Datasheet

NetApp StorageGRID Webscale Object Storage Software

Enterprise-grade object storage software for large archives, media repositories, and web datastores

Key Benefits

Built for Web-Scale Data Repositories
Build massively scalable, globally distributed object stores that support industry-standard protocols such as S3, Swift, and CDMI.

Supports NAS Protocols
Supports CIFS and NFS clients using a native protocol bridge with the ability to access ingested files with an object protocol for future-proof data access.

Balances Performance, Durability, and Cost
Hierarchical erasure coding combines node-level and geo-distributed erasure coding for optimal data placement while enabling consistent performance even in the event of hardware failures.

Enables the Hybrid Cloud
Seamlessly tier between public and private clouds with policy-based data movement. Deploy any combination of virtualized software and hardware appliances.

Uses Metadata-Driven Policy Engine
Optimize data availability, performance, geo distribution, retention, protection, and storage cost with intelligent policies based on active metadata.

The Challenge
Today's enterprises are undergoing explosive growth in unstructured data. Petabytes of data are created by multiple applications and devices and from globally distributed locations. Users demand 24/7 access from any location and device; at the same time IT must be able to guarantee the integrity and security of the data. In many cases, business and compliance requirements mandate that this data will outlive the underlying storage infrastructure, in some cases by many generations.

To be able to store this data while meeting requirements for durability, availability, and performance, all while containing costs, many IT organizations have turned to cloud-based software such as object storage. However, new questions have arisen: What happens if requirements change? Can customers dynamically reevaluate existing data storage policies? By choosing one solution, is vendor lock-in created? How can customers maintain the flexibility to use both on-premises and public cloud solutions while maintaining control?

The Software
NetApp® StorageGRID® Webscale is a software-defined object-based storage platform that provides intelligent policy-driven data management. The ability to manage data while optimizing durability, protection, performance, and even physical placement across multiple geographies is key to meeting business requirements while driving cost savings.

Deploying NetApp StorageGRID Webscale with NetApp E-Series storage creates an enterprise-grade turnkey object storage appliance that is easy to deploy. Customers have the option to deploy Webscale nodes in any combination of virtual machines (VMs) on VMware and KVM hypervisors or as physical appliances.

Many critical workloads require NAS protocols. The StorageGRID NAS protocol bridge supports CIFS and NFS access and at the same time enables object access to these files using the S3 protocol. Customers can support their current workload while proactively supporting next-generation applications that natively support object protocols.
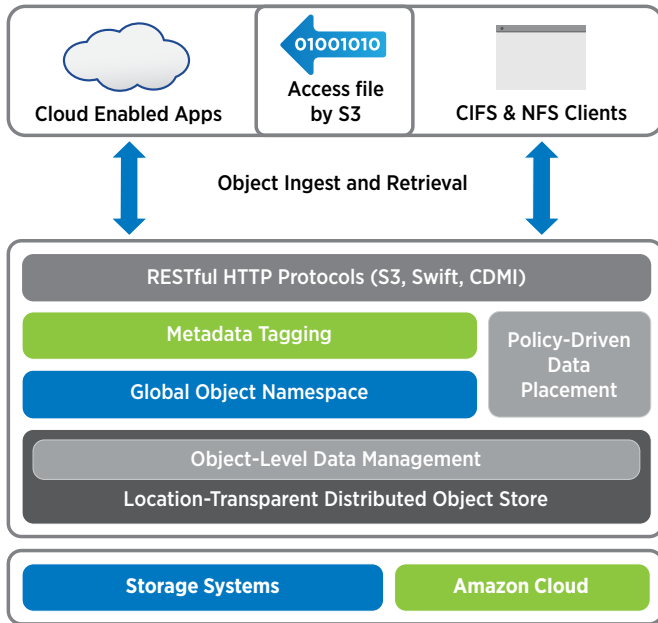
NetApp®

Figure 1) The NetApp StorageGRID Webscale object storage software offers massive scalability while providing policy-driven data management to meet customer requirements.

Efficient, Durable, and Flexible

Drive cost savings without sacrificing durability with NetApp StorageGRID Webscale's hierarchical erasure coding. Protecting at the node level and with geo-distributed coding, customers can create policy-driven data protection with multiple levels of granularity. They can choose a combination of full copies and/or geo-distributed coded copies to balance performance needs and cost savings between different sets of data or during the object's lifecycle.

Enable the Hybrid Cloud

Achieve new levels of cost savings by enabling cloud-to-cloud data management. StorageGRID Webscale can manage and store objects not only within its own globally distributed infrastructure but also in Amazon Web Services (AWS). Customers can add AWS S3 storage as a storage tier, realizing additional data protection with an external cloud while driving cost savings by performing more expensive operations against locally managed copies.

Designed for Always-On Operations

NetApp StorageGRID Webscale provides the foundation for global data availability anytime, anywhere, to facilitate nonstop operations. Configurations can be designed for resilience to one or multiple simultaneous failures, even to entire site losses and regional disasters. StorageGRID Webscale is suitable for single data centers or multi–data center deployments with many sites across the globe.

StorageGRID Webscale is built upon a modular architecture, allowing customers to design grids to maximize throughput and capacity. Installation is managed by a centralized process that maintains configuration control and speeds deployments. Nodes, storage, and even entire sites can be added and removed from the grid without disruption.

Rely on Proven Software

Object stores must provide a solution for massive scale and long-term retention. With the proven track record of StorageGRID Webscale software and NetApp E-Series storage, customers can be confident they are building on a rock-solid foundation for their web data repositories, data archives, and media repositories.

StorageGRID is a 10th-generation object store with 15 years of production deployments in the most demanding industries. E-Series dependability has been demonstrated with nearly 1 million systems shipped and 20 years of product hardening. Leveraging advanced features such as the NetApp AutoSupport™ tool for proactive and immediate response and backed by NetApp's world-class support organization, NetApp StorageGRID Webscale is a platform customers trust with their most vital data assets.

Reduce Complexity

Software-defined storage gives customers the choice of deploying StorageGRID Webscale nodes as virtual machines, optimized hardware-based appliances, or a combination of both. In all cases, designing, deploying, and managing Webscale are a centrally managed and streamlined process.

About NetApp

Leading organizations worldwide count on NetApp for software, systems and services to manage and store their data. Customers value our teamwork, expertise and passion for helping them succeed now and into the future.

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KEY FEATURES FOR OBJECT STORAGE	NETAPP STORAGEGRID WEBSCALE PROVIDES

Massive scalability and flexible infrastructure	• Massive elastic content store
	• Multiple geo-distributed sites
	• Support for multiple storage tiers:
	  – SSD, SAS, SATA, tape
	  – Amazon Simple Storage Service (S3)
	• Hierarchical erasure coding plus full copies
	• Deploy on VMs or hardware appliance

Application interfaces	Massively parallel transaction engine with: • Integrated load balancing • Transaction multithread pipelining Object access: • Protocols: S3, Swift, and CDMI NAS access: • CIFS and NFS • File object duality
Compression and encryption	Advanced security and encryption capabilities: • Store objects with lossless compression • AES-256 and SHA-256 encryption supported • Mixed-mode AES-256 and SHA-256 support for strong encryption and CPU-efficient integrity protection
Metadata and content awareness	Metadata-based data management: • Content-aware self-healing maintains data protection even during network disruptions • Policies can be modified and applied retroactively to existing objects
Deployment options	Hypervisor support: • VMware ESX • KVM Hardware appliance: • SG5660 • SG5612
Service-level objective and performance monitoring	Comprehensive performance feeds: • Access throughput • Replication throughput • Time to first byte • Time to policies achieved • Support for synthetic transactions • Demonstrate SLAs • Measure transaction round-trip time • Separate WAN, storage, gateway times
Management and monitoring	• Centralized installation and expansions • Rolling upgrades without downtime • Comprehensive ad-hoc real-time, rolling-period, and historical-usage query capability • 200+ predefined monitoring, usage, and performance reports • Event-based audit messages for performance tracing, usage monitoring, enabling billing, or chargeback