

## The Case for Remote Management

Have you ever used a Novell NetWare server? The server console itself isn't a fully functional client computer; you can use the console only to perform administrative tasks. Most Unix servers are similar: Although you can run a graphical user environment if you want to, most Unix administrators leave the servers running a basic command-line window. That leaves Windows as the only major PC-based server operating system to use a full-time graphical user interface (GUI) and provide all the functionality of a client computer.

And that, some folks say, is why Windows servers need to be rebooted more frequently than servers running other operating systems. It's not an inherent fault in Windows; it's that a graphical user interface requires a lot of programming code to run, and that creates overhead on the server itself. NetWare and most Unix servers tend to stay up longer simply because they're not doing any extra work—they're dedicated to being a file server, print server, database server, Web server, or whatever. It's not that the Windows GUI makes the server inherently less stable; it's that the GUI invites administrators to run all kinds of unnecessary software—such as Word, disk utilities, and so forth—that use server memory and other resources.

There's no reason, however, that Windows can't enjoy the same uptime as its competitors, but it takes a little discipline on the part of you, the administrator. NetWare, for example, doesn't give you any choice: Most administrative tasks are accomplished remotely because the server doesn't let you accomplish them at the console. And there's no option to run client applications on the server because it doesn't provide any means for doing so. With Windows, you're not forced into that operational model, but you should choose to follow it anyway. In short, keep your servers locked in the data center and never use the console.

Microsoft provides all the tools you need to perform administration remotely. Tools such as Active Directory Users & Computers and other Microsoft Management Console (MMC) snap-ins enable you to manage your servers' every feature and function from your workstation. If you need to perform console-level maintenance, you can log on to the server by using Terminal Services. Terminal Services, by the way, is a safer form of graphical user interface because of Windows's embedded multiple-workstation technology: The user environment created for a Terminal Services session can be completely deallocated when you log off, releasing resources back to the operating system. Windows Server 2003's Terminal Services, in conjunction with an RDP 5.1 client such as Windows XP, can even allow you to copy files (like hot fixes) to the server right through the Terminal Services session.

Headless servers are a means of enforcing remote administration: By simply not connecting a monitor, mouse, and keyboard, you're forced to use remote administration tools to manage your servers. Doing so is not only convenient, but is also a good way to keep your servers up and running longer.