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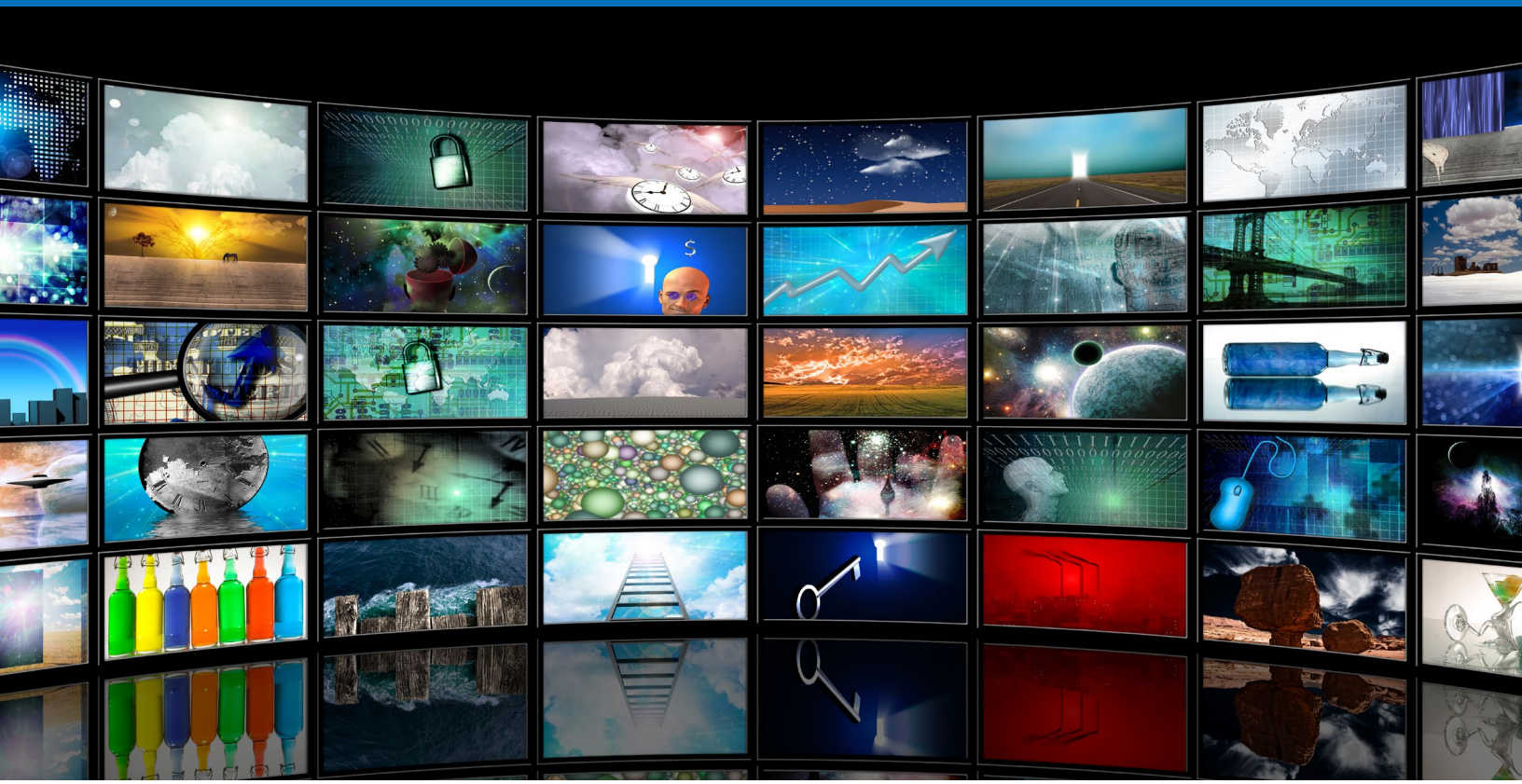

CASE STUDY

Globosat Scales to Support the 2016 Rio Olympic Games with StorNext

When broadcast content provider Globosat was tapped to provide coverage for the 2016 Olympic Games in Rio, the IT team realized it needed to expand its workflow solution to meet the new demands. StorNext helped the team create a production system-in-a-box and automatically protect critical proxy files with Lattus Object Storage.

GLOBOSAT

FEATURED PRODUCTS

StorNext

> We got the StorNext edit/playout system up and running just in time for the games, and it worked perfectly. It easily handled up to 25 TB of ingest every day, let us edit work as we needed, and turn content quickly into a variety of different broadcasts—and, very importantly, it gave us a 16-channel live playout capability that was totally reliable.

Lourenço Carvano
Director of engineering, Globosat

> Once the Lattus environment is set up, the cost to scale is much lower than with conventional RAID storage and much easier to expand, too.
>
> **Lourenço Carvano** – Director of engineering, Globosat

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SOLUTION OVERVIEW

- StorNext® Scale-out Storage
- Xcellis™ Workflow Director
- StorNext Storage Manager
- Scalar® i6000 LTO Archive
- Lattus™ Object Storage

KEY BENEFITS

- High-performance StorNext environment accelerates production by allowing editors to share files collaboratively over a Fibre Channel SAN.
- LTO archive stores petabytes of data securely offline and protects it by proactively checking media integrity.
- StorNext and Xcellis Workflow Director include a production system-in-a-box to provide a self-contained environment for multi-channel editing and live play-to-air broadcasting.
- Proxies are protected automatically using a Lattus Object Storage tier, keeping critical files continuously available.
- Lattus Object Storage scales more easily and economically than RAID and eliminates delays due to lengthy rebuild times.

Globosat is a powerhouse content provider for Latin American television, supporting nearly 40 channels with its material. The company is the premier provider of pay-TV across the region. It is the market share leader in South America's largest country, Brazil, where Globosat was founded more than 25 years ago.

The company made the transition from tape-based production to digital, file-based workflow nearly a decade ago. The team has relied on Quantum's StorNext software to provide its editing environment for the last eight years. Today the system includes approximately 40 non-linear edit workstations, both Macs and PCs, which share content over a Fibre Channel storage area network (SAN) for high-speed, collaborative content creation. The total amount of RAID-based primary disk storage has grown to nearly 2 PB, and the team leverages 500 GB of solid-state drives (SSDs) for the highest performance work. Older content is archived in a Quantum i6000 LTO library that can hold approximately 30 PB in a secure, off-line storage system.

TECHNOLOGY HELPS GLOBOSAT SATISFY CHANGING DEMANDS

"At Globosat, we have made it a priority to keep our IT and storage infrastructure up-to-date with the latest developments in order to stay ahead of the changing demand that we are seeing from customers," explains Lourenço Carvano, director of engineering at Globosat, "and StorNext has been a foundation for our workflow for years." The Globosat approach has allowed the company to successfully make the transition from standard definition (SD) content to high definition (HD). It currently supports 4K work as well as the new formats that web-based distribution is demanding.

Keeping up with technology advances has extended to the archive as well as the active storage. "We have kept moving to new, higher-density tape formats, and we have long been a user of the Scalar i6000's EDLM feature," Carvano explains. "EDLM automatically scans stored tapes, checks them for wear and recoverable errors, and flags media that is wearing out, so we can move content to new media." Extended Data Life Management (EDLM) can also be integrated into StorNext Storage Manager to provide automated management of content migration.

RIO OLYMPICS CREATE NEW CHALLENGES

The system that had been working for the team's normal editing operations suddenly faced a whole new set of challenges in early 2016 when Globosat was chosen to provide coverage for the 2016 Rio Olympic Games. "It's definitely the kind of problem that you like to have," Carvano explains. "To broadcast the games, we quickly had to figure out how to support a much more difficult set of jobs, expand from three sports channels to 16, boost the number of simultaneous feeds to 50, and increase the amount of data that we had to deal with every day from about 5 TB to nearly 25 TB. We realized that we didn't have the systems in place to make it happen."

The Globosat team decided to make two major changes to ramp up: an updated production system and a new way to manage proxy files.

CREATING A PRODUCTION SYSTEM-IN-A-BOX

The team's first challenge was ramping up capacity and performance. "Instead of just expanding our existing system, we built a self-contained new StorNext environment for the Olympics," Carvano says, "a production system-in-a-box that could support live playout as well as collaborative editing." The system consisted of dedicated storage, a separate Xcellis Workflow Director, a SAN, and a set of management tools to support real-time editing and live, multi-channel playout.

"We got the StorNext edit/playout system up and running just in time for the games, and it worked perfectly," Carvano recalls. "It easily handled up to 25 TB of ingest every day, let us edit work as we needed, and turn content quickly into a variety of different broadcasts—and, very importantly, it gave us a 16-channel live playout capability that was totally reliable."

USING OBJECT STORAGE FOR PROXY FILES

At the same time, the team was looking for a new solution that could handle proxy files more effectively. "In the old system, we handled proxies the way that almost everybody else does—we just kept accumulating them on disk," Carvano explains. "It works fine if nothing goes wrong and you are willing to keep adding capacity. But we realized as the system grew, and we had more and more data, it really represented a significant point of vulnerability." The files also eventually represented a significant amount of data. "Over time, the proxy volume was huge, and we didn't have a way to provide backup."

Even though proxies can be recreated from the high-resolution content that they mirror, doing so for a large amount of work would be such a time-consuming job that losing proxy files could stop work in its tracks for weeks or even months. "We decided that the Rio Games coverage was the right time to create a system that could protect proxies, keep them available, and make sure that we eliminated potential delays."

LATTUS OBJECT STORAGE SCALES BEYOND RAID

After talking to several suppliers and integrators about alternatives, and exploring costs, scalability, long-term reliability, and support, the Globosat team decided to deploy a layer of object storage in its StorNext environment using Quantum's Lattus solution. Object storage manages data sets as objects, spreading data over a large number of inexpensive disk resources. It also protects information by spreading it across multiple nodes, potentially in geographically dispersed locations. With Lattus, if a disk fails, the data is always present on other drives, and new drives and controllers can be added quickly to an existing Lattus environment.

"In a RAID system, it is complex to add new storage, and whenever a disk dies you have a long rebuild time," Carvano explains.

"To broadcast the games, we quickly had to figure out how to support a much more difficult set of jobs, expand from three sports channels to 16, boost the number of simultaneous feeds to 50, and increase the amount of data that we had to deal with every day from about 5 TB to nearly 25 TB."

Lourenço Carvano,
Director of engineering, Globosat

"With Lattus, the data is always there and available—even if a drive goes down—and we can scale the system quickly, easily, and at low cost."

In the new Globosat system, as soon as proxy files are created, the StorNext Storage Manager creates a copy of them in the company's Lattus object store. Editors work from the original copies on disk initially, but when the files become less active, StorNext reclaims the space on the primary disk, leaving a stub file in the original location that contains the beginning of the proxy.

TRANSPARENT ACCESS TO ARCHIVED PROXIES

"If editors want to access a file that is now in Lattus, they see it in its original location in the file system," Carvano says. "And when they click on it, they immediately see the first part of the file from the stub, while StorNext writes the rest of the file back to primary disk from Lattus. Getting the whole file only takes a few seconds. It all happens so smoothly that none of the editors I've talked to can tell the difference."

In the new system, proxies are protected, initially by having a second copy and later by the protection algorithm of the Lattus object store. "Once the Lattus environment is set up, the cost to scale is much lower than with conventional RAID storage and much easier to expand, too," Carvano says. "Lattus has been terrific. It's reliable, transparent to the editors, and extremely resilient. We have had a couple of drive failures, but the data stayed available without any gap or rebuild times, and it was very easy to replace the drives."

ABOUT GLOBOSAT

Founded in 1991, Globosat is the premier provider of cable and satellite television content across Latin America, providing nearly 40 channels of news, sports, and entertainment programming. Globosat is the largest supplier of pay-TV in Latin America and has the leading market share in Brazil where it reaches more than 16 million households and about 50 million viewers.

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