

# Oracle Cloud File System

## Overview

To help organizations deploy their applications, databases and storage in the cloud.

### Oracle Cloud File System

Oracle Cloud File System is designed to manage general purpose files stored outside of an Oracle database across multiple operating system platforms with one management interface, one set of installation and configuration tools, one clusterware framework and a single vendor for support and troubleshooting. It eliminates the need for 3<sup>rd</sup> party volume managers and file systems.

### Managing All Data in the Cloud

Oracle Cloud File System is tightly integrated with the Automatic Storage Management features of the Oracle Database. Together they deliver one solution for managing all business data, application binaries and personal data in a cloud infrastructure. Oracle customers will benefit from a single integrated solution instead of dealing with the complexities of managing different software layers from different vendors.

### Managing General Purpose Files

Oracle Cloud File System includes Automatic Storage Management Cluster File System, a general-purpose cluster file system that provides a unified namespace for managing file data not stored in an Oracle Database.

### Volume Management Platform of Choice

Oracle Cloud File System includes Automatic Storage Management Dynamic Volume Manager. It provides system administrators with volume management services and a standard device driver interface for managing volumes cross different operating system platforms. Automatic Storage Management Cluster File System and other 3<sup>rd</sup> party file systems can use it to create and manage general purpose file systems. An Automatic Storage Management Dynamic Volume can be easily resized to adapt to the storage needs of the file system without taking it off-line, thus increasing availability and uptime.

## Customer Benefits

When Oracle Cloud File System and the Automatic Storage Management features of the Oracle Database are combined, they deliver one solution for managing all business data, application binaries and personal data in your cloud infrastructure.

### Leveraging Automatic Storage Management

The Automatic Storage Management features of the Oracle Database are leveraged to consolidate and easily provision pooled storage resources for all volumes and file systems to:

- Simplify and automate storage management
- Increase storage utilization, uptime and agility
- Deliver predictable performance and availability

### Integrated Data Services and Security Features

Oracle Cloud File System includes the integrated data services of the Automatic Storage Management Cluster File System. These include:

- **Snapshots:** Recover from inadvertent modification or deletion of files from a file system.
- **Tagging:** Associate one or more files together as a group by assigning a unique 'tag name' attribute.
- **Replication:** Replicate an Automatic Storage Management Cluster File Systems across the network from a primary to a standby site for disaster recovery.
- **Security:** Provide fine grained access control
- **Encryption:** Encrypt data stored on disk (data-at-rest) and provides secured encryption keys to decode data.

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## Frequently Asked Questions

### What is Oracle Cloud File System?

Oracle Cloud File System is an industry standard general purpose volume manager and a cluster file system for managing general purpose file data stored outside an Oracle Database. When combined with the Automatic Storage Management features of the Oracle Database, they deliver the network accessibility, rapid elasticity and easy storage provisioning that are requirements for cloud computing.

### What are the key components of the Oracle Cloud File System?

Oracle Cloud File System includes Oracle's Automatic Storage Management Dynamic Volume Manager and Automatic Storage Management Cluster File System.

### What is Automatic Storage Management Dynamic Volume Manager?

It provides the volume management services for Automatic Storage Management Cluster File System and 3<sup>rd</sup> party file systems. With Automatic Storage Management Dynamic Volume Manager, multiple dynamic volumes can be created in an Automatic Storage Management disk group.

### What is Automatic Storage Management Cluster File System?

Automatic Storage Management Cluster File System is an industry standard general-purpose cluster file system. It allows you to manage file data stored outside of an Oracle Database using native operating application programming interfaces and command line tools familiar to system administrators. The Automatic Storage Management Cluster File System is created on top of an Automatic Storage Management Dynamic Volume.

### What are the benefits of Oracle Cloud File System?

Oracle Cloud File System is designed to simplify the management of general purpose file data stored outside of an Oracle Database. It eliminates the need for 3rd party cluster file systems and volume managers.

### What role does Automatic Storage Management play in the Oracle Cloud File System?

Automatic Storage Management is a key feature of the Oracle Database. It provides automatic storage management and optimization features ideally suited for data stored in an Oracle Database. It complements the Oracle Cloud File System to provide a consolidated storage management foundation for creating dynamic volumes and cluster file systems for all the data in your cloud environment.

Together Oracle Cloud File System and Automatic Storage Management provide one solution for managing all business data, application binaries and personal data in your cloud infrastructure. The combined benefits include the ability to create and provision elastic pooled storage, resource sharing and data consolidation. It automates tedious storage administration tasks and reduces storage waste to lower total cost of ownership.

### Do I need to be an Oracle Database user or DBA to deploy Oracle Cloud File System?

No. New installation and configuration tools have been developed to allow Oracle Cloud File System to be deployed independent of Oracle databases. This provides the flexibility required for aligning roles and responsibilities inside organizations where system administrators are tasked with managing infrastructure software such as Automated Storage Manager while DBAs continue to have responsibility for Oracle Database installation and configuration.

### What data services and security features are integrated in Automatic Storage Management Cluster File System?

Automatic Storage Management Cluster File System provides integrated snapshot, replication, tagging, security and encryption services.

### What are Automatic Storage Management Cluster File System Snapshots?

Automated Storage Management Cluster File System snapshots are a read-only on-line, space efficient, point-in-time copy of the file system. They can be used to recover from inadvertent modification or deletion of files from a file system. A snapshot can also be used as the point-in-time source for a file system backup, as it can be created on demand to deliver a current, consistent, on-line view of an active file system.

### **What is Automatic Storage Management Cluster File System Tagging?**

Tagging allows a user to associate one or more files together as a group by assigning a unique 'tag name' attribute. This allows group operations to be performed based on tagged files that may span across different directories within Automated Storage Management Cluster File System within a single node or a cluster. Different groups of tagged files (e.g. 'medical imaging', 'photo album', etc) may be replicated as groups of related files. Automated Storage Management Cluster File System Tagging complements the replication of database files using Oracle Data Guard as a complete DR solution.

### **What is Automatic Storage Management Cluster File System Replication?**

Automatic Storage Management Cluster File System Replication enables administrators to replicate file systems across the network from a primary to a standby site, providing disaster recovery capability for the file system. Both the primary and standby sites can be standalone or cluster systems. A primary site for one file system can be the standby site for a different file system and vice-versa.

### **How does Automatic Storage Management Cluster File System Replication work?**

Automatic Storage Management Cluster File System Replication captures file system changes on the primary site and records the changes in files called replication logs. These logs are transported to the standby site asynchronously where background processes read the logs and apply the changes recorded in the logs to the standby file system. After the changes recorded in a replication log have been successfully applied to the standby file system, the replication log is deleted on both the primary and standby sites.

### **What is Automatic Storage Management Cluster File System Security?**

Automatic Storage Management Cluster File System Security is used to protect sensitive file system data from internal and external threats by providing fine grained access control on top of the access control provided by the operating system.

### **What is Automatic Storage Management Cluster File System Encryption?**

It enables users to encrypt data stored on disk (data-at-rest) and provides secured encryption keys to decode data.

### **How is this different than Oracle Advanced Security and Transparent Data Encryption?**

The key difference is Automatic Storage Management Cluster File System Encryption is encrypting file data stored in an Automatic Storage Management Cluster File System whereas Oracle Advanced Security encrypts data stored in an Oracle database.

### **What Operating Systems does Oracle Cloud File System support?**

Oracle Cloud File System is currently supported on Linux, Windows, Solaris and AIX.

### **How is Oracle Cloud File System licensed?**

A restricted use license for the Oracle Cloud File System is included with all Oracle Database editions when storing database-related configuration files. These include Oracle Database software binaries and home directories, Oracle Database software administrative files, and Oracle Database software diagnostic files. You must license Oracle Cloud File System to manage non-Oracle Database files which includes data files, binaries, administrative files and diagnostic files.

### **Where can I download Oracle Cloud File System?**

Oracle Cloud File System is included in Oracle Database 11g Release 2 patch set 11.2.0.2. Please login to [support.oracle.com](http://support.oracle.com) to download the 11.2.0.2 Grid Infrastructure for your OS platform (this will include Oracle Cloud File System). If you don't have a service contract with Oracle already, please contact your sales representative for assistance.



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