

Q&A With Hedgie Bartol, Retail Sales Manager, Milestone Systems

Hedgie Bartol has been serving the retail loss prevention (LP) industry for more than a decade, bringing solutions from access control, identity theft, and fraud prevention to systems integration. Before joining Milestone Systems in January 2008, he was the business development manager for the Retail Solutions Group at Diebold. A graduate of Catawba College, Bartol is also a member of the American Society for Industrial Security (ASIS) Retail Council and active in various other organizations that support the industry.



In this article, Bartol discusses Internet Protocol (IP)-based video surveillance technology and how it is impacting the retail LP space. He also debunks some of the common myths surrounding IP-based surveillance, and compares the IP approach to more traditional analog surveillance methods. In addition, he shares the most important factors retailers should consider when selecting an IP video surveillance system for their stores.

Please give us an introduction to IP-based video surveillance technology for retail. How does it work? How does it differ from traditional surveillance systems based on analog/DVR (digital video recorder) technology?

Without getting into too many of the technical details, let's start by looking at what we have today and then go from there.

Today's video surveillance systems are based on analog cameras that are limited in terms of quality and function. These cameras generally are connected to a DVR via a length of coaxial cable, and each must be connected to a power source. Next, you have your DVR. This is simply hard drives (storage) and software in a box. Generally speaking, they are proprietary in nature, can be costly, and are limited in scalability and functionality. Plus, they do not allow for the easy adoption of new technologies.

With IP-based surveillance technology, the retailer gets out of that "proprietary jail" by unbundling their surveillance system. First of all, network cameras provide much higher quality video and the ability to take advantage of other technologies such as analytics. On

top of that, you greatly reduce your installation costs because you are able to run power to the camera via the CAT 5 cable that is also carrying the video feed. This is known as Power over Ethernet, or PoE. In addition, instead of having to run your video to a proprietary DVR unit or the like, you have the ability of send it to a common off-the-shelf server, a capability your IT department will embrace!

The only other component left to address is the software that drives the entire IP-based surveillance system. While software is often regarded as a small piece of the puzzle, it is perhaps the most critical. The software is the foundation for your entire system, and, when selected correctly, it can allow your surveillance system to be the last one you will ever buy. Factors to consider when selecting software include:

- *Open Architecture*: Does the software work with your existing cameras and anyone's storage?
- *Future Proofing*: Is your software written by a leader in the space, or is it simply an add-on from a hardware manufacturer?
- *Partners*: Is the software integrated into solutions — such as analytics, access control, etc. — from other providers?

What are some of the advantages of using IP video for retail LP? What are its limitations?

There are a number of different advantages: lower total cost of ownership; the ability to use best-of-breed hardware and software solutions and pick the exact right mix for each application and environment; better video quality, scalability, functionality; and the ability to grow, not only in size, but solutions.

As for disadvantages... that is tough. I would say that the disadvantages are that none of us knows what the future may hold in the way of technology and other solutions — all the more reason to be sure you have laid a foundation of software that is truly open and can adopt these solutions as they are developed.

What are some of the common myths surrounding IP video technology?

"I don't have the bandwidth to go IP." While it is true that pulling video over your network does take up bandwidth, there are many ways to address this issue. First of all, just because you are going IP doesn't mean that all of a sudden you won't be storing video at your store any more and pulling all your locations back to a central server. Though you could potentially take this approach, the general configuration would look very similar to a DVR setup, with your initial video being stored locally at each location, and archives stored somewhere else. Additionally, with the right software, you are able to "throttle" your archiving and trickle the video back across the network, sending 8 hours of video over the course of 12 hours, or something similar. As for remote viewing, you have fewer bandwidth issues than you would with an analog system, and by using your software, you can adjust the settings to be bandwidth-friendly or maybe limit the number of concurrent users.

“IP is too expensive.” The reality here is that, in general, the total cost of ownership is much less than that of a traditional surveillance system. When you take into account the cost of installation, storage, and hardware, along with the fact that you are future-proofed and able to simply replace any individual components that may fail, at the end of the day you really are looking at a much more cost-effective solution. My recommendation is to have your provider give you two quotes when considering a new system — one analog and one IP. I bet you will be pleasantly surprised by the cost of the IP-based system.

“The image is too high quality and therefore requires too much bandwidth/storage.” One of the first things I do is take members of the IT and LP departments through our administrator and show them how to adjust the image compression and resolution to get to an acceptable image for LP, while still maintaining an acceptable image size for IT. If you have the right software, this process is easily scaled.

Can retailers transition from analog/DVR to an IP video system? What would that process look like?

Absolutely. The problem in the past has been that many providers will suggest “fork lifting” out your existing investment and changing it all to IP. The fact is that this just does not make sense in the retail market. Retailers have made a significant investment in their existing systems, and it wouldn’t make sense to get rid of what they have.

Instead, the migration path to IP should follow more of a replace-as-you-go model. First of all, instead of investing in more expensive, proprietary, and low-performance analog solutions at your new stores and remodels, take the opportunity to begin moving into the IP space. If you begin with the right foundation, you not only begin to take those stores up a level in terms of quality, but you also can integrate that software (if it is open) into your DVRs and start getting everything on one platform or user interface. Then, as your DVRs reach “end of life,” instead of replacing them with another DVR, you can turn your analog cameras into IP cameras with encoders, running them to a common off-the-shelf server. When the cameras finally reach the end of their lives, you would replace them with IP cameras. Once again, IP-based surveillance allows you to replace only what isn’t working, not the entire system.

How long does the transition from analog to IP usually take?

It really depends on the project. The changeover could be done almost immediately, or it could happen slowly over time. Realistically, it would take a few years, depending on the age and dependability of your current systems.

What factors should a retailer consider when evaluating IP video technology for its stores?

If there is one key issue, it is open platform. I have seen too many retailers that found themselves in “proprietary jail” — they would like to adopt new technology or solutions

but are unable to do so, due to the proprietary nature of their existing solution. Additionally, there are many companies out there that began their migration to DVRs with the best technology available at the time. Then, when they were 1/3 of the way through the project, a new solution hit the market from a completely different manufacturer, so they switch to that solution. After a couple of years, they find themselves with a range of disparate systems, none of which will talk to each other.

Another factor to consider is scalability: Can you easily meet your exact needs for today, but grow in the future? You should also think about the number of manufacturers currently integrated into your system: Is your system going to be able to utilize best of breed from the market, not only today, but into the future?

On the technical side, first you need to do the math. Establish your bandwidth and storage requirements, and then select cameras based on what will give you the best image within those requirements.

Where do you see video surveillance technology going over the next five years?

If I knew that for sure, I would become a wealthy man! Rest assured that it will continue to grow and develop. You will be able to do more and more with your surveillance system that will transcend business units and be more than just an LP solution. With video analytics now being coupled with other solutions, such as exception-based reporting (EBR), alarm systems, electronic article surveillance (EAS), etc., the sky really is the limit.

Again, since none of us has a crystal ball, the importance of an open platform will be critical. To quote a customer on a recent visit, "The more we do with our surveillance systems, the more important it will be to become 'hardware agnostic,' as no one manufacturer will be able to accomplish 100% of what we want to do."

According to Eric Fullerton, chief sales and marketing officer of Milestone Systems, "In the next five years or so, the volume of video traffic running over the Internet will overtake that of voice and data." Imagine the impact that shift will have on the direction of surveillance technology!

What role do you see Milestone Systems playing in that future?

Milestone's goal is to help our customers and partners grow their business by becoming the de facto standard for video management. By taking a firm stand as completely open and manufacturer agnostic, we will be able to follow the trends and continue to partner with best of breed, both in the manufacturer space and with other solutions providers. And we will continue to develop our solutions to fit exactly what the retailer needs.