

Personal Communications AS/400 Version 5.0
for Windows[®] 95, Windows 98,
Windows NT[®], and Windows 2000



CD-ROM Guide to Installation

Personal Communications AS/400 Version 5.0
for Windows[®] 95, Windows 98,
Windows NT[®], and Windows 2000



CD-ROM Guide to Installation

Note

Before using this information and the product it supports, read the information in “Appendix C. Notices” on page 37.

Sixth Edition (May 2000)

This edition applies to Version 5.0 of Personal Communications AS/400 and to all subsequent releases and modifications until otherwise indicated in new editions.

© Copyright International Business Machines Corporation 1996, 2000. All rights reserved.

US Government Users Restricted Rights – Use, duplication or disclosure restricted by GSA ADP Schedule Contract with IBM Corp.

Contents

Chapter 1. About the Personal Communications CD-ROM	1
Using the CD-ROM Graphical User Interface	1
Using This Book	2
Documentation	3
Chapter 2. Planning to Install Personal Communications	5
Companion Products	5
Adobe Acrobat Reader	6
DB2 Connect for Personal Communications	6
Considerations Before Installing	6
National Language Support (NLS) Considerations	7
Windows 2000 Considerations	8
DB2 Connect for Personal Communications	8
Coexistence with Other SNA Products	8
Considerations for Coexistence with NetWare for SAA	8
Server Installation Considerations	9
Installing from Remote Locations	9
Using a Workstation with Multiple Operating Systems	9
Chapter 3. Installing Personal Communications and Companion Products from Your CD-ROM	11
CD-ROM Interface Installation	11
Manual Installation	12
Adobe Acrobat Reader Installation	13
Personal Communications Version 5.0 for Windows 95, Windows 98, Windows NT, and Windows 2000 Installation.	13
Personal Communications DB2 Connect Installation	13
Chapter 4. Personal Communications Installation Details	15
Install on Workstation.	16
Install on Workstation to Run from a Server	19
Install on a Server	20
Copy Install Image onto a Network Server for Remote Installation	21
Chapter 5. Migrating from Personal Communications for Windows 3.x	23
Modem Definition Files are Not Migrated	23
Migration Considerations	23
Removing a Previous Version of Personal Communications for the Windows 3.x Environment	24
WIN.INI and SYSTEM.INI	24
CONFIG.SYS	24
MSDLC Protocol	25
Keeping a Windows V3.x Version of Personal Communications	25
Running the Personal Communications Migration Utility	25
Migrating Communications Manager/2 Version 1.x to Personal Communications	25
Migrating from Previous Versions of Personal Communications	26
Chapter 6. Removing Personal Communications	27
Removing Personal Communications from a Workstation	27
Removing Personal Communications for Windows 95, Windows 98, Windows NT, and Windows 2000 from a Network Server	27
Chapter 7. Automating Installation of Personal Communications and Companion Products	29
Creating and Using Install Manager Scripts	30
Recording and Using Your Install Manager Script File	30
Checking the Logs	31
Installing Personal Communications Using the InstallShield Silent Installation Option	31
More Information	32
Appendix A. Abbreviations Used in This Book	33
Appendix B. Multiple Language Support Directories	35

Appendix C. Notices.	37	Trademarks	38
---------------------------------------	-----------	----------------------	----

Chapter 1. About the Personal Communications CD-ROM

The Personal Communications CD-ROM contains the IBM® Personal Communications AS/400® products and companion products for Windows® 95, Windows 98, Windows NT®, and Windows 2000.

The products available on this CD-ROM vary depending on the language and country:

- A multiple language version supports the installation of up to nineteen languages at the same time.
- Single language versions:
 - Simplified Chinese
 - Traditional Chinese
 - Korean

Additionally, there are separate packages for encryption levels of 56-bit, 128-bit, and 168-bit.

See “Appendix B. Multiple Language Support Directories” on page 35 for information on the locations for the language-specific information.

This book describes the CD-ROM for the multiple language support version. The other CD-ROMs contain the same products and support, with the following exceptions:

- There is no multiple language support.
- There are no CM Mouse utility programs.

You can access the products and functions of this CD-ROM in two ways:

- Through the CD-ROM graphical user interface
- By following the instructions in this book

If you have a Web browser installed, you can link directly to the Personal Communications Web site (<http://www.ibm.com/software/network/pcomm>).

Using the CD-ROM Graphical User Interface

The Personal Communications CD-ROM contains utilities that allow you to perform the functions described in this book through graphical user interfaces. You can install products, view or print product documentation, explore the CD-ROM, and visit the Personal Communications Web site through these

graphical user interfaces. The CD-ROM interface program enables you to select multiple products for installation and then ensures that they are installed in the proper order.

To invoke the CD-ROM interface program on Windows 95, Windows 98, Windows NT, and Windows 2000 systems:

Insert the CD-ROM into your CD-ROM drive. If AutoPlay is on, inserting the CD-ROM will automatically invoke the CD-ROM interface program.

Note: If AutoPlay is off, do the following:

1. Select **Run...** from either the **File** pull-down or the task bar.
2. Enter
E:\setup

in the Command Line box (where *E:* is your CD-ROM drive).

Using This Book

This book describes the Personal Communications and companion products, including:

- Installation instructions
- Documentation information

See “Chapter 2. Planning to Install Personal Communications” on page 5 for more information on installing Personal Communications.

See “Chapter 3. Installing Personal Communications and Companion Products from Your CD-ROM” on page 11 for an overview of the installation process.

See “Chapter 4. Personal Communications Installation Details” on page 15 for details of installing from the CD-ROM.

See “Chapter 5. Migrating from Personal Communications for Windows 3.x” on page 23 for details about migrating from previous installations of Personal Communications.

See “Chapter 6. Removing Personal Communications” on page 27 for details about uninstalling Personal Communications.

See “Chapter 7. Automating Installation of Personal Communications and Companion Products” on page 29 for guidance on automating the installation of Personal Communications.

The README.TXT files contain supplemental information; an English-language version is in the root directory of the CD-ROM. The install process also offers the opportunity to view language-specific versions.

Documentation

The Personal Communications library for Windows 95, Windows 98, Windows NT, and Windows 2000 includes the following publications:

PCCD4C.PDF	<i>Personal Communications AS/400 Version 5.0 CD-ROM Guide to Installation (this book)</i>
PCCSP.PDF	<i>Client/Server Communications Programming</i>
PCMOUSE.PDF	<i>CM Mouse Support User's Guide and Reference (English only)</i>
PCCFR.PDF	<i>Configuration File Reference</i>
PCEP.PDF	<i>Emulator Programming</i>
PCECL.PDF	<i>Host Access Class Library</i>
PCQB.PDF	<i>Quick Beginnings</i>
PCRF1.PDF	<i>Reference Volume 1</i>
PCRF2.PDF	<i>Reference Volume 2</i>
PCSMP.PDF	<i>System Management Programming</i>
ECLReference.html	<i>Host Access Class Library Reference for Java™ (HTML format only)</i>
beanReference.html	<i>Host Access Beans for Java (HTML format only)</i>
OHIOReference.html	<i>Open Host Interface Objects for Java (HTML format only)</i>

The Personal Communications books are included on the CD-ROM in Portable Document Format (PDF), except where noted above, and are optionally installed.

Note: The CD-ROM Guide to Installation book is not installed.

To view the Personal Communications documentation before installation, select **View/Print Documentation** on the CD-ROM Interface main panel.

To view the Personal Communications documentation after Personal Communications is installed:

1. Click **Start** on the Windows task bar.
2. Select **Programs** from the Start menu.
3. Select **IBM Personal Communications**.
4. Select **Product Information**.
5. Select the book you want to see.

A glossary of technical terms relating to IBM products is available on the Web at <http://www.networking.ibm.com/nsg/nsgmain.htm>.

Chapter 2. Planning to Install Personal Communications

This CD-ROM contains a graphical user interface that will allow you to perform all the functions described in this section. See "Using the CD-ROM Graphical User Interface" on page 1 for more information.

Personal Communications AS/400 Version 5.0 for Windows 95, Windows 98, Windows NT, and Windows 2000 provides 5250 and VT emulation and connections to AS/400 ASCII systems. This package is referred to as Personal Communications AS/400.

Personal Communications brings the power of personal networking to your workstation by exploiting the networking capabilities of Windows 95, Windows 98, Windows NT, or Windows 2000 to provide a variety of connectivity options supporting LAN and WAN environments.

Personal Communications is a full-function emulator package with an easy-to-use graphical interface. Personal Communications features a wide range of programming interfaces such as the industry standard EHLLAPI, WinHLLAPI, HACL and OHIO. Support is also provided for data transfer and AS/400 Network Drives (Shared Folders).

Personal Communications supports many TCP/IP and SNA features, including remote dial-up mobile access, which allows you to access a variety of hosts from a wide range of network configurations.

Personal Communications also supports a variety of SNA-based client APIs. You can create applications that use the peer-to-peer client application programming interfaces (APIs), which are based on LU 6.2 and provided by Personal Communications. These APIs let you simultaneously access and process information on peer workstations.

For more information on the new features in Personal Communications Version 5.0, refer to *Quick Beginnings*.

Companion Products

The following companion products are included with Personal Communications Version 5.0 for Windows 95, Windows 98, Windows NT, and Windows 2000.

Adobe Acrobat Reader

You can access documentation for Personal Communications directly from the CD-ROM with the Adobe Acrobat Reader program. Acrobat Reader allows you to view, navigate, and print the online books in the Personal Communications library. If you install the documentation, also install the Acrobat Reader.

Notes:

1. As appropriate, national-language versions of the Adobe Acrobat Reader program are included.
2. The English-language version is also included; it can be used for those languages not directly supported by the national-language versions. It is also used to display documents which are chosen for viewing during the install process.

See "Documentation" on page 3 for instructions on how to view the documentation using Acrobat Reader.

DB2 Connect for Personal Communications

IBM DB2[®] Connect for Personal Communications enables applications on your workstation to directly access host databases stored on:

- DB2 for MVS[®]/ESA
- DB2 for AS/400

DB2 Connect for Personal Communications provides access to those databases in a cost-effective way by implementing a standard architecture for managing distributed data, known as Distributed Relational Database Architecture[®] (DRDA[®]). Use of DRDA allows your applications to establish a fast connection to host and AS/400 databases without expensive host components or proprietary gateways. DB2 Connect for Personal Communications is a member of the DB2 family of products, which includes relational database systems, middleware, and application development tools.

Considerations Before Installing

If you plan to install the Communications Server, API client for NetWare for SAA or IBM Communications Server for Windows, or Microsoft[®] SNA clients, install them prior to installing Personal Communications. If you already have Personal Communications installed on your machine, and decide you want to install these products, you must first remove Personal Communications and then install these other products.

If you first install the Communications Server, API client for NetWare for SAA or IBM Communications Server for Windows NT, or Microsoft SNA clients,

and then choose to uninstall any of them, Personal Communications will not work. To get Personal Communications to work again, it must be uninstalled and reinstalled.

Note: These products are no longer supplied on the Personal Communications CD-ROM; they may be obtained as part of the install of their related products, or by downloading them from the Internet.

Personal Communications requires approximately 3 MB of free space in the Windows temporary directory, usually on the C drive of your computer.

Note: If you choose to install DB2 Connect, an additional 14.6 MB of free space is required in the TEMP directory.

If you have insufficient storage available for temporary files on your C drive, you can redirect the temporary files to another drive by changing the TEMP environment variable in the AUTOEXEC file. For Windows NT, you set the temp environment variable through the Control Panel System Object. For example:

Before: SET TEMP=C:\temp

After: SET TEMP=D:\temp

Before you begin installation, make sure all other applications are stopped. If any version of Personal Communications is already running, stop it before starting Setup.

For Windows NT and Windows 2000: To install Personal Communications on your workstation you must be logged onto your workstation as a member of the administrator group.

For Windows 95 and Windows 98: When using an IBM PC350, the install may terminate unexpectedly during file copying. This may be prevented by removing the device=*vpowerd statement from the [386Enh] section of the **system.ini** file in your windows directory, adding a semicolon (;) at the start of the line. This limitation may be removed by a future BIOS update.

National Language Support (NLS) Considerations

Personal Communications Version 5.0 provides the capability to install support for multiple languages. To install the multiple-language capability, follow the **Custom** Installation option.

Note: This does not apply to the CD-ROMs for:

- Simplified Chinese
- Traditional Chinese
- Korean

Personal Communications Version 5.0 automatically installs font files for additional languages: Arabic, Belorussian, Cyrillic languages, Estonian, Greek, Hebrew, Laotian, Latin-2 Languages, Latvian, Lithuanian, Thai, Turkish, Ukranian and Vietnamese. In previous releases you had to explicitly select which additional font file support you required in a custom install.

Windows 2000 Considerations

Some facilities of Personal Communications are not installed on Windows 2000 systems, including AnyNet Sockets over SNA and Network Drives (Shared Folders).

DB2 Connect for Personal Communications

If you require ODBC support, it is available on the Personal Communications CD-ROM; select DB2 Connect for Personal Communications in the installation manager, or follow the procedure for manually installing it (see "Personal Communications DB2 Connect Installation" on page 13).

Coexistence with Other SNA Products

If you are going to use API client for NetWare for SAA, Communication Server, API client for IBM Communications Server for Windows, or a Microsoft® SNA client, you have to install it before you install Personal Communications.

If you want to run Personal Communications as a client to a server machine and you want to use the Microsoft SNA Client, API client for NetWare for SAA, and API client for IBM Communications Server for Windows, or Communication Server, then Personal Communications must have been installed for use with each of these respectively on the server.

If a session using the Microsoft SNA LUA Client displays communication check 680 on the OIA line, closing or disconnecting the session will cause a hang.

Starting multiple emulator sessions that use different Microsoft SNA Client attachment types (FMI, LUA, APPC) simultaneously can provoke session hangs. Microsoft has stated this as a limitation of the Microsoft SNA Client.

The Microsoft SNA Server response time monitor (RTM) feature is not supported.

Considerations for Coexistence with NetWare for SAA

Note: Choose the NetWare for SAA client that matches your server environment.

For Windows 95 and Windows 98, a LAN via NetWare for SAA connection requires the Microsoft or Novell IPX program.

For Windows 95 and Windows 98, install:

- Novell Netware client for Windows 95 and Windows 98
- NetWare for SAA client for Windows 95 and Windows 98

Server Installation Considerations

Personal Communications allows you to choose which set of SNA files to install to a server. The choices are:

- Personal Communications SNA
- API Client (includes NetWare for SAA and Communication Server for Windows Client)
- Communications Server for Windows
- Microsoft SNA Client

Check the **serverv.ini** file after installing to a server to verify which set of SNA files were selected during the server installation.

Note: Personal Communications SNA is the default.

Installing from Remote Locations

When installing Personal Communications from a remote location such as a server, you must refer to the location using a drive letter; this requires that the location be mapped to the drive letter.

Using a Workstation with Multiple Operating Systems

There are some special considerations if you want to use machines that share hard disk space among multiple operating systems. If you want to put Personal Communications into a Personal Communications subdirectory that was originally installed under another operating system, you must remove the previous version first. Failure to do this may cause unpredictable results, including not being able to run Personal Communications from either operating system.

Chapter 3. Installing Personal Communications and Companion Products from Your CD-ROM

You can install the products located on the CD-ROM in one of two ways:

- By using the CD-ROM interface program (install manager). For general information about the CD-ROM interface program, read “Using the CD-ROM Graphical User Interface” on page 1.
- By manually installing the products from the appropriate directory on the CD-ROM. See “Manual Installation” on page 12 for manual installation instructions.

CD-ROM Interface Installation

To invoke the CD-ROM Interface program on Windows 95, Windows 98, Windows NT, and Windows 2000 systems:

Insert the CD-ROM into your CD-ROM drive. If AutoPlay is on, inserting the CD-ROM will automatically invoke the CD-ROM interface program.

Note: If AutoPlay is off, do the following:

1. Select **Run** from the Windows **Start** menu.
2. Enter
E:\setup

in the Command Line box (where *E*: is your CD-ROM drive).

The CD-ROM interface program main panel is displayed. Perform the following steps:

1. Click **Install Products** to continue.
2. The Personal Communications welcome window appears. Click **Next** to continue.

Note: Screens in the following steps allow you to select various installation options; each screen has a **Back** button and a **Next** button, allowing you to step forward and backward through the steps, in order to make adjustments. The final screen in this sequence (Installation Options Selected) does not have the **Next** button; instead, it has the **Install** button, which begins the actual installation.

3. The ReadMe window appears. Click **View ReadMe** to open a window with the ReadMe text. Click **Next** to continue.

4. A panel listing the products you can install is displayed. Click the product name for an overview of each product, then select the check boxes for the products you want to install. Click **Next** to continue.
5. Follow the installation instructions for each product selected. For details on the Personal Communications installation, see “Chapter 4. Personal Communications Installation Details” on page 15.

Notes:

- a. You must be a member of the administrator group to perform these installations on Windows NT or Windows 2000.
 - b. For each product selected (except Personal Communications itself), a Choose Destination screen appears; accept the default directory, or click **Browse** to define or locate an alternative. Click **Next** to continue.
6. The Installation Options Selected screen appears. Review the options; if any need to be changed, use the **Back** button to locate the appropriate screens to change. When you are ready, click **Install** to proceed with the installation.

Note: If DB2 Connect was selected, there will be a brief pause at this point while install manager files are copied to the TEMP directory.

7. The IBM Install Manager screen appears, showing the products you have chosen to install; the **Status** of each product installation is shown.

Notes:

- a. For details on the Personal Communications installation, see “Chapter 4. Personal Communications Installation Details” on page 15.
 - b. After Personal Communications and Adobe Acrobat are installed, and before DB2 Connect setup begins, you will be prompted to insert another CD-ROM, or to point to a different location where the files can be found.
8. After all the chosen products have been installed, the Installation Complete screen appears. You may uncheck the option to **Reboot my computer automatically** if you want to do additional installations. Click **Finish** to exit from the install manager.

Note: You must reboot your computer for the Personal Communications installation to be completed.

Manual Installation

If you plan to manually install any of the products on the CD-ROM, install them in this order:

1. Adobe Acrobat Reader
2. API Client for Netware for SAA, or Communications Server SNA Client

Note: These are no longer supplied on the Personal Communications CD-ROM.

3. Personal Communications
4. DB2 Connect for Personal Communications

Note: In the following instructions, it is assumed that AutoPlay is disabled. If it is enabled, the install program starts automatically when you insert the CD-ROM; you must exit from the install program to proceed.

Adobe Acrobat Reader Installation

1. Insert the Personal Communications CD-ROM into the CD-ROM drive.
2. Select **Run...** from the **File** pull-down or task bar.
3. Type:

`E:\install\acrobat\lang-dir\setup`

in the Command Line box (where *E:* is your CD-ROM drive and *lang-dir* is the directory for your language), then click **OK**.

4. Follow the installation instructions in each window.

Personal Communications Version 5.0 for Windows 95, Windows 98, Windows NT, and Windows 2000 Installation

Note: See "Chapter 3. Installing Personal Communications and Companion Products from Your CD-ROM" on page 11 for more information.

To install Personal Communications Version 5.0 AS/400:

1. Insert the Personal Communications CD-ROM into the CD-ROM drive.
2. Select **Run...** from the **File** pull-down or task bar.
3. Type

`E:\install\pcomm\setup`

in the Command Line box (where *E:* is your CD-ROM drive); then click **OK**.

4. Follow the installation instructions in each window.

Personal Communications DB2 Connect Installation

To install DB2 Connect for Personal Communications:

1. Insert the DB2 Connect CD-ROM into the CD-ROM drive.
2. Select **Run...** from the **File** pull-down or task bar.
3. Type

`E:\setup`

in the Command Line box (where *E:* is your CD-ROM drive); then click **OK**.

4. Follow the installation instructions in each window.

Chapter 4. Personal Communications Installation Details

Personal Communications allows you many installation options:

- Install from CD-ROM or from a network server.
- Use the silent installation approach.
- Migrate from a different version (for example, Personal Communications for Windows 3.x).
- Upgrade from a previous version.
- Choose whether you want to install:
 - 5250, VT or both of these emulations
 - IBM SNA protocols, which include the APPC and CPI-C programming interfaces, and the protocols that let you use SNA communications such as IEEE 802.2, SDLC, SNA-over-Async, and AnyNet SNA over TCP/IP
 - Publications
 - Various utilities
 - Sample programs application programming interfaces (APIs)

Note: If you have a different version of Personal Communications already installed, see “Chapter 5. Migrating from Personal Communications for Windows 3.x” on page 23 for more information.

If you are reinstalling Personal Communications or are upgrading Personal Communications, make sure that Personal Communications is not running before you start setup.

After starting the Personal Communications setup program you can choose a type of installation.

- **Install on workstation** installs Personal Communications on your local hard drive.
- **Install on workstation to run from a server** installs the minimum number of files required for a Personal Communications client to run from the program files on the server. Your session profiles, keyboard and macro files, as well as other configuration information will be stored on your workstation along with the Windows Start Menu entries necessary to run Personal Communications. Other files, such as device drivers, are installed in the Windows directories on your workstation. When you start Personal Communications, the program files are loaded from the server. Personal Communications must already be installed on the server.

Note: You must know the location of the Personal Communications program files on the server to complete this type of installation.

- **Install on a server** allows the network administrator to copy most of the Personal Communications program files to a specific network drive. These files must be installed prior to selecting **Install on workstation to run from a server**.

Install on Workstation

To install Personal Communications so that it can be run from your workstation, do as follows after the Personal Communications welcome window appears:

1. If you have a different version of Personal Communications on your workstation, see “Chapter 5. Migrating from Personal Communications for Windows 3.x” on page 23 for more information about upgrading and migration.
2. Select **Install on workstation** and then click **Next**.
3. Click the **Browse** button to choose a directory, or accept the default drive and directory, which is:

X:\Program Files\Personal Communications

where X: is the drive on which Windows is installed.

4. Select one or more components you would like to install and then click **Next**.
 - **5250 Emulation and Services** Your workstation can emulate an AS/400 terminal (display and/or printer). The emulator APIs and utilities (Multiple Sessions, Menu Bar, CM Mouse, Data Transfer and Network Drives) are installed.
 - **VT Emulation** Your workstation can emulate an ASCII terminal. The emulator APIs are installed.
 - **IBM SNA Protocols** This component includes not only the APPC and CPI-C programming interfaces, but also the device drivers that let you use SNA communications; if you want to make any of the attachments listed below, you must install this component.
 - LAN via IEEE 802.2
 - Microsoft SNA client over FMI
 - VT-over-Telnet (TCP/IP)
 - Telnet 5250 over TCP/IP
 - Telnet 5250 over IPX/SPX
 - SDLC
 - SNA over Async
 - IBM Global Network SNA-over-Async

- Hayes AutoSync
 - AnyNet SNA over TCP/IP
 - Twinaxial Data Link Control (APPC)
 - Twinaxial Data Link Control (Console)
 - 3174 Peer Communication (LAN over Coax)
5. Select a **Typical**, **Custom**, or **Compact** installation option and then click **Next**. To install support for multiple languages, choose **Custom** installation; this option is only available on a workstation installation. For client/server installations, support for all languages will be installed automatically. See the “National Language Support (NLS) Considerations” on page 7 for more information.
- **Typical** installs the most common functions of the emulators you chose.

Notes:

- a. It does not include the following: CM Mouse, Network Drives, API sample programs.
 - b. If you chose the IBM SNA Protocols, they are installed, along with AnyNet SNA over TCP/IP; AnyNet Sockets over SNA is not installed.
 - c. The Quick Beginnings book is installed; none of the others are.
- **Custom** allows you to choose which languages, components and subcomponents to install when the Custom Installation windows appears. The parts of the product that you have already selected do not appear here.
 - **Compact** installs only the main functions of the emulators you chose. If you chose the IBM SNA Protocols, they will be installed without either of the optional AnyNet connectivities. None of the publications are installed with this option.
6. If you select **Custom** Installation and you are installing from the CD-ROM with multiple languages support, the Select Languages window appears; it shows all of the available languages. English and the default language detected on the workstation are always installed and do not appear in the selection panel. Click the check box next to the languages you desire; then click **OK**.
- Note:** The installation default language and English cannot be deselected.
7. Next, the Select Components window appears. The amount of disk space required for each option and the amount available on the destination disk are displayed. Check the components you want to install from the list and then click **OK**.

The component is not selected unless a check mark appears next to the component name. To select a component, click the Check column next to the component name or click the component name and then press the space bar.

Note: To see a brief description of a component or subcomponent, click the text of the item. The description appears in the lower text field. Highlighting a selection and clicking the **Change** button displays the applicable subcomponents that may be selected for installation.

8. Accept "IBM Personal Communications" as the name of the program folder, type another folder, or select another folder from the list and then click **Next**.
9. Verify the current settings in the Ready to Install panel, and click **Next** if you are ready to install Personal Communications. If you want to change any installation options, click **Back** to make any changes and then click **Next**. A progress bar will show the progress of the installation.
10. If you have installed the IBM SNA protocols, you will be asked whether you want to install the IEEE 802.2 interface provided with Personal Communications. (The IEEE 802.2 interface is also known as the LLC2 protocol.) If you choose **Yes** (the default), the IEEE 802.2 LLC2 protocol driver will install automatically. If you deselect the **Yes** box, it will not be installed.

The same window asks whether you want automatic restart of your machine. **Yes** (the default) will result in automatic rebooting after installation is complete. Restarting is a necessary part of this installation procedure, but if you are installing several products, you may prefer to postpone restarting until all your installation activities are complete. Simply deselect the **Yes** box, but remember to reboot later, because you will not have another reminder.

11. If you did not choose to install the IBM SNA protocols, you will see a window that asks you to choose **Yes** for automatic restarting or **No** to postpone restarting. You may prefer to postpone restarting if you are installing several products, but you must remember to reboot later.

This completes the installation of Personal Communications.

Notes:

1. Additional directories are created as follows:

```
x:\Program Files\IBM\GSK  
x:\Program Files\IBM\trace facility
```

where **x:** is normally the drive letter chosen to install Personal Communications.

2. The first of these is only created if Secure Sockets Layer is selected for installation.

3. The drive may be different, depending on whether either of the two was previously installed.

Install on Workstation to Run from a Server

When you run Personal Communications as a client from a server, your workstation profiles and other private files are stored on your workstation in the appropriate Personal Communications directories. When you start Personal Communications, the program files are loaded from the server, and your private files are used to define your host sessions. Various other files, such as system files and device drivers are also installed on your workstation.

Personal Communications needs 3 MB of space on the boot drive to store files.

Note: You must first install the Personal Communications files on the server; see “Install on a Server” on page 20 for details.

To set up a client workstation, perform the following steps after the Personal Communications Welcome window appears:

1. Select **Install on workstation to run from a server** and then click **Next**.
2. On the Select Client Destination Location screen, accept the default drive and directory where you want Personal Communications to store your local files and other configuration information on your workstation; or click the **Browse** button to locate or create a directory. Then click **Next**.
Your local files will be stored in the selected Personal Communications private subdirectory. Personal Communications requires a subset of the normal files to be on the local system; the remainder are accessed from the server.
3. On the Select Server Destination Location screen, click the **Browse** button to bring up a dialog to select the network drive and directory where Personal Communications server files are installed.

Notes:

- a. Make sure the network drive location is always the same drive when you use your workstation. You can use the Windows Explorer for Windows 95, Windows 98, Windows NT, or Windows 2000 to map a network drive that always accesses the same network drive when you start your workstation.
 - b. Personal Communications will verify that the version you are installing matches the version installed on the server. When there is a mismatch, you will be prompted to enter another path or quit.
4. Accept “IBM Personal Communications” as the name of the program folder, type another folder name, or select another folder from the list and then click **Next**.

5. Verify the current settings and click **Next** if you are ready to install Personal Communications. If you want to change any installation options, click **Back** to make any changes. A progress bar will show the progress of the installation.
6. If you have installed the IBM SNA protocols, you will be asked whether you will be connecting using SNA protocols over a LAN and want to install the IEEE 802.2 interface provided with Personal Communications. (The IEEE 802.2 interface is also known as the LLC2 protocol.) If you choose **Yes** (the default), IEEE 802.2 will install automatically. If you deselect the **Yes** box, it will not be installed.

The same window asks whether you want automatic restart of your machine. **Yes** (the default) will result in automatic rebooting after installation is complete. Restarting is a necessary part of this installation procedure, but if you are installing several products, you may prefer to postpone restarting until all your installation activities are complete. Simply deselect the **Yes** box, but remember to reboot later, because you will not have another reminder.
7. If you did not choose to install the IBM SNA protocols, you will see a window that asks you to choose **Yes** for automatic restarting or **No** to postpone restarting. You may prefer to postpone restarting if you are installing several products, but you must remember to reboot later.

This completes the installation of Personal Communications.

Notes:

1. Additional directories are created as follows:
x:\Program Files\IBM\GSK
x:\Program Files\IBM\trace facility

where x: is normally the drive letter chosen to install Personal Communications.
2. The first of these is created only if Secure Sockets Layer is selected for installation.
3. The drive may be different, depending on whether either of the two was previously installed.

Install on a Server

If you install Personal Communications on a network server, workstations connected to it can share the program files. There is no need to install the shared program files on the client workstations. The server needs to be running an operating system (such as OS/2[®], Windows 95, Windows 98, Windows NT, or Windows 2000) which supports long file names.

When you run Personal Communications as a client from a server, your workstation profiles and other private files are stored on your workstation (or in your private directory on the server) in your selected Personal Communications private subdirectory. When you start Personal Communications, the program files are loaded from the server, and your private files are used to define your host sessions.

To install Personal Communications on your network server so that client workstations can share the server's program files, do the following after the Personal Communications welcome window appears:

1. Click **Install on a server** and then click **Next**.
2. Click the **Browse** button to bring up a dialog to select the directory, and then click **Next**.
3. Choose the kind of SNA interface that clients can use running from the server. Both the client and server must have the matching SNA interface types. Click **Next**.
4. Verify the current settings in the Ready to Install panel and click **Next** if you are ready to install Personal Communications. If you want to change any installation options, click **Back** to make any changes. A progress bar will show the progress of the installation.

This completes the installation of Personal Communications on the network server.

Copy Install Image onto a Network Server for Remote Installation

You can copy Personal Communications install images to a network server so that any workstations attached to the network can install the product from the server.

Copying Installable Image

The following XCOPY command copies the Personal Communications install image to a network server:

```
XCOPY x:\INSTALL\PCOMM\*. * <destination> /S
```

where *x* is the CD-ROM drive you are using.

Windows explorer may also be used to copy the files.

Chapter 5. Migrating from Personal Communications for Windows 3.x

If you have been using the Windows 3.x version of Personal Communications, you can migrate your session profiles, batch files, and other configuration information so you can use them with the new version. An icon is created in the new folder for each migrated session and batch file. Tool bar customizations are not preserved as part of this migration. Migration occurs automatically when Personal Communications for Windows 95, Windows 98, Windows NT, and Windows 2000 is installed on top of Personal Communications for Windows 3.x.

If you have a User Profile created by a previous version of Personal Communications, Auto Logon may not work. In this case, create your User Profile again by selecting **Configure User Profile** in the Customize Communication Host Window.

Note: Use of both Personal Communications for Windows (3.x) and this version of Personal Communications on the same workstation can lead to unexpected behavior and is not recommended.

Modem Definition Files are Not Migrated

The migration utility provided with Personal Communications for NT will not migrate modem definition information stored in the .ADU files. Customers must reconfigure the modem after migration of sessions which use the modem.

Migration Considerations

Note: The install process prepares files for migration; they are actually migrated when the workstation is subsequently rebooted.

Personal Communications provides a comprehensive set of SNA communications capabilities, collectively called the IBM SNA protocols. These APIs allow your workstation to participate fully in a modern communications network that incorporates APPN, which provides many advantages to both users and administrators.

Before you can participate in such a network, your workstation must be uniquely identified. In Personal Communications, you do this by providing the **fully-qualified CP name**, which consists of the name of the SNA network

(**NetID**) and the name of your workstation (**CP name**). If you are migrating an existing workstation profile, you will be asked to supply a fully-qualified CP name during the migration process. If you do not already have a fully-qualified CP name, you should obtain one from your network administrator. You may also create a unique name using APPN as the NetID and NPxxxxl as the CP name where xxxxx is the PU ID for the workstation. Otherwise, the default value may work for you.

If you use only the TN5250, HPO, and Coax attachments, then you should simply accept the default value.

Refer to the online help for more information about migrating specific information from other versions of Personal Communications.

Removing a Previous Version of Personal Communications for the Windows 3.x Environment

If a version of Personal Communications for Windows is detected on your workstation during setup, you will be prompted to choose whether you want to remove or keep the other version.

AnyNet[®] for Windows V3.x will not run on the Windows 95, Windows 98, Windows NT, or Windows 2000 operating systems. If you have this software installed, Personal Communications will inform you and ask you if you want instructions on how to uninstall it.

If you choose to remove the Windows 3.x version of Personal Communications, Setup will delete the existing files and then install Personal Communications. Your existing workstation profile and other user files in the Personal Communications private subdirectory are not deleted. They are migrated for you during installation.

WIN.INI and SYSTEM.INI

On Windows 95 and Windows 98, Personal Communications will remove various entries in the WIN.INI and SYSTEM.INI files, including references to the Personal Communications directory.

CONFIG.SYS

On Windows 95 and Windows 98, you must manually remove some entries in your CONFIG.SYS file. For example, if you were using the IBM LAN Support Program (LSP), you must delete or remark its device statements. Some examples of those statements are:

```
DEVICE=\LSP\DXMA0MOD.SYS 001
DEVICE=\LSP\DXMCOMOD.SYS N ,d800,0,0,0
DEVICE=\LSP\DXMT0MOD.SYS es=5 est=20 s=16 st=16
```

MSDLC Protocol

If you have been using the 16-bit version of MSDLC to provide IEEE 802.2 LAN support, you must remove it from your Windows 95, Windows 98, Windows NT, or Windows 2000 network configuration. The 16-bit version of MSDLC cannot be used concurrently with the IBM IEEE 802.2 LAN support.

Keeping a Windows V3.x Version of Personal Communications

If you choose to keep a Windows V3.x version of Personal Communications, Setup will install Personal Communications so the two versions can coexist. During installation, Setup automatically migrates copies of your existing workstation profile and other user files to the PRIVATE subdirectory in the Personal Communications directory.

Note: If you are keeping other versions of Personal Communications, you must keep them in a different directory from the directory (or drive) where you plan to install Personal Communications.

Running the Personal Communications Migration Utility

The Personal Communications Migration Utility is used to create configuration files for Personal Communications Version 5.0 by reading the information stored in configuration files for other products or versions. This process allows you to avoid re-entering all of your configuration data when you upgrade to Personal Communications Version 5.0.

The Migration Utility will assist you when:

- Migrating Communications Manager/2 Version 1.x to Personal Communications
- Migrating from previous versions of Personal Communications

Migrating Communications Manager/2 Version 1.x to Personal Communications

The Migration Utility migrates one or more Communications Manager/2 configuration response files (*.RSP), to produce two types of Personal Communications configuration files: SNA node configuration files (*.ACG) and workstation profiles (*.WS).

One .ACG files is created per migrated .RSP file. One .WS file is created for each 5250 session defined in the .RSP file. Both the .ACG file and .WS files are text files in ASCII format and can be viewed by any text editor. In addition, a log file (MIGRATE.LOG) is generated which contains error and status information.

To migrate Communications Manager/2 to Personal Communications, do the following:

1. From the Start menu, select **Administrative and PD Aids** and then select **Migration Utility**.
2. Click the button labeled **Migrate from Communications Manager/2**.
3. Click the **1** button to choose a response file.
4. Select a file to migrate and click the **Migrate File** button.
If you want to migrate all of the response files in a particular directory, open the appropriate folder and click **Migrate Folder** instead.
5. Click the **3** button to begin the migration of the files.

Migrating from Previous Versions of Personal Communications

Migration from previous versions of Personal Communications is a process that involves updating the parameters in .ACG and .WS files for compatibility with the new version. To use the Migration Utility to migrate previous versions of Personal Communications to Personal Communications Version 5.0, you must select the directory that contains the workstation profiles that you would like to migrate.

Migration begins automatically when you reboot after installing Personal Communications, if back-level configuration files exist. A backup of these files is created; therefore they are not deleted or overwritten. In addition, a log file (MIGRATE.LOG) is generated which contains error and status information.

To migrate from previous versions of Personal Communications, do the following:

1. From the Start menu, select **Administrative and PD Aids** and then select **Migration Utility**.
2. Click the button labeled **Migrate from a previous version of Personal Communications**.
3. Click the **1** button to choose a directory of workstation profiles to migrate.
4. To migrate all of the response files in a particular directory, open the appropriate folder and click the **Migrate Folder** button.
5. Click the **2** button to begin the migration of the files.

Chapter 6. Removing Personal Communications

You can remove the Personal Communications program files, folder items, subdirectories, and registry entries. However, the configuration and other user files in your Personal Communications private subdirectory, as well as any corresponding entries in the Startup folder, are not removed.

Removing Personal Communications from a Workstation

To uninstall Personal Communications:

1. Make sure that Personal Communications is not running before you begin your uninstallation.
2. From the Start menu, select:

Settings

Control Panel

3. From the Control Panel window, double-click **Add/Remove Programs**.
4. Select **IBM Personal Communications** and then click **Add/Remove**.
5. Click **Yes** to confirm that you want to delete Personal Communications.
6. Click **OK** until you return to the Control Panel window.

Notes:

1. To remove Personal Communications from your Windows NT or Windows 2000 workstation, you must be logged on as a member of the Administrator group.
2. You can also uninstall companion products using this facility.
3. If your system administrator has set system policies for your workstation, you may be unable to uninstall the program.
4. If you plan to reinstall Personal Communications, restart your workstation first.

Removing Personal Communications for Windows 95, Windows 98, Windows NT, and Windows 2000 from a Network Server

To remove Personal Communications from a network server:

1. Make sure no client workstations are using Personal Communications from the server.
2. Shut down and then restart the server to make sure that none of the Personal Communications files are in use.

3. Select **Run** from the Start menu.
4. In the Run window, type *path*\UNINST, where *path* refers to the path to Personal Communications files on the server, and then click **OK**.

Chapter 7. Automating Installation of Personal Communications and Companion Products

The installation process for Personal Communications is accomplished using two utilities:

Install Manager

This program controls the overall process of installing Personal Communications and its companion products from the CD-ROM. This is the program which automatically starts when the CD-ROM is inserted, if the Windows AutoPlay facility is enabled.

InstallShield

This program installs the actual Personal Communications product.

Each of these utilities has facilities for supporting automated installation:

Install Manager Scripts

These files control the operation of the install manager, allowing automation of the overall install process.

InstallShield Response Files

These files control the operation of the InstallShield program.

The details of the InstallShield support are described in *Personal Communications Reference Volume II*. The materials in this book primarily describes the details of using the install manager program.

Personal Communications provides sample install manager scripts and InstallShield response files for silent installation. These files can be found on the Personal Communications CD-ROM, in the \INSTMGR subdirectory (for install manager scripts) and \ADMIN (for InstallShield response files). They pertain to the following packages:

IBM Install Manager Script

installscript.sample

Applies to the control of the overall installation process.

InstallShield Response Files

IBM Personal Communications AS/400

setup.iss

Applies to a full installation for 5250 and VT emulation, as well as IBM SNA protocols.

min5.iss

Applies to a minimal 5250 and VT emulation, as well as IBM SNA protocols, without books, samples, and various utilities

Creating and Using Install Manager Scripts

The install manager for Personal Communications Version 5.0 can create and run scripts which control the automatic installation of all the products on the CD-ROM.

Personal Communications supports installation using installation scripts. A script can be generated by running the installation process in *record mode*.

Installation scripts can be used in conjunction with the InstallShield option for silent installation to automate the entire installation process. Refer to *Personal Communications Reference Volume II* for details.

Recording and Using Your Install Manager Script File

An option available with Personal Communications is to record your own install manager script file during an installation; you can then use the recorded script file during all other future identical installations of Personal Communications and companion products.

Install manager has the ability both to record and read install scripts. Run install manager in record mode, then use the generated script to run it again in play mode on machines throughout the network.

Note: These commands must be run from within the \instmgr directory on the CD-ROM.

To run Install Manager in its different modes, use the commands below. (You can supply any valid filename in place of *install.script* in the commands where it appears):

To record a script:

```
install /r install.script
```

To play a script:

```
install /p install.script
```

To play default script:

```
install /p
```

To load a script:

```
install /l install.script
```

To not load a script:

```
install /nl
```

Notes:

1. The difference between *playing* and *loading* a script is that loading only provides default answers for the graphical user interface (GUI), while playing bypasses the GUI and starts the install.
2. When you run the install to record a script, you will follow all the instructions for a normal installation; the only difference is that, on the final screen, you should click **Record** instead of **Install**.

Example

To install the suite silently:

1. Record a response file:
`E:\install\pcomm\setup -noinst f1c:\temp\setup.iss -r`
2. From the CD's \instmgr directory, record a suite install script:
`install /r install.script`
3. Review the script if desired:
`install /l install.script`
4. Play the script:
`install /p install.script`

Checking the Logs

When you are running a silent installation, no messages appear, but a log file named **SETUP.LOG** captures the relevant installation process information. Check the log to see that the silent installation completed successfully. Failure is indicated by a ResultCode value that is less than zero.

An option is available to allow you to set up your own log file, if desired.

Install Manager will have its own logs: `InstmgrTrace.log` and `InstmgrMessage.log`. These can be found in the TEMP directory.

Installing Personal Communications Using the InstallShield Silent Installation Option

Personal Communications (utilizing the InstallShield Silent program) provides a method of installation that can allow for the automated electronic distribution of software. This type of installation (called silent installation) does not require a user to provide installation input via dialog boxes, but utilizes a response file to provide required input.

The sample response files can be used during your installation if your workstation configuration matches the definitions in the sample. The samples are defined for a first-time installation of Personal Communications. If you already have Personal Communications, AnyNet, Microsoft SNA Server, Communications Server for Windows NT, or NetWare for SAA previously

installed, the samples will not work. You need to create a unique response file to match your workstation. The samples may be minimally edited.

More Information

Refer to the the *Personal Communications Version 5.0 Reference Volume II* manual for detailed information and usage examples.

Appendix A. Abbreviations Used in This Book

AEA	Asynchronous Emulator Adapter
API	Application Programming Interface
APPC	Advanced-Program-to-Program Communications
APPN	Advanced Peer-to-Peer Networking
ATM	Asynchronous Transfer Mode
CM/2	Communications Manager/2
CPI-C	Common Programming Interface for Communications
CUT	Control Unit Terminal
DBCS	Double Byte Character Set
EHLAPI	Emulator High Level Language Application Programming Interface
FDDI	Fiber Distributed Data Interface
IEEE	Institute of Electrical and Electronics Engineers
ILR	IBM Library Reader
IP	Internet Protocol
ISDN	Integrated-Services Digital Network
LAN	Local Area Network
LAPS	LAN Adapter and Protocol Support
LSP	LAN Support Program
MPTS	Multi-Protocol Transport Services
MPTN	Multi-Protocol Transport Networking
NetBIOS	Local Area Network Basic Input/Output System
NDIS[®]	Network Driver Interface Specification
SBCS	Single Byte Character Set
SNA	Systems Network Architecture
SRPI	Server-Requester Programming Interface
SSCP	System Services Control Program
TCP/IP	Transmission Control Protocol/Internet Protocol
WAN	Wide Area Network

Appendix B. Multiple Language Support Directories

The directories containing material specific to the various languages are shown in the following table:

Language	Pre-install (CD-ROM)	Post-install
Brazilian-Portuguese	pt_BR	pt_BR
Czech	cs	cs_CZ
Danish	da	da_DK
Dutch	nl	nl_NL
English	en	en_US
Finnish	fi	fi_FI
French	fr	fr_FR
German	de	de_DE
Hungarian	hu	hu_HU
Italian	it	it_IT
Japanese	ja	ja_JP
Norwegian	no	no_NO
Polish	pl	pl_PL
Portuguese	pt	pt_PT
Russian	ru	ru_RU
Slovenian	sl	sl_SL
Spanish	es	es_ES
Swedish	sv	sv_SE
Turkish	tr	tr_TR
Simplified Chinese	zh_CN	zh_CN
Traditional Chinese	zh_TW	zh_TW
Korean	ko_KR	ko_KR

Appendix C. Notices

This information was developed for products and services offered in the U.S.A. IBM may not offer the products, services, or features discussed in this document in other countries. Consult your local IBM representative for information on the products and services currently available in your area. Any reference to an IBM product, program, or service is not intended to state or imply that only that IBM product, program, or service may be used. Any functionally equivalent product, program, or service that does not infringe any IBM intellectual property right may be used instead. However, it is the user's responsibility to evaluate and verify the operation of any non-IBM product, program, or service.

IBM may have patents or pending patent applications covering subject matter described in this document. The furnishing of this document does not give you any license to these patents. You can send license inquiries, in writing, to:

IBM Director of Licensing
IBM Corporation
500 Columbus Avenue
Thornwood, NY 10594
U.S.A.

For license inquiries regarding double-byte (DBCS) information, contact the IBM Intellectual Property Department in your country or send inquiries, in writing, to:

IBM World Trade Asia Corporation
Licensing
2-31 Roppongi 3-chome, Minato-ku
Tokyo 106, Japan

The following paragraph does not apply to the United Kingdom or any other country where such provisions are inconsistent with local law:
INTERNATIONAL BUSINESS MACHINES CORPORATION PROVIDES THIS PUBLICATION "AS IS" WITHOUT WARRANTY OF ANY KIND, EITHER EXPRESS OR IMPLIED, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OF NON-INFRINGEMENT, MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE. Some states do not allow disclaimer of express or implied warranties in certain transactions, therefore, this statement may not apply to you.

This information could include technical inaccuracies or typographical errors. Changes are periodically made to the information herein; these changes will

Notices

be incorporated in new editions of the publication. IBM may make improvements and/or changes in the product(s) and/or the program(s) described in this publication at any time without notice.

Licensees of this program who wish to have information about it for the purpose of enabling: (i) the exchange of information between independently created programs and other programs (including this one) and (ii) the mutual use of the information which has been exchanged, should contact:

IBM Corporation
Department T01
Building B062
P.O. Box 12195
Research Triangle Park, NC 27709-2195
U.S.A.

Such information may be available, subject to appropriate terms and conditions, including in some cases, payment of a fee.

The licensed program described in this information and all licensed material available for it are provided by IBM under terms of the IBM Customer Agreement, IBM International Program License Agreement, or any equivalent agreement between us.

Information concerning non-IBM products was obtained from the suppliers of those products, their published announcements or other publicly available sources. IBM has not tested those products and cannot confirm the accuracy of performance, compatibility or any other claims related to non-IBM products. Questions on the capabilities of non-IBM products should be addressed to the suppliers of those products.

If you are viewing this information softcopy, the photographs and color illustrations may not appear.

Trademarks

The following terms are trademarks of the IBM Corporation in the United States or other countries or both:

Advanced Peer-to-Peer Networking
AIX
AnyNet
APPN
AS/400
BookManager
DB2 for Personal Communications

IBM
Library Reader
OS/2
MVS
S/390
System/390

C-bus is a registered trademark of Corollary, Inc.

Java and all Java-based trademarks and logos are trademarks of Sun Microsystems, Inc. in the United States and/or other countries.

Microsoft, Windows, Windows NT, and the Windows logo are trademarks of Microsoft Corporation in the United States and/or other countries.

PC Direct is a registered trademark of Ziff Communications Company and is used by IBM Corporation under license.

ActionMedia, LANDesk, MMX, Pentium, and ProShare are trademarks or registered trademarks of Intel Corporation in the U.S. and other countries.

UNIX is a registered trademark in the United States and other countries licensed exclusively through X/Open Company Limited.

Other company, product, and service names may be trademarks or service marks of others.

Readers' Comments — We'd Like to Hear from You

Personal Communications AS/400 Version 5.0
for Windows® 95, Windows 98,
Windows NT®, and Windows 2000
CD-ROM Guide to Installation

Publication No. GC31-8080-05

Overall, how satisfied are you with the information in this book?

	Very Satisfied	Satisfied	Neutral	Dissatisfied	Very Dissatisfied
Overall satisfaction	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

How satisfied are you that the information in this book is:

	Very Satisfied	Satisfied	Neutral	Dissatisfied	Very Dissatisfied
Accurate	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Complete	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Easy to find	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Easy to understand	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Well organized	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Applicable to your tasks	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Please tell us how we can improve this book:

Thank you for your responses. May we contact you? Yes No

When you send comments to IBM, you grant IBM a nonexclusive right to use or distribute your comments in any way it believes appropriate without incurring any obligation to you.

Name

Address

Company or Organization

Phone No.



Fold and Tape

Please do not staple

Fold and Tape



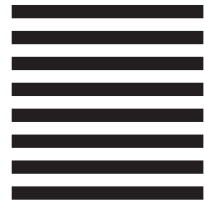
NO POSTAGE
NECESSARY
IF MAILED IN THE
UNITED STATES

BUSINESS REPLY MAIL

FIRST-CLASS MAIL PERMIT NO. 40 ARMONK, NEW YORK

POSTAGE WILL BE PAID BY ADDRESSEE

IBM Corporation
Information Development
Department CGMD / Bldg 500
P.O. Box 12195
Research Triangle Park, NC
27709-9990



Fold and Tape

Please do not staple

Fold and Tape



Part Number: CT7LZIE



Printed in the United States of America
on recycled paper containing 10%
recovered post-consumer fiber.

GC31-8080-05



CT7LZIE

