

HP continues lead through the HP Open SAN Initiative

Synopsis

Overview: Business means money.

Being in business means being able to meet your customer's needs better than your competition. Staying in business means doing it at a profit.

Over the past years I have had the opportunity to talk to hundreds of customers and regardless of the industry they're in, they're concerns always come down to one of financials. It might be a concern over increasing data availability to increase their competitiveness to meet their revenue goals. Or, perhaps it's a concern over operational inefficiencies, which increase the cost of running the operations that are required to generate that revenue. Or, it might be a higher level concern over meeting profitability goals to improve shareholder returns. No matter what business you're in or what problems you're trying to solve, when you get right down to it most businesses today are concerned about Money. So, let's talk about the business you run, some of the challenges and problems your facing and the ways that Open SANs can enable you to meet your business goals.

Storage is Important:

Businesses from every industry segment are finding that their data is a corporate asset and that decreased access to data can have significant impact on their ability to meet customer needs and compete. There are many reports based on customer surveys that try to capture average business impact for data loss. A more recent one I read said that it's over \$80K/hour.

Now if you're like most companies, you probably don't have a lot of time to invest in assessing the business impact of data access on your environment, and you rely on industry averages for perspective. In the next 40 minutes we will discuss general rules of thumb and quick calculations. Our goal is to help you in creating back of the envelope calculations to build business cases for making investments that evolve your environment to an Open SAN so that you might better meet the challenges of your business and your financial goals.

Open SANs in Your Business

The HP Open SAN Initiative is a collaboration between vendors to deliver predefined and tested interoperability of heterogeneous components in the SAN. It's intent is to enable customers to have consistency in their storage and SAN management across the data center, or the distributed data centers, to increase their access to data, while decreasing costs for storing and managing data. The goal for any customer investigating or implementing SANs is to reduce operational costs across the data center, without changing the characteristics of the application environments. SANs enable customers to physically connect all storage together into one large network to enable better manageability and more virtual data management, while still enabling the application environments to be logically isolated, one from the other.

The key issues in these large, complex, multiple vendor environments are:

- Downtime for expansion
- Lack of storage resource utilization across hosts
- Operational inefficiencies with personnel
- Downtime due to operator error
- Duration of downtime for restoring data after a failure or disaster
- Costs of equipment for implementing online DR
- Inability to plan capacity expansion or growth
- Unique management tools and environments

And, the number one concern I find from just about every customer is that in these multi vendor environments, they become the system integrator and their data center the integration test center.

Building a Business Case

In speaking with customers I find that I can get their business issues down to four main areas. These are

1. Centralized Management
2. HA / Disaster Recovery
3. Backup and Restore
4. Data Sharing

Today we'll focus just on Centralized Management and Backup/Restore – the more common form of HA/Disaster Recovery. We'll drill down on each area and identify the more common costs associated with them. I will leave other forms of HA/Disaster Recovery and Data Sharing for another day. The main concerns today are centered around the costs of the operation in trying to attain higher availability goals for the majority of the data in the data center while trying to contain rising operational costs in the expanding data center environment.

Centralized Management

1. Centralized management refers to not only Storage Resources, but also Personnel Resources. Personnel Resources costs are associated with the basic management overhead and funding of the resources in addition to training, and the reuse and the effectiveness or efficiencies with which you utilize operational resources within the IT environment.

So, what does an Open SAN bring to this situation.

First, SAN administration tools across heterogeneous environments (Servers and Storage) enables personnel resources to be better versed in the software so that they make fewer errors while covering more systems. Basically it starts to cap the proportional resource to storage growth rate. Second, it enables increased opportunities for storage consolidation.

HA / Disaster Recovery based on Tape Backup

1. In our research of Data centers, we have found that Data Availability is defined in three ways: the speed at which data can be accessed (performance), the duration for which data can be accessed (fault tolerance/disaster recovery) and how broadly data can be accessed (data sharing). In order to discuss disaster recovery, we must also address backup, which is the most frequently used storage model for disaster recovery.

So, to start, let me give you a quick rule of thumb that was developed with the help of several customers. I call it the 2,2,2 rule. It goes like this:

- 2 hours downtime you've lost money
- 2 days downtime you've lost customers
- 2 weeks downtime you're probably out of business

Now if you want to get someone's attention in your business, just review this little rule of thumb with them and ask them to tell you which systems in your environment are the ones that could cause you to lose your business.

Based on the information we acquired, 85% of the data in the IT environment uses a tape disaster recovery model. What this means is that not only might they incur an average of \$3M business impact should a situation occur (36 hours average downtime by \$80K average cost of downtime), but they might also suffer data loss. The data loss might be minimal, depending upon when the outage occurs and when the last backup had been run, or could be great if the most recent backup will not restore.

How would an Open SAN change this?

Well, first the Open SAN increases data availability by moving customers away from the physical management and allocation of storage to one that is logical to make environments more dynamic and

virtual. This is done by first moving to a FC network. This network creates a grid, much like the power company's power grid, and provides almost unlimited paths of access to become available between servers and storage and between different types of storage devices. Then, management software is applied across the multiple environments to create a pool of storage that can be logically managed, configured and assigned.

Additionally, the SAN gives customers more options for how they perform storage management functions. A year or more ago, Serverless Backup was the talk and supposedly the answer to offloading application environments of backup functions. However, through SAN technologies and advancements in Backup solutions, application networks can already be alleviated of the backup overhead.

In Summary

Storage area networks provide an evolutionary path for increasing data accessibility in the storage environment while reducing the costs of purchasing and managing storage. To meet high availability goals, SANs began by addressing increasing the capabilities of the homogeneous environments. As they evolve, they will expand across the data center to address the greater needs of accessing data and managing storage in the heterogeneous environment. The HP Open SAN is an initiative that pulls together vendors from across the industry to be able to agree on the standards, the integration test suites, the investments and the products that will evolve to work together in that heterogeneous environment. Many vendors are actively participating, while others, although not active today, have made public their intent to support the HP Open SAN. Additionally, some of the participants are not development or product vendors, but actually are Channel Participants working to deliver and support the heterogeneous SAN in a one stop, no finger pointing manner.

While HP believes we have the right perspective for delivering SANs to the Data Center, and that the only winning SAN strategy is one that is as willing to open itself to its competitors, as well as its partners.

In order to bring you the best and most up to date and relevant information possible a decision was made to postpone inclusion of the full paper in the CD and make the paper available at HP's web site: <http://www.hp.com/visualize/programs/interex>. This paper will be posted throughout 2000 for your use, reference, and referral to colleagues.

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