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Are You Ready for a SAN?

Five Ways a Storage Area Network Can Improve Your IT Life

If your IT organization is struggling to manage growing data in a direct-attached storage environment, it might be time to migrate to a SAN. This document highlights five ways that a SAN can reduce storage- and server-related time and costs, while improving data protection and availability.

Are You Controlled By,

rather than in control of your IT infrastructure? If your answer is yes, you're not alone. In a recent poll of 250 UK IT managers conducted by Loudhouse on behalf of Microsoft, 76 percent felt that infrastructure support and crisis management demands were negatively affecting the value of IT for their businesses.

The survey concludes that:

- 62 percent of IT managers spend more than a day a week putting out fires

- 28 percent of their time is spent maintaining systems

- On average, their organizations lose three working weeks a year to downtime

- 38 percent are called into work outside of regular working hours at least once a month

- More than half believe IT efficiency and productivity would improve if maintenance and crisis management could be controlled.

For many midsized organizations, change and crisis management become major headaches, particularly in today's 24x7, always connected world. And as companies grow, there comes a time when direct-attached storage (DAS) is the root of many of these problems. At this point, investing in a storage area network (SAN) may be the most cost-effective solution for storage management. A SAN will minimize change and crisis management, increase reliability, and provide IT personnel with more time for strategic initiatives.

Let's look at five ways a SAN can dramatically improve your storage management situation:

1. **Improve efficiency of storage utilization**

2. **Reduce time and cost of server management**

3. **Simplify storage management**

4. **Enhance data protection and availability**

5. **Enable virtualized server infrastructures**

Improved Efficiency of Storage Utilization

SAN implementations provide potential capital investment savings by increasing storage utilization from 50 to 90 percent.

DAS storage utilization is inherently inefficient because storage capacity is not pooled and accessible by all servers. While one server may be running out of disk space, another may be utilizing only a fraction of its storage capacity.

A SAN pools capacity, enabling all servers to share storage resources. As a result, a SAN delivers up to 90 percent storage utilization where a typical DAS environment is likely to report utilization closer to 50 percent. Utilization efficiency is increased further in SANs that enable you to mix disk drive sizes within the system and effectively utilize *all* the capacity.

Storage solutions from Xiotech offer this capability, while delivering maximum flexibility and efficiency in how servers access and share the storage pool.

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Reduced Time and Cost of Server Management

SAN implementations dramatically reduce the time and disruption of common server maintenance tasks.

When all your storage is attached to servers, you probably buy servers simply to add capacity. This increases the number of servers you must manage, and adds to the time and risk involved with inevitable software installations and upgrades. In addition, many common, but necessary, server management tasks require downtime.

With a SAN, you no longer need to add servers to increase capacity. In fact, you can probably remove some servers from use. And many of the server management tasks can be done during normal business hours without an interruption of service. This reduces your capital expenses and, more importantly, your ongoing management costs.

But perhaps the greatest server management benefit involves application upgrades. Because your applications live on the SAN, rather than on individual servers, upgrading these applications is far faster and less risky. What was once time consuming, interruptive, and problematic can be done reliably and in a fraction of the time required in a DAS environment.

Xiotech's virtualized storage solutions are unique in that they require **no** server-side software and enable servers with diverse operating systems to boot from the SAN. This dramatically simplifies and speeds server replacement, as well as software installations, upgrades, and patches.

Simplified Storage Management

SAN implementations optimize the storage environment with more reliability and less administration.

Effective storage management requires the ability to increase or decrease storage allocations, move data from high to low performance drives (or vice versa), move data from one location or chassis to another, and change RAID levels—all in a manner that is reliable, nondisruptive, transparent to the servers, and users, and easily accomplished.

Managing centralized storage in a SAN environment is much more efficient than managing it on disparate servers. With advanced SAN technologies, like those from Xiotech, you can do nearly all storage management—provisioning, changes, moves—easily and without downtime.

Enhanced Data Protection and Availability

SAN implementations provide a greater range of data protection alternatives in a manner that is easier to administer and more reliable.

Backing up a number of servers dispersed throughout your organization can be challenging. System restores can be particularly problematic, in terms of the amount of time it takes to restore operations, the potential for lost data, and the resources required.

SANs inherently provide improved data protection and availability compared with DAS systems. Most SANs are designed to ensure that disk drive or component failures do not result in data loss or downtime. They also simplify backups and enable the use of additional solutions for data replication and recovery.

For example, Xiotech's distributed, clustered SAN solutions ensure that data and applications remain available even during events that would cause many other storage systems to fail. And they integrate effortlessly with Xiotech's powerful software and replication systems to address the full spectrum of data protection and availability requirements.

Server Virtualization

Server virtualization can further simplify server management and reduce IT costs. Networked storage, like a SAN, is a requirement for server virtualization.

Your organization, like many others, may be investigating the benefits of server virtualization with products such as VMware ESX Server and Windows Virtual Server.

These benefits include:

- Increased reliability by having each application on its own "virtual server"

- Faster server deployments, requiring fewer resources

- Improved space utilization, and lower electrical and cooling requirements

- Reduced hardware maintenance and licensing costs

- Support for multiple operating systems on a single hardware platform (e.g., Windows Server 2003, Linux)

Server virtualization requires a shared storage environment, such as a SAN. Virtualized SANs, like those from Xiotech, complement the virtualized server infrastructure, improving allocation of disk space, facilitating movement of data, and further simplifying storage and server management.

Are You Ready?

As with all IT investments, the decision to invest in an upgraded storage infrastructure such as a SAN isn't made lightly. It's a significant investment with long-term implications that requires careful thought.

However, deploying a SAN can yield a significant return on investment in terms of real cost savings, operational efficiencies, flexibility, and reliability. Equally important, it will help you gain control of your IT infrastructure, lessen the burden of your existing change and crisis management, and give you back the time for more strategic initiatives.

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