Unified Video Technologies

CHALLENGING THE FUTURE OF TV

FBA 1.0
File Base Archiving 1.0
Archiving: Digitization Done Right

Solutions and Services for a New World of Media

MISSION STATEMENT

Create a unique and unequalled viewing experience for consumers by providing innovative customized managed solutions that content providers can leverage using highly profitable business models.

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Vision & Mission

ABOUT US

UNIV – Unified Video Technologies was established by industry professionals with decades of experience in Media and Entertainment technology.

Unified Video Technologies (UNIV) was established by industry professionals with decades of experience in broadcast and media technology, and a vision of making video solutions more agile, accessible and affordable, and easy-to-use for broadcasters, content providers and media companies. By leveraging advances in networking technology and digital video, UNIV realizes its vision by developing and implementing powerful video platform-as-a-service and managed service solutions for OTT delivery, digital workflows, second-screen applications and media archives.

UNIV's founders gained in-depth expertise in both the business and technology of broadcasting as partners in Miami-based system integrator World Wide Broadcast (WWB), and subsequently with KIT digital. The company successfully deployed some of the most advanced broadcast and media solutions in the industry for key clients across the globe. In late 2012, UNIV's founders purchased the Broadcast System Integration group from KIT digital.

UNIV's system integration expertise expertly transitions customers to powerful new media workflows through cost-effective, custom solutions that fit each enterprise.

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MOVING BEYOND VIDEOTAPE

Today, many video archives are on the verge of becoming unusable. Videotape, the dominant storage medium for television content since its introduction in 1951, has become obsolete: Most major manufacturers no longer offer magnetic tape and tape cassettes, and video tape recorder (VTR) production has been likewise discontinued. Players for most legacy media formats are in short supply, and as they break, parts to repair them are becoming increasingly difficult to find.

The industry has additional reasons for renouncing videotape in favor of digital media:

› Videotape is subject to deterioration, breakage and other mechanical failure.

› Videotape does not support metadata so cataloguing must be performed manually and using supplementary records, in a process that is time-consuming, expensive and subject to errors.

› Back-up of videotape archives is costly due to expensive media and a largely manual process.

› Video players are prone to breakdowns, requiring time-consuming and costly repairs—when they can be repaired at all.

› Videotape is expensive to store and maintain: Large spaces are necessary to store bulky tape, and extensive staff is needed to catalog and shelve it. And because it is sensitive to heat and light, costly HVAC systems are needed to maintain the conditions that are most likely to prevent media degradation.

› Videotape cannot be browsed or searched to find specific footage. At best, fast-forwarding is a slow, inefficient and inaccurate way to find images.

› Videotape can be lost, stolen or accidentally recorded over. In such cases, the content is lost to the archive forever.

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ARCHIVING BENEFITS

→ Video archive owners are increasingly turning to digitization as the only way to protect their archives and ensure continued accessibility. Many are attracted by the added capabilities and attractive features offered by digital archives, including:

→ Browsing

→ Metadata

→ Easy back-up

→ Compact storage

→ High degree of automation

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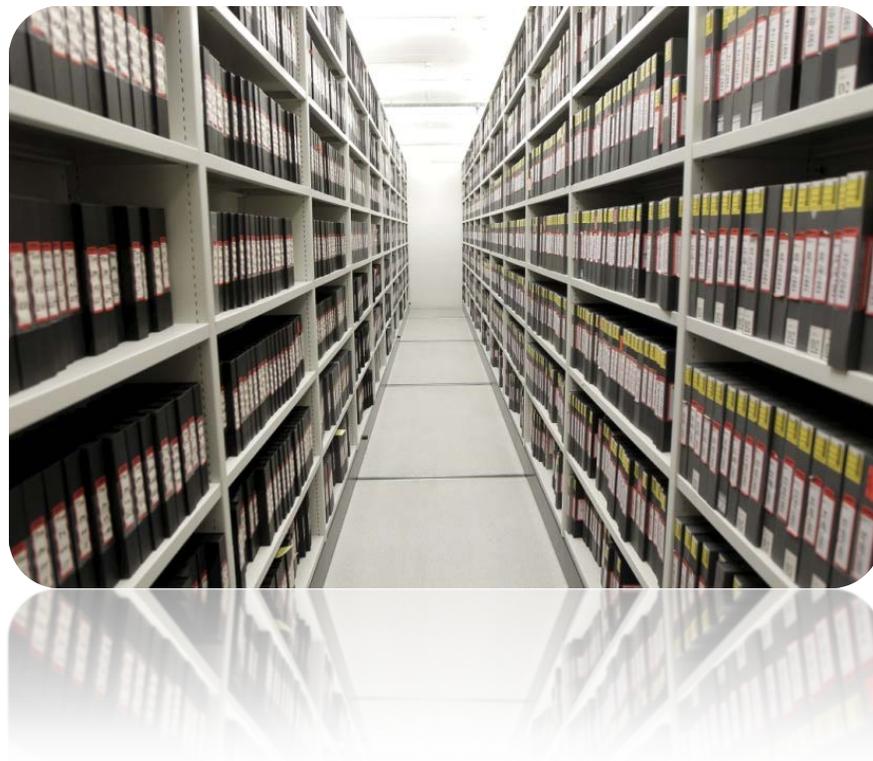
TRANSFERRING VIDEO ARCHIVES TO DIGITAL MEDIA

Archives may be digitized through either manual or automated/robotic processes. Initially, all digitization was accomplished through labor-intensive and painstaking manual processes, in which archival video was played on appropriate VTRs and re-recorded on digital media.

More recently, automated and robotic processes have been developed for digitizing legacy video archives more efficiently. While some organizations opt to digitize their own videotape archives, either manually or through automation, most prefer to utilize professional third-party services that specialize in digitization of videotape archives.

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CHOOSING A DIGITIZATION SOLUTION

A number of features are critical when evaluating and selecting a digitization solution:

› **Inclusion of metadata:** The integration of metadata with digitized video vastly increases the value of archival video content by enabling fast, accurate searching and browsing. In fact, it represents one of the chief benefits of moving to digital. However, most digitization solutions do not include generation and integration of metadata. In others, the resulting metadata is incomplete and of questionable accuracy. Solutions which manually generate metadata yield uneven quality and tend to be extremely costly, since each frame must be individually examined and described. *Full integration of accurate and comprehensive metadata is a key factor in selecting a digitization solution.*

› **Turnaround time:** Many video archives include thousands of hours of video footage in legacy formats. A wholly manual digitization process can take more than 3 times the playing time of each videotape. And because few, if any, archives have enough human resources and additional VTRs in each legacy format to dedicate to this process, digitization is a task that can take years when performed in-house. The situation is only somewhat better for many third party digitization services. All but the very largest have a limited number of VTRs, leading to exceptionally long turnaround times. *Archives should carefully check the projected turnaround time when evaluating digitization solutions.*

› **Video formats and compatibility:** Many archives include a broad array of video formats and workflows. Before committing to any digitization solution, archive managers must ascertain whether the solution generates files that are compatible with current video formats and workflows, as well as with media and asset management systems that are being considered for future implementation. Ideally, the digitization solution provider should be able to match an archive's current formats and workflows. If the client does not yet have a media and asset management system, the digitization solution provided should be compatible with most file-based workflows. A digitization solution provider should also be sufficiently knowledgeable to recommend a media and asset management system to the customer and, if acceptable, utilize formats and workflows that are compatible with that system.

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A BETTER APPROACH TO ARCHIVE DIGITIZATION

Unified Video Technologies has developed a unique, patent pending, proprietary approach to archive digitization. The fully automated service provides the fastest turnaround time in the industry; the ability to transfer unlimited amounts of content; efficient insertion of rich, comprehensive metadata that includes facial recognition, voice transcripts, and the customer's existing metadata; and provision of a low resolution proxy for rapid browsing, as well as a second copy that is ideally formatted for webcasting and new media utilization.

With support for a wide variety of new and legacy media formats and file wrapping standards, UNIV's digital migration solution integrates easily with existing workflows. Content is digitized at high broadcast resolution to ensure excellent video quality. Digitized content may be stored on the client's choice of storage medium.

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THE PROCESS

THE ARCHIVING DIGITIZATION PROCESS

UNIV Archiving's digitization service leverages automated robotic digitization workflow that quickly, accurately and comprehensively migrates legacy analog and digital video , with diverse formats and from a variety of media, to the digital format of the customer's choice, and uploads it to the selected storage medium.

→ **Cleaning**

Cleaning is the first step in the digitization process. Each tape is inspected for flaws and its surface is cleaned. If a flaw is detected, the cleaning process is halted to avoid further damage to the tape, which is set aside for further attention.

→ **Evaluation**

Tapes that were identified during the cleaning process as requiring special treatment are carefully evaluated to determine how each tape should best be handled to minimize damage and maximize the quality of post-migrated content. Each tape is carefully assessed to identify problems such as edge damage, deformities, surface damage, and mis-wound tape, indicated by tension that is too high or too low. Tapes are sorted by appropriate treatment modality, if necessary, or continue on to the video capture stage. UNIV Archiving provides optional repair and restoration services for damaged tape, upon customer request.

→ **Up-conversion to HD**

Up-conversion to HD is not integral to the digitization process. However, for archives that have switched their facilities to HD, or plan to switch soon, it is far more efficient and cost-effective to upconvert all video from SD to HD in conjunction with digitization.

→ **Video Capture**

Unified Video Technologies's proprietary high-speed automated process rapidly captures video from any vintage media format and stores it as high-quality video, in any file-based formats desired by the customer and on any media that the customer chooses. By limiting manual processing to damaged or fragile video, UNIV Archiving both expedites the digitization process and reduces costs, while maximizing capture rates and video quality. UNIV Archiving's fully automated top-of-the line robotic solution performs video capture for any quantity of media, no matter how large or small, quickly and efficiently.

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THE ARCHIVING DIGITIZATION PROCESS

→ **Transcoding**

Once video has been captured on digital media, it is transcoded to MPEG-2, MPEG-4, or any other format desired by the client. Today, a wide variety of file types are used for different broadcast and streaming workflows and digital asset management systems. UNIV Archiving offers its customers the option of transcoding video content in multiple formats during digitization so content is broadcast-ready for the archive's most-used applications.

For archives which already have file-based workflow and/or a digital asset management system, UNIV archiving transcodes content to the format(s) supported by those systems. If a customer has not yet moved to file-based workflow, they may opt for content to be transcoded to formats that are compatible with most file-based workflows. Alternatively, UNIV Archiving is happy to discuss the archive's requirements regarding file-based workflow, recommend a suitable system and, if acceptable to archive managers, transcode files to formats that are compatible with that system.

→ **Creation of Low Resolution Video for Browsing**

In addition to generating high resolution digital files containing all content in the archive, UNIV creates a low resolution digital proxy for all archival video as well. This low resolution proxy is designed to facilitate rapid sampling and previewing of archived video, and is particularly well-suited for increasing the speed and ease of network-based video searches. Low resolution files are suitable for integration with any file-based workflow that the client may have.

→ **Metadata Insertion**

Metadata insertion is critical since it enables file content to be efficiently and accurately searched. UNIV Archiving's digitization process automatically transfers and inserts all existing metadata for each video, whether it is coded in the source media or filed in a complementary database.

The UNIV Archiving process is unique in its ability to automatically add detailed new metadata, based on both audio and video content, to files created from legacy videotape. During video capture, UNIV Archiving algorithms generate digital representations of each and every face that appears in a video. These representations can be searched for matches to identified facial images within the archive, including images that are scanned in as the basis for searching. Once an image has been identified in a search, the name of the person can be added to the metadata of the video in which the image appears.

In an additional automated metadata insertion process, UNIV archiving captures all audio on archival videotape and transcribes every word to text. The transcribed text is related to the video and integrated in the archive's media asset management system, enabling comprehensive and accurate searching of the audio content of every video in an archive.

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THE ARCHIVING DIGITIZATION PROCESS

→ **Delivery Media**

In today's fragmented and specialized broadcast market, there are a multitude of media and formats in which file-based content can be delivered. Clients may select from the wide variety of available delivery media based on compatibility with the applications for which the video is used, and the digital asset management systems and workflow that are leveraged to accomplish them. UNIV Archiving is happy to deliver the digitized archival content on whichever medium each customer chooses.

→ **Frequently requested delivery media include:**

→ LTO

→ SAN

→ Blu Ray

→ XDCAM

→ Cloud

→ **Long Term Backup Storage**

Unified Video Technologies provides long-term backup storage for customers seeking to ensure that their archive's contents will not be lost in the event of fire, flood or a natural disaster—or just, plain human error. Off-site storage is available for original legacy videotapes as well as for file-based digitalized copies. UNIV Archiving's temperature-controlled, protected storage facilities are fire-proof and completely secure. Off-site backup serves as cost-effective insurance for archival video content.

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BENEFITS OF MIGRATING

THE BENEFITS OF MIGRATING WITH UNIV ARCHIVING

→ **Migrating to Digital with UNIV Archiving costs less!**

Digital media archives are much less costly to maintain and use than archives comprised of legacy videotape. And migrating your archive using WWB's unique automated migration process is faster, less labor-intensive and more efficient than any available in-house or third-party digitization solution. More efficient for UNIV means less costly for you!

→ **Usable Material**

Digitization makes video content more usable than ever. Comprehensive and detailed metadata; fast, accurate searches; quick access to low-resolution video files of all content; and highly portable file-based formats make it easy for both internal and outside users to find and use the video they need.

→ **For-Profit Content Distribution**

Many broadcasters, TV channels, educational institutions, production houses and government bodies maintain video archives that go back many years--sometimes to the early days of television. The footage in these archives may have considerable cultural, historical and **commercial value**. Artists, creators of programming and advertising content, researchers in the fields of science and history, and casual users all actively seek—and are willing to pay for--archival video footage.

Migrating an archive to a file-based environment turns it into a **potential revenue center** as well as a rich and active resource. Networks platforms, including the public Internet and private networks, make it remarkably simple to distribute digital video content. And the rich metadata and content proxies generated by UNIV Archiving make it easy for potential users to search for and select the video they need. By offering and licensing all or selected archive content to users, archives can generate substantial revenues.

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HOW UNIV'S ARCHIVING WILL HELP YOU MONETIZE YOUR INVESTMENT?

Migrating an archive to a file-based environment turns it into a **POTENTIAL REVENUE CENTER**.

By offering and licensing all or selected archive content to users, **ARCHIVES CAN GENERATE SUBSTANTIAL REVENUES**.

UNIV CAN PREPARE FILES FOR:

→ New media distribution including OVER-THE-TOP(**OTT**) VIDEO-ON-DEMAND(**VOD**) services.

→ Uploading to content platforms that make them accessible to potential buyers.

→ Publishing to YouTube and other online video platforms.

→ Distribution over IP for lower costs than satellite.

ARCHIVING SERVICES

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DIGITIZATION TRANSFER SERVICES

→ **Service includes:**

→ Cleaning

→ Evaluation of videotapes

→ Video capture

→ Transcoding

→ Creation of metadata

→ Creation of low resolution proxies for easy browsing

→ Uploading to digital media.

▪ **OFF-PREMISES:**
Archival videotapes are shipped to UNIV Archiving premises, where digitization and transfer are performed. For large archives, UNIV Archiving recommends a staged process, in which batches of archival video are sent for digitization. Each batch is uploaded as digital files before a subsequent batch is submitted.

At UNIV Archiving, no digitization project is too large or too small to enjoy our full attention and dedication. UNIV Archiving offers highly flexible scheduling options that meet all digitization needs and budgets. Our customers can choose from a variety of monthly content-hour digitization packages. UNIV Archiving guarantees on-time of delivery for all projects. Premium expedited processes are available upon request.

▪ **ON-PREMISES:**
For on-premise archiving, UNIV brings everything necessary, including professional staff, and high-end equipment and technology, to your location. Our workflows bring the benefits of our experience and expertise to your workplace, and our thorough understanding of the digitization process enables us to accurately project time and costs. Setup is accomplished quickly and on-premise services ensure that original tapes never leave your site, saving transport costs and insurance for valuable materials.

METADATA CREATION SERVICES

UNIV Archiving offers optional metadata insertion during the digitization process. Metadata creation, including facial recognition scanning and audio-to-text transcription, may be performed for existing digital video content as well as during digitization. Services are available on a full archive basis or for selected content only.

→ **Up-conversion to HD**

For archives that have already moved to HD or are planning such a move, UNIV Archiving offers cost-effective up-conversion of legacy SD content at the time of digitization. This service frees archives from the need to maintain SD facilities for legacy content in addition to their up-to-date HD facilities.

→ **Long-Term Digital Video Storage Services**

Long-term off-site storage services at the UNIV Archiving premises enable archives to ensure that their contents will not be lost if the primary archive is destroyed by a fire, flood, natural disaster or mishap. Customers may choose for UNIV Archiving to generate back-ups during the digitization process or any time thereafter for off-site storage. Our climate-controlled, spacious facility is designed as an ideal storage environment for original archival videotape as well as for newer media.

→ **Distribution of Digital Content**

UNIV distribution platforms enable video archives to open their entire video archives or selections from their collections to potential users who are seeking video content on the Internet or private networks. UNIV Archiving empowers archives to create robust distribution platforms featuring searchable metadata, low-resolution proxy samples that can be transmitted quickly over most networks, and file-based content in standard formats that can be downloaded easily.

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![UNIV logo]

THANK YOU
for the opportunity to present our business!

We look forward to hearing from you and meeting to discuss further.

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