Server consolidation may reduce costs, but it pays to take a careful approach.
today's global business environment were a traffic light, it would be stuck on yellow. It seems that every other day, a Fortune 500 company announces layoffs, misses earnings, or—even worse—discloses accounting irregularities. With such economic uncertainty, companies usually focus on existing resources, cutting operational expenditures where they can.

One cost-cutting measure gaining steam is server consolidation. According to industry analysts, reducing the number of servers deployed over the years now tops the list of many corporate IT departments as a means of lowering costs and making more efficient use of IT resources. But before planning a full-fledged server consolidation program, enterprises should look at the broader picture.

Too much of a good thing?
In the 1980s and early 1990s, corporations hailed the decentralization of IT. Client/server technologies advanced and price points dropped, enabling companies to deploy servers closer to their end users. Often, multiple servers running a single application were deployed in multiple locations. Companies found themselves in a server administration nightmare and learned that decentralization can be too much of a good thing.

Industry pundits have poked fun at “server sprawl,” but it is a pressing concern for many organizations. Operational costs are out of control, as corporations unnecessarily spend millions of dollars on power, service agreements, and physical space. Companies are trimming headcount in their IT organizations, while calling upon remaining staff to be more efficient and manage infrastructures that are increasingly complex.

Even businesses not facing a revenue crunch still need to implement changes more quickly across the enterprise, while demonstrating significant ROI for IT initiatives.
Underutilized resources and increased management complexity are the unfortunate legacies of distributed computing.

**Back to the future**

But now, the pendulum has swung back. Recentralization is the rage—and for good reason. Saving money by supporting the same number of users with fewer servers is a sound idea based on simple economics. According to Gartner, Inc., 94 percent of companies are considering or undertaking server consolidation.¹

An economic argument convinced the State of Michigan’s Family Independence Agency, an organization with 13,000 employees in more than 150 locations. The agency needed to upgrade and consolidate more than 250 servers spread across the state, while drastically reducing labor expenses.

“Cost of support was our biggest issue,” says Stan Rusiecki, director of technical services for Michigan’s Family Independence Agency. “We simply had too many distributed servers and required too many personnel resources to maintain them.”

**Take the measured approach**

The primary question posed today is whether to live with an infrastructure based on a larger number of less-expensive “commodity” servers, or plan for an infrastructure built around a smaller number of more powerful servers. Most technology vendors have solutions for each scenario. But companies should be careful not to let the pendulum swing too far toward recentralization. Plan your approach carefully.

» Study the financial aspects of consolidation in advance. You may find it is better for your business to approach consolidation incrementally.

» Do not assume that costs for software licensing will automatically decrease. Examine your licensing agreements in advance.

» Focus your initial consolidation efforts in areas that yield the greatest ROI. For example, consolidation of file/print servers often delivers an impressive return.

“We’re always realistic with our customers,” says Laura Bosworth-Bucher, director of Enterprise Systems Group Solutions Engineering at Dell. “Most can save significant sums through server consolidation, but it is a very complex process. Right now, we are implementing large numbers of server and storage consolidations for our customers, but only after helping them study and understand what infrastructure will deliver the best results for their businesses today and tomorrow.”

**The spoils of consolidation**

When done correctly, server consolidation offers real value to the enterprise. Some of these values show up in reduced maintenance and administration costs and decreased software expenses. These savings are driven by a smaller number of servers that need fewer software licenses. Companies achieve higher ROI by decreasing the number of data centers and IT resources needed to manage the systems.

Motorola, for example, consolidated its messaging servers from 350 to 210. With Microsoft® Exchange running on Dell™ PowerEdge™ servers, the company expanded storage space, dramatically simplified server and storage administration, and increased system availability to 99.99 percent.

Another compelling benefit of server consolidation is the ability to solve sticky systems management issues brought on by past server decentralization. Using consolidation, IT departments need to manage fewer servers and can standardize on consistent systems management procedures. Certain practices—such as automating routine functions like system deployment, management, and refresh—help reduce management time and system downtime, improving IT service levels and productivity.

In a consolidated environment, users find that applications are more reliable and deliver higher performance—thanks to new servers that are faster and more powerful. At the same time, companies want to boost employees’ productivity by providing them with better access to corporate information. Server consolidation can play an essential role in building an infrastructure to support the development of new applications that streamline information access.

According to IDC, a market intelligence and advisory firm, “The greatest strategic value that companies gain from consolidation is an improved ability to efficiently adapt the infrastructure to incorporate new technologies and respond to new business requirements.”²

**Not just for servers anymore**

While the industry is abuzz about server consolidation, storage consolidation is also gaining its share of followers. For most companies, undertaking both server and storage consolidation makes good business sense.

A frequent outcome of server consolidation is improved access to information—thanks to faster servers. The same benefit results from storage consolidation. For
example, a storage area network (SAN) can help companies provide extremely high availability of business-critical data. At the same time, storage consolidation and centralization help administrators easily manage more terabytes of information, while achieving better utilization of storage media.

**Plan ahead with Dell**

Dell offers the right mix of tools, products, and services to help ensure a successful consolidation that saves companies both time and money.

Because accurate, upfront understanding of the benefits and potential business impact is a key tenet of server consolidation, Dell has developed a Server Consolidation ROI Analysis Tool. This free ROI analysis provides customers with a customized, highly accurate estimated business case that delineates expected costs, resultant benefits, potential savings over a three-year period, and demonstrable ROI of the proposed consolidation.

With deep technical and implementation expertise, Dell Professional Services can develop plans that meet a customer’s needs. The company also offers the Dell Server Consolidation Assessment Service, which includes complete tools-based discovery, workshops based on the discovery sessions, and a detailed Migration/Consolidation Readiness Assessment. Because it is tool-based, Dell provides the technical assessment service at a predictable cost.

Obviously, a critical element of any successful server consolidation effort is the hardware used. Dell PowerEdge servers are known for their high rack density, manageability, and performance, providing a broad offering of cost-effective choices for server consolidation.

For companies undertaking physical consolidation (reducing the number of data centers, for example), it is important to choose servers that offer significant space savings through rack optimization. Renowned for rack-dense design, the Dell PowerEdge 1650, 1655MC, 2550, and 6650 servers are designed for environments where space is at a premium.

In taking on workload consolidation (moving more users onto fewer servers), server performance is paramount. The PowerEdge 6650—based on the latest Intel® Xeon™ processor—provides new levels of performance. In addition, the PowerEdge 4600 outperforms previous Dell models of...
two-way servers, supporting more users than ever before.

For example, the Los Angeles office of Paul, Hastings, Janofsky & Walker LLP, an international law firm with more than 800 attorneys, chose to standardize on the Microsoft Windows® 2000 Server platform. The firm then consolidated its data center by installing more than 75 rack-mountable Dell PowerEdge servers to replace a large number of smaller servers. This consolidation effort not only helped maximize the 1,000 square feet within the data center, but also reduced support and administrative costs.

Managed care
The first step toward server consolidation within a company, however, is logical consolidation. Unlike physical and workload consolidation, the fundamental tool for logical consolidation is systems management software.

Dell OpenManage™ remote management software helps companies standardize on consistent systems management procedures. Administrators can deploy software, manage hardware configurations, monitor system health, take inventory of IT assets, and migrate users and data to new platforms—all remotely.

OpenManage lays the foundation for both physical and workload consolidation with the right tools for managing the environment once consolidation is complete.

The Dell Intelligent IT initiative works together with OpenManage to enhance the value of IT infrastructure. By applying appropriate systems management tools across installed IT systems (clients, servers, storage, networking, service, vendor solutions), Intelligent IT can rapidly deploy local or remote systems, anticipate future problems, resolve outages quickly, and track assets. Intelligent IT helps lower TCO and helps to ensure that new systems contribute to the bottom line quickly.

According to IDC, “The Dell product, business, and sales models are well suited to the way server consolidation is evolving... With its broad family of PowerEdge servers and OpenManage software, Dell provides the underlying technology necessary to build a consolidated platform and create a common management infrastructure.”

The right mix means success
Server consolidation is a powerful weapon in the IT arsenal. It can deliver measurable ROI, but companies should launch it only after careful thought and analysis. With the right mix of upfront planning, hardware, software, services, and support, server consolidation may be one of the best ways to reduce operational costs and optimize existing resources in today’s uncertain economic climate. As always, Dell leads the way with high-density, high-performance servers; ROI analysis and impact assessment tools; and the implementation expertise to help you achieve your consolidation goals.

For more information, please visit www.dell.com.

About the author: Paul Williams is a contributing writer for Dell Insight.

Sources
3 Ibid.