

AS/400e



# Client Access Express for Windows - Setup

*Version 4 Release 5 Modification 0*



AS/400e



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*Version 4 Release 5 Modification 0*

**Note**

Before using this information and the product it supports, be sure to read the information in “Appendix D. Notices” on page 77.

**Second Edition (May 2000)**

This edition applies to version 4, release 5, modification 0 of IBM AS/400 Client Access Express for Windows and to all subsequent releases and modifications until otherwise indicated in new editions. This edition applies only to reduced instruction set computer (RISC) systems.

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## About Client Access Express for Windows – Setup (SC41–5507–01)

Use this book to install and configure Client Access Express on both the AS/400 system and the PC. This book is a supplement to *Software Installation*, SC41-5120-04.

Installation and configuration is necessary on both the AS/400 system and the PC. This book assumes that the system administrator will install and configure the AS/400 system, while the end user will be able to use this book to install Client Access Express on their PC.

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### Who should read this book

You should read and use this book if you are responsible for installing and configuring Client Access Express.

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### Conventions that are used in this book

Several conventions are used throughout this book.

- Express is used throughout this book to refer to Client Access Express.
- PC is used throughout this book to refer to personal computer.
- AS/400 NetServer is used throughout this book to refer to IBM AS/400 Support for Windows Network Neighborhood.
- Operations Navigator is used throughout the book to refer to AS/400 Operations Navigator.
- NT is used throughout this book to refer to Windows NT 4.0 and Windows 2000 unless otherwise noted.
- Windows 32-bit client is used to represent Windows 95, 98, 2000, and NT unless otherwise noted.

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### Prerequisites and related information

This book contains directions for installing Client Access Express on both the AS/400 system and the PC. AS/400 and PC checklists are provided to guide you through the steps that you need to complete to be able to use Client Access Express. If you are installing and configuring the AS/400 system for Client Access Express, a familiarity with the AS/400 is strongly recommended. If you are installing Client Access Express on a PC, you should be familiar with the Windows 95, 98, 2000 or NT operating systems.

Use the AS/400 Information Center as your starting point for looking up AS/400 technical information. You can access the Information Center from the AS/400e Information Center CD-ROM (English version: *SK3T-2027*) or from one of these Web sites:

<http://www.as400.ibm.com/infocenter>

<http://publib.boulder.ibm.com/pubs/html/as400/infocenter.htm>

The AS/400 Information Center contains advisors and important topics such as CL commands, system application programming interfaces (APIs), logical partitioning, clustering, Java, TCP/IP, Web serving, Client Access Express and secured networks. It also contains Internet links to Web sites such as the AS/400 Online Library, AS/400 Redbooks, and the AS/400 Technical Studio.

For a listing of additional sources of Client Access Express information, see "Appendix A. Sources of Information for Client Access Express" on page 59.

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## How to send your comments

Your feedback is important in helping to provide the most accurate and high-quality information. If you have any comments about this book or any other AS/400 documentation, fill out the readers' comment form at the back of this book.

- If you prefer to send comments by mail, use the readers' comment form with the address that is printed on the back. If you are mailing a readers' comment form from a country other than the United States, you can give the form to the local IBM branch office or IBM representative for postage-paid mailing.
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## Chapter 1. Before You Start

This chapter contains critical information for AS/400 system administrators, local area network (LAN) administrators, and anyone else involved in installing Client Access Express. This includes the information that you need to gather before you begin your installation. This information includes what you need to know about setup on both the AS/400 system and the PC.

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### What is Client Access Express?

Client Access Express is the latest offering in the AS/400 Client Access Family for Windows (5769-XW1) product. It offers a powerful set of client/server capabilities for connecting PCs to AS/400 systems. Express enables end users and application programmers to leverage business information, applications, and resources across an enterprise by extending the AS/400 resources to the PC desktop. Integrated graphical user interface (GUI) features deliver increased productivity for end users who access resources on AS/400 systems.

Client Access Express is compatible with Windows 95, Windows 98, Windows 2000, and Windows NT operating systems.

Client Access Express:

- is a fully 32-bit, TCP/IP-only client.
- utilizes the Secure Sockets Layer (SSL) support built into OS/400 V4R4 systems.
- provides a streamlined installation which also gives administrators more flexibility and control.
- is Java-compatible.
- utilizes file and print serving capabilities native to AS/400 Support for Windows Network Neighborhood (AS/400 NetServer) function built into OS/400 V4R2 (or later). This has improved overall stability and eliminated the need for daemons (background tasks) to run on the client.

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### Where to find documentation on Client Access Express

You can obtain additional documentation about Client Access Express. Your options are listed below:

- Installing Express
  - Use this publication for complete documentation on setting up, installing, and configuring Client Access Express. Softcopy versions are located in the AS/400 Online Library at <http://www.as400.ibm.com/infocenter> and select the Online Library.

- Using Express
  - For complete documentation on using the Express client, see the Express User's Guide, an online help system available on the PC after installation. The Express User's Guide can be found in the Client Access Express folder. You can access the guide by clicking **Start > Programs > IBM AS400 Client Access Express > Express User's Guide**.
  - For information about new changes for this release and migration from Client Access for Windows 95/NT see the Welcome Wizard. The Welcome Wizard is available after installation in the Client Access Express folder by clicking **Start > Programs > IBM AS400 Client Access Express > Welcome Wizard**.
  - For information about getting started, administering, and programming Client Access Express, see the Information Center located at <http://www.as400.ibm.com/infocenter>. The Client Access Express topics covered in the Information Center include:
    - Information on configuring, maintaining, and controlling the PC clients in the network.
    - Information for the administration of AS/400 NetServer file and print sharing, policies, application administration, connections, host servers, installation, and multiple users.
    - Information on Express API and technical reference material.
  - Additional information is available at the following websites:
    - The IBM AS/400 Client Access Home Page at <http://www.as400.ibm.com/clientaccess>.
    - The IBM AS/400 NetServer Home Page at <http://www.as400.ibm.com/netserver>.
  - For a redbook with related information, see:
    - *AS/400 Client Access Express for Windows: Implementing V4R4M0*, SG24-5191-00.

Additional resources can be found in "Appendix A. Sources of Information for Client Access Express" on page 59.

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## Connectivity Comparison Between Client Access for Windows 3.1, Client Access for Windows 95/NT, and Client Access Express

The following tables show the networks, application program interfaces (APIs), communication programs, and LAN drivers that Client Access for Windows 3.1, Client Access for Windows 95/NT, and Client Access Express supports. This table allows you to compare connectivity to other Client Access products with which you may be familiar .

Table 1. Connectivity Comparison Between Client Access for Windows 3.1, Client Access for Windows 95/NT, and Client Access Express

Functions	Client Access Enhanced for Windows 3.1	Client Access for Windows 95/NT	Client Access Express
<b>SNA Networks</b>			
Token-Ring	X	X	
Ethernet	X	X	
Twinax	X	X	
Synchronous Data Link Control (SDLC)	X	X	
Asynchronous	X	X	
X.25	X		
AutoSync	X	X	
<b>Communications Programs Supported</b>			
CA/400 NS/Windows (16-bit router)	X		
NS/Router (16-bit router)	X		
NetWare for SAA (16-bit router)	X		
NS/Router (32-bit router)		X	
NetWare for SAA (32-bit router)		X	
MS SNA Server		X	
IBM Personal Communications		X	
IBM Comm Server		X	
WINAPPC compatible		X	
Winsock 1.1, 2.X compatible		X	X
<b>LAN Drivers</b>			
LAN Support Program	X		
MS DLC (16-bit)	X		
MS DLC (32-bit)		X	
<b>Communication APIs Provided</b>			

Table 1. Connectivity Comparison Between Client Access for Windows 3.1, Client Access for Windows 95/NT, and Client Access Express (continued)

Functions	Client Access Enhanced for Windows 3.1	Client Access for Windows 95/NT	Client Access Express
EHNAPPC (16-bit)	X	X	
EHNAPPC (32-bit)		X	
CPI-C	X	X	
<b>TCP/IP Networks</b>			
Token-Ring	XK1 only	X	X
Ethernet	XK1 only	X	X
Asynchronous (SLIP)	X	X	X
PPP (Point to Point Protocol)		X	X
Twinax		X	X
<b>Note:</b> Visit the following website for information on running TCP/IP over Twinax: <a href="http://www.networking.ibm.com/525tcpip/index.html">http://www.networking.ibm.com/525tcpip/index.html</a> .			
<b>TCP/IP Networks (AnyNet)</b>			
Token-Ring	X	X	
Ethernet	X	X	
Asynchronous (SLIP)	X	X	
<b>TCP/IP Stacks Supported</b>			
IBM DOS (V2.1.1)	X		
FTP OnNet 1.1 (Windows)	X		
Microsoft WFW (32-bit)	X		
Novell (V4.2)	X		
WRQ V4.01 (Windows)	X		
NetManage Chameleon (Windows V4.01)	X		
Microsoft Windows (32-bit)		X	X

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## Service Packs

Client Access Express incorporates all code fixes into one PTF, otherwise referred to as a **service pack**. The most recent service pack contains all the fixes from the prior service packs in addition to new fixes that are contained in the current service pack.

### **Important:**

PTFs for the following components are provided independently of the Client Access Express service pack.

- Secure Sockets Layer (SSL)
- Operations Navigator plug-ins
- AS/400 Toolbox for Java

Client Access Express check service level will find any of these PTFs that you apply to the AS/400 system and will download the fix.

Be sure you have the most recent PTFs and service packs. You can avoid unnecessary calls to service for problems that may already have fixes, and create a more stable operating environment for your Client Access Express client.

You can get service packs via the IBM FTP site on the Internet. Point your web browser to this address:

`ftp://ftp.software.ibm.com`

Navigate down the AS/400 directory to **as400/products/clientaccess/win32/v4r5m0/servicepack**.

Service packs are also available in a PC-executable form at the Client Access home page:

`http://www.as400.ibm.com/clientaccess/`

Click on Service Packs (located on the left menu).

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## License Information

IBM AS/400 Client Access Express for Windows is a licensed program. Some components of Client Access Express require a Client Access Family for Windows (5769-XW1) license before you can use them. All components ship with the Client Access Express program.

The following components require a Client Access Family for Windows license and an OS/400 license before you can use them:

- PC5250 Display and Printer Emulator
- Data Transfer

The following components require an OS/400 license before you can use them:

- Client Access Express Required Programs
- Client Access Express Optional Components
- AS/400 Operations Navigator
- OLE DB
- ODBC
- AFP Workbench Viewer
- AS/400 Toolbox for Java
- AFP Printer Driver
- SCS Printer Driver
- AS/400 Operations Console
- Client Access Express Toolkit
- Secure Sockets Layer (SSL)
- Additional Languages

The type of install you choose to perform determines which components are installed. Following are the types of installs you can choose and whether or not the component requires a license to install:

- The **Typical** and **PC5250 User** install choices include components that require a Client Access Family for Windows license.
- With the **Custom** install choice, you can choose which components to install. Depending on the components you select, you may or may not require a Client Access Family for Windows license. The setup program lists the components that require a license .

Client Access Family for Windows clients are licensed by the number of concurrently active PCs accessing AS/400 systems. A PC holds a license through the duration of the licensed function plus additional time that is specified in the Client Access Express 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 AS/400 system, that PC requires a license on each AS/400 system to which it connects.

Each PC uses only one Client Access Family for Windows license per AS/400 system regardless of the number of sessions that are established to that AS/400 system. For example, you can start many 5250 emulation or Data Transfer sessions, but the PC requires only one license.

Licensing is managed at the Client Access Family for Windows level, not at the individual client level. Therefore, any combination of the Client Access clients is allowable up to the license limit. Customers who acquire Client



Access Family for Windows licenses are entitled to use the Client Access Family for Windows clients in any combination.

To determine the Client Access Family for Windows usage limit:

- 1. Type the **WRKLCINF** command on the AS/400 system to which you intend to connect. A list of products appears.
- 2. Type a 5 in the entry field next to the product 5769XW1. This will display the details for the Client Access License product, including the usage limit. The usage limit should be equal to the number of licenses that are purchased for the Client Access Family. Any number exceeding the purchased limit violates the IBM license agreement.

*Software Installation*, SC41-5120-04 book has information about determining the usage limit for the Client Access Family for Windows.

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## Using Client Access Express with Home PCs

The IBM AS/400 Client Access Family does not support home PCs, such as the IBM Aptiva PC, in a LAN environment. PCs that are designed solely for home use generally are not meant for commercial environments, where electromagnetic interference support and LAN card support are used. Client Access Express is supported on home PCs when they connect with PPP.

Before installing Client Access in this type of environment check your PC manufacture's warranty information. For information on networking your IBM Aptiva PC, point your browser to <http://www.pc.ibm.com/qtechinfo/PMYS-3W6R5L.html>.

For information on hardware and software that have known problems with Client Access, point your browser to <http://www.as400.ibm.com/clientaccess>, and then click Compatibility.



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## Chapter 2. AS/400 Setup Checklist

To use Client Access Express, you must install and configure software on both an AS/400 system and a PC. Use this checklist to guide you through the steps necessary to install and configure Client Access Express on the AS/400 system. Client Access Express needs to be installed on your AS/400 system before you can install Express service packs on your AS/400 system. After installation on your AS/400, you can install Express from the AS/400 system to the client PCs.

1. Install Client Access Express on the AS/400 system by using the instructions in “Chapter 4. Installing Client Access Express on the AS/400 system” on page 17. The chapter steps you through installing the required and optional programs on the AS/400 system.
2. Install the latest Program Temporary Fixes (PTFs) for the IBM Operating System/400 (OS/400) and for Client Access Express. For instructions on installing PTFs on the AS/400 system, *Software Installation*, SC41-5120-04.
3. If you want to use the Document Library Services file system (QDLS), go to “Chapter 5. Enrolling Client Access Express users on the AS/400 system” on page 25. Skip this step if your users were previously enrolled users for another client or if you do not use QDLS.
4. Configure TCP/IP on the AS/400 system by using the resources provided in “Chapter 6. Configuring TCP/IP on the AS/400 System” on page 27.
5. If you will allow end users to install Client Access Express from the AS/400 system, you may need to configure AS/400 NetServer on the AS/400 system. Network drive support that was available in Client Access for Windows 95/NT is no longer available. Instead, you can use AS/400 NetServer to make the Client Access Express install image on the AS/400 system available to PC users.

For configuration instructions on the AS/400, see “Chapter 7. Configuring AS/400 NetServer on the AS/400 system” on page 29.

6. You have completed installing and configuring Client Access Express on the AS/400 system. Follow the “Chapter 3. PC Setup Checklist” on page 13 to install Client Access Express on the PC.

To learn more about Client Access Express, see the references provided in “Appendix A. Sources of Information for Client Access Express” on page 59.



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## Chapter 3. PC Setup Checklist

Use this checklist to guide you through the steps necessary to install and configure Client Access Express on the PC. The system administrator must install and configure Client Access Express on the AS/400 system before you can install it from the AS/400 system.

1. If you have a beta version of Client Access Express, you may have to remove it from your PC before installing the general availability product.

**Note:** If you are not sure whether you have a beta version that must be removed, the Client Access Express setup program will detect a beta version. Then a message appears stating that you must uninstall the beta version before continuing.

To remove the beta from your PC:

- a. Close any other applications that are open.
  - b. From the Windows desktop, click **Start > Settings > Control Panel**.
  - c. Click **Add/Remove Programs**.
  - d. Select **IBM AS/400 Client Access Express for Windows** from the list and click **Add/Remove** to start the Client Access Express Setup program.
  - e. From the Client Access Express setup program, select **Uninstall** and click **Next**.
  - f. Click **OK** on any confirmation dialogs that appear, and the Beta version will be removed.
  - g. Restart the PC before installing Client Access Express.
2. Verify that your PC meets the following requirements.

*Table 2. PC requirements — Processor & Memory*

Operating System	Processor	Memory
Windows 95 or Windows 98	<ul style="list-style-type: none"><li>• 80486 DX2 66MHZ minimum</li><li>• Pentium recommended</li></ul>	16 MB minimum <b>Note:</b> If you run multiple sessions or applications, 32 MB recommended.
Windows NT 4.0	Pentium 100 MHZ recommended	<ul style="list-style-type: none"><li>• 24 MB supported minimum</li><li>• 32 MB recommended</li></ul>
Windows 2000	Client Access requirements are the same as Microsoft's requirements for this platform.	

Table 3. Other PC requirements

<b>Disk Space - Install</b>	<ul style="list-style-type: none"> <li>• <b>Typical</b> - 61.3 MB</li> <li>• <b>PC5250 User</b> - 35.7 MB</li> <li>• <b>Full</b> - 119.50 MB</li> <li>• <b>Custom</b> - variable depending upon components installed</li> </ul>
<b>Note:</b> You need 5 MB free on the drive where Windows is installed to accommodate temporary files that the Client Access Express setup program creates.	
<b>Disk Space - Component</b>	You can check the disk space required by each component when performing a Custom install of Client Access Express.
<b>Adapter Card</b>	A communications adapter card that supports TCP/IP.

3. Client Access Express uses TCP/IP to connect to an AS/400 system. Install and configure TCP/IP on your PC by using the instructions in “Chapter 8. Setting Up TCP/IP on the PC” on page 35.
4. If you plan on installing Client Access Express from an AS/400 system, you need to configure AS/400 NetServer on your PC. See “Chapter 9. Configuring your PC for AS/400 NetServer Use” on page 41.
5. If you are migrating from a previous release of Client Access, skip the rest of this checklist and go to “Chapter 11. Migrating to Client Access Express” on page 47.
6. Install Client Access Express on your PC by using the instructions in “Chapter 10. Installing Client Access Express on the PC” on page 43.

**Caution::**

Client Access Express works with InstallShield during setup. Anti-virus programs can interfere with the compatibility of InstallShield. You should disable any anti-virus programs that are running on your PC, before you install Client Access Express.

7. You have completed setting up Client Access Express on your PC.

To learn more about Client Access Express, see the references provided in “Appendix A. Sources of Information for Client Access Express” on page 59.

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## Part 2. AS/400 Setup and Installation

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## Chapter 4. Installing Client Access Express on the AS/400 system

Client Access Express for Windows can be installed on AS/400 systems with OS/400 V4R2 and higher. If you are on an earlier release of OS/400, see *Software Installation*, SC41-5120-04, for instructions on upgrading your OS/400 to a supported release. Client Access Express PCs can connect to AS/400 systems with older OS/400 releases but will be limited in functionality. If you do need to install a new release of OS/400, be sure to follow the instructions in *Software Installation* before you continue installing Client Access Express.

**Note:** In order to configure the AS/400 system, you need a security level of Security Officer (\*SECOFR). This is the highest level of security on the AS/400 system. This security level is required for configuration only, not for regular use of Client Access Express for Windows.

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### AS/400 Storage Requirements

Your AS/400 system must have sufficient storage to install Client Access Express, or the installation cannot complete.

*Table 4. AS/400 Space Required to Install Client Access Express for Windows*

Amount	Purpose
71.7M	Install Image
9.77M*	Online help information, online user's guide, messages
1M*	Service
*This size is for the 2924 (English) national language version. Sizes are different for every other NLV.	

For instructions on how to check the amount of storage your system has available, see *Software Installation*, SC41-5120-04.

---

### Required and Optional Programs to Install

The programs you install depend on the features you will be using in Client Access Express. As you go through this section, write down the programs you need to install. You will need to know them for the next sections.

**Note:** The Client Access Express primary language on the AS/400 system is set to the first Client Access Express language that you install.

However, if you install a subsequent Client Access Express language that matches the OS/400 primary language, that language will become the new Express primary language on the AS/400 system. If you want to switch the Client Access Express primary language on the AS/400 system to another language that does not match your OS/400 primary language, you must first uninstall all Client Access Express languages and then install the desired primary language. Make sure that you do not install the Client Access Express language that matches the OS/400 primary language under these circumstances.

### Required licensed program options:

*Table 5. Required Programs to Install for Client Access Express*

Program	Option	Description
5769-SS1	12	Operating System/400 Host Servers
5769-XE1	Base	Client Access Express
5769-XW1	Base	Client Access Windows Family - Base
5769-TC1		TCP/IP
<b>Note:</b> Each product that you install will need to be at the latest level.		

#### Notes:

1. If you do not want to use Data Transfer or PC5250, you do not need to install 5769-XW1.
2. Install 5769-XE1 if you want to use the following parts of Client Access Express:
  - Service Pack management
  - Secondary Language support
  - Install and Selective Setup through the AS/400 system

### Optional licensed programs

Secure Sockets Layer (SSL) support with Client Access Express is available. To use SSL, order and install the appropriate product from the following table. You are responsible for making sure that you are using the correct encryption for your country and the countries that your AS/400 system does business in.

Table 6. Programs required to Install SSL

If you want	Then install
40-bit server encryption	5769-AC1 (Cryptographic Access Provider) 5769-SS1 - Boss Option 34 (Digital Certificate Manager) 5769-DG1 (IBM HTTP Server for AS/400)
56-bit server encryption	5769-AC2 5769-SS1 - Boss Option 34 5769-DG1
128-bit server encryption	5769-AC3 5769-SS1 - Boss Option 34 5769-DG1

SSL support can only be installed on a PC from the AS/400 system, or from a peer server that contains copies of the Client Encryption install directories. If you plan on allowing end users to install SSL from this AS/400 system, then you will want to install the appropriate level of client encryption. The different levels are listed in the following table. You can install more than one client encryption product on the AS/400 system, but only one Cryptographic Access Provider (ACx). If you plan on allowing end users to install one of the following SSL products from the AS/400 system, then 5769-XE1 (Client Access Express) needs to be on the AS/400 system.

**Note:** The release of Client Access Express on the AS/400 system must match the release of Client Access Express that is installed on the PC. If the release on the AS/400 and PC do not match, then SSL support will not show up in the selective setup component list.

Table 7. Programs needed to install SSL support to the PC

If you want	Then install
40-bit client encryption	5769-CE1
56-bit client encryption	5769-CE2*
128-bit client encryption	5769-CE3
*supports only 40-bit encryption for Java	

**Note:** Client Encryption products (5769-CEx) contain encryption software from RSA Data Security, Inc.

After installing the Client Encryption product on the AS/400 system, you need to authorize the users to the files. To help you meet the SSL legal responsibilities, the files in 5769-CEX are shipped so that the users are not allowed to access the files. Therefore, you must change the authority of the directory that contains the SSL files to allow users to access the files. In order to change the authority, use the `wrklnk` command and select option 9.

For more information on configuring SSL, see the **Client Access Express > Administering** section of the AS/400 Information Center.

---

## Installing Client Access Express on a V4R4 and later AS/400 System

The following steps guide you through installing Client Access Express on a V4R4 and later AS/400 system. If you want to install Client Access Express on V4R3 AS/400 system, see “Installing Client Access Express on a V4R3 AS/400 System” on page 22.

1. Sign off all workstation users and end all connections.
2. Sign on to the AS/400 system with \*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 5769-SS1, Option 12 (Operating System/400 Host Servers), then you must put the AS/400 system in a restricted state. To put the AS/400 system in a restricted state:
  - a. At the AS/400 command prompt, type `CHGMSGQ QSYSOPR *BREAK SEV(60)` and press Enter.
  - b. If the Display Messages screen appears, press Enter. You will return to the AS/400 command prompt.
  - c. At the AS/400 command prompt, type `ENDSBS *ALL *IMMED` and press Enter.
  - d. The message System ended to restricted condition appears. Press Enter to continue.
  - e. At the AS/400 command prompt, type `CHGMSGQ QSYSOPR SEV(95)` and press Enter.
  - f. If the Display Messages screen appears, press Enter. You will return to the AS/400 command prompt.

The AS/400 system should now be in a restricted state.

5. At the AS/400 command prompt, type `G0 LICPGM`, then select Option 11.

**Note:** For information about option 11, see “Installing Additional Licensed Programs” in *Software Installation*, SC41–5120–04, for the appropriate release of AS/400.

6. Type a 1 in the Option column next to each of the licensed programs that you need to install. For a list of the programs you need to install, see “Required and Optional Programs to Install” on page 17. Press Enter to continue.
7. The Confirm Install of Licensed Programs screen appears. Press Enter to confirm your choices.
8. The Install Options screen appears. 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

9. The licensed programs will now install.
  - You will see a screen that indicates the status of the install. You do not need to respond to the status screen.
  - If the licensed programs that you selected are on multiple volumes, the install program will prompt you for a new volume. Load the next media volume, press G and then Enter. If you do not have any additional media volumes, press X and then Enter.
10. When the installation completes, you will see the Work with Licensed Programs screen.
  - If the installation ran successfully, you will see Work with licensed programs function has completed. Press F3 to return to return to the AS/400 command prompt.
  - If the installation failed, you will see Work with licensed programs function not complete. See the “Recovery Procedures” Appendix in *Software Installation* to determine the problem.
11. Once you have installed all of the desired licensed programs, you need to install the latest cumulative PTF package on the AS/400 system. If you have already installed the latest cumulative package, you need to install all 5769-XE1 PTFs from the cumulative PTF package. This includes PTFs for any other products you installed.

For information on how to install PTFs on the AS/400 system, see *Software Installation*, SC41-5120-04.

For a list of PTFs that you will need to apply see the Client Access Express Informational APARs or point your browser to <http://www.as400.ibm.com/clientaccess/>. and follow the Known Problems/Support Statements (Information APARs) link.

12. Verify that Client Access Express installed correctly by typing CHKPRDOPT 5769XE1 at the AS/400 command prompt. If Client Access Express installed correctly, you will receive a message that CHKPRDOPT did not detect any errors.

---

## Installing Client Access Express on a V4R3 AS/400 System

The following steps guide you through installing a licensed program on a V4R3 AS/400 system. You need to follow this process for each licensed program that you need to install. For a list of the programs you need to install, see “Required and Optional Programs to Install” on page 17.

1. Sign off all workstation users and end all connections.
2. Sign on to the AS/400 system with security officer (\*SECOFR) authority.
3. Load the medium containing the licensed program on the installation device.
4. At the AS/400 command prompt, type RSTLICPGM to start the Restore Licensed Program utility. Specify the following parameters and values; use the defaults for the other parameters.

Parameter	Value
Product	The product identifier for the licensed program. For example, use 5769XE1 to install Client Access Express.
Device	Name of the installation device. For example, OPT01.
Part to be restored	*BASE
Language for licensed program	Type xxxx, where xxxx is the National Language Version (NLV) identifier. Ignore this field if the NLV is English.

5. Press Enter to begin the installation.
  6. Repeat the above steps to install each licensed program that you need.
- Once you have installed all of the desired licensed programs, you need to install the latest cumulative PTF package on the AS/400 system. If you have already installed the latest cumulative package, you need to install all 5769-XE1 PTFs from the cumulative PTF package.

For information on how to install PTFs on the AS/400 system, see *Software Installation*, SC41-5120-04.

For a list of PTFs that you will need to apply, see the Client Access Express Informational APARs or point your browser to <http://www.as400.ibm.com/clientaccess/>. Follow the Known Problems/Support Statements (Information APARs) link.

- Verify that Client Access Express installed correctly by typing CHKPRDOPT 5769XE1 at the AS/400 command prompt. If Client Access Express installed correctly, you will receive a message that CHKPRDOPT did not detect any errors.

---

## Deleting Client Access Express

To save disk space or to remove features that you no longer use, you may decide to delete features from the AS/400 system.

1. Sign on to the AS/400 system with a user ID that has security officer (\*SECOFR) authority.
2. Type DLTLICPGM at the AS/400 command prompt. Specify the following parameters and values and use the defaults for the other parameters.

Parameter	Value
Product	5769XE1
Language for licensed program	Type xxxx, where xxxx is the National Language Version (NLV) identifier. Ignore this field if the NLV is English.

**Note:** Any optional programs for Client Access Express that you installed such as 5769-CE1, 5769-CE2, and 5769-CE3 will need to be uninstalled separately.





---

## Chapter 5. Enrolling Client Access Express users on the AS/400 system

**Note:** You only need to do this if you want to use the Document Library Services (QDLS) file system.

To enroll Client Access Express users on the AS/400 system:

1. Type *GO PCSTSK* at the AS/400 command prompt.

```
PCSTSK                                Client Access Tasks                                System:  SYSTEM1
Select one of the following:

User Tasks
  1. Copy PC document to database
  2. Copy database to PC document

Administrator Tasks
  20. Work with Client Access administrators
  21. Enroll Client Access users
```

*Figure 1. Client Access Tasks (GO PCSTSK)*

2. Select the Enroll Client Access Users option.

```
                                Enroll Client Access Users
Type choices, press Enter.

User profile . . . . . AARON                Name
User identifier:
  User ID . . . . . AARON                Character value
  Address . . . . . SYSTEM1            Character value
  User description . . . . . AARON B.
```

*Figure 2. Enroll Client Access Users display*

3. Enter the appropriate information for:
  - User profile (name)
  - User ID (usually the same as the User profile name)
  - User address (usually the same as the system name)
  - User description

See the online help for a complete description of the entry fields.

4. Repeat steps 1-3 to enroll other users in the Directory Entry Database.



---

## Chapter 6. Configuring TCP/IP on the AS/400 System

TCP/IP is a licensed program that is shipped with Operating System/400. This chapter assumes that you have TCP/IP installed on your AS/400 system. The process of installing TCP/IP on your AS/400 system can be found in “Chapter 4. Installing Client Access Express on the AS/400 system” on page 17.

If you have TCP/IP already set up on your AS/400 system, then you do not need to perform any additional TCP/IP configuration for Client Access Express.

---

### Configuring TCP/IP for LAN use

If you plan on using Client Access Express over a LAN, then you must configure TCP/IP for LAN use. See *TCP/IP Configuration and Reference*, SC41-5420-03 for information on configuring TCP/IP on your AS/400 system.

---

### Configuring TCP/IP for PPP or SLIP connections

If you are using SLIP or PPP to connect the PC to the AS/400 system, see *TCP/IP Configuration and Reference*, SC41-5420-03 for information on configuring point-to-point TCP/IP.

---

### Configuring TCP/IP over Twinax connections

If you are using TCP/IP over a twinax connection, see

- Information APAR II11012 for Client Access support statement on this driver
- or point your browser to <http://www.networking.ibm.com/525tcpip/index.html>.



---

## Chapter 7. Configuring AS/400 NetServer on the AS/400 system

This chapter contains the minimum information needed to get AS/400 NetServer on your AS/400 system. Then PC users in your network can install Client Access Express from your AS/400 system.

Client Access Express for Windows does not include native support for network drives or network printers, though these capabilities are still available to you. With Express, these capabilities are provided by AS/400 Support for Windows Network Neighborhood (AS/400 NetServer), available with OS/400 V4R2 and beyond. By relying on AS/400 NetServer, Express is able to take advantage of the file and print sharing capabilities native to Windows 32-bit operating systems.

PCs can access and benefit from AS/400 NetServer without additional software. However, if you need to administer AS/400 NetServer properties from your PC client, you must have Client Access Express for Windows and Operations Navigator installed.

**Note:** To take advantage of AS/400 NetServer file and print sharing capabilities without installing Operations Navigator, you can configure AS/400 NetServer with command prompts. Additional configuration instructions are available at the following locations:

- The AS/400 Information Center at the following location: **Client Access Express > Administering Client Access Express > AS/400 NetServer Administration**. From the AS/400 NetServer Administration topic, take the link to **AS/400 NetServer**, and then the link to **Getting Started with AS/400 NetServer**.
- In *AS/400 Client Access Express for Windows: Implementing V4R4M0*, SG24-5191-00.

---

### Configuring AS/400 NetServer

The following AS/400 configuration is necessary if users in your network will be using file and print sharing.

**Note:**

- The following instructions assume that you have TCP/IP installed and configured on your AS/400 system. If you do not, follow the

instructions in “Chapter 4. Installing Client Access Express on the AS/400 system” on page 17 and “Chapter 6. Configuring TCP/IP on the AS/400 System” on page 27.

- The following configuration instructions require you to already have access to a PC with Operations Navigator.

To configure your AS/400 for AS/400 NetServer support with Operations Navigator, follow the steps below.

1. Open a connection to **Operations Navigator** on your AS/400.
2. Expand **Network**.
3. Expand **Servers**.
4. Click **TCP/IP**.
5. Right-click **AS/400 NetServer** and select **Properties**.
6. A configuration notebook appears showing the current settings for AS/400 NetServer. Select the **General** page.
  - Click **Next Start** to change the general properties.
  - Check **Start when TCP/IP is started** if you want AS/400 NetServer to automatically start when you start TCP/IP. You may want to deselect the box for security reasons.
  - The **Server Name** lists the currently configured AS/400 NetServer server name. The server name is defaulted to the AS/400 system name preceded by the letter Q. There is a limit of 15 characters for the name. Use letters (A through Z) and numbers (0 through 9).

If you have not used AS/400 NetServer yet, the server name may contain the AS/400 serial number. By default, the AS/400 system name is the serial number. If this is the case, and you are not using the serial number for your system name, you should change the system name.

Follow these guidelines to change the system name:

- If you have a mixed environment with both Windows 95/NT and Express clients, the AS/400 NetServer name and the AS/400 system name need to be different.
- The AS/400 NetServer server name should be the same as your AS/400 system name, if the following match your setup:
  - You have no Client Access for Windows 95/NT clients.
  - You have no users who have network drives and printers mapped to AS/400 NetServer shared resources.
- If you have AS/400 NetServer users with mapped drives, but no Client Access for Windows 95/NT clients, do not change the AS/400 NetServer name. Select **Allow AS/400 NetServer access by using AS/400 name**.
- If you are migrating an entire network from the Windows 95/NT client to Express client, **migrate** all Windows desktops to the Express client.
  - Select **Allow AS/400 NetServer access using AS/400 name**.

- After the AS/400 NetServer Properties have been changed, you can use the AS/400 system name when configuring additional Express clients and AS/400 NetServer users.

Be careful in configuring the AS/400 NetServer server name. Allowing users to access your AS/400 NetServer by using the AS/400 system name is not enabled by default. This can cause conflicts if you still have Windows 95/NT clients in your network. When Client Access family members (other than the Express client) and AS/400 NetServer use the same server name, each recognize the name. The first one to satisfy the client's request takes control, producing inconsistent results for the client. You should follow the recommendations above when enabling AS/400 NetServer support and Express client support in your network.

- The **Allow AS/400 NetServer access using AS/400 name** checkbox will allow AS/400 NetServer access using the AS/400 name or the server name specified on this page.
- The **Domain name** field defines the name of the domain or workgroup where the AS/400 NetServer will be a member. It is best to place AS/400 NetServer in the same domain as your client PCs.

**Note:** You can use an existing domain or workgroup in your LAN environment. You should place the AS/400 NetServer in the same domain or workgroup as your client PCs. There are no restrictions for the domain name.

- You can enter a **Description** and display it as a comment when using the Find/Computer on Windows.
  - **Reset to Current** will undo any changes made to the General page. If you press this button, you will lose any changes that you have made. Only select the **Reset to Current** option if you want to return to the currently configured values.
  - To accept changes, click **OK**. The changes become valid the next time AS/400 NetServer is restarted. See step 8.
7. For easier management and resolution of TCP/IP addresses, add an entry for the AS/400 NetServer to a Domain Name Server (DNS) or a Windows Internet Name Server (WINS).

**Note:** Configuration instructions are located in the Operations Navigator online help and in the AS/400 Information Center at the following location: **Client Access Express > Administrating Client Access Express > AS/400 NetServer Administration > AS/400 NetServer > Quick start guide for AS/400 NetServer > Setting up your PC client to use AS/400 NetServer > Setting up a Windows 95/98/NT PC client to find AS/400 NetServer.**

8. Changes made to your AS/400 NetServer properties do not take effect until the next time AS/400 NetServer is started. To Start or Stop AS/400 NetServer:

- a. Open a connection to **Operations Navigator** on your AS/400.
- b. Expand **Network**.
- c. Expand **Servers**.
- d. Click **TCP/IP**.
- e. Right-click **AS/400 NetServer** and select **Start** or **Stop**.



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## Part 3. PC Setup and Installation

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## Chapter 8. Setting Up TCP/IP on the PC

**Note:** This chapter assumes that you have TCP/IP configured on your AS/400 system. If TCP/IP is not configured on your AS/400 system, see “Chapter 6. Configuring TCP/IP on the AS/400 System” on page 27.

This chapter explains how to configure TCP/IP on Windows 95, 98, NT, and 2000. TCP/IP must be correctly installed and configured before you try to connect to an AS/400 system.

---

### Installing a Network Adapter or Modem

In order to set up TCP/IP on your PC, you must have a network adapter or modem installed in your PC. If you will be connecting to the AS/400 system over a LAN, then you will need a network adapter installed. If you will be connecting to the AS/400 system using a SLIP or PPP connection from a remote location, then you will need to install a modem. For information on installing a network adapter or modem, refer to the manufacturer’s documentation provided with the hardware. The manufacturer’s documentation should also provide information on installing a driver for the hardware.

---

### Configuring TCP/IP Support on the PC

This topic provides the steps that are necessary to configure the Microsoft TCP/IP support that is supplied with Windows. There is no list of supported TCP/IP stacks for the Windows 95, 98, NT, or 2000 operating systems. If a TCP/IP stack is compatible with WinSock 1.1, the stack should work. A TCP/IP stack is the software that allows your computer to communicate via the TCP/IP communications protocol. If you need to use a TCP/IP stack other than the one that is provided with the operating system, make sure that the stack is compatible with Winsock 1.1 or later.

**Note:** When dial-up connections are being used on Windows 95, install Winsock 2.x and Dial-Up Networking 1.3 or later. For Windows NT 4.0 users, make sure that NT service pack 5 or later is installed.

#### Windows 95/98

To install and configure the TCP/IP network protocol on Windows 95 or Windows 98:

1. Click **Start > Settings > Control Panel**.
2. Double-click **Network**.
3. Click **Add...** from the **Configuration** tab.
4. Click **Protocol**, and then click **Add**.
5. Click **Microsoft**, click **TCP/IP**, and then click **OK**. When you click **OK**, TCP/IP is added to the Network dialog box. Close the Network Window by clicking **OK**. You may be prompted to restart the PC. Restart the PC now, then continue with the following steps.
6. Click **Start > Settings > Control Panel**.
7. Double-click **Network**.
8. Click **TCP/IP**, and then click **Properties**.
9. Click the **IP Address** tab.
10. Click **Specify an IP address**.
11. Enter the IP address of your PC (for example, 199.5.83.205).
12. Enter the Subnet Mask (for example, 255.255.255.0).
13. If you are using a default route, click **Gateway** and
  - a. Enter the IP address of the gateway or router in **New gateway**.
  - b. Click **Add**.
14. If you are using a domain name server, click **DNS Configuration** and
  - a. Enter the Host name of your PC (for example, cameron).
  - b. Enter the Domain (for example, acme.com).
  - c. Enter the IP address of the domain name server.
15. If you are using a Windows Internet Name Server, click **WINS Address** and
  - a. Enter the Primary WINS Server (for example, 199.5.83.205).
  - b. Enter the Secondary WINS Server (for example, 199.5.83.205).
16. Click **OK**.
17. You may be asked to restart your computer. Close any applications that are running and click **OK**.

## Windows NT

To install and configure the TCP/IP network protocol on Windows NT:

1. Click **Start > Settings > Control Panel**.
2. On the control panel, double-click **Network**.
3. Click on the **Protocols** tab.
4. Click **Add...**, then click **TCP/IP**, and click **OK**.  
 When you click **OK**, TCP/IP is added to the Network protocols page. Close the Network Window by clicking **OK**. You may be asked to restart your PC. Reboot the PC and continue with the following steps.
5. Return to the **Control Panel** to configure the TCP/IP network protocol by clicking **Start > Settings > Control Panel**.
6. Double-click **Network**.
7. Click **TCP/IP**, and then click **Properties**.
  - a. Click the **IP Address** tab.
  - b. Click **Specify an IP address**.

- c. Enter the IP address of your PC (for example, 199.5.83.205).
- d. Enter the Subnet Mask (for example, 255.255.255.0).
- e. If you are using a default route, click **Gateway** and
  - 1) Enter the IP address of the gateway or router in **New gateway**.
  - 2) Click **Add**.
- f. If you are using a domain name server, click **DNS** and
  - 1) Enter the Host name of your PC (for example, cameron).
  - 2) Enter the Domain (for example, acme.com).
  - 3) Enter the IP address of the domain name server.
- g. If you are using a Windows Internet Name Server, click **WINS Address** and
  - 1) Enter the Primary WINS Server (for example, 199.5.83.205).
  - 2) Enter the Secondary WINS Server (for example, 199.5.83.205).
  - 3) Enable DNS for Windows Resolution, by selecting the checkbox.
  - 4) Enable LMHOSTS Lookup, by selecting the checkbox.
- h. Click **OK**.
- i. You may be asked to restart your computer. Close any applications that are running and click **OK**.

## Windows 2000

To install and configure the TCP/IP network protocol on Windows 2000:

- Click **Start>Settings>Control Panel**.
- On the control panel, double-click **Network and Dial-Up Connections**.
- Right-click **Local Area Connection**.
- Click on **Properties**.
- Click on **Install**.
- Select **Protocol**, and then click **Add**.
- Select **Internet Protocol (TCP/IP)**, and then click **OK**. This returns you to the *Local Area Connection Properties* window.
- Select **Internet Protocol (TCP/IP)**, and then click on **Properties**.
- Select **Using the Following IP Address**.
  - Enter the IP address of your PC (for example, 199.5.83.205).
  - Enter the Subnet Mask (for example, 255.255.255.0).
  - Enter the Default Gateway (for example, 199.5.83.1).
  - Enter the Preferred DNS Server (for example, 199.5.100.75).
  - Enter the Alternate DNS Server (for example, 199.5.100.76).
- If you are using a Windows Internet Name Server, click on the **Advanced** tab and select **WINS Address**.
  1. Click on **Add**.
  2. Enter the Primary WINS Server (for example, 199.5.83.205).
  3. Enter the Secondary WINS Server (for example, 199.5.83.205).
  4. The remaining settings should remain at the defaults.
- Click **OK** on the **Local Area Connection Properties** window. It is not necessary to reboot your PC.

If you are not using a domain name server, you need to add the AS/400's name, with which you want to communicate, to the HOSTS file. Also, add the AS/400 NetServer server name to the LMHOSTS file if you are relying on AS/400 NetServer for file and print serving. For instructions on updating your LMHOSTS file, see "Chapter 9. Configuring your PC for AS/400 NetServer Use" on page 41. To create or change the HOSTS file:

1. Open a DOS window.
2. Change to the directory that should contain the HOSTS file. For example:  
c:\>cd\winnt\system32\drivers\etc

**Note:** The examples in this section use the \winnt\system32\drivers\etc directory, which is a Windows NT directory. On Windows 95 and Windows 98, the directory would be \windows.

3. If a file named HOSTS already exists in this directory, skip this step. Copy the sample hosts file (supplied by Windows) to the hosts file after you have verified that no HOSTS file exists.

For example:

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

4. Edit the HOSTS file. For example:

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

**Please Note**

With Windows NT 4.0, the HOSTS file **MUST** be in the **winnt\system32\drivers\etc** directory.

Follow the instructions in the HOSTS sample file to add the IP address and name of the AS/400 system that you want to connect to.

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 Client Access Express. The left bottom corner of your emulation display indicates a 657 communication error (*Resolving TELNET 5250 server host-domain name*).

You may choose to use a HOSTS file if you have very few machines using TCP/IP. This requires that you maintain an up-to-date list on each computer. When an AS/400 address changes, you **must** change the HOSTS file entry if one exists.

---

## Installing Dial-Up Networking on the PC

If you will be connecting to the AS/400 system over a SLIP or PPP connection (using a modem), you need to install Dial-Up Networking on your PC. If you are connecting to your AS/400 system over a LAN, or if you already have Dial-Up Networking installed on your PC, you can continue with “Verifying TCP/IP Configuration” on page 40.

To install Dial-Up Networking on Windows 95:

1. Point your web browser to <http://www.microsoft.com>
2. Click the Search link
3. Enter dial-up networking upgrade in the search field and press Enter to search.
4. Navigate to the download link
5. Click the link to begin downloading the dial-up networking upgrade code to your computer
6. Follow the installation instructions provided with Dial-Up Networking to install it on your PC.

To install Dial-Up Networking on Windows 98:

1. Click **Start > Settings > Control Panel**
2. Double-click **Add/Remove Programs**
3. On the Windows Setup tab, place a check next to Communications if it is not already checked
4. Click **Details**
5. Place a check next to Dial-Up Networking
6. Click **OK** twice and insert the Windows 98 CD when prompted
7. Click **OK**. Setup will install the Dial-Up Networking files. You will need to reboot the system before you can use Dial-Up Networking

If you are using Windows NT, you still need to install Dial-Up Networking. When Dial-up Networking installation completes, you are prompted to setup the Remote Access Services. The instructions to do so can be found at Microsoft's website:

1. Point your web browser to <http://www.microsoft.com>
2. Click the Search link
3. Enter Dial-Up Networking in the search field and press Enter to search.
4. One of the entries in the search results will contain the instructions necessary to install and configure both Dial-Up Networking and Remote Access Service on Windows NT.

**Note:** If you plan to make dial-up connections, we recommend that you install NT Service Pack 5. The service pack will improve the stability of your dial-up connection.

---

## Verifying TCP/IP Configuration

You can verify that TCP/IP is set up correctly on your PC by performing a PING to the AS/400 system:

1. Open a DOS window or Command Prompt.
2. Type PING system where system is the name of the AS/400 system that you wish to connect to.
3. If your TCP/IP configuration is correct, you should see reply messages from the AS/400 system. If you do not see these reply messages, here are some possible reasons why PING failed:
  - a. You may be trying to PING the wrong address. Check the address of the AS/400 system.
  - b. You may have an incorrect IP address listed for the AS/400 system in your HOSTS file or DNS entry. This occurs only when you try to PING an AS/400 system 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 AS/400 system that you want to connect to. You can obtain the IP address of the AS/400 system from your system administrator. If that works, update your HOSTS file or DNS entry with the correct address.
  - c. Incorrect LAN adapter address set in the adapter properties on the PC
  - d. There is no actual physical connection to the AS/400 system
  - e. The AS/400 system or network name is not correct
  - f. TCP/IP is not configured correctly on the PC
  - g. TCP/IP is not installed or configured correctly, or is not started, on the AS/400 system. These problems need to be addressed by the system administrator.
  - h. The AS/400 system is down.
  - i. Unexplained causes. Reboot and go through the configuration process again.



---

## Chapter 9. Configuring your PC for AS/400 NetServer Use

This chapter contains the minimum information needed to configure the PC as an IBM AS/400 Support for Windows Network Neighborhood (AS/400 NetServer) client. It will not explain how to set up file and print sharing. Additional configuration instructions are available at the following locations:

- The AS/400 Information Center at the following location: **Client Access Express > Administering Client Access Express > AS/400 NetServer Administration**. From the AS/400 NetServer Administration topic, take the link to **AS/400 NetServer**, and then the link to **Getting Started with AS/400 NetServer**.
- In *AS/400 Client Access Express for Windows: Implementing V4R4M0*, SG24-5191-00.

Installing Client Access Express over a network can be done using AS/400 NetServer. This support does not require any additional software on your PC. AS/400 NetServer takes advantage of the native file and print sharing capability in Windows 95, Windows 98, Windows 2000 and Windows NT, enabled using the X/Open Company industry-standard Server Message Block (SMB) protocol. In order to configure the PC for AS/400 NetServer use, you must have:

- TCP/IP configured on both the AS/400 system and the PC (see “Chapter 6. Configuring TCP/IP on the AS/400 System” on page 27 and “Chapter 8. Setting Up TCP/IP on the PC” on page 35).
- AS/400 NetServer configured on the AS/400 system (see “Chapter 7. Configuring AS/400 NetServer on the AS/400 system” on page 29).

---

### Configuring the PC as an AS/400 NetServer Client

To configure your PC for AS/400 NetServer support, the steps vary depending on which operating system you are using. Go to the section below for your operating system.

1. **Check Windows 95/98 settings.**
  - a. From the Windows desktop, click **Start > Settings > Control Panel**.
  - b. Double-click **Network**.
  - c. Go to the **Configuration** tab and verify that you have Client for Microsoft Networks and TCP/IP added and configured.
  - d. Go to the **Identification** tab and verify that you have a unique Computer Name on the network.
  - e. Make sure that you have a valid Workgroup name that is configured (preferably the same one as the AS/400 NetServer Domain name)

f. Go to step 3.

**2. Check Windows NT settings.**

- a. From the Windows desktop, click **Start > Settings > Control Panel**.
- b. Double-click **Network**.
- c. Select **Services** and verify that you have workstation added.
- d. Click on the **Identification** tab. Make sure that you have a unique Computer Name and a valid Domain (workgroup) name configured (preferably the same one as the AS/400 NetServer).
- e. Go to the **Protocols** tab and make sure that the TCP/IP Protocol is there and is configured properly.
- f. Continue with step 3.

**3. Check TCP/IP Support.**

- a. Open a DOS window.
- b. There are two ways to check PC client to AS/400 NetServer connectivity. Type the following to make sure that your PC can talk to the AS/400 NetServer.

```
NBTSTAT -a AS/400-NetServer-server-name
```

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

```
PING AS/400-NetServer-server-name
```

- c. If your results fail, try adding an entry to the AS/400 NetServer to the PC's local LMHOSTS file.
  - 1) Look in either the \Windows directory for Windows 95 and Windows 98 or the \WINNT\system32\drivers\etc directory for Windows NT for the LMHOSTS file.

**Note:** 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
- 2) Complete instructions are provided in the LMHOSTS.SAM file.
  - 3) Type the following to reload PC cache from the updated LMHOSTS file.

```
NBTSTAT -R
```

**4. Find AS/400 NetServer and Shared Resources.**

- a. From the Windows desktop, click **Start > Find > Computer**.
- b. Type in the AS/400 NetServer name. Double-click on the AS/400 NetServer name to display the AS/400 NetServer shares that the administrator has made available to you.

---

## Chapter 10. Installing Client Access Express on the PC

You can install Client Access Express on a PC over a network by using AS/400 NetServer, from a CD-ROM, or from a peer server. Client Access Express does not support installation from diskettes.

If you are migrating from a previous client, please follow the instructions in “Chapter 11. Migrating to Client Access Express” on page 47.

### Caution::

Client Access Express works with InstallShield during setup. Anti-virus programs can interfere with the compatibility of InstallShield. You should disable any anti-virus programs that are running on your PC, before you install Client Access Express.

### Notes:

1. To install the same functions on several PCs, you may consider using the silent install feature of Client Access Express as described in the Information Center.
2. There are some components of Client Access Express that do not need the “Client Access Express required programs” component. They include Operations Console, Express User’s Guide, and Client Access Express Toolkit Headers, Libraries and Documentation. Client Access Express will not automatically check the AS/400 for new Service Packs or Upgrades to be installed on the PC, unless **Client Access Express required programs** was installed.
3. On Windows NT 4.0 systems with multiple users configured, you **must** apply Windows NT 4.0 Service Pack 3 or later before you install Client Access Express. For any other Windows NT environment, you must install Service Pack 3 or later for SSL support.
4. To install Client Access Express on a PC that is running Microsoft Windows Terminal Server Edition, follow the install instructions in Information APAR II11373. For information on obtaining APARs, see “Information Authorized Program Analysis Report (Information APAR) and PTFs” on page 59.

---

## Using AS/400 NetServer to install Client Access Express

You must have AS/400 NetServer configured on your AS/400 system and your PC configured to use AS/400 NetServer before following these instructions. If you have not already done so, follow the steps in “Chapter 7. Configuring AS/400 NetServer on the AS/400 system” on page 29 and “Chapter 9. Configuring your PC for AS/400 NetServer Use” on page 41 to set up AS/400 NetServer.

Users installing from pre-V4R5 AS/400 NetServer onto Windows 2000 PCs will need to make sure that there are AS/400 NetServer PTFs applied to the AS/400 before doing the install. For more information, see Information APAR II11938.

To install Client Access Express from an AS/400 NetServer:

1. From the Windows desktop, click **Start > Find > Computer**.
2. Type in the AS/400 NetServer name that you want to use to install Client Access Express and click **Find Now**.
3. Double-click on the computer name when it appears. This starts the Windows Explorer.
4. Double-click **QIBM > ProdData > Ca400 > Express > Install > Image > Setup.exe** to start the setup program. This starts the installation wizard. Step through the wizard and choose which kind of installation you want and where you want to store Client Access Express.

**Note:** You will be able to install SSL, add-ins, plug-ins, and secondary languages that are installed on the AS/400 system during the Client Access Express install. See the online help and Information Center for more information on SSL, add-ins, and plug-ins.

---

## Installing Client Access Express from CD

To install Client Access Express from the Client Access Family for Windows CD, place the CD in the PC's CD-ROM drive. From Windows, click **Start > Run** and then enter `d:\express\setup` in the Open field, where `d:` is your CD drive.

Once the Client Access Express setup program begins, follow the instructions and online help in the program.

### Notes:

1. You cannot install Secure Sockets Layer (SSL) from the Client Access Family for Windows CD. This is because the Client Encryption products required (5769-CEx) are not packaged on the Client Access Family for

Windows CD. To install SSL support on the PC, you must install from a server that has your desired 5769-CEx product installed.

2. You will not be able to install SSL, add-ins, plug-ins, and secondary languages that are installed on the AS/400 system during Client Access Express installation. After the CD install completes, you can use selective install to add these components.
3. If you want to configure an install source for automatic Service Pack and release upgrades, use the **Service** page of **Client Access Properties**.
4. See the online help and Information Center for more information on SSL, add-ins, and plug-ins.

---

## Installing Client Access Express from a Peer Server

If you do not have a file server but are in a LAN environment, you can install Client Access Express from the hard disk of one PC to all PCs on the LAN. To do this, you need to configure the PCs to enable the peer sharing feature of Windows, as described in the following sections.

### Notes:

1. You cannot install SSL, add-ins, plug-ins, and secondary languages that are installed on the AS/400 system during the peer server installation of Client Access Express. These products and features are not packaged with Client Access Express. After the install completes, you can use selective install to add these components.
2. To get the SSL component, select the server that has your desired 5769-CEx product installed as your source directory in the selective install.
3. To get add-ins, plug-ins or secondary languages, select the server that has these components as your source directory in the selective install.
4. If you want to configure an install source for automatic Service Pack and release upgrades, use the **Service** page of **Client Access Properties** after the install completes.
5. See the online help and Information Center for more information on SSL, add-ins, plug-ins and service.

## Copy the Client Access Express Install Image to a PC

On the PC with Windows 95 or Windows 98 from which the code is to be installed:

1. From the Windows desktop, click **Start > Settings > Control Panel**.
2. Double-click **Network** from the Control Panel.
3. Click **File and Print Sharing**.
4. Check **I want to be able to give other access to my files** and click **OK**.
5. Select the **Identification** tab and enter a name for your PC and a workgroup.

Use the same workgroup name on all your PCs. This could be your company name or your department name, for example.

6. Click **OK** and restart your computer when prompted.
7. Load the CD into the PC's CD-ROM drive.
8. From the Windows desktop, click **Start > Programs > MS-DOS Prompt**.
9. Type `d:\` and press Enter, where `d:` is your CD drive.
10. Type `cd express` and press Enter.
11. Type `copy *.* c:\dirpath` where `c:\dirpath` is the drive and directory where you want the install image stored.

**Note:** Make sure that you are copying from the Client Access Express directory.

12. From the Windows desktop, double-click the **My Computer** icon.
13. Navigate to the directory where you just copied the install image.
14. Select **Sharing...** from the menu and select **Shared As**.
15. Click **OK**.

## Install Client Access Express from Another PC

In order to install Client Access Express from a peer server, ensure that your PC is set up for peer connections:

1. From the Windows desktop, click **Start > Settings > Control Panel**.
2. Double-click **Network** from the Control Panel.
3. Select the **Identification** tab and enter a name for your PC and a workgroup (use the same workgroup name you have entered previously).
4. Click **OK** and restart your computer when prompted.

To install from a peer server:

1. From the Windows desktop, double-click the **Network Neighborhood** icon. A list of PCs that are in your workgroup will display.
2. Double-click on the PC that contains the Client Access Express install image. This will display any shared resources on that PC.
3. Double-click the drive where the Client Access Express install image is located.
4. Double-click **setup.exe** to begin the Client Access Express setup program.

---

## Selective Setup

If you have Client Access Express installed on your PC and want to install an additional component of Express, you can use Selective Setup. Selective Setup allows you to install or remove individual components of Client Access Express. To start Selective Setup:

1. From the Windows desktop, click **Start > Programs > IBM AS/400 Client Access Express > Selective Setup**.
2. Follow the instructions and online help that are provided by Selective Setup

---

## Chapter 11. Migrating to Client Access Express

Client Access Express includes a migration wizard that converts configuration information from previous clients in the Client Access Family of products into the format that is used by Client Access Express for Windows. You can migrate information from the following clients to Client Access Express (XE1):

- Client Access for Windows 3.1 (XC1)
- Client Access Enhanced for Windows 3.1 (XK1)
- Client Access for Windows 95/NT (XD1), V3R1M3 and V3R2M0 only

The migration wizard starts automatically at the end of the Client Access Express setup program. You can choose to run the wizard or wait until later and start it by clicking on the Migration Wizard icon. The migration wizard looks for data from Client Access for Windows 95/NT first. If it does not find that data, it looks for Client Access Enhanced for Windows 3.1 and Client Access for Windows 3.1 data.

**Note:**

- If the PC is used by different users that have individual user IDs on the PC, Client Access configuration information that is unique to each user will be migrated to Client Access Express.
- Migrating your clients to Express may affect the naming scheme that you should use for AS/400 NetServer. See “Chapter 7. Configuring AS/400 NetServer on the AS/400 system” on page 29, for more information on AS/400 NetServer naming.

---

### Migrating from Client Access for Windows 95/NT

Client Access for Windows 95/NT (XD1) and Client Access Express for Windows cannot co-exist on the same PC. If you are currently using Client Access for Windows 95/NT, the Client Access Express setup program will remove it before installing Client Access Express.

**Note:** Client Access Express will only migrate configuration information from V3R1M3 and V3R2M0 Client Access for Windows 95/NT.

The migration wizard gathers Client Access for Windows 95/NT configuration information and saves that information before Client Access for Windows 95/NT is uninstalled. The migration wizard creates a directory called CWBMI under the Windows directory. The Client Access Express install will not delete any of these configuration files since you may use them again if you decide to reinstall Client Access Express in the future. If you do not want these files on

your PC, you will need to remove them manually after Client Access Express has been installed and the files have been migrated.

Read the following notes before you migrate to Client Access Express:

**Notes:**

1. Network drives are not available in Client Access Express. Therefore, you cannot migrate to Client Access Express over a Client Access network drives connection. Network drives will be uninstalled and will no longer exist in Client Access Express. In Client Access Express, network drives support is available only through AS/400 NetServer.  
Network printers are also not available in Client Access Express. The Information Center provides more information on migrating network drives and printers to AS/400 NetServer file and print shares. More information can be found at the AS/400 Information Center at the following location: **Client Access Express > Administering Client Access Express > AS/400 NetServer Administration**. From the AS/400 NetServer Administration topic, take the link to **AS/400 NetServer**, and then the link to **Getting Started with AS/400 NetServer**.
2. Data transfer configuration information is not migrated with the migration wizard. Data transfer configuration information is migrated when used in Client Access Express.
3. All environments are migrated, but only TCP/IP connections are migrated
4. The active environment becomes the active environment for Client Access Express.
5. The Async console is not supported in the Client Access Express product. You can use Operations Console in Client Access Express for console support. If you need Async console, you need to stay with Client Access for Windows 95/NT on the console PC.
6. If you had the following installed or configured on Client Access for Windows 95/NT and you chose to install them when you installed Client Access Express, they are migrated.
  - Environments and TCP/IP connections
  - Directory update
  - Password properties
  - Service pack properties
  - Language properties
  - Logging properties and tracing properties
  - Client Access desktop icons
  - Operations Navigator
  - PC5250 Emulation
  - AFP Workbench Viewer
  - Fax options
  - SDK for ActiveX and OLE DB
  - ODBC data sources



To migrate from Client Access for Windows 95/NT, start the Client Access Express setup program as described in “Chapter 10. Installing Client Access Express on the PC” on page 43. The Client Access Express setup program:

- Gathers your configuration information for Client Access for Windows 95/NT and saves it
- Removes Client Access for Windows 95/NT
- Reboots the PC and automatically restarts after the reboot
- Installs Client Access Express
- Starts the Migration wizard

The migration wizard will then step you through the steps necessary to migrate from Client Access for Windows 95/NT.

See “Chapter 12. Using Client Access Express” on page 53 for information on how to use Client Access Express and for differences between Client Access for Windows 95/NT and Client Access Express. For information on migrating from Client Access for Windows 95/NT to Client Access Express while upgrading to Windows 2000, see “Appendix C. Problems and Problem Reporting” on page 73.

---

## Migrating from Windows 3.1 Clients

Client Access Express supports a limited migration from Windows 3.1 clients. If you are migrating from Client Access Enhanced for Windows 3.1 (XK1), PC5250 information is the only information that migrates. If you are migrating from Client Access for Windows 3.1 (XC1), the only information that migrates is the RUMBA and PC5250 information. Client Access for Windows 3.1 and Client Access Enhanced for Windows 3.1 do **not** have to be removed before you install Client Access Express.

To install Client Access Express and migrate information from Client Access for Windows 3.1, do the following:

1. Install Client Access Express. See “Chapter 10. Installing Client Access Express on the PC” on page 43.
2. At the end of the Client Access Express setup program, the migration wizard starts. The migration wizard captures the following information for use by Client Access Express:

### **Client Access Enhanced for Windows 3.1**

- a. PC5250 icon objects
- b. PC5250 terminal and printer session profiles
- c. PC5250 keyboard mappings
- d. PC5250 macros
- e. PC5250 popup keypads

### **Client Access for Windows 3.1**

- a. RUMBA/400 icon objects (migrated to PC5250)
  - b. RUMBA/400 terminal and printer session profiles (migrated to PC5250)
  - c. RUMBA/400 keyboard mappings (migrated to PC5250)
  - d. PC5250 icon objects
  - e. PC5250 terminal and printer session profiles
  - f. PC5250 keyboard mappings
  - g. PC5250 macros
  - h. PC5250 popup keypads
3. See “Chapter 12. Using Client Access Express” on page 53 for information on how to use Client Access Express.

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## Part 4. Using Client Access Express

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## Chapter 12. Using Client Access Express

You can find information on using Client Access Express in the **Express User's Guide**, an online Help system available with Express. To open the Express User's Guide:

- From the Windows desktop, click **Start > Programs > IBM AS400 Client Access Express > Express User's Guide**

If you do not have the Express User's Guide installed, you can install it through Selective Setup.

---

### What's new and different with Express

Client Access Express has simplified many functions of the previous clients, such as installing, configuring, and managing your system connections.

**Install** Client Access Express has been improved to give administrators more control over what end users may install. Client Access Express provides both required programs that must be installed and optionally installable components that facilitate and enhance your PC-to-AS/400 interaction.

#### **AS/400 connections**

Configuration of connections to AS/400 systems is easier now using Client Access Express. Client Access Express uses TCP/IP to connect to the AS/400 system. Since Client Access Express uses only TCP/IP, the AS/400 Connections program used by previous clients is no longer needed. Instead, you can specify the AS/400 system to connect to when you run a Client Access Express application. Client Access Express maintains a list of AS/400 systems that you recently connected to, called the system list.

**Note:** You can still manage your connections through Operations Navigator. In fact, the default configuration parameters for each configured AS/400 system can only be managed through Operations Navigator. An Operations Navigator icon and enough of the Operations Navigator function necessary to manage your connections will be installed, even if Operations Navigator is not installed.

#### **Access to network drives and network printers**

AS/400 NetServer is available with OS/400 V4R2 and later and provides support for file and print serving. Previous clients, such as Client Access for Windows 95/NT, included file and print serving

within the client, though not without a price. Utilizing the capabilities of AS/400 NetServer allows for several advantages. They include a smaller PC client footprint and the elimination of background tasks and daemons. Using AS/400 NetServer allows Client Access Express to take advantage of the file and print sharing capabilities that are native to Windows 95/98/NT. You need to set up the AS/400 NetServer that comes with your V4R2 or later level of OS/400 to perform file and print serving to the AS/400 system.

### **Secure Sockets Layer (SSL)**

Client Access Express includes optionally installable support for Secure Sockets Layer (SSL). SSL is a popular security scheme that allows the PC client to authenticate the server and encrypts all data and requests to the AS/400.

### **AS/400 Desktop Icon wizard**

You can create a desktop icon that will launch an application, such as Operations Navigator or PC5250, to provide easy connection to the AS/400 you specify. A step-by-step AS/400 Desktop Icon wizard is provided to guide you through the creation of the icon. Once created, you can modify the icons properties, changing, for example, the application you would like the icon to launch.

### **Logging and tracing**

A utility, Diagnostic Tools, provides a unified interface for starting, stopping, displaying, and working with the properties of the History log, Detail trace, and Entry point trace. When started, this utility is placed in the Windows system tray in the lower right corner of the desktop. Unlike previous Client Access clients, Express does not automatically start logging. You must start them manually using the Diagnostic Tools utility.

### **16-bit applications**

Client Access Express does not support 16-bit applications.

---

## Chapter 13. Using Client Access Express with Facsimile Support for AS/400

The IBM AFP printer driver that Express provides, allows you to fax documents from your personal computer applications when used with Facsimile Support for AS/400. This fax support allows you to send documents to remote fax devices.

The following steps summarize the tasks you need to do to set up Client Access Express for faxing personal computer documents:

1. Create a fax printer device description on the AS/400 system.
2. Set up a network printer on the workstation.

Refer to the following publications for information about how to use or install the Facsimile Support for AS/400 product:

- *Facsimile Support for AS/400 Installation Guide*, SC41-0654.
- *Facsimile Support for AS/400 User's Guide*, SC41-0655

---

### Create a Fax Printer Device Description on the AS/400 System

1. Type STRFAXSPT at the AS/400 command prompt and press the F4 Prompt key to display the parameters for the STRFAXSPT command.
2. Specify a fax description. This can be a fax description you previously configured.
3. Specify \*YES for the Enhanced services (EHNSRV) parameter.
4. Press Enter.

This starts the Enhanced Services and creates the QFQFS4PRTD printer device, which is required for faxing personal computer documents. The QFQFAXSRV job is started in the QFQSBS subsystem and processes the personal computer documents as they are received on the QFQFS4PRTD output queue.

The printer share that is set up for Facsimile Support must be configured to use the output queue QFQFS4PRTD and a spooled file type of Advanced Function Printing. For information on creating a printer share, see the online Express User's Guide.

---

## Set up a network printer on the Client Access Express PC

To set up a network printer, you must have a connection to an AS/400 system.

1. From the Windows desktop, click **Start > Find > Computer**.
2. Enter the AS/400 NetServer server name and click the Find Now button. If AS/400 NetServer is not found, you may need to start AS/400 NetServer on the AS/400 system.
3. Double-click on the AS/400 NetServer name in the list below. A dialog will appear with currently configured AS/400 NetServer file and print shares. If no print shares are listed, you may need to configure one.
4. Right click on the printer share you wish to use, click Install, then follow the online instructions.

**Note:** When presented with the **Add Printer Wizard** and asked to select the manufacturer and model of your printer, choose **IBM** as the manufacturer and **IBM AFP Facsimile Support/400** as the printer.

5. For more information, visit the AS/400 Information Center at the following location: **Client Access Express > Administering Client Access Express > AS/400 NetServer Administration**. From the AS/400 NetServer Administration topic, take the link to **AS/400 NetServer**, and then the link to **Getting Started with AS/400 NetServer**.



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## Part 5. Appendixes



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## Appendix A. Sources of Information for Client Access Express

There are several places you can find additional information about Client Access Express.

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### Information Authorized Program Analysis Report (Information APAR) and PTFs

An **Information Authorized Program Analysis Report (Info APAR)** is an electronic document that is used to communicate information not found in publications, the online Express User's Guide, critical fix information, or other sources.

Information APARs for Client Access Express are available on the Internet or from the IBM fax information service. If you have Internet access, you can view the index to Client Access Express Information APARs at:

<http://www.as400.ibm.com/clientaccess/>

Go to the Information APARs section and look under the Client Access Express Information APARs.

**Program temporary fixes (PTFs)** are available to ensure that you have the latest program fixes for OS/400 and Client Access Express.

You can also get the APARs and PTFs for Client Access Express by using the Electronic Customer Support feature on your AS/400 system. You need to have Electronic Customer Support configured and operational.

You can order informational APARs just like a PTF. You will receive a cover letter that contains all of the information in the APAR, however, no code or 'fix' comes with it.

To order an Information APAR, use the following OS/400 command:

```
SNDPTFORD PTFID(IIxxxxx)
```

where IIxxxxx is the APAR number.

After you loaded the APAR on the AS/400 system, display or print it using the following:

```
DSPPTF LICPGM(INFOAS4)
```

In our example, Client Access Express (II11654), uses the following command:

DSPPTF LICPGM(INFOAS4)

Look for II11654. When you find it, use Option 5 to display.

Using the SNDPTFORD command requires Electronic Customer Support to be enabled on your AS/400 system. If electronic customer support is not enabled, order the Information APAR the way that you normally get PTFs.

If you are not sure if an APAR is on your AS/400 System, use the following to display all APARs:

1. Start Programming Development Manager (STRPDM)
2. Work with Members
3. File(QAPZCOVER), Library(QGPL), Name and Type(\*ALL)

---

## Client Access Express on the Web

IBM has a wealth of information on the Internet. The AS/400 Information Center contains many articles about the AS/400 system, including Client Access Express administrating and programming information. It also contains links to the AS/400 Online Library, the AS/400 Technical Studio, the AS/400 Home Page, and AS/400 Technical Support. The Information Center can be accessed at:

[www.as400.ibm.com/infocenter](http://www.as400.ibm.com/infocenter)

In addition, you can access information on the World Wide Web (WWW) from the Client Access Express folder. This folder is available after you install Client Access Express. Click the **Internet Information** icon. Other places you may want to get information from are listed in the following table, along with their web page addresses.

*Table 8. Web Page Addresses Related to Client Access Express*

Web Page Address	Title
<a href="http://www.ibm.com">www.ibm.com</a>	IBM Home Page
<a href="http://www.as400.ibm.com">www.as400.ibm.com</a>	IBM AS/400 Home Page
<a href="http://www.as400.ibm.com/clientaccess">www.as400.ibm.com/clientaccess</a>	IBM AS/400 Client Access Home Page
<a href="http://www.as400.ibm.com/oper_nav">www.as400.ibm.com/oper_nav</a>	IBM AS/400 Operations Navigator Home Page
<a href="http://www.as400.ibm.com/netserver">www.as400.ibm.com/netserver</a>	IBM AS/400 NetServer Home Page
<a href="http://www.pc.ibm.com">www.pc.ibm.com</a>	IBM Personal Computers Home Page
<a href="http://www.software.ibm.com">www.software.ibm.com</a>	IBM Software Home Page
<a href="http://www.as400service.ibm.com">www.as400service.ibm.com</a>	IBM AS/400 Service Home Page
<a href="http://www.networking.ibm.com">www.networking.ibm.com</a>	IBM Networking Home Page

Table 8. Web Page Addresses Related to Client Access Express (continued)

www.networking.ibm.com/525	IBM Headquarters for 5250 Emulation Software and Hardware
www.software.ibm.com/enetwork/pcomm	IBM eNetwork Personal Communications

---

## Client Access Express ReadMe File

The Client Access Express ReadMe file (README.TXT) is on the CD-ROM and in the Client Access Express folder on your desktop after you install Client Access Express. The ReadMe file contains important information or technical changes to the product that were too late to include in the documentation.

---

## Express User's Guide

After installing Client Access Express, you have a valuable resource at your fingertips called the online **Express 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 Express User's Guide walks you through many complex situations and helps you solve most problems.

**Note:** You may not have the Express User's Guide installed if you performed a custom or 5250 User install of Client Access Express. You can install the Express User's Guide through Selective Setup.

---

## Related Books

You may need to refer to other IBM books for more specific information about a particular topic.

### Client Access Family:

- *AS/400 Client Access Family of Products*, G325-6336-02
- *Client Access Express for Windows Host Servers*, SC41-5740-03

### Other Books That Contain Related Information:

- *AS/400 Client Access Express for Windows: Implementing V4R4M0*, SG24-5191-00.
- *AS/400 Printing IV*, GG24-4389
- *AS/400 Road Map for Changing to PowerPC Technology*, SA41-5150
- *AS/400 Road Map for Changing to PowerPC Technology*, SA41-5150-05
- *Communications Configuration*, SC41-5401-00
- *Getting Started with Integrated Netfinity Server*, SC41-5123-01
- *LAN, Frame-Relay and ATM Support*, SC41-5404-01

- *Remote Work Station Support*, SC41-5402-00
- *Software Installation*, SC41-5120-04
- *Security - Reference*, SC41-5302-04
- *TCP/IP Configuration and Reference*, SC41-5420-03
- *Work Management*, SC41-5306-03
- *Getting Your AS/400 Working For You*, SC41-5161

**Note:** These books can be viewed at the Client Access web page:

<http://www.as400.ibm.com/clientaccess/>

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## Appendix B. PC5250 Information

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### Lao Support

#### Installation of Fonts

Client Access Express installs the correct PC5250 fonts based on the ANSI code page of the PC. At the time of this writing, there is no Lao version of Windows®. The ANSI code page is not set to Lao and the Lao fonts are not installed during a typical install.

To install the Lao fonts, use the Client Access Express Custom install or Selective install. On the component selection dialog, click **5250 Display and Emulator > Standard PC5250 > PC5250 Fonts** and check Lao Fonts.

After the install is complete, you **MUST** change a variable in the **win.ini** file that is located in your Windows directory. Edit the file, find sCountry and change sCountry = United States to sCountry = Laos.

#### Configuring a PC5250 session for Lao Support

From the PC5250 window menu bar:

1. Click **Communication > Configure**.
2. Click the **Configure...** button.
3. Click the **Host Code-Page** arrow and select 1132 Lao.

To enable Lao keyboard:

1. Select the **Assist** pull-down menu from the toolbar.
2. Select **Keyboard Setup**.
3. Select Lao for the **Keyboard Layout**.

#### Switching between Lao and Latin Keyboard

Press either Alt+left shift or Alt+right shift to toggle between the Lao and Latin Keyboards.

#### Language Shift Status

The language shift indicator is shown in the status line of each emulator session. If the keyboard is in Lao language shift, the indicator 'Lao' is shown in the status line.

## Lao Display Composed mode

### Mode 1

Non-compose mode

There is no character composing in this mode.

### Mode 2

Composed Mode

Lao character is auto composed in this mode. No column realignment is performed.

### Mode 3

Composed with space alignment

During this mode of composing, column realignment is also performed by three consecutive spaces. When the composing routine finds three consecutive spaces, column realignment occurs. So, if all fields have at least three trailing spaces, then all fields of all records are properly aligned.

### Mode 4

Composed with EOF alignment

During this mode of composing, column realignment is also performed by the EOF character (Hexadecimal 'EA'). When the composing routine finds a single EOF, it deletes this character and performs column realignment. If two consecutive EOFs are found, no realignment occurs; one EOF is deleted and one is treated as data.

### Mode 5

Composed with space and EOF alignment

This mode of composing performs the column realignment functions of both Mode 3 and Mode 4.

## Lao-Scaleable (Truetype) Font for Printing

PC5250 provides a Lao Truetype font (Khamla).

To print Lao characters, you have to install the Lao scaleable (Truetype) font. See "Installation of Fonts" on page 63.

## Print Space Adjustment

If any printer needs space adjustment for Lao printing, add the following statement to the PCSWIN.INI in the PCOMWIN/PRIVATE directory:

```
[Lao]  
PrintAdjust=x
```



The value of x can be:

- 0 = no adjustment (same as no PrintAdjust statement)
- 1 = Perform adjustment when find three consecutive spaces
- 2 = Perform adjustment when find EOF character
- 3 = Perform adjustment when find three consecutive spaces or EOF character (1 and 2 combined)

---

## Configuring PC5250 for Thai (Thai only)

1. Click **Communication > Configure**.
2. Click the **Configure...** button.
3. Click the **Host Code-Page** arrow and select 838 Thai.
4. To enable Thai keyboard input (while you are in a PC5250 session):
  1. Select the **Assist** pull-down menu from the toolbar.
  2. Select **Keyboard Setup**.
  3. Select Thai for the **Keyboard Layout**.

**Note:** Thai features are enabled when Client Access runs on Windows 95, 98 only and these Thai setting are the defaults.

## Thai Display Mode Selection (Thai only)

Select the **Appearance** pull-down menu while in the emulator session. Select **Thai Compose Mode...**

## Switching between Thai and Latin Keyboard

Press either Alt+left shift or Alt+right shift to toggle between the Thai and Latin Keyboards.

## Language Shift Status (Thai only)

The language shift indicator is shown in the status line of each emulator session. If the keyboard is in Thai language shift, the indicator 'TH' is shown in the status line.

## Thai Display Composed mode (Thai only)

### Mode 1

Non-compose mode

There is no character composing in this mode.

### Mode 2

Composed Mode

Thai character is auto that is composed in this mode. No column realignment is performed.

### Mode 3

Composed with space alignment

During this mode of composing, column realignment is also performed by three consecutive spaces. When the composing routine finds three consecutive spaces, column realignment occurs. So, if all fields have at least three trailing spaces, then all fields of all records are properly aligned.

### Mode 4

Composed with EOF alignment

During this mode of composing, column realignment is also performed by the EOF character (Hexadecimal 'EA'). When the composing routine finds a single EOF, it deletes this character and performs column realignment. If two consecutive EOFs are found, no realignment occurs; one EOF is deleted and one is treated as data.

### Mode 5

Composed with space and EOF alignment

This mode of composing performs the column realignment functions of both Mode 3 and Mode 4.

---

## Bidirectional Arabic Support

### Limitations

- The Bidirectional Text Assist component is not supported in the PC5250 AS/400<sup>®</sup> component. As a result, the user cannot run Bidirectional OfficeVision/400<sup>™</sup>.
- If running under Arabic Windows, COPYLINK component produces unexpected results with Arabic letters.

### Installation Tips

- After PC5250 is installed, please follow the steps that are defined in the online Express User's Guide to install the Arabic font file PCSANSIA.FON. This can be found under the heading of **Special Fonts for PC5250**.
- To setup an Arabic WorkStation, verify that you have fulfilled the following definitions:
  - Select **Configure** from the **Communication** pull-down menu and then select **Arabic Speaking** for Host code-page.
  - Select **Keyboard Setup** from the **Assist** pull-down menu. Select **Arabic Speaking** as the Keyboard layout.
  - Select **Font Size** from the **Appearance** pull-down menu. Choose **ARB3270** at the **Automatic Sizing** list box or at the **Fixed size** font selection. This ensures that the active font for display is the Arabic font.
  - Select **Api Setting** from the **Files** pull-down menu and then select **864** as the **DDE/EHLLAPI PC Code-Page**.

- Select **Printer Control** from the **File** pull-down menu. Choose **ARB3270** as the font of choice, in order to be able to print Arabic files.

**Note:** **ARB3270** will be selectable ONLY if the Printer Driver allows Bitmap fonts. Some printer drivers do not support Bitmap fonts (for example IBM<sup>®</sup> 4019 driver). In this case, select to print via **PDT**, and this will require the IBM Arabic 864 font to be available on the printer.

## Bidirectional Keyboard Components

This section describes the keys and components that are unique to Bidirectional PC5250 support.

The keys unique to Bidirectional PC5250 support are:

- Language selection

This component is activated by the key combination **ALT + SHIFT**.

This component allows changing the language layer. If the language layer is Latin, by pressing **ALT + RightShift** key combination the language layer will change to Arabic. If the language layer is Arabic, by pressing **ALT + LeftShift** this key combination, the language layer will change to Latin.

- Screen Reverse

This component is activated by the key combination **ALT + ENTER**.

This component reverses the screen image. If the screen orientation is Left-to-Right, by pressing this key combination the screen image will be reversed to Right-to-Left. If the screen orientation is Right-to-Left, pressing this key combination the screen image is reversed to Left-to-Right.

Note that the operator information area is not reversed by this operation.

When the screen orientation is changed, the language layer is changed to the default language of the new screen orientation. If the screen is reversed to Right-to-Left, then the language is changed to Arabic. If the screen is reversed to Left-to-Right, then the language is changed to Latin.

The inversion of the screen causes directional characters to be replaced by their counterparts.

- Field Reverse

This component is activated by the key combination **NumLock**.

This component toggles the field orientation to either Left-to-Right or Right-to-Left. The text in the field is not inverted. The cursor orientation is set equal to the new field orientation, and the language layer is selected accordingly.

If the cursor was in the first logical position of a field or line, when selecting field reverse component, the cursor skips to the other side of that field or line, which now becomes the first logical position. If the cursor was

not in the first position of the field or line, when selecting field reverse component, the cursor remains in its position and allows natural and correct editing of existing text.

- Close

This component is activated by the key combination **NumPad /**.

This component is provided so that the data entered in one keying direction can be concatenated with the data that was previously entered in the opposite direction. It operates as follows:

- All embedded Nulls are removed from the current line.
- Concatenated text is moved to the right bound of the field (if the field direction is right-to-left) or to the left bound (if the field direction is left-to-right).
- The cursor direction is set to the field direction
- The language layer is set to the default for the field direction
- If the cursor position is now Left-to-Right, the cursor is positioned at the first null to the right of the concatenated text.
- If the cursor position is now Right-to-left, the cursor is positioned at the first null to the left of the concatenated text.

- BASE

This component is activated by the key combination "CTRL + HOME".

The "BASE" key is a toggle key that activates or deactivates the Automatic Shape determination component for Arabic RTL text. It is valid only when processing RTL Arabic text. If it is pressed in an LTR field an operator error 0027 results.

## Operator Information Area Indicators

In the Host session the bottom line of the screen is called the Operator Information Area (OIA). This line is always displayed from Left-to-Right. In the Arabic environment, the following symbols were added:

- Language Indicator:
  - Isolated **EIN**- Current language, Arabic
  - E - Current language, English
- Screen Direction:
  - S> - Left-to-Right screen direction
  - <S - Right-to-Left screen direction
- Typing Direction
  - => - Left-to-Right direction
  - <= - Right-to-Left direction
- Arabic Character Shape Mode:
  - The character **Alef-Madda**: indicates CSD mode.
  - Isolated **GHEIN**: indicates Base or Isolated Shaping Mode.

---

## Bidirectional Hebrew Support

### Limitations

- If running under Hebrew Windows, cut & paste with Windows applications might produce unexpected results.
- The Keyboard re-map function that is available for the Windows-mode product - supports re-mapping of Hebrew and Bi-Directional components only for the data keys (The 61 keys which are located on the main part of the enhanced keyboard).

### Installation Tips

- After PC5250 is installed, please follow the steps defined in the online Express User's Guide to install the Hebrew font file PCSANSIH.FON. This can be found under the heading of **Special Fonts for PC5250**.
- To setup a Hebrew WorkStation, verify that you have fulfilled the following definitions:
  - Select **Configure** from the **Communication** pull-down menu and then select **Hebrew** for Host code-page.
  - Select **Keyboard Setup** from the **Assist** pull-down menu. Select **Hebrew** (Bulletin Code or Old Code) as the Keyboard Layout.
  - Select **Font Size** from the **Appearance** pull-down menu. Choose **HEB3270** at the **Automatic Sizing** list box or at the **Fixed size** font selection. This ensures that the active font for display is the Hebrew font.
  - Select **Api Setting** from the **Files** pull-down menu and then select **862** or **916** as the **DDE/EHLLAPI PC Code-Page**.
  - Select **Printer Control** from the **File** pull-down menu. Choose **HEB3270** as the font of choice, in order to be able to print Hebrew files.

### Bidirectional Keyboard Components

This section describes the keys and components that are unique to Bidirectional PC5250 support.

The keys unique to Bidirectional PC5250 support are:

- Language selection

This component is activated by the key combination **ALT + SHIFT**.

This component allows changing the language layer. If the language layer is Latin, by pressing **ALT + RightShift** key combination the language layer will change to Hebrew. If the language layer is Hebrew, by pressing **ALT + LeftShift** key combination, the language layer will change to Latin.

- Screen Reverse

This component is activated by the key combination **ALT + ENTER**.

This component reverses the screen image. If the screen orientation is Left-to-Right, pressing this key combination, the screen image is reversed to Right-to-Left. If the screen orientation is Right-to-Left, pressing this key combination, the screen image is reversed to Left-to-Right.

**Note:** The operator information area is not reversed by this operation. When the screen orientation is changed, the language layer is changed to the default language of the new screen orientation. If the screen is reversed to Right-to-Left, then the language is changed to Hebrew. If the screen is reversed to Left-to-Right, then the language is changed to Latin.

- **Field Reverse**

This component is activated by the key combination **Numlock**.

This component toggles the field orientation to either Left-to-Right or Right-to-Left. The text in the field is not inverted. The cursor orientation is set equal to the new field orientation, and the language layer is selected accordingly.

If the cursor was in the first logical position of a field or line, when selecting field reverse component, the cursor skips to the other side of that field or line. The other side now becomes the first logical position. If the cursor was not in the first position of the field or line, when selecting field reverse component, the cursor remains in its position. This allows natural and correct editing of existing text.

- **Close**

This component is activated by the key combination **NumPad /**.

This component is provided so that the data entered in one keying direction can be concatenated with the data that was previously entered in the opposite direction. It operates as follows:

- All embedded null characters are removed from the current line (or field, if the field is contained on one line).
- Joined text is moved to the RIGHT bound of the field if the field direction is RIGHT-TO-LEFT. It is moved to the LEFT bound if the field direction is LEFT-TO-RIGHT.
- The remainder of the line (or the field, if contained on the same line) is padded with the NULL characters.
- The cursor direction is set to the field direction.
- If the cursor direction is now LEFT-TO-RIGHT, the cursor is positioned at the first NULL character to RIGHT of the joined text. If the cursor direction is now RIGHT-TO-LEFT, the cursor is positioned at the first NULL character to LEFT of the joined text.
- Insert mode is reset.

## **Operator Information Area Indicators**

In the Host session the bottom line of the screen is called the Operator Information Area (OIA). This line is always displayed from Left to-Right. In the Hebrew environment, the following symbols were added:

- **Language Indicator:**
  - H - Current language, Hebrew
  - E - Current language, English
- **Screen Direction:**

- S> - Left-to-Right screen direction
- <S - Right-to-Left screen direction
- Typing Direction
  - => - Left-to-Right direction
  - <= - Right-to-Left direction





---

## Appendix C. Problems and Problem Reporting

---

### Overlaid Icons

After you install Client Access Express on your PC, it may look like some of the components were not installed because some icons seem to be missing. These icons are actually overlaying each other. To fix this:

- Open the folder that has the problem.
- Press the right mouse button.
- Select the Arrange Icons option.

The icons are arranged and you can now see all of them.

---

### Dial-Up Networking Prompt

If you see a Dial-Up Networking prompt, one of the following may apply to you. Either you have Internet Access or you may need to make some changes to your Dial-Up Networking configuration to stop this.

- If you have Internet access:
  1. From the Windows desktop, click **Start > Settings > Control Panel**. You see the Control Panel folder.
  2. From the Control Panel folder, double-click on the Internet item. In the next panel, uncheck the box for the **Use Autodial** option.
- If Internet access is not your problem:
  1. You need to make some changes to the Dial-Up Networking settings.
    - a. From the Windows desktop, click **Start > Programs > Accessories > Dial-Up Networking**. You see the Dial-Up Networking folder.
    - b. From the Dial-Up Networking folder, click **Connections**, then click on **Settings**. You see the Dial-Up Networking properties page.
    - c. Click **Don't prompt to use Dial-Up Networking**.
    - d. Click **OK** to save your change. Now if you want to use Dial-Up Networking, you have to manually start it.
  2. You also need to make a change to your Network configuration.
    - a. From the Windows desktop, click **Start > Settings > Control Panel**. You see the Control Panel folder.
    - b. From the Control Panel folder, double-click the **Network** icon. You see the Network property page.
    - c. You need to "bind" the Dial-Up Networking only to those protocols that you intend to use over the remote connection. Look for a TCP/IP protocol in your list. Click to select it, then click the **Properties** button.

- d. Click the **Bindings** tab and make sure that Dial-Up Networking is only checked for the protocol you use for your Internet provider or external access.

To get full auto-dial support, you need to be at Windows 95 Service Pack 1 or OSR2 with Internet Explorer 2.x or higher installed. Within the properties of Internet Explorer, there is a "Connect to the Internet as needed" prompt. This prompt enables or disables the auto-dial feature for the TCP/IP stack.

---

## Problem Reporting - Gathering Information for IBM Support

If you decide to open a problem record to IBM Support, please have the following information available when you place the call:

- The level of Client Access Express on the PC:

From the Windows desktop, click **Start > Programs > IBM AS400 Client Access Express > Client Access Properties**. From the General tab, record the Version, Release, Modification Level, and Service Level.

- The AS/400 Cumulative PTF level.

Type DSPPTF (Display Program Temporary Fix) on the AS/400 command prompt. Record the first PTF ID in the list. It will have the format Tzxxyyyy where xx is the year, yyy is the julian date and z is either L or C.

- The IBM Operating System/400 (OS/400) version (for example, V4R5M0).

You can also find this at the DSPPTF screen. Record the Release field at the top of the screen.

- The version of Dial-Up Networking, if you are connecting over a SLIP or PPP connection.
- The PC application used and its version.
- A description of what you were attempting when the failure occurred.
- The exact text and error numbers of any error message that the PC application produced.

**Note:** If you do not have a printer attached to the PC, press the Print Screen key to copy a bitmap of the current screen to the clipboard. Open the Microsoft Windows Paint accessory or WordPad under the Accessories group. Select Edit, Paste, and then save this printed screen in a file for future reference.

- Any VLOGs that are generated at the time the error occurred, if the VLOGs have a major code of 0700, 4400, or 4401 and a minor code of either F230 or F299.

Also, if the problem you are having is ODBC-related:

- The version of the PC's ODBC driver.

Use the Windows Explorer to find CWBODBC.DLL in the Client Access directory. Place the cursor on CWBODBC.DLL and click the right mouse button. Select Properties from the menu. Go to the Version page and record the File version.

- The QZDASOINIT job log if it was produced.

---

## Migrating from Client Access for Windows 95/NT to Client Access Express with Windows 2000

Users migrating from Client Access for Windows 95/NT (5763-XD1) to Client Access Express (5769-XE1) need to follow the following recommendations.

The recommended approach for upgrading both the Client Access product and upgrading to Windows 2000 is the following:

1. Migrate to Client Access Express. This will uninstall Client Access for Windows 95/NT.
2. Upgrade to Windows 2000.

**Note:** If you did not follow this recommendation, you will still be able to install Client Access Express successfully. Client Access Express contains a function to migrate from Client Access for Windows 95/NT, however you could experience a non-critical problem when the PC automatically reboots.

The migration function takes several steps. One of these steps is to automatically uninstall Client Access for Windows 95/NT and then reboot. Since there are outstanding daemons in Client Access for Windows 95/NT, you could encounter a hang problem during this reboot.

To recover from this problem, manually power off the PC and power it back on.



---

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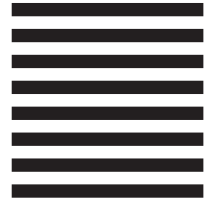
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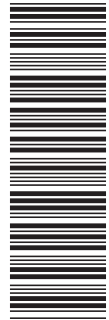


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