



Cross-Platform Software News

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Why Replace Your Legacy System? It Works (Doesn't It?)

It is absolutely astounding to consider the number of 'old' legacy systems that still remain in operation. I've heard of one company running an old financial (?) application on H-P MPE3000 in which the server had been operational with no reboot for fifteen years. So, with reliability like that who can blame the company for just letting the legacy system run-and-run. IT managers would have to be dragged kicking and screaming to let go. The old adage, 'they just don't make 'em like they used to', would seem to apply.

In general, I certainly do not advocate throwing out useful systems and applications. On the contrary, I think legacy systems based on old proprietary hardware and operating systems will be with us for some time and serve a genuine purpose. The key factor in considering replacement is to determine and then to compare the true value that the system is bringing to the organization versus it's inherent cost & risk.

Let's look at some of the current prevalent driving forces for replacing a legacy system or application:

- Web enablement
- Cost savings (maintenance, etc.)
- Regulatory requirements (Sarbanes-Oxley, HIIPA, etc.)
- Market shift/demand
- Obsolescence/Risk

Whenever you are faced with obsolescence or maintenance issues (e.g. platform retirement or inability to obtain parts & support) then management of risk is paramount. You never want to put your company in a position where it is only a down server away from disaster.

Migrating to another platform may solve your immediate problem. It may be that the application needs minimal updating but functionally, for the most part, it's terrific. After all, how many ways can you be creative about posting journal entries or adjusting inventory levels? Look hard at functional need (does it do what is needed?) vs. user issues (location of user, familiarity with interface & re-training, transaction speed, etc.). And, make sure the total ROI is calculated before making a move. An old application can be made 'current' by combining a porting effort with integrating new features or

Table of Contents

CEO Editorial - Why Replace Legacy?	p. 1
Computing Platform Market Update	p. 1
Case Study: Legacy-to-Web Migration	p. 3
CPSN Briefs	p. 4

new user interface. Keep the baby; throw out the bath water.

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

Legacy Computing Resources for Hurricane Katrina Victims

It is with a very sad heart that we have watched our fellow citizens suffer and struggle to recover from the effects of Hurricane Katrina. Ready-to-Run Software would like extend our offer to you to call us or to provide our contact information to any business in the affected areas that might need temporary use of legacy computing resources. As our resources allow, RTR will work with affected businesses to arrange for free access to our secure RTR Porting Center, acting as a hosting facility during this time of need.

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 worldwide server market continued it's upward growth showing strong performance for Q2 2005 and year-over-year. (Source: Tech Web News, "Servers Log Ninth Consecutive Growth Quarter", August 29, 2005. <http://www.enterpriseappspipeline.com/showArticle.jhtml?articleID=170102177>).

From Q2 2004 to Q2 2005, the market grew at a brisk 5.6 percent pace in terms of factory revenue, according to analyst firm International Data Corporation (IDC). Worldwide server unit shipments grew 10.9% percent during this quarter but the upward trend is slowing a bit, representing the lowest unit growth in more than two years.

Overall, IDC points out that while the high-end enterprise server market declined, the sales of high-end UNIX servers grew. One of the primary reasons for the growth in UNIX

server was the security features offered with more companies deploying these servers for mission-critical work. "IT people are reinvesting in their scalable UNIX servers, said Jean Bozman, vice president of IDC's Enterprise Server Group, in an issued statement. Volume server revenue grew 11.1% year-over-year and remains the primary catalyst for growth. But, the high-end server market decreased by 3.0% year-over-year for the third consecutive quarter.

For Q2 2005, Linux server revenue exceeded \$1 billion in revenue for the third consecutive quarter, representing a 45.1% increase which, according to IDC, is the fastest rate since Q4 2004. Proportionally, Linux revenue market share was 11.4% of the total for the quarter. Linux continues its climb in not only mind share but actual deployment.

Quarterly Server Market Share Review

According to the IDC Quarterly Server Tracker (26 August 2005), the Q2 2005 standings by vendor for Worldwide Server Revenue once again found that IBM remained in the top position. Hewlett-Packard also showed strong performance, keeping its firm grip on the number two slot by growing revenue 11.5% year-over-year. H-P also continued to hold on to the bragging rights for number one in overall unit shipments during Q2 2005, due to its strength in volume servers.

Dell and Sun were essentially tied for third place in terms of factory revenue, separated by less than \$100 million. Sun shipped more in server unit volume but its revenue market share declined by 5.3%.

The top server vendors for Q2 2005 by market factory revenue share were (Source: IDC Worldwide Quarterly Tracker):

1. IBM: \$3.9 billion (31.9% market share); 4.1% increase year-over-year.
2. Hewlett-Packard: \$3.5 billion (28.5% market share); 11.5% annual growth.
3. Sun Microsystems: \$1.37 billion (11.3% market share); -5.3% decrease from Q2 2004 to Q2 2005.
4. Dell: \$1.28 billion (10.5% market share); representing high growth at 22.3% year-over-year.
5. Fujitsu/FSC: \$300 million (2.5% market share); 11.5% increase.
6. All others: \$1.8 billion (15.3% market share) representing a 4.1% increase.

Total for all vendors = \$12.2 billion factory revenue representing a 5.6% year-over-year increase.

As mentioned earlier, Unix server sales have rebounded during Q2 2005 reaching \$4.3 billion. Windows server revenue also maintained double-digit growth year-over-year at 14.5%, up to \$4.1 billion worldwide. In this latter category, H-P was the overall leader at 38.2% of Windows server market share, Dell at 22.9% of market share and IBM at 17.5% share.

Demand Continues for Blade Servers

In our last newsletter, we elected to breakout and provide a focus on blade servers for the first time due to their growing level of adoption. Although still only a fraction of total server sales, the blade server segment increased 87.9% year-over-year in factory revenue and 67.1% in unit shipments. Overall, blade server revenue amounted to \$440 million for Q2 2005 or approximately 3.6% of the quarterly server market. The market leaders in the blade server segment were IBM in the number one position at 40.9% revenue market share, H-P at 38.6% share and Dell at 6.5% share, although Dell's share declined.

Operating System Trends

As noted earlier, Linux server sales continue to grow at a remarkable rate. It is also interesting to note the relative breakdown of shipments by Linux distributor. According to Gartner Research (December 2004), the preferred strategic Linux distributor and operating system break down as follows:

- | | |
|----------------------------------|-----|
| 1. Red Hat | 42% |
| 2. Novell/SuSE | 26% |
| 3. Both of above | 30% |
| 4. Other (e.g. Mandrake, Debian) | 2% |

Gartner has tracked Linux market penetration since 1998. Interestingly, during a March 2005 survey of 659 large organizations in Asia-Pacific by Gartner, 87% of respondents indicated that they have the Red Hat distribution. We suppose you would find a similar trend in Europe for SuSE.

At their Data Center Conference, Gartner uses electronic polling devices to conduct several surveys during sessions — think along the lines of the television game show "Who Wants To Be A Millionaire?". Although Gartner points out that the data does not represent a statistically significant sample size, it does provide a level of insight. One of the important survey questions dealt with vendor support for Linux. There is no question that support is a major issue and that users often require the Linux distributor to play a role, depending on the selected option for vendor.

When asked by Gartner at the 2004 Data Center Conference "what is your preferred support vendor for Linux deployments?", the respondents gave the following preferences:

- | | |
|--|-----|
| 1. IBM | 30% |
| 2. Combination (e.g. hardware & Linux distributor) | 28% |
| 3. Hewlett-Packard | 19% |
| 4. None (e.g. self supported) | 8% |
| 5. Red Hat | 5% |
| 6. Novell/SuSE | 4% |
| 7. Dell | 3% |
| 8. Sun | 1% |
| 9. Other (e.g. reseller or systems integrator) | 1% |

Handheld Market

In a story from Reuters, the overall handheld market is expected to slow in 2008 as penetration levels meet demand in the more advanced Western Europe markets. Reuters cited a report by the London-based Informa Telecoms & Media research group released in late September 2005. The same report also forecasts strong growth of handhelds in the Asia-Pacific region, led by China which represented 36 percent of all mobile handheld device sales in that region during 2004. The research report indicated that the annual sale of mobile handsets will rise by 14% in 2005 to 743 million units but will slow to a compounded 3.83% over the next five years to reach 899 million units by 2010. (Refer to Reuters, September 28, 2005, "Mobile handset growth to slow from 2008").

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 September 2005 survey, Apache sits atop the market in terms of usage across active servers at 69.91% usage, up 0.06% drop from the August 2005 survey and an increase of 0.13% increase year-over-year. Microsoft IIS gained slightly in usage to 22.71%, a 0.10% increase from August 2005 and 0.12%

increase from September 2004. Netcraft also notes that Apache now serves over 49.6 million sites and is positioned to cross the 50 million site mark soon. According to the September survey, Netcraft received responses from nearly 72 million sites.

Case Study: Legacy-to-Web Migration

There is nothing unusual about a company migrating their old legacy application to a current, state-of-the-art technology or platform. There are often technical complexities, and even a few surprises along the way, but such a transition might even be considered commonplace these days. Certainly, some of our readers will remember similar projects centered around a migration from mainframe or mini-computer platform to client/server when client/server was the hottest new architecture.

In the past, CPSN and Ready-to-Run Software have issued articles and white papers outlining the pitfalls and prescribing a formula for success in porting and migration projects. Please feel free to scan our archives at <http://www.rtr.com> or contact us directly if you would like a refresher on these subjects.

The topic of legacy-to-web migration is becoming, or perhaps depending on your perspective, has been “hot” news for some time. Web Services/Service Oriented Architecture (SOA) and the web in general represent the latest paradigm shift. So, you would expect interest by many companies in moving their legacy applications forward to the web. For several reasons, a large number of these companies want to advance in a complementary or phased manner introducing a web-based portal while avoiding throwing out the baby with the bath water. In this case, the migration is often effectively accomplished by simply creating a secure, front-end interface to the backend application and database, either as a final or interim solution. Complete understanding of the code and environment of the source application & database is required. Having a suite of tools to aid with the migration is also quite efficient and economical.

Case Study Background

In this edition of the newsletter, we decided to share one of our more interesting legacy-to-web projects, developed in 1999. This story is of interest because it actually involved several different technologies, both hardware & software, and the project was representative of some of the early uses of the internet as a tool, rather than just for publication.

Our client company is in the business of collecting critical business profile information and in selling the business data in various forms (e.g. as a prospecting list). The business list solution deployed by our client, created to improve customized prospecting and profiling, was initially introduced as a software application which was installed and run from a PC. The licensing scheme required the issuance and use of an electronic dongle. The user had limited access & use of the data which was controlled by data encrypted on the read-write dongle device as interpreted by the application.

For those of you who might not be familiar with an electronic dongle, it is a small hardware device that contains license or registration information and/or some sort of enabling code. The dongle is then typically plugged into a parallel port or USB port and must be physically present in order for a given software application to be operational.

Our client provided registration information that controlled and limited use through the issuance, monitoring and deduction of electronic “credits” stored on the dongle. When the limit was

exceeded then the user would need to contact the support department of our client to pay for more “credits” via credit card. By accessing a function built into the application, users would then be given a code that would effectively reset the dongle to a new “credit” limit based on their purchase. The credits would be deducted by the application from the current value on the dongle whenever a prospect list was downloaded from the database that was stored locally. Based on the type of prospect or list, the value deducted for each prospect would vary.

This system had several inherent problems:

- 24-hour accessibility of support staff was not available
- The dongle had to be physically available and attached
- The dongle introduced another potential failure point and all of the associated headaches of inventory, maintenance, tracking etc.

From the perspective of the application user, the most significant problem was that some would want to use the system 24x7x365 according to their whim and schedule. However, the support department was only available on a limited basis, e.g. Mon-Fri from 7AM through 7PM, eastern time. Therefore, if the user ran over the limit on the weekend or late at night then they would have to wait until the support staff was available in order to update their credits.

Web-Based Solution Helped Relieve Support Pain

In order to get away from these restrictions, our client asked if we could build some sort of automated, self-service model for updating the “credits”. After discussion with the client, it was decided that RTR would build a web-based, online application that integrated with their back-end legacy application. The web application allowed users to purchase additional credits online and to be issued a new code which the user would simply type into a form available in their client-side application. As a result, the entire registration and access code update was moved to the web. This case clearly demonstrates how far we have come and the value that the web can provide in eliminating costs and constraints. No wonder that legacy-to-web has become such a relevant subject.

Tips & Potential Pitfalls for Your Legacy-to-Web Migration

According to the Ready-to-Run Software Engineering team, the following list is representative of the sort of things that you should be concerned about when migrating from legacy to web:

1. Data validation — You must deploy server side validation to prevent malicious users and browser or client side errors/configuration from potentially submitting bad data.
2. Session State Management — You must make sure that user sessions are correctly tracked and that data from user A never gets lost or confused with data from user B. (As an aside, it should be noted that cookies are one way to deal with this issue, but, not necessarily the best way.)
3. Back end integration & integrity — How does data get from the web server to the legacy system and vice versa? Using a central hub which ensures conformance to Web Services standards should help minimize the complexity, e.g. build an adapter that converts data into XML format.
4. Security, security, security... — Need we say more?
5. Additional issues arise if using multiple servers (load balancing, multiple locations, etc). For example, can a user suspend a session/transaction process and continue tomorrow? next week?
6. Data security — SSL??

7. Authentication — How do users identify themselves? How are new accounts/users set up?
8. Administration — How do system administrators manage the web site? from where?

Cross-Platform Software News Briefs

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Table of Contents—Current Issue

GEO Editorial - Think Security p. 1
 Computing Platform Market Update p. 1
 Case Study: Legacy-to-Web Migration p. 3
 CPSN Briefs p. 4

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

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