

# BANG FOR YOUR BUCK – HOW IBM SERVER UPGRADES WILL DRIVE SERVICE LEVELS AND LOWER OPERATING EXPENSES FOR YOUR ORACLE DATABASE ENVIRONMENT

**T**his paper will outline the financial and operational benefits of porting an Oracle database environment to new IBM server hardware. Specifically, it will address the improved energy efficiency, lowered software licensing fees, and lowered IT overhead driven by consolidating/virtualizing data center infrastructure and automating routine tasks. It will also discuss IBM financing and leasing options to smooth acquisition and maintenance.

## **BUSINESS AS USUAL IS TOO EXPENSIVE**

It's no secret that the long-awaited economic turnaround is still in the works. For enterprises trying to thrive in these uncertain conditions, controlling costs is the first and most effective tactic. Generally speaking, though, you have to spend money to make money, and companies that are focused on keeping spending flat are at a disadvantage in terms of competitive growth. This is especially true in the IT space, where newer technologies drive higher performance and more productivity. Keeping the lights on with existing technology may work in the short term, but it actually impedes business and revenue growth.

In order to maintain a successful course, companies must increase their business capabilities and deliver better service levels than the competition, while at the same time moving to an architecture that can meet unforeseen requirements. But how to do that on a tight budget with little room for investment?

## **WHAT'S WRONG WITH THE STATUS QUO**

In today's Oracle database deployments, it's likely that you'll find numerous servers, storage devices, and networking resources being underutilized. For example, when a department needs to roll out a new application, it sends a request to IT, which must procure and provision a server,

allocate network connections and storage resources, and deploy the solution. In most companies, this process takes weeks, at least, from request to fulfillment.

After a few years of this, the data center is full of servers, each hosting one application for one group. The company is paying hefty electrical bills to power each unit and to cool the room, but each server is only running at about 10 percent capacity, and sometimes less. In addition, these hardware units take up valuable space, and in many companies, the data center is growing overcrowded.

Another headache arises when patches and software updates must be applied. IT administrators have to manage the process for each server unit. This tedious task can take days, even when the updates and patches are routine and don't create any conflicts or problems. As the server fleet ages, the likelihood of these routine maintenance tasks going smoothly gets increasingly lower, and any delay introduced by server maintenance costs the company in terms of productivity and revenue.

This trend is borne out by a IDC survey of businesses in Australia.<sup>1</sup> The research firm found that 60 percent of respondents had room for more servers, but balked at purchasing new ones because of the management and

<sup>1</sup> "Australia Small and Medium-Sized Business Outsourcing Adoption," IDC, February 2008.

overhead challenges. Instead, nearly 50 percent opted to invest in consolidation, virtualization, and better management tools to deal with the situation.

“A main priority... is to increase server utilization,” says Jean-Marc Annonier, IDC Research Manager. “IT managers do not want to have dozens of servers lying around, running at 15 percent utilization, consuming valuable real estate and increasingly expensive power. They want all the workload consolidated on a few powerful servers, with a much better level of systems management and service level!”

Another IDC report<sup>2</sup>, based on interviews with U.S. IT executives, shows that infrastructure improvement, including data center consolidation and virtualization, application consolidation, and data consolidation, were most frequently mentioned as a priority aimed at achieving lower-cost, higher-performance IT.

A recent Gartner report<sup>3</sup> also recommends database consolidation as a powerful cost-cutting measure, listing suggestions such as:

- Eliminating redundant databases and database workloads, which can reduce costs by 10 percent to 25 percent.
- Optimizing data integration tools and identifying software redundancies, which reduces software license and maintenance costs associated with data integration tools. Assuming a typical investment in data integration tools falling in the range of \$200,000 to \$500,000 for software licensing and \$50,000 to \$100,000 for annual maintenance, consolidation and replacing existing tools with lower-cost options can save \$250,000 or more.
- Leveraging existing data structures and processes for reuse and reapplication to other tasks.

It’s clear that maintaining a database environment on older servers is inefficient in terms of space, facilities and energy costs, staff time, and overall business health. Companies that are leery of investing in this economy should analyze their current costs and compare them to the savings afforded by these new technologies. Ted Friedman, Vice President and Distinguished Analyst at Gartner, says, “In most cases, the

cost of implementing the steps will be far outweighed by the savings that can be realized.”

### **MAXIMIZE YOUR IT INVESTMENT**

Consolidating and virtualizing the database environment on higher-performing equipment delivers significant savings and operational benefits.

Today’s new, high-performance servers, coupled with virtualization technology, can replace older servers at a dramatically reduced rate. With virtualization, each hardware unit can host several virtual servers, each with its own OS, memory, connectivity, and processing resources. By cutting the actual hardware by a factor of five, 10, or even more, companies are realizing tremendous savings in electricity and cooling costs. In fact, one major American university consolidated its server and Oracle infrastructure and realized infrastructure operating cost reductions of about 40 percent.

In addition, by running five or more virtual servers on a hardware unit, companies are ensuring that processor and memory capacity are leveraged more fully, reducing waste and increasing performance and productivity per watt of expended power.

On the software side, Oracle deployments are usually licensed on a per-processor basis. If you’re running several virtual machines on each hardware unit, you can reap significant savings and leverage each license more fully.

Management burdens are also simplified, with server deployment becoming a matter of software commands, not physical setup. Standard templates or configurations for application servers can be applied to multiple instances simultaneously, and management tasks can be carried out centrally and applied to all the servers in the department or company. This reduces server rollout time from weeks to hours, saving thousands of dollars with each deployment, and it can help keep IT staff requirements down as well.

Another example of these benefits in action comes from a global staffing and human resources company. By moving its Oracle PeopleSoft and Oracle E-Business Suite applications to a consolidated and highly efficient environment, it realized a 600 percent performance increase in calculating commissions, and a 3x-4x increase in payroll batch processing speed. The company also reaped

<sup>2</sup> “IT Executive Views: IT Priorities and Investments,” IDC, April 2008.

<sup>3</sup> “Cost Cutting in Data Management and Integration,” Gartner, March 2008.

significant financial savings due to reduced maintenance and staffing costs.

In addition, virtualized servers running on powerful hardware are easier to back up and copy, as it were, to different physical units. Where a server outage repaired manually would have caused, say, three hours of downtime in the past, a server outage in a virtualized setting could be remedied instantly. Most virtualization management tools enable administrators to automate failover routines, so the company can issue uptime guarantees and offer competitive service level agreements.

The same technology helps in the event of an emergency or disaster. Recovering data and restoring operations with standardized, virtual server instances is simply a matter of deploying the servers on undamaged hardware.

With easy deployments comes the potential for configuration management as well. If a certain department has a basic set of server requirements, IT can maintain a standard server template for its needs. Any time a request comes in, a new instance can be deployed automatically.

The latest generation of virtualization technology includes live partition migration, which means running partitions can be moved from one physical server to another without interruption. The reduction in planned downtime and the potential for energy-saving configurations using this capability—by consolidating workloads dynamically during low-demand periods—is dramatic.

These virtualization-driven efficiencies shave weeks off testing and production cycles, accelerating workflows and enabling the company to speed its time-to-market. In an environment where business requirements change quickly and new opportunities have increasingly narrow windows, this increased agility is a tremendous asset.

Thus, the immediate savings in terms of reduced electricity costs and management overhead are augmented by softer—but no less compelling—benefits of enhanced continuity, agility, and productivity.

Some vendors make the process, and the decision to invest in a refresh, even easier by offering customized financing options. By spreading the cost of an upgrade across the lifecycle of the equipment, companies can minimize up-front costs and leverage a predictable payment schedule

that makes budgeting and forecasting easy. Using a financing program this way, costs stay manageable and the ROI of the upgrade can be measured more accurately, as companies track the increased revenue and efficiency in line with the technology upgrade, and pay for the equipment incrementally as its benefits accrue to the bottom line.

### **IBM FOR ORACLE: THE RIGHT MOVE**

When you're ready to realize the many benefits of upgrading your Oracle database infrastructure, IBM is the logical choice. Upgrading to IBM IT products delivers all the advantages of consolidation and virtualization while ensuring high performance and increased operational efficiency.

Using optimized infrastructure equipment from IBM, your company can reduce energy consumption and costs significantly. In addition to the savings from consolidating a larger number of servers onto a smaller group, IBM offers Systems Director Active Energy Manager, which monitors and manages the energy components built into IBM systems. It can keep track of the power consumption and temperature in your servers and storage devices, and apply caps and off-peak power savings modes. With Active Energy Manager, companies can allocate less power and cooling infrastructure to IBM servers, lower their overall consumption, analyze power usage trends to plan for growth, and alert administrators as needed.

Using powerful IBM servers also enables easy scalability to support growth and expansion. In addition, as discussed, virtualized infrastructures bring lower software licensing fees, and their flexibility and ease of provisioning enable IT departments to automate routine management tasks and increase agility. Virtualization is a key component in all of IBM's systems offerings.

IBM is also among the first technology vendors to develop Live Partition Mobility (LPM) in its virtualization solution stack for its UNIX-based customers, and the first to have LPM certified for Oracle workloads. IBM has also offered virtualization on its mainframe for years, and has developed a set of proof points to demonstrate the value of running Oracle VM on IBM's commodity-based servers. As mentioned, the ability to move live partitions, whether using an IBM- or Oracle-authored solution, brings unprecedented flexibility and efficiency to data center maintenance.

IBM is a total solution provider for Oracle environments, delivering optimized hardware, software, and services. IBM's

Global Business Services and its vast network of business partners have unmatched experience in customizing and implementing Oracle applications for customers. Through packaged or customized applications, and with on-site or off-site consulting and training, IBM provides world-class expertise and solutions at substantial cost savings for clients.

In addition, IBM's financing options put these solutions in reach of every company. IBM offers competitive rates, customized loan and leasing structures, clear terms and conditions, and it combines all the equipment and services costs into a single monthly payment. This helps conserve

cash for other needs, accelerate ROI, improve cash flow and budget processes, and avoid obsolescence.

Today's businesses need to increase service levels and productivity, but they lack the budget and resources for major technology overhauls. By consolidating and virtualizing the IT infrastructure, however, these companies can better meet their operational goals and increase agility while saving money on energy and maintenance. The IBM dynamic infrastructure systems approach is the optimal solution for upgrading an Oracle environment and reaping the benefits of virtualization and consolidation. ■



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