

## THE EDITOR'S VIEW

# Windows NT Gets Push from P6

## NT Gains Momentum, Particularly in Corporations

Over time, the relative positioning of Microsoft's two newest operating systems, Windows 95 and Windows NT, has shifted. When NT first came out, there was a mad rush to proclaim it the "next big thing." But as Win95, then known as Chicago, appeared on the horizon, it seemed that NT would be relegated to a high-end niche for years to come. Now, even as the August 24 ship date for Win95 approaches, it appears that, although NT may not take over from Win95, it can at least carve out a sizable portion of the market by 1997 or so. This move will benefit Intel's P6 and ultimately PowerPC.

Originally, Windows 95 was supposed to deliver all the important features of NT in a 4M footprint, and provide a more intuitive user interface as well. But now we see that the new OS is not a cure-all. Because it is not fully protected from application failures, it is relatively easy to crash. Furthermore, Win95 retains significant chunks of old DOS code, which prevent it from taking full advantage of the performance enhancements in the P6 (see *091001.PDF*). It also leaves out support for multiprocessing (a key P6 feature) and security.

Windows NT was designed from scratch to match the capabilities of other modern operating systems while retaining compatibility with Windows applications. It is a fully 32-bit operating system that runs well on the P6, and it offers multithreading, multiprocessing, and full security features. Because it shares a set of 32-bit APIs with the higher-volume Win95, NT will quickly acquire a large application software base.

Several issues keep NT out of the computing mainstream. It currently uses the Windows 3.1 user interface but will acquire the new Win95 interface in 1996. NT also runs slower than Win95; this overhead is estimated to be 10–25%. On a P6, however, the efficiency of 32-bit code should more than overcome this shortfall. The biggest problem keeping NT from the mainstream is its requirement for a minimum of 16M of main memory, compared with 8M for Windows 95.

Memory prices have remained stubbornly high due to a worldwide capacity shortage and exploding demand. Despite significant new capacity coming on line next year, continued increases in demand may keep per-bit memory prices high throughout 1996. Until prices drop, users must pay a significant memory premium for NT.

Today, NT's biggest fans are in the corporate world. These users want a robust client OS with security features, and many are willing to pay more to get one. Many of these companies are already adopting NT for servers

and see NT-based clients as a way to homogenize the network. They could use Win95 as an interim solution, but given the cost of updating their large internal installed bases and the training required for new software, moving to Win95 this year and then to NT a year or two later is not attractive.

Instead, some of these companies may stick with Windows 3.1 as long as possible, then switch to NT. This pattern should accelerate NT sales, at least in these large companies. CI Infocorp projects that shipments of Windows NT will triple next year, reaching 4 million units, and head toward 9 million in 1997.

The P6's lack of performance under Windows 3.1 and even Win95 will spur users to move to NT. Windows NT also allows users to take advantage of the P6's multiprocessing capabilities; with NT, users can nearly double the performance of a P6 system simply by plugging in another processor. For these reasons, the P6 and NT make a powerful combination.

We see Windows NT slowly penetrating the desktop PC market, starting in large corporations in 1996 and moving to smaller companies in 1997. Once memory prices fall, the growth of NT will accelerate. As NT volumes grow, Microsoft can afford to cut the price of its high-end client OS, which currently carries four times the list price of Windows 95.

While the P6 will benefit from rapid growth in the use of Windows NT, so will its RISC competitors. PC buyers that use Win95 are locked into the x86 world and cannot consider a RISC alternative. But once a buyer chooses NT, the processor field is open. Among the RISC devices, PowerPC shows the most promise of offering strong competition to Intel (see *081701.PDF*).

Today, however, Intel dominates the NT market despite relatively open competition with RISC processors. None of the RISC companies has established a base of system vendors and software applications that can compete with the x86 world. Nor have they consistently delivered processors with significantly better price/performance than Intel's chips, which continue to drop rapidly in price (see *0910MSB.PDF*). To take advantage of the growing NT opportunity, RISC processor makers must reverse these trends—not an easy task. The reward for success, however, will be great. ♦

