ENHANCED SUPPORT FOR WINDOWS NT®4.0 ON HP OMNIBOOK NOTEBOOK PCS

HP Solutions Overcome Windows NT 4.0 Limitations

Windows NT can be a good choice for organizations that want to run 32-bit vertical or production applications in a predictable environment: it's a robust platform backed by Microsoft®, provides C-2 level security—particularly important for government, financial, and other organizations handling sensitive information—and can deliver excellent performance. Because of these advantages, some MIS managers have decided to use Windows NT exclusively, believing that a single OS will also lower administrative and support needs. For pure desktop environments, this is probably true. However, it's not necessarily true when notebook PCs are added to the mix because Windows NT has PC card usability and power management limitations which can significantly affect mobile-user productivity and battery life—limitations that don't exist in Windows® 95.

Since many companies have adopted notebook PCs as their primary computers—IDC reports that about 70 percent of the portables purchased in 1995 fulfill this function—there is a clear need to enhance the Windows NT operating system in the usability and power management areas. Although it is likely that Windows NT 5.0 will eventually address these shortcomings, HP recognized that corporations need a complete Windows NT solution *today*. So we took the initiative and developed our own solutions.

CardWizard Provides PC Card Enhancements

Under normal Microsoft Windows NT 4.0 operation, the operating system must be rebooted after a new PC card is installed for the OS to recognize the card. True plug-and-play functionality, currently available with Windows 95, allows the user to insert and remove PC cards and still maintain plug-and-play card recognition without system reboot. In addition, while Windows 95 allows a PC card to function after a suspend/resume operation, Windows NT does not. And, finally, Windows NT does not provide a complete, user-friendly PC card configuration interface.

These shortcomings are not a problem for desktop users, who must turn their computers on and off anyway when replacing cards. However, for corporate notebook users who keep shuffling PC modem, LAN, and advanced technology attachment (ATA) cards—such as PC mass storage cards—with their systems up and running, these shortcomings can impede efficiency and productivity.

To address this problem and facilitate the management of mobile computer PC cards, HP and SystemSoft developed *CardWizard for Windows NT*. This advanced, system-level software extends Windows NT's standard card support by:

• Allowing users to hot swap ATA and PC modem cards without loss of data while maintaining plug-and-play recognition.

• Allowing users to hot insert a LAN card, configure the card, and log on and off the network without having to reboot the computer. However, due to Windows NT network support limitations, if the user then removes and reinserts the card, or places the computer in suspend mode and subsequently resumes operation, it will be necessary to reboot in order to reconfigure the card.

• Supporting PC cards that use existing drivers.

• Automatically diagnosing and resolving common PC card problems, configuring PC cards, and allowing users to intervene during configuration.

CardWizard is easy to use. When a user inserts a new PC card in a card slot, it shows a graphical representation of the slots and displays card resource and configuration information. If there's a common problem—such as incorrect or missing PC card drivers, system resource (IRQ, memory address, or I/O port) conflicts, an unconfigured network, or ATA card problems—the CardWizard's "technical advisor" allows the user to fix the problem with a click of a button.

PowerProfiler Enhances Power Management

Windows NT 4.0 also lacks a number of power management features, the most important of which is lack of support for the Advanced Power Management (APM) 1.2 standard, jointly developed by Intel and Microsoft to conserve mobile computer battery life. With APM technology, a running system can automatically power-down idle components—including the CPU, display, and hard drive—to conserve power while maintaining RAM content intact. When user activity makes demands on any of the shut-down components, the system automatically powers them back up.

Although powering-down individual components when the computer is in use can affect performance, the tradeoff is a *significant* increase in battery life—for example, from less than 1½ hours for an HP OmniBook PC with no APM, to up to four hours for the same computer with APM.

To circumvent Windows NT 4.0's lack of built-in APM capability, HP developed ***PowerProfiler for Windows NT***. PowerProfiler, which meets APM 1.2 specifications, delivers advanced HP OmniBook power management capability under Windows NT by:

• Automatically powering down idle components when the computer is running.

• Providing preconfigured power settings that automatically configure the PC for "best PC performance" or "best power conservation."

• Allowing users to create customized power-saving settings; for example, users can specify the time that must pass before the hard drive and video display power down.

• Visually displaying battery status for one or more batteries.

• Providing two levels of alerts when a battery reaches a low-power state.

Through PowerProfiler's graphical interface—easily accessible from the desktop or start menu—users can change power management settings without having to reboot the system.

Instant-On Retains Session Information for Weeks

In addition to PowerProfiler, HP OmniBook notebook PCs have a power conservation feature—***instant-on***—that goes beyond the APM standard to reduce power consumption when the computer is not in use.

With APM, users can select standby or suspend mode to shut down the system. When it's time to resume work, no reboot is needed and session information—data, applications, and appointments—is maintained. Although these modes conserve power, they still drain the battery. And when the battery runs down—in 24 hours or less unless the computer is plugged into the AC adapter—the contents of memory usually are lost as well.

To provide mobile users with a more efficient way of extending battery life, HP has implemented its "trickle of power" technology—used for years in HP handheld computer products—in the HP OmniBook notebook family of PCs. With instant-on, users simply turn off their computer. All session information is maintained for over a week, with the HP OmniBook 5500 (or 5700), or up to a few weeks with the HP OmniBook 800[*]. When the HP OmniBook is turned back on, it wakes up exactly where it was, without the need for reboot.

[*]Your time in "instant-on" mode will vary depending on remaining battery life.

Enhancements Available to All HP OmniBook Users

Today, all HP OmniBook users running Windows NT 4.0 can take advantage of these advanced, plug-and-play and power management features. New HP OmniBook 5700 and 800 notebook PCs with the Pentium® processor with MMX technology ship with the CardWizard and PowerProfiler preinstalled. Current HP OmniBook 5500 and 800 users can download the CardWizard and PowerProfiler free of charge via the World Wide Web, CompuServe™, or the HP Bulletin Board. And all HP OmniBook PCs come with the instant-on feature.

HP: a Leader in Mobile PC Computing

As an industry leader in networked PC computing, HP's goal is to build the most productive, manageable desktop and mobile computers on the market—computers that can help companies like yours significantly reduce "hidden" PC management costs. To learn more about the HP OmniBook family of notebook PCs, call HP today at 970-346-8682 or contact HP on the World Wide Web at http://www.hp.com/go/omnibook.