

# Essel Shyam Supports STAR India's SD/HD Storage and Playout

## Expansion with Harris® NEXIO Farad™ Storage Platform



### A KEY PLAYER IN A LARGE, RAPIDLY EXPANDING MARKET

Satellite Television Asian Region (STAR) is an Asian broadcast organization owned by Rupert Murdoch's News Corporation. Almost half of the world's population lives within regions served by STAR's four operating divisions: STAR Greater China, STAR Select, Fox International Channels, and STAR India.

STAR India is one of that country's leading media and entertainment companies, broadcasting to more than 168 million people every week across India and 65 other countries. Every day, approximately 120 million people view STAR India's content, which ranges from entertainment and sports to movies, news, and documentaries. STAR India's portfolio includes 32 satellite-based channels in eight languages, and the world's largest library of contemporary Indian and international films — now more than 50,000 titles.

In April 2011, STAR India entered into high-definition broadcasting with the launch of HD versions of their most popular channels. While still broadcasting in standard definition, STAR India is rapidly transitioning to total HD production and distribution.

Unlike the U.S. and Europe, where cable outlets are an important distribution mode, Indian television is almost entirely satellite based. This places a special onus on uplink providers to keep pace with the country's rapid expansion of television channels and bandwidths. In fact, one of the regulatory requirements for companies planning to

launch channels in India is that they secure an uplink provider and satellite channel space. This infrastructure must be in place before the Indian Communications Ministry will grant a broadcast license.

### ENTER ESSEL SHYAM

When STAR India became an independent operating unit in 2009, they began to evaluate their options for locally based playout and uplink. That analysis balanced the cost of buying, operating and maintaining in-house facilities versus the costs of outsourcing to a service provider. Eventually, STAR India selected Essel Shyam, headquartered in Noida, a city near Delhi, as their playout/uplink service provider. Though Essel Shyam was an experienced telecom service provider for several smaller Indian broadcast operations, STAR India would be a client of unprecedented size and complexity, with challenging demands that exceeded Essel Shyam's then-current technical capabilities.

Aware of these limitations, STAR India stipulated in their contract with Essel Shyam that certain technical requirements for playback and uplink had to be met by Essel Shyam prior to the contract's start. In determining these requirements, STAR India considered their needs for scalability to match channel expansion and the move to HD, fail safety in all segments of the playout/uplink

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workflow, high security of signals, flexibility to handle a wide range of file formats in a tapeless, IT-driven environment, and content library accessibility and availability.

After careful evaluation of storage and playout servers from several manufacturers, one system stood out for STAR India: the NEXIO Farad™ from Harris. Acting upon their client's recommendation, Essel Shyam purchased their first NEXIO Farad system in 2010, and it's been their core storage platform since the day it went online.

## HARRIS NEXIO FARAD: SCALABLE, VERSATILE, RELIABLE

NEXIO Farad offers flexible and uncompromising storage that delivers unprecedented levels of bandwidth and capacity to support industry media workflows. This high-performance online storage system is specifically designed for broadcast and production facilities, including news, sports and live-event applications. NEXIO Farad provides shareable and scalable storage throughout the content lifecycle, while offering the highest levels of digital asset protection.



The NEXIO Farad domain installed at Essel Shyam is configured for use in a multi-file format, HD/SD environment. The storage domain consists of nine Harris NX3601 HDX servers, each configured in four-channel HD/Mix mode, and eight Harris NXSFARAD storage chassis, each having 12x2 TB drives with Harris-patented Intrinsic Mirroring™. The total storage, 192 TB “raw” without Intrinsic Mirroring, is equivalent to approximately 64 TB of usable storage with Intrinsic Mirroring. At 60 Mb/s, this storage can hold more than 2,200 hours of content.

Four HD and six SD playlist channels play out configured as Main and Backup ports from different servers. There are also four HD

preview ports and two recording ports. Automation is provided by a Harris D-Series™ playout automation system utilizing a Harris Platinum™ 64 x 64 router.

## KEY BENEFITS FOR BUSINESS GAINS

The NEXIO Farad solution's key benefits — flexible capacity and bandwidth, high availability, facilities collaboration, and ease of operation/maintenance — provided ideal solutions to Essel Shyam's expanded ingest, storage, and playout needs.

Flexible capacity and bandwidth, were critical factors from the onset as STAR India's initial 16 channels rapidly grew to 30 channels, with an additional 6 channels ready for imminent on-air rollout. Further complicating the expansion was the move to HD, which required additional bandwidth for simultaneous playout of HD programming with a down-converted SD counterpart. Scaling Farad storage and bandwidth is easily accomplished by the installation of additional Farad cores. Because all content is stored in a single repository, there's no need to transfer content back and forth between servers during installation. Upgrading is virtually seamless to operations, with core installation happening in minutes of downtime instead of hours.

The NEXIO Farad solution's ability to expand in smaller increments of drives and hardware to match current business needs was especially valuable to Essel Shyam. Typically, server expansion is done in increments matching the existing capacity. For example, if a server has 128 TB of storage, it must expand with a matching 128 TB, regardless of whether that amount of additional storage and playout is actually needed to support current storage/playout needs. Service providers are therefore compelled to make significant capital outlays for storage expansion regardless of whether they currently have the business volume to make that expansion pay for itself. The NEXIO Farad solution's ability to expand in increments as small as 8 TB and 2000 Mb/s — up to 512 TB of online storage with playout bandwidth of 32,000 Mb/s — eliminates costly expansion restrictions. As their client base and capacity needs grow, Essel Shyam can install additional drives in quantities that match current business needs.

The NEXIO Farad solution's inherent versatility solves problems that arise in a tapeless workflow involving different file formats and delivery modes. In the case of Essel Shyam, content is sent via the Internet, satellite feeds, FTP, or fiber lines, and a good deal of up-conversion and down-conversion between HD and SD files is performed to accommodate dual HD/SD playout.

As file ingest in the future could be in formats not even existing today, future-proofing in this respect is highly desired by Essel Shyam, and NEXIO Farad delivers now.

Because STAR India shares their content across numerous channels, a critical system requirement was accessibility to all channels from a single domain. NEXIO Farad meets these accessibility needs through its single shared-storage repository architecture. With NEXIO Farad, all content resides on a single server, negating the need to move files between storage islands. All stored content is available to all the channels all the time, as well as to any number of editing stations that could come into play when content requires last-minute modification prior to playout.

In the competitive Indian market there's simply no way that STAR India can tolerate any lengthy loss of signal on any of their channels. Therefore, as part of their contract with STAR India, Essel Shyam guaranteed 99.99% playout uptime. NEXIO Farad uses proprietary Harris technology to make itself virtually downtime proof. This technology includes RAID 601 to protect against drive, controller, and storage chassis failures while maintaining system throughput. RAID-601 combines RAID 6, 0 and 1 technologies for optimized levels of reliability, availability, and performance. Harris-patented NEXIO RAIDsoft™ striping increases bandwidth, while Intrinsic Mirroring ensures that content — a network's most valuable asset — is always available. Powerful built-in diagnostics identify potential problems at their earliest stages, when fixes can be performed in the background with minimal human intervention. This combination of reliability and diagnostics is just one way in which NEXIO Farad has helped Essel Shyam keep their maintenance staff overhead costs to a minimum, while greatly expanding their capabilities.

In a broadcast environment where rapid change is the rule, operational ease of use is a valuable asset. NEXIO Farad provides Essel Shyam with operational simplicity that keeps the system configured and running with minimal personnel support. Critical functions, such as faulty drive replacement and rebuilding to spare drives, are automatically performed in the background without the need for human monitoring. The straightforward NEXIO Farad graphic user interface let's Essel Shyam engineers understand precise system status at a glance. Ease of use means lower costs in training personnel and a reduced risk of downtime due to operator error.

Every broadcaster or playout provider knows the problems that arise when content must be re-edited or "tweaked" at the last minute. Such edits can range from bleeping objectionable audio to removing or replacing entire shots or scenes. NEXIO Farad supports a number of editing applications, including Harris Velocity, to provide yet another checkpoint for fine-tuning content prior to playout.

## IN SUMMARY

India is a burgeoning television market where massive amounts of content are produced and broadcast to huge audiences. With an extensive portfolio of channels and many new HD channels in the pipeline, STAR India and Essel Shyam are challenged to meet complex content and technical demands every day. In this hotbed of growth and activity, NEXIO Farad has proven itself to be a superior solution for growth-oriented, large-scale content storage and content accessibility.

**Essel Shyam is confident in their ability to meet the current and future needs of one of the world's largest television markets through the use of Harris broadcast solutions like NEXIO Farad.**

Lead Writer: Robert D. Brilliant, RB Productions  
Client: Harris Broadcast  
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