

Nutanix Acropolis File Services

Traditionally, standalone Network Attached Storage (NAS) appliances have been the solution of choice for file server deployments. These deployments can be complex to set-up and operate, require specialized skills and create additional infrastructure silo.

ELIMINATING STANDALONE NAS SILOS

Acropolis File Services (AFS) is a software-defined scale-out file storage solution designed to address a wide range of use cases, including Linux support and Windows home directories, user profiles and department shares. It precludes the need for a separate NAS appliance by providing a consolidated solution with unified management for VM and file services. Using AFS, Nutanix customers can add file services to existing clusters or deploy new clusters of storage-dense nodes to address larger-scale file storage requirements.

BUILDING UPON THE NUTANIX ENTERPRISE CLOUD ARCHITECTURE

AFS is a fully integrated, core component of the Nutanix enterprise cloud which redefines hyperconvergence by allowing a single platform to be used for VMs, VM storage, containers, block storage and file storage. It can be enabled on any Nutanix cluster in only a few clicks.

Each node in the Nutanix cluster contains processors, memory, local storage, and networking resources that can be used to run VMs and services like AFS. Local storage devices inside the nodes are virtualized into a unified pool by the Distributed Storage Fabric (DSF) which provides AFS and other services with advanced data protection and data reduction capabilities including high availability, deduplication, compression and erasure-coding. By running on the same Nutanix infrastructure that hosts the user virtual machines, AFS helps reduce cost by eliminating the need for dedicated file storage systems while increasing business flexibility. AFS can be easily deployed and managed using Prism, the Nutanix management solution.

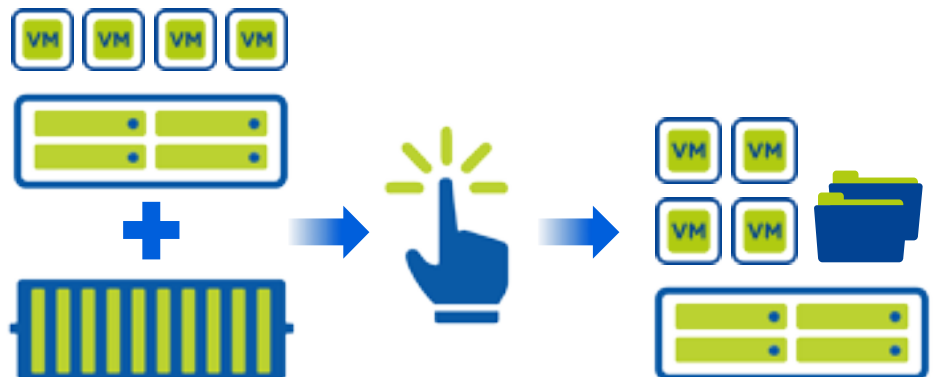


Figure 1: Redefining hyperconvergence by deploying file services on the same cluster as VM storage

THE NUTANIX AFS ARCHITECTURE

An AFS cluster consists of two parts: File server VMs to handle the client connections, and the highly scalable and available Acropolis Block Storage (ABS) for storing the data. ABS ensures that the AFS cluster has access to the entire storage pool on the Nutanix cluster, and can grow on-demand. There is a minimum of three file server VMs in each AFS cluster, with each VM using as little as 4vCPUs and 12GB of RAM. The AFS architecture allows seamless performance scaling by either adding more file server VMs to the AFS cluster, or by providing more CPU and RAM resources to each VM. Multiple AFS clusters can be created on a Nutanix cluster for those environments that need complete namespace isolation between departments or customers.

The file server VMs can be scaled out as needed in lock step with the applications, files, and number of users. AFS supports both SMB and NFS protocols.

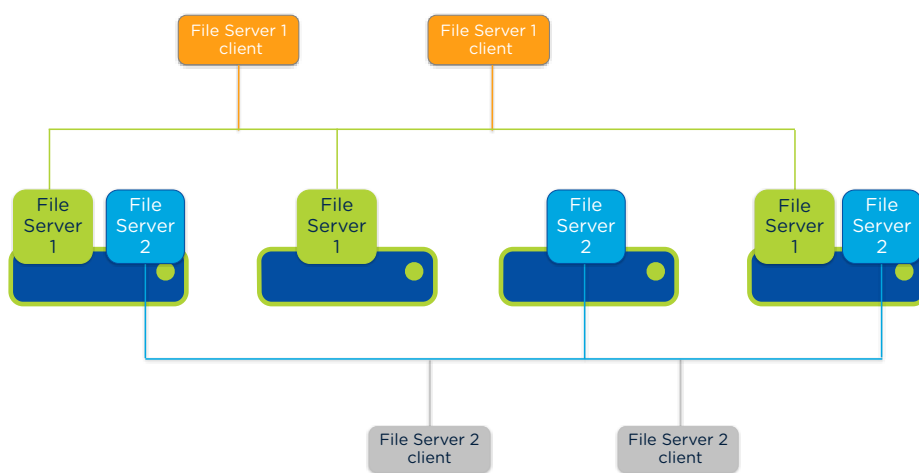


Figure 2: Allowing multiple file service clusters on the same Nutanix cluster

AFS HIGHLIGHTS

- User and Share Quotas
- User Self Service File-Level Recovery
- Separate SMB and NFS shares/exports on the same fileserver
- Efficient backups leveraging REST APIs
- Integration with Audit vendors enabled with file monitoring APIs
- Native Backup and Disaster Recovery
- Inline Antivirus Scan Support
- Fileserver Cloning
- Non-disruptive DR Testing
- Advanced Storage Optimization Techniques including Compression, Deduplication, and Erasure Coding

BENEFITS

- **Turnkey Consolidation** – AFS is the only turnkey consolidated VM storage and file storage solution on the market. It can be deployed standalone for centralized management of file data or on an existing Nutanix cluster for better cluster utilization.
- **Just Works** – AFS can be deployed easily from Nutanix Prism, the same management interface used to manage the entire stack of compute, storage, virtualization and now file storage. Upgrades can be done with a single click using Prism.
- **Single Namespace**
A single namespace is exported from the AFS cluster, no matter how large the cluster is.
- **Scale and Performance** – AFS is built to handle billions of files by design, and tens of thousands of user sessions. As the environment grows, the cluster can be scaled up by adding more vCPU and memory to the file server VMs, or scaled out by adding more file server VMs.
- **Enterprise Storage Features**
– Highly available by design, AFS inherits enterprise storage features including intelligent tiering, deduplication, erasure coding, and compression from DSF. It also enables per user quota for finer control of the file server deployment with organization policies.



T. 855.NUTANIX (855.688.2649) | F. 408.916.4039
info@nutanix.com | www.nutanix.com | @nutanix

Nutanix delivers invisible infrastructure for next-generation enterprise computing, elevating IT to focus on the applications and services that power their business. The company's software-driven Xtreme Computing Platform natively converges compute, virtualization and storage into a single solution to drive simplicity in the datacenter. Using Nutanix, customers benefit from predictable performance, linear scalability and cloud-like infrastructure consumption.

Learn more at www.nutanix.com or follow us on [Twitter@nutanix](https://twitter.com/nutanix).

©2018 Nutanix, Inc. All rights reserved. Nutanix is a trademark of Nutanix, Inc., registered in the United States and other countries. All other brand names mentioned herein are for identification purposes only and may be the trademarks of their respective holder(s).