Quantum StorNext Solutions

For Apple Xsan Deployments

INTRODUCTION

Xsan software is included as part of Apple's operating system, requiring only a Metadata Controller to manage the shared storage and the connected Xsan clients.

Xsan was installed with Apple's server rack-friendly Xserve server as the heart of the environment– Xserve met the stringent requirements of most server installations such as having redundant power supplies and cooling, RAID protection for the server's operating system software, and multiple ports for Ethernet and Fibre Channel connectivity.

Unfortunately, Xserve production ended in December 2010, and since then Apple users have been examining their options to maintain and extend their Xsan client-based workflows.

THE CHANGING PRODUCTION ENVIRONMENT

When Xsan was first launched, production environments were relatively simple and were highly project oriented. All assets tended to be grouped into project folders, and these all resided on a 'work-in-process' SAN. As needs grew, either new SAN 'islands' were created, or the existing SAN storage was simply expanded in an ad-hoc fashion.

Asset management, if used at all, was also highly project oriented and tied closely to naming files and folders by customer or project name and brute force searching across the entire SAN.

As content production best practices have evolved, asset management has emerged as a critical productivity and efficiency tool to deliver creative assets at various stages in the workflow. A well-integrated asset management system that ensures seamless access to both the work-in-process environment, and secondary tiers of content saves creative users from having to find assets across their increasingly sprawling environment, and focus instead on creating content and delivering projects on schedule.

Despite this increasing complexity, evolving Xsan environments want to retain the ease of use and compatibility of Xsan without retraining their users or introducing new costs for each workstation client.

While an Xsan environment may have begun as a small, Mac-only environment, today this same environment is finding that continuing to deliver outstanding creative content demands a highly capable, cross-platform environment that is dependable and efficient at every step and accommodates all leading editing and creative tools.

Further, Xsan environments today need to increasingly accommodate Windows-based editing workstations, and Linux- or Windows-based servers and workstations for dedicated workflow steps such as asset management, color grading, special effects, rendering or transcoding.

THE PIECE-MEAL SOLUTION DOESN'T MEET THE NEED

While Xsan architecture is simple, it does require a Metadata Controller (MDC) to sit at the heart of the Xsan shared storage environment to manage the interaction of the Xsan clients with the storage. This server must be fast, powerful, capable, and above all, must be highly reliable. Any MDC solution that does not meet these requirements risks downtime, increased management complexity, and the loss of productivity.

With Xserve no longer an option for Mac-only Xsan environments, some users are considering using less-than-broadcast-ready systems to function as the Xsan Metadata Controller Server.

To be considered broadcast-ready and highly capable—an MDC Server should meet the following definitions:

Be an appliance – that is, be dedicated to a single task with no other requirements that can lead to downtime and loss of efficiency that come from new software, updates, and unneeded services that can detract from the system's primary use. As an appliance, the system should fit into a standard data center rack and follow best practices for system design, mounting, and proper airflow to ensure the long life and consistent uptime of the system.

Be highly redundant – broadcast-capable systems must have redundancy in their key systems. They must keep delivering services even in the event of failure in key systems such as power, cooling, operating system drives, or connectivity to primary storage or the metadata network. A failure of a power supply, cooling fan, storage connection port, network connection port, or host system disk drive should not impact the clients that depend on the system. This is critical, of course, in broadcast or playout environments, but also in post-production environments where component failures can lead to downtime, loss of productivity, and potential loss of content.

Unfortunately, neither the Mac Pro nor Mac Mini systems fit the need for a broadcast-ready system. Neither have redundant cooling and power supplies, or the multiple ports to accommodate the primary storage connectivity (high-speed Fibre Channel) or secondary metadata network connectivity (Gigabit Ethernet).

Many have attempted to expand the capability of the Mac Pro and Mac Mini with dongles and adapters, but in the final analysis this approach becomes increasingly complex to manage and maintain; are not studio- or rack-optimized form-factors, and since they are not dedicated appliances are not well-suited or designed for the task.
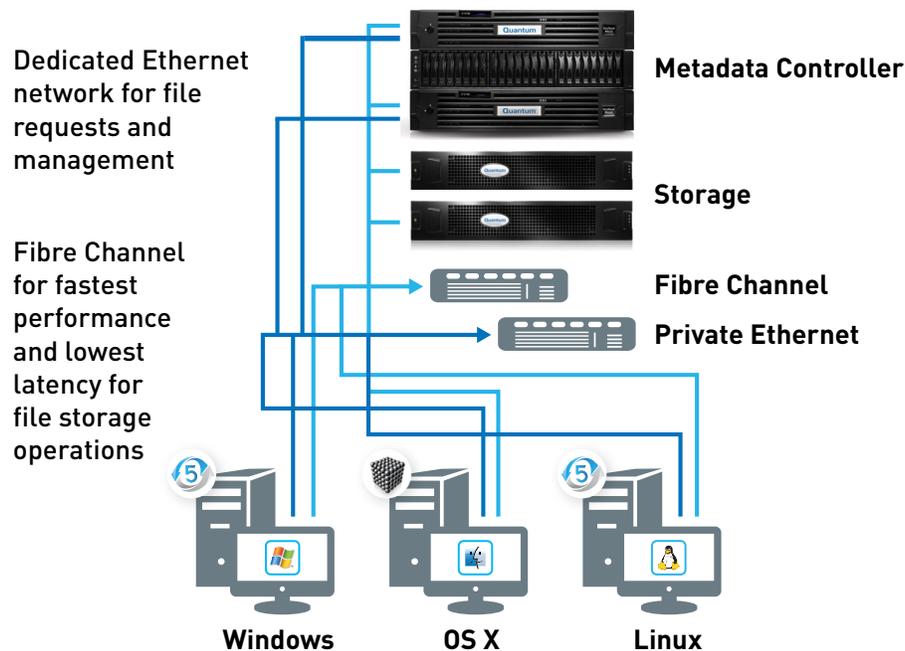
THE QUANTUM STORNEXT SOLUTION

Xsan users have found that Quantum's StorNext® is a 100% Xsan-compatible solution and the ideal way to deliver a highly capable, shared production environment while maintaining complete Xsan client compatibility.

By simply adopting a Quantum StorNext Metadata Controller Appliance as the new heart of their Xsan environment, they gain tremendous flexibility in growing the capabilities of their environment. They can add not only Xsan clients, but Windows and Linux StorNext clients as well. This is an ideal way to quickly integrate Windows-based editors, or specialized applications that can accelerate a production workflow such as Windows- or Linux- based transcoding or finishing applications.

Beyond the ability to host Mac, Windows, and Linux in one seamless shared production environment, an entire platform of StorNext capability opens up—Quantum's StorNext platform includes a wide range of tools to extend a production SAN to Ethernet-based SAN clients with a Quantum Distributed LAN Client (DLC); use a wide array of storage including Quantum StorNext QXS and QD-Series storage; archive finished assets and projects with Quantum Archive-Enabled Tape Libraries; and even make assets available globally with Quantum Lattus™ object storage.

StorNext Platform Review

Dedicated Ethernet network for file requests and management

Metadata Controller

Storage

Fibre Channel for fastest performance and lowest latency for file storage operations

Fibre Channel

Private Ethernet

Windows   OS X   Linux

UPGRADING YOUR XSAN ENVIRONMENT TO STORNEXT

Upgrading an existing environment is very straightforward, but like most SAN operations, benefits from advance planning. Your Quantum Authorized Reseller or Integrator will help you through the upgrade process. The entire process can take a little as a few hours, and is often scheduled on a weekend to allow time for migration, then testing so that your production environment can get back into production with the upgraded StorNext environment seamlessly.

STORNEXT PRO SOLUTIONS

Quantum has made it even easier to adopt a new 100% Xsan-compatible solution with the introduction of StorNext Pro Solutions. These solutions include not only a highly optimized StorNext Metadata Controller Appliance, but also storage and often other components to deliver a complete solution that meets customers' needs. Each StorNext Pro Solution* includes a 3-year warranty, on-site service spares, 30-minute phone response (excluding general inquiries), and next-day parts replacement.

For example, an Xsan environment with a few editors will be a good candidate for the StorNext Pro Foundation solution. A small post-production environment with more editors would be ideal for StorNext Pro Studio. Similarly, a new or existing environment that wants to tackle 4K production will want StorNext Pro 4K. And finally, StorNext Pro Workgroup and StorNext Pro Production enable sophisticated, end-to-end content workflow and monetization.

IN CONCLUSION

With a full range of technology and tools to help you build highly capable and productive workflows, Quantum's StorNext platform is not only ready to support today's production requirements for a highly reliable Xsan-based production environment, but is also ready to help you grow to meet any future production demand.

Contact your Quantum Authorized Reseller or Integrator or Quantum directly for more resources and information.

StorNext Pro Foundation has some exceptions that are noted in the StorNext Pro Solutions brochure.

Quantum®

BE CERTAIN

www.stornext.com • 800-677-6268