

# ELEMENTS

with

Quantum StorNext®



Topic:  
Truly shared file system

Location:  
Düsseldorf (GER) & Denver, CO (USA)

Systems used:  
ELEMENTS and StorNext 5™

Project:  
Advanced Systems Group

Challenge:  
Project and media sharing between  
Avid and StorNext™

# How to make Avid Workstations work with StorNext – natively

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ELEMENTS presents a solution that allows Avid workstations to leverage the power of StorNext File System – directly and natively without time-consuming workarounds.

Post-production facilities around the world are striving to keep up with the rising expectations and growing demands of the public for high-quality, visually compelling content on any device at any time. At the same time both timelines and budgets are diminishing, forcing facility owners to decrease time-to-completion and simultaneously increase efficiency in the post-production process by streamlining workflows.

Unfortunately, one of the biggest opportunities to enhance and simplify collaboration between non-linear editing systems (NLEs) isn't that easy: by design, NLEs use a single project file for a single application that is only accessible by a single user at a time, making collaboration between editors difficult. When, for example, users of industry-leading Avid Technology's Media Composer NLE use Avid's proprietary storage environment ISIS or Unity, they can effectively share projects using a feature known as "bin locking." However, as Ethernet-based

network attached storage (NAS), users in an all-Avid environment still face trade-offs, as a collaborative workflow with other NLE's is impossible. In addition, the throughput is subject to natural limitations of NAS which becomes more pronounced when supporting multiple streams of high-resolution 4K finishing is required. The workaround of downsizing 4K to a lower resolution HD, and then conform back to 4K after the edit is finished, is not only a tedious and complicated undertaking but bears the potential risk of loss in quality; hence, this step should be considered the last resort and avoided where possible.

Today, thousands of content creators collaborate every day on workstations deploying Windows, Mac OS X, Linux/Unix while requiring multiple streams of HD and 4K, using Quantum StorNext. The superfast StorNext file system, running atop 8Gb and 16Gb Fibre Channel, delivers the sustained throughput required in hi-res real-time workflows. But what about AVID Project collaboration through bin-locking?

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## The Challenge

Not all non-linear editing applications (NLE's), operating on various platforms, allow for sharing media files natively. This inevitably forces post-production and broadcast

facilities to maintain at least two separate file systems, causing inconvenient and time-consuming manual effort to make media files available amongst the various NLE's. Aside from the additional time and effort (hence, costs) facilities have to invest, this also increases time-to-completion and therefore reduces efficiency and profitability.

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## Solution Overview

ELEMENTS, a certified Quantum Advantage technology partner, has developed a truly unique solution named GATEWAY that makes StorNext easily accessible for Avid workstations, rendering complicated and time-consuming workarounds and emulations obsolete. ELEMENTS has vast expertise in M&E workflows and a deep understanding of the StorNext file system so they created a solution which connects virtually all non-linear and VFX applications to StorNext, and share files natively across the entire facility and across all platforms, including Avid Media Composer, Adobe Premiere, Apple Final Cut Pro. Even Avid project sharing and bin-locking are supported, enabling users to leverage StorNext environments. By creating virtualized Avid workspaces in StorNext, editors connected via fiber channel and Ethernet to Quantum's workflow solutions enjoy Media Composer's native project

and bin sharing functionality without losing the high-speed, heterogeneous functionality afforded by Quantum's scale-out storage solutions.

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## The Solution

One shared file system for all NLE's and across all platforms, including those that don't allow for sharing media files natively, enables post-production and broadcast facilities to enhance collaboration amongst NLE's significantly by streamlining their workflow. Further, efficiency and profitability will also be increased, as a lot of maintenance effort will become obsolete.

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## Test Environment: Real-Life Conditions Under Full Load

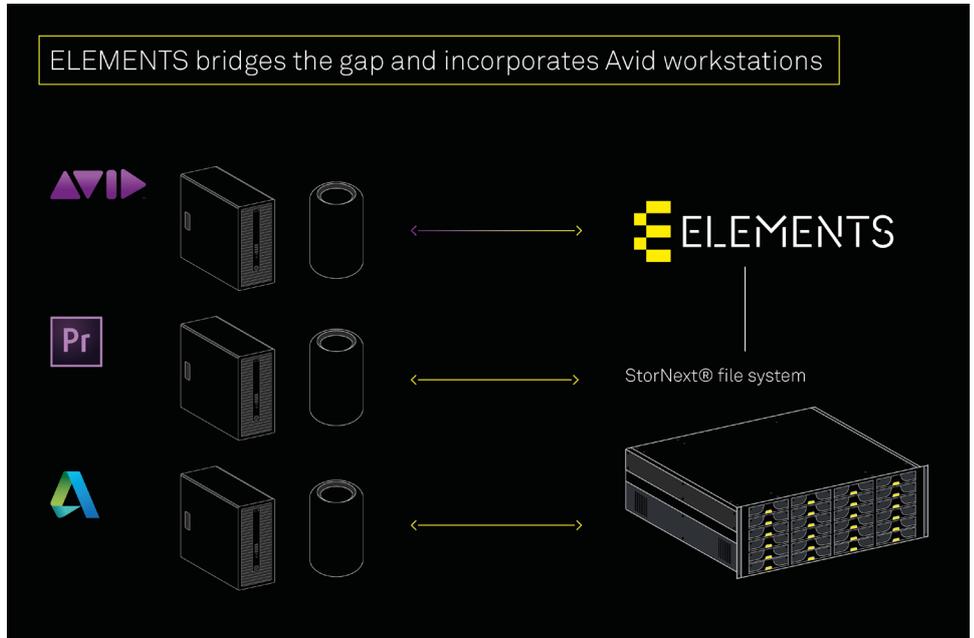
The Mellanox SX1012 40GbE switch was tested on an ELEMENTS ONE all-in-one SAN/NAS server under real-world conditions and under full load. In the test set-up the ELEMENTS ONE server utilized 2x 40GbE ports of the SX1012; the remaining ports were used for client connections. In order to simulate real-life conditions of the M&E industry during the test, the clients were running Autodesk FLAME, Quantel Pablo Rio, DaVinci Resolve, and Autodesk Lustre. However, the set-up supports virtually every non-linear editing application available today.

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## Elements Gateway

Access can be granted at both user and group levels, then assigned read/write access to different workspaces or projects. GATEWAY can also serve as an SMB/NFS file server and the StorNext DLC, for reliable, block-level file access over Ethernet.

ELEMENTS allows for easy access to select areas of system management including display of disk read/write



performance, striping configuration and access to select file management features.

GATEWAY also brings an entire package of workflow enhancement tools to the editing environments. Task automation can address files conversion for exchange between different NLEs, production storage backup operations and folder syncing. To improve performance individual tasks can be offloaded to different nodes. An optional HTML5-based Media Library allows for remote proxy browsing, rough-cut editing and access to the original high-resolution file.

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## Field proven

The solution consisting of StorNext and ELEMENTS' technology has been deployed at renowned customers that leverage the powerful combination every day.

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## About Quantum StorNext

Quantum is the world-leading manufacturer of StorNext, an open, reliable and proven file system and data management platform. StorNext, Storage Manager, and StorNext APIs support the integration of custom software solutions to realize fast and highly manageable file workflow operations.

Quantum Xcellis, is a high-performance, shared workflow storage solution. Xcellis combines compute, client access, and storage to create an efficient and powerful core of a workflow storage environment. Add storage arrays to scale from the smallest configurations to the largest with no forklift upgrades or extra accelerators. Every Xcellis system includes StorNext Connect™, a single-pane view of the entire StorNext environment. More than just a monitoring and reporting tool. In dynamic, business-critical media and entertainment environment, managing storage is critical. StorNext Connect provides the insight needed to evaluate usage and plan for change rather than react to it.

ELEMENTS GATEWAY is also available as an embedded virtual machine application through the Quantum Xcellis Dynamic Application Environment.