A V E R E

Avere FlashCloud™

Unlimited Capacity Scaling in the Cloud
Unlimited Performance Scaling at the Edge

Key Benefits

- Freedom to store data in the cloud and take advantage of improved economics

- Dynamic tiering of active data to the edge hides the latency of cloud storage

- NFS and SMB provide familiar access protocols for users and applications

- Clustering provides scalable performance, scalable capacity, and high availability

- Global namespace joins public object, private object, and legacy NAS into single pool of storage

- FlashMove™ transparently moves live, online data to the cloud and between cloud providers

- FlashMirror™ replicates data to the cloud for disaster recovery

- AES-256 encryption with FIPS 140-2 compliance and KMIP support for managing encryption keys on premises

- Savings of 70% or more over traditional NAS

Enterprises are struggling with the explosive growth of unstructured data and are looking to cloud storage, in both public object and private object forms, for help. According to the latest market research, unstructured data is doubling every year. But, only eight percent of the files in a data center are active; most files will only be read once and never looked at again. FlashCloud software running on Avere FXT Edge filers addresses this challenge by storing cold data on cost-effective cloud storage at the core of the network and automatically and efficiently moving active data to the edge near the users.

Challenge

Enterprises understand the improved economics and technical advantages of object storage for storing large quantities of file-based, unstructured data. When compared to traditional storage approaches, object storage offers lower capital equipment costs, lower operating expenses, simplified management, and reduced facility footprint. And, with massive scalability, simplified management, and built-in redundancy, object storage provides a great technical solution for large-scale file stores. However, with limitations like high latency and an unfamiliar object-based access protocol, enterprises are facing challenges to widely deploy object storage.

Solution

Avere FlashCloud on both physical and virtual FXT Series Edge filers integrates public and private object storage with legacy NAS into a global namespace (GNS) and provides scalable performance for users everywhere via familiar NAS protocols. GNS provides enterprises the flexibility to store their data wherever it makes most sense and adopt object storage at a comfortable pace. FXT Edge filers provide enterprise-class NAS functionality, including NFS and SMB protocols, scalable performance, and high-availability, to support any applications running on NAS. Together, FXT Edge filers and object storage provide optimized performance and capacity scaling and enable 70% or more savings in total cost of ownership (TCO).
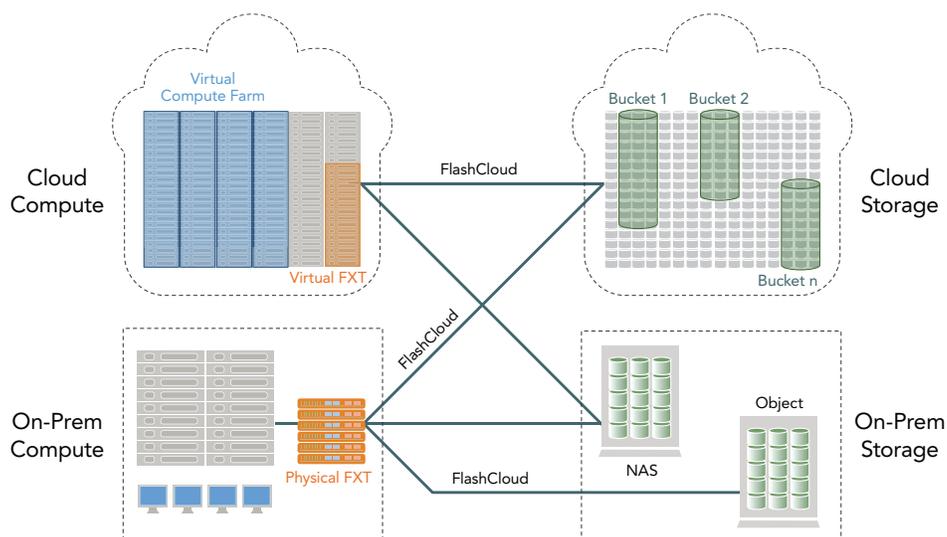

Figure 1: Avere FlashCloud integrates cloud and private object storage with legacy NAS into a global namespace and provides scalable performance for compute clients everywhere via familiar NAS protocols.

Freedom to Store Data Anywhere

Cloud storage, implemented as a public object offering from a cloud service provider or as private object storage system deployed on the enterprise premise, offers the most efficient solution available for scaling and managing large-scale file stores. A downside of cloud storage is the latency it introduces for users and applications accessing the data. FlashCloud software overcomes this limitation by dynamically moving active data to the FXT Edge filers near the users and application servers. Data is now efficiently stored in the cloud while simultaneously providing low latency access to the users and applications.

No single type of storage fits all applications. FlashCloud, working together with the built-in GNS functionality of the FXT Edge filer, enables joining public object, private object, and legacy NAS into a single file system namespace and managing all the storage as a single pool. For those who want to take advantage of the improved economics of the cloud but need to protect investments in their existing infrastructure, FlashCloud enables movement to the cloud at a pace that is right.

Add FlashMove™ software and the administrator can transparently move live data between all Core filers, object or NAS, attached to the FXT cluster without any downtime to users or applications. In one popular use case, administrators archive cold data to cost-effective and infinitely scalable public object storage with FlashMove and free up the on-premise storage for primary data.

FlashMirror software replicates data between primary and secondary Core filers enabling disaster recovery. In another popular use case, administrators replicate on-premise data to the cloud with FlashMirror, creating a secondary copy of the data that can be used if the primary copy becomes unavailable.

Enterprise-class NAS Functionality

FlashCloud enables using cloud storage with all NAS applications without changes to existing applications or user access methods. Transparent to the applications and users, FlashCloud translates NFS and SMB protocols to object-based protocols for storing data in the cloud. So, whether using NAS for performance-demanding applications, file shares, archive, or backup, FlashCloud enables moving the application to the cloud.

FlashCloud on FXT Edge filers provides a complete NAS feature set, including scalable performance, scalable capacity, and high availability. Scalable performance guarantees there is always sufficient CPU and network I/O for demanding applications. Scalable capacity enables a large working set of active data, up to 480TB, to be stored on the enterprise premise to ensure a high "hit rate" and low latency access to data. Clustering for high availability ensures that data is always available even in the presence of network outages and other failures.

With FlashCloud, users can leverage public or private object storage with complete confidence that the data is protected from attack. FlashCloud implements AES-256 encryption that is FIPS 140-2 (military-grade) compliant and supports KMIP, enabling enterprises to manage encryption keys on premises using standard tools.

Lowest Storage TCO

FlashCloud enables building highly efficient storage architectures with FXT Series Edge filers optimizing performance and object storage optimizing capacity. Together they yield a TCO that is the lowest in the storage industry. Tiering means less disks are used, which saves on CAPEX. Less disks mean less space, power, and cooling, which saves on OPEX. GNS enables all storage to be managed as a single pool, which saves administration cost. Moving data to the public cloud frees users from building more data centers and dramatically reducing facility costs. All combined, typical TCO savings are 70% or more.