QSTAR® TECHNOLOGIES
SECURING THE FUTURE OF YOUR DATA®

OSM Object Storage Manager

Flexible, Seamless Scalability, Unparalleled Content Security - A Smart Choice

THE STORAGE CHALLENGE

The continuous growth of enterprise data, especially unstructured data, is creating increasing challenges for IT managers. Each new primary storage device added to address the issue increases the backup workload.

For unstructured data that is static and unchanging this is an unnecessary use of resources. Those files should be securely protected for only as long as an organization requires them, before being automatically deleted to make room for new data. As up to 80% of an organization's files are typically static, removing them from the backup allows the process to be streamlined, speeding both backup and restore activities. Similarly, files that need to be retained for pre-determined periods, to meet internal mandates or compliancy rules, are best stored outside of an organization's primary storage infrastructure.

The solution for managing and storing unstructured data needs to be flexible, affordable, easily scalable and secure. With most solutions an organization has to trade off at least one of these requirements. If they find a fast, secure solution it often is too expensive and offers no flexibility. If low-cost then the solution does not scale, is too slow and provides limited security.

THE QSTAR OSM - OBJECT STORAGE MANAGER

QStar took a fresh look at data management when developing its Object Storage Manager (OSM) Solution. Combining an innovative object-based storage engine with existing QStar software technology, OSM offers the flexibility to store a user definable number of copies of unstructured data on low-cost, industry standard, hard disk systems and tape or optical libraries. This eliminates the need for external backup.

The solution uses a Windows or Linux gateway making OSM available through standard CIFS or NFS network shares. This eliminates the need for API support and provides a quick and easy method of connection to the network.
A REST API is also available for third party applications to integrate with.

As businesses change over time, the solution allows for seamless scalability to multiple petabytes and to store billions of files. New storage technologies can be added without disruption, to complement existing technology. The QStar OSM solution is self-managing and self healing; continuously monitoring and assuring the immutability and reliability of your data, until the final phase of the data lifecycle when the data is securely destroyed.

Encryption options are included in the solution, allowing only authorized access to on-line and off-line archive files. For disaster prevention, this flexible solution can create remote replica or mirror copies using QStar's Network Migrator, Archive Replicator or Data Director.
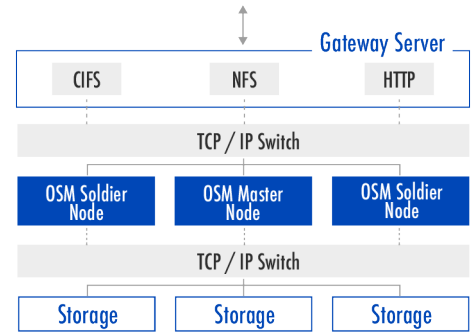
QStar's Object Storage Manager provides a comprehensive data storage solution using multiple technologies, for those businesses and organizations already dealing with tens or hundreds of terabytes of data, and for those who are thinking about how to manage and protect future petabytes.

FLEXIBLE INTEGRATION AND SEAMLESS SCALABILITY	UNPARALLELED CONTENT SECURITY AND PROTECTION	A SMART CHOICE
• Uses low-cost industry standard storage solutions	• Provides a foundation for compliance	• Optimizes storage resource utilization
• Future proof' easy integration, keeping costs down when adding new technologies	• Self Healing - Continuous storage monitoring eliminates data loss. In the event of a drive failure, OSM will automatically create new copies of data to new drives	• Provides compression to reduce disk requirements
• Self-managing storage provisioning and load balancing, as additional performance or capacity resources are added	• Retention and disposal management creates a WORM storage environment to assure file data integrity, authenticity, and protection	• No hardware vendor lock-in
• Seamless scalability to multiple petabytes storing billions of objects.	• Encryption options included allows secure yet easy authorized file access	• Reliable data availability
• Use of approved iSCSI, FC, SAS or Infiniband storage systems	• Legal Hold prevents deletion of data during an e-discovery process.	• Eliminates the need for archive backup
• Scale Up and Scale Out architecture allows more Compute Nodes and more Storage Nodes to be added independently	• Disaster prevention options create remote replica mirror copies	• Supports greener storage technologies
		• Reduces administrative costs, capital and operational costs
		• Delivers low Total Cost of Ownership
		• Promotes long term investment protection
		• Power down of CPUs, nodes or disks to reduce power costs and create Cold Storage environment

OSM Object Storage Manager
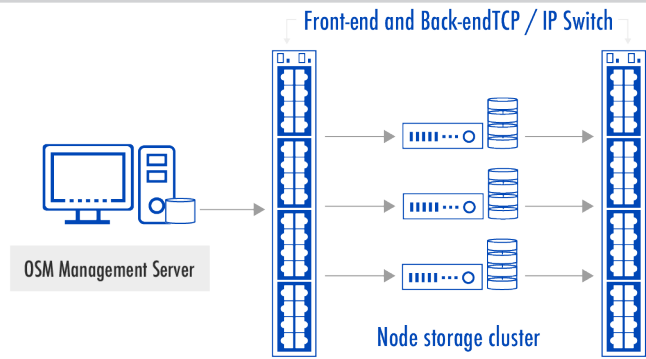
OSM – SYSTEM VIEW

- OSM Gateway presents CIFS, NFS or HTTP to the network or option for REST API
- Front–end TCP/IP switch allows any OSM Node to deal with requests (read, write, verify)
- One Node negotiates to become the "Master" Node, others become "Soldiers"
- Back–end TCP/IP switch allows communication between nodes – heartbeat is constantly monitored
- TCP/IP switch also allows iSCSI storage devices to be used
- Optimum Solution consists of three nodes and disassociated storage (using iSCSI, SAS or FC) – requires additional SAS or FC switch
- Option to use tape within the archive environment to reduce storage costs and add
- additional levels of redundancy

Gateway Server

CIFS | NFS | HTTP

TCP / IP Switch

OSM Soldier Node | OSM Master Node | OSM Soldier Node

TCP / IP Switch

Storage | Storage | Storage

This comprehensive solution allows for flexible options to suit each organizations archive needs. Below are some common configurations.
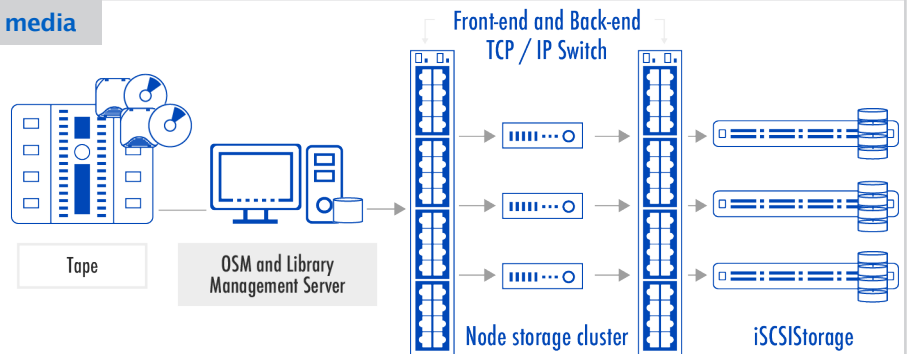
Entry Level Configuration

A very affordable solution; NAS with integral JBOD or RAID are configured to store and manage a user definable number of copies of static data.

Front-end and Back-endTCP / IP Switch

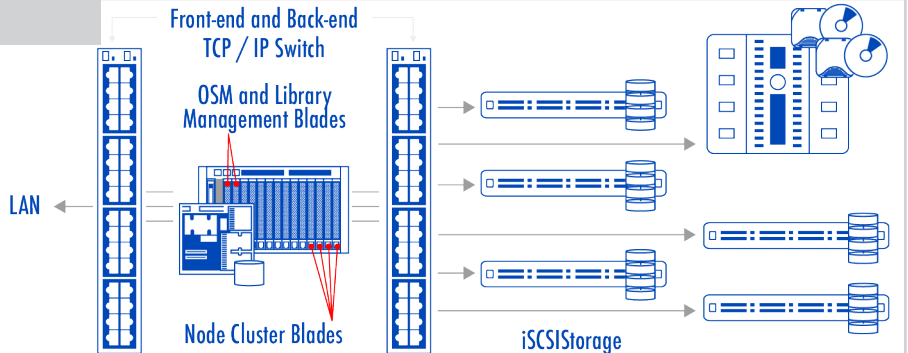OSM Management Server

Node storage cluster

Preferred Configuration with copy to removable media

Offering more flexibility by using iSCSI, SAS, or FC attached disk to the OSM servers, which disassociates the storage for improved resilience. Optionally, a replica of data can also be stored to tape or optical.

Front-end and Back-end TCP / IP Switch

Tape | OSM and Library Management Server

Node storage cluster | iSCSIStorage

Optimal Configuration

The use of blade technology offers significantly more scalability of capacity and performance. Optionally, tape or optical can become part of the solution.
This allows data verification to be run on files stored on removable media in a library.
Scale Up or Scale Out through the addition of independent compute nodes or storage nodes

Front-end and Back-end TCP / IP Switch

OSM and Library Management Blades

LAN

Node Cluster Blades | iSCSIStorage

For more information, please contact the archiving experts at QStar:

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