Solution Brief

Nasuni Cloud File Services and VxRail

At A Glance

Nasuni Edge Appliance VMs run natively on VxRail to provide high performance cached access to actively used files stored through Nasuni's global file system.

Unlimited, cost-effective file storage capacity in cloud object storage conserves VxRail capacity for application workloads.

Users and applications get direct and secure access to all files.

VxRail-based Nasuni Edge Appliances are automatically synchronized to give all offices a single global file system that can be accessed from any number of locations.

Public cloud storage can be used to reduce the on-premises file storage footprint – and related capital costs – up to 70%.

Nasuni and VxRail for File Storage Modernization

As companies strive to make their data centers more efficient, scalable and compact, the Dell EMC VxRail™ family of hyper-converged appliances effectively merges compute, storage and hypervisors into a single high-performance system. Organizations can easily scale up in small, efficient increments, split data across multiple nodes to protect against the failure of any one system and optimize performance for workloads. With VxRail, high-performance storage, compute and hypervisors all fall under one centrally managed solution.

As more enterprises adopt Nasuni Cloud File Services™ to modernize how they store, protect, synchronize, and collaborate on fast-growing file data, the need for Nasuni Edge Appliances to cache actively used files from cloud object storage is increasing. Nasuni customers can choose from a lineup of preconfigured Dell EMC PowerEdge appliances re-branded and offered by Nasuni. Or, they can now use their existing VxRail virtual infrastructure to power virtual Nasuni Edge Appliances.

The Challenge: Optimizing File and App Storage

When companies adopt VxRail, they no longer need separate servers to run compute and storage-intensive applications. The hyperconverged architecture wraps everything into one. While this is ideal for applications, it can lead to capacity shortages and cost overruns when used for general purpose file storage. Companies that rely entirely on VxRail to store rapidly growing unstructured file data often find they are wasting expensive capacity on infrequently accessed files and siphoning resources away from critical applications.

The Solution: Nasuni and Dell EMC VxRail

The alternative is to find a way to store files in a more efficient and cost-effective way, without sacrificing fast and easy access, and while taking full advantage of existing VxRail infrastructure.

Nasuni Cloud File Services combined with VxRail is the ideal solution. Nasuni uses private or public cloud object storage as the authoritative source of all files and metadata, while caching just actively used files on Nasuni Edge Appliances anywhere high performance file access is needed.

Nasuni Edge Appliances can be deployed as virtual machines (VMs) running natively on the VxRail platform. The appliances look just like traditional NAS or file servers, supporting access to file shares through CIFS, SMB, and NFS protocols, and integrating with existing Active Directory and LDAP infrastructure for authentication and access.

Deploying a Nasuni virtual edge appliance on VxRail links that system to a secure and easily accessible cloud storage volume. Inactive files remain only on cloud storage instead of occupying expensive, high-performance VxRail resources. Yet the files remain immediately accessible, and can be brought back into the local VxRail cache in seconds.

Overall, Nasuni virtual appliances extend the life and capacity of VxRail infrastructure by allowing these systems to focus on the high-performance application workloads tasks they were designed to handle.
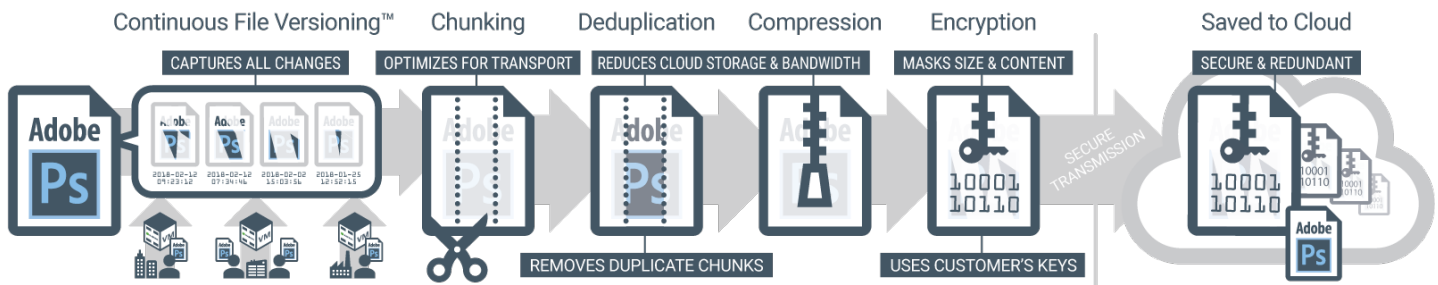
The benefits include:

Lower Costs and Greater Scalability

Deploying Nasuni Edge Appliances as VxRail VMs links on-premises, high-performance hyper-converged infrastructure to an unlimited and more cost-effective pool of storage. Once deployed, Nasuni VMs cache active files locally, while infrequently accessed file data remains only in cloud storage, freeing up expensive capacity on the local VxRail system.

Advanced Security

With Nasuni Cloud File Services, all file data is encrypted with customer-owned AES encryption keys before it leaves the company's premises. Neither Nasuni nor the cloud storage provider has access to the keys, ensuring data is secure in transit and at rest.

Built-in Data Protection

The uncontrolled growth of unstructured data brings with it the massive burden of protecting that data. The Nasuni UniFS global file system, which powers the Nasuni Cloud File Services platform, incorporates Nasuni Continuous File Versioning™ technology to capture file changes as they occur on all Nasuni Edge Appliances. Every change is stored as its own separate version in cloud storage, creating an infinite, immutable file history. Files can be quickly recovered to any point in time to any edge appliance, eliminating the need for traditional file backup, and greatly improving recovery point (RPO) and recovery time objectives (RTO).

Multi-Site File Synchronization

While VxRail provides Disaster Recovery across sites through RecoverPoint replication, that data is not actively available. Nasuni is designed to enable fast file synchronization and seamless file collaboration between users in different offices. With Nasuni's global file system, files reside in the same shared global namespace. Users in different offices will think they are working on one massive, fast file server. IT does not have to manage replication or manage the cost and complexity of full data sets in multiple locations. Nasuni's hub and spoke architecture automatically synchronizes a file change made on a VxRail-powered Nasuni Edge Appliance in one office, first to cloud storage, then to all other edge appliances caching the same file. Nasuni Global File Lock™ technology ensures only one person can edit a file at a time across all locations, ensuring data integrity and preventing file conflicts.

Remote Office / Branch Office File Storage

Nasuni Edge Appliances hosted on VxRail infrastructure deliver limitless file storage capacity to remote and branch offices. All remote offices will enjoy the same file access and security as the main headquarters or data center. Appliances can be quickly spun up on VxRail to integrate new acquisitions or bring new offices on line.
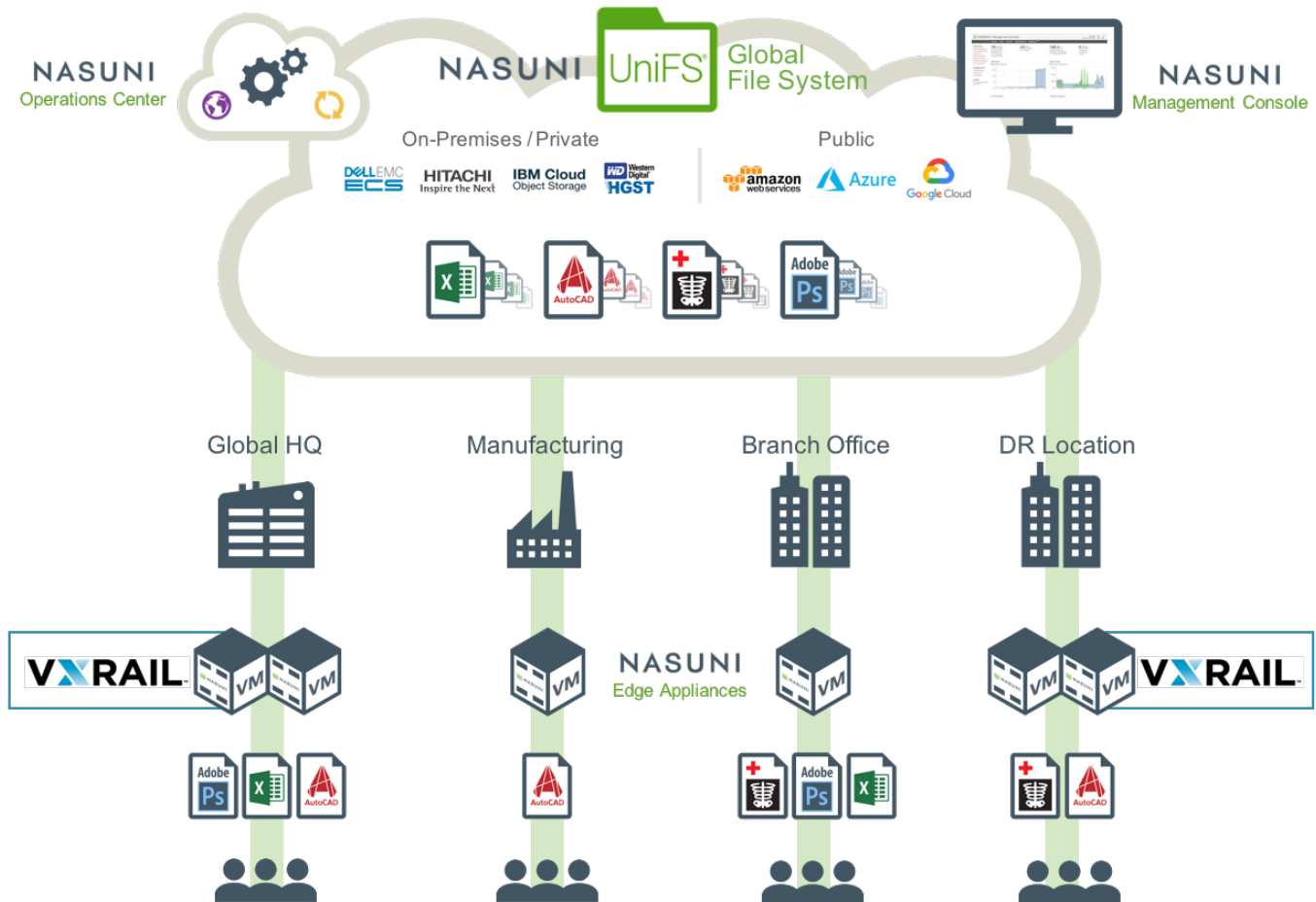
Unified File Infrastructure Management

One of the advantages of VxRail is simplified control of compute infrastructure. Deploying Nasuni Edge Appliance VMs on VxRail extends that simplicity to the management of unstructured file data. With the Nasuni Management Console, all appliances can be centrally provisioned and monitored, along with file shares, protocols, and volumes.

How Nasuni and VxRail Work Together

The Nasuni UniFS® global file system stores the gold copies of all files and metadata in private or public cloud object storage platforms such as Dell EMC ECS, Azure Blob Storage, Amazon S3, and IBM Cloud Object Storage. Nasuni virtual or physical edge appliances intelligently cache just the active files anywhere high-performance file access is needed.

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Each Nasuni appliance functions exactly like a traditional NAS device or file server, However, the appliances require a much smaller storage footprint – typically 80% less capacity – since they are "right-sized" to cache only active files.

Nasuni Edge Appliances deployed as VxRail VMs provide cached access to active files

Nasuni Edge Appliances chunk, deduplicate, compress, and encrypt file data before storing it in cloud object storage. This reduces not only the bandwidth required to transmit or retrieve the data, but also reduces overall cloud storage consumption. QoS is provided to optimize bandwidth during working hours.

Hyper-Efficient Application and File Infrastructure

As enterprises strive to make their data centers more scalable, efficient and compact through hyperconvergence, they need to find the optimal solution for application and file infrastructure. The combination of VxRail and Nasuni Cloud File Services enables enterprises to get the most out of their high-performance, hyperconverged infrastructure for application workloads, while providing a more scalable and cost-effective platform to store, protect, synchronize, and collaborate on unstructured file data.

About Dell EMC VxRail

Dell EMC VxRail is the only fully integrated, preconfigured, and pre-tested VMware hyper-converged infrastructure appliance family on the market. VxRail dramatically simplifies IT operations, accelerates time to market, and delivers incredible return on investment. VxRail Appliances deliver the performance and reliability you need for the widest range of workloads, all with full lifecycle management from a single point of support. In short, VxRail is the fastest and easiest way to transform VMware infrastructure and accelerate a multi-cloud strategy.

About Nasuni

Nasuni enables organizations to store, protect, synchronize and collaborate on files across all locations at scale. Nasuni Cloud File Services™, powered by the Nasuni UniFS® global file system, leverages cloud storage to modernize primary NAS and file server storage; archiving; backup; and disaster recovery, while offering transformational new capabilities for multi-site file collaboration. By combining the low cost, unlimited capacity, and durability of object storage from leading cloud vendors such as Amazon, Azure, Dell EMC, and IBM, with the high performance, security, and broad application compatibility of traditional file storage, the Nasuni subscription service improves workforce productivity, simplifies IT operations, and reduces IT costs. The world's largest companies in 12 industry sectors rely on Nasuni to maximize the business value of their file data and ensure business continuity. Nasuni is based in Boston, MA. USA.

Nasuni is a longstanding Dell EMC partner. The Nasuni Cloud File Services platform supports Dell EMC ECS object storage. Nasuni physical edge appliances are based on the Dell EMC PowerEdge platform, rebranded as Nasuni OEM appliances. Nasuni virtual edge appliances are fully compatible with all supported versions of VMware and VxRail.

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