

The future of storage is cloudy—but that's a good thing

By Matt Wickenheiser

Storage in the physical security space has been dominated in recent years by the transition to IP, replacing old analog as the dominant method to retain the results of video surveillance.

Now, top companies in the storage space say, the next step will be to move to "the cloud."

Cloud computing is processing information using the Internet. It's become a buzz term, and if you've got a Gmail or Yahoo email account, or if you've uploaded photos onto Snapfish, Picasa or any of the other similar services, you've used the cloud.

And though there are some challenges in the cloud for physical security, experts see reasons to be excited about the trend.

"That technology is still kind of embryonic, but it's growing, and it has lots of potential—particularly for remote monitoring," said Jeff Whitney, vice president of marketing at Intransa. "We see cloud as a great opportunity."

More IT-sophisticated end users have been using a "cloud infrastructure" for some time, said Dick O'Leary, senior director of the Global Solutions Group at EMC, essentially deploying a private cloud for various reasons (geographic redundancy, for example). Existing technology has been leveraged to enable data storage in the cloud—using a data center approach to cloud deployment, said O'Leary.

O'Leary said he sees increasing introduction of cloud-optimized technology on the immediate horizon, allowing more customers to move in that direction. In fact, though he wouldn't get into specifics, he said "EMC expects to continue to be leading the industry with storage platforms, software

and services that are optimized for the cloud infrastructure."

"These platforms are optimized for the cloud in general and include specific solutions for physical security and video surveillance in particular," said O'Leary.

For storage device companies like EMC, Pivot3 and Intransa, the move to the cloud doesn't hurt their business—the data still has to be kept somewhere, on the type of technology they produce.

"For us, it's a different customer base," said Lee Caswell, Pivot3 founder and chief marketing officer.

For end users, there's a variety of benefits. If clients can store and retrieve video in the cloud without the capital equipment expenditure, it becomes an operating expense, said Caswell.

By keeping data remotely, it's safe in case of some sort of disaster, Caswell said. If a building is damaged by an earthquake or fire, the data is elsewhere.

David Coleman of Avrio RMS Group, an integration firm that specializes in IP-surveillance solutions for the public safety market, suggested that a key benefit to the cloud is you can easily jack up your storage usage as your needs grow.

"Whether it's several gigs worth of email—or petabytes worth of surveillance footage—the beauty of these types of systems is that they're scalable," said Coleman. "Assuming the network you're on has the required bandwidth, you're able to access huge amounts of information, whether it's on a server in the room next to you or somewhere else in the world."

But, added Coleman, while cloud-based

storage is big for many parts of the industry, the municipal use of it for video surveillance isn't at the same level. In many cases, municipalities have to be physically in possession of video evidence, he said.

A main challenge with storing video surveillance data in the cloud is bandwidth, experts agree, as video does take up a lot of the pipeline.

Companies are exploring several hybrid solutions, said Pivot3's Caswell. They may take in video, store it locally and then send it off to the cloud in off-peak hours, when there's less competition for existing bandwidth.

Another option, said Caswell, is to capture and store the video at one higher resolution locally, and then send it remotely at a lower res, as backup. Most cameras these days support two different simultaneous feeds, he noted. And yet another is to store the feed locally, but send identified "events" up to the cloud for backup.

Whitney said he saw increased data intelligence at the site as integral to the cloud transition. On-camera video analytics will continue to improve, and storage appliances at the site will further streamline data, so that anything sent to storage in the cloud will be truly efficient and valuable. A number of Intransa's video management partners are working at applications with the cloud in mind, said Whitney, but they're not used to working with restricted bandwidths.

"Initial processing is what matters," Whitney said.

Caswell agreed, and said edge devices such as cameras are moving toward more intelligent analytics, which benefits local storage as well as cloud.

"The idea is how to put in intelligent coding to minimize the amount of data I'm sending," said Caswell. "By monitoring things more intelligently at the end, you can do more intelligent work at what comes in."

Having a storage device at the front end will remain critical, said Whitney—not only for data efficiency, but to store video should the network go down and the cloud become inaccessible.

That said, Whitney does raise another point: "Cloud is the way it's going, but our market and our industry is not as sophisticated as IT—it will take a while. The physical security guys won't like this; there's more IT involvement in the cloud, things get more complicated and the two groups don't really get along."

Looking beyond just the move to the cloud, Caswell said he saw the storage market for surveillance "exploding." There's a demand for more cameras, with higher-res and higher frame rates—particularly in the United States—and that means more storage, said Caswell.

Industry estimates suggest that by 2013, video surveillance will account for 10 percent of all network storage in the industry, said Caswell.

Intransa's been offering storage into the market for the past two years, but introduced video-surveillance optimized appliances in June.

"We've seen an amazing uptake" since then, said Whitney.

"We're doubling our revenue every quarter based on video appliance; all the other products have been subsumed into that line," said Whitney. "That's where the customer demand is." **SSN**



David Coleman



Jeff Whitney

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