The Miami HEAT
SCORES
with a shared storage environment

BY BILL BUHRO

To improve pre- and post-production workflow and efficiency for broadcast and media production, the National Basketball Association (NBA) 2006 World Champion Miami HEAT wanted to upgrade its tape-based ingest environment to a scalable content management solution. It decided more than a year ago that it needed to expand storage and expand its nonlinear workstations from three to five.

At the same time, NBA Entertainment, which produces NBA TV, was implementing the No. 1 high-tech powerhouse in the world of sports content management in its Secaucus, NJ, headquarters. NBA Entertainment had contracted SGI Professional Services to help design an SGI InfiniteStorage production and archive solution enabling NBA broadcast engineers to catalog and store all the action from every NBA game as it occurred. After touring the massive system at NBA Entertainment, Ed Filomia, senior director of broadcast services for The HEAT Group, felt it provided all the functionality they would require.

The Miami HEAT contracted SGI to design a similar, much smaller

Functioning as a mini post house for the 2006 World Champion Miami HEAT, The HEAT Group ugraded to an SGI InfiniteStorage NAS 2000 system where content is digitized once and then immediately available to everyone.

bundled system that could fit in one rack and provide ingest, storage, editing and archive of game footage. The team also wanted to eliminate the duplication of digitizing media, specifically the time that it took to copy media from nonlinear station to nonlinear station. The SGI InfiniteStorage NAS system now allows all five editors to share the same video content.

Housed atop the AmericanAirlines Arena in downtown Miami, where all home games are played, the media production department functions as an in-house post-production studio for the team's marketing department. The rotating staff of 15 producer-editors uses the SGI NAS system — approximately 16 hours a day, in season — to create content for HEATV, an in-arena network that broadcasts to 20,000 basketball fans every game night. The media production department also produces content for NBA TV, seen nationally, as well as SunSports, the exclusive regional TV partner of the Miami HEAT (available via cable and satellite in the south Florida market). That content is used in pre-game shows, half-time shows and within the on-air broadcast.

The team produces 70 broadcasts on SunSports. In addition, it produces a half-hour exposé-type program, "Inside the HEAT." HEATV content is also streamed to www.HEAT.com. All types of corporate presentations and sales presentations for big sponsors are produced by the mini post house, in addition to promotions to boost ticket sales for the numerous events that come to the AmericanAirlines Arena during NBA off-season, from Shakira to U2.

A NAS environment

The media production department purchased an 8TB SGI InfiniteStorage NAS 2000 system to create a turnkey NAS environment for its five Avid Liquid editing stations and two graphics workstations (one PC and one Macintosh) running Adobe Photoshop and Adobe After Effects.

The 8TB SGI InfiniteStorage NAS 2000 system creates one centralized shared environment for encoders, asset management software, Avid nonlinear editors, read-only graphics workstations and older storage.

Design team

The HEAT Group
    Ed Filomia, senior director of broadcast services
    Dave Vickery, head engineer
    Alex Rojas, director of IT
    Matt Shedenhelm, director of media production
SGI
    Bill Buhro, media solutions architect, SGI Professional Services
    Chris Walker, project manager, SGI Professional Services
    Ron Short, solutions architect
    Carlos Iglesias, SSE

By building a new GigE network, SGI Professional Services integrated the encoders, asset management software, Avid nonlinear editing workstations and read-only graphics workstations, plus older storage, to create one centralized, shared environment. Performance tuning was done on the system and NLEs as well as the server system to optimize the performance, enabling all the machines to operate at the same time without any conflicts on the system.

The HEAT's Alex Rojas, director of IT, worked with SGI to configure the system from a networking point of view so the right people had access to the right things to enhance system security. When high-speed GigE was suggested to connect the editing systems (on two different floors), the servers and the arena screens, Rojas was skeptical that video files could be moved across Ethernet quickly enough. After some tweaking to get the maximum performance, get the system on the corporate firewall and give SGI access to it for troubleshooting, Rojas was surprised to see that speedy delivery was accomplished.

The NAS system was up and running in the middle of last year's season. Matt Shedenhelm, director of the HEAT media production department, who also functions as the lead producer/editor/photographer, faced some serious growing pains in the department, between the recently installed latest version of software for the Avid NLEs and working closely with SGI to tweak and maximize the efficiency of the system.

With the new season well under way, Rojas and Shedenhelm both agree that working in a shared storage environment, where content is digitized once and then immediately

The HEAT Group's 15 rotating producers create content on the SGI NAS system approximately 16 hours a day, in season, for many outlets, including pre-game shows, half-time shows and within the on-air broadcast.

accessible as context-specific data to all, allows producer-editors to put more time into the actual creation of a promo, graphic, program or marketing piece. Creating a workflow where media gets digitized to a central storage provides the tools needed to produce all the different presentations for the different mediums, and has significantly improved the workflow and the efficiency of producer-editors.

Technology at work

Avid Liquid nonlinear editors
SGI InfiniteStorage NAS 2000

The near future

While the 8TB SGI Infinite-Storage system suffices to take the media production department through the season — and that's

mainly for the highlights, with up to eight different camera angles per highlight — the team also chose the scalable SGI NAS system because it's plug-and-play. If the team wants to upgrade, it can simply buy another chassis, populate the array and have additional storage, especially for archiving.

Currently, some of the HEAT games are being shot in HD, and Sun-Sports is broadcasting several games in HD this season. So, the media production team will begin migrating to HD soon.

Another major factor in its decision to tap SGI was to make sure that the team's architecture was compatible and would have interoperability with the NBA Entertainment system so the HEAT could share content with the NBA system and vice versa. SGI Professional Services set up the team's

> **Working in a shared storage environment allows producer-editors to put more time into the actual creation of a promo, graphic, program or marketing piece.**

system so it could share content in the future, when the NBA Entertainment system was ready to deliver content to any team organization.

NBA Entertainment intends to provide that capability from its SGI-designed digital media management system to the video production facilities of the different NBA teams, so

an Internet browser can look at and select content in the NBA archive for use in a local team's video production. Essentially, an editor will go in to the Internet browser, and search and select content on the NBA archive system. This will generate an order in the system. From that order, selected video pieces that the team wants will be delivered to an FTP server that can be accessed by the teams' systems, and then the team will be able to download those video clips and drop them directly into its central work environment.

The Miami HEAT is the first NBA team to upgrade its video production to digital asset management; other teams are expected to soon follow suit. **BE**

Bill Buhro is a media solutions architect for SGI Professional Services.

sgi®
INNOVATION
FOR RESULTS™