

# Beyond DVR and NVR

**Decoupling the hardware from the software reveals the heart of the matter: open platform IP Video Management Software (VMS) is the key to an optimal, flexible, cost-efficient and long-term system.**

One of the big drawbacks of the traditional CCTV world is the proprietary systems that have left so many customers with out-of-date surveillance technology. By choosing one manufacturer's DVR or NVR, here is what happens:

- Future expansions and integrations are limited to products from this one manufacturer. But no one manufacturer alone is able to keep up with the pace of innovation across the full spectrum of security technology. The freedom of choice provided by a 'best-of-breed' open and independent video management software assures that you can always add components or integrate other systems that become available with new and better functionality.
- In the long run, the total cost of ownership for a one-vendor product will always be higher than the cost of owning an open platform solution. When estimating the full cost of an IP video solution, the cost of the management software is no more than about 10%. So a relatively small saving at the time of initial acquisition of a one-vendor, combined offering can prove to be immensely expensive over the lifetime of your installation.

## **DVRs have a short lifespan**

"I was asked to install a significant number of cameras at one time, so I did the math, which justified taking the jump to IP. More important for us was the back-up procedure routine. I'd lose the DVRs on an annual basis: the drives fry. The average life of a standard DVR is no more than about 15,000 hours, which would be fine if you used it like a normal computer where the hard drive isn't on all the time – that sits and waits for you to ask it to perform. On DVRs, the hard drive is constantly in motion and racks up the hours very quickly: they will fail," explains Keith Curtachio, Director of IT for the Faculty Student Association at the University at Buffalo in New York.

The University at Buffalo has a very widely distributed multi-campus environment with varied security needs in different departments. Food services alone are responsible for over \$20 million annually. There are 300 vending machines, retail convenience stores, cafes and restaurants, as well as supply rooms for warehousing the goods. Both theft and vandalism can incur huge costs. Security for the widespread locations was getting costly to manage with DVRs, as their limited lifespan created gaps in surveillance coverage when the hardware would fail on a regular basis.

Curtachio describes how his department would have to ship the failed DVRs, now out of service, back to the manufacturer for repair, and lose up to 30 days of data because there is no redundancy (back-up of data).

"It's happened a few times in these instances that we were asked for surveillance evidence and could not provide it. So we are now moving in the direction of switching over all our components to the Milestone platform whenever we reach end-of-life on old equipment, or in those areas where it's more critical for us to have monitoring. In addition, some departments need only 3-7 cameras, for example, so why buy DVRs that force you to spend for specific numbers of cameras?" he asks.

Milestone XProtect Enterprise IP video management software has been purchased for well over 100 camera licenses, and more to come. The surveillance hardware is a best-of-breed mix of Axis 216 and Sony DFN-40 network cameras with Pelco analog cameras that are converted to digital through Axis 240Q video servers into the IP software.

UB has gained flexibility and scalability, centralized administration with decentralized access for use of the system, wide geographic distribution, Power Over Ethernet hardware, cost efficiencies of using the standard IT resources – both the equipment and network infrastructure, as well as the IT Department's expertise and maintenance routines for keeping the system up and running, or expanding it as needed.

"The Milestone platform gives us central management and distributed control, with a flexible choice of cameras and system setups. The IP network technology is scalable to many locations with remote access and very easy central administration that is cost efficient for the most effective use of our IT resources and infrastructure," concludes Curtachio.

### **Confusion about NVRs versus VMS**

There is a lot of confusion in the market over the difference and functionality of a Network Video Recorder (NVR) versus a Video Management Software (VMS) solution. Milestone Systems provides the latter of the two and the difference is significant. An NVR and VMS both support analog and network cameras, which is commonly referred to as hybrid systems. A true open platform VMS is what decouples the hardware from the software to give the end user a better solution that lasts much longer.

An NVR is an appliance and a VMS solution is a non-appliance. When purchasing an NVR it is like buying a common household appliance with the software preloaded on to the hardware. This means that what you can do with an NVR is limited because the internal elements to the appliance have already been chosen for you by the people who designed and built it. While this works great for common appliances and might even suffice for some security installations, it is not the best you can do. In fact, many times a predetermined vertical solution limits how you can use your appliance. Despite what your intentions are for an installation when buying an appliance, you are accepting a series of decisions made by the makers of that particular piece of hardware.

The biggest complaint among end users about DVRs is the low mean time between equipment failure – just like what the University at Buffalo has discovered. Due to the fact that an NVR basically is a DVR with Digital Video Management Software embedded in it, it will have the same hardware limitations as a DVR at a comparable price.

### **Future-proofing your surveillance solution**

In many cases an out-of-the-box plug-and-play system can be what an end-user thinks they want, and an NVR solution that supports both analog and network cameras works fine initially because the system is running with a preconfigured functionality. However, as surveillance is moving to a more advanced state of technology across virtually every sector, many end-users over time find they need a system that is much more flexible both at the server and at the edge (cameras). The goal is to get an optimal video solution with flexible options for your needs today and tomorrow. To enable best-of-breed combinations and ensure keeping up with the speed of innovation by integrating technical improvements over time, only true open platform VMS is future-proof.

One of the factors that make a digital video management system the ultimate in freedom of choice is the ability to build the video system to your exact specifications and needs from the ground up – and as things change. You can select just the right mix of cameras, processor, RAM, storage and disk system to deploy and sustain the optimal security system.

For the sake of the 'NVR vs. VMS' debate, an open platform holds it's relevance by decoupling the software from the hardware to allow free use of standard off-the-shelf hardware components. This lets you optimize the performance of your solution while having the freedom to pick and choose what hardware is optimal for their implementation. You can also select from more competitive pricing.

**Separate the hardware and software for greatest flexibility and savings**

IP network cameras (megapixel and otherwise) are essentially a combination of camera and computer in one unit. They have their own CPU and IP address. They capture and transmit live images directly over an IP network, enabling authorized users to locally or remotely view, store, and manage video over standard IP-based network infrastructure and the Internet.

It is no surprise that most security vendors want to create their own camera management solutions inside their equipment. Just like any computing hardware, it is the software that makes them useful. It is the video surveillance management software you choose that makes the hardware components into a cohesive and efficient surveillance system. In fact, not only does this software enable you to monitor and control your cameras and operator access plus archive and work with the video data, but if you choose the right software it can add many other valuable capabilities.

**Ability to use multiple analytics tools in one interface**

Here is an example of adding valuable capabilities. Using open platform IP video surveillance management software, intelligent IP network cameras can be programmed through video analytics (software technology used to analyze video for specific data such as the suspicious movement of people or assets) to recognize events such as a person entering the scene or a package being left unattended, and trigger alerts that can be sent over the Internet to a desktop computer, laptop, PDA or cell phone.

This opens all kinds of opportunities for cost efficiencies. For instance, instead of using local security staff to view monitors, monitoring can be centralized nearly anywhere in the world. What's more, in many cases, video analytics can be used instead of people to watch over sites. Cameras can even be programmed to only keep video before and after an event to reduce the amount of captured footage and network traffic.

The alerting capabilities of IP video management software are particularly powerful. They can enable you to become more proactive in your response to situations. Imagine a camera filming someone suspiciously moving around parked cars. While it records, it sends an alert that goes to the nearest security officer, who views the live footage on a laptop or PDA and then knows how to respond. If the software offers digital zoom capabilities, then even if the camera is not a PTZ IP network camera, the officer could still zoom in with the software on the image of the person to observe more closely what he is doing and if he is armed.

**Easy-to-manage interface simplifies the aggregated system**

An open platform IP video management software solution like Milestone XProtect™ Analytics provides a cohesive foundation that seamlessly integrates video analytics tools from different manufacturers under a single, easy-to-manage interface. This gives users a powerful, future-proof framework for implementing and managing multiple video analytics applications.

A combination of advanced analytic tools and optimized IP-based video technology based on the Milestone open platform, XProtect Analytics Framework enables video analytics at the edge (on camera) and at the server, minimizing processing power and adding value to archived video. With XProtect Analytics users can correlate events from generic tools such as license plate recognition, facial recognition and traditional real-time access control with alerts from video content analysis tools, such as object detection, etc. Users can build strong, accurate evidence by cross-matching events in real-time and from archived video.

Integrating video analytics with open platform video management systems gives a flexible choice of hardware and software that greatly expands the potential for video analytics and increases the value of archived video. System maintenance is greatly simplified and daily monitoring is empowered with central or remote console operation, collection and correlation of data from multiple components. Flexibility and scalability are unmatched, with the ability to make moves, adds or changes easily over time, incorporating new innovations as they become available – no matter which companies offer them.

-Eric Fullerton, Chief Sales & Marketing Officer, Milestone Systems