



High-Resolution Real-Time Surveillance Storage

DDN xStreamScaler 4.0 Scalable Storage Platform

Increasing video resolution and lengthening retention requirements are ushering in a petabyte age for surveillance video environments. Low-end modular iSCSI video storage solutions have simply not been designed for simple management of multi-100TB, megapixel video archives.

DDN addresses these challenges with the award-winning Extreme Storage portfolio. Proven over 300 petabytes of shipments to many of the world's most content intensive environments, these products have been designed from the ground up for scalable video streaming and video archiving. Available in Q1 2010, DDN's xStreamScaler 4.0 file storage platform is uniquely designed for next-generation camera resolutions and delivers the data management simplicity and performance consistency required for scalable security organizations.

xStreamScaler Scalability

- File system scalability of over 10 petabytes enables NVR consolidation and global data access
- Supports up to 1000s of concurrent megapixel video streams and dynamic, online growth
- Real-time concurrent read & write file access enables video review without impacting ingest
- Superior performance to/from NVR ensures greater camera support and reduces NVR instances

Unrivalled Storage Efficiency

- DDN's award-winning quality of service ensures zero frame dropping even during drive rebuilds
- Leverages the world's fastest storage systems as scalable file system building blocks
- xStreamScaler scales out and up to meet requirements and enables infrastructure consolidation
- Industry-leading density (120TB per 4U) reduces power and space by 50% over traditional storage

xStreamScaler Flexibility

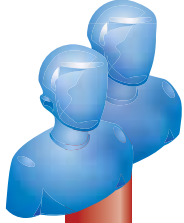
- Supports native Windows & Linux clients accessing a common file system
- Choice of multiple storage platforms for low-end and high-end requirements
- Industry-leading scalability over 50GB/s - capable of easily supporting the highest resolutions
- Flexible choice of of SAN, LAN and hybrid network connectivity options



"DDN storage solutions allow us to scale our system to more than 2000 cameras and give us the confidence that the company can handle our current and future requirements. Even if we decide to record all cameras at full PAL frame rate, we will still be using less than 35 per cent of our S2A9900 measured throughput capacity."

--Scott La Vertu, Network Services Manager, Public Transport Authority of WA

Operators



SAN-Connected NVRs

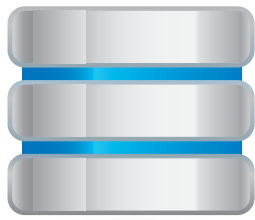
Scalable Streaming
eg: 1000 3MP H.264 15fps streams

LAN-Connected NVRs

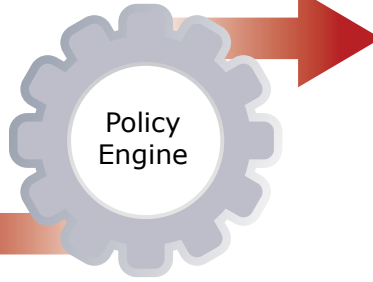
Scalable Streaming
eg: 100s of 3MP H.264 15fps

DDN xStreamScaler Scalable Namespace

10TB - 10PB of Globally Accessible Video Storage



High-Speed Ingest Storage Pool



- Migrates Data onto Energy Efficient Tape
- On-Tape Data is made Available online Through the File System



- Optional Async Replication
- One:Many & Many:One

xStreamScaler Storage Foundation

DDN is the world leader in high density storage solutions and has delivered over 200 Petabytes of high-density data storage solutions to customers around the world, saving organizations millions of dollars in operational costs and 1000s of square feet in data center requirements.

Today, all DDN systems are built with high-density 4U 60-slot drive enclosures that require 60% less rackspace and electronics than competing iSCSI storage offerings. The xStreamScaler platform aggregates DDN's scale-up storage platforms into a global, scale-out environment designed for low-footprint capacity and performance.



S2A6620



S2A9900

Storage System

System Storage Capacity & Density

@ H.264 5MP 15fps, 15 day retention (medium comp./ 50% motion activity)

S2A9900

- Supports up to 1200 x 2TB drives = 1,920TB usable
- 600 drives per data center rack = 960TB / rack

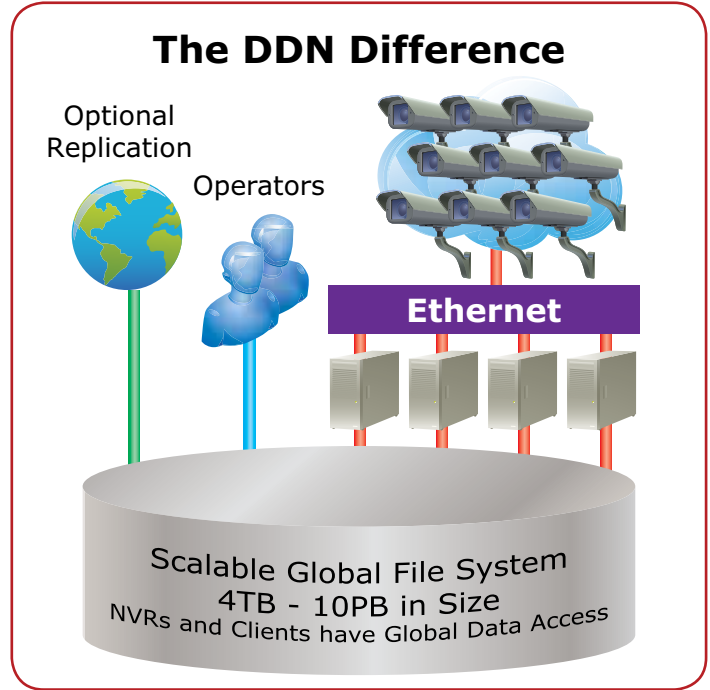
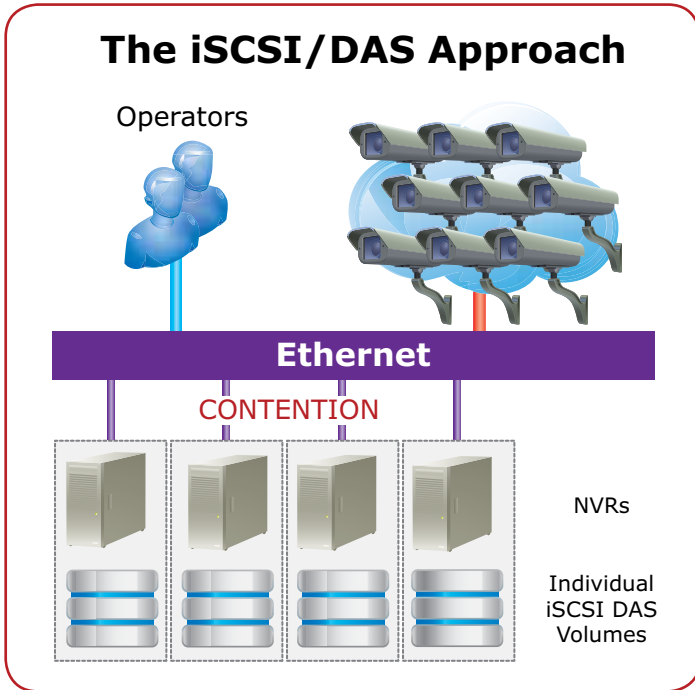
3,316 Cameras per system
(579 GB/camera per 15 days)

S2A6620

- Supports up to 120 x 2TB drives = 192TB usable
- Up to 660 drives per data center rack = 1,056TB / rack

332 Cameras per system
(579 GB/camera per 15 days)

Direct-attached and scale-out iSCSI storage is increasingly challenged with meeting the requirements of scalable surveillance agencies and megapixel camera environments. DDN's xStreamScaler solves these challenges through the implementation of a virtualized, scalable file storage platform.



Video Storage Technology Comparison

Volume Limitations

- **The iSCSI Problem:** Operating systems containerize and own data per NVR server, limiting scale and access while also increasing costs by propagating excess NVR servers and server licenses
- **The DDN Difference:** Scalable file storage technology eliminates capacity limitations and provides global access to surveillance data to any file system client

Performance:

- **The iSCSI Problem:** Ingest performance varies as review processes are in-band also on the NVR
- **The DDN Difference:** Global file access enables out-of band review, preserving ingest performance
- **The iSCSI Problem:** Drive rebuilds reduce video ingest performance and jeopardize frame capture
- **The DDN Difference:** Award-winning storage eliminates performance loss during all drive rebuilds

Availability

- **The iSCSI Problem:** Multi-site data replication is often either not available or is a manual process
- **The DDN Difference:** Global xStreamScaler replication ensures automatic disaster recovery capability

Partners in Physical Security

