

Macintosh vs Windows 95

#18 P6 vs. Windows 95

Summary

One of the issues that should be considered by people choosing between an Apple® Macintosh® computer and a PC with Windows is growth path. When Apple made the transition to PowerPC™ RISC technology, we predicted that to keep up, the Windows/x86 world would eventually have to make a disruptive switch in which old applications and operating systems would not take full advantage of the new architecture. That transition apparently begins with Intel's P6 chip, the follow-on to Pentium. *Electronic News* recently quoted Intel officials as saying that P6 adds minimal performance for desktop PCs on mainstream applications.* Independent testers such as *PC Magazine* say that the P6 may be "the first x86 processor to run slower than its predecessors on existing code." (*PC Magazine*, September 12, 1995)

This is part of a series of short reports on the contrasts between an Apple Macintosh computer and a PC with Windows 95. To see previous entries in the series, visit us on the Internet at <http://www.apple.com/whymac/>

The Situation

Serious questions are being raised about the mismatch between the next generation of Intel processors, currently code-named P6, and Windows 95. According to press reports, at a recent briefing for industry insiders, Intel reportedly revealed that the P6 actually ran current Windows 3.1 applications slower than a Pentium processor, and Intel reported that running Windows 95 beta, a 150-MHz P6 was only 25% faster than a 133-MHz Pentium. The numbers released by Intel have been printed in publications such as *Electronic News* (July 31, 1995).

Reportedly, the problem is that Windows 95, unlike the Mac™ OS, is not a full 32-bit operating system. P6 is said to work best with complete 32-bit code and in fact, according to reports, it appears to run slower with 16-bit code than a Pentium.

Thus far there has been relatively little coverage on the disappointing performance of P6. Here are statements from a few articles that have appeared in trade journals, with Internet locations for the full text of the articles:

"P6 comes up short in tests against Pentium"

Infoworld reported that after extensive testing a major PC manufacturer found that P6 did not deliver "significant performance improvement" over a Pentium-based PC "when running 32-bit applications in Windows 95." *Infoworld*, August 28, 1995

<http://www.info.apple.com/competitive/infoworld/p6.html>

"P6: The Next Step?"

PC Magazine said that serious power users hoping that P6 would be twice the performance of Pentium should "hold on for a disappointment." *PC Magazine*, September 12, 1995

<http://www.zdnet.com/~pcmag/1415/pcm00063.htm>

"P6: Not as fast as expected"

PC Week warned that users planning on P6 really boosting the performance of applications "may be in for serious disappointment." *PC Week*, August 21, 1995

<http://www.zdnet.com/~pcweek/reviews/0821/tp6.html>

"Preliminary P6 Performance Results"

A spreadsheet with *PC Magazine* Labs findings is at FTP site: <ftp://ftp.pcmag.ziff.com/pub/pcmag/pclabs/p6data.xls>

The P6 problems also illustrate the inappropriateness of specialized UNIX benchmarks like SPECint for measuring personal computer performance. While the SPECint performance for a 150-MHz P6 was estimated by Intel at 1.6 times the performance of a 133-MHz Pentium, the Windows 3.1 performance reported on a 150-MHz P6 was 15% SLOWER than a 133-MHz Pentium. Apple believes SPEC benchmarks may mislead people about the kind of performance they can expect running normal applications under Windows.





What It Means For Users

Apple long ago realized that the path to better performance was to move from a CISC architecture to an advanced RISC architecture, PowerPC. It was a big move since it required rewriting the Mac OS so Macintosh users could take advantage of the PowerPC chip's advanced RISC features. But Apple believes it was worth the effort because it now provides Apple's customers with the highest performance mainstream personal computers available.

What About the Future?

Since Apple coordinates the development of Macintosh hardware and software, the Mac OS has already been adapted to the PowerPC architecture, and Macintosh users are already running their favorite applications on the second generation of PowerPC processors, the PowerPC 603 and PowerPC 604. Meanwhile, Windows users, wearied by the difficult transition to Windows 95, now apparently face yet another migration to something else if they want to take full advantage of Intel's next generation hardware.

Questions or Comments?

You can send e-mail to the Mac Platform Marketing team at competition@applelink.apple.com

**Electronic News, July 31, 1995*