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B2C Technology Story

Web Summary:

Consolidate Your Glass Houses?

by Leon A. Enriquez

Reading Time:
8 minutes

Reader Benefit:
♦What SMEs should know about server consolidation?;
♦The impact of server consolidation, and the benefits;
♦Some ideas on how to approach server consolidation in the real world scenario.

As servers proliferate rapidly, often, you lose track of where the physical server resides in your company's network infrastructure. Or perhaps, you may have too many small servers all over the place – that your IT department has a nightmare trying to manage the systems infrastructure, and at the same time, handle the quirks and problems that users encounter in a typical working day.

In the situations highlighted, these present an opportune time to consider server consolidation for your SME environment. In terms of cost considerations, server consolidation offers the opportunity to achieve the business objectives that SMEs must quickly address, relative to market competition. Put another way, server consolidation means putting your company's knowledge assets in a single location thus streamlining your valuable intellectual assets.

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Your company may be a typical SME. Your server proliferation scenarios goes something like this. From your early start-up days, your IT infrastructure grew with your business transactions – from a few desktop PCs and even laptops, in tandem with your company's headcount. Then, as your workforce grew, you began to cluster work into the separate departments, e.g., finance, human resource, sales, marketing, operations, logistics, etc.

Each department was segmented by their own LANs, and servers were added ad-hoc to create islands of information – that did not communicate well across your entire company.

With the Internet, came the need for e-mail messaging and Web connectivity, and some aspect of a company-wide connection was achieved. Later, as you added more and more applications – to meet your business needs and market effectiveness – the efficiencies did not seem that much better. Now you wonder why about what's happening.

As servers proliferate rapidly, often, you lose track of where the physical server resides in your company's network infrastructure. Or perhaps, you may have too many small servers all over the place – that your IT department has a nightmare trying to manage the systems infrastructure, and at the same time, handle the quirks and problems that users encounter in a typical working day.

In the situations highlighted above, these present an opportune time to consider server consolidation for your SME environment.

In terms of cost considerations, server consolidation offers the opportunity to achieve the business objectives that SMEs must quickly address, relative to market competition. Put another way, server consolidation allows you to:

1. Recentralise your IT effort;
2. Merge workloads for cost and manageability; and
3. Combine servers into a common system.

For instance, integrated systems are too large to run on small servers, and are too critical to entrust to the instabilities and management issues that exist in these environments. The focus of enterprise application deployment must move to more scalable and more stable platforms. Here, consolidation is the right solution.

In terms of service delivery, the following are some of the more frequently encountered problems:

- Service availability, e.g., outages of significant duration;
- Service response times due to LAN bottlenecks or overload;
- Difficulty of developing new cross-application or data services;
- Ability to support Web services based on secure and consistent data; and
- Uneven data integrity and security.

Initially, small server environments were implemented under the guise of savings from reduced server costs. With experience, many SMEs have found that the actual operating costs of these systems is not limited to just server cost. In fact, the total cost to the company is actually much higher in the distributed environment.

Just consider that the simple ballpark cost ratio of: people to hardware to software which approximates 3:1:1 over the long haul, and you get the picture of the cost of IT expertise.

Not surprisingly, larger, more adaptable computing platforms, concentrated data availability, reduced network traffic requirements, and a single point of system management and support – offer significant advantages to mission-critical applications.

Many companies are even now compelled to seriously consider consolidation as the solution for addressing changing business requirements.

Box Story 1:

What is Server Consolidation?

In simple terms, server consolidation optimises:

- IT resources (such as servers, storage, network, etc.);
- Supporting IT expertise and staff;
- Physical office space requirements or real estate; and
- Cost-effectiveness of IT systems and infrastructure.

Server consolidation thus enables information to be continuously accessible, while meeting the changing IT needs of the company.

Very often, in most decentralised environments, each server is used to host a single application and is sized to meet peak workloads that occur infrequently. The processor utilisation here is often less than 30 percent. At best, storage utilisation is about 50 percent.

When multiple workloads are consolidated on a single server, there is an excellent opportunity to reduce total capacity. This is because the peak workloads for one application may not coincide with peak workloads of another. Thus, consolidating workloads or applications can reduce the total amount of excess capacity that must be reserved.

Box Story 2:

Is Consolidation for You?

Check whether your firm is a good candidate for server consolidation (Source: Infoworld). **It's time to consolidate when…**

1. You start losing track of your servers;
2. Your hardware is having seizures over scalability;
3. You have more systems administrators than you have users;
4. You're running 15 different operating systems (includes different versions!);
5. You don't know if you are in compliance with all of your software licenses;
6. Capacity planning is a another word for buying more servers;
7. Department managers routinely purchase and install their own servers – but leave management to you;
8. Utilisation rates for more than half your servers are in the single digits;
9. Physical security of every server cannot be accomplished by locking the door to a single room;
10. You spend more money on server upkeep than the big organisations e.g., the government.

Box Story 3:

Server Systems That Impact High Costs

In terms of operational costs, the following problems contribute to higher overall costs:

1. Controlling system management costs are more difficult;
2. Network management;
3. Configuration management;
4. Problem and change management;
5. Operational management, i.e., for both automated and manual operations;
6. Security administration costs;
7. Requirement for diverse skills;
8. Hidden costs inside departmental operational costs;
9. Excess server-based software license costs;
10. Increased costs due to poor utilisation of resources such as servers, storage disks, maintenance; and
11. Lack of scalability, i.e., demand growth results in further server proliferation.

Box Story 4:

Consolidation Study Findings

According to a GartnerGroup study, consolidating six small servers into a pair of larger machines provides a substantial total cost of ownership savings of 35 to 40 percent – primarily in internal support costs.

The study took into account that servers required the following internal support disciplines that accounted for the majority of the savings:

- Storage management;
- Backup;
- Administration;
- Hardware activity;
- Trouble-shooting;
- Performance tuning; and
- Monitoring

The benefits revolve around the need to regain control of the IT infrastructure. Obviously, this control includes the management of costs. Specifically, hardware costs, software licenses, facilities requirements, cost of outages, manpower requirements, and the loss of business leverage caused by the lack of complete data in a timely fashion – should all be considered in evaluating consolidation.

The study shows that the cost of administrative support (people) is significantly reduced by server consolidation efforts. The people costs are already the major component of IT budgets and it is likely that they will grow in intensity while hardware/ and software costs will diminish. Therefore, consolidation offers a considerable cost savings potential while affording a more robust, integrated platform.

About the Author

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