TOP10
CLOUD SURVEILLANCE CHALLENGES

Top 10 Cloud Surveillance Challenges
From SIA Security Technology Webcast "Ahead in the Clouds"

By Martin Renkis, Founder & CEO Smartvue Corporation

This presentation is designed to distill what is typically a few weeks of meetings with customers about their cloud video surveillance needs into to a few high-level challenges. Here are what we see as the 10 key challenges and a few thoughts on solutions.

#1 Bandwidth

In real estate, it's location, location, location. And in cloud video surveillance, it's bandwidth, bandwidth, bandwidth. Cloud surveillance is all about transferring "heavy" video data across different networks. Without proper bandwidth, you have no cloud video surveillance or, even worse, an unreliable solution. If you look at bandwidth as your "pipe" to the Internet, you need a really good "pipe" to get video up to the cloud. Your pipe has both upload and download speeds, which are usually different, and to get video to the cloud you need sufficient upload speed. As an example, a small retail store with five HD cameras might need a 10mbps "upload" pipe to get real-time HD video to the cloud. This can get expensive. Think about the fact that Comcast sells business internet with 10mbps upload for $199 a month. There are a number options to deal with this situation including a "hybrid cloud" that stores some HD video locally and some online. Some cloud solutions offer small resolution video storage — which helps with bandwidth issues, but can defeat the purpose of HD cameras. The more advanced cloud video surveillance solutions optimize video for all different connection speeds and also offer "data forming" as well as "bandwidth management." This insures

Top 10 Cloud Surveillance Challenges
Considerations for Cloud-Powered Video Surveillance

By Martin Renkis, Founder & CEO Smartvue Corporation

your Internet connection is not taken over by video so processes like credit card processing, order entry, and inventory management work without interruption.

#2 Storage

If we look at one definition of the cloud as "computing and data storage that is scalable, dynamic and available on demand," there are two main parts to the story: "computing," which is the delivery of video over the cloud, and "storage," which is the archiving of video on the cloud. As mentioned earlier, video uses a lot of bandwidth, so the costs of storing and accessing video on the cloud can add up quickly. Using the the five-camera example I mentioned before, video storage might be 1TB a month or more. Just for comparison sake, you can buy a 1TB HDD for $80 on the Amazon.com store. Now guess how much 1TB of Amazon cloud storage will cost you: $97 a month! Also keep in mind the hidden costs for cloud storage, which include data transfer costs (access the video) and data redundancy costs (how many copies of your video are stored and where are they stored). Consider a cloud video surveillance solution that makes storage easy to understand and easy to buy. Storing low-resolution video online can reduce storage requirements but also reduces effectiveness of the video. And a "hybrid cloud" solution can store HD video locally and more critical video remotely.

#3 Accessibility and Ease of Use

Having the cloud to centrally view and manage your video surveillance is not worth much if its not easy to use and limited by requirements of certain computers, operating systems, plug-ins, activeX components and other software. Consider a cloud video surveillance platform that has a elegant and simple to use interface works on almost any web browser, on almost any computer, tablet or smartphone, without custom software or plug-ins. This reduces installation and complexity of use — easily adding more value to your solution. Consider support for common browsers like IE, Firefox, Chrome, and Safari on Windows and Apple computers and look for iOS, Android and Win8 apps on iPhone, iPad, Galaxy and other smartphones and tablets. You should not be limited to using your cloud surveillance system on a certain type of computer or device.

#4 Speed

When it comes to security and business data, speed is important, but speed with quality is more so. A key value of cloud video surveillance is the ability to access it when you need it not only quickly, but with quality. Speed and quality can be especially important when it comes to viewing live video. If you log in to see cameras live on the cloud and what you see happened 5 seconds or a minute ago in a small, low quality format (that would make a postage stamp proud) for many customers, it does not provide a real solution. Keep in mind that even though a network might be fast and reliable, this is no guarantee of fast and reliable video experience — because the software behind the scenes will always contribute to performance. Consider cloud video surveillance solutions that provide speed and quality — and deliver this experience regardless of the speed of the network. The best way to test this is with real-world pilot and respected manufacturers gladly provide test systems at no cost.

#5 Management

Because of the Internet and, in particular, the cloud, we are now dealing with customers that enjoy remote access to hundreds of locations, hundreds of miles away from each other. When being responsible for multiple locations, hundreds of cameras, and months of video, the need for "surveillance management" becomes mission critical. Insuring that cameras are operating and recording properly and live and that recorded video is easily accessible is all part of the job. Access to reports on system performance becomes a core part of any cloud video surveillance solution. Being notified immediately if a camera is down at any location and remotely upgrading systems as well as other troubleshooting can save big bucks when you don't have to send out a technician in a truck! Consider a cloud video surveillance solution that offers a single, easy-to-use interface with the right features you need to manage your surveillance.

#6 Security

Is video surveillance on the cloud secure? The evolution of the cloud itself is an evolution in trust — moving business services we are used to doing ourselves to other companies to handle. We put our trust in those companies. I would argue that your video surveillance is safer in the cloud than on your own computers. The major cloud platform companies such as Microsoft, Google and Amazon invest tremendous amounts of resources to maintain and improve security, and they rollout constant improvements to their systems. If you think about it, many corporations and even government entities like the GSA already trust their email to Google Gmail or Microsoft Hotmail and thousands of companies trust their most prized asset, customer information, to the

Top 10 Cloud Surveillance Challenges
Considerations for Cloud-Powered Video Surveillance

By Martin Renkis, Founder & CEO Smartvue Corporation

Salesforce cloud. Even the director of the National Security Agency, General Keith Alexander, said he is convinced the cloud will ensure that people cannot see any data beyond what they need for their jobs. Another component of security is the physical location of the video. Most cloud services offer data redundancy that include multiple copies of data and even geographic redundancy where the data is duplicated in more than one physical location. Remember that by law, you are responsible for the security of your video surveillance data, whether its onsite — or on a cloud. Are there guarantees? No. But the cloud is proving to be the future more so every day. Note that now 60 percent of worldwide phone traffic is on Skype, which runs on the Microsoft cloud. That trust will continue to move toward the cloud.

#7 Scalability

One of the key benefits of cloud computing is "elasticity," which is the ability to deliver the exact amount of computing services and storage needed on demand. A cloud video surveillance solution should not only be able to support one or one million cameras or servers, but also make supporting any amount in between fast and simple to do. Consider a cloud video surveillance solution that is self-configuring and designed to work with hundreds of different cameras and almost any network infrastructure. It should reliably be able to grow from one location with five cameras to hundreds of locations with thousands of cameras then back down again — on demand and without long term contracts.

#8 Self Service

Nobody likes to get locked into anything, especially technology, which changes so quickly. One of the key benefits of cloud solutions is the ability to use and pay for only what you need, when you need it. Consider a cloud video surveillance solution that enables you to quickly and easily increase and decrease cloud services and storage on demand, as needed, without penalty or long-term contracts.

#9 Update-ability

One of the amazing advantages of cloud solutions is that system improvements, new features, bug fixes and security upgrades can be rolled out to an entire enterprise automatically or on-demand. This insures that the solution can respond quickly to changing conditions such as new security threats or new requirements like analytics or integration with other technologies such as access control or PoS. Not only should software and cloud services be upgradeable, but hardware devices such as cloud servers and edge recorders should benefit from this service as well. Consider cloud video surveillance solutions that offer constant improvement through regular upgrades.

#10 Transferability

Working with a cloud services provider comes down to trusting another company with your critical business services and data. Consider a cloud video surveillance solution provider that is focused on cloud services, has a proven track record and is committed long term to growing its services. As life is not perfect and as the Scouts always say, be prepared — and be prepared in advance to change vendors. The first thing you can do to protect yourself is to select cameras or encoders that use industry standard compression algorithms and industry standard video delivery protocols as well as APIs. Insure your cloud video surveillance solution offers on demand download access of all of your video from the cloud so that if you ever need to jump boats, you can — anytime you want to or need to.

Each of the 10 challenges have more than one solution and there may be additional challenges particular to your business. Reach out to peers in your industry for their experience, talk to different vendors, get a pilot at your location, and search Google for "cloud video surveillance" or "cloud cctv" for more.
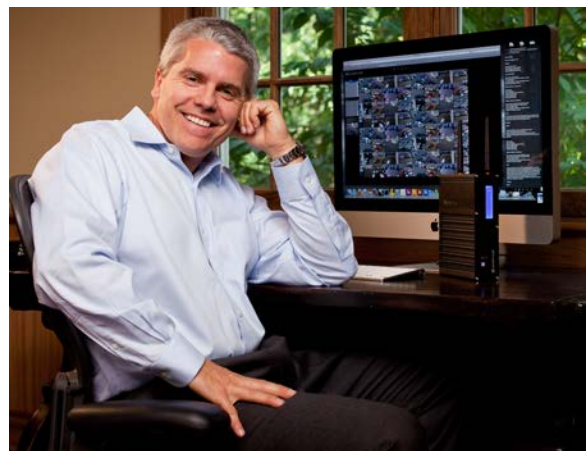
Martin Renkis, Founder & CEO
Smartvue Corporation

www.smartvue.com