



Market Roundup

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Where There Is Warm Blooded Life, Parasites Thrive — Dell Announces PocketPC PDA

Shapes of Things: IBM, Intel Announce Supercomputing Products/Wins Poindexter's Big Adventure

What Role for Windows in a Future Dominated by Partnering?

The Department of Redundancy Department

Pew Report Charts Wired Parents/Non-Parents

Where There Is Warm Blooded Life, Parasites Thrive — Dell Announces PocketPC PDA

By Clay Ryder

Dell announced this week its first handheld computer line dubbed Axim: PocketPC-powered PDAs based on the Intel Xscale (nee StrongARM) processor that are initially being offered in two configurations. The \$349 Axim X5 features a 400MHz Xscale CPU, 64MB of SDRAM, 48MB of ROM, integrated Secure Digital and CompactFlash slots, and a 3.5-inch transfective TFT 240x320 resolution color display. This configuration features a synchronization and recharging cradle with an extra battery charge slot that accommodates either a standard (1440 mAh) or high-capacity (3400 mAh) battery. Users with reduced system requirements can choose the X5's \$249 configuration, which features a 300MHz CPU, 32MB of SDRAM, 32MB of ROM, and a USB sync cable instead of a cradle and the rest of features found in its higher-priced sibling. Both configurations have standard one-year, next-business-day Advanced Exchange service and feature an introductory \$50 mail-in rebate or discount. The Dell Axim will initially be available in the U.S. and Canada, with plans for other regions in early 2003.

One of the more remarkable events in recent IT memory is the plummeting price of PCs accompanied by their astonishing growth in performance. The poster child for this trend is Dell, which has managed to squeeze the cost out of manufacturing and delivering Industry Standard Component-based computing solutions to the point where smaller, less powerful, hand held devices have ended up costing more than a fully loaded desktop system — that is, until this announcement. To many, the Axim X5 would seem to be another price/performance breakthrough, with many advantages to the customer, and more headaches for Dell's margin-strapped competitors. But will the value proposition to the customer come to rival that of the Dell PC or does this portend a dark cloud hovering over the industry in a scant few years time? We tend to believe the latter — here's why.

The desktop PC market is arguably mature, or at least old enough to vote, with numerous technological breakthroughs and countless innovations — that is, until a couple of years ago. In an industry that has experienced (and already financed) the bulk of its leading edge and mainstream innovation, market forces tend to shift toward cost containment as opposed to value add. Dell has been very successful in taking well established mainstream technology and optimizing the hell out of its cost structure. But in this scenario, cost

structure and street price are the driving considerations, not innovation. As a result, monies for real innovation are few and becoming harder to come by, resulting in products that will tend to become less expensive but only incrementally more capable or even stagnant. By contrast, the PocketPC marketplace is fresh, developing, and anything but mature. This leading edge position and current market price points permits vendors to channel profits into innovation, thus continually enhancing the value add to customers. If Dell is successful at prematurely (in our opinion) shifting the PocketPC market towards cost containment, we believe many potential innovations will wither since R&D funding sources will be emasculated at the behest of the bottom line. Consider: If PCs ceased being innovative in the late 1980s and became the price-driven commodity they are today, multimedia, graphical interfaces, digital recording, and even home-based Internet access would probably not be prevalent today. Companies such as Dell that simply cut costs are rarely innovators and in fact are parasitic on the market as a whole, taking advantage of the innovations created and financed by others and then driving market value downward, often quickly. Though some will be quick to applaud the lower price points of the Axim, we fear the market may itself ultimately become a victim by limiting innovation monies in the PDA space effectively setting the capabilities of these devices in stone prematurely. If such an unfortunate circumstance comes to pass, it would cripple the potential and future of the PDA.

Shapes of Things: IBM, Intel Announce Supercomputing Products/Wins

By Charles King

IBM announced this week that the company has been awarded a Department of Energy (DOE) contract valued at \$216 to \$267 million to build two supercomputers with a combined peak speed of up to 467 trillion calculations per second (teraflops). According to IBM, the two systems together will have more processing power than the combined power of all 500 machines on the recently announced Top500 list of supercomputers. The first system, ASCI Purple, will consist of a cluster of IBM pSeries eServers with a total of 12,544 POWER5 processors running AIX 5L. The second system, Blue Gene/L, which employs advanced IBM semiconductor and system technologies being developed by IBM and the DOE, will consist of 130,000 processors running Linux. The new systems will be used by three NNSA labs (Los Alamos, Sandia, and Lawrence Livermore) for simulating nuclear weapons tests, turbulence, material properties, and high explosives behavior. In a separate announcement, IBM introduced a trio of graphics workstations, including midrange systems based on new Intel Pentium 4 and Xeon processors, and a new high end POWER4-based system. In yet another unrelated announcement, Intel discussed the newly released TOP500 rankings of supercomputing sites worldwide, highlighting systems based on the company's products. The November 2002 TOP500 list includes fifty-six Intel-based systems compared with two Intel systems three years ago.

Though somewhat disparate, this group of announcements offers a window into a number of elemental changes we see occurring in the supercomputing and high performance computing (HPC) spaces. Beyond the sheer size of the systems IBM will be building for the DOE, their disparate (AIX and Linux) operating environments indicates the growing influence of Open Source solutions, and also begs the question of how industry consolidation may be affecting the supercomputing space. The past three years has seen some aggressive jostling in the supercomputing space among players including IBM, HP, Compaq, Sun, and NEC, but it is unclear which of these players besides IBM and HP could actually muster the products, knowledge, and experience necessary to compete for a project like the DOE's. If larger and larger systems become the lingua franca of supercomputing, the top end of the market is likely to be increasingly dominated by a handful of players (minus a couple of fingers). The other piece of this puzzle is the notable shift in the TOP500 list toward cluster and constellation systems and away from traditional monolithic SMP systems. This shift is the source of Intel-based systems notable rise, and is also an area we expect HP will profit from over time, given the company's close relationship with Intel and the advanced clustering technology that came to HP in the Compaq acquisition.

Good enough, but what does all this mean away from the rarefied air of government research labs? The fact of the matter is that technology tends, by nature or intention, to percolate downward. High-end clustered HPC solutions, such as the crash testing simulation installation IBM recently sold to General Motors, are gaining

increasing traction across a variety of industries and applications, a trend we expect will gain momentum with evolution of grid computing and similar technologies. By that same token, IBM's new workstations offer a desktop view of this evolution. As workstation technologies gain power and sophistication, the roles of individual desktop machines will continue to expand in HPC-focused solutions such as high-end graphics rendering, 3D visualization, product design and modeling, and data analysis. That high performance and supercomputing systems and applications are becoming increasingly distributed and cost effective for commercial users while they are simultaneously becoming increasingly powerful indicates that these areas are undergoing an evolutionary shift that could fundamentally change the way we look at and think of computing.

Poindexter's Big Adventure

By Jim Balderston

The Pentagon has officially confirmed the existence of a development effort called the Total Information Awareness Program, a giant database that is designed to aggregate information about individuals concerning their financial transactions, including purchases, and detect suspicious patterns that may lie therein. The project is being led by the Defense Advanced Research Projects Agency. The data captured by the TIAP will be combined with law enforcement, intelligence, and immigration information for the purpose of attempting to foil evildoers. The project is the brainchild of Admiral John Poindexter, who was convicted of lying to Congress during the hearings surrounding the Iran-Contra scandal in 1987.

The Total Information Awareness Program is no small package. In fact, the ability to track virtually every consumer transaction in the country is staggering. As this is a consumer nation, and consumer spending represents two-thirds of the national GDP, one can argue that this database will have insights into the inner workings of the U.S. economy on a granularity unimaginable only a few years ago. But to our way of thinking, the opportunities for mischief with such capabilities far outweigh any insights the program might offer. When one considers how hard it is to rid oneself of pesky telemarketers, the thought of trying to get off a mistaken list of potential evildoers generated by this Pentagon behemoth is chilling, to say the least. One could imagine the process taking years, during which time an individual could not do as much as purchase a soft drink with a credit card, if soft drinks were available in the prisoners' commissary at Guantanamo Bay.

Supporters of such measures as the Total Information Awareness Program will argue that such measures are necessary to catch terrorists and their ilk, and that this will greatly aid that effort. Of course, who will be deemed a terrorist — or their ilk for that matter — remains a question yet to be answered, since the definition appears slipperier than Osama Bin Laden. One also has to remember that new tactics on a battlefield always spawn innovative, successfully evasive counter-measures. Surely committed and technologically sophisticated terrorists will find ways around the Program. Finally, one has to ask, what oversight will be in place for Admiral Poindexter's little project? A basic rule of thumb might argue that the greater the sensitivity of the information stored, the greater the safeguards necessary to ensure its safety and proper use. Considering the value of the information available in such a database, it is reasonable to assume that illicit dissemination of that data will be too financially rewarding to ignore, and mid-level staffers will suddenly find themselves very desirable friends to have. In such circumstances, we believe abuse is a foregone conclusion. In fact, even as terrorists successfully evade the system, many of those caught in its clutches will be innocent citizens who will subsequently spend years and fortunes trying to disentangle themselves from this intrusive, over bearing and ill-considered Program.

What Role for Windows in a Future Dominated by Partnering?

by Jacques Halé

Earlier this week, Lindows announced its low-cost operating system that also features StarOffice 6.0 word processing. At Comdex Fall 2002, SuSE said it will offer a Linux desktop solution with CrossOver Office software (from CodeWeavers) to let Microsoft Windows programs run on Intel-based Linux computers. In addition, IBM and Sharp announced an initiative to make Sharp's Linux-based handheld more attractive to businesses.

Linux and Open Source Software have created a buzz and a surge of partnerships that could represent a new business model for the creation and deployment of applications. Product innovation is the most obvious aspect of what is happening in the industry, but there is a new willingness to co-operate with partners at all stages of the product life cycle that could be more significant in the long term than specific technical innovations. Supporters of Linux (aka Open Source Software) are still trying to chip at the Microsoft Windows and Office block, probably out of desperation. These companies supporting Linux for office applications are trying to rally the ABM crowd by an attack based on Microsoft's pricing and license conditions. This is a proven tactic for so-called "disruptive" strategies, offering the same functionalities at a reduced price. However, we believe that it is a losing battle for the heart of the overwhelming majority of office productivity — unless the battle shifts to another ground.

This is a marked contrast between the success of Linux at the "high" and the "low" end of the market. With IBM, HP, CA, and Sun to a lesser extent, investing heavily in the support of Linux for servers, arguing its place in the server market is a purely academic exercise. The triumphal march of Linux for system infrastructure seems to continue unabated with Gartner-Dataquest projecting that Linux shipments in the server market will double to almost \$4 billion, or 9% of the market opportunity. If Linux is successful at maintaining its market position as an open and cheaper solution, for many, the operating systems roadmap will reveal Linux at the "high end," Windows at the "low end," and a middle ground of the application servers fighting it out between the Linux camp, J2EE, and Microsoft .NET. However, Microsoft may find itself under severe pressure for low-end applications if it does not willingly make it easier for all vendors to play nicely together. The ensuing battleground will be dominance in the array of devices that will replace the jumble of PDAs, phones, tablets, and portable computers that we use today. In this scenario, there are new parameters that Microsoft does not fully control on its own: integration with a range of mobile technologies, integration with Web Services infrastructure, new licensing conditions, and market price. Despite recent U.S. court decisions to force Microsoft to behave more openly in some respects, we believe that this alone cannot replace a business strategy based in partnering, which will be essential for any vendor's future strategy and success.

The Department of Redundancy Department

By Jim Balderston

The U.S. Senate voted this week to approve President Bush's Homeland Security Department in the form of the Homeland Security Act of 2002, in which twenty-two Federal Agencies will be combined into one large super-agency charged with guarding the nation's security. The vote in the Senate was 90-9 with one senator not voting. The new reorganization of a substantial part of the federal government is the most sweeping reorganization since 1947, when the Department of Defense was formed. Part of the new agency's role will be the securing of government information networks, as well establishing a national clearinghouse for computer security issues. The agency will also spend approximately \$500 million a year in security research. The new agency will have 170,000 employees.

There was much ballyhoo in the press following this historic vote noting that federal spending on Internet security could be a boon to the private IT sector. Also, the research efforts conducted by the government could also pump badly needed cash into the struggling IT marketplace. And of course, security vendors have predicted boom times to come. Of course, this reorganization is going to take years, if not decades to complete. Not only will it require time to actually determine how the agency works and who reports to whom; the human struggles over turf and territory, money and manpower will go on for some time, unseen outside the Beltway for the most part.

So what will the effects be in the real world (i.e., outside Washington, D.C.)? We suspect there will be a bounce to the IT sector as a result of this vote. In fact, we would not be surprised to see systems integrators executing what will surely become multi-decade projects that involve not only tying together existing systems but re-engineering many of those before they can be brought into the larger whole. In short, what many see as a major long-term boon could also become a major, long-running nightmare. Remember that fifty-six years ago data flow — i.e., paper — was much less complex than in today's electronically-based environment. The

integration contemplated here, with both its human and technological elements, could simply be more than any single bureaucracy can handle. For this and other reasons — like the long string of failed mergers in the private sector — we have real doubts that any meaningful change in operations of this agency will occur any time soon. In fact, in what might become a highly ironic development, we would not be surprised if at some point in the future we begin to see movement to “spin out” separate pieces of the agency to recapture the agility and responsiveness that has always been the hallmark of smaller, leaner organizations. Also ironically, we expect such reconfigurations of the Homeland Security Department will be described as necessary to fight an enemy dedicated to asymmetrical warfare.

Pew Report Charts Wired Parents/Non-Parents

By Charles King

A new report from the Pew Internet and American Life Project compared Internet usage trends between parents and non-parents, as well as differences between married and unmarried parents. The survey discovered that about 70% of U.S. parents were likely to have used the Internet, compared with 53% of non-parents. As a group, parents constitute 43% of all Internet users. Parents are also more likely to be more enthusiastic than non-parents about technology and less burdened by technological change, leading them to more frequently own DVD players, cell phones, and pagers. A vast majority of parents cited the importance of Internet access to their children, believing that knowing about computers and the Internet are keys to future success. In fact, parents without Internet access are more likely to be interested in going online in the future than are non-parents. However, wired parents are less likely to use the Internet than non-parents on a typical day, and tend to spend less time online than non-parents. Overall, online parents are more likely than non-parents to use the Internet for school, training, or job research, for contacting local community, support, or religious organizations, and to use the Internet for banking. However, the online behavior of single parents differed from married parents markedly, with only 58% using the Internet compared with 71% of married parents. Of the 6.5 million single parents who go online, about 4 million are single mothers. Online fathers tend to use the Internet more than online single mothers. While married parents tend to utilize the Internet for research, single parents' online activities revolve around communication such as instant messaging, chat rooms, and posting to bulletin boards.

At one level, the results of the Pew Project survey are hardly surprising. Wired parents cite the importance of the Internet and technology to their children's future success, and are less likely to spend time online than non-parents. This behavior offers few mysteries to people who deal with kids. Nor is the interest shown by wired parents in online education, banking, and research, since the Internet's capacity for information access can provide significant savings of time and effort. The interest in utilizing the Internet for communications by single parents is perfectly natural, and we expect online communications offer a welcome adult respite from days dominated by Kid Speak. We find it somewhat curious that wired parents are more technologically adventurous than non-parents, but believe that this may be the tip of the larger iceberg beneath this story. The fact is that the Internet shines as a medium for exploring, gathering, and exchanging information, and a technology's success (as we have discussed regularly) is best measured by how transparent it becomes. How transparent is the Internet? Judging by the Pew survey, parents have embraced the Internet's ability to inform, educate, entertain, and communicate in ways that fundamentally improve their families' lives. With consumer PC prices dropping like stones and online access becoming easier and more widespread than ever, we would argue that the Internet is well on its way to having the impact and invisibility of the telephone.