QSTAR TECHNOLOGIES

SECURING THE FUTURE OF YOUR DATA®

SntrySTR®

Built for demanding data center environments, SntrySTR is a complete network attached archive appliance that manages the lifecycle of data across multiple storage levels. SntrySTR provides the foundation for a resilient 3-2-1 archive strategy by combining fast RAID backed by a secure optical, tape or CAS archive and complete offline media management. No other archive solution on the market supports the same range of storage devices, providing long term hardware independence.

Archive Appliance Solution

QStar has been providing enterprise archive and data management solutions to corporations and government agencies around the world for more that two decades. SntrySTR integrates QStar's field proven software technology into an archive appliance with a very low Total Cost of Ownership that is simple to install, and easy to manage.

SntrySTR preserves digital assets by managing their lifecycle across RAID, optical and tape storage systems. In combination with optional encryption and digital signature features, it delivers a highly secure environment that protects record authenticity and maximizes data longevity. Independent of storage hardware, SntrySTR has been designed to keep pace with growing archives through non-disruptive expansion from a few terabytes to petabytes. SntrySTR also supports green data center initiatives through the deployment of highly efficient automated libraries that dramatically reduce power consumption and cooling costs.

FEATURES

- Simple plug and play appliance design
- Integrated multi-tier storage support
- Automated data lifecycle management
- Online & offline storage management
- Highly scalable capacity & functionality
- Storage independent architecture
- Optional encryption & digital signature
- Optional mirroring & data replication

BENEFITS

- Promotes 3-2-1 archive best practices
- Optimizes storage resource utilization
- Reduces demand for storage hardware
- Eliminates the need for archive backup
- Provides a foundation for compliance
- Enables cost effective expansion
- Supports greener storage technologies
- Delivers low Total Cost of Ownership
- Ensures long term investment protection

The 3-2-1 Archiving and Data Protection Best Practice

The 3-2-1 Best Practice provides a technology independent framework for the deployment of a resilient professional archive. Endorsed by leading storage analysts, the 3-2-1 Best Practice recommends that a professional archive retain 3 copies of all critical data, these copies should be archived on 2 different storage technologies, with 1 copy offsite on removable media. This simple yet powerful strategy in combination with a QStar's archive platform optimizes IT infrastructure, reduces cost, and provides the foundation for regulatory compliance.

Learn more about the 3-2-1 Best Practice at www.qstar.com/vision/321bestpractice

ARCHIVING & DATA PROTECTION 3·2·1 BEST PRACTICE

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Simple Integration and Management

The SntryStr archive appliance is managed through an easy-to-use interface, allowing administrators to control the archive from anywhere, at any time. A SntrySTR archive is presented as a network mountable file system for transparent integration with host applications. Data written to the archive file system is automatically migrated between a high speed integrated RAID cache and secure removable storage. This architecture provides quick retrieval for more recently accessed data while ensuring the long term preservation of the archive.

The SntrySTR archive can be divided into multiple volumes represented by the directory structure of the archive file system. This allows data to be easily categorized by different departments, users, projects or time frames. Optional data retention periods and security policies can be set for each volume, and archive capacity can be restricted by volume or can be set to expand dynamically.

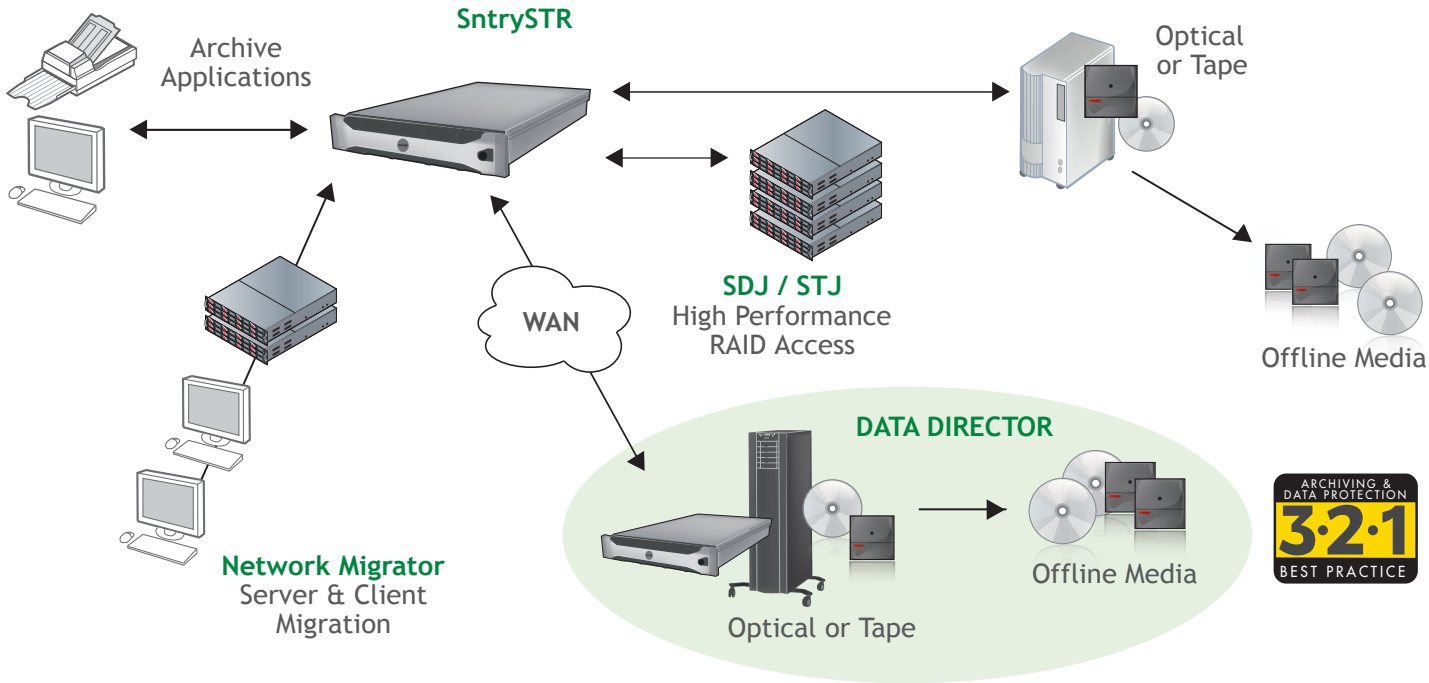
In support of the 3-2-1 Archive Best Practice, many organizations use QStar's mediacopy feature to automatically create a duplicate copy of selected archive volumes for offline and offsite disaster recovery. In addition, older data sets that are infrequently accessed can also be taken offline to a deep archive. SntrySTR provides complete offline media management by tracking all offline data and prompting an operator to import the appropriate media when a request is received. Offline media enables very cost effective archive expansion and disaster recovery strategies.

SntrySTR is certified for a wide range of applications and deployed across many industries including: medical/PACS, financial services, life science and drug development, manufacturing, broadcast, and government record management.

QSS 2100

QSS 6100

QStar Archive & Data Management Solutions



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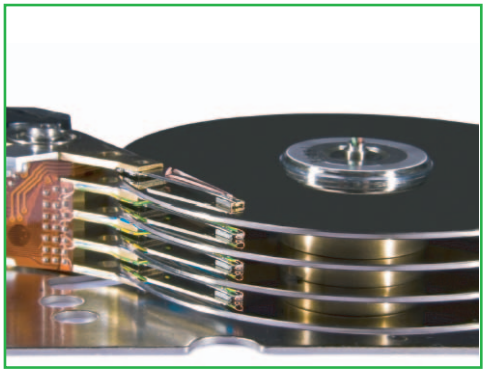

Archive Authenticity and Security

The SntrySTR platform provides a range of security features designed to meet the specific needs of each organization. In order to meet regulatory or legal obligations, companies must be able to demonstrate that their archive records have not been altered. SntrySTR supports all leading manufacturers of true WORM (Write Once Read Many) optical storage media and WORM magnetic tape and disk devices. The use of WORM technology prevents the deliberate or accidental modification of data and the QStar platform provides an audit trail infrastructure for reporting purposes.

For more advance file level security, QStar also offers data encryption and digital signature options. Encryption ensures that individual files cannot be accessed without the proper security key to unlock the file. QStar's implementation uses state-of-the-art AES encryption technology with a public key / private key (Symmetric) infrastructure. A SHA1 algorithm with time stamping is employed with QStar digital signature option to guarantee the integrity of signed digital documents.

Archive Resilience

All aspects of the SntrySTR architecture have been designed to create a highly resilient archive environment. This begins with the SntrySTR appliance itself and includes advanced real time mirroring options.

The rack mounted SntrySTR system has a dual redundant architecture that includes hot swappable power supplies and disk drives to minimize system downtime. Archive data resident on the SntrySTR is protected using a RAID 1 or RAID 5 cache configuration that prevents data loss or down time in the event of a disk failure.

As an optional feature, Data Director (DDR) extends the disaster prevention capabilities of a SntrySTR archive by creating greater system resilience and higher data availability as part of a 3-2-1 archive strategy. Data Director uses advanced transaction level synchronous mirroring technology to ensure that data is continuously written on two storage systems within a site or across the globe. Data Director is available with multiple real-time mirroring options that include media mirroring within a single library (DDR1), device mirroring within a single site (DDR2), and site mirroring across multiple geographic locations (DDR3).

Advanced Performance

Simulated Disc or Tape Jukebox (SDJ / STJ) extend the functionality of SntrySTR by creating a mirrored multi-level archive using mixed storage technologies. In combination with Data Director, SDJ / STJ can simultaneously mirror archive data on magnetic disk storage (RAID, NAS, CAS) and to a secure optical or tape library. This provides very fast access to archive records from disk storage with secure retention, and an extra level of system resilience mirroring to optical or tape.

Remote Data Management

Network Migrator adds heterogeneous server and client data migration services to stand alone applications or to archives managed by SntrySTR. Utilizing advanced policy management, less frequently used files stored on distributed servers or clients can be automatically migrated to the central archive while remaining fully accessible from their local file systems.

A combination of file and file system attributes can be used to control the movement of data including: file modification date, file extensions, regular expression searches, and high-water marks. Once defined, data is migrated to the designated storage device and when archive retention dates have been met, files are released for managed or automatic deletion at the end of their lifecycle.

Specifications

SNTRYSTR®
Storage Archive Appliances

QSS-2100

QSS-6100

RoHS® COMPLIANT

SYSTEM FEATURES		
Capacity	• 1 to 4TB raw storage	• 2 to 96TB raw storage
Drive	• Max 4 drives (hot swappable)	• Max 6 drives (hot swappable)
Model #	• QSS – 2100/01: 1TB (2 x 500GB) • QSS – 2100/03: 2TB (2 x 1TB) • QSS – 2100/04: 4TB (4 x 1TB)	• QSS – 6100/01: 2TB (4 x 500GB) • QSS – 6100/02: 3TB (6 x 500GB) • QSS – 6100/03: 4TB (4 x 1TB) • QSS – 6100/04: 6TB (6 x 1TB)
RAID	• RAID 1 or 5 (PERC 6/i controller)	• RAID 5 (PERC 6/i controller)
Built-in Storage	• DVD ROM	• DVD ROM
Setup and Configuration	• Web Based user interface for system administration	• Web Based user interface for system administration
Storage Management	• Web Based tiered storage management • Integrated support on, near and off line management • Policy based data retention and deletion	• Web Based tiered storage management • Integrated support for on, near, and off line data management • Policy based data retention and deletion
Network Connection	• Embedded Dual-port Broadcom 5709 Gigabit Ethernet • Automatic IP address assignment • Supports DHCP, ARP	• Four embedded Broadcom 5809C Gigabit Ethernet NIC with failover and load balancing • Automatic IP address assignment • Supports DHCP, ARP
Interface	• iSCSI support • Adaptec 29320 SCSI PCI Express Adapter • 1 PCIe x 16 (True x16, Gen2), 1 SAS 6/iR	• Up to 6 expansion storage units with 15 drives (hot swap) • Fibre card (optional) • iSCSI support • Adaptec 29320 SCSI PCI Express Adapter • 2 PCIe x8 + 2 PCIe x4 G2
CPU	• Up to 2 Quad-Core Intel® Xeon® Processor 5500 Series	• Up to 2 Quad-Core Intel® Xeon® 5500 Processor Series
RAM	• 2GB upgradable to 64GB DDR RAM	• 2GB upgradable to 144GB DDR RAM
Graphics	• Matrox G200	• Matrox G200

SPECIFICATIONS		
Built in Support for Archive Storage	• 3TB or 5.5TB (optionally expandable)	• 5.5TB (optionally expandable)
Agency Certifications	• CAN/CSA C22.2 No. 60950-1, CSAus, FCC Class A, CE IHE, VCCI, BSMI, C-Tick Class A, SABS, Class A, CCC Class A, MIC Class A, UL 60950-1, EN 60950-1, IEC 60950-1	• CAN/CSA C22.2 No. 60950-1, CSAus, FCC Class A, CE IHE, VCCI, BSMI, C-Tick Class A, SABS, Class A, CCC Class A, MIC Class A, UL 60950-1, EN 60950-1, IEC 60950-1
Physical	• 1U Rack-mountable chassis	• 2U Rack-mountable chassis
Power	• Non-Redundant, 480W • Optional Redundant, 500W	• Energy Smart – Two hot-plug high-efficient 570W PSU
Operating Environment	• Operating Temperature: 10° C to 35° C (50° F to 95° F) • Operating Relative Humidity: 20% to 80% non-condensing (twmax=29C) • Operating Vibration: 0.26G at 5Hz to 350Hz for 2 minutes • Operating Shock: 1 shock pulse of 41G for up to 2ms • Operating Altitude: -16 to 3,048m (-50 ft to 10,000 ft)	• Operating Temperature: 10° C to 35° C (50° F to 95° F) • Operating Relative Humidity: 20% to 80% non-condensing (twmax=29C) • Operating Vibration: 0.26G at 5Hz to 350Hz for 2minutes • Operating Shock: 1 shock pulse of 41G for up to 2ms • Operating Altitude: -16 to 3,048m (-50 ft to 10,000 ft)
Non-operating Environment	• Storage Temperature: -40° C to 65° C (-40° F to 149° F) • Storage Relative Humidity: 5% to 95% non-condensing (twmax=38C) • Maximum humidity gradient: 10% per hour, operational and non-operational conditions. • Storage Vibration: 1.54Grms Random Vibration at 10Hz to 250Hz for 15 minutes • Storage Shock: 6 shock pulses of 71G for up to 2ms • Storage Altitude: -16m to 10,600m (-50 ft to 35,000 ft)	• Storage Temperature: -40° C to 65° C (-40° F to 149° F) • Storage Relative Humidity: 5% to 95% non-condensing (twmax=38C) • Maximum humidity gradient: 10% per hour, operational and non-operational conditions. • Storage Vibration: 1.54Grms Random Vibration at 10Hz to 250Hz for 15 minutes • Storage Shock: 6 shock pulses of 71G for up to 2ms • Storage Altitude: -16m to 10,600m (-50 ft to 35,000 ft)

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