Video Storage 101: An Integrator's Primer

A beginner's guide for network-savvy IT integrators interested in learning more about the storage aspects of IP video.

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What is the most significant trend in video storage that integrators should be aware of?

There are a number of trends in video surveillance storage today, but three really stand out as significant. First, we're seeing a sharp increase in storage capabilities, aided by better and better compression methods — namely the H.264 suite. Increased storage at a level price point follows Moore's Law, while improved compression makes for unprecedented retention times. Second, the rise of low cost storage media, such as network attached storage (NAS) devices, provides a realistic option for small installations. NAS devices born in the consumer world are being tailored and targeted as redundant and high-resolution recording devices in hosted video installations, as well as standalone storage devices in systems with less than 16 IP cameras. For the third trend, we see another storage media born out of the consumer world: SD cards. The capacity versus cost ratio of these cards are changing the game in small systems, making IP video a realistic and affordable option over analog. With embedded SD cards and integrated software, the network camera itself becomes the recorder and is the DVR of the future for small systems.

What challenges will integrators new to video surveillance face when implementing video storage solutions?

The biggest challenge — which shouldn't be a challenge at all if you're dedicated to customer service — is to understand the customer's true storage needs and meet those expectations. The integrator must be sure to calculate storage based on the many different surveillance requirements, including desired retention time, the use of motion-based recording, leveraging appropriate compression, understanding multistream technology, and so on. Many vendors have online design tools to assist in calculations. Once the requirements are understood by the integrator and properly explained to the customer, the next step is to figure out the necessary redundancy. Remember, you are often comparing this new IP-based storage solution to an analog DVR solution, which had very little redundancy options. With an open IP system, you have the flexibility to move from the lowest cost NAS to the highest-in-redundancy SAN. In short, don't create an overkill storage solution.

How difficult will it be for network-savvy IT integrators to become technically capable to sell video storage solutions?

The successful video surveillance integrator will be the one who can combine the knowledge of surveillance, networking, and storage/server solutions. Basic surveillance systems are based on server solutions running video management software (VMS), and many of those VMS companies have great training for integrators to learn how to become more accustomed to building complete solutions. Additionally, there are several companies focused solely on storage (Intransa, Pivot3, EMC, HP, Dell, etc.) that can provide relevant training. And, of course, you can't forget the point of data generation: the camera manufacturer's training. Understanding image capture, compression, software, system design and redundancy will be the path to success. Combined this training path with a dedication to long term customer support and service, and you'll open up a tremendous revenue stream opportunity in a $5B market that's growing at 30% a year.

What are the most common misconceptions about today's video storage solutions?

First of all, it is important to understand the benefits of an open platform IP solution versus proprietary DVR analog ones. Unlike the old days where analog users were accustomed to a take-it-or-leave-it single vendor solution, there are many options to choose from with IP technology to build a best-in-class surveillance system that fits the customer needs. Strictly speaking for storage, there are a few different types of recording platforms to use. An open platform VMS software running on a standard server or common

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off-the-shelf PC is the most customizable and feature-full option for systems of more than 32 cameras, however it might be cost prohibitive for smaller installations. Box-based NVRs might be an easy-to-install solution, but lacks some features and flexibility of the server system. And camera-based recording to an embedded SD card or to an external network share like a NAS will provide even less bells and whistles, but is perfect for the less-than-16-camera customer who wants to simply record and access their video when they need it and remotely view their property when they're away.

If price is a concern for the end customer, what capabilities should integrators be pointing out that can help create ROI?

What the end-customer needs to understand — especially if they are a traditional analog user — is that the **total cost of the system** is the most important factor. Sure, when comparing an analog camera apples-to-apples to an IP camera, the customer could suffer from sticker shock. But when you look at the cost of the **entire system**, from cabling, to maintenance, to upgrades, to scalability, the return on investment per performance is far in favor of IP in most cases. In 2007, there was an independent study that showed IP-based systems were more cost-efficient for installation of more than 32 cameras. Keeping true to this study, IP is the de facto choice in large systems today. In a follow up 2010 study done by the Lusax research group out of Lund University in Sweden, we've seen that number drop so that IP is cost competitive for mid-sized installations (14 and 25 cameras) thanks to improved IP product development, off-the-shelf storage products, support, and benefits. Specifically, the study showed that, on average, the cost of a network-based, 14 camera system was 13 percent less than a comparative analog system.

How does the cloud fit into video storage and management?

Absolutely it's something they should be paying attention to. If a company already has a cloud agenda you could easily add video surveillance to your offering. Cloud-based video surveillance solutions — often called hosted video — are particularly attractive in scenarios where the customer has few cameras per location (less than 8) but many locations to secure. Remember, though, to partner up with a strong hosting provider and, again, understand the customer needs. Are they happy simply outsourcing the storage and maintenance via a hosted video solution, or are they also interested in a monitoring service? Partner for storage. Partner for support. And partner to learn where and how to sell hosted video as part of your overall video surveillance offering. ●