

VIEWPOINT

RISC Players Chase NT Rainbow

But Fortunes at End Uncertain

By Mike Feibus

For the second time since they bounded onto the scene six years ago, RISC processor vendors think they have a way to tap the riches of Intel's business computing market: this time, it is with Windows NT, the much anticipated 32-bit OS that Microsoft finally announced earlier this month at Spring Comdex.

Whether NT proves to be a pot of gold for RISC suppliers or another mirage like UNIX depends on how a number of things unfold, not the least of which is how attractive the not-yet-available DOS/Windows combination called Chicago ends up being to individual users. If Chicago is wildly successful and keeps most users from migrating to NT, then it's unlikely that the RISC suppliers' second foray into the mainstream market will be any more successful than the first.

The first attempt, you may recall, began about 1987. The suppliers of these new processors were flush with hopes of ousting Intel's x86 and Motorola's 68000 architectures from the mainstream computer market with their price/performance advantages. That wave pinned its hopes on UNIX. All the RISC processor vendors had to do was get the popular business applications ported to UNIX, and the power of RISC would do the rest.

It didn't take long for reality to intrude. I remember sitting next to a RISC vendor executive at a forecast presentation around that time, and he gasped when he saw that workstation vendors shipped fewer than 300,000 UNIX machines that year. "That's it?" he demanded. He didn't even ask how many flavors of UNIX were sprinkled across those 300,000 machines.

It wasn't long before his processor, as well as a few others, had abandoned its workstation push and was targeting so-called embedded applications. Of course, some of the first-wave RISC CPUs have done relatively well there. AMD, for example, has been extremely successful with the 29000 family in the laser printer market, as has Intel with the i960. But laser printers aren't desktop computers.

It's not clear that NT will prove to be a better vehicle onto corporate desktops than UNIX. To be sure, NT includes a host of mission-critical features, security, and stability, as well as support for symmetric multiprocessing, to appeal to the MIS crowd. These features are aimed squarely at UNIX, Novell's NetWare, and IBM's OS/2 LAN Manager.

Taken alone, slugging it out for the NT server mar-

ket can't be very attractive to RISC CPU vendors. Info-Corp estimates that less than 600,000 servers were shipped last year, slightly smaller than the UNIX workstation market. It's anybody's guess what portion of that NT will garner. Of course, Intel-based PC shipments were more than 50 times that number.

Clearly, it will be NT's ability to attract individual users that will determine whether the investment in RISC processors was worthwhile. To be sure, the 32-bit NT does have features to entice individual users, such as preemptive multitasking, multithreading, virtual memory support, and a much improved object-linking environment (OLE) over what Windows 3.1 offers today. Microsoft believes that NT's security features, aimed at servers, will win over corporate desktop users as well.

Because NT is portable, users who want NT's features will have an opportunity to get more power for their dollars by choosing a RISC-based machine over a PC based on an x86 processor.

That's the line of reasoning that's got the RISC suppliers excited this go-round. Part of the reasoning is sound: once a user has decided to migrate to Windows NT, there are compelling reasons to venture from the x86 architecture in favor of a RISC-based PC.

The big question mark is: how many users will be convinced they need NT on their desktop, and when?

Ironically, the single biggest factor in determining how successful NT ultimately will be on the desktop is an as-yet unannounced product from Microsoft: Chicago, the code name for the next-generation DOS/Windows combination. From the bits and pieces Microsoft has let slip, Chicago is a 32-bit OS/GUI that offers many of the features that NT has to entice individual users. As a result, Chicago has the potential to freeze corporate desktop computing in the DOS/Windows world well into the second half of this decade.

Whether Chicago emerges as wildly successful or just a poor man's NT depends on a host of factors, most of which are in Microsoft's control. Unfortunately, Microsoft has maintained a shroud of secrecy over the Chicago project.

One factor that might play a role in Chicago's success is that it requires less processor power and memory than does NT, because it dispenses with NT's portability, client-computing features, and support for symmetric multiprocessing, all of which require significant overhead. Chicago reportedly needs at least a 386 and 4 Mbytes of RAM, while NT needs at least a 486 and 12

Mbytes, or 16 Mbytes for a non-Intel CPU. There's no way to tell today how much of a performance hit users will take running the same application under NT as compared to Chicago, or how much of that hit RISC processors can erase. How this question is answered ultimately will have a profound impact on NT's success in wooing the average corporate desktop user.

Chicago also has an advantage over NT in that big companies tend to purchase software upgrades relatively quickly, while migrating to a new platform is typically a years-long experience. Contrast the slow adoption of Windows 3.0 in corporate America and the overnight success of the 3.1 upgrade.

Even though it replaces DOS and Windows with a 32-bit OS and GUI combination, Chicago likely will be treated as an upgrade because it runs existing apps on the same hardware. NT, on the other hand, likely will be considered a platform change, for several reasons. For one, NT is aiming first at the server, and changing servers is a particularly weighty decision because of their

role as the lifeblood of workgroups' computing activities. Second, NT requires at least a 486 and more memory than most PCs have today to run. Although 486-based PCs are far and away the largest-selling class of machines this year, the installed base is still awash in lower-powered PCs.

All of that may become moot if Chicago's unveiling slips. Currently, Microsoft is cagily saying that Chicago will be released next year. If it turns out to be late '94 or slips to '95, NT may have proliferated onto enough power, and even corporate, desktops to thwart much of Chicago's potential.

It's ironic that during their last mainstream desktop thrust, the RISC suppliers' undoing was that control of the operating system it depended upon was hopelessly fragmented. If this second thrust ends unsuccessfully, it won't be because the operating system upon which they depended had too many suppliers. Rather, it might be because the one operating system supplier upon which they depended had too many operating systems.♦