



ATEMPO-DIGITAL ARCHIVE FOR MEDIA AND ENTERTAINMENT

High Performance File Archiving Software for Large Data Volumes



OVERVIEW

From protecting newly ingested footage to archiving completed projects, Atempo-Digital Archive protects and preserves content throughout digital media workflows, and optimizes storage capacity as storage demands increase.

Whether you're a boutique post-production house or a broadcast media giant, Atempo-Digital Archive scales to fit your performance and capacity needs. With Atempo, your content will be protected and remain accessible—not only during edit, but also perpetually in a long-term archive.

ARCHIVE FOR DIGITAL WORKFLOWS: FROM HD TO 4K AND BEYOND

The past decade has been a period of massive change for media workflows. First, it was “going digital”—replacing complete tape or film-based systems with completely new digital equipment and processes. Then it was switching from SD to HD. Now, for those who have transitioned to HD or even 3D, the next challenge is “going 4K or 8K”—managing ultra-high definition content and the tremendous storage capacities it requires. This puts a new burden on the storage resources. Therefore the archive has taken a new role as a central element accessed throughout the workflow. Archives are no longer dusty storage rooms filled with videotapes or film. The archive is part of the daily workflow and plays an essential role in the creation of new productions.

As the archive becomes a central part of the digital media asset workflows, Atempo-Digital Archive's (ADA) capability to integrate both Media Asset Management (MAM) applications and with different type of storages is key to support media companies' high expectations. Therefore, this document is organized in three parts:

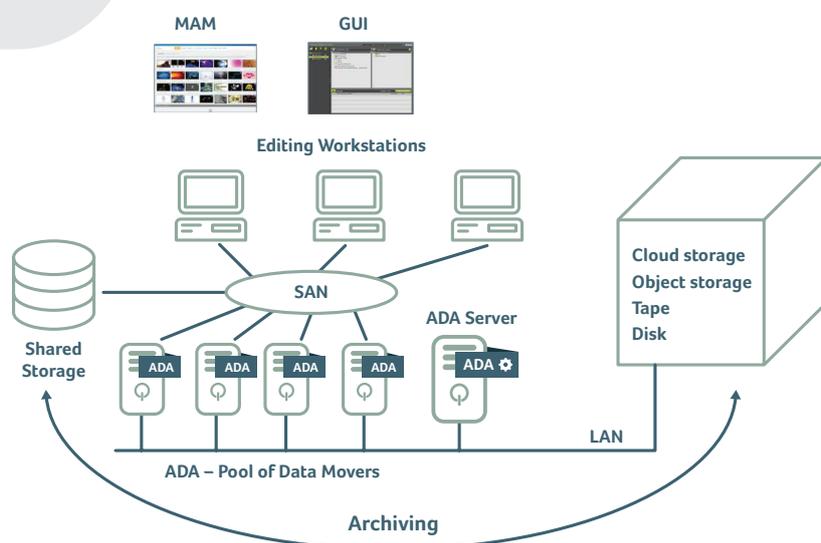
- An overview of ADA features and benefits
- A description of ADA integration with MAM and applications
- A description of ADA integration with storages

ATEMPO-DIGITAL ARCHIVE

Atempo-Digital Archive (ADA) is an open archive software solution that moves and preserves massive volumes of digital content with automatic, end-user, and workflow-triggered archiving for rich media content. ADA migrates content from primary storage to nearline and deep archives, whether digital tape, disk, cloud storage or object storage.

Atempo-Digital Archive protects and preserves digital content from the moment it enters the workflow until decades after the finished work is archived for long-term preservation. ADA can detect newly ingested raw footage and immediately archive it, while leaving the files in place for editors to use. For preservation projects, ADA scales to archive several terabytes of content per hour, so you can preserve historical works while they're still readable. Flexible archive and retrieval mechanisms, with or without a MAM, allow access from all points in the workflow—to and from virtually any storage system, any workstation, and any archive media.

HIGH PERFORMANCE FILE ARCHIVING SOFTWARE FOR LARGE DATA VOLUMES



A typical archiving infrastructure

KEY FEATURES AND BENEFITS

Atempo-Digital Archive is an open archive software solution with automatic, end-user, and workflow-triggered archiving. Atempo-Digital Archive migrates content from primary storage to near-line and deep archives, whether digital tape, disk, object or cloud storage. Unlike HSM-only solutions, Atempo-Digital Archive provides rich search and retrieval capabilities—from a drag-and-drop Graphical User Interface (GUI) to stub files to metadata search. The use of open formats keeps files accessible for decades to come.

Open, Flexible Solution

Atempo-Digital Archive has the ability to archive from a broad range of file systems and storage devices. It also uses the non-proprietary TAR or LTFS formats to write to tape, making the archive open and readable without proprietary software. Multiple archive and retrieve options, coupled with a flexible archive structure and access controls, make it the solution of choice for a wide range of workflows.

High Performance Workflows

To prevent performance bottlenecks, ADA can be configured with dedicated data movers. These data movers keep editor's workstations and central file servers out of the data path so users are not slowed down, even as capacities climb past the petabyte level. The access to archived media can also be virtualized for load-balancing and fail-over. Full fiber channel configurations are supported and single instance storage eliminates archiving redundant files.

TECHNICAL COMPATIBILITY

END-USER INTERFACE OPERATING SYSTEMS

- Microsoft Windows
- macOS
- Java for UNIX and Linux Platforms

ADA SERVER OPERATING SYSTEMS

- Microsoft Windows
- macOS
- Linux
- UNIX

APPLICATION PLUG-INS

- Avid® Interplay
- EVS MediArchiveDirector
- Primestream FORK
- CatDV
- Louise
- Levels Beyond Reach Engine
- DataFrameworks ClarityNow!
- Empress eMAM

PERFORMANCE

ADA Data movers can assist the ADA server to transfer data faster. One single ADA data mover has a bandwidth of 8 Gbps (3.6 TB per hour) enough to handle three LTO 7 drives and Object Storage nodes.

Application Integration

ADA is integrated directly with creative applications such as Media Asset Management tools (MAM) allowing archiving directly from their interfaces. With the Atempo application plug-ins, archiving an asset or project will immediately archive the content to tape or disk archive device. Unlike other solutions, ADA does not delete content from the archive on restore. Several interfaces are offered such as CLI, C++ APIs and Web services.

Support of Industry Formats

ADA offers dedicated support for MXF, Quicktime and DPX file formats. These formats are used for exchanging metadata linked to audio and visual content and are becoming industry standards.

Low resolution proxies and partial file retrieval

Prior to restoring an asset, a user can preview a low resolution version of the file in order to check that is indeed the asset he needs. If he needs only a part of it, by setting cursors in the interface, only the requested part of the full resolution film will be restored from the deep archive. Even with tape, only the part that is needed will be brought back without requiring any disk cache.

User Initiated Archive

ADA provides a simple drag-and-drop interface so your users can archive and retrieve projects without assistance from an archivist. Based on permissions, users can archive files into personal or project-based directories, and retrieve projects archived by others to their local work area—not just to the original project location.

Automatic Archive

Atempo-Digital Archive can automatically migrate files based on policies you set up specifically for your workflow. The migration criteria can be configured to consider file location, file type, creation date, last access date and more.

XML Ingest

Atempo-Digital Archive provides an advanced archiving method that enables users to archive files from nearly any application or digital asset management tool able to generate an XML file. This functionality can take the generated XML file, extract the necessary information and metadata and run the archive which offers unlimited archiving possibilities.

TECHNICAL COMPATIBILITY

SHARED FILE SYSTEMS

- Apple Xsan
- Quantum StorNext
- Sun Lustre
- Tiger Technology Tiger Store

PLATFORMS SUPPORTED AS PRIMARY STORAGE

- Microsoft Windows
- macOS
- Linux
- UNIX
- NAS
- NetApp FAS series filers
- Avid Unity MediaNetwork
- Avid ISIS 5000 & 7000
- BlueArc Mercury
- BlueArc Titan



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ATEMPO-DIGITAL ARCHIVE AND MEDIA ASSET MANAGEMENT APPLICATIONS

Managing the storage underlying your Media Asset Management solution (MAM) or Digital Asset Management solution (DAM) is just as important as managing your assets. As you add more and more assets to your MAM/DAM, the storage volumes can grow out of control. By archiving less-frequently used assets to a lower-cost storage media, Atempo-Digital Archive can help you control hardware and administration costs, while ensuring that your assets are stored safely and will be accessible both now and many years from now.

And with the DAM integrations offered for Atempo-Digital Archive, you can still have direct, transparent access to archived assets through the DAM system's native interfaces in addition to the Atempo interfaces.

Containing Growth of MAM Storage

Atempo-Digital Archive offers a seamless integration into popular MAM systems such as Avid Interplay, EVS MediArchiveDirector, CatDV, Louise, Levels Beyond Reach Engine, DataFrameworks ClarityNow!, Primestream FORK, and Empress eMAM. These integrated solutions enable you to maximize storage capacity while still giving content creators direct access to assets in the DAM. Migrating assets from high-performance online storage to a lower-cost, near-line, or offline storage media not only reduces costs, it can also improve the performance of your primary storage and shorten backup windows.

Direct Archive Access through MAM User Interfaces

With the Atempo-Digital Archive MAM integrations, archiving assets can be as easy as selecting an asset or project in the MAM system and selecting archive from the menu. Since archiving the metadata associated with an asset is as important as archiving the content, Atempo-Digital Archive offers the ability to ingest the metadata into the archive along with the asset. The migration occurs in the background and will not affect user access to the assets, whether online or in the archive. Archived assets can be retrieved through either the MAM or Atempo interfaces, including metadata search.

Flexible Archive and Retrieval from Atempo Interfaces

While some editors are used to work with a MAM, other users in their company could have a need to archive or retrieve assets without having to know a complex MAM environment. Atempo-Digital Archive can also provide an end-user graphical interface (GUI) that allows end-users to archive assets to different archives and enter additional metadata as well. They can use this metadata to retrieve their assets later with the same GUI. Regardless of how the assets are archived, retrievals from the archive will never delete files from the archive.

TECHNICAL COMPATIBILITY

ARCHIVE DEVICES AND SUPPORTED MEDIA

- Disk
- Tape
- NAS
- HDS HCP
- Dell EMC Centera
- Dell EMC Isilon
- NetApp
- and more

CLOUD STORAGE

- Amazon S3 and Glacier
- EMC Atmos
- PermaBit
- and more

OBJECT STORAGE

- Caringo Swarm
- DataDirect Networks WOS
- Dell EMC ECS
- HGST Active Archive
- ObjectMatrix
- Scality RING
- and more



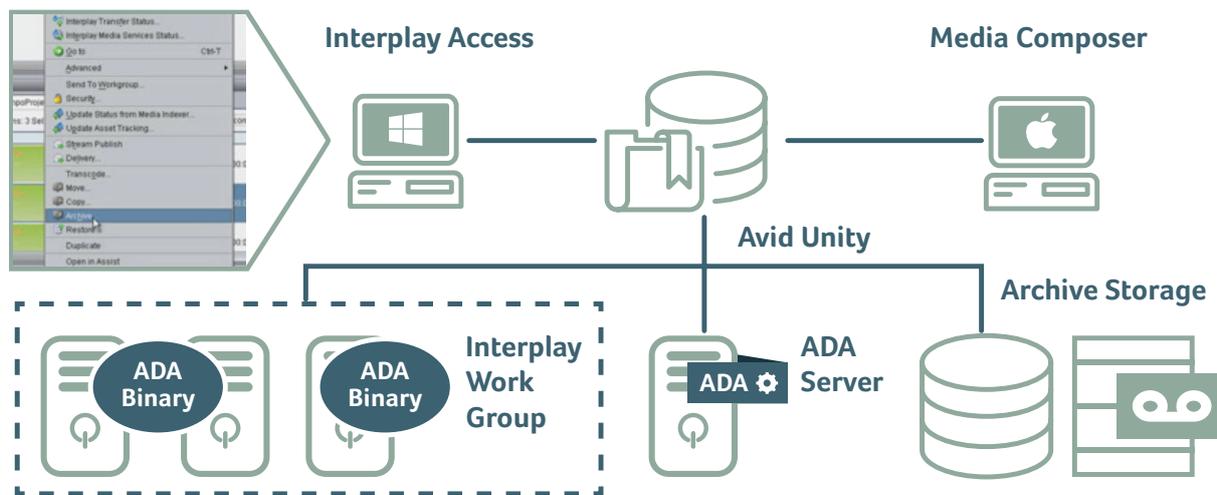
An Open Platform for Workflow Applications

Atempo-Digital Archive offers API, CLI, XML-based and Web services integration methods. As an open platform, Atempo-Digital Archive gives you choice to integrate not only asset management applications, but also other workflow applications, from editing suites to content management applications. Some of ADA customers choose to integrate ADA with their homemade application.

Atempo-Digital Archive for Avid Interplay

It makes archiving an asset as easy as right-clicking on an asset in the Media Composer Bin and selecting “Archive” from the menu.

- High-performance archive to tape and/or disk directly from Interplay
- Restore directly from Interplay, with full support for partial restore
- Archives and indexes metadata



ADA and Avid Interplay integration

Atempo-Digital Archive for Primestream FORK

It offers automated archiving for digital assets managed by FORK Production Suite.

- Archives and retrievals do not affect primary storage performance
- Users retrieve archived files graphically, by selecting proxies of archived files
- Integration is implemented through FORK Drones for faster performance and optimal scalability

HIGH PERFORMANCE FILE ARCHIVING SOFTWARE FOR LARGE DATA VOLUMES

ATEMPO-DIGITAL ARCHIVE AND STORAGE INTEGRATION

Atempo has been working with storage for over 20 years. Nowadays, storage for media and entertainments' needs are fulfilled with:

- Cloud
- Object storage
- Tape libraries
- Nearline disk arrays
- High performance shared storage for everyday use by professional editors

Cloud storage

In data security, it is imperative to not have all copies of the digital assets in the same place. One way is to have storage in several locations. Another is to have a cloud storage operated by a third party. When ADA archives to tape or disk, it can, at the same time, send a copy to a public cloud. Archiving to cloud storage becomes as simple as disk storage. ADA supports Amazon S3, Atmos, and Panzura.

Object storage integration

When Atempo-Digital Archive is combined with distributed Object Storage it leverages archiving and data movement capabilities in conjunction with gigantic storage capabilities, high performance read/write abilities, efficient disk utilization, and replication capabilities. The result is a huge archive platform that can archive billions of files and is able to provide fast retrieval of content to multiple editors simultaneously. Atempo-Digital Archive supports Caringo Swarm, DataDirect Networks WOS, DellEMC ECS, HGST Active Archive, ObjectMatrix, Scality RING and more.

Advanced Tape Management

Atempo-Digital Archive provides advanced tape management features to help control the grouping of archived data on tape. Data can be archived per archive project, per archive job, per custom group, etc.

Atempo-Digital Archive offers multiple parameters to control file allocation on tape and automatize the archiving to best fit specific needs. Splitting of a file between tapes can be allowed or prevented thus allowing the archive of a file larger than one tape on several tapes (tape-spanning). Atempo-Digital Archive can make it a priority to minimize the number of tapes used (best-fit), or the opposite, making it a priority to maximize the number of tapes used in order to maximize the speed of parallel data retrieval (worst-fit).

Atempo-Digital Archive supports LTO cartridges as well as many others. In addition to the open TAR format it supports on all tapes, ADA also supports new open LTF5 format on LTO 5,6 and 7. This unleashes new performance standards, since the LTF5 drivers were rewritten by Atempo to overcome the inherent slowness of the standard drivers.



Since 1992, Atempo provides business continuity solutions to secure and preserve essential business data for thousands of companies around the world. Our integrated suite of solutions include our market leading data backup and disaster recovery offerings (Time Navigator and Live Navigator) and our innovative archiving solution (Atempo-Digital Archive) which features intuitive retrieval interfaces and supports a broad scope of platforms. Based on high performance data movers our solutions are extremely scalable. The Atempo products are, therefore, suitable for the data protection needs of mid-sized to petabyte scale businesses and large distributed enterprises.

Atempo is headquartered south of Paris, France, in Les Ulis with operations in Europe, the Americas and Asia; it has a sales and support network of over 100 resellers, partners and Managed Service Providers (MSP) serving our customers worldwide. Learn more at www.atempo.com.

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