



Affordable Storage Costs of Long-Term Video Surveillance

As the video surveillance marketplace continues to evolve toward technologies that are increasingly IP-based, businesses that in the past may not have considered using a video surveillance system are now doing so. This market expansion is fueling the adoption of higher and higher resolution cameras, increased per site camera usage, and even greater surveillance coverage than before. Technology advancements are creating pressure points on organizations' I.T. infrastructure.

Historically, analog CCTV systems and VCRs limited typical retention to the well-known "7-day loop." However, just like other company records and documents, video surveillance is demanding longer and longer retention times, all the while preserving vastly improved video quality.

Information Lifecycle Management (ILM) methodologies have been solving data retention challenges for a long time. The Hollywood film industry, however, learned that ILM systems are unable to provide the overall management they need because these traditional I.T. storage solutions are not "video aware."

Although highly evolved, ILM and traditional means of searching for typical corporate data simply do not work for the video-centric world of the film industry.

Video Lifecycle Management (VLM) solutions have been designed to deal with the specific challenges of storing, managing, and searching video in a multi-tiered storage environment. Low resolution companion files and thumbnails used for fast searching—regardless of where in the storage hierarchy the video lives—along with lossless storage are key features of well architected VLM systems. Just like the Hollywood film industry, the surveillance market is now embracing Video Lifecycle Management.

At the 2009 TechSec security conference, Jim Appleton, Chairman of Showcase Productions and 24-year veteran of video and audio forensic work for the Dallas district attorney's office, was a panel speaker. He stressed the necessity of the highest possible camera resolution—the minimum being 700 x 480—along with 30 frames per second recording. The I.T. storage managers in the room fell off their chairs.

"If you want a conviction, I need that video quality," Appleton explained. But the I.T. managers could see only the storage and management costs involved in providing that kind of quality forensic video playback. However, with a modern Video Lifecycle Management (VLM) solution working in a multi-tiered storage environment, organizations can affordably provide high-quality video with longer term retention and the over arching management capabilities that will allow them to quickly search and playback forensic video, regardless of how long it has been stored.

According to Appleton, "a proper chain-of-custody procedure applies to video surveillance evidence and if a computer video file is altered in any way, then that video evidence will likely be deemed inadmissible in court."

Most organizations purchase a video surveillance system to have valid proof that something did or did not occur, ultimately proving that point in a court of law. Appleton went on to say, "If the video quality is such that you are unable to make out the finer details, then the video is probably not going to help. You bought the system to protect your organization and then skimp on the most important part, the recording quality."

Best practices dictate that a video lifecycle management solution is to provide the complete management of a multi-tiered storage infrastructure that can support NAS and SAN for online video storage, less expensive hard disk-based solutions for near-line video storage, and Blu-ray burners and/or digital data tape libraries (such as SDLT, SAIT, or the newer LTO4) for offline long-term storage. This combination creates a proper balance of performance, video accessibility, quick and easy video retrieval and overall reliability.

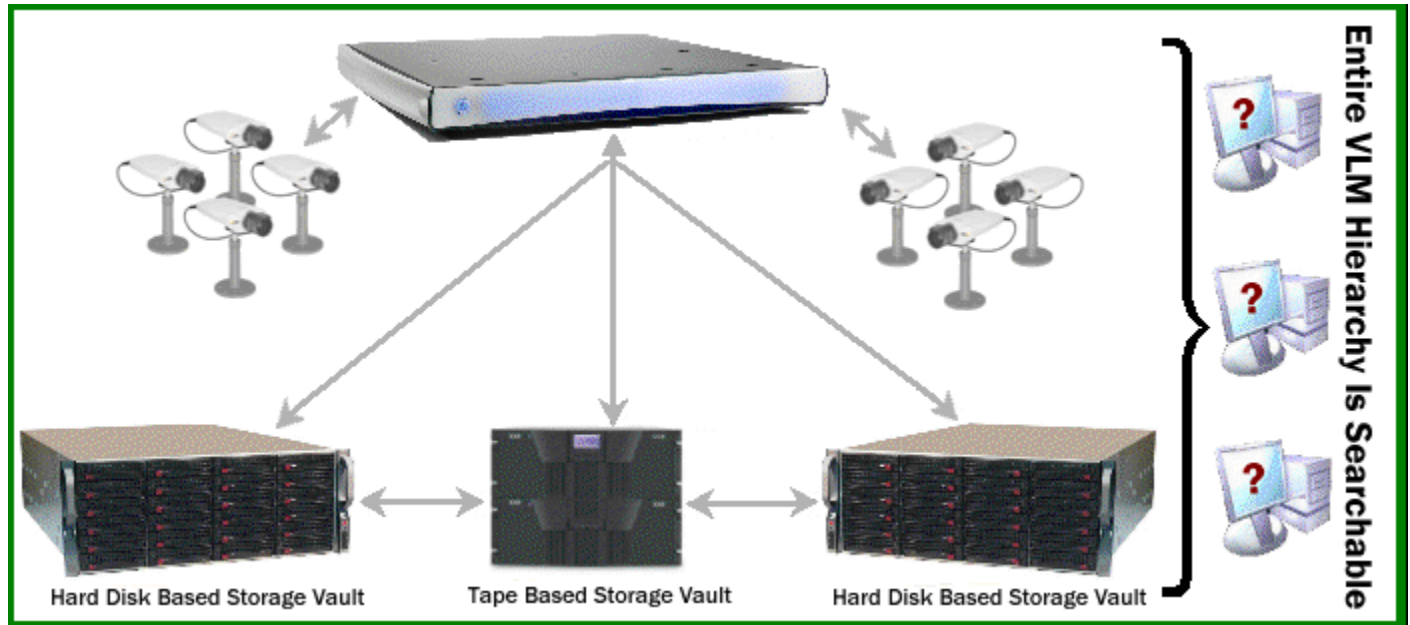


Figure 1: An example of a multi-tiered video lifecycle management solution providing affordable TCO. A Blu-ray jukebox could also be included in the storage resource mix.

By implementing this affordable storage resource infrastructure, video surveillance administrators can construct rules and policies that can create low-resolution companion files that are stored online and allow un-altered high resolution forensic files to be replicated and/or moved under management to near-line or offline storage media. This scenario allows for the quick search and playback of the video in question and allows for the specific video segment to be “clipped” from the high-resolution original, watermarked, and made available to law enforcement or court personnel.

It is by combining hard-disk, optical media, and/or digital data tape that a dynamic video lifecycle management solution is created utilizing a multi-tiered data storage infrastructure that can achieve the best economies of scale, longest retention policies, lowest cost of capital asset expenditures, and lowest total cost of ownership. This multi-tiered storage design provides for rules and policy-based video asset management that allows for the best video lifecycle management and long-term retention capabilities. Multi-tiered video surveillance solutions eliminate any legal considerations for what video assets should be retained and which should be deleted.

In this expanding IP-based video surveillance market, with its increase in network camera counts, higher resolution images, and increased retention requirements, a true video lifecycle management solution utilizing multi-tiered storage resources will significantly reduce overall storage costs and keep them from ballooning out of control.

After an initial capital expenditure for base hardware and software, the ongoing operational budget costs are limited to the incremental addition of external media as needed. A true video lifecycle management solution also provides the over arching management peace-of-mind that surveillance resource management demands. As the popularity of these newly aligned–affordable–best practices permeate the industry, the move to IP-based surveillance solutions will accelerate.

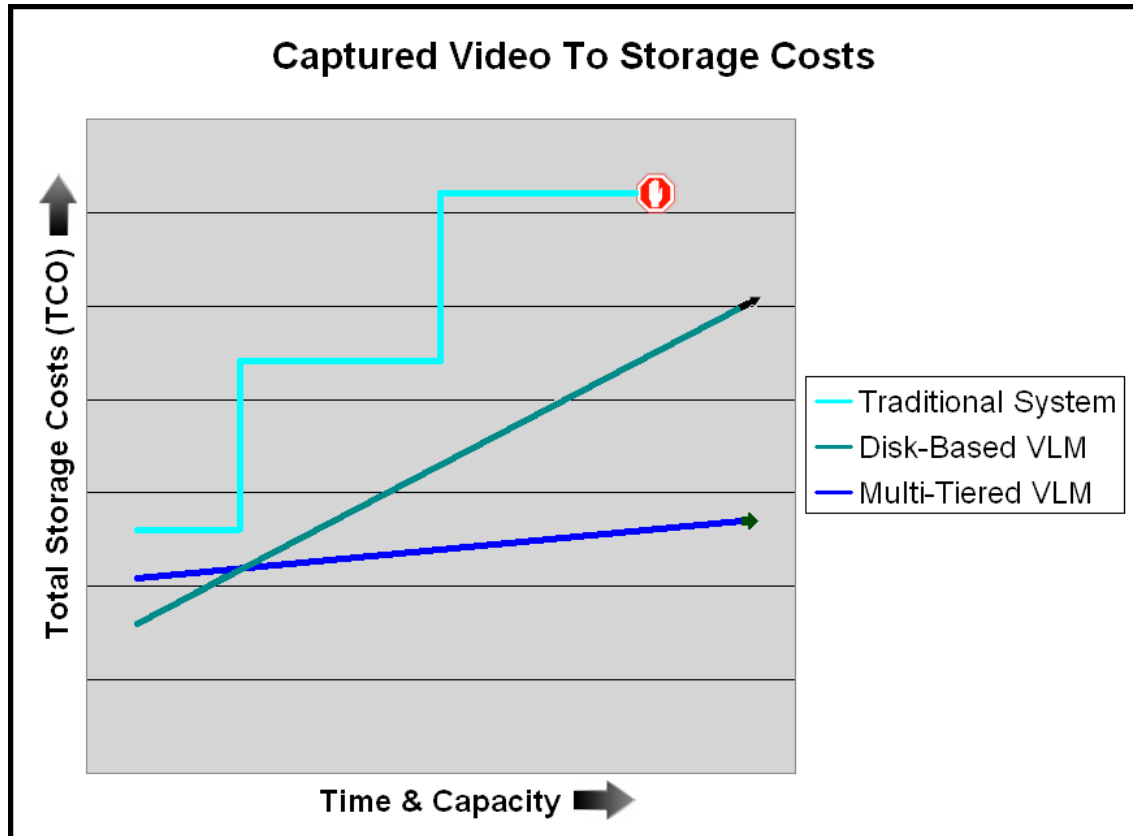


Figure 2: In a traditional video surveillance system storage, maintenance, and management costs grow until it becomes impractical to add anymore storage, resulting in the "7-day loop" syndrome. In a comprehensive multi-tiered video lifecycle management solution, utilizing online, near-line, and offline storage media—including reusable digital data tape—an affordable TCO with long-term retention becomes very practical.

About SoleraTec

SoleraTec is a leading developer of archive, storage, asset and video lifecycle management software for corporate customers. SoleraTec leverages a heritage of nearly a decade and a half to deliver a level of quality, sophistication, and technological advancement that has established it as one of the premier data protection solution providers in the industry. SoleraTec works through OEM, dealer, and integrator relationships to deliver complete data protection solutions. The company was established in 1997 by a team of industry veterans with experience deploying data protection, HSM, and storage lifecycle management solutions to some of the largest companies around the world.

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