



Kroenke Sports & Entertainment



Kroenke Sports & Entertainment Scales Up Business Needs with Telestream Vantage

How KSE Media Ventures integrated multiple workflows for its sports & outdoor lifestyles channels on the Telestream Vantage media processing platform



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David Zur, Senior VP of Operations & Engineering for Altitude Sports & Entertainment

With its recent flurry of network acquisitions, KSE Media Ventures, in Centennial, CO, has grown to become a behemoth in the cable TV sports and outdoor lifestyles arena.

Over the past decade, KSE’s network portfolio has expanded to include Altitude Sports & Entertainment, Outdoor Channel, Sportsman Channel, and a 50% stake in World Fishing Network (WFN). KSE also manages day-to-day technical operations for ROOT Sports Southwest, a Houston regional sports network. Comcast, DirecTV and Dish are among the cable and satellite networks that broadcast the channels.

KSE Media Ventures has a network operations center (NOC) in Centennial that serves as the central hub for master control, uplink and distribution for four of the networks—Altitude, Outdoor, WFN and ROOT.

Vantage power users

While each network has its own unique operational requirements, they share the same basic workflow. It spans a broad range of functions, such as media ingest, capturing metadata, adding closed captions, transcoding file formats and quality control.





Altitude Sports & Entertainment

The workload involved with preparing all this digital media for network delivery is daunting. We're talking about 50 to 100 shows per channel, along with hundreds of ads and promos every week," said David Zur, GM & Senior Vice President of Operations & Engineering for Altitude Sports & Entertainment. "In today's file-centric world, it would be impractical if not impossible for us to perform all these tasks in a manual process."

"That's why it's critical for us to integrate these multi-channel workflows into a single, unified environment and automate wherever possible. To do this, we chose Telestream Vantage because it's a scalable, enterprise class transcoding platform that has the horsepower to automate and process multiple workflows simultaneously. It's designed to keep a busy, high volume operation like ours moving."

For several years, Altitude had been using one Vantage system running on a Telestream Lightspeed Server, which provides GPU-accelerated processing performance. This single Lightspeed processed the workload for three channels: Altitude Sports, World Fishing Network and ROOT Sports Southwest.

Building a transcode farm

In 2013, when the Outdoor Channel moved to the Centennial NOC from its original Temecula, CA facility, it brought along its two Vantage systems, which had been running on off-the-shelf enterprise-class servers.

After the move, these servers were repurposed as database SQL array servers and Temecula's two Vantage licenses were now put onto two new Lightspeed Servers—building a transcode farm. The inventory was now three Vantage and three Lightspeed systems. And by adding the Telestream array to the mix, Altitude now has a load-balanced configuration with auto failover.

A decision was then made to add a fourth Lightspeed/Vantage combination to the newly configured Lightspeed/Vantage/Array bringing the Centennial NOC's Telestream inventory to four Lightspeeds, each of which is running Vantage and configured into the array. With this configuration in place, workloads can be load-balanced between all four Lightspeeds. And future upgrades are as simple as adding another Lightspeed with a Vantage license to the transcode farm.

Highly scalable solution

"Our goal was to merge and upgrade our Vantage and Lightspeed array to form a more powerful, integrated system capable of scaling up to meet our complex and growing demands," said Steve Carter, Chief Engineer for Altitude Sports and Outdoor Channel. "We also wanted to make sure we were using this transcode farm efficiently across all our entities, rather than working in silos."

"We asked our technology partner—IEEI.TV—to merge these two systems together, and to work closely with Telestream to reconfigure our workflows to create a more powerful solution," Carter said. With the upgrade, each Vantage system would have its own Lightspeed Server for accelerated media processing.

The local area network (LAN) was also boosted from 1 to 10 gigabits per second [10GigE] for more robust performance and accessibility. Since Altitude and Outdoor Channel had both been using Vantage technology, the learning curve was minimal when the systems were merged.

"We now have an integrated multi-channel environment and every piece of media that comes in for any of our entities goes through the same Vantage pipeline to be prepped for network delivery," Carter added. "Vantage has become the heartbeat of our on-air media processing and workflow."

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The Sportsman Channel, in New Berlin, WI, also has a single Vantage node, which is used to prep 50 to 100 media files monthly for VOD delivery. These files are transferred via Aspera to Ubiquity, a content delivery network, and to Encompass, in Atlanta, which handles their master control.

Besides its horsepower and scalability, Vantage was also chosen because it interfaces seamlessly with Apace Systems storage, KSE's preferred brand of network-attached storage (NAS) storage. Apace storage is used throughout the NOC for online, near-line and archival storage, including an Apace eStor 72-terabyte NAS that's accessible to the Vantage transcode farm over the 10GigE LAN.

"Telestream has a wonderful array of products designed to solve a lot of the complex problems many of our media customers are having," said Dennis Bress, CEO and President of IEEI and IEEI.TV, in Newport Beach, CA. "That's why Telestream is one of our premiere technology partners."

As people realize what Vantage can do, there's a tendency to overload the system with demands. This requires assigning priorities to each of the tasks. "We can also increase capacity by adding another Vantage license or Lightspeed server," Zur said. "With its automated, parallel workflows, Vantage doesn't require more manpower to do the work you need to do."

Parallel file processing

The four KSE Media Venture networks at the Centennial NOC each require at least two or three Vantage workflows that users set-and-forget. While there are four networks, Vantage must actually handle transcoding for a total of seven linear streams.

These include: a HD primary and alternate stream for Altitude, a primary HD and secondary SD stream for the Outdoor Channel, one HD stream for World Fishing Network and a primary and alternate HD stream for ROOT Sports Southwest.

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Outdoor's SD channel is basically the same as its primary HD signal except that it has SD-friendly graphics and branding. And the alternate streams enable the sports channels to deliver different programming to inner and outer market territories during live games to comply with NBA blackout restrictions.

Each show, promo, ad or other content requires its own unique workflow, such as converting the source material to a particular file format, merging closed caption files, and adding letterboxing or "wings" to make 4:3 SD media suitable for the widescreen. Metadata is added, including active format descriptors (AFD).

Vantage automatically picks up the files it must work on from designated watch folders on the Apace storage. When the transcoding is finished, it deposits those files into different for-air folders destined for playout. The ingest team picks up the finished files and QC's them, marks the start and stop points to designate program breaks and ingests the files into the Crispin broadcast automation system and Harmonic server for playout.

Vantage is used to take a myriad of incoming file formats and convert them to a handful of house formats, such as the Harmonic .mov format needed for the Harmonic broadcast playout servers, and the MXF industry standard file exchange format. The KSE networks also rely on Vantage to transcode media for their video on demand and international distribution.

"Without Vantage, we'd be working very long hours exporting many files out of Premiere or Final Cut," said Carter. "While Vantage is converting and prepping a massive amount of media for network delivery, it's not complicated. And our engineering group is very pleased with Vantage because they don't have to spend a lot of time dealing with it."

"You just drop the media into the watch folder, Vantage picks it up and outputs the exact version you need on the other end," Carter said. "It works in a very simple fashion. That's the beautiful thing about it."

The Meteoric Rise of KSE Media Ventures KSE Media Ventures at a glance

E. Stanley Kroenke—owner of the Denver Nuggets (NBA), Colorado Avalanche (NHL), Colorado Rapids (MLS) and Colorado Mammoth (NLL) teams—launched Altitude Sports & Entertainment in 2004 to showcase his teams' live games.

Altitude's program lineup has since expanded to include other professional sports, like professional boxing and cycling, and college and high school sports of interest to the network's 3.1 million subscribers across a 10-state Rocky Mountain region.

The KSE NOC has a 54-rack central machine room, over 30 tech-bays for edit and media prep, full uplink/downlink capacity, 40 full-time operations staff, round-the-clock engineering support and a large studio for pro sports pre-game, post-game and intermission reports and weekly shows.

The KSE Media Ventures portfolio quickly grew with the 2010 acquisition of The World Fishing Network (WFN), a Canadian network serving approximately 12 million subscribers in the U.S. and Canada. While KSE owns a 50% stake in WFN, it moved the network to its Centennial NOC and assumed responsibility for its day-to-day operations.

KSE solidified its status as the premiere provider of outdoor sports and lifestyle networks with its May 2013 acquisition of Outdoor Channel—the leading cable network for hunting, fishing, shooting, off-road motor-sports and other outdoor lifestyle programs. They embarked on the complicated mission of relocating Outdoor Channel from its technical operations center in Temecula, CA to the Centennial NOC. Despite its busy sports schedule, the channel was successfully switched hot without any programming interruptions.

In September 2014, KSE Media Ventures began providing origination and uplink services to ROOT Sports Southwest as an external client at its Centennial NOC. Formerly Comcast SportsNet Houston, ROOT Sports Southwest carries Houston regional sports, including the Houston Astros (MLB), Houston Rockets (NBA) and Houston Dynamo (MLS) teams.

In November 2014, KSE acquired Sportsman Channel, a New Berlin, WI-based network that serves over 36 million outdoor enthusiasts. With this acquisition, the company now offers the largest, most diverse multimedia platform devoted to sports, hunting, fishing, sport shooting and adventure programming.

About KSE Media Ventures: KSE Media Ventures, LLC, is a wholly owned subsidiary of Kroenke Sports & Entertainment and is the corporate management entity for all of KSE's Media interests, which include Altitude Sports & Entertainment television and radio, a 50% interest in World Fishing Network, The Outdoor Channel, Winnercom productions, Aerial Cameras and the Network Operations Center located in Centennial.

About Kroenke Sports & Entertainment: Owners and operators of Pepsi Center, the Paramount Theatre, Dick's Sporting Goods Park, the Denver Nuggets (NBA), Colorado Avalanche (NHL), Colorado Mammoth (NLL) and Colorado Rapids (MLS). Additional properties under the KSE umbrella are television properties, including Altitude Sports & Entertainment, Outdoor Channel, 50% interest in World Fishing Network, plus Altitude Authentics, the company's official retail provider, and Altitude Tickets, the official ticketing provider for KSE teams and venues.

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