

# Application Brief



**CCTV Surveillance and Storage Area  
Networks**

## **IMPORTANT INFORMATION**

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## Overview

Hastened by world events, CCTV surveillance is evolving. Driven by homeland security needs and an increased focus on protecting business assets, a paradigm shift in the field of security has occurred – with government and private industry setting stringent requirements to protect people and property. Homeland security has become a way of life...and old methods and technology of recording surveillance video on VCR analog tapes is inadequate for environments that face the challenge of security enhancements and expansion. But, there are two technologies available today – digital video technology and intelligent Storage Area Networks (SAN) – that, when combined, deliver a solution that meets and exceeds the critical requirements of 21<sup>st</sup> century surveillance.

In the aftermath of 9/11, CCTV surveillance has seen unprecedented expansion. Surveillance security, which once monitored entrances and parking lots, has been expanded to include property perimeters, walkways of educational institutions, highways, bridges and the parks of municipalities, to name just a few. This growth has dramatically increased the amount of surveillance data collected, and post 9/11, the rule is to keep it longer in case it is needed (for incident reviews, security and safety audits, or in cases of litigation, to provide video evidence for defense and prosecution).

The prospect of more data, needed to be archived for longer periods, directly impacts security-conscious companies and agencies and requires organizations to address the challenge of cost-effectively storing and managing their CCTV data while minimizing budgetary impact.

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## Digital Surveillance and SAN

Video image recording has made significant advances since the advent of digital technology in the 1990s, resulting in the increased performance, functionality and reliability of today's video security systems. But, even with the best compression technology, the escalating number of video streams – from the additional cameras required to cover more area -- is now driving growing demands for storage space. Throw in higher resolution images, increased frames per second, extended data retention periods and storage expansion beyond the 120GB to 1.5TB found in most DVR solutions today becomes an absolute necessity. Using an intelligent SAN delivers many advantages to organizations needing to address and resolve today's surveillance storage demands.

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**Centralization**

A SAN provides the ability to centralize the storage to serve the data requirements of more than one digital security recorder. With a centralized storage pool, remote sites can be monitored and the data archived at preset times to a central location. A SAN's unique ability to replicate data outside its storage environment addresses another security requirement of needing to transport the video data to an offsite location for storage or review. A corporate or governmental agency can now record surveillance data at various local offices and electronically transport that data back to a centralized location for storage and analysis.

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**Capacity on Demand**

A SAN provides storage growth on demand and the ability to scale that storage to multi-terabytes. With a SAN infrastructure in place, security administrators can easily allocate additional storage to a recording server as needed.

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**Tiered Storage Capacity**

Stored data is only useful if you can find it when you need it. In a SAN, tiers (or different levels) of storage satisfy this requirement. Higher speed online storage can be used to store a few days of video data that can be accessed immediately if needed. Data that has been moved to less costly near-line storage takes slightly longer to access, but can still be automatically and easily retrieved. For data targeted for longer/permanent retention, a third archival storage tier is required where data is moved to tape for offline storage.

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**Increased Retention Times**

By enabling the use of low-cost mass storage devices -- Serial ATA (SATA), SAN and tape -- long-term storage becomes more affordable. The ability to store and access high quality images for longer periods of time allows critical video footage to be available in the event it is needed.

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**Labor Savings**

An intelligent SAN can store, migrate and retrieve data with little or no manual intervention, increasing IT workflow and productivity while reducing or eliminating associated costs.

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**Physical Space Savings**

When compared to traditional analog tape storage, a SAN can store more data densely in a small footprint configuration - helping to maximize expensive floor space and reduce expenses.

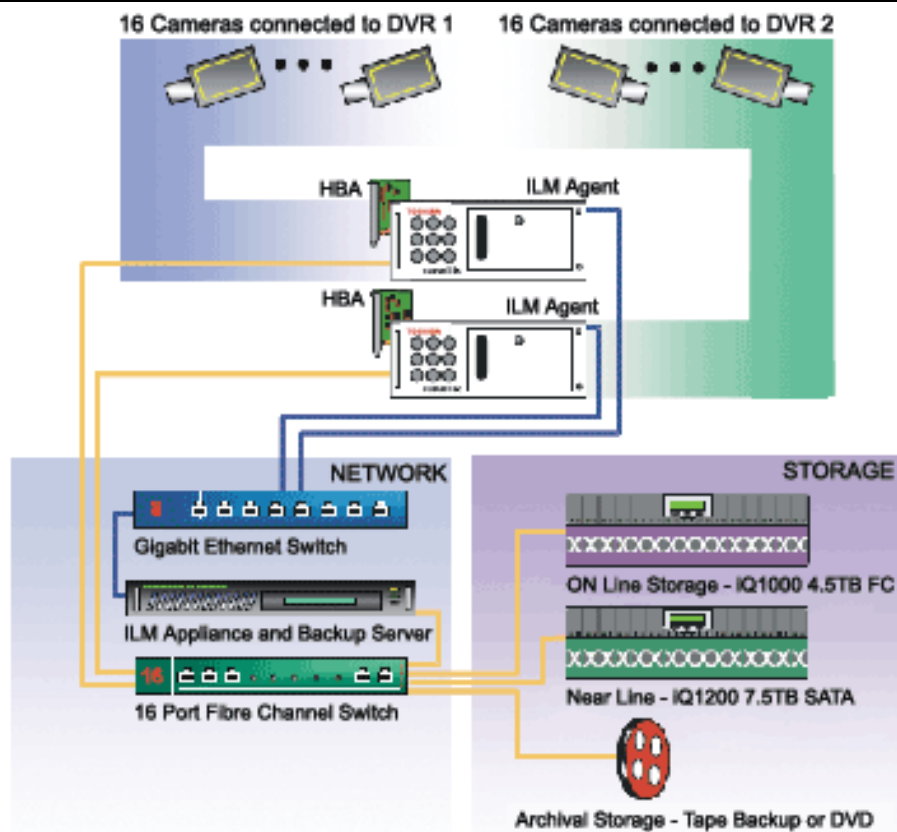


The Cost-Effective  
and Scalable  
Digital  
Surveillance with  
SAN Solution

The Toshiba/iQstor solution provides a versatile means of monitoring and recording surveillance data, allowing users to centralize all of their video and data archives -- with logical access to stored files from the centralized location or remote site.

Using Toshiba's multi-site SCS software over 100 DVR's can be managed simultaneously and video can be viewed from up to 25 different locations. Deploying iQstor's iQ1000 and iQ1200 provide an **interoperable, tiered storage solution** that combines a high performance Fiber Channel shared storage resource with cost-effective Serial ATA shared storage resource. Both storage tiers (Fibre Channel and SATA) are managed and controlled by the same enterprise-level SAN data services and management suite.

The Toshiba Surveillix Digital Video Recorder (DVR) and iQstor's intelligent iQ1000 and iQ1200 Storage Area Networks (SAN) deliver the performance, scalability and reliability that today's infrastructures demand while also providing near limitless growth and potential required to address 21st century security demands faced by business, organizations and agencies today...and tomorrow.



**Entry Level  
Surveillance  
Configuration  
(Featuring Multiple  
Toshiba DVRs in  
conjunction with  
iQstor's Intelligent  
SAN Solutions**

The diagram reflects:

- 32 Toshiba Cameras
- 2 Toshiba Surveillax DVR Recorders
- 1 Gigabit Ethernet Switch
- 1 ILM Appliance and Backup Server
- 1 16 Port Fiber Channel Switch
- 1 iQstor iQ1000 for On-Line Storage
- 1 iQstor iQ1200 for Near-Line Storage
- 1 Tape Backup

Compliments of:  **iQstor**

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# Data Protection