CHAPTER 2

An Overview of Windows 95

Windows 95 is an extremely feature-rich operating system. Virtually every aspect of Windows 95 reflects improvements over Windows 3.1 and Windows for Workgroups. This guide discusses the areas of technology that make up Windows 95, focusing on the following features, functionality, and components:

- The Windows 95 user interface
- Base system architecture
- Robustness
- Support for running MS-DOS–based applications
- Plug and Play
- Device support
- Networking
- Systems management
- Printing
- Communications
- Mobile computing services
- Microsoft Exchange: e-mail, fax, and more
- The Microsoft Network online information service
- Multimedia services
- Installation and setup of Windows 95
- International language support
- Accessibility
- Applications and utilities

Where appropriate, each discussion includes the following:

- **A summary of improvements in Windows 95 over Windows 3.1.** This section provides a quick overview of ways in which Windows 95 addresses Windows 3.1 problems or improves upon Windows 3.1 functionality. These discussions also apply to Windows for Workgroups, even though Windows for Workgroups may not be explicitly identified.

- **A Try It! section.** You are encouraged to see for yourself that Windows 95 is a flexible, powerful, and robust operating system by following brief sets of instructions for performing specific tasks.

Key New Features

As you read this book, it's important to keep in mind the needs of the marketplace and how Windows 95 is designed to meet those needs. This section briefly outlines some of the key new features in Windows 95, the problems they solve, and the benefits they bring. Because the scope of the new features is broad and their appeal is wide, they are organized here in terms of improvements over Windows 3.1 as they benefit end-users, and MIS organizations.

For End-Users

Windows 95 offers many improvements and new capabilities over Windows 3.1 and Windows for Workgroups. These improvements benefit the user of any PC environment. This section discusses some of the improvements and addresses the key benefits that Windows 95 brings to the user of a PC.

Making What You Do Now Easier and Faster

For end-users and MIS organizations alike, improvements in ease of use in Windows 95 fix the problems identified in Windows 3.1. For example, less-experienced users found overlapping windows and tasks such as minimizing and maximizing windows too complex, while more experienced users craved greater efficiency. But the improvements go beyond simply solving these problems, by also encompassing hardware, connectivity, and applications. Windows 95 offers these solutions:

- **A new user interface (UI).** A shower of improvements greatly enhances ease of learning, usability, and efficiency for all users, no matter what their level of expertise. Novice users can get started more quickly, and experienced users can fully unlock the power of their PCs. The Windows Explorer provides a powerful navigation tool for experienced users to browse the file system of their local machine, and the network environment they are attached to.
- **Plug and Play.** The goal of Plug and Play is simple: When a user installs a new hardware device, it works. It's easier to expand the capabilities of your PC.
- **Long filenames.** Signaling the end of cryptic 8.3 filenames, long filenames are just one example of the many usability improvements in Windows 95.
- **Improved system performance.** A new 32-bit disk and file system, and a new 32-bit print subsystem, result in improved performance when running applications under Windows 95—Making it easier for you to complete your tasks quicker.

Making More of What You Want To Do Possible

A major area of concern for end-users is improving the power and speed with which they use Windows. Users want to get their work done faster. To do this, they want to be able to run more than one application or computer process at a time instead of waiting for their PCs to finish one task before starting another. They want to be more effective without sacrificing system stability or performance. And perhaps most important of all, they want to escape the feeling that they take advantage of only a small fraction of the capabilities of their PC.

Windows 95 is designed to anticipate and exploit key emerging trends and technologies. Users will be able to communicate more effectively by accessing the Internet and sending

fax messages and electronic mail from their PCs. For example, the need for seamless mobile computing is becoming more important as more hardware power is packed into smaller and lighter designs and more users work at home or on the road.

The following features of Windows 95 bring more power and speed to users:

- **True preemptive multitasking.** Windows 95 can preemptively multitask 32-bit applications smoothly and efficiently.
- **Scaleable performance.** As the amount of RAM in the PC is increased, the performance of Windows 95 increases more rapidly than that of Windows 3.1 because of the dynamic, high-performance, 32-bit architecture of Windows 95.
- **Built-in fax and electronic messaging.** Windows 95 provides built-in fax and electronic messaging to allow users to communicate easier and more effective with others. The Microsoft Exchange client provides a single inbox for electronic messages, and enhances the ability for users to send and receive fax messages with Microsoft Fax.
- **The Microsoft Network online service.** Windows 95 provides the online service client for The Microsoft Network, Microsoft's new online service. Through the user interface of Windows 95, The Microsoft Network brings mainstream PC users access to the expanding world of electronic information and communication through electronic mail, bulletin boards, chat rooms, file libraries, and access to information on the Internet.
- **Access to the Internet.** Windows 95 makes it easier to access the world of information on the Internet. Through The Microsoft Network online service, users can exchange electronic mail with Internet users, and gain access to Internet information such as newsgroups, quickly and easily from the graphical environment. In addition, Windows 95 provides the plumbing you need to dial up to Internet access providers and hop on to the "information highway."
- **Support for 32-bit applications**. Support for the Win32 API in Windows 95 means that users can look forward to a new generation of easier, more powerful multithreaded 32-bit applications.
- **Mobile computing anywhere**. Windows 95 includes a remote networking client that allows dial-up access to any network (including the Internet) running IPX/SPX, TCP/IP or NetBEUI protocols over PPP. Mobile users will also benefit from the Briefcase, a file synchronization tool that makes it easy to ensure you have the most up to date files before you leave the office.
- **Increased robustness**. New features mean greater robustness and protection for existing MS-DOS and Windows–based applications, and the highest level of protection for new 32-bit Windows–based applications.
- **More memory for MS-DOS–based applications**. The use of protected-mode device drivers and file systems in Windows 95 means users will routinely have 600KB or more of free conventional memory available in each MS-DOS session, even if they are connected to a network, using a CD-ROM drive, a mouse, and so on.

Making Whatever You Do More Fun

The PC is becoming more of an information appliance, rather than just a high-tech toy. Windows 95 makes using the PC less frustrating to use and configure, and thus makes it easier for users to have fun with their PC. Through the improved user interface, and the incorporation of Plug and Play technology that makes it easier to expand the capabilities of the PC—users will find the total PC experience more fun. Through multimedia, the PC becomes more engaging, and titles help to open a world of wonder not previously possible. Multimedia also helps to make games and entertainment software more than just flashing lights, it helps to make the PC experience more interactive and enjoyable.

- **The whole computing experience will be less frustrating.** With Windows 95, novice users will find their PC environment more friendly and less intimidating than other interfaces they may have used in the past. Their ability to connect peripherals to their PC *and* have them work, will help them to feel they can easily expand their PC system to offer new capabilities. They'll find their system to be more discoverable and allow them to broaden their computing experience as their needs and desires change. They'll discover that they are no longer limited by the capabilities of their PC, but that their PC can grow with them.

- **Better, faster games.** With the system improvements in Windows 95, and the incorporation of fast display technology such as WinG, PC users will find that the myth of "only the good games are written for MS-DOS" to no longer be true—Windows 95 will be a truly world-class games platform. Built in support for multimedia sound cards, CD-ROM drives, and joysticks, makes turning any PC into a multimedia PC simple and easy. Games developers are taking advantage of the functionality and built-in system multimedia services in Windows 95 to deliver better, faster games that were not previously possible in the Windows–based environment.

- **Larger, smoother video.** Windows 95 will leverage the computing power of your PC like no other operating system has. With the increasing performance power coming from the new breed of CPUs in PCs (e.g., Intel's Pentium processor), Windows 95 makes capabilities like full-screen digital video now possible using software-only solutions, where previously expensive specialized hardware was required. Windows 95 delivers a platform that will make using the PC more fun.

- **Better CD support.** Windows 95 includes support for new CD-based technology that is both pioneered and maximized in the product. Through technology called *AutoPlay*, Windows 95 makes using CD-ROM titles as easy as inserting a CD-ROM in the CD player—when inserted, Windows 95 will detect the AutoPlay title, and begin executing the pre-programmed set of instructions (which may be to run Setup for the CD-ROM title, or even start the CD-ROM title automatically). Another CD technology called *Enhanced CD*, provides the ability for CD audio titles to contain digital information, and allow the use of the CD in either your audio CD player, or deliver a multimedia application for use in your PC. Enhanced CD allows musical groups to deliver digital information about the band or musical performer in the form of biographical information, digital videos, sound snippets of other album releases, and even the ability to see and hear synchronized lyrics and audio for the songs on the CD.

Compatible With What You Have

If an operating system upgrade requires new software, more memory, or new hardware, then the cost of the upgrade is far higher than just its purchase price. Currently, users often have to wait a substantial amount of time—usually until their next PC purchase—before they can benefit from new technology. One of the biggest goals of Windows 95 was to make it possible for everyone to stay up to date with the latest version of Windows.

The following features were included in Windows 95 with this goal in mind:

- **Compatibility with existing MS-DOS–based and Windows–based applications.** Windows 95 works with and even improves today's software.
- **The same or better performance.** Windows 95 runs PCs with at least a 386DX processor and 4 MB of RAM at least as fast as Windows 3.1 does for the same tasks—faster in many cases. Windows 95 requires no additional RAM to maintain performance.
- **Backwards compatibility with existing hardware devices.** Windows 95 supports existing hardware and device drivers while enabling next generation, easier-to-use hardware through Plug and Play.

For MIS Organizations

In addition to improving the use of the PC for the end-user, Windows 95 contains features and functionality specifically designed to help the MIS organization and system administrator manage and control the desktop environment of their enterprise. This section discusses the improvements in Windows 95 that makes this possible.

Windows 95 Will Reduce Your Support Burden

The two biggest factors driving up support costs in an organization are initial training, and on-going support. Windows 95 will make your support organization more effective by reducing the number and time of support calls, and providing better tools and components to make support-desk people more efficient in troubleshooting and handling problems.

Takes less time to train a new PC user

With Windows 95, it will be easier for new users to learn to use a PC, and for existing users to learn new tasks with less help, compared to Windows 3.x and Windows for Workgroups 3.x. This is due to several factors:

- **Functionality is more discoverable.** Windows 95 is more intuitive and provides better visual cues to users than Windows 3.1. For example, the Start button provides the majority of functionality that users need (such as, starting programs, opening documents, finding information, getting help, etc.), and the taskbar provides better visual cues to the applications and windows that the user has open on the screen (users will be able to realize quicker that they can execute and perform multiple tasks at the same time).
- **Fewer concepts to learn.** Windows 95 integrates user interface components together that previously were separate applications that a user needed to become

familiar with. Users no longer have to learn a separate Program Manager, File Manager, Print Manager, or Control Panel.

- **Long filenames.** The ability to create and use filenames longer than 11 characters is a great advantage for improving the ease-of-use of the system. In addition to using long filenames on the local PC, long filenames also carry over to the network environment.
- **Better tools for learning new tasks.** User aids such as Wizards and more comprehensive on-line help improve the ability for the user to complete or obtain information on their interaction with the system.
- **Browse and connect to all networked resources in a consistent manner.** As the enterprise environment becomes increasingly heterogeneous, users will benefit from consistent network interaction mechanisms in Windows 95 such as the network neighborhood, the common dialog boxes, and in the Windows Explorer. Any of the networking clients designed for use with Windows 95 will allow the user to navigate the network in the same familiar way.
- **Less configuration necessary.** Windows 95 is much more dynamic than Windows 3.x or Windows for Workgroups, requiring little or no tweaking to the system to maximize the performance of the system. For example, the virtual memory support in Windows 95 is dynamic and the system will grow or shrink the size of the swapfile as necessary, and the size of the disk cache is dynamic as well and will grow or shrink depending on the tasks that the PC is running—the system tunes itself.

Users will have fewer system problems

With Windows 95, you'll spend less time fixing systems and handling reports of operating system-related problems due to reliability improvements and Plug and Play architecture built into the system.

With Windows 95, the system and networking are more reliable, 32-bit protect mode networking is now seamlessly integrated into the operating system, separate address spaces for Win32 applications ensure errant applications can't affect other tasks running in the system, and out of the box compatibility with Novell NetWare and all major networks ensures compatibility in your environment.

- **The system is more reliable and stable.** Major system components are implemented as 32-bit protect mode components and designed to operating in a multitasking environment, and don't rely on drivers that reside real-mode, thus providing a more stable environment (many of the real-mode drivers or networking components in use today with Windows 3.1 were designed to operate with MS-DOS and functionality for Windows was added afterwards).
- **Networking is more reliable and robust.** The 32-bit networking components in Windows 95 are designed to be more robust, and better recover from external problems. For example, with the network clients included with Windows 95 (i.e., client for Microsoft networks, and client for NetWare networks), if the server goes down, the user's PC won't—this is not true, for example, when using the real-mode NetWare client software with Windows 3.1.
- **Current applications run more reliably.** Just adding Windows 95 to a users system will result in fewer "out of memory" messages (due to increased system resource limits), fewer application faults caused by unreliable display drivers (due to a new

display driver architecture making it easier to write reliable drivers), the ability for users to shut down errant Win16–based applications without crashing the system (including better resource cleanup when the application terminates abnormally), and improved protection of the system from MS-DOS–based applications.

- **Future applications run more reliably.** While Windows 95 brings many gains for running current applications, a new breed of 32-bit applications will leverage operating system services to further increase the reliability of the system. Win32–based applications run in their own separate address spaces, so they are protected from other applications running in the system. In addition, one Win32–based application can't prevent another application from processing input, due to support for separate message queues.

Simplifies common administrator support tasks

Administrators will appreciate the way Windows 95 simplifies common administrative support tasks due to simplified network installation, Plug and Play, and an open architecture for third-party integration.

The Gartner Group "Total Cost of Ownership" study found that Windows 95 can save a typical organization over $1000/desktop/year versus Windows 3.1 over a five-year period. The payback period for implementing Windows 95 is only 3-6 months according to the Gartner Group analysis.

- **Simplified network installation.** Client support for Novell NetWare, Windows NT Server, and compatible systems is built-in and provided in the box. Adding other clients is easy. The networking architecture of Windows 95 provides the ability to support multiple clients, multiple network transports, and multiple driver standards concurrently.

- **Automatic device installation/configuration.** Adding new devices to the system, such as network cards, is quick and easy due to the Plug and Play architecture of Windows 95. Users of all systems, including legacy PC systems, benefit from the Plug and Play support built into the operating system.

- **Built-in server-based backup agents.** Windows 95 includes backup agents for Cheyenne ARCServer, and Arcada, making it easy to backup networked PCs running Windows 95 using your existing network management tools.

- **Remote performance monitoring and configuration editing tools.** Windows 95 includes tools for administrators to remotely monitor and configure the Windows 95 environment over the LAN or WAN. This makes it easy to troubleshoot, repair, and to even spot problems before they happen. Tools such as System Monitor, System Policy Editor, RegEdit, and Dial-up Networking are included with Windows 95.

- **Support for system management applications.** Windows 95 has a complete architecture for building advanced system management applications, and integrates into your existing system management consoles via standard agents.

- **Can restore crashed system to working state.** If the PC fails due to a hardware problem, a corrupt configuration, or a bad driver, Windows 95 still makes it easy to get into the graphical user interface to change the configuration of the system. A "fail-safe" boot will allow an administrator to be able to change system settings to restore the working state of the PC.

Windows 95 Will Increase Your Control Over the Desktop

A key benefit of Windows 95 is the opportunity it provides for the system administrator to have greater control over desktop systems no matter where in the organization they may be located.

More control over installation options

Windows 95 provides better control over installation options, providing support not only for your existing Windows–based environment, but also tighter control of the setup options that may be performed by users. Windows 95 supports running in a variety of configuration environments to support your existing workplace.

- **Run Windows 95 locally or from a server.** Windows 95 can be configured to run either locally from the hard disk of the user's PC, or can be loaded to run from a network server. Furthermore, administrators can configure the shared installation of Windows 95 to control the installation options to prevent, for example, users from installing Windows 95 on their local PC and require them to run from the network server (if desired).
- **Run Windows 95 on a diskless workstation.** For environments that have minimal resources and have PCs that only include a floppy drive, Windows 95 can be configured to allow the user to boot from a disk, and then invoke Windows 95 to run from a network server.
- **Run Windows 95 on a RIPL workstation.** Windows 95 can be configured to run on a workstation configured for a RIPL boot off of a network server. This provides support for environments where security is important and the PCs do not have a floppy drive (or hard drive) installed in the local PC.

More control over configuration options

In addition to controlling the type of installation that a user can perform, administrators can control the specific configuration of the Windows 95 environment as well.

- **Can dictate what functionality is installed for specific users**. Through a flexible batch installation script, administrators can define the capabilities and default configuration of the Windows 95 installation. This allows better control over the configuration to, for example, install system management agents on every PC during Setup.
- **Can "lock down" the desktop configuration.** Through the use of System Policies (set with the System Policy Editor), administrators can control the interaction between the user and the system to either prevent users from doing unauthorized things, or by hiding functionality of the user interface to help keep them out of trouble. For example, administrators can "lock" the user into the user interface and prevent them from running applications not pre-configured by the administrator.
- **Multiple users can share a single system and get different configurations.** User profiles in Windows 95 allows multiple users to share the use of a single system, yet maintain their separate configuration environment so, for example, their desktop properties are personalized.

- **Single user can use multiple systems and same configuration.** User profiles can also be used to support the "roaming user" scenario where a user may not be tied to a particular PC, and their user configuration can "follow" them around to other PCs on the network.

Improved desktop security

Management features in Windows 95 make it easy to configure and manage network access and desktop configurations. Windows 95 can leverage the existing namespace defined in your enterprise environment to leverage the names present in the bindery of your NetWare servers, or Windows NT Server domains, to offer user-level security for protecting shared information.

- **Restrict access to shared desktop resources to only specific authorized users.** When Windows 95 is on a network with a server running Novell NetWare or Windows NT Server, it can provide user-level security so you can protect a shared resource by designating only certain people to have access. The "pass-through implementation" uses security database and access controls on the server to provide access to resources shared with the peer server on a PC running Windows 95. This way administrators can leverage the existing database of network users and simplify the management responsibilities.

Support for new, improved system management applications

The architecture of the registry in Windows 95 makes it easy to enhance the ability to manage desktop PCs using a variety of industry standard mechanisms, or third-party tools.

- **Plumbing for systems management included.** All configuration-related information about a PC running Windows 95 is stored in the registry—information about applications, the Windows 95 shell, operating system drivers and services, and the hardware configuration through Plug and Play, can be obtained from the registry. Given the consolidated database of configuration information, management tools built on top of the registry can provide remote access to the statistics and state of a PC running Windows 95.

- **Includes support for existing and emerging system management standards.** Windows 95 includes a management agent based on the SNMP standard, and an agent supporting DMI is presently in the works. Support for industry standards mean that your existing or future management tools will be able to be used to simplify the management task for your enterprise.

Windows 95 Will Improve the Productivity of Your End-Users

In developing Windows 95, Microsoft focused on three major areas of improvement: *learnability* and how easy is it for someone to be productive, *usability* and how easy is the product to understand and work with, and *efficiency* and how many steps does it take to complete a task. Microsoft has been working with the user interface of Windows 95 for the past two years and has refined it based on usability tests performed on users with a wide range of PC ability.

Through usability testing, it was learned that beginners have difficulty with the concept of double-clicking (as used to launch applications with Program Manager in Windows 3.1), complex hierarchies are difficult to use (as used with File Manager to represent the

structure of files on a PC), and that managing windows and working with multiple applications under Windows 3.1 is not as intuitive as it can be. Microsoft has addressed each of these issues in Windows 95.

Usability Sciences Inc. found that Windows 3.1 users will nearly double their productivity by using Windows 95, based on tests of Windows 3.1 users performing common tasks that they perform today (they were able to perform a set of tasks in nearly half the time on Windows 95).

For your users, Windows 95 will:

- **Make the tasks people do today simpler and more efficient.** The new user interface in Windows 95 makes it easier for users to learn how to use the system, to complete their tasks on the system, and to discover functionality offered by the system. The capabilities and power of the system can grow as the user's experience grows.
- **Make the tasks people do today faster.** Windows 95 speeds up printing, graphics, disk access, and network access due to new 32-bit operating system components and services.
- **Enable people to work on multiple things at once.** The preemptive multitasking capability of Windows 95 enables users to operate on multiple tasks at the same time. This means, for example, that their PC is no longer idle while it is printing a large document.
- **Make information easier to access.** Built in electronic messaging and Dial-up networking in Windows 95 makes it easier to access information wherever you are.
- **Enable new, more productive applications and systems.** Windows 95 benefits the user of a PC by simply upgrading from Windows 3.1. However, new capabilities enabled by services of Windows 95 such as the Win32 API and Plug and Play, now allows the user to do things that previously were not possible.

Windows 95 Will Provide a Safe and Smooth Migration

The benefits previously discussed won't help much if they're too difficult or costly to migrate to. That's why Microsoft designed Windows 95 to work with what you have today. Microsoft is testing to ensure that you'll have a smooth migration, that Windows 95 is compatible, and that it's reliable. If all you do is upgrade from Windows 3.1 or Windows for Workgroups to Windows 95, everything continues to work (both hardware and software).

Reliable, and most thoroughly tested product in history

Microsoft is going to great lengths to ensure that Windows 95 is stable and reliable, and it will be a quality product when released for general availability. Some examples of the steps that Microsoft is taking include:

- **Rigorous internal testing.** The Windows 95 developers have been "self-hosted" (i.e., using Windows 95 to develop Windows 95) since 1992. The team that is tasked with doing nothing but testing the operating system consists of over 200 people, doing over 500 thousand person hours of testing with hundreds of applications and systems, including round the clock simulation testing.

- **Largest beta program in history.** The beta test program for Windows 95 is the largest ever done by Microsoft, and by all accounts the largest in the industry to date. By the time Windows 95 is release to manufacturing, more than 50,000 technical beta sites (i.e., sites that actively test and report bugs) will have used and tested Windows 95 with their hardware and software in their own environment.

- **Large preview program.** In addition to technical beta testers, the Windows Preview Program will make Windows 95 available to 400,000 users world-wide prior to the commercial availability of Windows 95. This will allow feedback to be obtained on the use of Windows 95 from a very broad set of users beyond the technical beta test program, and to help organizations begin evaluating Windows 95 and to get a head start on developing a plan for deployment.

- **10,000 upgrades tracked by test teams.** Microsoft test teams are working with users in home, small business users, and large organization environments *at their site location*, to gain additional experience with installing Windows 95 in real-world scenarios. These sites are above and beyond the sites used in the other testing programs.

- **Over 75 million of hours of use before commercial release.** By the time Windows 95 is released to manufacturing, the product will have gone through over 75 million hours of hands-on usage by hundreds of thousands of users prior to it's general availability.

Works on the hardware and software you already have

Windows 95 was designed to be compatible with your existing software and hardware from day one. Yet, Windows 95 was also designed to take advantage of a new generation of applications and hardware to deliver a platform for the future.

- **Compatible with existing MS-DOS–based and Windows–based applications.** Windows 95 will work with the existing applications you are using today. If all you do is upgrade from Windows 3.1 to Windows 95, your applications will continue to run, and you will benefit from the system improvements previously discussed to have a stable, more reliable, faster platform on which to work.

- **Compatible with existing MS-DOS and Windows drivers.** Windows 95 is not only compatible with your existing applications, but is compatible with your existing device drivers that are used to operate your existing hardware. In many cases, Windows 95 offers new 32-bit drivers that replace the existing drivers used on your system to deliver improved performance and reliability, but you can rest assured that when you upgrade your system what you have will still work.

- **Runs well on mainstream systems, and exploits additional resources if you have them.** Windows 95 has minimum system requirements of an Intel 80386DX (or compatible) processor with 4MB of memory, however it fully exploits additional resources (such as 8MB or more of memory) and the latest generation of processor performance (such as the Intel Pentium processors) if you have them. As you add more resources to your computer (such as more memory), the performance of your system will scale as well and automatically take advantage of the newly added resources. The performance goal of Windows 95 is that if all you do is upgrade to Windows 95 (and your system meets the minimum system requirements), your PC will operate as fast or faster for the same tasks, as Windows 3.1.

Designed to make Windows 3.1 users productive quickly

Windows 95 *is* Windows. Windows management, file copying, data storage, and so on, are the same. Keyboard shortcuts and other operating system functionality that users were familiar with when using Windows 3.1 (e.g., Alt-TAB to switch tasks) are still supported. The efficiency of the system has been improved for all users, making it easier for novice users, and more powerful for experienced users.

Usability Sciences, Inc. found that after only a 20 minute tutorial on Windows 95, current Windows 3.1 users were able to perform a set of common tasks nearly as efficiently as on Windows 3.1 on their first attempt. Moreover, they were able to complete more tasks successfully.

Examples of areas where we focused on helping existing users of Windows 3.1 include:

- **Usability testing of features with Windows 3.1 users.** Working closely with existing users of Windows 3.1, the Windows 95 development team was able to identify areas where the efficiency of the system could be improved, but also testing could be performed to ensure that any changes to the system didn't have a negative usability hit.
- **Built-in transition tools for Windows 3.1 users.** For existing users of Windows 3.1, a computer-based tutorial and on-line help information make it easy for users to navigate through the Windows 95 user interface quickly and easily. If users have difficulty with their transition, information to point them in the right direction is just a help screen away.
- **Tests results show Windows 3.1 users are as productive as on Windows 3.1 *the first time* they perform a set of common tasks.** Usability tests show that existing users of Windows 3.1 are as productive using Windows 95 as they are with Windows 3.1 the first time they use the new operating system. On subsequent execution of similar tasks, their productivity increases significantly.