AOL Case Study

FCIA
FIBRE CHANNEL INDUSTRY ASSOCIATION

Executive Summary

Summary

When AOL, a leading global Web services and content provider, was looking for the most reliable storage solution to provide content to over 24 million mail users and 56 of the best known brand websites, they standardized on the trusted foundation— Fibre Channel

Challenges:

- Consolidate a growing storage footprint, to reduce cost while maintaining a high level of availability

- Manage over 20 petabytes of distributed storage across a highly virtualized server and distributed storage environment

- Maintain a scalable infrastructure while adopting next-gen technologies such as Web 2.0, virtual machine deployment and distributed workloads

Fibre Channel Benefits:

- Simple, yet purpose-built storage network architecture that provides the highest availability, increases utilization rates and ensures business continuity

- Rich feature set of diagnostic and management capabilities to ensure the highest level of availability

- A purpose built storage networking technology with evolving standard to unleash the full potential of next-gen capabilities

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Customer

AOL, a leading global Web services and premium brand content provider, offers services to over 24 million mail users and manages content and advertisement for 56 of the best known destination brand websites– such as The Huffington Post, Moviefone and the trusted mapping source outlet MapQuest. In doing so, AOL is tasked with delivering content to consumers over a diverse network of sites that include mail, journalism, technology, and video to a global audience on every platform.

AOL SAN Responsibilities

AOL manages a diverse network of sites combining internet services, consumer content and entertainment that needs to reach a global audience on every platform. This network includes more than 20 Petabytes of stored data, and spans secure interconnected data centers from coast-to-coast that feed over 112 million unique visitors to its web properties monthly. A core mission of the storage operations team is to ensure every consumer experiences the world-class treatment of a valued AOL member. In doing so, they are under more pressure than ever before, to deliver the most reliable IT infrastructure possible. AOL's storage environment must be capable of both storing massive quantities of data and retrieving and delivering that data reliably every time an end-user request is received.

Building a Highly Available and Reliable Storage Solution

For AOL to provide the necessary level of availability, a complex, multi-redundant, distributed and highly virtualized server-to-storage backend network has been employed. A requirement of this storage network was to virtualize the block-level storage in order to properly segregate each data repository. For this, multiple storage zones needed to be created to help ensure availability during backups, and ongoing maintenance. A Fibre Channel solution was deployed in this environment that allowed for 50 percent of any sites storage to go off line due to maintenance, while still providing availability of the required data stores to maintain business continuity. Perhaps a challenge for other storage technologies, these requirements are routine for Fibre Channel. Fibre Channel has allowed AOL to continue their growth while maintaining the availability demands that made them the iconic global web services company we have come to know.

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Business Results

Over the past 25 years, AOL has grown into a multifaceted premium content provider and leading source of news, opinion, entertainment, community and digital information. With over 20 Petabytes of shared data across their data centers, AOL's IT department places a large emphasis on SAN criteria necessary to meet their service level agreements (SLAs). AOL has been a very longtime and avid user of Fiber Channel within their legacy, monolithic environments, such as AOL Mail, and is deploying business critical data from their newer heavily virtualized, distributed, and scale out environment on Fibre Channel as well. This has allowed AOL to increase utilization ratios as well as simplify the process of distributing data across data centers to place it closer to the consumers to improve their experience.

Unresponsive, slow data access or downtime is completely unacceptable for AOL. Fibre Channel allows them to architect a storage solution that was designed to avoid availability problems, ensure accessibility during upgrades, patches and maintain access to business-critical data stored across a distributed SAN.

The following were among the advantages AOL realized by deploying Fibre Channel:

- **Increased Reliability**

  Providing deterministic and consistent connectivity with sustained performance, Fibre Channel has allowed AOL to maintain consumer confidence while scaling through natural growth and web properties acquisitions. Fibre Channel's integrated diagnostics, monitoring and simplified management functionality seamlessly allowed for progressive expansion and increased resiliency throughout the changes

- **Improved Utilization Rates**

  Utilization rates run high in highly virtualized environment due to increased overall densities. As a result, consolidate IO can place critical strain on storage resources. Implementing Fibre Channel architecture helps to alleviate IO discrepancies and allow AOL to operate at the highest utilization ratios

- **Elastic Scalability**

  AOL has transitioned from monolithic storage to today's densely virtualized, scale out environment with distributed storage resources while in the process adopting a block virtualization infrastructure and zoning for segregation of data repositories. Fibre Channel has proven it can easily scale up and down in response to AOL's needs throughout their growth and transitions

A Closing Note on Fibre Channel

In considering the benefits above, one begins to understand why AOL trusts Fibre Channel for their critical storage needs. These enterprises realize that data connectivity is more than just about performance and must include reliability, scalability, and virtualization capabilities as well as data integrity, operational simplicity, and manageability. "Data availability is a primary concern of ours," says Dan Pollack, Chief Storage Architect, AOL. "It's imperative that our consumers have access to information and therefore necessary for us to operate highly available data centers at the highest efficiencies to minimize associated costs." "Fibre Channel has allowed us to achieve our availability requirement with significant savings, including improvements in effective utilization of personnel in the area of storage management."

Whether your storage infrastructure is providing content to consumers such as AOL's or if you are a small enterprise, Fibre Channel continues to prove its superior value in each of these areas, and demonstrates why it is the purpose-built storage solution of today and tomorrow.