



Datasheet

NetApp StorageGRID Appliances

Enterprise-grade object storage in an easy-to-deploy appliance

Key Features

Enterprise-Grade Object Storage

Combining best-in-class NetApp® hardware with NetApp StorageGRID® object storage software creates a solution for the most demanding workloads.

Simple Deployment and Management

StorageGRID appliances arrive ready to deploy with onboard embedded compute. Use this modular building block to create new installations or to expand existing environments.

Performance and Density-Optimized Storage Nodes

Fully configured and optimized for StorageGRID, the appliances series delivers reliable and consistent performance. Combining compute and storage in a single, dense enclosure reduces the data center footprint.

Optimized Data Protection

Layered erasure coding combines node-level and distributed coding to optimize data protection while providing consistent performance.

Lower Cost per Gigabyte

Appliance-based configurations reduce the cost of external compute, storage networks, and hypervisor licensing.

The Challenge

Building an object storage solution requires IT staff to design, configure, deploy, and support massive amounts of compute and storage. Creating an optimal solution while balancing cost, performance, and resiliency is a daunting task.

The Solution

The NetApp StorageGRID appliances combine storage, compute, and object storage software in a single solution to create a building block for enterprise-grade object storage. Preconfigured and fully optimized, the appliances enable administrators to rapidly deploy storage nodes for StorageGRID:

- For performance-sensitive object storage workloads, the SG6060 delivers small-file, low-latency performance.
- For capacity-oriented object storage workloads, the SG5760 is a 4U 60-drive appliance and the SG5712 is a 2U 12-drive appliance.
- All StorageGRID appliances contain both compute and storage in a single easy-to-deploy and serviceable solution. Increased density saves data center rack space and energy, which further improves savings.
- For maximum efficiency and performance, StorageGRID software runs on internal compute.
- Guided by active metadata-driven policies, StorageGRID provides availability, durability, and geo-distribution of objects by using advanced n-way replication and distributed coding techniques.
- The StorageGRID appliances provide node-level erasure coding with pool technology, allowing the use of large-capacity hard drives while delivering consistent and optimal performance.

Rely on a Proven Solution

When setting out to create an object storage architecture, customers understand that they are designing a solution for massive scale and long-term retention. With the proven track record of StorageGRID software and NetApp storage, you can be confident that you are building on a rock-solid foundation.

StorageGRID appliances combine best-in-class software and hardware in purpose-built appliances. StorageGRID is an 11th-generation object store with a track record of production deployments in the most demanding workloads. The NetApp installed

base of more than 1 million units deployed is a testament to the performance and the reliability of the NetApp product portfolio.

Get Flexibility and Resilience

StorageGRID nodes, whether they run on the SG6000 or SG5700 appliances, on virtual machines (VMs), or on bare-metal servers, are nodes within a resilient grid. You have the flexibility to deploy VM-based storage nodes with full interoperability with the SG6000 and SG5700 appliances. The choice of 2U, 4U, and 5U models enables you to further optimize for compute and storage density for varying workloads. Nodes can be added to increase capacity and can be replaced for maintenance or upgrade without service interruption.

Optimize Data Protection and Efficiency

Building object storage on the strength of layered erasure coding provides data protection at the node level. Leveraging this feature with the geo-distributed coding across nodes and sites provides geo-protection, optimal efficiency, and data durability. With layered erasure coding, you can create policy-driven data protection with multiple levels of granularity, choosing a combination of full copies and erasure-coded copies to meet SLAs while achieving significant cost savings.

With disk failure handled by pool technology, system performance is unaffected, and the need to perform cross-site repair of objects is greatly reduced, providing consistent performance while continuing to deliver outstanding availability and reliability.

Reduce Complexity

By providing a finely tuned and preconfigured system, StorageGRID appliances reduce the complexity of balancing compute and storage resources. Whether you deploy a new StorageGRID environment or expand an existing one, you can simply rack and cable the appliance and add it to the grid by using the StorageGRID Installer. Configuration of the appliance is fully automated.

Combining storage and compute also simplifies support. StorageGRID appliances are backed by NetApp's world-class support and development organization. Advanced features such as the NetApp Active IQ® diagnostics system provide proactive and immediate response to address any issue rapidly.

Increase Cost Savings

StorageGRID appliances are a core building block for enterprise-grade object storage. When StorageGRID software runs directly on the embedded compute, the need for hypervisor licensing is reduced. Combining storage and compute into a single solution reduces the footprint on the data center floor, resulting in further cost savings.

About NetApp

NetApp is the data authority for hybrid cloud. We provide a full range of hybrid cloud data services that simplify management of applications and data across cloud and on-premises environments to accelerate digital transformation. Together with our partners, we empower global organizations to unleash the full potential of their data to expand customer touchpoints, foster greater innovation, and optimize their operations. For more information, visit www.netapp.com. #DataDriven

KEY FEATURES FOR OBJECT STORAGE INFRASTRUCTURE

NETAPP STORAGEGRID APPLIANCES PROVIDE

Modular architecture

- Preconfigured and optimized building blocks
- Ability to rapidly expand by simply adding more appliances
- Simple installation and management
- Added security with the option for FIPS drives

Cost efficiency

- Space efficiency: Optimized storage and compute combined into a single solution
- Layered erasure coding and replication across geo-distributed sites
- Reduced licensing and management by reducing the need for hypervisors

Consistent performance

- StorageGRID takes full advantage of dedicated compute
- Pool technology provides consistent performance and reduces replication traffic due to disk failure

Enterprise-grade reliability

- Built on the real-world-tested foundation of NetApp hardware
- 11th-generation object storage software

World-class support

- Backed by NetApp Customer Success Operations
- NetApp Active IQ service provides proactive support for hardware and software

MODELS AND SPECIFICATIONS

| | SG6060 | SG5760 | SG5712 |
|--------------|---|---|---|
| CPU Cores | 40 @ 2.4 GHZ | 8 @ 2.0GHZ | 8 @ 2.0GHZ |
| | 192 GB | 64GB | 64GB |
| Raw capacity | <ul style="list-style-type: none"> • 4TB drives = 232TB • 8TB drives = 464TB • 10TB drives (FIPS) = 580TB • 12TB drives = 696TB | <ul style="list-style-type: none"> • 4TB drives = 240TB • 8TB drives = 480TB • 10TB drives (FIPS) = 600TB • 12TB drives = 720TB | <ul style="list-style-type: none"> • 4TB drives = 48TB • 8TB drives = 96TB • 10TB drives (FIPS) = 120TB • 12TB drives = 144TB |
| Form factor | 5U, 60 drives* | 4U, 60 drives | 2U, 12 drives |
| Connectivity | 4 x 10GbE/4 x 25GbE | 4 x 10GbE/4 x 25GbE | 4 x 10GbE/4 x 25GbE |
| Width | 17.66" (44.86cm) | 17.66" (44.86cm) | 17.6" (44.7cm) |
| Depth | 38.25" (97.16cm) | 38.25" (97.16cm) | 21.1" (53.6cm) |
| Weight | 289lb (131kg) | 250lb (113kg) | 63.9lb (29kg) |

| Environmental Specifications | | Typical | Maximum | Typical | Maximum | Typical | Maximum |
|------------------------------|-------|---------|---------|---------|---------|---------|---------|
| 4TB drives | Amps | 6.29 | 9.68 | 6.25 | 8.06 | 2.02 | 2.54 |
| | Watts | 1374 | 2114 | 1361 | 1755 | 440 | 552 |
| | BTU | 4690 | 7212 | 4642 | 5989 | 1501 | 1884 |
| 8TB drives | Amps | 6 | 9.38 | 5.95 | 7.77 | 1.97 | 2.49 |
| | Watts | 1310 | 2050 | 1297 | 1692 | 429 | 541 |
| | BTU | 4472 | 6994 | 4425 | 5772 | 1462 | 1846 |
| 10TB drives (FIPS) | Amps | 6.29 | 9.68 | 6.25 | 8.06 | 1.97 | 2.49 |
| | Watts | 1374 | 2114 | 1360 | 1755 | 441 | 554 |
| | BTU | 4689 | 7211 | 4642 | 5989 | 1506 | 1889 |
| 12TB drives | Amps | 6.33 | 9.71 | 6.28 | 8.10 | 2.23 | 2.75 |
| | Watts | 1382 | 2122 | 1369 | 1764 | 498 | 611 |
| | BTU | 4718 | 7240 | 4671 | 6018 | 1700 | 2083 |

The SG5760 and SG6060 require 208V-240V power. They will not function with 120V power.
 *1U compute server and 4U storage array - environmental specifications using 220V for compute server.