

BEST OF BOTH WORLDS

A strategic approach to storage consolidation can help restore centralized control of corporate IT infrastructures.



“If you build it, they will come.” That well-known line from the movie “Field of Dreams” also applies to the technology storage environment at many corporations today.

In recent years, storage vendors have designed and built—and IT departments and their consultants have deployed—storage devices capable of containing volumes of data that would have seemed uncontainable ten years ago. No matter how much storage capacity an IT department provides its users, however, the capacity always seems to be at imminent risk of filling up.

Driven by proliferating email and ERP applications and the digitizing of every business interaction—as well as regulatory requirements like the Sarbanes-Oxley Act of 2002 to keep all of those digitized business interactions readily available—storage demand is doubling every few years—or

less—at most corporations. IT directors, as a result, are faced with the need to expand their storage environments to accommodate more data in an ever-accelerating race against time and budgetary constraints.

Not surprisingly, storage consolidation has become a buzz phrase for IT departments looking for ways to escape the escalating storage-requirement rat race. More storage for less money: The promise of storage consolidation can seem like the way out of all the churning complexity that characterizes most storage environments today.

In fact, according to Logicalis Technology Consultant Mike Valora, before IT directors can resolve the complexity they face in their storage environments, the directors first have to turn and face it head-on. And in most cases, he says, that step has yet to be taken.

“When we ask IT directors how much storage they have, they can usually give us an exact answer,” Valora says. “But when we ask them how their storage capacity is being used, they don’t actually know. They have rough ideas. They know Exchange accounts for this much and SQL accounts for that much, but they don’t know the file types, the file ages, or the last access times of the files that occupy their storage devices.”

The absence of that kind of fundamental file characteristic information makes it very difficult for organizations to accurately size their storage usage and requirements, he adds.

Storage is too often treated like a container for which the only consideration is capacity, Valora



says. What goes into the container, beyond the structured data from databases and other specific applications, is indiscriminately accommodated.

For most IT departments, however, the unstructured data is what's overwhelming their storage environments. Until the flow of MP3 files, JPEGs, and proliferating PSTs, PPTs, XLSs, and PDFs is moderated and managed, any attempt at storage consolidation is like treating the symptom and not the disease.

EVERYTHING GOES HAND IN HAND

A plethora of vendors sell and install storage devices. Logicalis has developed its storage consolidation service to do much more than make the storage container bigger.

"We advise our clients to look at the consolidation of storage and servers together as part of an integrated strategy based on their overall IT needs today and in the future," Nessen says.

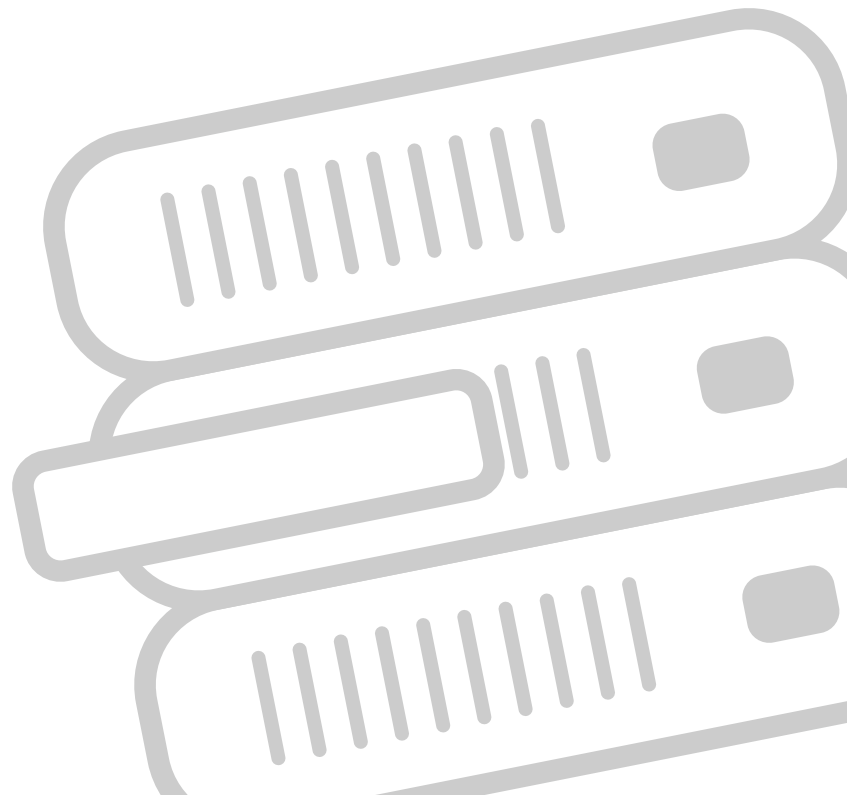
"Everything goes hand in hand. If you try to separate servers from storage, you are always missing half the picture."

Although he admits to being a storage guy at heart and by training, Nessen warns that IT directors who decide to use storage as a starting point for consolidation will miss out on the significant opportunity to take control of the flow of data into storage in the first place. As a result, they end up embedding their storage problem instead of solving it. Conversely, corporations that start with servers often find they have to revamp their server consolidation when they finally get around to consolidating storage. "It's always better—and cheaper in the long run—to do it the right way from the beginning," Nessen notes.

The right way, according to Nessen, is to evaluate and understand the overall IT environment before consolidating anything. Toward that goal, the first step Logicalis recommends taking with its clients is to conduct a thorough and critical inventory of what's out there and how it's being used.

Logicalis then takes its evaluation beyond just the technology and provides clients with a detailed analysis of the financial implications of different consolidation choices. A distinguishing value-add from Logicalis, financial modeling—which establishes the return on investment (ROI), total cost of ownership (TCO), net present value (NPV), and other calculations favored by CFOs—helps the IT department support its case for a long-term consolidation strategy.

Many IT departments today depend on a much less sophisticated approach to buying storage, Valora says: "Overbuying is the conventional approach in many IT shops." A deeper understanding of the financial implications of technology choices, he adds, can empower IT directors to make better choices—and make them more convincingly. Once the flow of data to storage is better calibrated and managed, for



example, it becomes possible to buy storage as it's needed, instead of years in advance. Besides rationalizing and optimizing the cost of storage, being able to translate technology into financial terms has the distinct advantage of getting the IT director out of the revolving door of asking for more money for more storage every few years to avert yet another looming crisis.

ONE THING LEADS TO THE NEXT

It is true that storage consolidation can deliver significant short-term savings in many areas,

from floor space and energy consumption to new equipment and maintenance costs, but Logicalis Technology Consultant Steve Pelletier advises clients not to jump at short-term gains. "You need to consolidate intelligently so you are not putting everything on your most expensive storage," he says.

Not all storage is created equal; it certainly does not all cost the same. A Fibre Channel SAN, for example, is very expensive, so you don't want to use it for your least valuable data. The trade-off

CENTRALIZED DECENTRALIZATION

It used to be the only way to accomplish acceptable performance in branch offices was to put servers and associated storage out in those locations. Decentralization was the name of the game, and IT directors watched—some in horror—as the centralized data-center model was dismembered and scattered to the farthest geographical reaches of the enterprise. Servers were cheap, and everyone seemed to want their own. Direct-attached storage followed the servers to the branches.

The distributed computing paradigm had some problems, however. All those servers and all that storage spread over all those places wasn't very efficient, and it made management almost impossible. Underutilized resources in branch offices were trapped by the unresolved conflict between performance and centralization.

No longer. New Wide Area Application Services (WAAS) technology from Cisco now makes it possible for end users in branches to have high performance and for IT departments to have centralized consolidation. Combined with Cisco Application Networking Services, WAAS is designed to scale to support thousands of branch offices and up to millions of TCP connections with up to 16-Gbps performance in a fully scaled, load-balanced deployment.

THE NET RESULT

Early efforts to bring data from remote branches back to centralized control amounted to little more than data compression. WAAS goes far beyond compression and enables IT directors to configure the system for specific applications and establish priorities, according to Logicalis Vice President Ron Temske. "With WAAS, you are able to make Exchange, Oracle, and SAP your critical applications," he says. "Or you could establish that SAP trumps all. You have that kind of control."

The net result, Temske adds, is that the inherent conflict between centralized management and acceptable performance for the end-user community has been resolved. It is now possible to integrate branch offices into a centralized consolidation strategy. Just as WAAS technology makes it possible to integrate remote branches more efficiently into a consolidated IT infrastructure, Logicalis' approach to WAAS implementations integrates the technology of network consolidation into the financial well-being of a customer's overall organization, Temske says.

"There's more than just technology involved," he says. "Many IT directors know qualitatively that consolidation makes sense, but they don't know how to measure it in terms of return on investment or total cost of ownership. We help with both the technology and the financial analysis. IT directors and CFOs are on the same side. We help them speak the same language."

is performance. You can buy Fibre Channel disks with different speeds, or you can buy SATA disks at a much lower price, but with a much lower performance.

“This is where you need to get into tiering,” Pelletier says. “It’s also where you need to have a discussion about storage virtualization to allow you to easily migrate data between tiers.”

This is also the point at which storage consolidation and data management converge—or should converge.

The trouble with getting into data management is that it involves making decisions IT directors can’t make on their own. What constitutes mission-critical data, and how long does data stay critical? What types of files need to be immediately available on expensive Fibre drives, and which ones can be archived and/or moved to tape? How long do you have to keep the sales department’s email messages? How often does someone in a branch office really have to be able to retrieve those huge microprocessor designs in less than a fraction of a second?

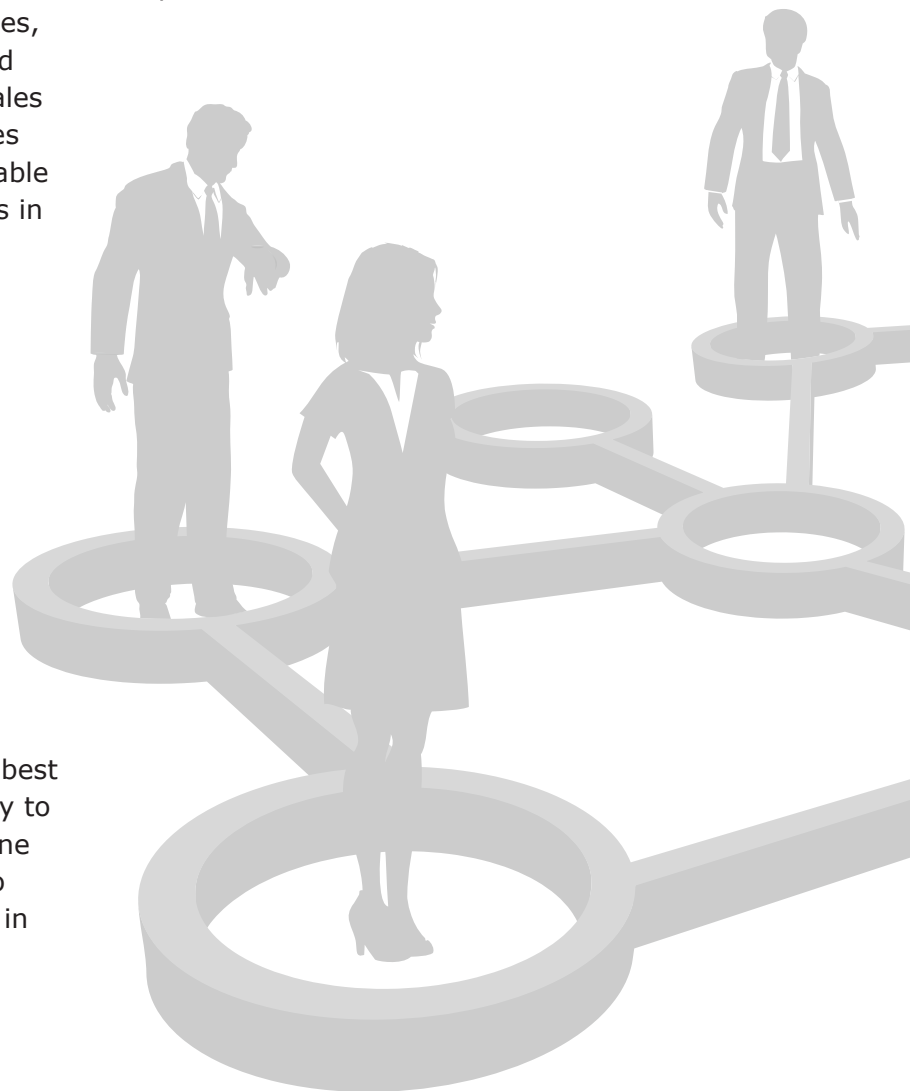
These decisions involve stakeholders outside IT ranging from compliance officers and HR directors to the CFO, as well as most of the occupants of the executive suite.

“We recommend to everyone that having the best possible data management strategy is the way to go, but it’s a big undertaking, and not everyone is willing to do it,” Nessen says. “The key is to break it down into incremental steps that are in line with an overall consolidation strategy.”

One of those steps is a design workshop that Logicalis conducts for clients to help them

outline a strategy that fits their short-term needs and sets clients on a course at their own pace toward their long-term objectives. Without an overarching strategy, Nessen warns, you run the risk of missing major opportunities to leverage consolidation across the enterprise and may actually end up increasing the level of complexity that you originally intended to simplify.

Within the context of a larger consolidation strategy, storage consolidation holds the promise not only of tremendous savings but also of increased management capabilities that realize a level of centralized control previously possible only in a centralized (i.e., mainframe) data-center model. “It’s the best of both worlds,” Nessen says, “but you don’t get the best results unless you approach it systematically. That’s where we can help.”



HAVE A NICE WEEKEND

The benefits of virtualization, as told by Jeff Nessen, Logicalis IT Consolidation Practice Manager.

JEFF NESSEN

I received a call from a customer on a Friday afternoon. This was their first foray into running a virtualized storage system, and they were panicked because their email archiving had run out of capacity.

CUSTOMER (ANXIOUSLY)

We already called and ordered more drives.

JEFF NESSEN

You know, we could let your system go to 95 percent utilization instead of 90 percent and free up 5 percent more volume that way.

CUSTOMER

Oh? How long will that take?

JEFF NESSEN

Just a couple of minutes. You want me to do it?

CUSTOMER (HESITATES)

Right now?

JEFF NESSEN

Yes, right now. This doesn't impact your actual production. Let me just change the slider here a little bit and click apply. OK. That's done.

EPILOGUE

The short-term storage crisis was averted, but the customer may still need to install new drives as its volume of data into storage increases. The flow of data into storage, however, can be moderated by proactively managing the types of data that need to be stored and implementing a tiered storage strategy. Virtualization can help with that as well.

CUSTOMER

Really? Nothing went down.

JEFF NESSEN

Of course not. Now I'm going to allocate the extra space to the volume. OK, that's done.

CUSTOMER (SKEPTICAL)

That's it? It's done? Really?

JEFF NESSEN

Well, go into Windows and make sure you see the additional space.

CUSTOMER (EXCLAIMS)

I see it! The volume has grown by 600 gigs.

JEFF NESSEN

OK, there you go. Have at it.

CUSTOMER (PLEASANTLY SURPRISED)

Wow! We thought we were going to have to work all weekend.

JEFF NESSEN

Nope. Not necessary. It's 5:00. Go home already. Oh...and have a nice weekend.



ABOUT LOGICALIS

Logicalis is an international provider of integrated information and communications technology (ICT) solutions and services founded on a superior breadth of knowledge and expertise in communications and collaboration, data center optimization, application development and integration, and outsourcing and managed services.

With international headquarters in the UK, Logicalis Group employs more than 1,900 people worldwide, including highly trained service specialists who design, specify, deploy and manage complex ICT infrastructures to meet the needs of more than 6,500 corporate and public sector customers. To achieve this, Logicalis maintains strong partnerships with technology leaders such as Cisco, HP, IBM, and Microsoft.

The Logicalis Group has annualized revenues in excess of \$1 billion from operations in the UK, the US, Germany, Latin America, and Asia Pacific, and is fast establishing itself as one of the leading IT and communications service providers, specializing in the areas of advanced technologies and services.

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