

Udata Market Note: Linux is Winning

February 2005

UPDATA CAPITAL

Inside This Issue

	Page
Powerful momentum	1
Linux adds consolidation pressure	1
Meta-trends support Linux expansion	2
Linux market activity	3

January 2004

Udata Capital deals:



Udata Capital, Inc.

www.uptime.com

New Jersey Office:

125 Half Mile Road
Suite 201
Red Bank, NJ 07701
(732) 945-1000

Virginia Office:

2100 Reston Parkway
Suite 430
Reston, VA 20191
(703) 736-0020

For more
Information contact:
Don More, Partner
dmore@uptime.com

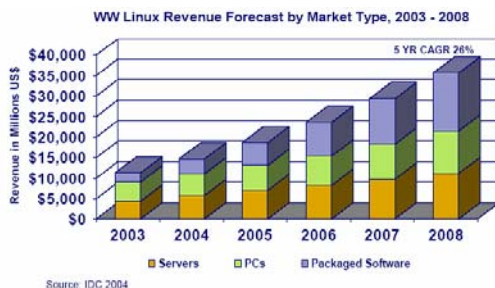
Powerful momentum

The skeptics were wrong. Linux has become mainstream and is winning the battle to become the next dominant operating system. Most large organizations already use Linux, and virtually all major PC and software vendors have Linux-enabled their products. RedHat, the commercial Linux market leader, has certified more than 1,000 applications for RedHat Linux, up from 40 two years ago. From data centers to supercomputers, electronic devices and appliances, Linux is becoming the preferred platform.

According to a December 2004 IDC report, demand for Linux servers, PC's and software will grow 26% annually, becoming a \$36 billion market in 2008 (*figure 1* below). Few IT trends as big are expanding that fast. Such growth feeds on itself, driving Linux adoption by enterprise software vendors throughout the stack, in turn broadening the supplier ecosystem for users and generating further demand.

Linux servers represented 20% of all server shipments/redeploys in 2004, and will rise to 28% in 2008, according to IDC. While fewer than 4% of PC's are shipped with Linux today, penetration is higher outside North America, and Linux on the desktop is growing more than three times as fast as Windows.

Figure 1: Linux revenue growth forecast



Of even greater significance than Linux's growth trajectory is its disruption of the UNIX-Windows duopoly. This is critical as all other stack segments build on the operating system. Sun and Microsoft already have been impacted, and will eventually be transformed. Sun recently announced an aggressive Solaris pricing strategy to compete with Linux's lower cost.

(Although Linux is open source, most enterprises subscribe to a commercialized OS distribution, i.e. from RedHat, which is more robust and comes with support services and utilities.) Sun is also pursuing a joint Linux-Solaris strategy with server offerings for both, and has decided to progressively open-source its operating system – comprising millions of hours of code and 1,600 patents – to the developer community, thus adopting at least partly the Linux model.

Microsoft is faced with the real threat of declining profitability and growth as Linux begins to eat away the pillars of its success, Windows and Office. Linux alternatives to Office (e.g. Sun's OpenOffice 2.0), are getting better, and large customers including governments are exacting major price concessions from Microsoft or replacing Windows with Linux.

Microsoft of course is not sitting back, nor is it in imminent danger. However, like Sun they see the growing threat to their franchise. For now, Microsoft has gone on the offensive, arguing for Office's richer functionality and Windows' better price, performance, stability and security (punctuating that last point with four security acquisitions). Eventually, as Linux continues to take market share, Microsoft will be forced to adapt its strategy to accommodate Linux, which, while not aimed against Microsoft or any one company, is becoming recognized as the driver for a new software generation.

Linux adds consolidation pressure

Several years ago, before Linux mainstreamed, the software industry began maturing. Annual software sales growth, historically above 20%, declined to single digits. (There are exceptions, security being most notable.) For 2005, analysts on average project 7% software spending growth (two times U.S. forecast GDP). Slowing expansion has been the natural result of rising penetration, even saturation, of core software deployments at enterprises. Declining growth has been accompanied by commoditization whereby the main differentiator among competing vendors – of which there are too many – has become cost.

Linux adds consolidation pressure *cont'd*

Although Linux has the developmental advantage of being open source, its rapid adoption has been primarily driven by demand for reduced IT costs. The operating system is broadly viewed as cheaper to own than competing platforms, and runs on plain-vanilla servers. For clustering applications like data centers that deploy many servers, the cost savings are dramatic. Linux is also perceived as giving customers more flexible upgrade and expansion options than do platforms built on proprietary operating systems.

Linux adoption has triggered price cutbacks by competing operating systems and applications sold with them, accelerating commoditization. Even commercial Linux vendors have seen material price reductions over the past year. Price rollbacks reduce operating margins and top-line growth, driving vendor consolidation. To an extent, Linux is doing to the software market what off-shoring has done to IT services.

The recent flurry of transformational enterprise software deals like Symantec-Veritas, Oracle-Peoplesoft, EMC-Smarts and IBM-Corio are no coincidence and will likely accelerate this year. Eventually, the software stack segmentation that forced customers to build their own IT mosaic and created specialized giants will largely revert back to the era of vertically-integrated system providers. As Gartner has noted, "the major categories are collapsing into each other."

Linux-enhanced consolidation will make it increasingly harder for smaller software vendors to fund the R&D, sales and marketing needed to stay viable. Pressure to sell, combined with margin constraints and slower growth among vendors, will widen M&A valuation disparities between "haves" – growing, technologically differentiated vendors – and "have-nots".

Meta-trends support Linux expansion

Key software trends support potentially even greater market and growth opportunities for Linux than many analysts envision:

Software-as-service: Businesses increasingly subscribe for software over the Internet, enabling users to pay as they go, and only for what they need. IDC predicts that by 2008, global subscription license revenues will be \$43 billion, or 34% of the total software market. Growth of software-as-service benefits Linux in several ways. First, the Linux operating system is typically sold as a subscription-

based service, so supports the model. Second, the Linux kernel's modular design – the result of being built by an open community of developers – is akin to the approach used in Web services, which will enable wide-scale adoption of the software-as-service model. Web services relies on use of combinable software modules that, like Linux, are amenable to open-source development as features can be added to individual components while not affecting the whole application. Third, software-as-service raises demand for data centers to host applications. Large server deployments are where Linux's cost advantages are most readily apparent.

Hardware Virtualization: Creating large, fungible server and storage pools accessible from multiple offsite locations increases hardware utilization rates and reduces costs. As a result, demand for virtualization is growing, benefiting areas such as blade technologies, storage management and provisioning. Linux also benefits from virtualization because of the large-scale deployment cost advantage described earlier. Further, Linux is designed to operate well in large deployments across multiple platforms and devices. Linux is already viewed as the leading operating system for data centers.

Wireless World: Linux growth prospects are enhanced by rapid proliferation of wireless devices and users. Linux's efficient footprint and portability make it an effective operating system for a broad array of mobile devices. A 2004 survey by analyst firm VDC found Linux is the operating system used most often in recent embedded OS projects, ahead of Windows. A Gartner survey found Linux to be the top electronic device operating system for developers in Asia.

Autonomic Data: IT is going to become ubiquitous among objects, thanks to microelectronic advances enabling creation of cheap intelligent tags and labels that communicate. This development offers promising advances in such areas as marketing, supply chain management and security. IDC last year predicted that demand for RFID in the U.S. retail supply chain alone will rise from \$92 million in 2003 to \$1.3 billion in 2008. The immense data volumes generated by countless device-laden objects will greatly increase the need for large data processing clusters, where Linux is the preferred platform.

Appliances: Purchases of software appliances are growing fast due to their ease of use and ability to combine application functions on one platform. In IT security for example, IDC recently projected 24% annual demand growth for appliances, compared to

Meta-trends support Linux, *cont'd*

growth averaging 13% for standalone intrusion management and antivirus software used in the appliances. Linux is a favorite operating system for software appliances, due to perceived cost as well as reliability advantages.

Linux market activity

Update records at least 30 venture investments in Linux-related companies in 2004 totaling almost \$300 million, a major increase over 2003 and 2002. This does not include internal investments in Linux enablement by software and hardware vendors, which are much greater. IBM alone reportedly has invested several billions (plus \$50 million lent to Novell in connection with its SuSE acquisition). Selected investments are listed in **Figure 2**, right.

At least 13 acquisitions of Linux-centric vendors have been announced since 2003, including those listed in **Figure 3**, below. The two largest acquisitions to date, of SuSE (a Linux OS distribution vendor) and Ximian (a desktop Linux vendor) were made by Novell. These purchases made Novell the number two Linux commercial operating system vendor behind RedHat (\$12 million and \$51 million Linux revenues in the last quarter respectively). RedHat has made a number of acquisitions over the past several years too, most recently of Netscape's directory assets and Sistina in storage infrastructure.

We expect both acquisition and funding activity in the Linux space to grow substantially in 2005.

Figure 2: Selected Linux-related venture investments

Company/Description	Invested (\$mm)	Last Round Date	Round Amount
Appttran Software <i>Provides Linux based messaging software.</i>	\$10.6	Dec-04	\$9.0
Centrify <i>Delivers comprehensive Active Directory-based identity and policy management of mixed Windows, Unix/Linux and Java environments.</i>	\$6.8	Dec-04	\$6.8
Linux Network Inc <i>Designs and installs clustered, high-performance computing systems based on the Linux operating system.</i>	\$47.1	Nov-04	\$40.1
SiCortex <i>Develops next generation Linux clusters for technical applications.</i>	\$21.0	Sep-04	\$21.0
Scali AS (Scalable Linux Systems) <i>Provides a single enterprise solution, integrating both cluster management and communication, enabling multiple interconnects.</i>	\$17.2	Jul-04	\$7.5
IP3 Networks <i>Develops customized billing and authentication systems for the Internet on embedded Linux OS.</i>	\$5.0	Jun-04	\$5.0
Metapa <i>Provides database software which allows companies to store critical records using commodity Linux servers.</i>	\$26.7	Jun-04	\$8.0
PathScale <i>Designs and engineers server computer systems optimized for use in Linux clusters.</i>	\$29.0	May-04	\$15.0
Montavista Software <i>Offers developers a family of products and services for embedded design.</i>	\$70.4	Apr-04	\$7.0
Scalix <i>Provides an enterprise messaging platform for Linux.</i>	\$19.2	Apr-04	\$6.0
Clusters <i>Produces a linux-based clustering software solution.</i>	\$22.2	Mar-04	\$16.0
Septon <i>Makes appliances based on Linux operating system for backup/storage.</i>	\$53.6	Mar-04	\$23.5
TimeSys Corporation <i>Provides a Linux-based real-time operating system and software development kits for embedded applications.</i>	\$31.7	Oct-03	\$8.0
SuSE Linux (acquired by Novell) <i>Provides complete Linux-based OS solutions.</i>	\$30.1	May-03	\$0.3
Oculan Corporation <i>Provides business analysis and professional services from trained Linux experts and Linux software and systems.</i>	\$46.0	Mar-03	\$5.0
Levanta <i>Develops software that deploys, configures, and manages Linux applications on mainframes that use IBM's z/VM operating system.</i>	\$79.4	Nov-02	\$12.0
Aduva, Inc <i>Company's OnStage software is used to manage Linux-based systems</i>	\$27.4	Aug-02	\$4.0

Figure 3: Selected Linux-related acquisitions

Close Date	Buyer Name	Seller Name	Deal Value (\$mm)	Enterprise Value (\$mm)	LTM Revenue (\$mm)	EV / LTM Revenue	Seller Description
Feb-05	PalmSource	China Mobilesoft	\$22.6	\$22.6	NA	NA	Produces software for smartphones.
Jan-05	Neoware Systems	Mangrove Systems	3.3	3.3	NA	NA	Specializes in embedded Linux solutions for OEMs, systems integrators, and corporate customers.
Dec-04	Red Hat	Netscape Security Solutions Assets*	20.5	20.5	NA	NA	Products including the Netscape Directory Server and Netscape Certificate Management System.
Oct-04	MandrakeSoft	Edge IT	0.5	0.5	NA	NA	Provides support and services for the Linux market.
May-04	Livedoor	Software Research Associates (Turbolinux Japan)	NA	NA	NA	NA	Develops Linux computer operating systems and Linux-based software.
Jan-04	Novell	SuSE Linux AG	210.0	210.0	\$37.5	5.6x	Provides operating systems and application software.
Dec-03	Red Hat	Sistina Software**	30.7	26.6	0.7	36.7x	Provides storage infrastructure software.
Sep-03	Metapa	Didera	NA	NA	NA	NA	Develops and provides Linux database clustering systems and solutions.
Aug-03	Novell	Ximian	40.0	40.0	NA	NA	Develops and provides desktop and server solutions that enable enterprise Linux adoption.
Dec-02	Motorola	Embedix	NA	NA	NA	NA	Provides embedded Linux software and tools.

Data provided by FactSet MergerStat

* Does not include \$2.5m in contingent payments

** Does not include \$12m in contingent payments

Updata Capital, Inc. is a leading investment banking firm specializing in mergers and acquisitions for the information technology industry. Since its inception in 1987, Updata has managed over 400 mergers and acquisitions for software, IT services, e-commerce, infrastructure, telecommunications, e-services, and security firms, representing an aggregate value over \$12 billion.

Our clients rely on our deep understanding of technological vision and financial expertise to assure the successful execution of their strategic initiatives.



www.updata.com

New Jersey Office:

125 Half Mile Road
Suite 201
Red Bank, NJ 07701
(732) 945-1000

Partners

Ira Cohen: icohen@updata.com
Rich Erickson: erickson@updata.com
Barry Goldsmith: bgoldsmith@updata.com
John MacDonald: jmacdonald@updata.com
Don More: dmore@updata.com
Michael Parent: mparent@updata.com

Virginia Office:

2100 Reston Parkway
Suite 430
Reston, VA 20191
(703) 736-0020

Partners

John Burton: jburton@updata.com
Chuck Ashley: cashley@updata.com
Joel Kallett: jkallett@updata.com
Kevin McNerney: kmcnerney@updata.com

© Reproduction of this information without express written permission is prohibited.

Updata Capital, Inc. Disclaimer:

The information and opinions in this report were prepared by Updata Capital, Inc. ("Updata"). The information herein is believed by Updata to be reliable and has been obtained from and based upon public sources believed to be reliable, but Updata makes no representation as to the accuracy or completeness of such information. Updata may provide, may have provided or may seek to provide M&A advisory services to one or more companies mentioned herein. In addition, employees of Updata may have purchased or may purchase securities in one or more companies mentioned in this report. Opinions, estimates and analyses in this report constitute the current judgment of the author as of the date of this report. They do not necessarily reflect the opinions of Updata and are subject to change without notice. Updata has no obligation to update, modify or amend this report or to otherwise notify a reader thereof in the event that any matter stated herein, or any opinion, estimate, forecast or analysis set forth herein, changes or subsequently becomes inaccurate. This report is provided for informational purposes only. It is not to be construed as an offer to buy or sell or a solicitation of an offer to buy or sell any financial instruments or to participate in any particular trading strategy in any jurisdiction.