



Speedy Access to Archive and Streamlined Management

Media & Entertainment North America



- Multiple users and concurrent workflows
- Streamlined storage management
- Scalable performance for expanding network needs
- Efficient compilation of live and archived video

Solution

A flexible, high-performance appliance that enables faster access to content and allows more footage to stream to archive simultaneously



Tab Butler

Senior Director of Media and Post Production

MLB Network

All-in-one, high-performance storage appliance enables faster access to content while allowing more footage to stream to 40PB tape storage repository

MLB Network, Major League Baseball's 24/7 TV network, is the ultimate television destination for baseball fans, featuring the Emmy-winning "MLB Tonight," live regular season and postseason telecasts, game highlights, and original programming, as well as insights and analysis from highly regarded commentators, including Bob Costas, Peter Gammons, Jim Kaat, Al Leiter, and Harold Reynolds. When MLB Network first launched in a record-setting 50 million homes on January 1, 2009, it was heralded as the largest network debut in cable TV history. Since then, the network has steadily expanded its programming while earning awards and accolades for its unparalleled game and studio coverage.

In 2015, the National Hockey League entered into a media rights partnership with MLB Advanced Media, and NHL Network's operations were shifted to the same facilities as MLB Network in Secaucus, New Jersey. By continually embracing leading-edge digital and storage technologies, the staff overseeing operations for both networks are uniquely qualified to provide baseball and hockey sports fans a richer, more immersive game experience.

According to Tab Butler, senior director of media management and post-production, bringing the game alive for TV viewers is an overarching goal. "Enabling our creative production teams to locate and edit 'live' and archived HD content quickly and effortlessly enhances our producers' storytelling, bringing sports stories to life," he explains. "We have more than 650,000 hours of baseball archive content immediately available to all producers and editors. Instant access to that content is vital to our operation."

The Challenge

- Accelerating access to vast baseball video archive
- Required high-performance disk cache to support tape migration for archive while accommodating 7,000 hours of new content ingested weekly
- Needed simplification of complex, concurrent workflows to ensure seamless support for up to 40 postproduction jobs concurrently

At launch, MLB Network had built an infrastructure to handle its broadcast needs and support the baseball archives, which held about 150,000 hours of content spanning the sport's more than 100-year history. MLB manages the archive with its overarching asset management system, called DIAMOND.

While the initial archive utilized standard-definition format, in 2009, MLB Network archived ever-increasing volumes of content in high-definition. For every game, MLB Network recorded up to four copies, including "clean feeds" without graphics as well as "dirty feeds" with graphics for both teams, which soon caused a major growth spurt in the archive. Within the first year, another 40,000 hours of high-quality content were amassed, followed by continuous spikes in additional programming hours as the network expanded its offerings.

By 2016, the archive was growing by approximately 125,000 hours of new content per year. "We record up to 11 different source records for every game," Butler says. "For every hour of baseball, we could have as much as 11 hours of content for every game, which quickly adds up to about 7,000 hours of new content each week." As MLB Network continued to collect data, performance bottlenecks occurred within its tape storage archive, so the decision was made to upgrade it. In doing so, content would be migrated from 45,000 LTO-4 tapes, containing roughly 40 PBs of data, to approximately 4,500 T10K-D tapes. The environment uses 15 LTO-4 drives and 32 T10KD drives to ensure migration and archive content workflows are simultaneously supported.

The immediate challenge was moving LTO-4 content into a disk cache and then rewriting that content onto T10KD tapes, while simultaneously recording and archiving new footage onto the T10KD platform. "We needed a very large



Performance

Teams access new and archive footage without delay or disruption



Scale

Extended capabilities to second network, NHL Network



Flexibility

40-gig capability allowed for deployment in several configurations



Experience

Tremendous performance for end-users and no downtime at all

“With DDN, we can move a lot of content off disk very fast, giving us tremendous performance for our end-users. Reliability is equally strong; we haven’t had downtime at all.”

Tab Butler

Senior Director of Media and Post Production

disk cache to support the migration effort and maintain our growing archive demands,” Butler recalls. “We needed to ensure that post-production producers and editors had the fastest possible access to video content in our asset management system, encompassing as many as 15 Major League Baseball games on any given day.”

The Solution

In exploring options for a powerful disk cache to bolster its digital asset archive, MLB Network assessed different storage platforms to gauge performance and scalability. “The ability to access archived footage quickly is critical to our high-performance post-production environment, so speed was a major selection criteria,” Butler says. “Equally important was enabling multiple users to work simultaneously on concurrent workflows.”

From a file standpoint, the organization was especially impressed with DDN’s MEDIAScaler® storage solution. MEDIAScaler® delivered high performance and massive scalability in an all-in-one parallel file storage appliance. DDN’s industry leading density was also a major plus as MLB Network faced serious space constraints in its data center.

Ideally suited for media-rich workflows, MEDIAScaler offers concurrent access to content while accelerating end-to-end digital content management in a single solution that can scale seamlessly up to hundreds of petabytes and millions of IOPS. For MLB Network, what stood out most were the four 40-gigabit ethernet ports on each controller. “The 40- gig capability offered the flexibility to deploy our storage in several configurations,” Butler says. “We gained the ability to ensure faster access to content, while allowing more footage to stream from more tape drives simultaneously – a huge advantage.”

Multiple levels of data protection, including policy-driven snapshots, synchronous replication, flexible RAID configurations, and automatic detection and correction of data corruption, provide MLB Network with peace of mind in the integrity of its disk cache. Meanwhile, the condensed hardware footprint and seamless cloud integration ensure the organization can scale non-disruptively to keep pace with growing post-production demands.

The Benefits

- Fast, efficient compilation of live and archived video from partial file-restored clips
- Ensures post-production teams can access new and archived footage without delay or disruption
- Scalable performance enables support of growing needs

MLB Network installed DDN MEDIAScaler with nearly 1PB of disk cache storage to accelerate access to its massive video archive. The DDN platform connects with 15 DIVA data movers as part of the Oracle Front Porch DIVArchive management software, which connects to the network’s DIAMOND asset system, tape platform, and Grass Valley video server system. DIAMOND is tightly integrated with Adobe Premier Pro, which enables searching the entire archive from more than 142 edit stations.

“MEDIAScaler dramatically simplifies management of both live and archived video assets while accelerating content access times,” says Butler. “From the time a request for HD content is made within DIAMOND to the time it takes to perform a partial file restore from a data tape that is in the library and serve it through the DDN cache is between two to five minutes. DDN allows us to deliver data incredibly fast.”

Moreover, MEDIAScaler’s robust parallel processing capabilities ensure editors can deliver content wherever it is needed within the post-production environment. “At any given time, we could have from 15 to 40 jobs running. Moving content from tape to disk cache at speeds of up to 1.8Gb/s is pretty impressive.”

As DDN enables multiple users to work on concurrent workflows simultaneously, MLB Network can quickly and efficiently compile packages of live and archived footage from partial file-restored clips. “Being able to produce content combining historical and partial file-restored game clips quickly gives us the most compelling highlights, which is essential to our broadcast operation,” Butler adds.

About DDN

DataDirect Networks (DDN) is the world’s leading big data storage supplier to data-intensive, global organizations. DDN has designed, developed, deployed, and optimized systems, software, and solutions that enable enterprises, service providers, research facilities, and government agencies to generate more value and to accelerate time to insight from their data and information, on premise and in the cloud.

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