Record locally, view centrally, manage remotely

As Forbes Insights found in a recent study, many organizations underutilize video surveillance in their business*. The majority of those surveyed (58 percent) said they cover less than half of their valuable assets with video surveillance; unsurprisingly, businesses with widely distributed assets, such as remotely located power stations or cell towers, face particular challenges covering a majority of their assets with video surveillance.

According to the same survey, of respondents who do use video surveillance, a majority (66 percent) said that for the locations or facilities where video surveillance is in use, fewer than half are actively monitored by security personnel. The top concern preventing more monitoring is cost-effectiveness (52 percent of respondents).

Recent advances in digital video technologies make it possible to address concerns about the effectiveness and cost of active monitoring and to deal with bandwidth issues for remote sites. Deploying increased intelligence in cameras and in devices at the edge of the network can help ensure that people get access to the right video data in a timely manner.
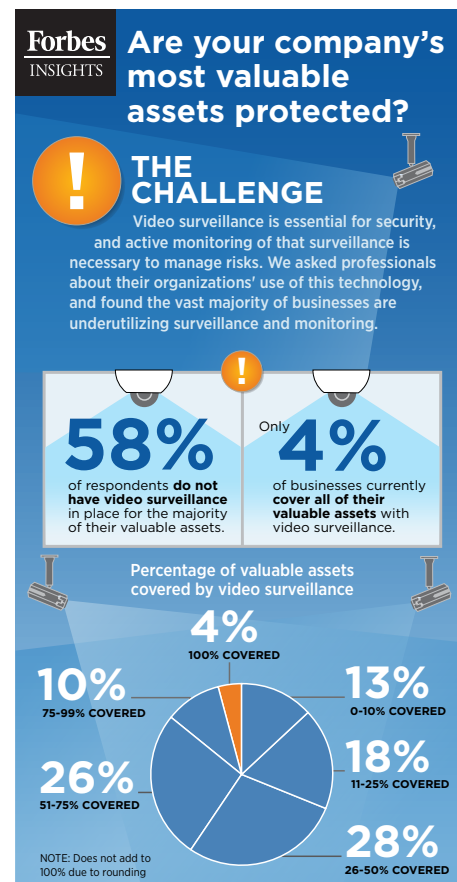
Addressing the challenge of remote sites

Video surveillance can be a very effective way of securing and managing dispersed and remote assets. By providing immediate "eyes on" any remote site, centralized personnel can respond to security threats and even operational issues quickly and appropriately. However, simply having the cameras available is not enough, because streaming all that video to a centralized location is at best a waste of resources, and may not be possible at all.

Streaming video across long distances can be problematic and costly. Beyond the obvious question of bandwidth limitations, intermittent increases in latency or drops in throughput quickly lead to lost data. Keeping the recording as close to the cameras as economically viable drastically reduces the opportunity for data loss. When coupled with greater intelligence at the edge through video-analytics-enabled cameras, this approach offers opportunities to significantly reduce the amount of data that needs to be sent to a central location in the first place.

Video analytics software analyzes a video stream to make sense of what is happening in a scene. Typically, video analytics is used to alert security personnel about events that may require action, reducing the need to constantly monitor all the cameras. Video analytics can also provide the intelligence to reduce bandwidth and storage requirements. Video analytics performed on or near the camera allows all the video to be analyzed and tagged with metadata and then streamed to a local video recorder that intelligently decides whether to record based on live events. This dramatically reduces the amount of footage recorded, minimizing storage and bandwidth needs without losing critical data.

*"Executive Briefing: Underutilizing Security," Forbes Insights, July 2015, in association with Avigilon.

View the full infographic at:
http://www.forbes.com/sites/
avigilon/2015/06/22/are-your-companys-
most-valuable-assets-protected-
infographic/

Furthermore, when a remote investigator needs to search the video, the metadata can be very quickly searched, retrieved and presented to the user, so that only the essential video needs to be retrieved and transmitted over a long distance.

Ultrahigh resolution cameras provide great coverage of vast areas, reducing total camera count while still providing enough detail for identification purposes. But ultrahigh resolution cameras increase the challenge for bandwidth and storage management, particularly in remote sites with limited information technology resources.

The H4 Edge Solution (ES) Camera line from Avigilon combines high-definition imaging, self-learning video analytics, network video recorder functionality, and embedded Avigilon Control Center (ACC)™ video management software to create an all-in-one surveillance solution.

The H4 ES Camera line records video directly to an on-board solid-state drive, eliminates the need for a separate network video recorder, reduces installation and system costs, and combines Avigilon's patented High Definition Stream Management (HDSM)™ technology and Idle Scene Mode technology.

Designed for organizations with multiple sites and critical assets requiring protection and monitoring, the ACC Edge Solution (ES) HD Recorder eliminates bandwidth issues for centralized monitoring of remote sites by storing video locally near the camera so you can easily view it remotely from your central location.

Managing a large number of remote devices

To enable the secure and continuous operation of the whole system, each device must receive regular updates to its firmware. With hundreds or even thousands of devices on the network, managing updates of each device individually can quickly become a problem. Every update of the recorder software is engineered to update the cameras attached to the recorder by packaging the latest firmware for each model of Avigilon™ camera with every server update. System administrators can remotely deploy and manage recorder software updates from a single, central location and automatically cascade updates to all the individual devices. This enables system administrators to quickly update the entire system at once, making it easier to keep the system healthy.

In addition, the system administrator has a holistic view of the entire system and can verify that each device is functioning as intended. If a problem should occur, it is easy to remotely troubleshoot the issue.

To ensure the privacy of law-abiding people who are being surveilled, it is necessary to manage the access rights and system permissions of people who can view the video. Systems with many thousands of devices will often have hundreds of users. If access to every device or every site needs to be managed individually, keeping user roles and privileges up to date is a very heavy administrative burden. It is essential to ensure that people's access rights are appropriately updated as they move to different positions in an organization, or removed immediately when they leave the organization. Avigilon lets administrators manage user access and privileges centrally for all sites and devices and enables delegation of responsibility for this administration along regional or other lines, to ensure that the burden of administration does not need to rest with a single individual.

In addition, Avigilon enables users to access the sites and devices that they need quickly and efficiently, even in a large, distributed system. Users can find and access the sites that they need with a minimum of effort, so they can see relevant information organized in a logical fashion, regardless of the physical setup of recorders and cameras across sites.

Centralized Monitoring, Viewing & Administration
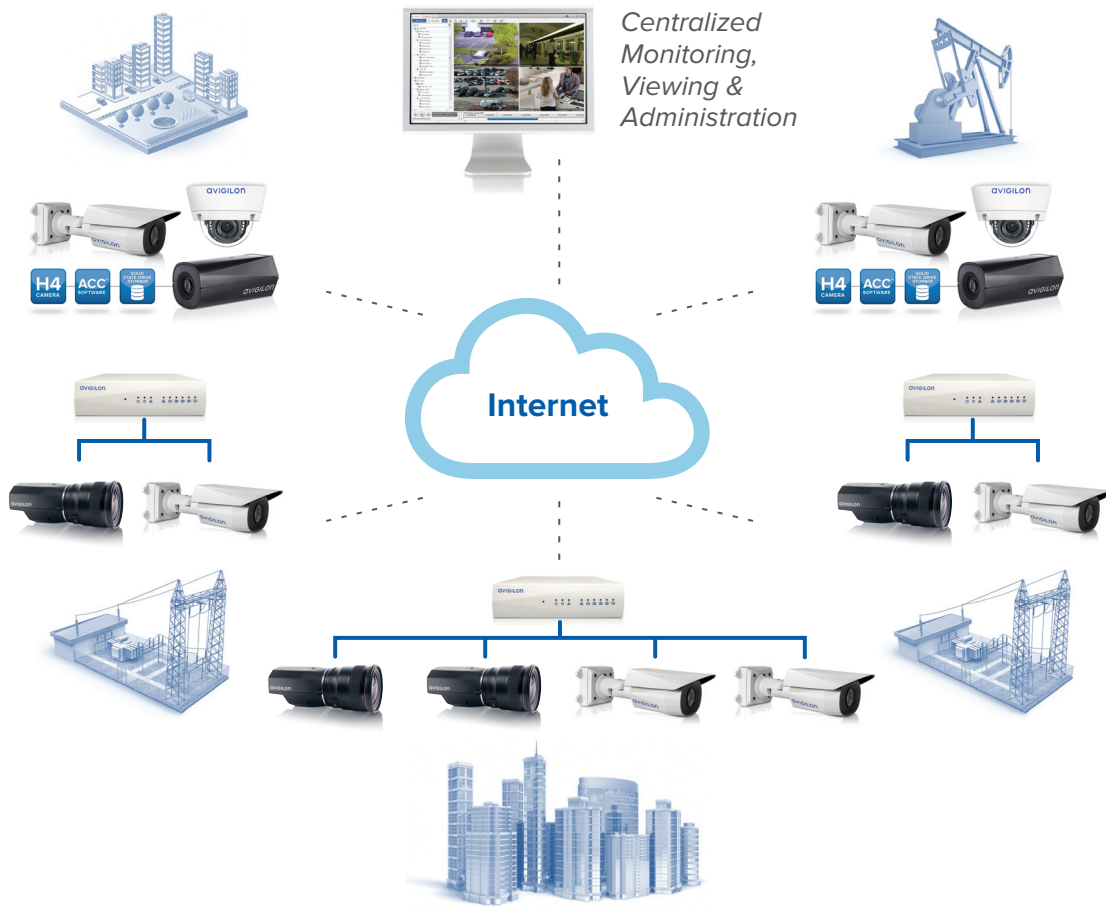
Changing the cost model for monitoring remote sites

Avigilon's solutions can improve the security of remote sites, while maintaining cost-effectiveness, in many ways. With our ultrahigh resolution cameras, you can cover a wider area with fewer cameras, making it possible to lower installation, licensing and maintenance costs. Combined with our HDSM 2.0 technology and our ability to record at the network edge, you can increase image resolution while minimizing the requirements — and costs — for storage and bandwidth. And by incorporating video analytics, a single operator can monitor 10 times the number of screens, optimizing security personnel workload and capabilities. With roaming guards, Murphy's Law says that something will happen in the location where the guard isn't. With remote monitoring and video analytics, you have the potential to reduce costs while helping ensure that your security personnel don't miss a thing.

Conclusion

There are many challenges to keeping multiple remote sites secure. Deploying on-site security personnel is usually too expensive. Video surveillance can be challenging due to inadequate IT resources at remote sites, which can limit the ability to view and record video data. And when there are many remote sites, the number of devices and complexity of the system can create challenges for system administration, maintenance and even users trying to view the right data. Avigilon addresses these issues with a complete security system incorporating ultrahigh definition cameras, video analytics and video recorders that operate at the network's edge. The system is designed to reduce storage and bandwidth requirements while minimizing administration and maintenance time. Taken together, the Avigilon system makes it cost-effective to protect all of your assets no matter how remote they are.

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