Migrating your legacy, closed format archive into a future-ready architecture

Existing Applications & User Facing Tools — C+M — Cubix Portals & API

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Legacy Archive / Closed Format System — C+M — Cubix — C+M — Cloud Storage Provider of your choice

C+M — LTFS Based LTO / HSM of your choice

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Legacy Storage Infrastructure (Disk and Tape) — C — Production Environment — C+M — Disk Based Storage of your choice

C+M

Content Only Workflows — Content + Metadata Workflows

There are a wide range of reasons why businesses want to migrate away from their current archive solution – ranging from managing risk, concerns over legacy hardware, media degradation and format support. Many businesses also find themselves stuck with "closed format" solutions, based on legacy middleware that suffer escalating support costs, especially when compared to the lack of product development.

As businesses agree the need to migrate, the choices of what, where and how become overwhelming. Storage is a completely different picture from when closed format solutions went live and the change offers significant opportunities to businesses. By combining the right storage solutions with seamless architecture and "lights out" orchestration driving the entire process, businesses can flourish. Ortana has purposefully ensured Cubix is as storage agnostic as possible by integrating, via API, a range of on premise and cloud-based solutions.

A company's main priority is to "not be here again" – and the key is to store media in an open format, not bound to any one vendor. The LTFS format is now well established within the media domain as a portable and easy to use format which critically has its specification and implementation within the public domain. This ensures it is easily supported by many vendors and guarantees support longevity for on premise storage. Ortana supports many HSMs that can write content in native LTFS format such as Quantum Artico and Xendata.

With significant reductions in cloud-based object storage, through providers like B2 Backblaze and Amazon Glacier, it has become an alternative to a second copy LTO. Egress costs can be a factor when building the model, but when viewed as a "last resort" copy and considering the high levels of durability these platforms offer in addition to MPAA compliance, it's a low cost, low hassle option.

With 12TB HDD now standard in the marketplace, nearline based storage has also become a strong contender for content when combined with intelligent storage tiering. Cubix can fully automate this process, especially when complimented by such vendors as GB Labs' wide range of hardware solutions, or even the MAID-based solution ALTO from Disk Archive.

To swap or to migrate? Some vendors suggest that "swapping" your LTO tapes from one HSM to another is the solution. Ortana knows that these libraries are often the linchpin of the organisation and any down time has significant negative impact and combined with the idea of these "one shot, one direction" migrations going wrong, can fill Media Managers with dread. Moreover, when following this route, simply moving tapes does not persist any editorial metadata or resolve many of the objectives around making content "more available". Cubix not only manages the media, but also persists the editorial metadata from the existing archive also.

Given the high speeds that LTO delivers, combined with the scalability of Cubix, it is easily possible to migrate even the largest libraries in short timescales, whilst having zero down time on the archive. Whilst the content is being migrated to the desired destination solutions, Cubix can perform several tasks on the content to further augment the metadata, including basics such as proxy and waveform generation, through to AI based image detection and speech to text.

Ortana is a trusted partner in the management and deployment of business transformation projects, making full use of the Cubix architecture and the full range of integrations it offers. If you are considering an archive migration, please contact us today to discuss your requirements.

ORTANA
Media Group

The Scenario:

Large Broadcaster – multi-channel linear playout with VoD and in-house news and post production – utilising DIVArchive & DIVADirector. 3PB of media across 2 generations of LTO tape. Migration to LTFS under new Xendata HSM and LTO robot - with Backblaze B2 cloud as second copy. Content to be indexed via AI powered image recognition and speech to text. Cubix UI to replace existing archive as media portal for both internal and external stakeholders.

Success Criteria:

- To fully migrate all tape and disk-based content to the new HSM in an expedited manner, making full use of the dedicated drive resources available

- To fully migrate all editorial metadata into Cubix, including all ancillary files (subtitles, scripts, etc.)

- To replace legacy WMV proxy with new full HD H264 frame accurate proxy

- To provide the business secure, group-based access to the content

- To index all media using AI-powered Media Discovery

- To leverage cloud benefits, whilst keeping cloud costs to a minimum

The Ortana Method:

Cubix Core instance deployed on site – along with harnesses for DIVArchive, DIVAdirector, Quantum Stornext, FFMPEG, B2 Backblaze and Google / AWS Cloud. Fully integrated with existing Active Directory for security. Metadata schemas configured to meet client requirements for each content type.

Cubix begins to query the DIVArchive via the published API for object information in each storage plan, learning about all tapes and their associated objects. Restore requests are then submitted on a "per tape" basis, working on the archived date, ensuring the actors always perform a "linear read" from the same tape to maximise throughput. Cubix maintains a sync to ensure any new or modified content that appears during the process is automatically included.

Content is restored to a temporary nearline location as configured within DIVArchive, where the content is then imported into Cubix. Full technical "deep dive" is performed on the asset, allowing Cubix to gather as much technical metadata as possible, including track layout, thumbnails and waveforms.

Under Cubix MediaRules / Taskflow, content is then asynchronously delivered to both BackBlaze B2 storage and Quantum Artico HSM / robot – whilst also being proxied and indexed via AI Media Discovery services. Each are driven by configurable business rules, allowing for the parameters to be tailored based on the content type (news rushes vs TX masters, etc.).

Harnesses for proxy generation can be scaled to any size, running FFMPEG to generate the proxies, complete with devaluations such as BITC, logo and watermarking. The same policy applies also to B2, AWS and Google harnesses, ensuring that the maximum utilisation is achieved across the different resources and the process keeps up with the restore speeds. Proxies are also archived to B2 for backup, and our AI Media Discovery tools make cost-effective use of these APIs to keep costs down to an absolute minimum.

Any editorial metadata regarding the asset is pulled automatically from DIVADirector and "tagged" into one of the configured schemas – mapping across from previous fields to new structure. This includes the transfer of any ancillary files. This causes the content to become visible in the client facing Cubix portal, complete with all the metadata acquired through the AI Media Discovery process.
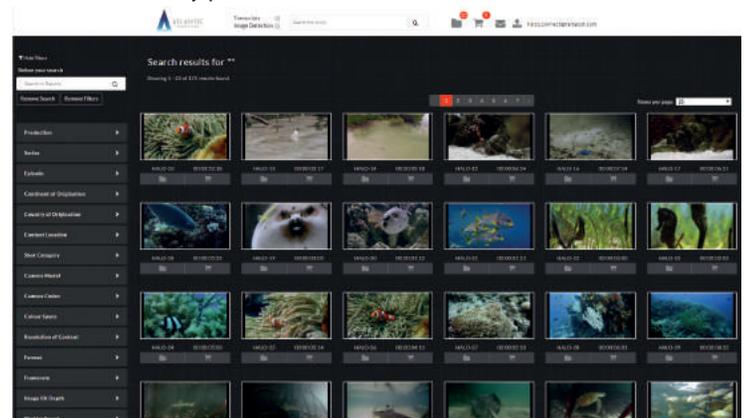
Once an asset is confirmed as complete, and the content is present on B2 Backblaze and committed to LTFS tape, the nearline copy is automatically purged, allowing space for further content to be restored. Cubix self-throttles and so the process runs "lights-out", raising an alert when exceptions occur. Several different dashboards and reports are available for both real-time monitoring of the process as well as reporting on throughput.

The client migrates onto the new portal once the bulk of the content is migrated, with the business then submitting requests for content directly via Cubix. These are actioned against the Quantum Artico HSM, allowing for the existing DIVArchive and DIVADirector estate to be decommissioned.