

## BRAIN FARM

### Objective

Implement a reliable, cost-effective and scalable storage solution to secure clients' valuable assets while output capacities rise relentlessly

### Approach

Assessed storage solutions from several vendors and opted for a trusted supplier

### IT Matters

- Provides a reliable, high-performance and scalable backup and archiving system, protecting valuable assets for 30 years
- Automates long-term archive storage processes seamlessly, protecting hundreds of terabytes of raw film footage
- Offers a comprehensive disaster recovery capability, satisfying customers' security concerns

### Business Matters

- Improves the speed of the backup process by 10x and eliminates production bottlenecks, increasing efficiency and satisfying customers' deadlines
- Minimizes labor requirements, lowering costs and releasing staff for other duties
- Offers a cost-effective alternative to SAN disk array technology, reducing costs by 86 percent per terabyte
- Creates a readily scalable storage infrastructure, supporting rapid data growth
- Protects the business's industry reputation and delivers a competitive edge, safeguarding revenue streams

# Brain Farm protects valuable assets as film content skyrockets

HPE StoreEver MSL6480 Tape Library safeguards business critical content



Brain Farm Digital Cinema, Inc, a full-service entertainment and production company, deploys an HPE StoreEver MSL6480 Tape Library with HPE LTO-6 Tape Drives and HPE StoreOpen LTFS technology to build a reliable, cost-effective and scalable storage solution and satisfy the demands of 4K film making. The solution increases productivity, delivers a comprehensive backup, disaster recovery and archive capability and lowers costs.

### Emmy-winning film specialist

Based in Jackson, Wyoming, Brain Farm is a full service entertainment and production company that specializes in creating unforgettable film, TV, digital and commercial content. The business employs the latest film-making technologies to capture awe-inspiring images in locations where few dare to go. Brain Farm has an excellent reputation for making high-quality visionary action, adventure and lifestyle productions especially in the fields of action sports and aerial cinematography. The television industry recently recognized this reputation by awarding the firm an Emmy for the cinematography on National Geographic's 'Great Migrations'.

“The nature of the digital cinema business makes scalability extremely important. The HPE StoreEver MSL6480 Tape Library design allows us to easily add extra drives, media slots and expansion modules as required, delivering a non-disruptive scalability model that’ll generate significant savings over the years.”

— Danny Holland, post production supervisor, Brain Farm Digital Cinema, Inc

## Challenge

### **Content growth, automation and scalability concerns**

Well-resolved fine detail is the main advantage of filming at the ultra-high definition 4K standard for digital television programs and cinema movies. Although 4K content from major television networks is currently limited, the standard has become more widely available online. Managing valuable content produced with new video technologies such as 4K, 6K and 8K has therefore become increasingly important in the media and entertainment industry as production businesses seek to store mission-critical assets. Protecting and archiving digital content forms the industry’s lifeblood.

Brain Farm Digital Cinema, Inc commonly shoots several films simultaneously at 4K resolution with multiple cameras, each creating an uncompressed storage requirement of about 200 GB per minute. Moreover, a single project frequently involves a 100-day filming season, generating many petabytes of content.

At Brain Farm, a member of staff usually stored output on disk arrays within a Mac environment before personnel edited the raw material. Material would then be manually backed up to a stand-alone tape drive at the end of each week. This time-consuming and laborious process led to workflow inefficiencies or production disruption within an organization with limited IT staff.

“After deploying our earlier storage solution, we’ve seen in-the-field digital output increase from 20 TB to 100 TB within a few years,” explains Danny Holland, post production supervisor, Brain Farm Digital Cinema, Inc. “With the volume of 4K resolution output set to climb relentlessly, our storage needs will continue to increase dramatically for the foreseeable future.”

The production business therefore faced several issues; storing massive output volumes, inefficient labor-intensive stand-alone tape drive backup and archiving processes, an inappropriate disaster recovery capability to safeguard clients’ valuable assets, and insufficient scalability to support growth.

### **Cost-effective technology**

After identifying the requirements of the post-production environment, Brain Farm approached several storage vendors including Hewlett Packard Enterprise and evaluated their propositions against clearly defined criteria.

During negotiations, Brain Farm heard from HPE Storage specialists, who carefully explained the industry’s technology trends and HPE’s readiness to develop a new storage environment for the production company. HPE also enthused about supporting any move towards a more powerful Windows® workstation environment, an increasingly popular trend in the media and entertainment industry.

“A highly diligent approach to delivering hardware and software solutions makes HPE a trusted technology advisor. HPE offers leading-edge backup and archiving solutions to satisfy the expanding requirements of the digital cinema market. This cost-effective technology allows our small, award-winning company to realize its creative potential and compete with larger enterprises.”

## **Solution**

### **Industry-leading scalability, performance and density**

The HPE Storage solution comprises an 80-slot HPE StoreEver MSL6480 Tape Library with LTO-6 Tape Drives and HPE StoreOpen Linear Tape File System (LTFS) technology. This highly competitively priced offering satisfies Brain Farm’s short-term content protection and long-term archive needs by combining industry-leading scalability and density, and enterprise-class reliability, manageability and performance. Major industries worldwide recognize the HPE StoreEver MSL6480 Tape Library as the new standard in mid-range tape.

The modular MSL6480 system scales vertically from 80 to 560 cartridge slots and from one to 42 HPE LTO-6 Tape Drives, storing up to 3.5 PB at speeds up to 60.4 TB in a single rack. The MSL6480 industry leading storage density enables up to 81 TB of storage per 1U of rack space.

“The nature of the digital cinema business makes scalability extremely important,” comments Holland. “The HPE StoreEver MSL6480 Tape Library design allows us to easily add extra drives, media slots and expansion modules as required, delivering a non-disruptive scalability model that’ll generate significant savings over the years.”

### **Easy to deploy, use and manage**

The HPE StoreEver MSL6480 Tape Library provides Brain Farm with a unique blend of cost-efficient, scalable and durable removable storage enhanced by HPE StoreOpen for Automation LTFS technology. This combination creates a highly resilient solution that addresses storage needs across media workflows.

HPE StoreOpen for Automation is a simple LTFS software solution that presents an HPE StoreEver Tape Library as a single mount point on a single host. This solution presents the tape cartridges inside the library as a collection of folders that can be accessed via drag and drop, just like a folder on a hard drive. Each folder represents a tape cartridge in the library. Robotic movement and tape cartridge loading is handled automatically depending on which content is being accessed. HPE StoreOpen for Automation LTFS allows Brain Farm to share content across both Mac and Windows platforms.

Brain Farm’s MSL6480 Tape Library also boasts data and control path failover to optimize library availability, and a single pane of glass, easy to use GUI to manage and control the library. HPE StoreEver TapeAssure Advanced software enables Brain Farm to proactively monitor library, drive and media utilization for health and operational performance. HPE StoreEver Data Verification software provides the ability to periodically scan archive or disaster recovery tapes to validate media readability and data integrity.

“This well-designed, out-of-the-box HPE StoreEver Tape Library solution is simple to implement. We had it up and running in less than half a day,” adds Holland.

## **Benefit**

### **Seamless automation**

After deploying the HPE StoreEver MSL6480 solution, Brain Farm has the capacity and performance to work continuously without workflow inefficiencies. The HPE MSL6480 Tape Library seamlessly automates backup and long-term archival processes, protecting hundreds of terabytes of raw film footage.

“A 10 TB manual backup and archive process previously lasted up to a week, and limited capacity and performance frequently bottlenecked our environment, restricting production. This scenario is unacceptable as our clients have inflexible deadlines,” says Holland. “The automated process is now over 10x faster with the MSL6480 Tape Library. Consequently, we’re more productive, have extra time to address critical issues and, most importantly, satisfy our customers’ needs. The reliability of the HPE StoreEver tape automation solution helps to maintain our excellent industry reputation.”

## Case study

Brain Farm Digital  
Cinema, Inc

## Industry

Media and  
entertainment

## Customer at a glance

### Hardware

- HPE StoreEver MSL6480 Tape Library with HPE StoreEver LTO-6 Tape Drives
- HPE Z840 Workstations
- HPE Z27i Dream Color Monitors

### Software

- HPE StoreOpen for Automation LTFS
- Archiware – P5 Archive

### HPE services

- HPE StoreEver Installation Services
- HPE Care Pack – three-year Call-to-Repair Hardware Support

“Estimates indicate that our storage cost per terabyte is 86 percent lower with the HPE StoreEver MSL6480 solution compared to an equivalent SAN disk array. The lower total cost of ownership of the MSL6480 tape library delivers affordable storage technology, providing us with a competitive edge in the digital media market.”

— Danny Holland, post production supervisor, Brain Farm Digital Cinema, Inc

### Robust archiving and disaster recovery system

The HPE StoreEver MSL6480 solution not only helps the post-production department back up material as personnel refine and edit content, it also provides a robust 30-year archiving and disaster recovery system. As the tape library automatically creates backup tapes, Brain Farm transports them to a secure off-site, climate-controlled disaster recovery facility. This capability satisfies the clients' security needs.

For clients who require a copy of their intellectual property, Brain Farm produces yet another set of LTFS backup tapes containing all commercially valuable content. Producing multiple backups in this manner by duplicating different segments of disk arrays is impractical.

### Storage cost fall dramatically

Brain Farm's decision to opt for LTO with LTFS tape storage is not surprising. Production and post-production companies have various backup and archiving options. Storage Area Network (SAN) and Network Attached Storage (NAS) disks, flash and optical disk technologies are too costly for long term content retention, deduplication is inappropriate for audio and video content, and removable disk drives are too unreliable.

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More recently, Brain Farm's post-production department extended the use of HPE technology by installing a complete 4K solution from editing to finishing. HPE StoreEver tape storage technology now works in harmony with powerful HPE Z840 Workstations and HPE Z27i Dream Color monitors. “Embracing these HPE technologies has been hugely beneficially. I can't imagine competing successfully in the 4K world without it,” concludes Holland.

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