



Vigilant Articles

## LINUX GOES MAINSTREAM

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Just four years ago, apparel retailer Burlington Coat Factory, Burlington, NJ, set tongues wagging when it migrated its in-store processors and, subsequently, its mail, print and network servers, to the Linux open-source platform. Industry players weren't sure what to make of this move; many speculated that it wasn't the start of anything big. Fast-forward to 2003. The merchant now has plenty of company in the Linux camp: Cleveland-based paint retailer Sherwin Williams and Louisville-based Papa John's Pizza are among top-tier retailers that have embraced Linux POS systems. In September 2002, Regal Entertainment Group in Knoxville announced a total of 2,400 IBM SurePOS 500 units running Red Hat Linux had been installed at concession stands in its 548 theaters. And that's just the tip of the iceberg: amazon.com and walmart.com are just a few of the many retailers that have switched to Linux from Unix, Microsoft or other operating systems.

Meanwhile, research released by IDC, Framingham, MA, indicates that Linux deployments rose by 24 percent in 2001 and by 37 percent in the corporate IT market in 2002. Its latest forecast calls for dramatic hikes in Linux spending across all industries, from \$80 million two years ago to \$280 million in 2006.

### NOT WHY, WHY NOT?

Although Linux hasn't entirely overtaken the O/S landscape, there appears to be no question that it is well on its way to the ranks of mainstream retail platforms. "Linux is absolutely going to be a major player; it is making steady progress en route to reaching critical mass," states David Petiford, general manager, worldwide retail for IBM. "It has a strong potential for becoming the operating system of choice as applications become more available, best-of-breed solutions are re-tooled to work in a Linux environment and as increasing numbers of merchants acknowledge how invaluable the open-standards, open-source coding model truly is."

Sam Greenblatt, senior vice president and chief technologist at Computer Associates, echoes Petiford's sentiments, deeming 2003 a "tsunami of Linux" in retail. Greenblatt believes that over the next few months, retailers that haven't seriously contemplated embracing Linux will look at projects undertaken in other industries and conclude that they want to enjoy a comparable level of cost savings, reliability and robustness from their O/S choices. "They'll see a free operating system, a rich application and inexpensive hardware and ask not why, but why not," he asserts.

The benefits of Linux are indeed part of the power behind the wave Greenblatt describes. That the Linux source code (kernel) is free carries considerable weight

with prospective end-users, despite the slightly higher costs incurred when purchasing upgraded incarnations of the O/S from such companies as Red Hat, SuSE and SCO Group (whose move into the Linux space was triggered by its merger with Caldera in 2001, according to Janet Sullivan, manager, retail systems marketing group). These vendors have made their Linux offerings attractive through the incorporation of automated installation programs, GUIs, window managers and the like.

Merchants are also gravitating toward Linux because the open source nature of the Linux kernel enables them to add to it fairly effortlessly, resulting in a more robust O/S at considerable savings over other options. "The smaller memory footprint of Linux yields leeway to add more applications and access a wider breadth of information, which is critical in today's retailing environment," SCO's Sullivan observes. "The robustness, stability and security helps, too."

Ease of clustering constitutes another wave in the system's favor. When client server computing was in its heyday, retailers tended to acquire new servers as their pool of human resources grew, creating ungainly, difficult-to-manage server farms. With Linux, retailers can utilize one server to consolidate several smaller servers or one mainframe running Linux to handle a large portion of such a farm. This simplifies maintenance, improves performance and plays a part in controlling server management costs, points out Chris Kleisath, director of engineering for the iAnywhere division of Sybase.

#### THE NEXT FRONTIER

Admittedly, the vast majority of Linux implementation remains concentrated among retail heavy-hitters. Nonetheless, smaller retailers—and their IT resellers—are starting to emulate their larger counterparts in charting Linux waters. The Body Shop stores in Canada, Donatos Pizza, the 150-unit chain headquartered in Columbus, OH, and Breeze/Max, a 50-unit chain of Denver-based ski rental shops, are already using Linux point-of-sale systems.

VARs can expect this pattern to continue, with activity gradually picking up over the next few years. "Microsoft has done a terrific job, and for single-unit configurations, it can work," purports Jane Giggal, vice president, strategic development at Vigilant. "However, smaller multi-unit chains are discovering that the Linux architecture best lends itself to easy consolidation of multi-store data. Linux has the architecture to speed customers through the checkout."

Bob DeLaney, director, worldwide industry solutions marketing at Sun Microsystems, corroborates Giggal's comments, adding that for the segment of retail served by the channel, the move to Linux will be transparent. "The idea of an open platform will be of interest to these merchants, but they aren't going to go with Linux just for the sake of doing so," he states. "VARs will have to present to them turnkey solutions with Linux as the linchpin." Being able to provide software that sits atop Linux will be critical to success, sources agree.

At the same time, end-users are slowly beginning to explore opportunities to employ Linux to operate their core business from behind the scenes. Notably, the Reading, PA-based Boscov's department store chain has eschewed its server farm in favor of a single IBM eServer z900 running Linux. Apparel retailer and manufacturer Tommy Hilfiger has adopted an IBM/Linux solution for an e-business infrastructure designed to dramatically expand its reach to its specialty stores, factories and employees. The solution comprises three Web portals using IBM eServers and software, including a B2B Website that allows Tommy Hilfiger's specialty retailers and sales force to view selected inventory in real-time as well as to place, track and ship orders; a business-to-plant Website that links Tommy Hilfiger's production facilities around the world; and a virtual employee store. The

openness of enterprise Linux allowed Tommy Hilfiger to achieve its goals of lower costs and increased revenue, reports IBM's Petiford.

Wolfermans, a gourmet baked-goods merchant headquartered in Shawnee Mission, KS, has chosen IBM's Integrated Platform for Linux to help power its booming Internet business, which has quadrupled in size over the past four years. It is using the IBM Linux cluster, which includes eServer x330 systems, WebSphere software and DB2 database software, to power its online e-commerce site.

"Just as the potential for cost savings and the benefits of openness is creating a general push toward Linux in retail, it is also inspiring more and more merchants to look at the benefits for the back room," says Brent Schroeder, director of systems deployment at Dell. He claims that some 50 percent of retailers who inquire about Dell's Linux solutions seriously consider "what it can do for their back end."

#### A BETTER CHOICE?

Yet, Microsoft clearly isn't put off by the hubbub surrounding Linux and the increased support it is receiving from the vendor and retailer communities alike. While Tom Litchford, director of marketing and channels, Microsoft Retail Industry Solutions Group, declines to deride Linux, he claims a side-by-side comparison of Windows and Linux will demonstrate that the former—and Windows XP Embedded in particular—may prove a better choice for many retailers.

Litchford counsels retailers—and the VARs that serve them—to consider that where Linux is a kernel, Microsoft's cadre of solutions, lead by Windows XP Embedded, supports an extensive set of operating solutions. By virtue of its "status as an advanced O/S," it satisfies retailers' requirements for technology that facilitates customer interaction, maximizes store automation and enables multi-channel commerce. Its Web-readiness yields store-level Internet connectivity to the store level and, in turn, supports the real-time exchange of data.

Meriting attention as well, Litchford adds, is the fact that XP Embedded also allows merchants to better leverage their hardware investments because it allows for multi-purpose use of store devices and incorporates features like USB support, dual-monitor display and remote boot capabilities and multi-user log-in. Additionally, "because XP Embedded can separate the Windows XP O/S into components retailers can opt to incorporate or not based on their own business needs, it lowers the total cost of POS system ownership."

Litchford notes that although cost has long been emphasized as a rationale for migrating to Linux, what many players do not realize or acknowledge is that cost-based comparisons of Linux and Microsoft are somewhat skewed. "Proponents of Linux talk about the cost of acquiring the Linux code, but this doesn't take into account the total cost of ownership," he explains. "When you think about the extra support and maintenance outlays inherent with Linux and the functionality that's already built into XP Embedded, the picture becomes much more balanced."

As for the contention that software licensing charges levied by Microsoft add to total cost of ownership, Litchford acknowledges that Microsoft is currently working on re-structuring licensing and fees applied therein, he concludes.