

# SUCCESS STORY

**NEBRASKA**  
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**SPORTS**  
NETWORK



**ALPHAVIDEO**  
the visual communications experts  
SPORTS & ENTERTAINMENT GROUP

The University of Nebraska 'Husker' football owns one of the richest championship traditions in college football history, capturing five national championships. The Huskers won back-to-back crowns in 1970 and 1971, before winning titles



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in 1994, 1995 and 1997. What makes Nebraska, a sparsely populated, relatively isolated state, so phenomenally successful in football? Over the years, events have repeatedly demonstrated and revealed Husker clues to the mighty Husker backbone. Back in 1902 over 3,000 Nebraskans boarded trains for Minnesota for a game. This was at a time when very few schools in the country could get 1,000 fans to a game, let alone, an out-of-state game that required a two-day train ride. The early Notre Dame rivalry, over 10,000 Nebraska fans attended the first game between the two teams in 1915. In the fall of 1922, a drive for \$430,000 in stadium construction funds was undertaken by faculty, students, alumni and friends of the University of Nebraska.

The stadium was named Memorial Stadium to honor all Nebraskans who served in the Civil and Spanish-American Wars; the 751 Nebraskans who died in World War I; the 3,839 in World War II; the 225 in Korea; and the 422 in Vietnam. Construction was completed in a few more than 90 working days and Memorial Stadium was dedicated on Oct. 20, 1923, at the Homecoming game in which Nebraska was held to a scoreless tie by Kansas.



Memorial Stadium has been the home to the Husker football program since 1923 and has been sold out every game dating

back to 1962 - an NCAA record 289 straight sell-outs.

Nebraska was the nation's first college football team to have instant replay boards at an exclusive college venue back in 1994. In 2006, as part of the Memorial Stadium Expansion project that added the Tom and Nancy Osborne Athletic Complex and more than 6,500 seats to the North end of the stadium, **HuskerVision** opened a new era with the addition of a massive screen atop the North Stadium.

The new Mitsubishi instant-replay screen is one of the largest in any college stadium in the United States, measuring 117-feet 7 1/8-inches wide by 33-feet-7 3/16-inches high, roughly five times the width of the original screens inside Memorial Stadium. Overall, approximately 10 of the old replay boards would fit inside Nebraska's new screen. **HuskerVision** is housed in the state-of-the-art Michael Grace Production Studio located on the



concourse level of West Stadium. This area includes office space to accommodate nine full-time employees and a staff of 25 student assistants. In addition, a broadcast quality control room, three non-linear editing rooms and a television production studio allow the **HuskerVision** staff to produce a multitude of video productions. Last year, **HuskerVision** created more than 100 television shows, including the Husker football Show; coaches shows for both men's and women's basketball, volleyball and Baseball; production of highlight tapes for all 23 varsity sports; and running the video boards in the Bob Devaney Sports Center. The **HuskerVision** crew also produces and markets highlight tapes on each Nebraska football season. Over the past 10 years, more than 150,000 tapes have been purchased by NU football fans. Along with a 30,000 watt sound system, the **HuskerVision** screens help make "The Tunnel Walk" part of the atmosphere of Nebraska football. Every entrance to Memorial Stadium welcomes fans with this message: "Through these gates pass the Greatest Fans in college football." In another state-of-the-art advancement, the **HuskerVision** crew is responsible for **HuskersNside** programming on the **Huskers.com** website.



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Started in the fall of 2002, **HuskersNside** offers some of the most advanced video streaming in the country and allows Nebraska fans to follow their favorite teams and athletes on the world wide web. **HuskersNside** offers live web streaming of Nebraska athletic events and news conferences. In addition, more than two hours of new programming on Husker athletics is made available at **HuskersNside** each week.



Director of Technology at **HuskerVision** since 1994 is Mr. Shot Kleen. A US Army veteran and long-time Engineer at NETV and KOLN/KGIN-TV since 1971, Kleen oversees operations of **HuskerVision** computing services and is the leader of the technology team, which researches and develops all technology related projects within the Athletic department. Assisted by industry-veteran and Chief Engineer Scott Guthrie, Kleen developed a detailed technical specification for a new archival storage solution that would meet the long-term needs of both **HuskerVision** and associated Media Relations for the University of Nebraska's Athletic department.

A long time vendor to the University's Sports program, **Alpha Video** of Edina, MN. ([www.alphavideo.com](http://www.alphavideo.com)), was selected by **HuskerVision** to turn Kleen's new media asset management and archival storage vision into reality. Headed up by industry veteran Jeffrey Volk, **Alpha Video's Sports and Entertainment Group**, a member of the Professional Systems Network International (PSNI) and leading digital video systems integrator and provider of visual communications solutions, selected **CUC** as their System Integration partner to provide the Media Asset Management and long-term archival storage subsystems for the **HuskerVision** project. The **HuskerVision** customized sports media-asset management (MAM) and archive solution requirements included (but not limited to..) the following criteria:

- Provide online, near line, offline, deep storage and high quality automated proxy clip creation, enabling review and creation of an edit decision list (EDL) for media retrieval to the on-line editing systems.
  - > Open architecture to provide for future expansion and adaptation of future technology
  - > Easy future expansion to allow for potential use by other units within the Athletic Department
  - > Archive media must be accessible by current and future operating systems including Linux, OS/X Windows XP
- Provide ability to ingest, store, log, label and retrieve all media materials:
  - > Ingest of legacy footage from Betacam SP, DVC Pro 25/50, DVD, VHS, etc. to industry-standard MXF, IMX50 and MPEG2/4 formats (via SDI)

- > Support ingest/export of H.264, MPEG-2, MPEG-4, QuickTime codecs and VC-1 media streams
- > RS422 machine ingest control with mark in/out for Real-time Hi-Res batch capture to Lo-Res proxy with MXF format and proxy metadata file links
- > Ingest of HDV and DVCPHD 720P-60 high-def formats with minimal or no additional compression of the source video content
- > Seamless integration with existing Final Cut Pro and Adrenaline editing systems
- > Identification and logging system to track existing and new tape footage
- Web-based portal for web content delivery of audio, video, photos and printed files:
  - > Turnkey portal providing multiple seat logging applications, rough cut edits, multiple logging templates to enable archive and edit all of proxy video footage including coach's shows, sporting events, press conferences, and on-location field acquisitions.
  - > Portal-based web server able to support on-line registration for camps and events, calendars, photo delivery, audio and video delivery in High-Definition resolution, a watermarked proxy resolution, and an interactive interface with credit/debit card purchase functionality.
  - > Ability to search and query video, audio, photos and hand-written (scanned/electronic) documents.
  - > Capable of importing third party metadata, ie. data/stats provided by other schools' sports information services with the ability to link XML stats from both [huskers.com](http://huskers.com) and [Statscrew](http://Statscrew) for packaging full game archives and statistical information.
  - > Provide time stamp from the XML feed to synchronize the game video archive with the stats, with ability to import sports information data compiled at out of town sports venues by host schools sports information personnel; perform remote logging and editing on location of that data.

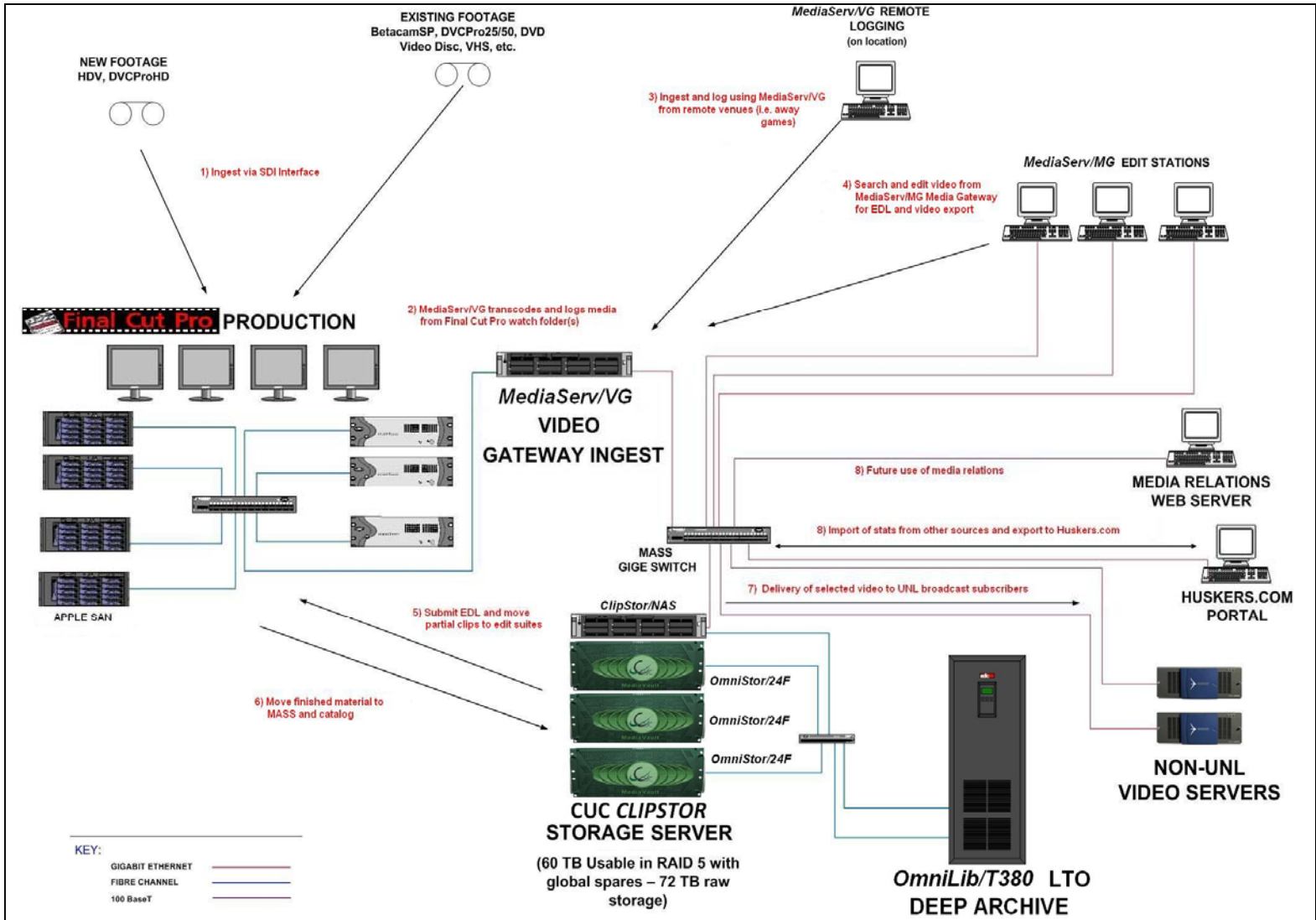
A 60TB SAN and 80TB+ deep archive configuration running both 4Gbit Fibre-channel and GigE networks, CUC's **ClipStor/NAS**, **ClipDisc** SAN RAID arrays, and **MediaServ** Video and Media Gateway Servers provide the backbone for the new **HuskerVision** customized Sports media asset management and archive system. A dual LTO4 drive **OmniLib/T380** tape library, operating at under .75 watts per Terabyte, will provide over 304TB of uncompressed video archival storage capacity for a number of years to come. For additional details and information, please contact your CUC representative.



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## HuskerVision CUSTOM SPORTS MEDIA-ASSET MANAGEMENT WORKFLOW DIAGRAM



### SUMMARY OVERVIEW

**PROBLEM:** The University of Nebraska Athletic department was seeking an archival storage system for HuskerVision and Media Relations. Fundamental system requirements were ability to ingest, index, store, and retrieve media materials, including legacy analog footage. A web based portal system was also needed to provide web based content delivery of audio/video, photos, and printed files.

**SOLUTION:** A complete turnkey system based on an Avid and Final Cut Pro workflow was provided. That system included CUC manufactured NAS and SAN disk storage as the Central On-Line Storage, an LTO tape library as the deep archive tape storage, and a media asset management system that consists of Media Gateway, Video Gateway, Content Manager Gateway, Archive Manager, Physical Media Manager, Avid MXF File Import Indexer, and Avid EDL Export Interface software and hardware.

**COMPONENTS:** *ClipStor/NAS* ~ 20TB archival storage management server with automated tape HSM

*MediaServ/VG* ~ 1TB video gateway media asset management ingest server(s)

*MediaServ/MG* ~ 6TB media gateway low-res proxy media asset management server

*ClipDisc* ~ Dual 20TB 4Gbit Fibre-channel rack mount RAID arrays

*OmniLib/T380* ~ 304TB dual-drive LTO4 Tape Library with 4Gbit FC interface

