

THE TRENDS WE ARE SEEING

By Brian Carle

The themes for VMS product development can be summarized as bigger, better and faster. In 2015, look for capabilities that range from those which deliver more information to architectures that optimize VMS performance on purpose built hardware offerings. VMS development will be focused on system usability, total solution costs and true scalability.

Single interface: One trend driving VMS product development is the integration of multiple sets of security data. Combining information from several different but complimentary security systems together with video creates a powerful tool set for the security user.

This is a common occurrence in high-end security operation centers. Video, access, intrusion, weather and risk awareness information are presented together helping security operators get the best picture of the situation at hand.

The trend can be seen with VMS products integrating more deeply with access control. Traditionally VMS and access control integration was relatively lightweight, and commonly presented in the access control software interface. Because of this, integrations didn't always fit the needs of video-centric users. More video products today are providing a level of access control functionality in the VMS interface shifting the center point of the integration to the video systems.

Access control, point of sale and mass notification are all common tar-

gets of deeper integration which are driving VMS towards being the primary interface of the security system.

Scalability: VMS is a technology which for a long time has been deployed by large organizations but without true enterprise management capabilities.

Features that allow for rapid deployment, centralized system management and the ability to perform actions across multiple network video recorders and clients simultaneously will be more widely adopted.

Larger and more distributed systems also need to take bandwidth consumption into account to make remote viewing and investigations practical. Bandwidth throttling, dual streaming and other techniques have been available but specialized techniques that better optimize transmission of video will be more frequently introduced. For example, bandwidth can be minimized without sacrificing quality by resizing the video resolution to the size of the target display area before transmitting video.

Cloud: Cloud based video recording, or VSaaS, continues to be an interesting yet emerging technology. There are some inherent benefits to cloud based recording which make it a clear direction for the market. Offsite recordings, lower upfront cost model, built-in system management are all attractive attributes of the VSaaS for consumers. For security system providers cloud offers a way to differentiate as well as add recurring revenue.

The main challenges with VSaaS are availability and scalability. Adoption may accelerate over the next few years as more companies look to provide a cloud offering. The scalability of a cloud recording deployment is limited by available bandwidth at the user's site, meaning it will be most practical with residential and smaller camera count commercial deployments.

Total recording solutions: One of the most challenging aspects of designing a video security system is determining the minimum hardware requirements for the VMS. As the camera count, resolution, frame rate and other factors increase so do the CPU and storage requirements of the network video recorder.

To further complicate matters, the components of a server running VMS software are being used 24x7 and typically to their fullest capability. A network video recorder's CPU is always used heavily, the hard drives are spinning all the time, the cooling system is being utilized constantly and so forth. As such, the best NVRs utilize 24x7 rated components, designed for long life span.

The risk of over specifying hardware or deploying an underperforming solution is driving many security integrators and consumers towards specially built NVR recording platforms. VMS providers have been following suit and will continue to expand hardware offerings. The trend for 2015 will be towards more specialized appliance products incorporating wireless, PoE and other connection modules providing all-in-one devices that combine software, hardware and connection infrastructure. Specialized form factors will also be in demand for space constrained and other unique installation scenarios.

Hardware optimized products: Because more VMS providers are now offering NVRs, the total recording solution cost is starting to take focus. If a VMS can run a recording configuration on fewer and less expensive NVRs, the system may be more competitive than alternative offerings, even if the software license cost is higher.

This trend can be seen in part by the push for processing to the edge, like when using camera based motion detection or video analytics. More advanced techniques may become the norm such as offloading processing from the NVRs CPU to the video card's GPU. Such a design would result in lower total hardware cost for the consumer.

Another driver for this trend will be H.265 cameras becoming more widely available. Without processing-optimized VMS products, adoption of H.265 based may be slow to take off due to higher processing requirements.

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