News

Ultra Low-Cost PCs Redraw the OS Wars

Greg Goth

The Single-Era Conjecture. That’s the name San Jose State University professor and technology author Randall Stross has given Microsoft’s thus-far thwarted attempts to buy Yahoo and the less-than-enthusiastic reception greeting its Vista operating system. In a recent *New York Times* column (www.nytimes.com/2008/05/18/technology/18digi.html?_r=1&oref=slogin), Stross explains the Single-Era Conjecture as “the invisible law that makes it impossible for a company in the computer business to enjoy pre-eminence that spans two technological eras.”

Stross wrote that current Microsoft CEO Steve Ballmer and founder Bill Gates aren’t blind to the seemingly immutable dynamics behind the Singe-Era Conjecture. “In 2000, Mr. Ballmer credited Mr. Gates for noting that no company in the computer business had ever stayed on top through what Mr. Gates called ‘a major paradigm shift.’ The two men wanted Microsoft to be the first company to achieve that goal. An interesting challenge, but some problems are of a size that dwarf the abilities of multibillionaire mortals.”

Stross stopped just short of calling for a toe tag for Microsoft as the desktop era gives way to the cloud era. “As Google continues to gather market share and the Single-Era Conjecture dictates Microsoft’s eclipse,” he wrote, “it is Mr. Ballmer’s own online services that now are gasping for oxygen.”

The middle way: a “lite” PC

The wild card that might preclude Microsoft’s eclipse isn’t a revolutionary online approach or a blockbuster acquisition. Rather, it might emerge from the global rise of a new category of computer, the ultra-low-cost PC, or ULPC. This category combines attributes of feature-laden personal computers with network-dependent thin clients to deliver either a “best of both worlds” or an acceptable performance compromise, depending on your perspective.

Probably the most famous ULPC comes from the One Laptop Per Child project spearheaded by Massachusetts Institute of Technology Media Lab founder Nicholas Negroponte (http://laptop.org). The OLPC XO notebook, also called the “$100 Laptop,” was envisioned as a revolutionary computer that would capitalize on open source software, long battery life, and mesh communications technology to create extremely low-cost networked computing for children in developing nations.

Universally lauded as a noble idea when the project launched in 2005, OLPC has been hampered in execution by staff turnover and delivery snafus (www.olpcnews.com/sales_talk/g1g1/would_you_g1g1_again.html) and the acrimonious exit of Intel from its board of directors (http://wiki.laptop.org/go/Intel). Then on 15 May, OLPC and Microsoft publicly announced that the OLPC XO notebook would run the basic Windows XP OS currently available on commercial ULPC notebooks from Intel and Asus (www.microsoft.com/presspass/press/2008/may08/05-15MSOLPCPR.mspx).
Many observers saw the announcement as the abandonment of the open source ethos that had existed almost since the ULPC movement began. However, IDC analyst Bob O'Donnell says multiple factors combined to push OLPC and Microsoft together.

“The reason the XO guys and the Intel Classmate guys are all focused on Windows now—as opposed to Linux—is the feedback they heard,” O'Donnell says. “Their customers understood the theoretical appeal of the open source software, but they said, ‘We have to teach our kids life skills.’ And whether anybody wants to admit it or not, learning Windows is a life skill. It trains them for something they can use on the job.”

James Utzschneider, general manager of marketing and communications for Microsoft’s Unlimited Potential initiative, has blogged regularly about the global interest in the XO/ultra-low cost concept and its marriage to Windows (http://blogs.technet.com/jamesu/archive/2008/05/15/look-windows-on-the-olpc-xo.aspx). Utzschneider’s posts second O'Donnell’s observations: “Why is Microsoft doing this?” he wrote after OLPC and Microsoft officially announced their partnership. “The answer is simple: people are asking for it, it transforms education and it leads to the creation of jobs and opportunity.”

For example, he cited education ministry technologists at a recent conference in Guatemala who expressed interest in Microsoft’s concept for deploying national educational network infrastructures. Beyond the nuts-and-bolts of network architecture, Utzschneider says policy makers see the existing popularity of Windows as a natural tie-in for educational networks. “They want to implement policies that can positively impact education and set the stage for better employment opportunities for their citizens,” he wrote. “They see Windows as a key ingredient for making this happen because it is the software environment used by so many businesses around the world.”

**Linux desktop DOA?**

The Microsoft/OLPC deal might also strike a lethal blow to mass market Linux ULPCs. Though the open source operating system has fostered a decade’s worth of efforts at creating a friendly interface for the average user, none has seriously threatened Windows dominance. In fact, major Linux vendor Red Hat announced in April (www.press.redhat.com/author/desktopgroup/) that it had “no plans to create a traditional desktop product for the consumer market in the foreseeable future.” The reason, Red Hat said, was the public perception of Linux desktops as unfriendly, despite a passionate open source community.

“Building a sustainable business around the Linux desktop is tough,” the Red Hat desktop team said, “and history is littered with example efforts that have either failed outright, are stalled, or are run as charities.”

Forrester Research analyst Ben Gray says the Linux desktop hasn’t caught on yet even in the enterprise. The firm’s statistics show just 1.3 percent of enterprise desktops using Linux, mostly for software developers and power users whose jobs require them to use the same two or three applications. “I wouldn’t categorize Linux on the desktop as dead, but it’s pretty dormant,” Gray says.

Gray says Microsoft’s support for XP on ULPCs accomplishes two goals for the company. First, it serves as an act of self-preservation against alternatives in the markets most likely to buy the new machines. Second, it gives them time to incorporate streamlined OS design for the next generation of limited-function computing.

“Microsoft has been challenged in that they developed Vista without a significant focus on the low-cost PCs, which are a relatively new phenomenon,” Gray says. “They are taking this into account while developing the next version of Windows, but in the meantime they have to throw a low-cost solution to the ULPC market.”
Unknown sweet spot

IDC’s O’Donnell sees quite a substantial disconnect between the marketing and the reality of the ULPC phenomenon. Its most vocal champions have been talking about educational uses in developing nations, but O’Donnell’s predicts a bigger market as an auxiliary machine in First World economies.

“OLPC is a screaming loud example of great theory, but the reality of it doesn’t quite pan out,” he says. “So this is not about bringing computers to low-cost masses. Bringing computers to kids? Sure. But bringing computers to kids in regions that have money, is what I would argue.”

The IDC ULPC global market forecast calls for impressive growth in unit sales, from less than 500,000 in 2007 to 9 million in 2012. However, the low price tag on each unit will limit revenue to $3 billion in 2012. As a percentage of the total consumer PC market, O’Donnell says these devices will remain under five percent throughout the forecast period. However, he thinks ULPC notebooks could capture more than a third of the education market by 2012.

Several factors temper his enthusiasm for ULPCs as a blockbuster category, starting with the emphasis on cost. “This obsession with price is misguided in my opinion,” O’Donnell says. “Guess what? I can get a full-on notebook cheaper than I can get an Asus Eee. Also, if you look around the world, the lowest-priced notebooks are not the best-selling. People step up a few notches. This thing is a secondary device, not a primary device. So you’re only going to sell it in more established economies where people can afford two devices.”

Through the 2012 forecast, O’Donnell predicts that consumer use of ULPCs will command 55 percent of the global ULPC market, with 45 percent going to educational deployments. He does see Central and South America as a developing market that will be split 50-50.

Forrester’s Gray sees desktop virtualization as another potential area where the differentiation between “loaded” PCs, ULPCs, and thin clients might affect market share. The rise of cloud computing and Software-as-a-Service might also play a role in how carriers and employers deploy client devices, although Gray surmises that young users who are used to instant access to their information online will greatly influence end-to-end network architecture.

“The big challenge is the shift toward mobility,” he says. “The MySpace generation has grown up with completely different demands than any business or education department or school. They are expecting full access to applications and information regardless of their physical location.”

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