



## About StorageGRID

### StorageGRID 11.5

NetApp  
January 04, 2024

This PDF was generated from <https://docs.netapp.com/us-en/storagegrid-115/primer/hybrid-clouds-with-storagegrid.html> on January 04, 2024. Always check docs.netapp.com for the latest.

# Table of Contents

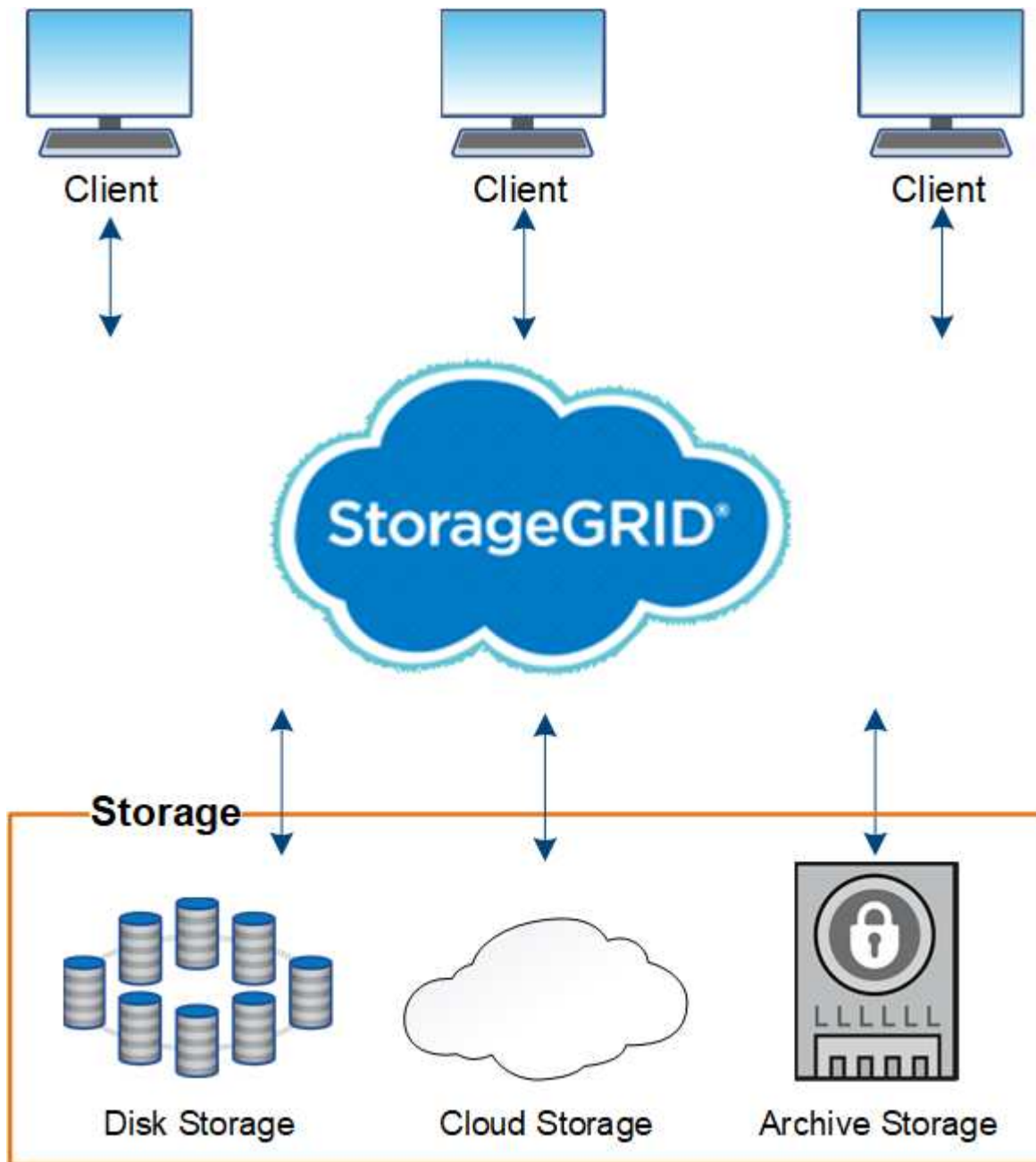
About StorageGRID .....	1
Hybrid clouds with StorageGRID .....	3

# About StorageGRID

NetApp StorageGRID is a software-defined, object-based storage solution that supports industry-standard object APIs, including the Amazon Simple Storage Service (S3) API and the OpenStack Swift API.

StorageGRID provides secure, durable storage for unstructured data at scale. Integrated, metadata-driven lifecycle management policies optimize where your data lives throughout its life. Content is placed in the right location, at the right time, and on the right storage tier to reduce cost.

StorageGRID is composed of geographically distributed, redundant, heterogeneous nodes, which can be integrated with both existing and next-generation client applications.



Advantages of the StorageGRID system include the following:

- Massively scalable and easy-to-use a geographically distributed data repository for unstructured data.
- Standard object storage protocols:
  - Amazon Web Services Simple Storage Service (S3)
  - OpenStack Swift
- Hybrid cloud enabled. Policy-based information lifecycle management (ILM) stores objects to public clouds, including Amazon Web Services (AWS) and Microsoft Azure. StorageGRID platform services enable content replication, event notification, and metadata searching on public clouds.
- Flexible data protection to ensure durability and availability. Data can be protected using replication and layered erasure coding. At-rest and in-flight data verification ensures integrity for long-term retention.
- Dynamic data lifecycle management to help manage storage costs. You can create ILM rules that manage data lifecycle at the object level, and customize data locality, durability, performance, cost, and retention time. Tape is available as an integrated archive tier.
- High availability of data storage and some management functions, with integrated load balancing to optimize the data load across StorageGRID resources.
- Support for multiple storage tenant accounts to segregate the objects stored on your system by different entities.
- Numerous tools for monitoring the health of your StorageGRID system, including a comprehensive alert system, a graphical dashboard, and detailed statuses for all nodes and sites.
- Support for software or hardware-based deployment. You can deploy StorageGRID on any of the following:
  - Virtual machines running in VMware.
  - Docker containers on Linux hosts.
  - StorageGRID engineered appliances. Storage appliances provide object storage. Services appliances provide grid administration and load balancing services.
- Compliant with the relevant storage requirements of these regulations:
  - Securities and Exchange Commission (SEC) in 17 CFR § 240.17a-4(f), which regulates exchange members, brokers or dealers.
  - Financial Industry Regulatory Authority (FINRA) Rule 4511(c), which defers to the format and media requirements of SEC Rule 17a-4(f).
  - Commodity Futures Trading Commission (CFTC) in regulation 17 CFR § 1.31(c)-(d), which regulates commodity futures trading.
- Non-disruptive upgrade and maintenance operations. Maintain access to content during upgrade, expansion, decommission, and maintenance procedures.
- Federated identity management. Integrates with Active Directory, OpenLDAP, or Oracle Directory Service for user authentication. Supports single sign-on (SSO) using the Security Assertion Markup Language 2.0 (SAML 2.0) standard to exchange authentication and authorization data between StorageGRID and Active Directory Federation Services (AD FS).

## **Related information**

[Hybrid clouds with StorageGRID](#)

[StorageGRID architecture and network topology](#)

[Controlling StorageGRID access](#)

[Managing tenants and client connections](#)

[Using information lifecycle management](#)

[Monitoring StorageGRID operations](#)

[Configuring network settings](#)

[Performing maintenance procedures](#)

## Hybrid clouds with StorageGRID

You can use StorageGRID in a hybrid cloud configuration by implementing policy-driven data management to store objects in Cloud Storage Pools, by leveraging StorageGRID platform services, and by moving data to StorageGRID with NetApp FabricPool.

### Cloud Storage Pools

Cloud Storage Pools allow you to store objects outside of the StorageGRID system. For example, you might want to move infrequently accessed objects to lower-cost cloud storage, such as Amazon S3 Glacier, S3 Glacier Deep Archive, or the Archive access tier in Microsoft Azure Blob storage. Or, you might want to maintain a cloud backup of StorageGRID objects, which can be used to recover data lost because of a storage volume or Storage Node failure.



Using Cloud Storage Pools with FabricPool is not supported because of the added latency to retrieve an object from the Cloud Storage Pool target.

### S3 platform services

S3 platform services give you the ability to use remote services as endpoints for object replication, event notifications, or search integration. Platform services operate independently of the grid's ILM rules, and are enabled for individual S3 buckets. The following services are supported:

- The CloudMirror replication service automatically mirrors specified objects to a target S3 bucket, which can be on Amazon S3 or a second StorageGRID system.
- The Event notification service sends messages about specified actions to an external endpoint that supports receiving Simple Notification Service (SNS) events.
- The search integration service sends object metadata to an external Elasticsearch service, allowing metadata to be searched, visualized, and analyzed using third party tools.

For example, you might use CloudMirror replication to mirror specific customer records into Amazon S3 and then leverage AWS services to perform analytics on your data.

### ONTAP data tiering with StorageGRID

You can reduce the cost of ONTAP storage by tiering data to StorageGRID using FabricPool. FabricPool is a NetApp Data Fabric technology that enables automated tiering of data to low-cost object storage tiers, either on or off premises.

Unlike manual tiering solutions, FabricPool reduces total cost of ownership by automating the tiering of data to lower the cost of storage. It delivers the benefits of cloud economics by tiering to public and private clouds including StorageGRID.

#### Related information

Administer StorageGRID

Use a tenant account

Manage objects with ILM

Configure StorageGRID for FabricPool

## Copyright information

Copyright © 2023 NetApp, Inc. All Rights Reserved. Printed in the U.S. No part of this document covered by copyright may be reproduced in any form or by any means—graphic, electronic, or mechanical, including photocopying, recording, taping, or storage in an electronic retrieval system—without prior written permission of the copyright owner.

Software derived from copyrighted NetApp material is subject to the following license and disclaimer:

THIS SOFTWARE IS PROVIDED BY NETAPP “AS IS” AND WITHOUT ANY EXPRESS OR IMPLIED WARRANTIES, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE, WHICH ARE HEREBY DISCLAIMED. IN NO EVENT SHALL NETAPP BE LIABLE FOR ANY DIRECT, INDIRECT, INCIDENTAL, SPECIAL, EXEMPLARY, OR CONSEQUENTIAL DAMAGES (INCLUDING, BUT NOT LIMITED TO, PROCUREMENT OF SUBSTITUTE GOODS OR SERVICES; LOSS OF USE, DATA, OR PROFITS; OR BUSINESS INTERRUPTION) HOWEVER CAUSED AND ON ANY THEORY OF LIABILITY, WHETHER IN CONTRACT, STRICT LIABILITY, OR TORT (INCLUDING NEGLIGENCE OR OTHERWISE) ARISING IN ANY WAY OUT OF THE USE OF THIS SOFTWARE, EVEN IF ADVISED OF THE POSSIBILITY OF SUCH DAMAGE.

NetApp reserves the right to change any products described herein at any time, and without notice. NetApp assumes no responsibility or liability arising from the use of products described herein, except as expressly agreed to in writing by NetApp. The use or purchase of this product does not convey a license under any patent rights, trademark rights, or any other intellectual property rights of NetApp.

The product described in this manual may be protected by one or more U.S. patents, foreign patents, or pending applications.

LIMITED RIGHTS LEGEND: Use, duplication, or disclosure by the government is subject to restrictions as set forth in subparagraph (b)(3) of the Rights in Technical Data -Noncommercial Items at DFARS 252.227-7013 (FEB 2014) and FAR 52.227-19 (DEC 2007).

Data contained herein pertains to a commercial product and/or commercial service (as defined in FAR 2.101) and is proprietary to NetApp, Inc. All NetApp technical data and computer software provided under this Agreement is commercial in nature and developed solely at private expense. The U.S. Government has a non-exclusive, non-transferrable, nonsublicensable, worldwide, limited irrevocable license to use the Data only in connection with and in support of the U.S. Government contract under which the Data was delivered. Except as provided herein, the Data may not be used, disclosed, reproduced, modified, performed, or displayed without the prior written approval of NetApp, Inc. United States Government license rights for the Department of Defense are limited to those rights identified in DFARS clause 252.227-7015(b) (FEB 2014).

## Trademark information

NETAPP, the NETAPP logo, and the marks listed at <http://www.netapp.com/TM> are trademarks of NetApp, Inc. Other company and product names may be trademarks of their respective owners.