ORACLE DATA SHEET

Oracle Hierarchical Storage Manager

Oracle Hierarchical Storage Manager (Oracle HSM) solves your toughest data archiving challenges by putting the right data on the right tier of storage at the right time to help reduce storage cost, improve efficiency, and ensure access.

SHARE, MANAGE, AND PROTECT FILE DATA WITHOUT BREAKING IT BUDGETS

KEY FEATURES

- Scalable file system with policy-driven archiving functions
- Automated data movement across multiple storage tiers
- Support for Oracle Storage Cloud Service (Object and Archive)
- OpenStack Swift interface for object storage
- Automatic Data Integrity Validation and Fixity
- Automated Media Migration
- Horizontally scaled data-mover servers
- Industry-standard open formats and ability to import and export data in LTFS format

Complete Deployment Choice: Cloud, On-Premise, Hybrid

Oracle puts you in complete control when it comes to archiving your business-critical IT assets for the long term. As today's storage environments adapt to incorporate cloud infrastructures, reduce capital commitments, and keep up with digital transformation, Oracle HSM empowers you to optimize your storage asset mix. Oracle HSM supports traditional on-premises storage, as well as private cloud and hybrid architectures to satisfy your unique archive requirements. Regardless of your current storage infrastructure, Oracle HSM provides the flexibility to utilize existing storage and augment it with a public cloud. With direct support for the Oracle Storage Cloud Archive Service, you can take advantage of the unmatched low-cost archive and simplify your storage operations.

Lower Costs, Leverage Tiered Storage

Placing the right information on the right storage can save money over time. Oracle HSM software actively manages data between storage tiers to let companies exploit the substantial acquisition and operational cost differences between flash, disk, tape devices, and the cloud.

Oracle HSM software provides an abstraction layer between applications and underlying storage tiers. Applications remain unaware of the physical location of data. As information is written by applications, it is automatically and transparently placed on the most cost-effective storage—based on specified retention and retrieval policies—to align storage and archiving costs with business priorities and ease the management burden.

Simplify Administration

Administrative inefficiencies disrupt progress and delay results. Oracle HSM includes a wide range of features to simplify the configuration, management, and monitoring of file systems. With a web-based management portal, enhanced monitoring and diagnostics, and role-based access control, Oracle HSM provides a powerful, easily managed, cost-effective way to archive, access, and protect critical data over its entire lifecycle.

KEY BENEFITS

- Save money with a policy-based solution that puts the right information on the right storage at the right time
- Integrate on-premise and cloud storage to optimize storage mix and lower TCO
- Enable flexible, private cloud infrastructures
- Improve access to business information throughout the data lifecycle
- Protect assets securely with end-to-end data integrity and self-healing
- Achieve limitless scalability and optimize archive performance
- Ensure long-term access independent of software

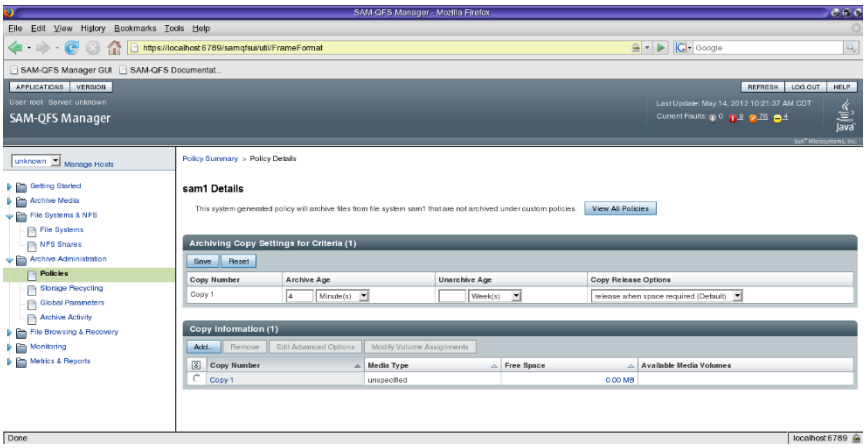

Figure 1. Screenshot of web-based management portal

Administrators can grow or shrink file systems online, and software deployed in shared environments can be upgraded with no downtime, keeping data available even when configuration changes are ongoing.

When it comes time to upgrade to newer disk and media generations, Oracle HSM's Automated Media Migration feature dramatically simplifies the process of moving to the latest media technologies. Users can set policies to efficiently and seamlessly move data, which reduces the time, complexity, and CPU resources required for media migration.

Share, Scale, and Retrieve Data Quickly

Your data management infrastructure can be optimized by combining Oracle HSM with Oracle's StorageTek QFS advanced file system. Together, these technologies provide a complete data management solution with integrated file services, high-performance capabilities, file sharing, and robust scalability.

For Microsoft interoperability, Oracle Solaris 11 includes fully integrated Common Internet File System (CIFS), also known as SMB, which is the standard for Microsoft file sharing services. The Oracle Solaris CIFS service provides file sharing and Microsoft RPC administration services required for Windows-like behavior for interoperability with CIFS clients.

Oracle HSM provides ready access to data throughout its lifecycle. Managed files appear to exist in the topmost directory of the storage hierarchy, no matter where they actually reside on physical storage. When a file is accessed, Oracle HSM retrieves data from the storage tier with the fastest response time. In addition, previously hard-to-access data can be moved into tiered storage controlled by Oracle HSM, keeping costs manageable while providing quick data access.

Ensure Long-Term Access

Data that is stored for the long term is useless if it is not easily accessible, protected, and securely stored. With Oracle HSM, data can be archived using an open format to ease future access and avoid vendor lock-in. Oracle HSM creates storage "containers" that map fully to the industry-standard UNIX tar format for file encapsulation. Any tape or disk archive generated by Oracle HSM can be independently read and restored—even

without the software.

When data is preserved for very long time periods, a simple way to verify that the data is still intact and accessible is required. Oracle HSM provides solutions to automatically audit the archive and verify the integrity of all data, and self-heal if a problem is found. The software can perform automatic data integrity validation (DIV) audits to provide end-to-end protection of data during a transfer to Oracle StorageTek T10000C, StorageTek T10000D, and StorageTek LTO 5, 6, and 7 tape drives. Users can create DIV policies based on when files were created, modified, or a tape was last accessed.

For complete data integrity throughout a file's entire lifecycle, Oracle HSM has the ability to verify *fixity*, which refers to the properties of a file being unchanged, constant, and stable when transmitted from an application to archival storage. Users can verify fixity upon each read, write, and copy of a file using standard checksum algorithms: MD5, SHA-1, SHA-256, SHA-384, and SHA-512. With automatic data integrity validation and fixity, users have confidence that their data is securely stored for many years to come.

Additionally, Oracle HSM's high-availability, remote archiving, and encryption support capabilities enable customers to have constant access and store securely multiple copies around the world. These powerful software capabilities combine to ensure organizations have infinite access to their valuable data.

Engage the Storage Experts

Oracle service professionals can help address storage challenges by delivering integrated services and solutions that optimize and manage storage performance over the life of data. Oracle's world-class service and customer care can help your company rest assured that technology investments are protected and that the business can respond to change.

Oracle experts also can help pinpoint opportunities to reduce costs, mitigate business risk, and better leverage information assets. Oracle's consulting and managed services offer clear and simple solution choices that address regulatory compliance, storage growth, resource management, and scalability challenges. Oracle's dedicated storage service professionals can help your organization gain and sustain measurable results with reliability and flexibility.

Go with a Storage Leader

Oracle continues to develop innovative storage systems and software that safeguard data, accelerate access, and reduce the cost of storing and managing data. By taking advantage of advancements in Oracle HSM, you can gain control of storage assets, deliver faster access to business information, and simplify administration while reducing costs.

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