VERITONE®

Solution Brief

How Media Companies Integrate AI into their DAM Solutions to Uncover New Content Revenue Streams

Adopting an AI Metadata Solution Without Disrupting the DAM Workflow

For years, content owners have invested heavily in digital asset management (DAM) software that promised to transform their media archiving operations and enhance the overall value of their video, still images, audio, and other content. However, DAM solutions on the market have failed to deliver on this promise, with the software unable to generate the kind of extensive metadata required to fully capitalize on today's media content monetization opportunities.

New artificial intelligence (AI) technologies address this shortcoming, using cognitive engines to process media and generate extensive metadata, including searchable transcriptions of dialog, facial detection and recognition of performers, and identification of important objects. Nonetheless, media and entertainment (M&E) companies have legitimate concerns that a migration to an AI solution would require dumping their DAMs, a move that would disrupt workflows and negate the effort and investments made into their content into asset management systems.

This brief discusses how Veritone's aiWARE solution elegantly integrates the automated creation of metadata based on the intelligent analysis of the content stored within any DAM. This is achieved while preserving an organization's existing investment in their DAM, while also empowering these organizations to take advantage of new revenue opportunities unleashed by the creation of more impactful and useful metadata, all generated by AI.

Challenges

Mining Value from Content

Pent up within M&E DAMs is a gold mine of content just waiting to be discovered. From licensing, to accessibility, to publishing and syndication, M&E companies have a wealth of opportunities to repurpose and monetize their archived content. And with M&E organizations under pressure to expand their audiences and increase revenue, it's essential to capitalize on existing content to generate new revenue streams.

However, manual processes, such as human labor based logging, prevent M&E companies from realizing this value. M&E organizations traditionally have deployed DAM solutions alongside operational teams to distribute and monetize post-production content. However, due to the limitations of labor, much of the content produced never gets distributed or broadcast, and instead ends up on the virtual cutting-room floor. Over time, this valuable content can grow into huge repositories that are static, yet costly.

Metadata Gathering

The vast majority of media libraries aren't equipped to capitalize on these monetization efforts. Such libraries are housed in DAMs that store only rudimentary information about collected content, such as a timestamp or basic metadata like the names of actors or the locations in a movie. This level of detail is far from sufficient to support the multivariate search and indexing of information needed for continuous monetization of content. Moreover, traditional manual techniques of metadata-gathering are becoming impractical, given the significant investment in labor required for humans to review and tag audio, still images, and video content comprehensively.

DAM Maintenance

While the labor required to generate comprehensive metadata within a DAM is rarely financially practical, simply giving up the DAM isn't an option for M&E companies either. Many of these organizations have been using the same DAM for decades, importing massive quantities of assets into the system over time. Furthermore, M&E teams are trained and accustomed to using the software, with the DAM playing a central role in the archiving workflow. Abandoning a software solution positioned at the nexus of such a critical process would have disruptive consequences for multiple business processes, requiring massive changes and incurring major costs to migrate to a new solution.

M&E organizations need a solution that keep the DAM at the center of the workflow, while seamlessly adding robust metadata enhancement capabilities.

Solution

AI Driving Value in Media & Entertainment

Manual processes and basic metadata tools limit the amount of content that can be utilized, resulting in the growth of inaccessible, massive, and static libraries. AI vastly improves this process by searching and gathering information about a wide range of video and audio elements from every frame of an asset. AI technologies transform how humans engage with content and enable the M&E industry to drive better efficiency and value.

Many have expressed concerns that AI will eventually replace humans in the M&E value chain. However, those concerns are largely misplaced. AI's real value is in augmenting human labor, taking on the operational task of compiling, analyzing, and delivering content. Once compiled, a human operator will still be required to identify the best moments for consideration and subsequent use.

Many content repositories are simply not equipped to address future consumption requirements — which can range from on-demand distribution to historical archive discovery and monetization. AI automates the processes that connect the content to the consumer, from program viewers to content buyers. This area is where AI drives real value into the M&E industry.

Revolutionizing Media Content Metadata Workflows with AI

The introduction of AI-based services into traditional media content metadata workflows has become a game-changer. AI can augment human capabilities by processing and indexing media content faster and more consistently than manual operations. Organizations now have the ability to reduce overhead costs while allowing employees to focus on more productive tasks.

While the general public perceives AI as some super-intelligent, Terminator-like machine, today's AI is really a much more narrow type of intelligence. For audio

content, this manifests with AI transcription and audio fingerprinting capabilities enabling media companies to employ new techniques such as "listening" for keywords in an audio recording, including newsworthy names or topics.

For media companies' video-based content, AI employs technology that "watches" footage to gather metadata. This includes capabilities such as logo, object, and face recognition as well as optical character recognition (OCR). These tools have proven to be extremely beneficial, doing everything from recognizing specific actors, to reading revealing text, to identifying logos that may appear.

The higher speed and detection capabilities of AI improve the overall efficacy of operations and reduce costs.

Challenges in Applying Artificial Intelligence to Media Content Metadata

Once media organizations decide to use AI in their metadata enhancement effort, the challenge becomes how to begin the AI journey—by building their own machine learning models (which would require a dedicated team of data scientists), or by adopting a point solution from a third-party that may quickly become outdated, requiring additional investment to support a new solution?

Home-Grown AI Solutions

Internal projects and outsourced development projects not only lengthen time-to-market, but can cost media organizations millions of dollars, upfront. This is due to the time it takes to hire hard-to-find data science expertise, gather requirements and build software infrastructure from scratch. Media businesses must wait to garner utility out of their solution and will be limited by the narrow scope of the cognitive capabilities of the solution they chose as their organization continues to grow and requires new use-case support.

AI Breadth and Depth Needed to Solve Real-World Metadata Challenges

Today's AI landscape is comprised of over 10,000 unique models globally[1]. These specialized machine learning models are developed by businesses ranging from startups to large cloud providers, but each company offers only one or a few models that have limited capabilities.

In practice, many specialized models are required to achieve the depth of capabilities to meet human-level accuracy, as well as the breadth needed to approach multi-dimensional business challenges. In the case of indexing and metadata enrichment of a media archive in an asset management solution, all types of models—including OCR, audio fingerprinting, face recognition and object recognition—are required in various combinations to accurately process audio and video content.

Media organizations' IT and post-production departments are faced with the prospect of licensing and integrating with many different AI point solutions, and the associated risk of drowning in integration maintenance, or limiting themselves to extracting a fraction of the available insights from their data, leading to less accurate and less complete metadata results.

A Need for AI-Powered Applications

At the end of the day, AI is only beneficial for media organizations if the right teams have access to an environment to search, analyze, and manipulate the cognitively enhanced metadata they churn out. This can be accomplished in two ways: building something customized or integrating the machine-learning model directly into an existing application. Both efforts require time and maintenance from technical teams, as well as support from the AI solution provider. AI powered applications are key to driving actionable intelligence.

An Operating System for Artificial Intelligence is Required

Veritone created aiWARE, the world's first operating system for AI. An operating system is required to manage the multitude of available AI point solutions, but to also provide a software layer of purpose-built applications that empower media organization to solve real-world business challenges around metadata gathering. aiWARE unlocks the power of cognitive computing to automatically generate comprehensive metadata collection used for the subsequent searching of audio and video media content. aiWARE uses proprietary AI technology to orchestrate an array of cognitive engines, sometimes also referred to as machine-learning models, to optimize cognitive processing and improve results.

Veritone has built an ecosystem of hundreds of third-party AI models supporting more than 16 different types of cognitive categories, achieving the breadth of capabilities and depth of specialization needed in AI applications to address virtually any media organization's use case—all at high levels of speed and accuracy.

Veritone's proprietary orchestration technology, Conductor, uniquely employs multiple models or cognitive engines within the same cognitive category such as transcription to achieve more accurate results. Conductor intelligently selects multiple engines within the Veritone Ecosystem for their specific capabilities related to the content and routes the stream through each engine selected.

With Veritone's ecosystem of best-of-breed engines, media content owners have the capability to select their AI cognitive engine(s) of their choice or create recipes that leverage Veritone's Conductor technology to help with indexing and metadata enrichment.

aiWARE Works in Harmony with DAMs

For media content owners that ingest, store, and manage their media files via a DAM system, aiWARE offers a rich set of application programming interfaces (APIs) that allow AI cognitive services to be easily integrated into the existing DAM's user interface and workflow. Media content owners now can enjoy the benefits of finding audio and video clips based on keyword, face, logo, and various objects.

Many of the top M&E DAMs providers are employing Veritone's aiWARE to further index and enrich their customers' media archives. These AI-enabled asset management solutions typically utilize the DAMs existing workflow orchestration to push assets through one or more AI cognitive engines via aiWARE's operating system. Metadata generated by aiWARE's cognitive engines is then generally received back into the DAM via the DAMs API.

Ideally, the DAM should display all returned metadata alongside an asset's video timeline with different engine results shown in their own timeline fields. Metadata should also be fully indexed in the DAM's search engine to enable discovery via advanced search features or by timeline data search tools. These tools make it possible to jump to moments identified by the engines when selected. Analytical tools and dashboards provide all statistics and reports that the end user requires, or the API can feed the metadata into third-party systems for downstream utilization.

The types of aiWARE cognitive engines typically used by the M&E industry include:

Transcription—converting spoken audio and video recordings into readable text

Face recognition—identifying and indexing the presence of individuals in video or still images

Object recognition—identifying multiple objects within video or still images

Sentiment—discerning the tone behind a series of words and using it to understand the attitudes, opinions, and emotions expressed

A/V fingerprinting—generating a condensed digital summary, deterministically generated as a reference clip, that can be used to quickly locate similar items across multiple media files

Translation—translating written text from one language to another

Geolocation—associating media with geolocation data points to enable search by location, displaying a map view of media file collections or other specialized functionality

Optical character recognition—also known as text recognition, extracting text from a still image, video, or document

Logo recognition—identifying specific companies based on their logos or brands in still images and video

These cognitive engines generate rich metadata that can be leveraged by DAM operators in new purpose-driven workflows that optimize ad and sponsorship verification, repurpose content, enhance competitive research, unlock hidden revenue streams, improve operational efficiencies, and more. Users of DAMs are then able to create a searchable set of data along the content timeline, as opposed to manual viewing and logging. With hundreds of accessible cognitive AI engines, aiWARE enables users to try different engines to find the one that best fits the parameters of a given project.

AI-enabled DAMs help organizations analyze, share, and index their content automatically, ultimately leading to streamlined workflows and enhanced discovery experiences. AI automatically generates preconfigured and relevant metadata that can enhance advanced searches on vast archives, which in turn reduce operational costs and enhance the discoverability as well as the usability of valuable content.

Breathing New Life into Your DAM

DAMs are an essential part of M&E organizations' media archiving operations—but these solutions haven't been able to keep pace with the demand for more metadata related to new monetization opportunities. To take advantage of these new opportunities, M&E companies are embracing AI solutions to gather, tag, store, and distribute extensive metadata. By integrating cognitive engine technology with existing DAM software, Veritone's aiWARE offers an unparalleled approach to bringing the intelligence of AI to the M&E industry.

About Veritone

Veritone (NASDAQ: VERI) has created the world's first operating system for artificial intelligence. Veritone's aiWARE operating system unlocks the power of cognitive computing to transform and analyze audio, video and other data sources in an automated manner to generate accurate, actionable insights easily and quickly. With Veritone, organizations gain a future-proof investment in AI solutions. aiWARE offers a marketplace for trusted AI, powered by a diverse global partner ecosystem of cognitive engine developers, application developers and system integrators. Veritone has been recognized by AWS for Machine Learning Expertise and by Oracle for Excellence in Application Development.

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Contact us today
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Learn how Veritone helps uncover new content revenue streams within your DAM workflow with artificial intelligence.

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