Gartner Research

Publication Date: 6 December 2007 ID Number: G00152575

Predicts 2008: The Market for Servers and Operating Systems Continues to Evolve

John Enck, Philip Dawson, George J. Weiss, Rakesh Kumar, Jeffrey Hewitt, Uko Tian, Thomas J. Bittman

The one constant in the server market has been change, and change continues to reshape the market. Virtualization continues to drive between the hardware and operating system, overlapping and differentiating between vendor implementations. On the operating-system front, the rise of Linux poses a significant challenge to Unix for relational database management system (RDBMS) workloads. On the vendor front, telecommunication providers from China are poised to break into the top 10 list of server vendors. Finally, on the hardware front, longer warranties will increase x86 server life cycles, while the battle between rack-mounted and blade servers continues to favor rack.

Key Findings

- Linux will catch up with Unix in several key areas by 2009.
- Management of virtualized servers will lead to vendor lock-in.
- Chinese companies will enter the top 10 list of server vendors by 2010.
- Market penetration of blades and component computing will be constrained through 2012.
- CIOs will be held accountable for data center energy usage by 2011.

Recommendations

- Begin to shift and upgrade staffing skills from Unix to Linux.
- Do no rationalize to only one virtualization vendor to avoid issues of lock-in and strategic long-term commitments.
- Multinational organizations should consider these Chinese providers as viable sources for server hardware for offices in that region.
- IT organizations should continue to view rack-based servers as a viable deployment option through 2012.
- CIOs should become familiar with their energy usage and look for potential energy cost savings.

TABLE OF CONTENTS

Gartner

STRATEGIC PLANNING ASSUMPTION(S)

Linux and Unix operating-system capabilities will no longer be a differentiator in RDBMS workload performance by 2009.

The server virtualization market will double by 2010, but vendor lock-in will shift up the stack.

By 2010, expect China to have two companies on the list of top 10 server sellers.

Through 2012, the proprietary nature of blade and modular servers will significantly restrain market penetration of these technologies.

By 2011, data center capacity will grow 30% and CIOs will become accountable for energy usage.

ANALYSIS

1.0 Strategic Planning Assumptions

Linux and Unix operating-system capabilities will no longer be a differentiator in RDBMS workload performance by 2009.

Key Findings: In 2006 through 2007, Linux RDBMS revenue picked up speed while Unix declined. This trend is accelerating and will continue. By 2009/2010, Linux RDBMS revenue will be approaching a quarter of total RDBMS license and maintenance revenue and will surpass Unix in 2010. Third-generation Linux is meeting most IT performance needs and delivering robust management tools motivating all major relational RDBMS vendors to embrace Linux and switch their primary development platforms to Linux (for example, Oracle beginning with 9i).

Market Implications: In a Gartner 2006 survey of 650 respondents, 56% were planning to transfer some RDBMSs to Linux in the next 12 months, with Unix targeted by 25%. In addition, all enterprise applications can be deployed on Linux in the same time period. Moreover, Linux running on inexpensive commodity servers will be massively scalable and more economically feasible than Unix, combined with the improved performance of parallel deployment of databases on scale-out architectures. These factors will lead to a drying up of new application development on Unix after 2009. With independent software vendors shifting attention from Unix to Linux, the long tail of Unix decline will become inevitable, with one exception — Sun Solaris. The exception stems from Sun's ability to deliver an x86 commodity and subscription support service for Solaris similar to Linux, enabling it to capitalize on volume market opportunities similar to Linux that the other Unix vendors have chosen not to do.

Recommendations: Shift and upgrade skills from Unix to Linux (and Solaris, as it may apply). Evaluate applications and databases on frames for re-deployment to commodity-based hardware. Run third-generation environments on Linux distributions using the 2.6 kernel.

Analysis by: George Weiss

The server virtualization market will double by 2010, but vendor lock-in will shift up the stack.

Key Findings: We continue to see a strong growth in virtualized server platforms: 6% of servers with 1 million virtual machines (VMs) deployed today growing to 14% of servers with 7 million VMs in 2010. This rapid growth will commoditize the basic hypervisor while increasing value in

virtualization management tools. The tools will expand to advanced provisioning and automation functions.

Market Implications: Although a growing and strong virtualization market improves utilization and efficiency, the increase in complexity will drive vendor lock-in opportunities above the server hardware and operating system to the virtual management tools and solutions.

Recommendations: Users should tactically approach virtualization from the impact of tools on skills and operations. In addition, users should not rationalize to only one virtualization vendor in this time frame to avoid issues of lock-in and strategic long-term commitments.

Analysis by: Philip Dawson

By 2010, expect China to have two companies on the list of top 10 server sellers.

Key Findings: The rapid growth of the Chinese technology providers has caused some Chinese-based telecom providers to begin manufacturing and selling their own servers.

Market Implications: Huawei and ZTE have decided to produce their own servers to provide more customization in their offerings at better costs. These two companies are currently expanding their sales inside and outside of China. At their current market trajectory, they are likely to be on the top 10 list of server providers within three years while one Japanese server provider and one U.S.-based company are likely to be pushed from that list by these Chinese companies. In essence, this means that a significant portion of the server growth that China will contribute will not be captured by the current server market leaders, making the worldwide environment increasingly challenging for them.

Recommendations: Multinational organizations based in the U.S. or Europe, the Middle East and Africa (EMEA) should consider these Chinese telecommunication providers as viable sources for server hardware for their offices in that region. IT organizations in the China region should look to their telecommunication providers as potential server providers.

Analysis by: Jeffrey Hewitt and Uko Tian

Through 2012, the proprietary nature of blade and modular servers will significantly restrain market penetration of these technologies.

Key Findings: Many server vendors are pushing hard for the adoption of their blade server technology and the modular server technology that lies beyond blades. However, virtually no efforts are gaining ground toward standardizing blade or modular computing and, as a result, each vendor's implementation is proprietary

Market Implications: IT organizations continue to enjoy the flexibility provided by industry-standard rack-based servers, especially in the x86 server area. This clash between vendor vision and IT desires will result in the continued deployment of rack-based servers and will limit the market share for blade and modular computing to under 21% of all server shipments through 2012. Rack-based servers will be the dominant form factor in the data center through 2012.

Recommendations: IT organizations should continue to view rack-based servers as a viable deployment option through 2012.

Analysis by: John Enck

By 2011, data center capacity will grow 30% and CIOs will become accountable for energy usage.

Key Findings: Data center floor space capacity has not grown as much as the volume growth of server, storage and networking infrastructure during the past seven years. The result will be a shortage of quality space for greater than 70% of Global 1000 organizations.

Market Implications: Most companies will have to build new facilities or go to a leasing model; in both cases, data center capacity will grow. Furthermore, with the growth come higher energy costs. Currently, fewer than 10% of CIO's of large corporations pay the full energy bill for their data centers. Corporate facilities organizations typically pick up between 30% to 60% of the amount.

Recommendations: The rising cost of energy associated with data centers and the budgetary need for greater fiscal transparency will drive changes, making the CIO more accountable.

Analysis by: Rakesh Kumar

2.0 A Look Back

In response to your requests, this year we are taking a look back at a few key predictions from previous years. We have intentionally selected predictions from opposite ends of the scale — one where we were wholly or largely on target — as well as one we missed.

On Target: 2002

As users move from thin Linux servers to fatter ones, TCO arguments will be less compelling.

Anecdotal information and discussions with clients bear out this observation. Often, we have heard that "you don't get something for free." And users will relate that other than the total cost of acquisition savings, they have to be well-prepared to spend the money on skills, architectural change, installation, administration, testing and upgrades. In general, the time factor emerges as a labor component and becomes more significant as configuration complexity increases. The other TCO impact can also arise from high volume. As the volumes increase, patch management, provisioning, asset change management and the requisite tools to manage the complexity on a volume basis affect TCO negatively.

Missed: 2006

By year-end 2007, IBM and HP will have the two most prevalent distributions of Xen.

The server virtualization management market has been heating up, with VMware Virtual Infrastructure and Microsoft Systems Center Virtual Machine Manager as the two major contenders. Xen has created an opportunity for others to enter the market, including XenSource (acquired by Citrix), Virtual Iron, Novell, Red Hat, and, recently, Oracle and Sun. Although HP and IBM have added some virtualization management capability, they have chosen to avoid competing against VMware and Microsoft in infrastructure management. Although we still don't rule out HP and IBM entering the market with their own versions of Xen, their current course of action is to support all variations of virtualization equally, and they may have missed a window of opportunity in lower-level infrastructure management.

Note 1

Recently, Gartner conducted an independent survey of its clients. Your direct feedback is underpinning the activities we have under way to continually improve our research. This year's Predicts report is one example of those changes.

You told us to simplify the number of different terms we use. In the past, we used two different terms to identify our most important statements about the future. We are now standardizing on one term — Strategic Planning Assumption (SPA).

You told us that you value our research most when we are direct. Your confidence in our advice comes from the facts and assumptions we provide in supporting our positions. The numerical probabilities we used with SPAs outlived their usefulness. Starting with this report and going forward, we will no longer use numerical probabilities.

You told us that you wanted us to be open about tracking the accuracy of our predictions. In this report, we are taking a look back and highlighting where we were on target — and where we were not — and why.

This research is part of a set of related research pieces. See "Gartner Predicts 2008 and Beyond" for an overview.

REGIONAL HEADQUARTERS

Corporate Headquarters
56 Top Gallant Road
Stamford, CT 06902-7700
U.S.A.
+1 203 964 0096

European Headquarters
Tamesis
The Glanty
Egham
Surrey, TW20 9AW
UNITED KINGDOM
+44 1784 431611

Asia/Pacific Headquarters
Gartner Australasia Pty. Ltd.
Level 9, 141 Walker Street
North Sydney
New South Wales 2060
AUSTRALIA
+61 2 9459 4600

Japan Headquarters
Gartner Japan Ltd.
Aobadai Hills, 6F
7-7, Aobadai, 4-chome
Meguro-ku, Tokyo 153-0042
JAPAN
+81 3 3481 3670

Latin America Headquarters
Gartner do Brazil
Av. das Nações Unidas, 12551
9° andar—World Trade Center
04578-903—São Paulo SP
BRAZIL
+55 11 3443 1509

Gartner