

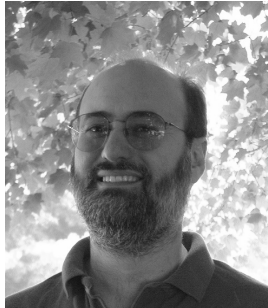


Cross-Platform Software News

Volume 2, Issue 6

Copyright © 2005

June 2005



Migrating Old Software? Think Security

Congratulations! You've finally made the decision and the commitment to migrate that old legacy application to a new platform. The need has been there for some time but it is now negatively affecting sales or has become an unreasonable drag on your operation.

The path chosen by your engineering team is to port most, if not all, of the old code base to a new platform with the recognition that such work will require the usual attention to detail. Since RTR is very familiar with resolving cross-platform issues discovered in porting & migration projects, we understand that the initial estimated effort can often be the tip of the proverbial iceberg. To ensure complete compatibility and optimum performance, there will be several technical hurdles to overcome. Getting it to build & compile on the new platform is really just the beginning. And (plug intended here), your team will not have benefit of the tool suite that RTR has built over the years to aid in porting & migration projects.

Keep in mind that improved security must also be defined as a key objective of your porting project. Often, security is an afterthought, if it is considered at all. The conventional wisdom is that the security should be no worse than the original source code which may or may not be true given architectural differences required to make the application work on the new platform (e.g. Internet apps). For additional insight into security considerations while migrating to the web, read the article on page 3 of this edition of CPSN: "[Safely Migrating Your Applications to the Web](#)". Given the heightened sensitivity and demand for security, it simply makes good business sense to add security remediation to your list of project requirements.

RTR has built audit indicators into our porting tools that flag the most critical potential security issues. Examples of some of the significant problems that should be flagged (e.g. possible sources of buffer overrun exploits) include structure alignment/packing and use of hard-coded constants.

According to Forrester Research, 65% of businesses are planning to spend for software security & system protection in 2005. You certainly don't need the headache of a reported security exploit in your recently ported code. Think security!

Jeff Moskow, President & CEO, Ready-to-Run Software, Inc.

Table of Contents

CEO Editorial - Think Security	p. 1
Computing Platform Market Update	p. 1
Safely Migrating Your Applications to the Web	p. 3
CPSN Briefs	p. 4

Cross-Platform Market Update

This update provides a current view of the marketplace from a computing platform perspective. CPSN will continue to monitor and examine the market and breakdown the prevailing trends as well as attempt to offer interpretation into these directions, as appropriate.

Server Market Update

The computer server market realized a strong 4.1% revenue growth rate during Q12005 according to Gartner Inc. Although first quarter growth was less than last year when revenues increased 9.3% from 2003, according to Gartner's Michael McLaughlin "the numbers (in Q1 2005) are still pretty strong in comparison to where they've been...this is solid, healthy growth in the server market." (Source: <http://www.informationweek.com/story/showArticle.jhtml?articleID=163701232>).

Overall, the market increased in Q12005 to \$12.3 billion from \$11.8 billion over the same period in 2004. Comparatively, the first quarter server revenues in both 2003 and 2002 dropped 16.9 and 1.0 percent respectively. The demand for servers continues to move forward positively and shows signs of a stronger and steadier world economy. In fact, Gartner is projecting that revenues will increase by 5 percent over the entire current year.

According to analyst firm International Data Corporation (IDC), worldwide server unit shipments grew 13.5 percent in Q12005 with Linux servers posting their eleventh consecutive quarter of double-digit growth.

So, does this bode well for IT spending generally throughout 2005? Apparently not. IDC has lowered its growth forecast for global information technology spending based on weakened demand in Europe and Japan. Europe is now expected to realize a 4.4 percent growth vs. 5.8 percent in the previous forecast. Japan is slowing to 1.2 percent this year, compared to the last estimate of 3.2 percent. The U.S. forecast remains relatively strong but is down to 5.5 percent from the earlier projection of 6.0 percent. (Source: InfoWorld, May 4, 2005, "IDC Downgrades 2005 Global IT Spending Growth

Forecast"). Economic factors such as interest rates, oil prices and global instability continue to throttle market expansion.

Quarterly Server Market Share Review

According to the IDC Quarterly Server Tracker (May 2005), the Q12005 standings by vendor for Worldwide Server Revenue which represents the most recent data available, found that IBM continued its hold as the market leader. IBM was in the top position for the seventh consecutive quarter but was looking over its shoulder as it lost ground in market revenue share to Hewlett-Packard and Dell, both of whom demonstrated solid gains.

IBM realized \$3.4 billion in revenue, followed by Hewlett-Packard at \$3.3 billion and then Dell at \$1.3 billion. Sun Microsystems bounced back to show a positive gain up 2.7% to \$1.2 billion. This rebound provides some good news for Sun which had been in a state of market share decline, posting two consecutive quarters of declining revenue figures prior to Q12005.

The top server vendors for Q12005 by market revenue share were:

1. IBM: \$3.4 billion (28.3% market share); 0.5% increase year-over-year.
2. Hewlett-Packard: \$3.3 billion (27.6% market share); 8.8% annual growth.
3. Dell: \$1.3 billion (10.8% market share); remaining steady year-over-year.
4. Sun Microsystems: \$1.2 billion (9.9% market share); 2.7% increase year-over-year.
5. Fujitsu/FSC: \$985 million (8.1% market share); 7.2% increase.
6. All others: \$1.8 billion (14.6% market share) representing a 2.2% increase.

Consistent with recent trends, growth was primarily driven by sales of Windows and Linux x86-based servers which collectively account for approximately 50% of the total market. In contrast, mid-range revenue declined 10.2 percent. Although there was a dip in relative market share percent by IBM, Gartner is still forecasting that IBM will remain the overall market leader since it will realize most of its revenue in the second half of the year when companies traditionally purchase IBM's high-end computers. Since H-P and Dell are segment leaders in low-end x86 computers then it simply follows that IBM would seemingly slip with the release of Q1 results. Yet, Dell has credited its advance in server share to a continued move toward standards-based systems, away from proprietary and mainframe platforms.

Strong Demand for Blades

One final, but rather interesting, note for the server market recap in this issue is that momentum appears to be building for blade servers. Although mass market adoption is still a long way off, there are signs that indicate companies are beginning to seriously consider blades for mainstream IT enterprise deployment. About 280,000 blade servers were shipped in 2004 according to Gartner. However, there was an acceleration in blade units sold as the year progressed with 107,000 shipments occurring in Q4 2004. Overall, the blade server market grew by 75% in units shipped and 95% in revenue year-over-year through 2004. That trend continued in Q12005, as shipments increased 68.2% and revenue grew by 106%. Analysts are focusing on deployment, manageability and virtualization as critical benefits that must be realized to push the blade market ahead further. (Refer to: "Blades: The Edge of Acceptance", <http://www.informationweek.com/story/showArticle.jhtml?articleID=159901579>). This segment of the market is certainly one to keep an eye on during the months and years ahead. We'll

continue to update you.

Operating System Trends

It may be that the dividing line in the selection of an operating system is starting to become a little less obscure. At least, there are developing market indicators that seem to make sense. For example, Info-Tech Research Group reports that only 10 percent of midsize companies in the U.S., Canada and the United Kingdom are planning to evaluate Linux. The mid-size firm is staying with Windows. In fact, of the 1,400 IT managers & CIOs that were surveyed, 48 percent had no interest in Linux and just 27 percent were using Linux anywhere. The dividing line between Windows and Linux deployment is apparently being drawn along company & data center size boundaries. The number one reason for choosing to remain with Windows was simplicity since supporting Linux would add a burden in cost structure to switch or to administer if a second O/S were deployed. The economics of bringing in Linux is simply different for large companies, defined by Info-Tech as firms with revenues exceeding \$1B USD, since they have often have thousands of servers in operation. (Source: <http://informationweek.com/story/showArticle.jhtml?article=160500638>).

Ultimately, the O/S market demand continues to come down to a choice between Windows and Linux. Despite the divisional boundaries, Linux seems to be sailing along at a steady clip. According to IDC Worldwide Tracker (May 2005), servers running the Linux operating system posted their eleventh consecutive quarter of double-digit growth, with year-over-year growth equal to 35.2% and unit shipments up 31.1%. But, demand for servers with the Microsoft Windows operating system continued to also remain strong, with revenues growing 12.3% and shipments 10.7%, year-over-year. Windows gained 34.4% of the Q12005 factory revenue of \$4.2 billion, statistically even with the Unix server market—the first time that this has occurred. (Source: IDC Press Release, May 26, 2005, "Worldwide Server Market Continues Growth."). Does this point in time mark the cross-over point in market share leading to second tier status for Unix?

Moving to the desktop, of course it's no surprise that Windows continues to dominate. Forrester Research reports that corporate desktop usage of Linux is in the single digits. Surveyed CIOs reporting that 10% plan to switch to Linux within the next 12 months and approximately another 6% in 12-24 months. Of particular interest in the desktop O/S market is a recent report by AssetMetrix Research Labs of Ottawa that nearly half of all business PCs still run Windows 2000, the operating system that just won't go away, as it moved into Extended Support status during this month. With the advent of Microsoft Extended Support, the user community is essentially on notice that they have five years remaining before product end-of-life. According to AssetMetrix, Windows 2000 share of corporate Windows market has declined only 4 percent since Q12003 and remains at 48 percent of total corporate installs. In contrast, Windows XP represents 39 percent of the corporate desktop market, up a mere 6.6 percent over the same period. And, Windows 2000 may not be going away any time soon. "Some may hold onto Windows 2000 until Longhorn arrives, and just leapfrog XP", said Steve O'Halloran, managing director of AssetMetrix. Since Longhorn is currently scheduled for late 2006 release, companies moving now would not have much time on XP or risk remaining behind the latest O/S. (Source: <http://www.informationweek.com/story/showArticle.jhtml?article=164303033>).

Web Server Statistics

The latest Netcraft survey documents Web Server software usage on Internet connected servers. For more info, see:

http://news.netcraft.com/archives/web_server_survey.html

According to the June 2005 survey, Apache remains atop the market in terms of usage across active servers at 69.70% usage, up 0.33% from the May 2005 survey and 2.48% year-over-year. Microsoft IIS decreased slightly in usage to 20.26%, a 0.28% drop from May 2005 and 1.09% from June 2004. Netcraft also notes that Apache now serves over 45 million sites. According to the June survey, the Internet added 7.83 million sites which is approaching the pace set in 2000 when 16.1 million sites were added. Comparatively, there was an increase of 10.4 million sites in 2003 and 10.9 million in 2004.

Check out related web server news and postings on the Netcraft site at: <http://news.netcraft.com/>.

Intel Takes A Bite Of The Apple

So, what about the announcement that Apple has decided to drop the IBM PowerPC microprocessor in favor of Intel microprocessors. We've heard all kinds of rumors such as the decision is a precursor to an Intel acquisition of Apple in order to defeat Microsoft. So, hmmm, let's see... Intel grabs Apple to compete with the company driving sales of Intel-based PC chips in 90% of all desktops and about 35% of all servers? No way!

There is no question that Apple is perceived as a high quality desktop platform but the hard reality is simply that unless you needed a Mac, such as for graphics design, then you were shopping for Windows. The reason is clear by looking at the age-old price vs. performance curve. So, if price is the driver then why not AMD? We suspect that Intel drove a nice bargain and provided reassurance to Apple executives. They didn't want to repeat the 1991 decision of the move to PowerPC, end up losing market share and then facing shareholders; Intel is a safe bet. Apple will still retain its penchant for quality but now on a lower cost platform with a chip vendor who is dedicated to silicon sales. Quite simply, Intel will care more about Apple than IBM ever did. Apple represented less than 2% of IBM's chip production, a barely break-even proposition according to analysts. The decision to switch, announced June 6 at Apple's Worldwide Developers' Conference in San Francisco, was applauded by the more than 3,000 programmers in attendance. Plans are to begin selling Intel-based Apple desktops within 12 months. Let the cross-platform migration of applications begin! (Source: NY Times, June 6, 2005).

Safely Migrating Your Applications to the Web

These days, it seems that you can't escape news about another high-profile security breach. There is no question that security has become the technical project managers' nightmare for application design, development, test and sustaining functions, especially as more and more applications and services are migrating to the internet. Recent customer data losses at Citigroup, ChoicePoint and CardSystems Solutions, a MasterCard payment processor that left 40 million credit cards vulnerable, have underscored the problem and heightened awareness and fear in the general public. Hence, the sleepless nights for application development management.

One only has to look at the amount of time and money that companies are spending on this issue — not to mention the reciprocal effort of hackers and, otherwise, unscrupulous programmers as well as legitimate security consultants. Companies are even building marketing campaigns around it, such as Microsoft's "Trustworthy Computing", in order to reassure their customers and to create a strategic focus and

rallying cry.

Consider some of the following forecasts and comments about IT security to realize that this problem is zooming to the top of charts:

- U.S. companies plan to spend a record \$15 billion on IT security in 2005. (Source: IDC)
- According to Bank of America risk executive, Graham Seel, "it becomes an insurance equation at some point—what are we willing to spend to avoid a risk event?". In fact, banks are planning to increase their investment levels for security by 59% in 2005 with 70% spending some part of the budget on security". (Source: Info-Tech 2005 IT Budget & Staffing Report).
- IT spending projections by CIOs dropped sharply in May to their lowest level since November 2003. The exception, however, is security related spending in which a forecast of 54% increase is forecasted by CIOs. (Source: CIO Magazine Tech Poll, June 2005).
- The Financial Executives Research Foundation has determined that security has replaced technology as the CFO's top issue. Only one-fifth of CFOs are 'highly satisfied' with their system security. (Source: Computerworld, June 2005).

Special Care Needed When Moving to the Web

New headaches are emerging as companies look to move their applications to the web. Traditional security measures in the operating system and network layer won't protect you. Theft and manipulation of data can be devastating to a business, both in terms of negative PR and, perhaps, loss of revenue. As users lose confidence, a company can easily suffer from both type of losses. Companies must be especially careful when they purchase off-the-shelf products that contain sensitive data such as pricing, cost structures, credit card or personal data.

Some of the vulnerabilities that you want to prevent include cross-site scripting (hijacking user session), failure to plug paths for denial of service attack, and inadvertent parameter manipulation & tampering.

Below is a summary of some of the top issues to keep in mind for securing web applications. (Source: Computerworld, May 4, 2005 extracted from article written by Jeff Scheidel, Kavado, Inc., Stamford CT, "What You Need To Know Before Migrating Procurement Apps To The Web").

- Always validate input. Adopt a positive security model by blocking requests that don't conform to allowable behavior.
- Approve or reject all input 'before' it can make its way to the application server. Instituting a gateway approach can improve CPU performance by stopping bad requests at the point of entry.
- Validate data again after submission and never trust client-side validation exclusively. Hackers can save and modify a form easily before submitting it so use of tokens or data object filters are important.
- Isolate data validation and input points in the application. In this way, diagnosis and maintenance are easier and you'll be able to quickly focus in a specific area when a problem occurs or testing dictates.

Software security has many executives nervous. To find out more about how the RTR toolset can help isolate security issues in your application, [contact sales@rtr.com](mailto:sales@rtr.com) 1-800-743-1723, 978-251-5400.

Cross-Platform Software News Briefs

Prefer Electronic Newsletter? Sign up for Opt-in E-Mail Version Today

Contact us today to subscribe to the electronic version of our newsletter sent via e-mail. Opt-in with privacy protection at:

<http://www.rtr.com/subscribe>

What's Coming In Future Editions

- Integrating applications from legacy to the web — tips and anecdotes to help move to a service-oriented architecture.
- Connecting devices to the web – what to do with your old applications?
- Your suggestions – some of our best ideas come from our readers.

Send Us Your Questions & Ideas For Articles

You are encouraged to submit your feedback, commentary and ideas for future articles which will be considered for publication. What cross-platform issues are you facing?

Call Ready-to-Run Software (RTR) For Help

For more information about the sponsor of this publication, visit us at our company website:

<http://www.rtr.com>

Located in N. Chelmsford, MA, RTR has served clients from start-ups to Fortune 100 companies and recognized institutions including IBM, Microsoft, Sun Microsystems, Eli Lilly & Co, University of Chicago, 3M, ExxonMobil, Verizon, and many others.

Our primary cross-platform software services include: a.) *Cross-Platform Migration & Porting*, b.) *Application Integration*, c.) *Web Services Implementation*, d.) *Product Maintenance/Tech Support*.

[Call now for an RTR Introductory Package 1-800-743-1723.](http://www.rtr.com)

Cross-Platform Software News is a publication of Ready-to-Run Software, Inc., and is distributed to executives, management and senior technical staff at companies in the software development market or information technology departments of leading institutions and corporations. Requests for [free](#) subscriptions, address changes and any other commentary, ideas or questions may be sent to: CPSN@rtr.com.

Editor:

Bill Saltys (wsaltys@rtr.com) 1-800-743-1723

Contributors to this edition:

Jeff Moskow, CEO

Table of Contents—Current Issue

p. 1	CEO Editorial - Think Security
p. 1	Computing Platform Market Update
p. 3	Safely Migrating Your Applications to the Web
p. 4	CPSN Briefs

Opt-In To Electronic Version Of Newsletter— See Details p. 4

June 2005

Volume 2, Issue 6 Copyright © 2005

Cross-Platform Software News

The Industry Leader in Cross-Platform Software Services
Ready-to-Run Software, Inc.

