

SELECTING A REMOTE SITE VIDEO MONITORING SYSTEM

By Clarke Esler

Choosing a video monitoring system involves a technology decision and a business decision. To make good decisions on both fronts, the goals of the planned video monitoring system must be clearly understood.

Theft at construction sites is becoming more common, so one potential goal of a video monitoring system is security. The ability to remotely manage multiple sites from a central office can cut windshield time and, therefore, can dramatically cut fuel costs. An additional advantage is more efficient use of a manager's time.

More efficient management of remote sites could be another goal of an on-site video monitoring system. Easily sharing job progress with stakeholders could be an extension of the management requirement. A well-designed system with Internet access to site video can cost-effectively facilitate live or recorded status sharing.

THE TECHNOLOGY DECISION

An IP-based construction site remote video monitoring system offers a flexible and cost-effective solution. It should be clear that "remote access" ultimately means Internet. In other words, the video from the remote site is going to be viewed in a browser on a PC in someone's office.

Getting video from non-IP cameras to a Web browser is possible, but it requires locking in to a particular vendor's hardware and IP conversion mechanism. Why not extend the network to the jobsite and select any IP camera that suits the situation? Users have the freedom to choose any printer for their office network, so why shouldn't they have the same flexibility when creating a camera network? In the end, it saves money when a single vendor is not dictating the camera decision.

THE CAMERA NETWORK

Some sites have a network in place, while others need a network deployed to support cameras. All that is needed is an Internet connection from a local provider and a means to attach the camera(s) to this connection. The easiest and most flexible way is to create a local WiFi network. Simply connect a wireless access point to the Internet connection and deploy WiFi-enabled cameras.

Viewing and video storage needs of

a security monitoring system versus a management monitoring system can be quite different. For instance, managers do not need to see high frame rate streaming video. However, if the viewing system is to be used for security purposes, a faster frame rate might be required.

The ability to remotely take snapshots might also be desirable. To meet security needs, continuous or event-based storage of video from some or all of the cameras is probably necessary. If recording is a requirement, the camera connection to the Internet needs to support the maximum frame rate desired.

Where no wired Internet access is possible, broadband cellular could be an option. The cellular connection becomes the attachment point to the Internet. As long as the selected carrier provides coverage at the site, cellular cameras can be deployed to provide video.

CAMERA HARDWARE

For construction site monitoring, the camera decision can be narrowed to the following fundamental choices:

- Pan-tilt-zoom (PTZ) camera
- High-resolution fixed camera

A PTZ camera is ideal for managing a jobsite remotely. With sufficient zoom and proper deployment, users can sit in an office and remotely move the camera or cameras to view exactly what they need to see; the PTZ cameras become the owner's eyes on-site.

PTZ cameras are not always the best choice in a security application. Often contractors just cannot risk moving the camera view from the object of interest, such as an equipment trailer or staging area. In these situations, users might want greater resolution to view more detail of live or stored events. A megapixel fixed camera is well suited for this kind of application.

Whatever the camera choice, it should be housed in an enclosure suitable for the deployment environment.

VIDEO MANAGEMENT SOFTWARE

Video management software is required to get video from multiple cameras at multiple locations to multiple simultaneous viewers. Well-designed video management software will not lock users into a specific hardware solution. It will also:

- provide a single, intuitive interface for viewing different types and brands of cameras from multiple locations simultaneously;
- provide point-and-click control of PTZ cameras through the use of presets, panoramas, and discreet controls;
- enable single-click recording of video segments and snapshots



IVC's outdoor cellular PTZ camera: This 18x zoom camera is delivered connected to a broadband cellular network.

ABOUT the AUTHOR



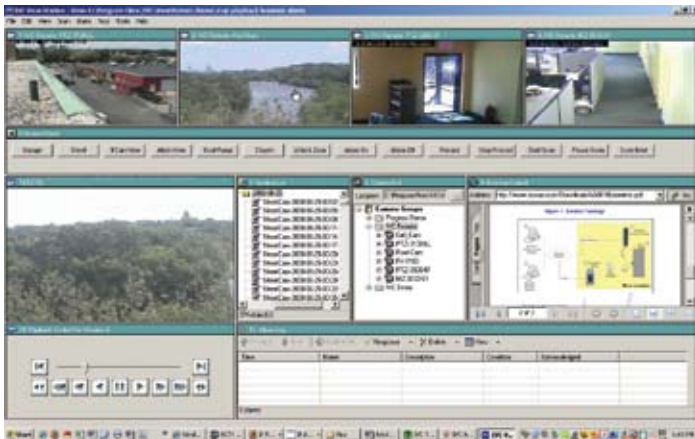
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- to any computer on the network; and
- provide playback and viewing of recorded video segments and snapshots.

Advanced features include the following:

- Alarm management
- Customizable multiview, multimonitor displays
- Customizable schedule and camera tour creation
- The ability to view any number of cameras from anywhere

The software needed to operate a video network should not be a limiting factor. Contractors should choose a solution that is not only easy to use, but is also scalable and extensible.



IVC's View Station Software provides the ability to view and control multiple cameras from multiple locations simultaneously.

THE BUSINESS DECISION

Some companies have the budget and expertise to install and maintain their own jobsite camera networks. Other organizations want the benefits of video monitoring, but do not want to install and maintain the system. A key advantage of a software-based solution, such as that provided by Industrial Video & Control (IVC), is that the Web server that distributes the video from on-site cameras to users can be located anywhere. Generally, companies can consider the following hosted options:

- **The customer purchases and deploys cameras.** The installation of a network (usually wireless) and connection to the Internet can be provided by the customer or negotiated as part of the setup. The customer pays a monthly service fee based on the number of deployed cameras for the provider to host video management software and provide single URL access to all cameras. Video storage services can also be provided for an additional fee.
- **The customer buys nothing, but instead leases all required hardware.** The lease payments are added to the monthly hosting service described above.

THE KEYS

When choosing an IP-based solution for construction site monitoring, be clear on the goals of the system and communicate those plainly to the potential source. Remember, these affect the configuration of the system and the results that users will view. ♦

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