

LENS ON SECURITY

The Challenges Behind Advances and Growth of Video Surveillance

Since the events of September 11, 2001, the United States has — understandably — experienced enormous growth in the security domain, most notably in the usage of video surveillance. Closed Circuit Television (CCTV) has evolved from a tool to help protect personal property to one also used by law enforcement authorities for protective scrutiny of public spaces. In addition, federal spending on Homeland Security has run into the hundreds of billions of dollars in the last 13 years. But a confluence of elements continually adds to a threatening overall security climate — elements that have only inflated demand for video surveillance.

Some of those elements include awareness of the vulnerability of large crowds at sporting events and political gatherings, as evidenced by the Boston Marathon bombing in 2013 and the shooting of Senator Gabrielle Giffords in 2011 in Tucson, as well as the increase in school shootings — 74 school shootings have taken place since the 2012 Sandy Hook Elementary School shooting in Newtown, Conn. At the same time, many cities are still operating under a hiring freeze, meaning fewer officers are on the streets.

Placed all together, these events point to the value and necessity of video surveillance to keep watch on potential dangers to citizenry and property.

NEW THREATS + NEW TOOLS = NEW STORAGE DEMANDS

The days of a camera on a stick wired to a security guard at a desk are fading away. Technological advances in video surveillance have created highly efficient systems with more effective image capture, analysis and storage, and there are simply many more cameras overall in the public environment. Police and first responders across the U.S. are being equipped with video cameras that follow their actions 24/7, and jurisdictional requirements to retain video now often involve longer archiving periods than was once mandated.

While all these developments help raise the profile and efficacy of public security programs, these new technologies and practices have resulted in a challenge for government agencies which must cope with a far greater data storage burden.

How great a burden? As gauged in 2013, the information produced by new video surveillance cameras in one day rounded up to about 413 petabytes (PB). This is expected to more than double in just four years, expanding to 859 PB in 2017!

Despite such staggering figures, NetApp has full capability, technology and experience to handle the massive workload ingests and enhanced performance demanded by today's security marketplace.

NETAPP VIDEO SURVEILLANCE SOLUTION

The NetApp video surveillance solution provides a complete line of external storage systems designed to meet today's security challenges by delivering unprecedented capacity, speed and durability. The E-Series storage system uses a modular architecture that offers a true pay-as-you-grow solution to address the new big data video storage requirements. Leading intelligent video security applications combined with E-Series storage handle the heavy computational workloads and bandwidth-sensitive streaming environments of next-generation video surveillance infrastructures. With them you get:

- Consistent high-performance bandwidth for media-intensive video streaming environments
- Performance-tuned solutions that deliver high-availability access for media content needs
- Superior performance to/from NVR for greater camera support and reduced NVR instances
- The capability to leverage your investment in video cameras and networks and maintain productivity with high-availability storage

IN 2013, THE INFORMATION PRODUCED BY
NEW VIDEO SURVEILLANCE CAMERAS IN

ONE DAY ROUNDED
UP TO ABOUT

413
PETABYTES

THIS IS EXPECTED
TO EXPAND TO

859
PETABYTES
IN 2017



The NetApp Video Storage solution offers superior storage to meet the advances in next-generation video and analytic surveillance technology.

Superior Performance to Handle Bandwidth-Sensitive Streaming Environments

The NetApp Video Storage solution combines high-performance storage with leading video security management companies' solutions, allowing customers to develop optimized video infrastructures. IP video security management leaders such as Milestone, Genetec and OnSSI have teamed with NetApp to offer increased file system optimization for large datasets. With NetApp E-Series storage, users get high-performance access to video content, including HD resolutions, and support for digital and analog video surveillance installations.

FINDING THE FUNDING: VIDEO SURVEILLANCE GRANTS FOR CITIES AND STATES

In FY 2014, the Department of Homeland Security (DHS) provided \$1 billion for states and localities to prevent, protect against, mitigate, respond to and recover from acts of terrorism and other threats. As part of the Urban Areas Security Initiative (UASI) specifically, 39 of the nation's highest-risk, highest-threat, highest-density urban areas received \$587 million to enhance regional preparedness and capabilities.²

Federal funding from DHS has helped cities such as New York, Baltimore and Chicago build large surveillance systems. Oakland, Calif., police are now aided by 3,000 new surveillance cameras placed throughout the city. Boston installed approximately 500 cameras throughout the city and its public transit system — an investment value that was underscored at the 2013 Boston Marathon, where wide-spread municipal security cameras recorded the two explosions as well as the suspects as they moved through the crowd. Small towns are beneficiaries of this funding as well — bridges, reservoirs, train stations, malls and school campuses that were once patrolled by police are now covered by cameras. Linking private cameras to police databases is a new wrinkle also being approved by voters in many jurisdictions, such as Philadelphia, San Jose, Calif., and Chicago.

While all these developments help raise the profile and efficacy of public security programs through a shared security presence, it also greatly adds to the enormous volume of video footage such efforts engender. Law enforcement; first responders; campus security; and local, city and state agencies may still search and apply for DHS grants to help them establish, bolster and improve video surveillance capabilities at www.gov.com/agency/dhs/index.html.

CONCLUSION: GETTING AHEAD OF THE DEMAND

Real and perceived threats in our world have driven the creation of enormous video surveillance infrastructures, with a market projected to leap from about \$5 billion in 2013 to \$15.81 billion by 2020.³ It is possible that the increasing importance of video surveillance will even

Sponsored by:



NetApp™

For more information on NetApp's video surveillance and big data solutions visit www.netapp.com/bigdata or find your local NetApp sales representative at **877-263-8277**.

SPOTLIGHT ON STORAGE

These agencies faced common challenges: too much content, gigantic workloads and new technologies that added to data overload. NetApp solutions brought their surveillance programs into leading-edge practices with much greater ability to store, analyze and manage their media efficiently.

HOWARD COUNTY, MD., POLICE DEPARTMENT

- **Challenge:** Transition to high-definition cameras meant storage space was running out fast
- **Need:** High-density, high-performing storage with centralized management
- **Solution:** NetApp® E-Series provided the scalable, high-performing solution the department needed to address its data challenges, and allowed the department to increase its storage from 30 to 90 days

KENTUCKY DEPARTMENT OF JUVENILE JUSTICE

- **Challenge:** Distributed deployment of IP and adequate storage for up to 26 juvenile detention centers and group homes
- **Need:** Consolidated high-density, high-performing storage that was reliable and easy to manage
- **Solution:** NetApp E-Series storage with Verint video management software provided the high-performance, scalable solution needed for simplified management

NEW YORK MUNICIPAL COURT SYSTEM

- **Challenge:** Growing number of high-resolution cameras, including IP, and accompanying increased storage requirements
- **Need:** Capacity for consolidated storage to support up to 2,100 standard and high-definition Axis surveillance cameras
- **Solution:** NetApp E-Series storage with OnSSI video management software; the proof of concept ran for 30 days with over 1,000 cameras with no issues reported, and the customer's configuration has grown to 1.5 PB

make it subject to legislation in years to come, when standards may be put in place to guarantee that images are higher resolution and archived for longer periods of time.⁴

The public sector would do well to establish and plan for video surveillance and storage needs now, rather than wait until demand — both of necessity and legality — becomes an encumbering challenge for those safeguarding public ports, campuses, courtrooms, airports and sports arenas, and other public or high-security areas.

With its scalability, affordability and enormous capacity, NetApp can turn the challenges of surging demand into real progress for government security operations — and greater safety for constituents, no matter what the future holds.

Endnotes

1. <http://press.ihs.com/press-release/design-supply-chain-media/big-big-big-data-rise-hd-video-surveillance-cameras-spurs-in>
2. www.fema.gov/media-library-data/1406300389096-4a90f034804a8210de9854d8f597edf/HSGP_Fact_Sheet_Final.pdf
3. www.securitydirectornews.com/general-news/north-american-video-surveillance-market-poised-rapid-expansion
4. www.securityinfowatch.com/article/11118752/what-the-video-surveillance-landscape-will-look-like-in-2020