Linux Shoots for Big League of Servers

Low-Cost Operating System Pushes Into Microsoft, Sun Strongholds

By CHRISTOPHER LAWTON

LINUX HAS HAD a great run. But to keep the growth, the upstart operating system needs to please more people like Jim Walsh.

Mr. Walsh, chief information officer for the **Tyco International** Ltd. unit Earth Tech, wanted to do more than the simple chores that are most often handled by Linux. He decided to shift one of the company's most crucial pieces of software—an **Oracle** Corp. enterprise resource planning system—off **Sun Microsystems** Inc. servers and its Solaris operating system.

Earth Tech, an engineering and consulting company specializing in water, environmental cleanup, transportation and facilities industries, opted to run the software on **Dell** Inc. servers running Linux. While Mr. Walsh declined to reveal dollar figures, he estimated that lower hardware and maintenance costs associated with the move reduced the cost to run his so-called enterprise resource, or ERP, systems by half—money Earth Tech is using for a second data center to act as a back-up if operations at its first center are interrupted.

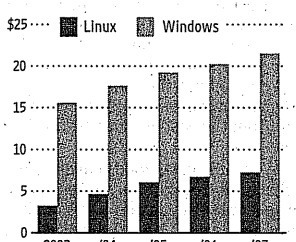
"I have run Solaris for years. I like Sun," Mr. Walsh says. He adds, "Linux is significantly more cost-efficient."

Such moves are still the exception, not the rule. Since the 1990s, Linux, which comes in free versions and is also sold by companies such as **Red Hat** Inc. and **Novell** Inc., has been an important force in holding down computing costs. One reason is that the software runs on inexpensive servers that use chip technology that evolved from personal computers.

Those x86 machines—a designation for the microprocessor design popularized by **Intel** Corp. and **Advanced Micro Devices** Inc.—have continued to deliver improvements in price and performance. The combination of those systems and Linux are particularly suited for jobs such as serving up Web pages and running email systems.

Software Struggle

Sales of servers running Linux and Microsoft Corp.'s Windows, in billions



Source: IDC

But other kinds of servers and operating systems—particularly the Unix system offered by many computer makers—have advantages in handling some big computing jobs such as running databases and ERP systems. Many hardware and software companies are trying to change that picture, but it won't be easy.

Linux is "in a little bit of a transition," says Matt Eastwood, an analyst at the market-research firm IDC. He adds that Linux needs to "become more of a central component of the overall data-center strategy, and that is a hard thing to do."

For one thing, Mr. Eastwood notes, **Microsoft** Corp. is determined to push its Windows operating system into the same fields. Though Linux-based servers now account for 12.7% of server revenue—up from just 6.4% in 2003—Windows-based servers account for three times the revenue of Linux servers, IDC estimates. And for the first time this decade, Windows hardware grew at a slightly faster pace in the first quarter—up 10.4% to $4.8 billion, while revenue from Linux-based servers grew 10% to $1.6 billion.

"In the enterprise, it's not enough just to be a cheap operating system," says Bill Hilf, general manager platform strategy for Microsoft. He adds, "You need to have applications for it, and it needs to be highly supported."

Sun, meanwhile, is also determined to make its Solaris software—a variant of Unix that it has long sold on machines that use its Sparc chips—a potent rival to Linux on x86 systems. The computer maker, for example, offers free downloads of Solaris, whose underlying programming instructions can be studied and enhanced under a similar "open-source" scheme as Linux.

"The world is continuing to shift toward open-source technologies and operating systems and Sun has embraced that movement toward community-driven development. It's a key reason we released Solaris into open source," Marc Hamilton, vice president of Solaris marketing, said in a statement.

But other big server makers are pushing Linux aggressively. Some of them, including **International Business Machines** Corp. and **Hewlett-Packard** Co., also offer the operating system on high-end hardware as well as x86 servers. That is also a focus of Intel, which is working with H-P and others to popularize its Itanium chip line for running heavy-duty computing jobs along with Linux.

H-P is pushing services and support to help customers use Linux to run open-source database software such as MySQL, in addition to application-server software from companies such as JBoss, a unit of Red Hat. IBM also offers services and support to help customers use Linux to run open-source application development software such as Eclipse, in addition to application server software from the open-source organization, Apache. In May, Dell established a marketing and services program to help migrate existing Linux users who are not Dell Linux customers to Novell's version of Linux.

Such services came in handy for Tony Parziale, chief information officer for Palm Beach Community College in Lake Worth, Fla. In early 2006 the college moved its ERP system, which runs on an IBM mainframe, to Linux from the mainframe's operating system.

Mr. Parziale says the shift, aided by specialized services from IBM, reduced the college's monthly costs of running the ERP system to $2,000 from $30,000, in part because it no longer pays the license fee associated with the mainframe operating system.

"The savings were considerable for the college," says Mr. Parziale. "It's going well. Linux runs great."

Other moves could make Linux more attractive for customers to use for big jobs. Software giant Oracle, for example, recently started selling its own technical support for Red Hat's version of Linux. Microsoft and Novell are working together to make it easier for customers to use both Windows and Linux software in their data centers.

Linux is "an operating system that is growing up," says Judy Chavis, director of enterprise marketing at Dell.