# Future Will See More WebTVs, Java

## *Experts See Growing Diversity But Little Threat to Intel or Microsoft*

*by Linley Gwennap*

Leading PC industry analysts see room in the market for new platforms such as WebTVs and network computers. They are even bullish on Java, although not in the same way Sun is. But they see these new platforms as adding to the market, not replacing the traditional Wintel PC. Living-room PCs, another hot topic, didn't go over well with our panel of experts at last month's PC Tech Forum.

The panel featured Stewart Alsop, well-known columnist and partner at the venture-capital firm New Enterprise Associates; Bill Machrone, vice president of technology for Ziff-Davis; Michael Miller, editor in chief of *PC Magazine*; Andy Rappaport, oft-cited authority on the semiconductor and PC industries and general partner at August Capital; and Mark Van Name, VP of product testing for Ziff-Davis.

### New Platforms Will Be Successful

Many new computing devices, such as the Palm Pilot and WebTV, are becoming popular. Says *PC Magazine*'s Miller: "I think there is room for a lot of different platforms.…Having new competitors makes everybody more competitive. It's good for customers to have more choices."

Miller sees these emerging devices as complementing PCs, not replacing them. "I have a Palm Pilot, which I think is a great device because it solves a different problem. I worry when someone says, 'We're going to replace PCs with something that does the same job differently,' because I don't think that's what people want. I think customers want something that does a different job.

"I think NCs [network computers] have a tremendous future, but they're not going to displace PCs from the desks of most white-collar workers. Those people want compatibility. I do think there are plenty of markets where we don't need high-powered PCs. There are applications where that is not what you need."

Rappaport agrees. "I think we're headed toward a far less homogenous computing world. We've been moving asymptotically toward computers as appliances," he says. "[The Palm Pilot, WebTV, and NCs demonstrate] a growing ability to disconnect the function you are trying to perform from the nature of the underlying platform. I think this is a very clear trend that is likely to continue. We're just seeing the tip of the iceberg now."

Rappaport, the venture capitalist, is sold on WebTV. "We have a WebTV in our house, and I can see the future by watching my kids use it. They create their own content with kids all over the world, sitting around the TV."

Which is not to say that the current implementation of WebTV is perfect, but it does point the way to the future. As Rappaport recalls: "Twenty years ago, I bought a TRS-80, and I said, 'This is a really lousy computer, but some day things like this will be really important.' That's the way we need to think about a lot of these devices."

So why has WebTV succeeded where others have not? Alsop believes that "the designers of the product focused more on the customer's point of view than on what the technology could do." He adds: "WebTV is a wildly successful product from my point of view, based on the impact it has had on the lives of certain people. My mother is now responding to my e-mail within six hours of when I send it. She's about to get rid of her PC, but [the WebTV] is an extension of something she is familiar with.…There is no doubt it will sell millions."

Like Miller, Alsop doesn't think these new devices threaten traditional PCs. He notes: "When the personal computer came into the home, it didn't displace the television or the telephone.…[WebTV] is not competitive with or a replacement for the PC. These are all new opportunities; we can sell more computing devices to people."

### Java Is Coming But Needs More Work

Several panelists feel Java is important, but mainly for its portability, not as an all-purpose solution. Says Ziff-Davis's Machrone: "I'm sold on the idea of Java as an enabler, but not for gut-level applications. I still think that coding to the operating system and to the chip is probably a better way to get things done.…Java is a great way to enhance the interactivity of Web pages, but not a great way to write a word processor." In other words, Java bytecode is a good way to distribute applets, not large applications.

Van Name reminds us about the performance limitations of current Java implementations. "There's this widespread belief that because a program is small and in Java, it is good. This is a deeply stupid belief. If it's small, that means it doesn't do a lot. If it's in Java, that means it's slow."

Alsop finds value in stupidity. "Java allows you to create stupid little applications that are too hard to write in C++ on Windows. Things like doing mortgage calculations or managing your 401K, things that can be very helpful." But Van Name points out that "you can find all those same applications by the score written in Visual Basic, in catalogs I use when I need to sleep."

Even Java's key advantage, its portability, comes into question. Miller claims: "Java is going to be very important, because the person creating it doesn't have to worry about what's on the other end. If you write a Visual Basic application, you have to make sure you have an installer, you have to

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**Figure 1.** Discussing the future of the personal computer at PC Tech Forum were (left to right) Stewart Alsop, Bill Machrone, Michael Miller, Andy Rappaport, Mark Van Name, and moderator Michael Slater.

make sure the DLLs are in the right place, and you have to worry that some version of the OS doesn't break something. Theoretically, Java won't have these problems. Practically, today, Java's got the same problems, every bit as much. But hopefully they'll get past that."

Van Name is not as confident that the compatibility issues will be resolved. "It requires lots of companies getting together to do that. But the signs are not good.…We're going to go through a period of relatively painful instability: VM incompatibilities, language incompatibilities, and time lags in software availability."

## Intel's Competitors Face Uphill Struggle

Turning to the microprocessor market, Miller sees an opening for Intel's competitors. "In the consumer market, I don't believe it's a problem having a non-Intel microprocessor, if it's x86-compatible and if the system is from a company you trust. For example, whether the Compaq Presario 2100 succeeds or fails, it won't be because it has a Cyrix chip.…I think the Intel brand adds value in some places, but I don't think it has won over 100% of consumers."

AMD and Cyrix have been slow to seize this advantage. Says Miller: "None of these vendors has yet been able to deliver a full line of products over a significant period of time. In the past, there have been a lot of great promises, and people haven't believed them. We've had great point products, but six months later, it's not there." Alsop puts it more bluntly: "Is there a future for [AMD and Cyrix]? Yes, there's room in the market. But they have fundamentally been incompetent."

Rappaport raises a further argument. "Even if we assume competence on the part of the clone vendors, the problem is an economic one. If it takes a full line of products to compete, that's expensive.…[Given Intel's massive investments,] the odds that another company can come up with a full line that's directly competitive with Intel's are about zero. The problem is economics instead of market acceptance, technology, or even competence, although it may be made worse by lack of competence."

## Growth for Home PCs, But Not in Living Room

The panel expects PC penetration to continue to grow from the current 43% in the U.S. to roughly 90% over the next 15 years. For PCs to achieve this growth, says Miller: "They'll be sealed; they'll probably have a different form factor. They may have DLLs, but you'll never be able to find them." The challenge, Alsop points out, is not to oversimplify the PC to the point that it can't perform a variety of tasks. "The value of a PC is its complexity," he says. "The reason people buy a PC is so they can do multiple things."

Recently, Intel and Microsoft have proposed a "living-room PC" that provides standard PC functions while also playing DVD movies and other content on the television set. Alsop, however, is not overwhelmed by this idea. "I basically don't believe in the living-room PC. I think the PC belongs in a different room than the television.…The television may have a microprocessor in it and may even be connected to the Internet, but that's not a living-room PC. I don't want to put my PC in the living room with my kids, because then I'd never get to use it." Miller agrees: "I think there will be PCs in the living room, but not living-room PCs."

## PC Users Need More Performance

Contrary to some reports that current PCs are "fast enough," Van Name said the users he talks to can't get enough performance. "They want more, more, more, and we're not seeing any sign of that abating.…I was speaking to a corporate group a couple of weeks ago and asked, 'For how many people here is the performance of some significant fraction of your users something that's really pissing you off day to day?' Everyone put their hand up."

The driving factor behind the need for faster CPUs is slower software. Machrone notes: "My wife runs Word 6 on a Pentium-90; I run Word 7 on a Pentium-166. Both run at about the same speed, because of feature creep." Van Name projects that this trend will continue. "Everything is going to get more bloated. I think we're going to see bigger apps, because a lot of intelligence is going to go into making things easier to use.…There is a tremendous need for more software to make things easier to use."

Van Name noted that, according to Microsoft's Nathan Myhrvold, the number of lines of code in Windows NT is doubling every 18 months, the same rate at which microprocessor performance is increasing. At that rate, Microsoft is providing job security for high-end CPU designers. M