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THE EDITORIAL VIEW

INTEL SEES LIFE BEYOND WINDOWS

By Michael Slater {1/31/00-01}

Intel's announcement earlier this month that it is developing a line of information appliances is a major event in the evolution of computing. Intel's information appliances by themselves may not have great significance, but the mere fact that the ultimate PC-centric company has embraced information appliances is a tremendous endorsement of the paradigm.

Until a year or two ago, Intel saw all of computing as a set of PC applications. Intel executives talked about the PC vortex that sucked in any similar products. What has changed?

In a word, the Web. Roughly 50% of U.S. homes—and a much higher percentage of non-U.S. homes—don't yet have a computer. These are people who don't see much value in typical PC applications or aren't willing to put up with the complexity of a PC. Virtually everyone, however, is going to want access to the Web and to email.

So why not just build PCs optimized as Internet access devices? Because there is just too much baggage that can't be readily purged. Intel has worked hard to drive the industry toward simplified, "legacy-free" PCs. It has taken years longer than it should have, due to the massive inertia of the PC industry and PC users, but finally these streamlined PCs are starting to appear. And Intel isn't alone in promoting them; AMD has jumped on the bandwagon with its EasyNow initiative.

You might think that preloading such PCs with Internet software and bundling them with an ISP offering would be the natural solution for Intel. But there is one thing that this solution can't eliminate: Windows. The Windows operating system is simply too unreliable and complex to be an acceptable solution for an information appliance. Windows CE has the simplicity but is too constraining, and it evolves at Microsoft's pace, which is frustratingly slow for many appliance developers.

The hardware that Intel is developing for its information appliances doesn't look much different from a legacy-free PC. The systems are based on Celeron processors, and they presumably will use an Intel chip set such as the 810. Intel passed over its own StrongARM processor, preferring to maintain the greater software compatibility of the x86 architecture. Compared with a legacy-free PC, the appliance may not have a CD-ROM or DVD drive, will not need as much memory, and will have integrated telephony support.

The real difference between a legacy-free PC and an Intel information appliance is that the appliance is Microsoft-free. By basing its appliances on the Linux OS, Intel gains several advantages. Most important, it has complete control over the software. Instead of trying to convince Microsoft to make changes in the OS and then waiting (potentially forever) for Microsoft to deliver, Intel can make the OS do whatever it wants: it has the source code. The OS doesn't need to maintain compatibility with anything else, so Intel is free to optimize it for the application. Using Linux eliminates royalty payments for the OS, which helps trim expenses for these cost-sensitive devices. And unlike Windows 98, Linux runs for days and weeks without crashing. It is an odd twist indeed

for an OS based on Unix to become the heart of a device where ease of use is a key goal; its use here is a testament to the attractiveness of open-source software and the robustness of the Linux kernel.

Intel is cutting out the OEMs as middlemen for these products: it will manufacture the appliances and brand them as Intel products. They will be sold through service providers, such as ISPs and telephone companies. Intel is also developing the server-side software to support the appliances, providing a complete solution.

Some PC makers, such as Compaq and Acer, have also developed information appliances that they plan to sell through service providers, just like Intel is doing. They can't be too happy about their processor supplier going into direct competition with them in this market—but Intel has never been timid about competing with its customers when it sees a market opportunity.

Whether Intel is successful in its appliance endeavors remains to be seen, but it is impressive that the company has been able to break free of its PC-centric thinking enough to launch such an initiative. With Microsoft, often viewed as closely allied with Intel, promoting Windows CE–based appliances (largely using non-Intel processors), the industry's two giants are both on the appliance bandwagon—but they will be competitors, not partners, in this arena. ◇