

## Hitachi Storage Solutions at Work

### Pixorial

**INDUSTRY** Services: Rich Media

**SOLUTIONS** **Storage Management/Modular Platform/File and Content Services**  
**Hardware** — Hitachi Adaptable Modular Storage 2500, Hitachi NAS, powered by BlueArc® (3100)  
**Service** — Provided by Hitachi TrueNorth Platinum Channel Partner Advanced Systems Group (ASG)



“While a couple of vendor products had the performance and scalability we liked, only Hitachi Data Systems proved to have the densest shelves on the market plus value added benefits that no other vendor could provide at the time.”

*Joshua Terry  
Director of Systems Engineering  
Pixorial*

 **Pixorial**<sup>®</sup>  
Enjoy Your Show<sup>®</sup>

# Pixorial Enjoys the Show of High Density Storage Performance for Versatile, Cost Efficient Growth

Pixorial is revolutionizing the way customers preserve, store and share home movies captured on the gamut of analog and digital media — from old 8mm home movies to today's 3GP video files. To ensure optimal digital workflow while meeting exponential growth projections, Pixorial needed to architect a highly dense, very versatile storage environment that would also meet a stringent cost efficiency business model. Hitachi Data Systems delivered the solution with flexible clustered high-performance NAS and extensive scalability.

Millions of hours of memories are stowed on outdated media or personal computers. From Generation X to the oldest Baby Boomer, people are often bewildered with figuring out how to view, aggregate, share and safeguard their home movies and keepsake videos in some sort of cohesive way. Pixorial strives to change all that.

Pixorial is the state-of-the-art collaborative video service that offers customers a true social online video experience — without the typical limitations such as resolution and length. Run by a team of high tech visionaries pedigreed from Oracle, Apple, Netscape and more, Pixorial has quickly become a “must

use” Web 2.0 company for family and friends who want to unbox or upload, convert and create video products.

## Rendering a Cost Efficient Business Model

Founded in 2007 and recently launched via the Internet, Pixorial has already gained popularity in the marketplace. Customers send in or upload media files to their Pixorial account, and the company converts the files to a full resolution editable and digital format. While the original media is returned to customers after processing, Pixorial archives the newly created digital masters at a Tier 1 collocation facility.

The business of digital conversion does have inherent technical challenges such as preventing dropped frames and increasing render speeds, usually caused by overheated systems, inadequate I/O performance, and network or CPU usage. If coupled with suboptimal data storage, this could be the recipe for data loss and unhappy customers. For these reasons, Pixorial, from inception, has been careful in its approach to storage infrastructure, network and bandwidth requirements for its collocation footprint.

Joshua Terry, director of systems engineering at Pixorial, estimates the typical customer tape or video file to be seven gigabytes in size. “The implications for data storage are considerable. We've gone from forecasting terabytes to petabytes. Pixorial is focusing its lens on how best to manage exponential data growth and performance while meeting a stringent business cost model. We want to architect an IT environment that is easy, flexible and cost effective to manage day-to-day and in hyper growth mode — with zero interruptions for a high quality customer experience,” he details.

## Framing a Versatile Storage Infrastructure

Before evaluating potential storage solutions, Terry wanted to ensure that critical requirements would be met. “One imperative was to build a storage infrastructure that would accommodate the throughput or line speed performance needs within our network topology. No one out there is doing what we're doing so we want to have the maximum amount of flexibility, the maximum amount of density and capacity from our storage solution,” he says.

The business cost model Terry uses measures the cost per gigabyte per user based on account subscriptions, something that helps the company squeeze every opportunity for cost efficiency while still providing fast, easy customer offerings. “We worked with Advanced Systems Group as a trusted advisor in helping us find the very best enterprise storage architecture. We tested major vendor technologies side by side. While a couple of vendor products had the performance and scalability

we liked, only Hitachi Data Systems proved to have the densest shelves on the market plus value added benefits that no other vendor could provide at the time,” Terry acknowledges.

The Hitachi Adaptable Modular Storage 2500 and a cluster of Hitachi NAS, powered by BlueArc®, provide Pixorial the ability to meet intense scalability, I/O performance and disk utilization conditions. Two Hitachi high density storage expansion trays complete this exceedingly reliable solution with built-in cost savings and the versatility to map to Pixorial’s business growth.



**“We wanted to maximize footprint, cost efficiency and performance. Hitachi Adaptable Modular Storage 2500 with high density expansion trays and the high-performance Hitachi NAS cluster will help decrease overall costs per gigabyte per square foot.”**

Joshua Terry  
Director of Systems Engineering  
Pixorial

## Formatting Expandable High-performance NAS

The Hitachi solution begins with the award winning Adaptable Modular Storage 2500, which holds up to 472TB of raw capacity. The 2500 meets enterprise demands for high availability, performance, scalability and data protection with a modular, cost effective footprint to reduce space, energy and management concerns. With the Hitachi Dynamic Load Balancing feature to automate controller balancing and ease bottleneck issues, and Hitachi Dynamic Provisioning software for virtual storage capacity that eliminates application service interruptions, the Adaptable Modular Storage 2500 is ideal for helping Pixorial simplify administration and stay efficient even during peak growth spurts.

The Adaptable Modular Storage 2500 was fitted with two dense expansion trays, each holding up to 48 SATA drives with 1TB capacity; two standard trays, each with 450GB SAS drives; and the Hitachi NAS 3100 cluster. The Hitachi NAS 3100 features a hardware accelerator that supports ever evolving, mission critical applications with up to 97,000

IOPS and 850MB/sec throughput for blazing performance. The platform also provides a cluster namespace that gives Pixorial a unified directory structure with global access to data through any node in the cluster.

“The SATA drives are what we use for the private storage of the digital masters. The entire front end is virtualized — for the production data, we are using virtual machines sitting on the SAS drives to optimize performance. The Hitachi NAS heads offer us the opportunity for expansion and growth that’s not physically bound to a specific number of hard drives or

clustered heads — they can essentially scale independently of one another,” Terry says.

## Finding Resolution with Hitachi Storage Versatility

From a benefits perspective, Terry anticipates that Pixorial is well equipped to stay ahead of its current growth and to strategically manage future expansion. “We wanted to maximize footprint cost efficiency and performance. Hitachi Adaptable Modular Storage 2500 with high density expansion trays and the high-performance NAS cluster will help decrease overall costs per gigabyte per square foot,” he explains.

Terry also praises the Hitachi Data Systems value add — the company’s ability to address questions and intricate IT issues by providing deep technical expertise and strong product versatility. “We love the flexibility in our new storage environment. We can mix and match drives within the infrastructure depending on our performance needs, using a variety of SATA or SAS drives. If we need more disk and don’t need the compute capacity, we can quickly expand. If we need more computing

capacity but don’t necessarily need the disk, we can simply add another head into the environment and grow that computing cluster. And the cluster namespace helps us get our virtual infrastructure architected in a better kind of way — overall, Hitachi has helped us put together a very intuitive, very flexible environment that positions us for growth,” Terry concludes.

## About ASG

Since 1981, Advanced Systems Group (ASG) has been providing successful storage and data management solutions to help customers meet their IT and business challenges. As a Hitachi TrueNorth Platinum Channel Partner, ASG leveraged its trusted advisor status and assessed the needs of Pixorial with the full breadth of Hitachi Data Systems resources, consultants, equipment and lab facilities. ASG worked closely with both Pixorial and Hitachi Data Systems to determine that file service offerings from Hitachi Data Systems were ultimately the most robust and effective solutions available in the industry. For more information, please visit [www.virtual.com](http://www.virtual.com).

**Corporate Headquarters** 750 Central Expressway, Santa Clara, California 95050-2627 USA  
Contact Information: + 1 408 970 1000 [www.hds.com](http://www.hds.com) / [info@hds.com](mailto:info@hds.com)

**Asia Pacific and Americas** 750 Central Expressway, Santa Clara, California 95050-2627 USA  
Contact Information: + 1 408 970 1000 [www.hds.com](http://www.hds.com) / [info@hds.com](mailto:info@hds.com)

**Europe Headquarters** Sefton Park, Stoke Poges, Buckinghamshire SL2 4HD United Kingdom  
Contact Information: + 44 (0) 1753 618000 [www.hds.com](http://www.hds.com) / [info.emea@hds.com](mailto:info.emea@hds.com)

Hitachi is a registered trademark of Hitachi, Ltd., in the United States and other countries. Hitachi Data Systems is a registered trademark and service mark of Hitachi, Ltd., in the United States and other countries.

All other trademarks, service marks and company names in this document or Web site are properties of their respective owners.

Notice: This document is for informational purposes only, and does not set forth any warranty, expressed or implied, concerning any equipment or service offered or to be offered by Hitachi Data Systems. This document describes some capabilities that are conditioned on a maintenance contract with Hitachi Data Systems being in effect, and that may be configuration dependent, and features that may not be currently available. Contact your local Hitachi Data Systems sales office for information on feature and product availability.

© Hitachi Data Systems Corporation 2009. All Rights Reserved. SS-199-A DG November 2009