Tasks**.
3. Double-click **Add Scheduled Task**. This will launch the Scheduled Task Wizard. Click **Next** to continue.
4. In the application selection dialog click **Browse**.
5. In **File name** enter the full path to cwblaunch.exe, setup.exe, or Update.exe.

   a. Specify cwblaunch.exe if you want the appropriate source image to be automatically determined based on the type of processor of the remote computer.

   b. Specify setup.exe if you know the type of processor of the remote computer, or if the task will be distributed among multiple computers, and all target computers have the same type of processor.

   c. Specify Update.exe if you are planning to use this task to install a patch on the remote computer.

   Depending on where the source installation image is located, enter one of the following:

   a. If the source installation image is located on a System i or a network server, enter the UNC path to the source directory, as in the following examples:

   `\\systeminame\QIBM\ProdData\Access\Windows\cwblaunch.exe`

   `\\servername\image32\setup.exe`

   b. If the source installation image is available on the remote computer's hard disk drive, enter the path to the source directory on the remote computer. For example, if a copy of the installation image is available in the remote computer in C:\image, then enter `C:\image\setup.exe`.

   Note: If you receive the message `Path does not exist`, then the specified path was not found on the local computer where you are creating the scheduled task. To solve this, copy the installation image to your local computer into a directory that matches the path of the remote computer. For example, if the image in the remote computer is located in C:\image, then copy the installation image in your local computer to C:\image. If you are planning to distribute this scheduled task among several computers, make sure that they all have a copy of the installation image in the same path.

6. Click **Open** to continue.
7. In the next dialog, choose a name for your task. For example, `Install System i Access for Windows`.
8. Under **Perform this task** choose a scheduling option.

   Tip: One time only is a good option for first-time installations, upgrades, and removals of System i Access for Windows. **Monthly** is a good option if the task is intended to install service packs.

9. Click **Next** to continue.
10. specify the start date and time of your task. Click **Next** to continue.
11. Enter your user name and password. Ensure that the user name is a member of the Administrators group, and that the same user name exists on the remote computer.
12. Click **Next** to create the scheduled task.
13. In the last dialog of the wizard check the **Open advanced properties for this task when I click Finish** option and click **Finish**. The **Properties** window for the new task will be shown.

14. In the **Run text** box of the **Task** tab append the following parameters:
    a. Enter `/s /v/qn` to launch the installer in silent mode.
    b. Optional: Enter `REBOOT=S` if you want to avoid the remote computer to be rebooted after the installation finishes. Otherwise, the remote computer will be restarted without notification since the installation will run in silent mode.
    c. Optional: Enter any additional parameter supported by setup.exe. For example, if this task is intended to uninstall System i Access for Windows on the remote computer, enter `REMOVE=ALL`.
    d. Optional: Verify the remaining settings in the **Properties** window.

    The **Run text** box could look like the following example: `\\systeminame\QIBM\ProdData\Access\Windows\cwblaunch.exe /s /v/qn ADDLOCAL=req,emu`
15. Click **OK** to finish configuring the scheduled task. If prompted, enter your password.

Once the task has been created, you will need to access the Scheduled Tasks folder on the remote computer and copy the scheduled task.

To access the Scheduled Tasks folder on a remote computer:
1. Open the **Start** menu and click **My Computer**.
2. Under the **Other Places** section, click **My Network Places**.
3. Make a selection depending on whether the remote computer is in a Workgroup or in a Domain:
    a. If the remote computer is in a Workgroup, follow these steps:
        1) Click **View workgroup computers** from the **Network Tasks** section.
        2) Double-click the remote computer which you want to access.
    b. If the remote computer is in a Domain, follow these steps:
        1) Click **Entire Network**, and then double-click **Microsoft Windows Network**.
        2) Double-click the domain.
        3) Double-click the remote computer which you want to access.

        Note: If you are prompted to enter a user name to access the remote computer, use the same user name and password as the account with which you are currently logged in.
4. Double-click **Scheduled Tasks** to open the folder.

To copy a scheduled task from your local computer to a remote computer:
1. Open the Scheduled Tasks folder on your local computer.

    Tip: The Scheduled Tasks folder is the directory called Tasks under the system directory, generally C:\Windows.
2. Right-click the scheduled task to be copied and click **Copy**.
3. Right-click the remote Scheduled Tasks folder and select **Paste**.
4. In some cases you might need to adjust the account information for the remote scheduled task. In order to do that, follow these instructions:
    a. Right click the scheduled task in the remote computer and click **Properties**.
    b. In **Run as**, verify that the name of the remote computer is set, not the name of your local computer. For example, if the remote computer's name is PC01 and the administrator account being used is Admin, Run as must be set to PC01\Admin.
    c. Click **OK**. When you are prompted, enter the remote account's password, which should be the same as your local account.

The task will run at the scheduled date and time in the remote computer.

To run a remote scheduled task immediately, do the following:

1. Open the remote Scheduled Tasks folder.
2. Right-click the task and select **Run** from the context menu.

To delete a remote scheduled task:
1. Open the remote Scheduled Tasks folder.
2. Right-click the task and select **Delete** from the context menu.

Notes:

1. The remotely scheduled task will run under an administrator account on the PC. For the scheduled task to work, the same administrator user ID and password must exist on the System i platform. If the password changes on either the PC or the System i platform, any scheduled tasks must be edited or deleted and recreated with the new administrator password.

2. If the administrator account does not exist on the system, you can use a NetServer guest user profile to support any installation requests made from the PC on the administrator account's behalf. Guest user profiles can pose security risks. For information about creating guest user profiles, see Set the guest user profile for i5/OS NetServer.

Related concepts

"Preparing to install service packs on multiple PCs" on page 55
You can avoid unnecessary calls to service for problems that might already have fixes, and create a more stable operating environment for your System i Access for Windows client by ensuring that you have the most recent PTFs and service packs.

Related tasks

"Obtaining and installing PTFs" on page 9
Fixes for System i Access for Windows are integrated into service packs, which are packaged into a program temporary fix (PTF) for delivery. Administrators can obtain the latest PTFs for their systems to avoid unnecessary service calls, to create a more stable operating environment for the System i Access for Windows client, and to correct known problems.

Active Directory:

Active Directory supports distributing MSI based applications to remote computers using the Group Policy Software Installation feature. You can create a package for a group of users or computers and then distribute the package to the group members.

Applying transforms on Active Directory

Transforms let you tailor the installation package to meet your needs. You can have one or more transforms applied when the installation package is deployed. Different sets of transforms can be applied to individual organizational units if you create separate GPOs for each organizational unit and choose a different list of transforms. For more information about transforms, see Methods to tailor an install package.

Defining the level of installation logging on Active Directory

You cannot specify command line options when deploying an MSI package on an Active Directory environment. You should set the Windows Installer Logging machine policy to specify the level of installation logging if you want log files to be created in the target computers. To get a verbose log, set this policy to voicewarmup. You cannot use the * character when setting this policy. See Using Windows Installer Policies for more information.

Assigning System i Access for Windows to computers causes the application to be installed under the System account. Therefore, the resulting log file is saved in the system temporary directory. The default

system temporal directory is C:\WINNT\Temp on Windows 2000 and C:\WINDOWS\Temp on
Windows XP and Windows Vista.

Related concepts

"Methods to tailor an installation package" on page 33
You can control which System i Access for Windows features your users can install, as well as other
settings that customize the behavior of the installation. You can use transforms or command line
parameters to do this.

Related tasks

"Using Windows Installer policies" on page 49
You can use Windows Installer policies to control the Windows Installer behavior on your client
computers.

Deploying on Active Directory using Group Policy:

Active Directory supports distributing MSI-based applications to remote computers using the Group
Policy Software Installation feature. To deploy a Windows Installer package, create a Group Policy object
(GPO) and associate it with a specific domain, site, or organizational unit. An installation package is then
created within the GPO. You distribute this package to the members of the container to which the GPO is
linked.

Ensure that you meet these prerequisites before you deploy an installation package on Active Directory:

• A configured Active Directory environment is available.
• Client computers have Microsoft Windows 2000 with SP3 or later, Windows XP Professional, or
  Windows Vista installed.
• Windows Installer version 3.0, or later is installed on client computers.

Computers with Microsoft Windows XP Service Pack 2 have Windows Installer version 3.0.

Computers with Microsoft Windows Vista have Windows Installer version 4.0.

A Windows Installer 3.0 redistributable file is available for the listed Microsoft operating systems at the

Microsoft Download Center (http://www.microsoft.com/downloads/
details.aspx?FamilyID=5fbc5470-b259-4733-a914-a956122e08e8):

  – Windows 2000 SP3

  – Windows 2000 SP4

  – Windows XP

  – Windows XP SP1

  – Windows Server 2003

Restrictions:

> • System i Access for Windows only supports assigning to computers. Publishing and
>   assigning to users is not supported.
> • You cannot install System i Navigator plug-ins.
> • If you deploy through Group Policy, you cannot set command line parameters. If you
>   want to set public properties, you must use transforms to modify the Property table.
>   Because Group Policy only supports deploying MSI packages, you cannot use setup.ini to
>   predefine command line parameters.

An installation log file called xe1instlog.txt is created.

When System i Access for Windows is deployed on Active Directory, it is installed in the silent mode.

To deploy System i Access for Windows using Group Policy, follow these steps:
1. Find the installation image or images to be tailored.

2. Tailor the installation image or images to modify the default behavior of the installation.
3. Create a distribution point for System i Access for Windows on a network server. This distribution point is the installation source for client computers.
   a. In the network server, create a shared folder.
   b. Copy the full image of System i Access for Windows to the shared folder. You can copy the compressed installation image or an administrative image. Make sure that at least one MRI directory is copied into the distribution point.
   c. Give Read permissions to everyone so that target computers can access the installation package.
4. Map a drive in your domain controller to the network shared folder created in the previous step.
5. Deploy the installation package to remote computers within a GPO.
   a. Create a new GPO for the domain, site, or organizational unit to which you want to deploy System i Access for Windows, or edit an existing GPO.

      To create a new GPO or edit an existing GPO, follow these steps:
      1) In the computer that is acting as the domain controller, open **Active Directory Users and Computers**. To access Active Directory Users and Computers, from the Start menu select **Programs** → **Administrative Tools**.
      2) Right-click the target domain, site, or organizational unit, and then click **Properties**.
      3) Open the **Group Policy** tabbed page and do one of these:
         • Click **New** to create a GPO.
         • Select an existing GPO from the list and click **Edit**.

      The Group Policy Object Editor opens.
   b. In the Group Policy Object Editor, go to **Computer Configuration** → **Software Settings** → **Software Installation**.
   c. Right-click **Software Installation** and select **New** → **Package**.
   d. From the **Open** dialog, go to the location of the distribution point in one of these ways:
      • Specify the UNC path, for example *server_name**folder_name*.
      • Specify the letter of a drive mapped to the distribution point, for example X:.

      Select cwbinstall.msi.
   e. In Deploy Software, select **Assigned**.
   f. Choose **Advanced published** or **Assigned**.
   g. From the **Modifications** tabbed page, click **Add** to select one or more transforms to be applied. Make sure that the transform files are on a network drive accessible by remote computers, preferably on the distribution point where the source image resides.

The installation package is distributed to the computers within the container associated to the GPO. System i Access for Windows is automatically installed the next time each client PC is restarted.

Related concepts

"Methods to tailor an installation package" on page 33
You can control which System i Access for Windows features your users can install, as well as other settings that customize the behavior of the installation. You can use transforms or command line parameters to do this.

"Administrative installation image" on page 22
You can perform an administrative installation of System i Access for Windows to create an administrative source image. You can put the image onto the network from which your users can install the application, or you can make it the source of a distribution package if you are using a deployment system.

Related tasks

"Using Windows Installer policies" on page 49
You can use Windows Installer policies to control the Windows Installer behavior on your client computers.

Setting Windows Installer policies on Active Directory:

You can control the Windows Installer behavior on your client computers in a domain or organizational unit by setting Windows Installer system policies.

Use Group Policy to set Windows Installer system policies. Policies are configured within a Group Policy Object (GPO) through the Administrative Templates node.

To set Windows Installer policies using Active Directory's Group Policy, follow these steps:

1. Create a new GPO, or edit an existing GPO for the domain, site, or organizational unit to which you want to deploy System i Access for Windows. To create a new GPO or edit an existing GPO, follow these steps:

   a. In the computer that is acting as the domain controller, open **Active Directory Users and Computers**. To access **Active Directory Users and Computers**, from the Start menu select **Programs** → **Administrative Tools**.

   b. Right-click the target domain, site, or organizational unit , and then click **Properties**.

   c. Open the **Group Policy** tabbed page. Do one of these:

      - To create a GPO, click **New**.

      - To edit an existing GPO, select the GPO from the list and click **Edit**.

   The Group Policy Object Editor opens.

2. In the Group Policy Object Editor, select **Computer Configuration** if you want to set machine policies, or select **User Configuration** if you want to set user policies.

3. Go to **Administrative Templates** → **Windows Components** → **Windows Installer**. A list of available policies for Windows Installer is displayed.

   Related tasks

   "Using Windows Installer policies" on page 49
   You can use Windows Installer policies to control the Windows Installer behavior on your client computers.

Deploying using SMS:

If you are using Systems Management Server (SMS) from Microsoft as your deployment method, you can distribute System i Access for Windows by creating a new SMS package.

The SMS package must include a program that calls setup.exe to install System i Access for Windows on client computers. To create a package to distribute System i Access for Windows using SMS, follow these steps:

Note: These instructions use SMS 2003.

1. Decide where to store your source installation files. SMS uses this location as the source for the package.

2. Find the installation image to be tailored.

3. Optional: Tailor the installation image to modify the default behavior of the installation.

4. Make your installation image available to SMS. You can either copy the entire contents of your source image to a network share, or you can create an administrative image.

   If you are applying transforms to the base installation, copy the .MST files to the location of your source image.

Note: The SMS server must be able to access the image source.

5. Create the SMS package and define an associated program that includes the command line options that you need. These instructions describe the most basic settings for creating your package:

   a. Open the SMS Administrator Console.

   b. Right-click the Packages folder and select **New** → **Package**.

   c. On the General tabbed page, enter a name for the package.

   d. On the Data Source tabbed page, select **This Package Contains Source Files**.

   e. Click **Set**. The Set Source directory dialog opens.

   f. Browse to the location of your source image.

   g. Create a program in the new package.

   h. Right-click the new program and select **Properties**.

   i. On the General tabbed page, specify these properties:

      • For **Command line**, enter setup.exe.

      • From the **After running** list, select **No Action Required**. Note that the System i Access for Windows installer schedules a system restart on a first time installation or on an upgrade, unless you set the REBOOT public property to Suppress or ReallySuppress. For the list of public properties you can use, see "Public properties" on page 40.

   j. On the Environment tabbed page, set these options:

      • If you want your users to be able to interact with the installation wizard , select **Only When A User Is Logged On** for the **Program can run** field.

      • Make sure that you select the **Run with administrative rights** option. If you do not select this option, System i Access for Windows does not install for users that do not have administrative rights.

   k. On the Advanced tabbed page, in the **When This Program Is Assigned To A Computer** field, select **Run Once For The Computer**.

   l. Click **OK** to save your program settings.

6. Distribute the package to distribution points.

   a. Expand your new package, right-click **Distribution Points** and select **New** → **Distribution Points**. The New Distribution Points Wizard starts.

   b. Click **Next** to display the Copy Package page.

   c. Select servers from the **Distribution points** list to act as distribution points for the software package.

   d. Click **Finish**.

   e. Verify that the distribution of the package to the distribution points has been completed:

      1) In the SMS Administrator console, expand **System Status** → **Package Status**.

      2) Select the package for System i Access for Windows. The **Installed** column should have a value of 1.

7. Advertise the package. To create an advertisement of your package, you first need to configure the collections where the package is advertised.

   a. Go to the SMS Administrator Console, right-click the Advertisements folder and select **New** → **Advertisement**.

   b. From the **Package** list, select the package.

   c. From the **Program** list, select the program.

   d. In the **Collection** box, select the target collection. To include subcollections, select **Include Members Of Subcollections**.

   e. On the Schedule tabbed page, set the schedule properties for the advertisement.

   f. Click **OK** to save the advertisement.

   g. Verify that the package advertisement has been completed:

1) In the SMS Administrator console, expand **System Status → Advertisement Status**.
2) Select the advertisement for the System i Access for Windows package. From the summary information panel, verify that one program was received and started.

Finding the installation image to be tailored:

The type of processor for the PC determines which installation image is used. There are an image for 32-bit processors, an image for 64-bit Itanium processors, and an image for 64-bit AMD-based processors including 64-bit Xeon.

The location of the correct installation image for your PC depends on the installation source that you are using:
- If you are using Licensed Program 5761-XE1, use Table 7 to determine the appropriate installation image.
- If you are using the *System i Access for Windows* DVD, use Table 8 to determine the appropriate installation image.

All languages are included on the DVD in Windows\Image32, Windows\Image64a, or Windows\Image64i, as appropriate.

Table 7. Installation image locations when you use Licensed Program Product 5761-XE1

Processor type	Location of Installation Image
32-bit	QIBM\ProdData\Access\Windows\Image32
64-bit AMD	QIBM\ProdData\Access\Windows\Image64a
64-bit Xeon	
64-bit Itanium	QIBM\ProdData\Access\Windows\Image64i

Table 8. Installation image locations when you use System i Access for Windows DVD

Processor type	Location of Installation Image
32-bit	Windows\Image32
64-bit AMD	Windows\Image64a
64-bit Xeon	
64-bit Itanium	Windows\Image64i

Methods to tailor an installation package:

You can control which System i Access for Windows features your users can install, as well as other settings that customize the behavior of the installation. You can use transforms or command line parameters to do this.

Transforms

Windows Installer provides administrators with a mechanism called a *transform* to modify the default behavior of the installer when deploying an installation package. Transforms let administrators restrict which features can be installed by users, preset public properties, change the default destination location for the application, and other customizations.

Transforms do not actually modify the source image. A transform is a file containing a series of modifications that are applied to the base MSI database, cwbinstall.msi, at installation time. The MSI database is not altered when the transform is applied. Instead, the modifications contained in the

transform take place during installation time, overriding what is in the MSI database. The transform file is cached on the PC and it gets applied again every time the base MSI package is invoked. A transform cannot be uninstalled separately from the application. Transforms have a file extension of .MST

Note: You should only apply transforms to cwbinstall.msi. Transforming MSI packages that are shipped with System i Access for Windows other than cwbinstall.msi is not supported.

To create a Transform you can use free software or an MSI Packaging Tool. See Tools available for creating transforms and Creating transforms with Orca for details.

Command line parameters

You can customize the behavior of the installation by specifying command line parameters. The setup.ini file included with the source image lets you predefine command line parameters that will be used by setup.exe. This avoids the need for end users to enter the right parameters at a prompt.

Tailored Installation Image wizard

In previous releases the Tailored Installation Image wizard was used to exclude components from an installation image, and then the tailored installation image was distributed to users. This functionality is no longer available so you should use transforms to achieve the functionality provided by Tailored Installation wizard.

Related concepts

"Active Directory" on page 28
Active Directory supports distributing MSI based applications to remote computers using the Group Policy Software Installation feature. You can create a package for a group of users or computers and then distribute the package to the group members.

Related tasks

"Deploying on Active Directory using Group Policy" on page 29
Active Directory supports distributing MSI-based applications to remote computers using the Group Policy Software Installation feature. To deploy a Windows Installer package, create a Group Policy object (GPO) and associate it with a specific domain, site, or organizational unit. An installation package is then created within the GPO. You distribute this package to the members of the container to which the GPO is linked.

Tools available for creating transforms:

There are several tools available for creating transforms; a free tool called Orca, as well as several tools from other vendors.

Orca

Orca is a free tool available from the Windows Installer Software Development Kit (SDK). It is an MSI database editor for creating and editing Windows Installer packages as well as for creating transforms.

To get Orca you need the Microsoft Platform SDK Components for Windows Installer Developers. You can download the latest Platform SDK from the Microsoft download site (http://www.microsoft.com/downloads). Alternatively, you can see the online Windows Installer SDK documentation (http://msdn2.microsoft.com/en-us/library/Aa370834) for instructions to get the Microsoft Platform SDK Components for Windows Installer Developers.

MSI packaging tools

Several tools from third-party vendors are available to help administrators create transforms. These are generally known as MSI Packaging Tools or MSI Authoring Environments. They provide Administrators with more sophisticated user interfaces to generate a transform file than Orca does.

Some of them feature "point and click" automatic creation of transforms, while others will let you simulate the installation of the application and automatically will create the .MST file from your selections. For more information on how to create transforms, see the documentation associated with your MSI packaging tool.

Related information

➡ Microsoft download site

➡ Windows Installer SDK documentation

Creating transforms with Orca:

You can use transforms to restrict the set of features that users can install, and to set public properties.

These directions are for using Orca to create a transform. If you are using an MSI Packaging Tool, refer to the documentation provided by the software vendor instead.

Because the MSI file is a relational database containing a set of tables, modifications are made at the table level by adding, removing, or changing rows. The modifications described here typically require changing existing records (when changing features settings or overriding a default value for a public property) or adding new ones (when setting public properties that are not defined by default).

Important

Note: Do not delete or modify rows from the MSI database in ways not described here.

To create a transform using Orca, follow these steps:

1. Open Orca.
2. From the File menu select **Open** and browse to cwbinstall.msi. The tables in cwbinstall.msi are displayed.
3. From the Transform menu select **New Transform**.
4. From the Tables column, open the table you want to change.
5. Optional: Restrict the set of features that users can install.
6. Optional: Set public properties.
7. From the Transform menu select **Generate Transform**.
8. In the **Save Transform As** dialog, choose a name for the transform file and save it.
9. Close Orca.

Related tasks

"Modifying the installation by using setup.ini" on page 47
You can specify the user interface level, the level of installation logging, and the transforms to use in setup.ini.

Restricting the set of features that users can install:

You can use Transforms and the Feature table to restrict the set of features that your users can install.

Before customizing the Feature table, you should be familiar with the feature tree structure and what dependencies exist between features.

All required dependencies for a feature will be installed if that feature is selected. The following table shows which features depend on other features:

Table 9. Feature dependencies

Feature	Dependent on following features
5250 Display and Printer Emulator	none
.NET Data Provider	none
AFP Printer Driver	none
AFP Workbench Viewer	none
Data Transfer	none
Data Transfer Excel Add-in	Data Transfer
Directory Update	none
Headers, Libraries, and Documentation	none
Incoming Remote Command	none
System i Navigator	OCI, JRE, Toolbox for Java, ODBC
• Basic Operations • Work Management • Configuration and Services • Network • Integrated Server Administration • Security • Users and Groups • Databases • File Systems • Backup • Commands • Packages and Products • Monitors • Logical Systems • AFP Manager • Application Administration	System i Navigator
Java Programmer's Tools	JRE, Toolbox for Java, ODBC
JRE	none
Lotus Notes® 123	none
ODBC	none
OLE DB Provider	none
Operations Console	OCI, 5250 Display and Printer Emulator (if no PCOMM)
Required Programs	none
SCS Printer Driver	none
Secure Sockets Layer (SSL)	none
Toolbox for Java	JRE

Notes:

- JRE does not appear in the feature tree as an installable component. JRE resources are installed as part of System i Navigator and Java Programmers Tools.

- Do not change the Level column for the `req` feature.
- Features `emus`, `emuk`, `emup` and `emut` are not visible by design. Do not change the Display or the Level values for these features.
- If you set public property CWBINSTALLTYPE to `Complete`, all features are installed except for those with a Level value of `0`.
- If you set public property CWBINSTALLTYPE to `PC5250User`, all features with a level equal or lower to 50 are installed except for those with a Level value of `0`.

To restrict the set of features that your users can install, follow these steps:

Change the Level and Attributes values as necessary:
- To preselect a feature to be installed, change its **Level** value to 1.
  - For a basic, restricted, or silent install, the feature is installed.
  - For a full user interface install, the feature is preselected in the Custom dialog, but a user can deselect it. If you want make sure the feature cannot be deselected, change the **Attributes** value to 24 to mark it as Required.
- To deselect a feature without disallowing it, change its **Level** value to 125.
  - For a basic, restricted and silent install, the feature is not installed.
  - For a full user interface install, the feature is not preselected in the Custom dialog, but a user can select it to be installed.
- To hide a feature during a full user interface install, change its **Display** value to `0`.
  - This does not disallow the feature from being installed, but it is not shown in the Feature selection tree in a Custom install. Whether the feature is installed or not depends on the Level value for the feature, or whether the feature name was passed in the ADDLOCAL property.
  - For basic, restricted, and silent installs, changing the Display column has no effect.
- To completely disallow a feature, change its **Level** value to `0`.
  - For a full user interface install, the feature is not shown and it is not installed.
  - For basic, restricted, and silent installs, the feature is not installed.
  - Passing the feature name in ADDLOCAL does not install the feature.

Feature Tree:

This topic gives you a reference of the features contained in the System i Access for Windows installation package, as well as the default values for the Level and Attributes columns, which are the more commonly used to restrict features.

The features in the following table are sorted in the same order as they are displayed in the feature selection tree. Nested features are indicated by having the name of its parent feature in the Feature parent column.

The Level column and the Attributes column of the Feature table are shown with their default values. These values are modified by restricting features through transforms. The Title column contains the title of each feature as shown in the feature selection tree.

Table 10. Feature tree

Title	Feature	Feature parent	Level	Attributes
Required Programs	req		1	24
Optional Features	optfeatures		100	8
Directory Update	dir	optfeatures	100	8
Incoming Remote Command	irc	optfeatures	100	8

| *Table 10. Feature tree (continued)*

Title	Feature	Feature parent	Level	Attributes
System i Navigator	inav		100	8
Basic Operations	inavbo	inav	100	8
Work Management	inavwm	inav	125	8
Configuration and Services	inavcfg	inav	125	8
Networks	inavnet	inav	125	8
Integrated Server Administration	inavisa	inav	125	8
Security	inavsec	inav	125	8
Users and Groups	inavug	inav	125	8
Databases	inavdb	inav	125	8
File Systems	inavfs	inav	125	8
Backup	inavback	inav	125	8
Commands	inavcmd	inav	125	8
Packages and Products	inavpp	inav	125	8
Monitors	inavmon	inav	125	8
Logical Systems	inavlog	inav	125	8
AFP Manager	inavafp	inav	125	8
Application Administration	inavad	inav	125	8
Data Access	DataAccess		100	8
Data Transfer Base Support (license required)	dt	DataAccess	100	8
Data Transfer Excel Add-in	dtexcel	dt	100	8
ODBC	odbc	DataAccess	100	8
OLE DB Provider	oledb	DataAccess	100	8
.NET Data Provider	dotnet	DataAccess	125	8
Lotus® 123 File Format Support	lotus123	DataAccess	125	8
AFP Workbench Viewer	viewer		100	8
Toolbox for Java	tbj		100	8
5250 Display and Printer Emulator (license required)	emu		1	8
Secure Socket Layer (SSL)	ssl		125	8
Printer Drivers	prtdrivers		125	8
AFP Printer Driver	afp	prtdrivers	125	8
SCS Printer Driver	scs	prtdrivers	125	8
Operations Console	oc		101	8
Programmers Toolkit	toolkit		125	8
Headers, Libraries, and Documentation	hld	toolkit	125	8
Java Programmer's Tools	jpt	toolkit	100	8

Notes:

- Only features with a Display value greater than 0 are listed in the table. All features with a default value of 0 in the Display column are intended to be used internally by the installer, thus they are not visible in the feature selection tree and should not be transformed in any way.

- Features with a Level equal to or less than 100 are installed unless a user deselects the feature from the feature selection tree. On installations where the feature selection tree is not shown (reduced, basic or no user interface modes), the features will be always installed. In order to restrict users from deselecting a feature in the feature selection tree, set the feature Level to 100 or less, and set the Attributes value to 24.

- Features with a Level greater than 100 are not installed unless explicitly chosen via the ADDLOCAL property or from the feature selection tree. In order to completely disallow a feature, set its Level value to 0.

- In order to ensure that when a features parent, the child is also selected, set the Attributes value of the child feature to 26. This makes the child feature follow the action of its parent.

- All features should have the msidbFeatureAttributesDisallowAdvertise attribute (decimal 8) set, since System i Access for Windows does not support the Advertise capabilities of Windows Installer.

- The req feature should always be installed; you should not change the Attributes value for the req feature (the Attributes value for req is a combination of the msidbFeatureAttributesDisallowAdvertise attribute (decimal 8) and the msidbFeatureAttributesUIDisallowAbsent attribute (decimal 16). The msidbFeatureAttributesUIDisallowAbsent attribute disallows the Absent option for the req feature, which forces the feature to always be installed).

Setting public properties using transforms:

You can use transforms to set public properties instead of specifying them on the command line at install time. This is useful if you are using a software deployment method that does not have a way to pass command line parameters for MSI packages.

To set public properties using a transform, modify the Property table. This lets you change the default value of public properties. For a list of available public properties and their values, see Public properties.

Notes: Before customizing the public properties, take note of these considerations:
1. Do not change the value for private properties. These are intended for internal use only.
2. Some public properties are for InstallShield use, and they should not be changed. Customize only the public properties listed in the Public properties topic.
3. The value of a public property set at the command line overrides a value set at the transform.

To set public properties, follow these steps:
1. Open the Property table.
2. Optional: Change the default value of public properties. To change the default value of a public property, enter the new value in the Value column.
3. Optional: Add public properties that are not defined in the Property table.

   Some public properties are not defined by default, so you will not see them listed in the table. To use a public property that is not defined in the Property table, add it by double clicking the last row in the table. Enter the name of the property in the Property field and set the value in the Value field.
4. Optional: Add custom public properties. You can add your own public properties to the Property table so you can use them to customize some behaviors.

   Caution

   Note: If you choose to add custom public properties, IBM cannot be responsible for installation problems.

Changing the default options for the log files:

By default, these log files are created at install time under the temp directory: xe1instlog.txt and xe1instlogmsi.txt. You can use the command line or setup.ini to change the log file names and locations.

The log files contain this information:

xe1instlog.txt

Cumulative log that contains only trace information from the custom actions during the installation. You cannot change the default options or target location for this log file.

xe1instlogmsi.txt

Contains MSI action information and trace information from the custom actions during the install. It logs all information except for verbose output. You can change the default options, target location and file name for this log file from the command line or setup.ini.

You can use setup.ini or command line parameters to change the default options for xe1instlogmsi.txt. For instructions to change the default log options for xe1instlogmsi.txt, see Modifying the installation by using setup.ini.

To use command line parameters to change the default options for xe1instlogmsi.txt, enter this command: `setup /v"/l<logging parameters>` *`log_path\file_name.ext`*`"`

The most common logging parameters are:
- *: Logs status messages, warnings and error messages.
- v: Turns verbose mode on.
- x: Logs additional debugging information.

For example: `setup /v"/l*v C:\MyPath\log.txt"` generates a log file called log.txt under the MyPath folder containing status messages, warnings and error messages and logs verbose information.

Note: The quotation marks enclosing the path need to be escaped with a backslash in order to avoid interfering with the outer quotation marks.

To get the complete list of logging parameters taken by the /l option, enter `msiexec` in the command line.

If the directory path contains spaces, you must use quotation marks. For example: `setup /v"/l*v \"C:\My Path\log.txt\""`

If you do not specify a destination directory, the log is created under the same path from which setup is being launched.

Related tasks

"Modifying the installation by using setup.ini" on page 47
You can specify the user interface level, the level of installation logging, and the transforms to use in setup.ini.

Public properties:

Public properties can be used to change the default behavior of the installation, such as changing the default install directory, changing the default version of the PC52550 Emulator, and turning reboot prompts on and off. Public properties can be set at the command line or defined with a transform or in setup.ini.

To set a public property on the command line interface, where PUBLICPROPERTY is one of the public properties listed below, use the following syntax, as appropriate:
- To set a single property specify: `setup /v`*`PUBLICPROPERTY=value`*

- To set a single property by instance, specify: `setup /vCWBINSTALLTYPE=PC5250User`
- To set multiple properties specify: `setup /v"`*`PUBLICPROPERTY1=value PUBLICPROPERTY2=value`*`"`
- To set multiple properties by instance, specify: `setup /v" CWBINSTALLTYPE=Custom CWBPRIMARYLANG=Mri2938 CWBPC5250VERSION=T"`

When working with properties, you should only change the public properties listed here. Public property names must be entered exactly as shown.

These public properties are described:

CWBINSTALLTYPE

Purpose:
>   Sets the setup type of a first time installation.

Scope:
>   Only valid on a first time installation.

Default:
>   The default setup type is Complete.

Values:
>   Complete, Custom, PC5250User

Example
>   For a complete installation setup type, enter `setup /vCWBINSTALLTYPE=Complete`

Additional Notes:
>   1. The values are not case-sensitive.
>   2. The CWBINSTALLTYPE property is ignored if upgrading from a previous release of System i Access for Windows and in maintenance installations.

CWBPC5250VERSION

Purpose:
>   Sets the version for PC5250 Display and Print Emulator.

Scope:
>   Valid for a first time install, a maintenance install (if the PC5250 Display and Print Emulator has not been installed), and an upgrade.

Default:
>   If the property is not used, then the code page of the PC is used to determine which version of the emulator to install.

Values:

  K   Install the Korean version of PC5250 Display and Print Emulator.

  P   Install the Simplified Chinese version of PC5250 Display and Print Emulator.

  S   Install the Standard version of PC5250 Display and Print Emulator.

  T   Install the Traditional Chinese version of PC5250 Display and Print Emulator.

Example
  To install the Korean version of PC5250 enter `setup /vCWBPC5250VERSION=K`

Additional Notes:

  1. If PC5250 is installed and you are doing a maintenance install, this property is ignored. To install a different version, remove the current version of PC5250 and then restart the maintenance install using this property.

  2. If PC5250 is installed and you are upgrading to a new release, this property is ignored. To install a different version, remove the current version of PC5250 and then start a maintenance install using this property.

  3. By setting this property, the PC5250 Display and Print Emulator feature will be preselected to be installed even if you do not pass the feature name to ADDLOCAL.

CWBSHOWWELWIZ

Purpose:
  Specifies when the Welcome Wizard should be displayed.

Scope:
  Valid for a first time install and an upgrade

Default:
  Yes

Values:

  Yes
    The Welcome Wizard is displayed every time the PC is restarted.

  No
    The Welcome Wizard is not displayed.

Example
  To specify that the Welcome Wizard is displayed every time the PC is restarted, enter `setup /vCWBSHOWWELWIZ=yes`

CWBPRIMARYLANG

Purpose:
  Specifies the default primary language to install.

Scope:
  This property is valid in first time, upgrade, and silent installs.

Default:
  The default language will be the primary language if the source installation image is the LPP. This is determined by checking the mrisetup.ini file in the source directory. If the source is the DVD or other media, then the default language will be the NLV that matches the PC's locale, or what the user chooses for the user interface.

Values:

MRI29*xx*

The language resources for MRI29*xx* are installed onto the PC and MRI29*xx* is set as the primary language for System i Access for Windows. *xx* specifies the language identifier.

Example

To select a specific primary language and skip the primary language dialog, enter `setup /vCWBPRIMARYLANG=MRI29xx`

Additional Notes:

1. If this property is not passed through the command line for a Basic, Reduced, or no UI level, then the default language is installed.
2. If the CWBPRIMARYLANG property is passed on the command line, the Primary language dialog is skipped.
3. During upgrades from a non-MSI installation, the Primary language dialog is not displayed and the same language will be installed.

CWBINSTALLPLUGINS

Purpose:

Specifies whether the install process should detect and install System i Navigator third-party plugins.

Scope:

This is valid on first time installations, maintenance installations and upgrades.

Default:

Allow detection and installation of plug-ins.

Values:

No, Yes

Example

To skip the detection and installation of plug-ins, enter `setup /vCWBINSTALLPLUGINS=No`

Additional Note:

The value is not case-sensitive.

CWBSILENTPLG

Purpose:

Specifies which System i Navigator plug-ins to install during a silent installation (basic user interface, reduced user interface, and no user interface installations).

Scope:

This is valid on first time installations, maintenance installations, and upgrades running on reduced, basic, or no user interface mode.

Default:

None.

Values:

Path to cwbsilentplg.ini, which contains a list of plug-ins to install. The format of the file follows:

`[Plugins]` *vendor.component*=yes *vendor.component*=no

vendor is the company name and *component* is the plug-in name.

Example

To install the IBM.BRMSPlugin and remove the LOTUS.QUICKPLACE plug-in during an upgrade or a maintenance install, create a file called cwbsilentplg.ini in the path C:\mywork. The file should contain this information:

```
[Plugins]
IBM.BRMSPlugin=yes
LOTUS.QUICKPLACE=no
```

Then at the command line, enter: `setup /vCWBSILENTPLG=c:\mywork`

Additional Note:
> If you are using a silent install but do not specify CWBSILENTPLG, no plug-ins will be installed or removed. If you are performing a non-silent installation, then this property is ignored.

ADDLOCAL (Windows Installer property)

Purpose:
> List of features that are to be installed locally.

Scope:
> Valid for a first time installation, a maintenance installation, or an upgrade.

Default:
> None. If the public property is not used, then the selections made during the installation wizard or transform (if provided) determine what is installed.

Values:

> **ALL**
> > Install all features listed in the Feature table locally.

> **one or more valid feature names**
> > See "Using command line parameters to change the installation behavior" on page 53 for a list of feature names.

Example
> See "Using command line parameters to change the installation behavior" on page 53 for examples.

Additional Notes:

1. The features must be listed in the Feature table.
2. Feature names are not case sensitive.
3. Do not enter ADDLOCAL=ALL into the Property Table, because this generates a locally installed package that cannot be correctly removed.

REMOVE (Windows Installer property)

Purpose:
> Specifies features that are to be removed.

Scope:
> Valid only when the product is installed.

Default:
> None. If this public property is not used, then the selections made in the installation wizard determine any features to remove.

Values:

> **ALL**
> > Remove all features having an install level greater than 0. Features having an install level of 0 are not removed.

Example
> See "Using command line parameters to change the installation behavior" on page 53 for examples.

Additional Notes:

1. The features must be listed in the Feature table. See "Using command line parameters to change the installation behavior" on page 53 for a list of feature names.
2. Feature names are not case sensitive.

REBOOT (Windows Installer property)

Purpose:
Suppresses certain prompts for a reboot of the system.

Scope:
This is valid for first time and upgrade and maintenance installs.

Default:
If this property is not set, any required reboot will be scheduled to happen at the end of the installation.

Values:

Force (or F)
Always reboot at the end of the installation. If there is no user interface, the system reboots without confirmation.

Suppress (or S)
Suppress reboots at the end of the installation.

Example
To keep the system from rebooting at the end of an installation enter `setup /v"REBOOT=Suppress"` or `setup /v"REBOOT=S"`

Additional Notes:
1. The System i Access for Windows installation program schedules a system reboot whenever the Required Programs feature or the AFP Viewer feature are being installed or reinstalled.
2. On a silent first time installation, silent upgrade, or silent reinstall (service pack or repair), Windows Installer will restart the PC without prompting for confirmation. Set this property to S or Suppress to prevent rebooting the system.

REBOOTPROMPT (Windows Installer Property)

Purpose:
Do not display any prompts for reboots to the user.

Scope:
This is valid only for a first time install, upgrade and maintenance install running on basic, reduced, or full user interface mode.

Default:
If this property is not set and the installer schedules a system reboot, a dialog is displayed at the end of installation.

Values:

Suppress (or S)
Any reboot performed by the Windows Installer happens automatically without interaction from the user. Setting this property does not initiate a reboot if one is not needed, it only suppresses the display of any prompts for reboots to the user.

Example
To suppresses the display of prompts for reboots to the user, enter `setup /vREBOOTPROMPT=S`

Additional Note:
On a silent installation, this property has no effect.

INSTALLDIR (InstallShield Property)

Purpose:
> Sets the installation directory for System i Access for Windows.

Scope:
> This is valid only for a first time install.

Default:
> If INSTALLDIR is not specified, System i Access for Windows will be installed in C:\Program Files\IBM\Client Access.

Values:
> Any valid path

Example
> To install System i Access for Windows on the C:\InstallPath directory, enter `setup /vINSTALLDIR=X:\`*Install_Path* where *X* is the destination drive letter and *Install_Path* is the target directory.

> If the directory path contains spaces, use double quotation marks; one pair for the /v parameter and one pair for the INSTALLDIR property, as in the following example. Note that the interior quotation marks need to be escaped with a backslash: `setup /v"INSTALLDIR=\"C:\Install Path\""`

TARGETDIR

Purpose:
> Set the destination directory for an administrative image when performing an administrative installation.

Scope:
> This is valid for an administrative installation.

Default:
> If this property is not set during an administrative installation, Windows Installer sets it to the first connected network drive it finds.

Values:
> A valid path.

Example
> To set the destination directory for an administrative image, enter: `setup /a v/TARGETDIR=X:\`*Admin_image* where *X*: is the destination drive letter and *Admin_image* is the target directory.

> If the directory path contains spaces, use double quotation marks; one pair for the /v parameter and one pair for the TARGETDIR property, as in the following example. Note that the interior quotation marks need to be escaped with a backslash: `setup /a /v"TARGETDIR=\"C:\Admin Image\""`

Defining the level of user interface throughout the installation:

The *user interface level* is the level at which the installation user interface will run. The user interface level can be set to these levels: full, restricted, basic, and none (silent). The default level is full user interface.

A full user interface shows the Install Wizard. Users can change installation options. A progress bar is shown. All error and warning messages are shown.

A reduced user interface shows all dialogs except the Wizard dialogs. Users can not change installation options.

A basic user interface shows progress bar and error messages only. Users can not change installation options.

A silent installation (no user interface) does not show any dialogs. There is no indication about installation progress. Users can not change installation options.

The user interface level can be specified in setup.ini or can be set by the user at the command line. To set the user interface level within setup.ini, see Modifying the installation by using setup.ini.

To specify the user interface level at the command line, complete one of the following:
- To start the installation with a full user interface level, type `setup /v/qf`. This is the default and is equivalent to launch setup without the /q option.
- To start the installation with a reduced user interface level, type `setup /v/qr`.
- To start the installation with a basic user interface level, type setup /v/qb.
- To start the installation with no user interface, type setup /v/qn.

Important: The /qr, /qb and /qn options do not suppress the Installation Language selection dialog shown at the beginning of the installation. In order to avoid the Installation Language selection dialog, append the /s parameter as shown in the following example:

  `setup /v/qb /s`

Related tasks

"Modifying the installation by using setup.ini"
You can specify the user interface level, the level of installation logging, and the transforms to use in setup.ini.

Modifying the installation by using setup.ini:

You can specify the user interface level, the level of installation logging, and the transforms to use in setup.ini.

To modify setup.ini, follow these steps:
1. Browse to the location of your installation image and open setup.ini
2. Optional: Define the user interface level.
   a. Under the [Startup] section, find this statement: CmdLine=/l* "%temp%\xe1instlogmsi.txt"
   b. Add the /q option to the CmdLine keyname.
      - Enter /qr for a reduced user interface.
      - Enter /qb for a basic user interface.
      - Enter /qn for no user interface (completely silent).
3. Optional: Define the level of installation logging.
   a. Under the [Startup] section, find this statement: CmdLine=/l* "%temp%\xe1instlogmsi.txt"
   b. Change the parameters for the /l option as appropriate.
      - To get a verbose log, change /l* to /l*v.
      - If you do not want the MSI log to be created, delete the /l option and all of its parameters from the CmdLine keyname.
      - To change the default destination of the log file, change the parameter "%temp%\ xe1instlogmsi.txt" to the directory and file name you want. Use quotation marks around the path if it contains spaces. For example, /l "c:*my directory**mylog*.txt".
4. Optional: Specify the transforms to be applied. All users running from the same image get the same list of transforms that are applied.
   a. Under the [Startup] section, find this statement: CmdLine=/l* "%temp%\xe1instlogmsi.txt"

b. Add the TRANSFORMS CmdLine keyname. For example,
`TRANSFORMS=transform1.mst,transform2.mst,...`

Example

In this example, the log file, xe1instlogmsi.txt, is generated with verbose information and is saved to
C:\MyPath. The installation is launched in basic user interface mode, and the transform
MyTransform.mst is applied.

```
[Startup]
CmdLine=/l*v "C:\MyPath\xe1instlogmsi.txt" /qb TRANSFORMS=MyTransform.mst
```

Related tasks

"Creating transforms with Orca" on page 35
You can use transforms to restrict the set of features that users can install, and to set public properties.

"Defining the level of user interface throughout the installation" on page 46
The *user interface level* is the level at which the installation user interface will run. The user interface
level can be set to these levels: full, restricted, basic, and none (silent). The default level is full user
interface.

"Changing the default options for the log files" on page 40
By default, these log files are created at install time under the temp directory: xe1instlog.txt and
xe1instlogmsi.txt. You can use the command line or setup.ini to change the log file names and
locations.

Telling your users how to install:

To install IBM System i Access for Windows onto their PCs, users run the setup.exe program. If you are
using a software deployment method such as Active Directory, the application will be installed
automatically on remote computers so you do not need to give users this information.

Give your users instructions how to run the setup.exe command in the installation image or
administrative install. You should tell them any properties they need to specify. See Specifying features to
install, upgrade, or modify on the command line for details.

If you have transforms, the user must specify the transforms on the command line or you can specify the
transforms in setup.ini.

Windows Installer Policies:

You can control the Windows Installer behavior on your client computers by using System Policies for
Windows Installer. This lets you configure some settings, like preventing users from installing or
uninstalling Windows Installer-based applications, and letting restricted users run installations with
elevated privileges.

There are two types of Windows Installer policies: machine policies and user policies. A brief explanation
of some commonly-used policies follows:

User Policies

AlwaysInstallElevated
Set this property to 1 to let your users to install with elevated privileges. The machine policy
must also be set to 1 for this policy to take effect.

TransformsAtSource
Set this property to 1 to make Windows Installer search for transforms in the installation source
instead of storing them in the Application Data folder of a user's profile.

Machine Policies

AlwaysInstallElevated
> Set this property to 1 to let your users install with elevated privileges. The user policy must also be set to 1 for this policy to take effect.

DisableMSI
> Use this policy to restrict users without administrative credentials from installing or reinstalling Windows Installer applications, or to completely disable the Windows Installer service.

> Set DisableMSI to 0 to allow all install operations. Restricted users will not be able to install System i Access for Windows.

> Set DisableMSI to 1 to allow only managed installations and elevated installations.

> Set DisableMSI to 2 to completely disable Windows Installer.

DisablePatch
> Set this policy to 1 to restrict Windows Installer from applying patches.

TransformsSecure
> Set this policy to 1 to tell Windows Installer to cache transforms in a locked location where users do not have write access.

Refer to the MSDN System Policy Web page (http://msdn2.microsoft.com/en-us/library/Aa372058) for a complete list of Windows Installer policies.

Related tasks

"Obtaining and installing PTFs" on page 9
Fixes for System i Access for Windows are integrated into service packs, which are packaged into a program temporary fix (PTF) for delivery. Administrators can obtain the latest PTFs for their systems to avoid unnecessary service calls, to create a more stable operating environment for the System i Access for Windows client, and to correct known problems.

"Obtaining and installing PTFs" on page 56
Fixes for System i Access for Windows are integrated into service packs, which are packaged into a program temporary fix (PTF) for delivery. Administrators can obtain the latest PTFs for their systems to avoid unnecessary service calls, to create a more stable operating environment for the System i Access for Windows client, and to correct known problems.

Related information

➦ MSDN System Policy Web page

Using Windows Installer policies:

You can use Windows Installer policies to control the Windows Installer behavior on your client computers.

Windows Installer policies include machine policies and user policies. For some policies to take effect, you need to set them for both the machine and the user.

You can configure user policies in the local registry. User policies are located under this registry key: HKEY_CURRENT_USER\Software\Policies\Microsoft\Windows\Installer

You can configure machine policies under this registry key: HKEY_LOCAL_MACHINE\Software\Policies\Microsoft\Windows\Installer

To set Windows Installer policies using the Group Policy console, follow these steps:

1. Open the Group Policy editor.
   a. Open the Run dialog.

| b. Enter `gpedit.msc`.

| 2. Select **Computer Configuration** if you want to set machine policies, or select **User Configuration** if
| you want to set user policies.

| 3. Go to **Administrative Templates** → **Windows Components** → **Windows Installer**. A list of available
| policies for Windows Installer is shown.

| 4. Double click the policy you want to set.

| 5. In the Properties window, check **Enabled** or **Disabled**, and click **OK** to apply the new setting.

| **Related concepts**

| "Active Directory" on page 28
| Active Directory supports distributing MSI based applications to remote computers using the Group
| Policy Software Installation feature. You can create a package for a group of users or computers and
| then distribute the package to the group members.

| **Related tasks**

| "Obtaining and installing PTFs" on page 9
| Fixes for System i Access for Windows are integrated into service packs, which are packaged into a
| program temporary fix (PTF) for delivery. Administrators can obtain the latest PTFs for their systems
| to avoid unnecessary service calls, to create a more stable operating environment for the System i
| Access for Windows client, and to correct known problems.

| "Deploying on Active Directory using Group Policy" on page 29
| Active Directory supports distributing MSI-based applications to remote computers using the Group
| Policy Software Installation feature. To deploy a Windows Installer package, create a Group Policy
| object (GPO) and associate it with a specific domain, site, or organizational unit. An installation
| package is then created within the GPO. You distribute this package to the members of the container
| to which the GPO is linked.

| "Setting Windows Installer policies on Active Directory" on page 31
| You can control the Windows Installer behavior on your client computers in a domain or
| organizational unit by setting Windows Installer system policies.

| "Obtaining and installing PTFs" on page 56
| Fixes for System i Access for Windows are integrated into service packs, which are packaged into a
| program temporary fix (PTF) for delivery. Administrators can obtain the latest PTFs for their systems
| to avoid unnecessary service calls, to create a more stable operating environment for the System i
| Access for Windows client, and to correct known problems.

Installing System i Access for Windows on the PC

| You can install System i Access for Windows on a PC from the Licensed Program 5761-XE1, from the
| System i Access for Windows DVD, or from a location that your administrator has prepared to be used as
| your installation source.

Exit all applications before you install System i Access for Windows. This includes applications that might
be running in the background, such as spyware, adware, anti-virus, and other malware detection
programs.

| Before installing System i Access for Windows, understand the considerations listed in Installation
| considerations.

Complete the tasks appropriate to your circumstances to install System i Access for Windows on the PC.

| **Related concepts**

"Installation considerations" on page 18
Consider this information before installing System i Access for Windows on your computer.

"SSL considerations" on page 19
Consider this information before installing System i Access for Windows on your computer.

Finding your installation image:

The type of processor for the PC determines which installation image is used. There are an image for 32-bit processors, an image for 64-bit Itanium processors, and an image for 64-bit AMD-based processors including 64-bit Xeon.

The location of the correct installation image for your PC depends on the installation source that you use.

Using Licensed Program 5761-XE1 as the installation source:

When using the System i Access for Windows licensed program as the installation source, you can use the cwblaunch.exe or setup.exe file to start the installation.

When you use either method to start the installation wizard, the type of processor for the PC determines which installation image is used. There are an image for 32-bit processors, an image for 64-bit Itanium processors, and an image for 64-bit AMD-based processors including 64-bit Xeon.

You can automate the installation choices in the installation wizard by using the command line to pass public properties and parameters to the program, regardless of the method used to start the installation wizard. For details, see the information about using command line parameters to change the installation behavior.

Using cwblaunch.exe to start the installation

When you use this option, the installation program determines the processor in your PC and automatically starts the installation using the correct installation image for your processor.

To use cwblaunch.exe for the installation, follow these steps:
1. Map a network drive to QIBM\ProdData\Access\Windows on your system.
2. Double-click the cwblaunch.exe file.
3. Use the wizard to complete the installation.

Using setup.exe to start the installation

When you use this option, you need to know your processor type and select the correct installation image for your processor.

To use setup.exe for the installation, follow these steps:
1. Determine your processor type.

   Right-click **My Computer** and select **Properties**. Your processor type is listed on the **General** tabbed page.
2. Determine which installation image to use, based on your PC processor type.

Table 11. Location of installation image for each processor type

Processor type	Location of installation image
32-bit	QIBM\ProdData\Access\Windows\Image32
64-bit AMD 64-bit Xeon	QIBM\ProdData\Access\Windows\Image64a
64-bit Itanium	QIBM\ProdData\Access\Windows\Image64i

3. Map a network drive to the location of the installation image that is appropriate to your PC.
4. Run setup.exe in the correct installation image for your PC.

Related concepts

"Using command line parameters to change the installation behavior" on page 53
A user can install, upgrade, or modify the features that are installed by using command line
parameters on the setup.exe command.

Using the System i Access for Windows DVD as the installation source:

When using the *System i Access for Windows* DVD as the installation source, you can use the
cwblaunch.exe or setup.exe file to start the installation.

When you use either method to start the installation wizard, the type of processor for the PC determines
which installation image is used. There are an image for 32-bit processors, an image for 64-bit Itanium
processors, and an image for 64-bit AMD-based processors including 64-bit Xeon.

You can automate the installation choices in the installation wizard by using the command line to pass
public properties and parameters to the program, regardless of the method used to start the installation
wizard. For details, see the information about using command line parameters to change the installation
behavior.

Using cwblaunch.exe to start the installation

When you use this option, the installation program determines the processor in your PC and
automatically starts the installation using the correct installation image for your processor.
1. View the contents of the DVD in **My Computer**.
2. Double-click the cwblaunch.exe file.
3. Use the wizard to complete the installation.

Using setup.exe to start the installation

When you use this option, you need to know your processor type and select the correct installation
image for your processor.

To use setup.exe for the installation, follow these steps:
1. Determine your processor type.
   Right-click **My Computer** and select **Properties**. Your processor type is listed on the **General** tabbed
   page.
2. Determine which installation image to use, based on your PC processor type.

Table 12. Location of installation image for each processor type

Processor type	Location of installation image
32-bit	Windows\Image32
64-bit AMD	Windows\Image64a
64-bit Xeon	
64-bit Itanium	Windows\Image64i

3. Map a network drive to the location of the installation image that is appropriate to your PC.
4. Run setup.exe in the correct installation image for your PC.

Creating your own installation DVD:

To create your own DVD to install System i Access for Windows, install the 5761-XE1 System i Access for
Windows on the System i platform, and then burn QIBM\ProdData\Access\Windows to a DVD.

You can create a DVD with only the installation image for a single processor type. The following table lists the folder that you must burn for each processor type.

Table 13. Installation image folder for each processor type

Processor type	Folder path
32-bit	QIBM\ProdData\Access\Windows\Image32
64-bit AMD 64-bit Xeon	QIBM\ProdData\Access\windows\Image64a
64-bit Itanium	QIBM\ProdData\Access\Windows\Image64i

Also, you can determine which languages to include on your DVD. For every language you want to include, install the language on the System i platform for System i Access for Windows.

See "Using the *System i Access for Windows* DVD as the installation source" on page 52 for related information.

Note: An administrative image burned on a CD or DVD might not work properly. If you experience problems in installing System i Access for Windows from an administrative image on a CD or DVD, copy the image to a directory on the local hard disk and run the setup.exe file from there.

Using an installation image that has been prepared to install on multiple PCs as the installation source:

Your administrator will tell you where your installation source is located and how you should launch the installation. The way to start the install depends on what type of deployment method your administrator has selected.

Using command line parameters to change the installation behavior:

A user can install, upgrade, or modify the features that are installed by using command line parameters on the setup.exe command.

Note: These examples use the setup.exe command. The parameters also work in the same way for the cwblaunch.exe command.

Before installing, the user needs to change directories to the directory that contains the installation image. There should be a network drive mapped to this image. If not, these are the locations of the installation images.

Table 14. Installation image locations

Processor type	Installation source	Location of installation image
32-bit	*System i Access for Windows* DVD	Windows\Image32
	Licensed Program 5761-XE1	QIBM\ProdData\Access\Windows\Image32
64-bit AMD 64-bit Xeon	*System i Access for Windows* DVD	Windows\Image64a
	Licensed Program 5761-XE1	QIBM\ProdData\Access\Windows\Image64a
64-bit Itanium	*System i Access for Windows* DVD	Windows\Image64i
	Licensed Program 5761-XE1	QIBM\ProdData\Access\Windows\Image64i

- To install, upgrade, or add features, enter this command: `setup /vADDLOCAL=`*featurename*, where *featurename* is the internal name of the feature. See Table 15 on page 54 for the list of feature names.
- To include more than one feature, separate the features with a comma as shown in this example: `setup /vADDLOCAL=dir,irc,emu`

- To install, upgrade, or add all features, enter this command: `setup /vADDLOCAL=ALL`
- To remove features after the installation or upgrade, enter this command: `setup /vREMOVE=featurename,` where *featurename* is the internal name of the feature.
- To remove the product, enter this command: `setup /vREMOVE=ALL`
- To specify transforms to be applied, enter this command: `Setup /vTRANSFORMS=transform1.mst,transform2.mst,...`

> **Note:** When combining two or more options into the /v parameter or when the value of an option contains spaces, you need to enclose them in apostrophes as shown in the following example:
>
> `setup /v"ADDLOCAL=dir TRANSFORMS=MyTransform.mst"`

Table 15. Feature names

Feature	Internal name of feature
Required Programs	req
Directory Update	dir
Incoming Remote Command	irc
Data Transfer	dt
Data Transfer Excel Add-in	dtexcel
ODBC	odbc
OLE DB Provider	oledb
Lotus 123 File Format Support	lotus123
.NET Data Provider	dotnet
AFP Workbench Viewer	viewer
5250 Display and Printer Emulator	emu
Secure Socket Layer (SSL)	ssl
AFP Printer Driver	afp
SCS Printer Driver	scs
Operations Console	oc
Headers, Libraries, and Documentation	hld
System i Navigator (Base Support)	inav
Basic Operations	inavbo
Work Management	inavwm
Configuration and Services	inavcfg
Networks	inavnet
Integrated Server Administration	inavisa
Security	inavsec
Users and Groups	inavug
Databases	inavdb
File Systems	inavfs
Backup	inavback
Commands	inavcmd
Packages and Products	inavpp
Monitors	inavmon
Logical Systems	inavlog

Table 15. Feature names (continued)

Feature	Internal name of feature
AFP Manager	inavafp
Application Administration	inavad
Toolbox for Java	tbj
Note: The feature's name is not case-sensitive.	

Setting public properties from the command line

To set public properties from the command line, use this command:

`setup /vPUBLIC_PROPERTIES=value`

For a list of public properties, see "Public properties" on page 40.

Controlling the user interface level

For instructions to control the user interface level, see "Defining the level of user interface throughout the installation" on page 46.

> **Related tasks**
>
> "Using batch programs" on page 25
> You can automate the installation process by creating a batch (.bat) file to run setup.exe with predefined parameters. In this situation, users do not need to specify options at the command prompt.
> "Using Licensed Program 5761-XE1 as the installation source" on page 51
> When using the System i Access for Windows licensed program as the installation source, you can use the cwblaunch.exe or setup.exe file to start the installation.

Preparing to install service packs on multiple PCs

You can avoid unnecessary calls to service for problems that might already have fixes, and create a more stable operating environment for your System i Access for Windows client by ensuring that you have the most recent PTFs and service packs.

The Check Service Level function of System i Access for Windows detects any PTFs that you need to apply to the i5/OS operating system and downloads the PTFs.

Service packs are also available as Windows Installer patches. Patches can be applied to local installations of System i Access for Windows to install the service pack fixes, or they can be applied to an administrative source image to keep a network installation point updated so end users can get fixes from there.

> **Notes:**
>
> 1. PTFs for System i Navigator plug-ins are provided independently of the System i Access for Windows service pack.
> 2. Only users with administrator authority can perform service pack updates, but administrators can allow users to perform service pack update tasks without administrator privileges.

> **Related concepts**
>
> "Check Service Level function" on page 56
> **Check Service Level** is a function of System i Access for Windows. You can use it to detect updates to System i Access for Windows and related components on the system as well as to distribute service packs to client PCs.
>
> **Related tasks**

"Using remote scheduled tasks" on page 25
You can use the scheduled tasks function of the Windows operating system with remote access to let your users install and upgrade System i Access for Windows, and install service packs, without administrator privileges.

Obtaining and installing PTFs:

Fixes for System i Access for Windows are integrated into service packs, which are packaged into a program temporary fix (PTF) for delivery. Administrators can obtain the latest PTFs for their systems to avoid unnecessary service calls, to create a more stable operating environment for the System i Access for Windows client, and to correct known problems.

Service pack PTFs update the System i Access for Windows installation image on the system. All client installations based on this image reflect the latest service pack level of the host system.

Note: Only users with administrator authority can perform installations, service pack updates, and upgrades to new releases. However, you can let your users without administrator privilege access scheduled tasks remotely. Alternatively, you can set the AlwaysInstallElevated policy. The AlwaysInstallElevated policy is one of the Windows Installer policies that you can use to control the Windows Installer behavior on client computers.

You have several options to obtain PTFs:

- Use the Send PTF order (SNDPTFORD) command to order PTFs for your system.

  Because the service pack PTFs generally exceed the size limit to be sent electronically, you can receive PTFs on media by changing the Delivery Method, DELIVERY parameter, to *ANY.
- Use Fix Central to obtain PTFs for your system.
- Order a service pack CD electronically, and place it directly in the integrated file system in a Virtual Optical Device from which you can install. To use this option, you must prearrange it with IBM service.

To learn more about PTF ordering options, go to the Support for IBM System i Web site (www.ibm.com/servers/eserver/support/iseries/index.html). Under **Popular links**, select **Fixes**.

To install PTFs, see Installing fixes for instructions. After you have installed PTFs on the host system, you can use the **Check service level** function to distribute service packs to client PCs.

Related concepts

"Windows Installer Policies" on page 48
You can control the Windows Installer behavior on your client computers by using System Policies for Windows Installer. This lets you configure some settings, like preventing users from installing or uninstalling Windows Installer-based applications, and letting restricted users run installations with elevated privileges.

Related tasks

"Using Windows Installer policies" on page 49
You can use Windows Installer policies to control the Windows Installer behavior on your client computers.

Related information

Fix Central (http://www.ibm.com/eserver/support/fixes/fixcentral/main/iseries/)

IBM System i support (http://www.ibm.com/servers/eserver/support/iseries/index.html)

Check Service Level function:

Check Service Level is a function of System i Access for Windows. You can use it to detect updates to System i Access for Windows and related components on the system as well as to distribute service packs to client PCs.

The **Check Service Level** function automatically checks the i5/OS for updates to any installed components. If updates are available, the user is typically alerted and asked to allow the update. This launches the installation wizard in Minor upgrade mode and updates the appropriate features.

You can set these options for **Check Service Level**:

- When **Check Service Level** runs
- A date to check service level
- The number of days before checking service level
- The number of minutes to delay (after logon) to check service level

Note: Policies can set limitations on the above functions. For example, if a policy sets a certain value to control the number of days between checking the service level, this value cannot be overruled by changing the above parameters.

   Related concepts

   "Preparing to install service packs on multiple PCs" on page 55
   You can avoid unnecessary calls to service for problems that might already have fixes, and create a more stable operating environment for your System i Access for Windows client by ensuring that you have the most recent PTFs and service packs.

   Related tasks

   "Obtaining and installing PTFs" on page 9
   Fixes for System i Access for Windows are integrated into service packs, which are packaged into a program temporary fix (PTF) for delivery. Administrators can obtain the latest PTFs for their systems to avoid unnecessary service calls, to create a more stable operating environment for the System i Access for Windows client, and to correct known problems.

Setting Check Service Level properties:

Check Service Level properties let you specify when and how frequently the service level is checked for new fixes to download.

To set the check service level properties, do the following:

1. Double-click the **System i Access for Windows Properties** icon in the System i Access for Windows program group.
2. Click the **Services** tab.
3. Change the values and click **OK**.

Note: The SCHEDCHECK parameter overrides the frequency settings. (For more information about SCHEDCHECK, see the *IBM System i Access for Windows User's Guide*, an online help system available with the product.)

Scheduling Check Service Level:

You can create a batch file to schedule Check Service Level to run at regular intervals.

To schedule check service level to run at regular intervals, create a .bat file that runs Check Service Level, and then use the **at** command to specify when the batch file should run.

1. Create a .bat file that the scheduler calls.

   - To have check service level use the parameters on the System i Access for Windows Properties Service tab, put a line similar to the following example in the .bat file:

```
c:\...\Client~1\CWBCKVER.EXE LOGIN
```
- To have check service level to run whenever the schedule entry starts, put a line similar to the following example in the .bat file:
```
c:\...\Client~1\CWBCKVER.EXE SCHEDCHECK
```
2. Use the `at` command to schedule Check Service Level. For example:
```
at 10:00/INTERACTIVE/EVERY:15 "c:\scheddir\ckverscd.bat"
```
This will start check service level at 10:00 a.m. on the 15th day of every month.

Note: This example uses a .bat file named ckverscd.bat in directory c:\scheddir. Your .bat file name and the directory where you store it are your choice.

When the schedule entry starts, a command prompt window opens on your desktop. Check Service Level prompts the user with message boxes and installation wizards. The user interface is identical to the interface that a Windows administrator would see running check service level.

Controlling service pack and release upgrades:

System i Access for Windows lets you control when users can install a new service level of the product. A service level can be a service pack or a release upgrade.

The control is based on the presence and content of a file named SP.TXT. The program that checks the corrective service level of your workstation looks for the file SP.TXT in the same directory as the installation image in the service source directory. For service packs and release upgrades it would be in \\servname\QIBM\ProdData\Access\Windows\Image32, Image64a and Image64i.

Table 16. SP.TXT contents

First line of SP.TXT	Description
N	The user cannot install the new service level.
Y	The user can install the new service level.
U	The user can install an upgrade, but not a service pack.
S	The user can install a service pack, but not an upgrade.

If the SP.TXT file is not present in the installation directory, the workstation user is allowed to install the new service level.

Examples:

Example of SP.TXT that does not allow users to install a service pack or release upgrade:
```
======== Top of File ========
N
======== Bottom of File ========
```

Example of SP.TXT that allows users to install a service pack or release upgrade:
```
======== Top of File ========
Y (optional)
text that the administrator wants
you to read before applying a
corrective service level.
======== Bottom of File ========
```

Service packs from download sites:

Service packs are authored as Windows Installer patches, which are files that contain just the fixes to the application source files; therefore, they are smaller than a full image. You can install service packs on the PC to update a local installation of System i Access for Windows, or use service packs to update an existing administrative image.

System i Access for Windows must be installed on the PC before you can install the service pack.

Patches are distributed in a .exe format.

Site for downloading service packs:

Service packs that you can run on a PC are available from the IBM FTP site. System i Access for Windows must be installed on the PC before you can install the service pack.

- IBM FTP site (ftp://ftp.software.ibm.com)

  Navigate to **as400/products/clientaccess/win32/v6r1m0/servicepack** and open the most recent service pack directory.

  The FTP directory contains separate service pack downloads for each specific processor type. Ensure that you download the service pack that is right for the processor type of your PC. Use the following table to determine which subdirectory contains the right service pack for your processor.

Table 17. Subdirectory for each processor type

Processor type	Subdirectory
32-bit	Image32
64-bit AMD 64-bit Xeon	Image64a
64-bit Itanium	Image64i

  Under each subdirectory, you can find an executable file named SI#####_*XX*.EXE, where SI##### is the PTF number and *XX* is 32, 64A, or 64I. You can download this executable file and make it available to your users so that they can install the service pack on their PCs.

  Under each subdirectory, an administration subdirectory is available. This subdirectory contains an executable file named UPDATE_*XX*.EXE, where *XX* is 32, 64A, or 64I. You use the file to update an administrative image. For more information, see "Patching an administrative installation image" on page 22. You cannot use the SI#####_*XX*.EXE file to patch an administrative image.

  Refer to the Downloads.txt file that is available under each service pack image directory for further information about how to download and use these service pack executable files.

- System i Access for Windows Service Packs Web page (http://www.ibm.com/servers/eserver/iseries/access/casp.html)

  You can also access the IBM FTP site from this page.

  Related tasks

  "Obtaining and installing PTFs" on page 9
  Fixes for System i Access for Windows are integrated into service packs, which are packaged into a program temporary fix (PTF) for delivery. Administrators can obtain the latest PTFs for their systems to avoid unnecessary service calls, to create a more stable operating environment for the System i Access for Windows client, and to correct known problems.

Patching an administrative installation image:

You can update an administrative image by applying a patch from the download site. Your users get the latest updates when they reinstall System i Access for Windows from the updated administrative image. New installations from this location also contain the latest service fixes.

Note: You cannot patch a source image that was copied from the DVD. You need to create an administrative installation image.

To patch an administrative source image, follow these steps:

1. Download the appropriate UPDATE_*XX*.EXE file from the System i Access Service Packs for Supported Releases Web page 🔗 (www.ibm.com/systems/i/software/access/windows/casp.html). For more information, see "Site for downloading service packs" on page 59.
2. Copy UPDATE_*XX*.EXE to the administrative image root directory.
3. Run this command: `Update /v"/a cwbinstall.msi"`

   If the cwbinstall.msi file is in a different location from UPDATE_*XX*.EXE, you need to specify the path to cwbinstall.msi in the command: `Update /v"/a path_to_cwbinstall\cwbinstall.msi"`

   If the path contains spaces, use quotation marks, as in this example. Note that the interior quotation marks need to be escaped with a backslash: `Update /v"/a \"C:\Admin Image\cwbinstall.msi\""`

Distributing service packs on Active Directory:

If you are using Active Directory as the deployment method in your network, you can distribute service packs to your users within a group policy object.

To upgrade your clients, you need an updated image that contains the latest service-level fixes.

You can apply the latest System i Access for Windows PTF to the i5/OS operating system, and then obtain the updated installation image from the NetServer directory QIBM\ProdData\Access\Windows.

If you use an administrative image as the source for the initial deployment, you can follow these steps to upgrade your image:

1. Download the service pack executable file from the IBM System i Access Service Packs for Supported Releases Web site 🔗 (http://www.ibm.com/servers/eserver/iseries/access/casp.html).
2. Patch the administrative image.

Notes:

1. Always use the same type of image to upgrade your clients. If you initially deployed from an administrative image, you must use administrative images to distribute service packs.
2. You cannot distribute individual patches with Active Directory.

To deploy the updated image, follow these steps:

1. Replace the old full image with the updated one or patch the administrative image. For instructions to patch the administrative image, see "Patching an administrative installation image" on page 59.
2. Open **Group Policy Editor** to edit the group policy object that contains the installation package.
   a. Right-click the container where the group policy object is created.
   b. Click **Properties**.
   c. Select the **Group Policy** tab and choose the group policy object that contains the installation package.
   d. Click **Edit** to open Group Policy Editor.
3. Go to **Computer Configuration** → **Software Settings** → **Software Installation** .
4. Right-click the package for System i Access for Windows.
5. Select **All Tasks** → **Redeploy**.

The application is upgraded on each target computer the next time it is restarted.

| *Distributing service packs on SMS:*

| If you are using Microsoft Systems Management Server as the deployment method in your network, you
| can distribute service packs to your users by distributing a new program.

| You can distribute service packs by reinstalling clients from an updated full image or by distributing
| individual patches.

| *Reinstalling clients from an updated full image:*

| You can distribute service packs by reinstalling clients from an updated full image. To upgrade your
| clients, you need an updated image that contains the latest service level fixes.

| You can apply the latest System i Access for Windows PTF to the i5/OS operating system, and then
| obtain the updated installation image from the NetServer directory QIBM\ProdData\Access\Windows.

| If you use an administrative image as the source for the initial deployment, you can follow these steps to
| upgrade your image:
| 1. Download the service pack executable file from the IBM System i Access Service Packs for Supported
| Releases Web site ![icon] (http://www.ibm.com/servers/eserver/iseries/access/casp.html).
| 2. Patch the administrative image.

| To update your package, you can also follow one of the following steps:
| • Replace the original source for your package with the updated full image.
| • Patch the original administrative image if you are using one as your source.
| • Have a different source for the updating package.

| For most cases, the best solution is to replace the original source with the updated image, or to patch the
| original administrative image. However, an advantage of having a new source is that clients that need the
| original source while they get the new package advertisement can still go to the original source. After the
| advertisement for the service pack is distributed, clients will point to the new source.

| **Note:** Always use the same type of image to upgrade your clients. If you initially deployed from an
| administrative image, you must use administrative images to distribute service packs.

| To deploy the updated image, follow these steps:
| 1. Replace the old full image with the updated one, or patch the administrative image. For instructions,
| see "Patching an administrative installation image" on page 59.
| 2. Create the update package. You must create an SMS package to distribute the service pack from the
| updated image. These instructions describe the basic settings for creating your package.
| a. Open the SMS Administrator Console.
| b. Right-click the **Packages** folder and select **New** → **Package**.
| c. On the **General** page, specify a name for the package.
| d. On the **Data Source** page, select **This Package Contains Source Files**.
| e. Click **Set**. The Set Source directory window opens.
| f. Browse to the location of your updated source image.
| g. Create a program in the new package.
| h. Right-click the new program and select **Properties**.
| i. On the **General** page, configure these properties:
| • In the **Command line** field, enter `setup.exe`. You can enter any valid command line arguments
| for setup.exe. For example, to specify a silent installation, enter `setup /s /v/qn`

- From the **After running** list, select **No Action Required**. The System i Access for Windows installer schedules a system restart after an upgrade unless you set the REBOOT public property to S. For details, see the List of public properties.

  j. On the **Environment** page, set the following options:

  - If you want your users to be able to interact with the installation wizard, in the **Program can run** list, select **Only When A User Is Logged On**.
  - Make sure that you select the **Run with administrative rights** option.

    If you do not select this option, System i Access for Windows is not installed for users that do not have administrative rights.

  k. On the **Advanced** page, select **Run Once For The Computer** in the **When This Program Is Assigned To A Computer** field.

  l. Click **OK** to save your program settings.

3. Distribute the package to the distribution points.

Distributing a patch to clients:

Instead of deploying the full image to your clients, you can distribute individual patches so they are applied locally to client PCs. Patches are smaller than the full image thus they need less bandwidth.

To install a patch using Systems Management Server (SMS), follow these steps:

1. Download the service pack executable file (SI#####_XX.EXE, where SI##### is the PTF number and XX is 32, 64A, or 64I) from the IBM System i Access Service Packs for Supported Releases Web site

   (http://www.ibm.com/servers/eserver/iseries/access/casp.html). Make sure that you download the service pack that is right for your PC's processor type. For more information, see "Site for downloading service packs" on page 59.

2. Create the update package.

3. Create a program for the new package.

   a. Open the SMS Administrator Console.

   b. Right-click the **Packages** folder and select **New** → **Package**.

   c. On the **General** page, specify a name for the package.

   d. On the **Data Source** page, select **This Package Contains Source Files**.

   e. Click **Set**. The Set Source directory window opens.

   f. Browse to the location of your updated source image.

   g. Create a program in the new package.

   h. Right-click the new program and select **Properties**.

   i. On the **General** page, configure these properties:

   - In the **Command line** field, enter the name of the service pack executable file. For a silent installation, specify -a silent in the command; for example, `SI99999_32.EXE -a silent`
   - From the **After running** list, select **No Action Required**. The System i Access for Windows installer schedules a system restart after an upgrade unless you set the REBOOT public property to S. For details, see the List of public properties.

   j. On the **Environment** page, set the following options:

   - If you want your users to be able to interact with the installation wizard, in the **Program can run** list, select **Only When A User Is Logged On**.
   - Make sure that you select **Run with administrative rights**.

     If you do not select this option, System i Access for Windows is not installed for users that do not have administrative rights.

   k. On the **Advanced** page, select **Run Once For The Computer** in the **When This Program Is Assigned To A Computer** field.

| l. Click **OK** to save your program settings.
| 4. Distribute the package to the distribution points.

| *Making individual patches available to your users:*

| Service pack patches can be applied to local installations. You can make a patch available to your users to
| update their local installation.

| To make a patch available to your users, copy the service pack executable file (SI#####_XX.EXE) to an
| i5/OS shared directory or to a network drive that is accessible to your users.

| Your users run the file to apply the patch. When the file is run, a progress bar is displayed. Windows
| Installer only updates the features that are installed.

Installing service packs on the PC

You can avoid unnecessary calls to service for problems that might already have fixes, and create a more
stable operating environment for your System i Access for Windows client by ensuring that you have the
most recent service pack.

System i Access for Windows incorporates all code fixes into a service pack. The most recent service pack
contains all of the fixes from prior service packs in addition to new fixes that are contained in the current
service pack. The primary method that the service pack is made available is by packaging the service
pack as a PTF.

When a service pack PTF is applied to the Licensed Program 5761-XE1, the original System i Access for
Windows installation image is updated. Any client that installs from this updated installation image gets
the new System i Access for Windows release plus the service pack level at the same time.

When your install source directory is set to the System i where the PTF is applied, the Check Version
function finds the PTF and updates your PC with the fixes. If any System i Navigator plug-ins have fixes
applied in the source directory for the plug-ins, the System i Navigator plug-ins will also be updated.

Important:

- PTFs for System i Navigator plug-ins are provided independently of the System i Access
  for Windows service pack.
- Only users with administrator security can perform service pack updates.

Choose from the following topics for more on authorization, for detailed instructions and more
information on PTFs and service packs.

    Related tasks

    "Obtaining and installing PTFs" on page 9
    Fixes for System i Access for Windows are integrated into service packs, which are packaged into a
    program temporary fix (PTF) for delivery. Administrators can obtain the latest PTFs for their systems
    to avoid unnecessary service calls, to create a more stable operating environment for the System i
    Access for Windows client, and to correct known problems.

| **Install a service pack using Check Service Level:**

| The Check Service Level function searches for available updates in the system and automatically installs
| service packs for System i Access for Windows on your local PC.

| Your Administrator might have scheduled Check Service Level to run automatically on a periodic basis.
| Depending on the way Check Service Level is configured, you might be prompted to allow Check Service
| Level to update System i Access for Windows or the service pack installation might start without
| requiring your action.

To manually use the Check Service Level function to install a service pack, follow these steps:

1. Open the Start menu.
2. Go to **Programs** → **System i Access for Windows** → **Service** → **Check Service Level**. A window opens with information about available updates.

Installing a service pack from an updated full installation image:

You can update your local installation of System i Access for Windows by reinstalling from a updated full installation image that has been prepared by your administrator.

The full installation image can be the updated full image on the i5/OS operating system that is shared through NetServer, or an administrative image that has been patched by your administrator.

Follow these instructions to update System i Access for Windows to a newer service level by reinstalling from a full installation image:

1. Browse to the location where the updated source image of System i Access for Windows resides.
2. Enter `Setup.exe` The installation wizard starts in minor upgrade mode. During the minor upgrade just a progress bar will be displayed.

   If you want to update only some features, enter: `setup /v"REINSTALL=feat1,feat2,..REINSTALLMODE=vomus"`. Where *feat1*, *feat2* and so on, are the names of the features you want to update.

Installing a service pack by applying a patch:

Your administrator might have decided to use individual service pack patches to update client installations of System i Access for Windows.

To apply a service pack patch to update System i Access for Windows, follow these steps:

1. Browse to the location where the service pack patch is located.
2. Double-click the service pack executable file (SI#####_XX.EXE, where SI##### is the PTF number and *XX* is 32, 64A, or 64I) to start the update. To run the update in silent mode, at a command prompt, enter `SI#####_XX.EXE -a silent`; for example, `SI99999_32.EXE -a silent`
3. Click Update to start installing the patch. A dialog is shown indicating the installation progress.
4. When the update is complete, click Finish and restart the PC if you are prompted to.

Integrating new functions into System i Navigator

Use plug-ins to integrate new functions into System i Navigator. You can install, uninstall, remove, and update your plug-ins.

Plug-ins reside in a source directory on the host system and let you integrate new functions or applications into System i Navigator. They typically add:

- Folders and objects to the hierarchy tree
- Choices to System i Navigator menus
- Property pages to the property sheet for a folder or object

You can distribute plug-ins to your users as part of the installation process. If a plug-in resides on the installation source, you will be prompted to install it at the end of the product installation.

If a plug-in does not exist on your installation source, you can install it as a separate, installable component using the "Install Plugins" task in System i Navigator, or by completing a maintenance installation from the source location where the plug-ins are installed on the server (one of the following directories).

Plug-in	Location
IBM	(i5/OS NetServer name)\QIBM\ProdData\OpNavPlugin
Third party	(i5/OS NetServer name)\QIBM\UserData\OpNavPlugin

Note: System i Navigator displays all Plug-ins that are available for installation from the specified location. However, some optionally installable components of System i Access for Windows do not appear if the client and host are not at the same version, release, and modification (VxRxMx) level.

After installation, you can maintain plug-ins using the "Upgrade/Service plug-ins" function of System i Navigator.

You can also use the CWBINSTALLPLUGINS property to install plug-ins. For more information, see Public properties.

To install or remove plug-ins silently, use the CWBSILENTPLG property. For more information, see Public properties.

Upgrade or service plug-ins

To update a plug-in, simply copy the updated files into the plug-ins installation source directory on the host. There are two ways to update the client PC after the updates files are copied to the host:

- When you are servicing the entire product, the installation program checks the source directory for any plug-ins requiring an upgrade. If a plug-in requires an upgrade, the installation program will run the install plug-ins program to update the plug-in.
- When you are only servicing plug-ins, use "Upgrade/Service plug-ins" function of System i Navigator. This option will allow you check for updates in the plug-in source, and will download the new code to the installed plug-in on the PC.

Remove plug-ins

To remove plug-ins using System i Navigator, remove the check from the "Select plug-ins" checkbox in the "Install plug-in" task. Using System i Navigator to remove plug-ins requires a connection to the server.

Using a command line option, you can remove plug-ins without having to have a connection to the server.

To remove plug-ins on an individual basis, use the option `cwbinplg /REMOVE=vendor.name` , where `vendor.name` is the name of the name of the plug-in folder on the system (for example: IBM.BRMSPlugin).

To remove all of the plug-ins installed on the workstation, without a connection to the server and without removing the entire product, use the option `cwbinplg /REMOVEPROD`.

Note: If you remove System i Access, all plug-ins will also be removed

For more information about plug-ins, and how you can use them, see Developing System i Navigator plug-ins.

Installing or removing individual features

Use Add or Remove Programs in the Control Panel to install or remove individual features of System i Access for Windows. This is also called a *maintenance install*.

To add or remove System i Access for Windows features, follow these steps:

1. Click **Start** → **Control Panel** → **Add or Remove Programs** → **IBM System i Access for Windows** → **Change**.

   Note: On Vista, **Add or Remove Programs** is called **Programs and Features**.
2. Follow the instructions on the screen, selecting **Modify**.
3. Click the feature name and choose one of these, as appropriate:
   - To install a feature, select **This feature will be installed on local hard drive** or **This feature, and all subfeatures, will be installed on local hard drive.**
   - To remove a feature, select **This feature will not be available**.
4. Click **Install** to modify the features that are installed and continue through the Install wizard until it completes.

Installing other language versions

From the client installation wizard, you can select any national language version (NLV) that is available as your primary language on the PC. You can also install multiple secondary languages on the PC.

To enable secondary language support on the PC, you must install service pack SI31390 or later, which provides secondary language support for System i Access for Windows V6R1M0. You can download

service pack SI31390 or later from the System i Access for Windows Service Packs Web page ![icon](http://www.ibm.com/servers/eserver/iseries/access/casp.html) (http://www.ibm.com/servers/eserver/iseries/access/casp.html). Alternatively, you can apply PTF SI31390 or later to your i5/OS operating system. For further information, refer to APAR SE33915.

If you are installing from the System i Access for Windows licensed program, you can install multiple secondary languages on the i5/OS operating system, and then during the installation on the PC, you can choose which language you want as your primary language and, optionally, choose multiple secondary languages. If you are installing from the IBM *System i Access for Windows* DVD, all languages are available, and you can choose which language you want as your primary language and, optionally, choose multiple secondary languages.

> **Related tasks**
>
> "Installing or removing individual features" on page 65
> Use Add or Remove Programs in the Control Panel to install or remove individual features of System i Access for Windows. This is also called a *maintenance install*.
>
> **Related information**
>
> Install, upgrade, or delete i5/OS and related software

Publishing directory information to LDAP

Publishing directory information to Lightweight Directory Access Protocol (LDAP) lets you put i5/OS information about a directory into LDAP. Applications can then use this information.

To use System i Navigator to publish directory information to LDAP, follow these steps:
1. Open System i Navigator.
2. Right-click on the system name.
3. Select **Properties**.
4. Select the **Directory Services** tab.
5. Select the user information to publish to the LDAP directory server.

For details on publishing directory information to LDAP using System i Navigator, see Publish information to the directory server.

Publishing directory information to LDAP can also be accomplished through the use of a character-based interface. For details on publishing directory information to LDAP using a character-based interface, see this alphabetic list of APIs.

For general information about LDAP and publishing, see System i LDAP (http://www.ibm.com/eserver/iseries/ldap) .

Upgrading System i Access for Windows

If you have System i Access for Windows V5R3M0, or later installed, use this information to learn how to upgrade to a newer release.

Before you upgrade to a newer release, you must be aware of these considerations:

- You must have the latest service pack for V5R4M0 or V5R3M0 installed if you want to initiate the upgrade through the Check Version program.
- An upgrade is only supported when it is installed over V5R3M0 or later. Unpredictable results can occur if it is installed over an older release.
- Visual Basic Wizards and EZ-Setup are no longer included. If you have these features installed, they are removed during the upgrade.
- The default upgrade installs the same features that were previously installed. However, you can change the default by installing additional features or removing features when you upgrade System i Access for Windows.
- Beginning with V5R3, the function contained in the System i Navigator Application Development installable feature is now in the System i Navigator Network installable feature.
- The following considerations exist when you upgrade to V6R1 and you are upgrading from V5R3M0 or you are upgrading from V5R4M0 and did not use the Windows Installer Technical Preview that was available from the Web page for the System i Access Family.
  - A dialog is displayed that lists currently installed features that are uninstalled as part of the upgrade. Some of these features are no longer supported, some are features that you have chosen not to install, and some are features that must first be uninstalled before being re-installed as part of a new release.

    This dialog is an empty list when the only features to be removed during the upgrade are hidden and obsolete.
  - If you renamed the product folder in a previous installation, this installation creates a new System i Access for Windows product folder on the desktop and lists System i Access for Windows in **Start → Programs**. You need to manually delete the renamed folder and program.
  - You can only upgrade to the same primary language that was previously installed. To change the primary language, uninstall and reinstall the product, specifying the new primary language.
  - You can migrate secondary languages during an upgrade of System i Access for Windows to V6R1M0 on the PC only if you use a V6R1M0 installation image that contains service pack SI31390 or later to perform the upgrade. Only languages that are not available on the source directory during the upgrade are removed.

    If the installation image contains a service pack earlier than SI31390, secondary languages are removed during an upgrade.
  - Reported disk space requirements for different features are sometimes inaccurate when the previous product installation was not performed using the Windows Installer technology.

To upgrade System i Access for Windows, follow the installation procedure in "Installing System i Access for Windows on the PC" on page 50. Before the upgrade, you must be aware of "Installation considerations" on page 18.

If you have a version of the .NET Framework that is earlier than 2.0 installed before you begin the upgrade to V6R1, the .NET Provider is removed during the upgrade. To prevent this from happening,

install the .NET Framework 2.0 before the upgrade. See MSDN: Microsoft Developer Network (www.msdn.com) for instructions about downloading and installing the .NET Framework.

Uninstalling System i Access for Windows from the PC

If you already have System i Access for Windows installed, use this information to uninstall it from your PC.

To uninstall System i Access for Windows, follow these steps:

1. Save information and close running applications.
2. On the desktop, double-click **My Computer**.
3. If you are not running Windows Vista, open **Control Panel** → **Add/Remove Programs**.

   If you are running Windows Vista, On Vista, open **Control Panel** → **Programs and Features**.
4. Select **IBM System i Access for Windows** from the list of installed programs, and click **Remove**.

Troubleshooting

If a problem occurs during the install or uninstall of System i Access for Windows, it might happen that you cannot use the regular install or uninstall method to repair or remove the product. Microsoft provides a cleanup tool for this situation.

The cleanup tool is described here: Description of the Windows Installer CleanUp Utility .

This tool does not remove any files installed with System i Access for Windows, it only removes the Windows Installer configuration information that is related to those programs. After the cleanup utility is run, the user should install System i Access for Windows again.

Note: The user should install the program to the same location as before to prevent multiple copies ofSystem i Access for Windows files.

Related information

Find other sources of information about System i Access for Windows.

Listed below are the Web sites and online help that relate to the System i Access for Windows topic.

Web sites

IBM home page (http://www.ibm.com)
>   Visit this site for information about IBM products, services, support, and downloads.

IBM System i home page (http://www.ibm.com/systems/i/)
>   Learn about the System i platform.

System i Access for Windows home page (http://www.ibm.com/systems/i/software/access/windows/)
>   Visit this site to learn more about System i Access for Windows.

IBM System i Access home page (http://www.ibm.com/systems/i/software/access/)
>   This Web site includes online product information about System i Access.

System i Navigator home page (http://www.ibm.com/eserver/iseries/oper_nav)
>   System i Navigator is a powerful graphical interface for Windows clients. See System i Navigator functions by release to determine what System i Navigator functions are available for each release.

IBM software home page (http://www.ibm.com/software)
> Use this site as a resource for IBM software, trials and betas, software news, information about buying software, and software support.

Support for IBM System i (http://www.ibm.com/systems/support/i)
> Technical support and resources for System i and i5/OS.

IBM Redbooks® home page (http://www.redbooks.ibm.com)
> See this site for additional skills, technical know-how, and materials.

IBM i5/OS NetServer home page (http://www.ibm.com/servers/eserver/iseries/netserver/)
> See this site for information about i5/OS NetServer.

System i Access for Windows Readme file (http://www.ibm.com/systems/i/software/access/v6r1.html)
> See this site for important information or technical changes to the product.

Information APARs (http://www.ibm.com/systems/i/software/access/windows/caiixe1.html)
> An information authorized program analysis report (Information APAR) is an electronic document that is used to communicate information not found in publications, online information, critical fix information, or other sources.

Online help

After installing System i Access for Windows, you have a valuable resource called the online **User's Guide**. This guide helps you find and correct problems and contains how-to procedures. Use the index in the guide to search for a specific topic. The User's Guide walks you through many complex situations and helps you solve most problems.

> **Related concepts**
>
> "Setting up the system for System i Access for Windows" on page 4
> Use this information to guide you through the steps necessary to install and configure System i Access for Windows on the System i platform.

System i Access for Windows: Using

IBM System i Access for Windows features a variety of PC-to-System i functions, applications, and enablers. Some of the features available with System i Access for Windows let you do the following:

- Take advantage of .NET technologies to read and retrieve data, make changes, and run SQL commands against data objects on your IBM System i Access for Windows platform using IBM DB2 for i5/OS .NET Provider.
- Use SQL statements, stored procedures, data queues, programs, and commands to develop your client/server applications, and also give you record-level access to logical and physical DB2 for i5/OS database files using the IBM DB2 for i5/OSOLE DB Providers.
- Use Incoming Remote Command (IRC) to send commands from various systems to your personal computer, that has System i Access for Windows installed, and run them on a target system.
- Manage, view, and print System i printer output using the Windows AFP Viewer Plug-in.
- Transfer data between a PC client and a System i platform by using Data Transfer.
- Take advantage of terminal emulation and printer emulation by using PC5250.
- Manage your System i platforms with System i Navigator. System i Navigator includes Management Central for easy administration of multiple systems.
- Set up and service a System i platform using Operations Console.
- Use the Open Database Connectivity (ODBC) interface to work with your database.

- Use application development resources such as Application Programming Interfaces(APIs) and related code sample programs, header files, library files, and documentation available with the Programmer's Toolkit.
- Use file and print serving capabilities through System i Support for Windows Network Neighborhood (i5/OS NetServer).

For complete documentation on using System i Access for Windows, see the *IBM System i Access for Windows User's Guide*, an online help system available with the product.

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