

## Nexsan 10 Minute Case Study



# Largest UK Network Solves BIG Problem with small Solution

A Nexsan 10 Min Case Study on ITV.com

### Executive Summary

ITV's production editing team edits hundreds of hours of online video every month. IT management needed a solution that would improve overall performance and future proof for High Definition editing without increasing the physical storage footprint requirements of their small datacenter. ITV.com sought high-density storage systems that provided energy savings without impacting performance.





### CHALLENGE

- Store 3,300 hours of video
- Greatly expand capacity without growing the datacenter
- Reduce storage energy consumption
- High performance to support high definition online editing environment

### SOLUTION

- SATABeast Xi

### RESULT

- SATABeast Xi delivered the high performance needed with over 1,200 MB/s sustained throughput
- Reduced energy consumption and costs with Nexsan's exclusive AutoMAID™ technology
- Highly available as all active components are redundant and individually hot-swappable
- High density per rack inch

“The SATABeast Xi is a truly powerful storage solution for a high-volume, high performance online editing environment. It surpasses our production editing needs in every way. It is exactly what we needed both today and into tomorrow.”

Chris Wood, Technical Manager, ITV Future Technologies

### THE CHALLENGE

ITV is the largest commercial television network in the UK offering a full range of programs and genres including drama, entertainment, news, current affairs, sports and children's programming. Programs for ITV.com are provided by ITV's in-house production unit and by the independent sector.

As a result, the broadcaster's production editing team edits hundreds of hours of online video every month. This increasing volume of video in the broadcaster's production editing department had rapidly grown to 25TB and would easily reach 100TB in the near future.

ITV.com's IT management sought a future-proofed solution that would improve overall performance and future proof for High Definition editing without increasing the physical storage footprint requirements of their small datacenter. Nexsan was the only company that could deliver the solution they required.

### BACKGROUND

The ITV.com online broadcasting site relies on a team of eight production editors which use the Apple Final Cut Studio 2 – Final Cut 6 editing platform to prepare programs for the site. Because of the growing amount of online video content, ITV.com found that it was rapidly stretching its existing 25TB storage infrastructure to the limits.

To assure that the high-volume site was efficiently architected, ITV.com sought high-density storage systems that provided energy savings without impacting performance. With its new environment, ITV.com planned to grow its storage capacity to 100TB and increase performance without expanding its already small datacenter.



## THE BEAST UNLEASHED

SATABeast Xi from Nexsan is an extremely dense, energy efficient storage array designed to meet the challenges of the most demanding storage environments. Featuring both Fibre Channel and iSCSI connectivity, SATABeast Xi provides unmatched flexibility along with enterprise-class features, performance and proven reliability.

- Employs Nexsan's revolutionary AutoMAID™ [Automatic Massive Array of Idle Disks] energy-saving technology, reducing power consumption and operational costs without compromising performance.
- Supports standard high performance RAID implementations as well as back up, VTL [Virtual Tape Library] and archiving applications.
- Utilizes dual RAID engines on each SATABeast controller to provide extremely high throughput across 42 spindles.
- Offers high availability features including continuous background integrity scans to ensure drive health and data accessibility.
- Each components is fully redundant and hot swappable with each controller featuring full cache coherency to maintain data integrity — even in the event of a power loss.

"Our challenge was to increase the capacity from 25TB to 100TB and consolidate storage for our various online platforms into a single storage solution," said Chris Wood, Technical Manager, ITV Future Technologies. "It was also important to push the boundaries of what was possible with the platform to minimize unnecessary infrastructure expansion."

## BUSINESS SITUATION

Compounding ITV.com's challenge was the inefficiency of separate, disjointed storage solutions to accommodate all of the video packages and image assets in its production editing department amongst the multiple online businesses.

Often different editors are required to access the same video package at the same time which could create multiple volumes that later needed to be reconciled.

In fact, there was one production editor that was literally "mobile," running back and forth between editing sites to physically collect assets on a storage device and manually port them from one editing station to another. Facing inefficiencies such as this along with the impending need for more storage capacity, ITV began to look into new storage options.

While ease of use, energy savings and performance were all critical decision factors, the requirement that was most difficult to meet was the footprint needed to house ITV.com's desired 100TB of capacity.

Of the solutions available to support a high-performance Mac environment, most would require up to 39U of rack space to deliver the capacity and throughput the broadcaster required. This would not only max-out their datacenter space, it would have also caused unacceptable heating and energy usage levels.

"As the evaluation of solutions continued, it was discovered that we might have to lose the better part of two 42U racks to get to the capacity we needed," said Wood. "With all the cabling and power some solutions required, we simply wouldn't have enough capacity for our servers and we'd be pushing the environmental systems to the limit. That's when we asked Nexsan if they could do it. Their answer was unequivocally 'yes,' with just three 4U devices."

## SATABEAST XI WITH AUTOMAID TECHNOLOGY

Once ITV learned that Nexsan could easily meet their space requirements, they proceeded with more in-depth testing of the SATABeast Xi, evaluating XSAN integration, ease of use, performance and energy efficiency.



## ENVIRONMENT

- 100TB of storage to house 3,300 hours of video
- Three 4U SATABeast Xi high-density storage systems with AutoMAID™ energy saving technology
- Apple XSAN 2 file system
- Apple Final Cut Studio 2 – Final Cut 6 editing platform10 Node distributed video transcode platform

“Testing of the SATABeast Xi showed exceptionally high performance,” said Wood. “We were easily seeing performance of 1,200 MB per second throughput per box and more than 3,000 MB per second across three SATABeast Xi units. This was more than a 20 percent performance increase over the Promise VTrack systems in one-tenth of the physical footprint. For us the Nexsan choice was clear.”

Next, ITV wanted to ensure that they could optimize the overall power efficiency of the new storage units. The broadcaster was pleased to learn about Nexsan’s AutoMAID™ technology with progressive settings for multi-user systems especially designed for optimum use in applications such as rich media and imaging.

“AutoMAID provided very unique features for additional energy conservation,” said Wood. “Using AutoMAID we have the SATABeast Xi units delivering 45 to 50 percent energy efficiency between 9:00 p.m. and 7:00 a.m. This offers tremendous power and cooling savings while prolonging the life and reliability of the disks.”

## RESULTS

Overall, ITV.com has achieved its goal to efficiently redesign its online video production environment. Nexsan delivered the performance, energy savings and density required while providing investment protection as operational requirements increase.

Beyond additional storage capacity, the broadcaster has dramatically improved performance and now benefits from a completely integrated storage environment so that its production editors have a “hot desk” environment supported by the high performance, capacity and bandwidth they required. And with the full redundancy of the SATABeast Xi storage solutions, ITV knows that reliability will never be an issue.

The SATABeast Xi high-density storage solutions with AutoMAID technology have provided exceptional value to ITV.com, including:

- **High performance** – ITV.com benefits from throughput of over 1,200 MB per second with SATABeast Xi. In fact, during performance tests of the three SATABeast Xi units, ITV.com achieved over 3,000 MB per second performance
- **Reduced energy consumption and costs** – Using AutoMAID™ technology, ITV.com benefits from cost savings without the limitations of slow access times or special host software. Nexsan’s AutoMAID provides ITV.com with the flexibility to determine the level of access speed and energy savings they desire.

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*Chris Wood, Technical Manager,  
ITV Future Technologies*

- **Complete component redundancy** – All individual SATABeast Xi components are built on a 3rd generation design and are fully redundant and hot swappable. This advanced design provides increased ROI for ITV.com by eliminating the need to replace an entire multi-drive blade should a single drive fail.
- **High density per rack inch** – SATABeast Xi gives ITV.com the high-density, cost-effective storage system needed to satisfy capacity, performance and budgetary requirements. SATABeast Xi's advanced mechanical design provides superior cooling for optimal thermal operation, reduces drive vibration and delivers outstanding energy efficiency in an extreme density (42 drives in 4U high) form factor. Easily fitting 100TBs into ITV.com's small datacenter, SATABeast's unique design also extends individual drive life and will provide TCO savings for the broadcaster year over year.

"The SATABeast Xi is a truly powerful storage solution for a high-volume, high performance online editing environment," said Wood. "It surpasses our current production editing needs in every way. It is exactly what we needed both today and into tomorrow."



Presented by Nexsan Technologies

## About Nexsan

**Nexsan Corporation** is a leading provider of energy-efficient, long-term storage systems. Nexsan delivers secure storage appliances and modular, capacity-optimized disk-storage systems for a broad range of applications including fixed content storage and archiving, email, medical imaging, compliance and litigation support, disk-based backup, digital video security, and rich media.

Nexsan's solutions are the choice of small and medium-sized companies as well as large global enterprises and major governmental agencies around the world who are seeking cost-correct, high density storage solutions. Founded in 1999 and based in Thousand, Oaks, Calif., Nexsan sells its products exclusively through a select global network of VARs, OEMs and system integrators. For more information, please see the company's website at [www.nexsan.com](http://www.nexsan.com).



555 St. Charles Drive • Suite 202 • Thousand Oaks, CA 91360  
Toll-free: (866) 4NEXSAN • Main Line: (805) 418-2700 • Fax: (805) 418-2799  
European Office: +44 (0) 1332 291 600 • [www.nexsan.com](http://www.nexsan.com)