Solution Brief

# NetApp StorageGRID for Citrix ShareFile Enterprise Solution

An agile data infrastructure for Citrix ShareFile Enterprise

## Key Benefits

- Provide a flexible, scalable solution for mobile workers in a BYOD environment.
- Maintain fast, seamless, ubiquitous access to data with enterprise-grade object-based storage.
- Preserve object-level data security and integrity all the time, everywhere.
- Manage data storage at the object level to optimize performance, cost, and reliability.

## The Challenge

**Providing secure file sharing and mobile data access**

Today's mobile workforce wants access to data from any device, anywhere and at any time to foster productivity and collaboration. Meanwhile, IT organizations must maintain control of enterprise data and meet security or compliance requirements, while cost-effectively managing the unprecedented growth of unstructured data.

Citrix ShareFile is an enterprise file synchronization and sharing (EFSS) platform that enables IT to deliver flexible and secure data mobility. ShareFile gives IT departments the flexibility to retain data on premise in IT-managed StorageZones within the enterprise's data centers. To enable a successful EFSS solution, the choice of storage infrastructure behind the on premise StorageZones must meet three critical requirements:

- Balance storage costs and data growth, without compromising performance
- Enable ubiquitous and uninterrupted data access
- Provide security and durability for data in-flight and at rest

## The NetApp Solution

Given these requirements, NetApp® StorageGRID® Webscale object-based storage is the ideal solution for Citrix ShareFile. Tenth-generation enterprise-grade object storage software, StorageGRID has a proven track record of high availability and durability in distributed, mission-critical content repository implementations. StorageGRID Webscale presents an S3-compatible scale-out object store to the ShareFile StorageZone controller. ShareFile data is stored as objects in a flat global namespace, from which data can be retrieved anywhere as the closest data location is transparently used to service a retrieval. Writes can be serviced by any node, with StorageGRID automatically load-balancing requests to the most optimal resource. Data is immediately protected with local replication after receipt, and geographical data placement, through replication, erasure coding, or tiering, is achieved asynchronously by object-level lifecycle management policy.

**Reduced storage costs, expansion for growth**

StorageGRID Webscale is designed with a scale-out node-based architecture. With decentralized data, metadata and control plane functions, and intelligent data routing, StorageGRID takes advantage of increased parallelism to grow aggregate capacity and bandwidth as the system scales out. To reduce storage costs, customers can deploy nodes as virtualized appliances on top of heterogeneous storage infrastructure, physical appliances (SG5600) with compute-embedded storage, or a combination of both.

To reduce the on-premises data storage footprint, customers can use a granular object lifecycle policy to automate objects between replication (highest performance), geo-distributed erasure coding (efficient on-premises storage), and tiering to tape or cloud (leveraging lower cost external storage). StorageGRID supports tiering to Amazon Web Services S3 or S3-compatible clouds, and tiering to tape is achieved by integration with third-party tape middleware.
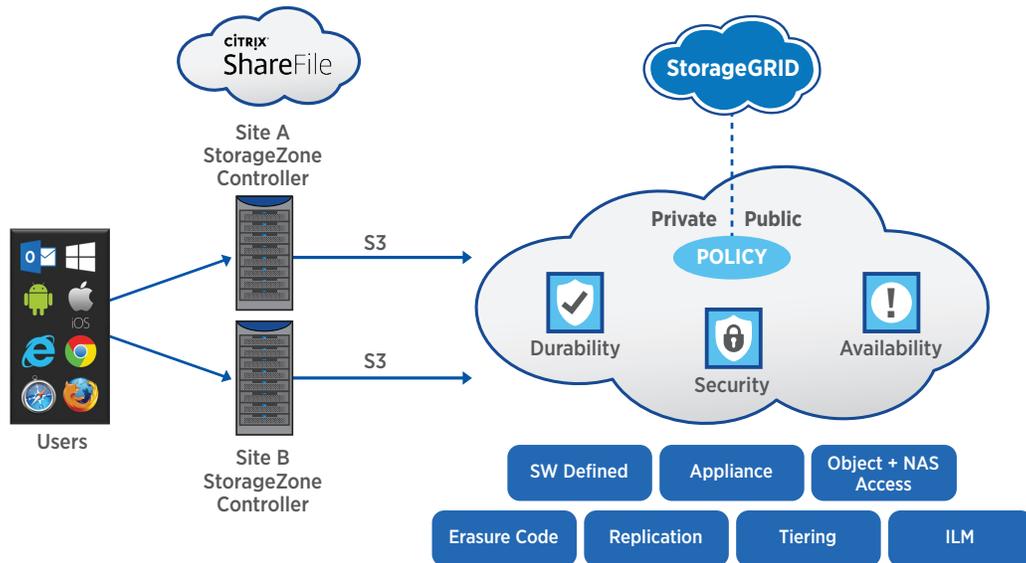
**■ NetApp®**

Figure 1) Citrix ShareFile with StorageZones lets mobile workers share, store, sync, and secure data on any device, anywhere. IT maintains complete control of data with efficient on-premises NetApp storage that can provide anytime access.

## Uninterrupted and ubiquitous access

ShareFile data is stored in objects and organized into buckets in S3 accounts dedicated to a StorageZone. Because buckets and accounts are ubiquitous in StorageGRID, a StorageZone controller configured with the S3 account credentials for that StorageZone may access its data on any storage node, regardless of whether the object resides on that node or in that site. Object metadata is distributed globally, and the closest object location is transparently used for retrieval.

StorageGRID Webscale is resilient to failures. Failed disk drives are handled seamlessly by NetApp E-Series Dynamic Disk Pools or storage RAID settings in heterogeneous storage. Node outages are handled transparently because StorageGRID reroutes requests to available resources. Even in the event of a temporary WAN outage, groups of StorageGRID nodes can continue to function as "islands" by using local data locations and resources to serve reads and writes, resynchronizing and rebalancing when the network connection is restored. Software upgrades and maintenance are also nondisruptive.

## Data security and durability

StorageGRID Webscale provides durability at the object level by embedding a digital fingerprint that protects against bit rot, corruption, and tampering. Proactive background verification automatically checks for and replaces corrupted objects and fragments. StorageGRID Webscale implements server-side encryption based on AES 256. Each object is encrypted with its own randomly generated key, which is then encrypted by a gridwide public key. The two-level encryption secures data even if the object is tiered out to external media, such as the public cloud. Encryption keys and object metadata are retained on the premises in the distributed metadata key-value store.

---

### 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.
www.netapp.com