What Video Surveillance Can Learn From Hollywood About Storing Video

Hollywood has trusted LTO with its archives for decades. Surveillance has been left behind. It doesn't have to be.

By Jay Jason Bartlett · CEO, Cozaint Corporation · November 2026



Dailies. B-roll. Circle takes. For well over a decade, these digital, video-driven processes of the "Hollywood" production marketplace have seen an explosion in the volume of recorded video that must be stored and managed. Entirely new workflows were created to handle the deluge that digital movie-set cameras unleashed. In the old days, parts of movies, TV shows and commercials ended up on the cutting-room floor as sections of film were edited out. Nowadays, every take is kept, and possibly reused in the bloopers edition or the director's cut.

Spoiler alert: this article is about the technical management and storage of surveillance video, not the cool special effects Hollywood likes to pretend it can do with surveillance footage.

What our colleagues in Media and Entertainment (M&E) have learned is how to manage a vast, and rapidly growing, amount of recorded video every single day. How do directors and producers quickly review today's shoot? How do they pick the takes and scenes that make it into the film? How can they find a scene recorded for another production years ago and reuse it? What is the most affordable way to store all of these video assets? These are all questions the Hollywood marketplace has already answered.

So here is my question for our industry. With the IP video surveillance marketplace managing a process so similar to Hollywood's, storing vast amounts of recorded video, why haven't we embraced the same workflows for the surveillance video lifecycle?

Hollywood already figured this out

Hollywood has already learned how to monetize recorded video over and over again. It has learned how to use tried-and-true IT storage technologies to keep terabytes and petabytes of video at the lowest possible cost, especially the lowest operating cost. It has learned to add information, metadata, to recorded video so it can be found quickly later. And it has learned the most important lesson of all: **if you can't get back to recorded video quickly and easily, there is little point in keeping it.**

Many people in M&E point to the RED digital cinema camera, first conceived in 2005, as the tipping point that moved Hollywood from film to a digital workflow. Removing the high cost of motion-picture film let production companies "save it all" and leave nothing on the proverbial cutting-room floor. One small side effect: there is *a lot* of extra video.

Hollywood got two things right in managing and storing it.

The first is metadata. Metadata, data about the data, lets each user describe a clip so it can be searched and reviewed later. "Airplane flyover of the Golden Gate Bridge at sunset" is a clip a production company could easily reuse in that sequel set in San Francisco. *Airplane*, *Golden Gate Bridge* and *sunset* are the terms that help an editor find the scene in seconds. Think of the savings compared with sending another film crew to shoot another airplane over the famous bridge. In surveillance, video analytics does the same job: people, vehicles, objects and events make it easy to pinpoint the clip you need. That metadata becomes worth its weight in gold.

The second is multiple tiers of storage. Just as in surveillance, production video is rarely reused or viewed after it is first recorded. And just as in surveillance, the explosion of video is a relatively recent change, and the solutions are now maturing. So which digital storage technology is trustworthy enough to hold our video assets and make sure they are there when we need them?

> *"If you can't get back to the recorded video quickly and easily, it quickly becomes useless to retain it."*

Enter LTO, and no, it isn't VHS

Linear Tape-Open (LTO) digital data tape has been available since 2000. It has become the de facto standard for computer data tape, and it is heavily used in Hollywood. The challenge for many in the security marketplace is that when they see the word "tape," they hear "VHS." Tape may be a four-letter word, but if you keep reading with that feeling, you will miss out on all of its benefits.

IBM, HP and Quantum developed LTO as an open format, building on decades of IBM tape work. Today IBM, HPE, Quantum, Spectra Logic and others build LTO libraries. The current generation, LTO-10, holds 30 TB on a single cartridge, up to 40 TB with the newest cartridges, and the LTO roadmap extends to LTO-14 at a planned 576 TB.

Adoption in Hollywood is firmly established. One of the driving forces has been insurance: many feature productions have been required by their bonding companies to archive the content captured on set or on location to LTO every day. LTO meets the needs of both the studios and the insurers, who are comfortable with digital because it is archived on the same tape-based platform that banks use. Media manufacturers rate LTO for up to 50 years of archival life, and a cartridge sitting in a library slot or on a shelf draws no power at all.

And because video is a sequential stream, written frame after frame, it fits the way tape records data perfectly. LTO is an ideal storage medium for video.

The workflow is what matters

An appropriate surveillance workflow must be in place to use LTO properly. Just as in Hollywood, there has to be a way to reach the original video on tape without long delays. Like Hollywood's editors, surveillance operators cannot afford to wait to search and play back recorded video.

It is critically important that the video management software lets the operator move around the recorded video timeline without worrying about where the video is ultimately stored. Operators need to view any and all recorded video to find the proverbial needle in an ever-growing haystack. In almost every investigation there is a fair amount of scrubbing forward and backward to find the video of interest, which is one more reason the operator must be able to do it without extra steps or help from IT.

Then, just like a Hollywood editor, the operator can select the snippet of video needed for HR, the police or the court, directing the system to the specific original, untouched recording on a specific LTO cartridge. It takes just a few minutes. This approach also supports the chain of custody needed to submit video as evidence in a court of law. But it is the speed that operators will care about most.

> **That workflow now exists, and it is patented.** Cozaint MARCIA™ Intelligent Video Lifecycle Management lets an operator's normal VMS playback request recall archived video from LTO and play it on the same timeline (U.S. Patent No. 12,755,902). The operator moves the timeline; MARCIA identifies the storage tier, maps the request to the exact cartridge and position, the library loads it, and the video returns to the timeline. It works with Milestone XProtect, Hanwha WAVE, Digital Watchdog DW Spectrum, Network Optix Nx Witness and Cozaint BOBBYvms.

The economics are hard to argue with

From a cost standpoint, the multi-tier infrastructure is simply superior. Compare the acquisition cost of terabytes and petabytes of spinning NAS and SAN storage with an appropriate LTO tape library, complete with robotics: the LTO implementation is significantly less expensive. Add the few-year service life of spinning disks against decades of LTO archive life, and there is another maintenance cost. Now throw in the electricity for all that spinning disk, and the cooling to keep those SAN and NAS units running. Twenty-four hours a day. Year-round. Those costs add up quickly.

We have seen it in practice. At the City of Oceanside's wastewater treatment plant in California, more than 30 cameras recording 1080p video around the clock needed a full year of retention, about 548 TB. A two-tier disk-and-LTO design came in at 54% lower five-year cost than disk alone. As the City's Senior IT Analyst, Scott Prather, put it, "It is always difficult to find a system that fits within our budget and meets our long-term retention requirements."

Implementing a sound multi-tier infrastructure, with spinning disk for recent video and the original, unaltered video stored on LTO, lets us keep more video for less.

Thanks, Hollywood

When contemplating a 21st-century surveillance video management solution, we realize that a spinning-disk-only approach harkens back to pre-Columbus days. There are better ways to reach our destination.

We all want to store as much video as we can. We want to record at the highest resolutions. We want to record at the highest frame rates. And we want it to be as affordable as possible. So why not learn from our colleagues in Hollywood?

I am confident the video surveillance market will adopt these workflow concepts from our colleagues in Hollywood, and that you will see increasing use of LTO storage. Embracing the sequential structure of video, together with LTO data tape, delivers an ideal storage solution. Done properly, LTO multi-tier storage for surveillance recording is the perfect "killer app."

Thanks, Hollywood.

About the author. Jay Jason Bartlett is the CEO of Cozaint Corporation and the author of *The Architecture of Intelligent Video Lifecycle Management*, Cozaint's eBook on multi-tier video surveillance storage. Cozaint is headquartered in Palmetto Bay, Florida, with an office in San Diego, California.

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Adapted and updated from "Hollywood Comes To Video Surveillance" (2023). MARCIA is protected by U.S. Patent No. 12,755,902.
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