Azure NetApp Files: Move SAP Data to Azure Simply and Securely

An enterprise-grade Azure storage solution for SAP and SAP HANA workloads

NetApp® | Microsoft

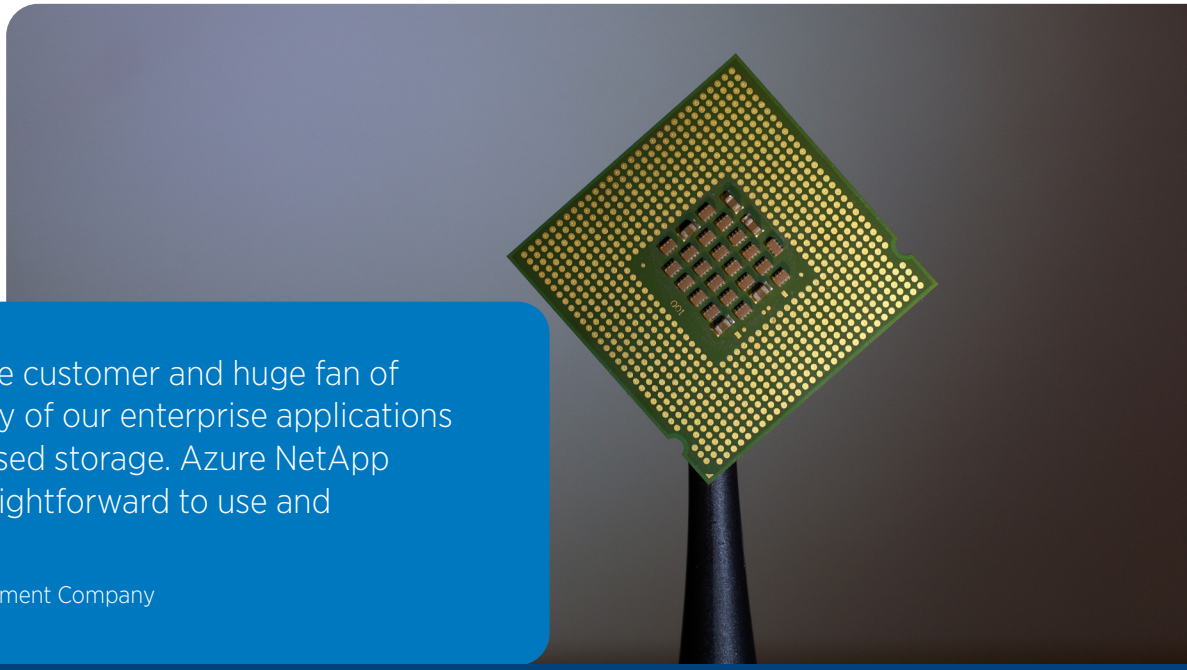
Preparing for the Future of SAP

Large enterprises around the world rely on SAP core business applications to process billions of dollars in transactions each year. Any disruption to an SAP landscape carries a high cost to the business. As such, SAP teams are reluctant to make any changes to their finely tuned deployments—if it's not broken, don't fix it.

However, as the industry continues to evolve, change is inevitable. Many businesses are mandating that IT infrastructure and services live in the cloud, and the end of life (EOL) for SAP R/3 software is 2025. All SAP customers must migrate to SAP S/4HANA, which supports only the SAP HANA database. This imminent change leaves many infrastructure teams scrambling to find a way to move to the cloud and to avoid business risks while retaining the enterprise protections that their operations rely on.

Migrating to SAP S/4HANA in the cloud is the obvious solution, but it might not be that simple. This transition presents challenges, and in the case of file storage in the cloud, some SAP features are missing and management overhead is added from having to manually build file servers. This "build-your-own" approach results in poor performance and scalability, which means that companies struggle to deliver the fast, flexible, highly available environment that SAP landscapes demand.

Azure NetApp® Files is a complete enterprise file storage service from Microsoft that simplifies SAP HANA landscape deployments in Azure. This high-performance file service delivers low-latency file access with the agility, cost-efficiency, data protection, ease of management, and enterprise features that you don't get with other cloud storage services. It's a simple, easy-to-deploy solution for complex SAP workloads and is the only SAP HANA production-certified file storage service in the cloud.



"We're a longtime customer and huge fan of NetApp for many of our enterprise applications requiring file-based storage. Azure NetApp Files is both straightforward to use and cost-effective."

—Semiconductor Equipment Company

Move Your SAP File Data to the Cloud Quickly and Easily

Whether you move your SAP landscape into the cloud with a "lift-and-shift" or "lift-and-update" approach or you go all the way to SAP S/4HANA, file storage is essential. But many organizations have a custom infrastructure that makes it difficult to achieve a complete cloud experience. By introducing complexity and management overhead to your cloud deployment, this lack of ready-to-use file storage negates many of the benefits of moving to the cloud. And reliance on Linux compute nodes with attached block storage limits the scale and performance of any file environment.

Azure NetApp Files makes it faster and easier to get your SAP landscape to the cloud. Because the service is fully managed, you don't need specialized storage or data expertise. You no longer have to build your own file infrastructure. You get all the capabilities of an on-premises, enterprise file storage array with multiprotocol Linux file storage (both legacy NFSv3 and NFSv4.1 compliance) right out of the box. And with Azure NetApp Files being SAP HANA production certified, you can safely migrate your SAP HANA landscapes without many of the risks that are associated with other cloud storage solutions.

You have four main paths to get your SAP landscape to the cloud:

1. **Lift and shift.** Replicate your current environment (including the old architecture) and start running it in Azure. Then start the process of building and migrating to an SAP S/4HANA landscape in the cloud.
2. **Lift and migrate.** Clean up your current environment, update patches, delete garbage, and move the cleaned-up architecture to the cloud. Then start the process of building and migrating to an SAP S/4HANA landscape in the cloud.
3. **Shift and migrate.** Transition to SAP HANA first and then convert to SAP S/4HANA in the cloud.
4. **Go directly to S4/HANA on cloud.** Move to the cloud and transition to SAP S/4HANA in the process.

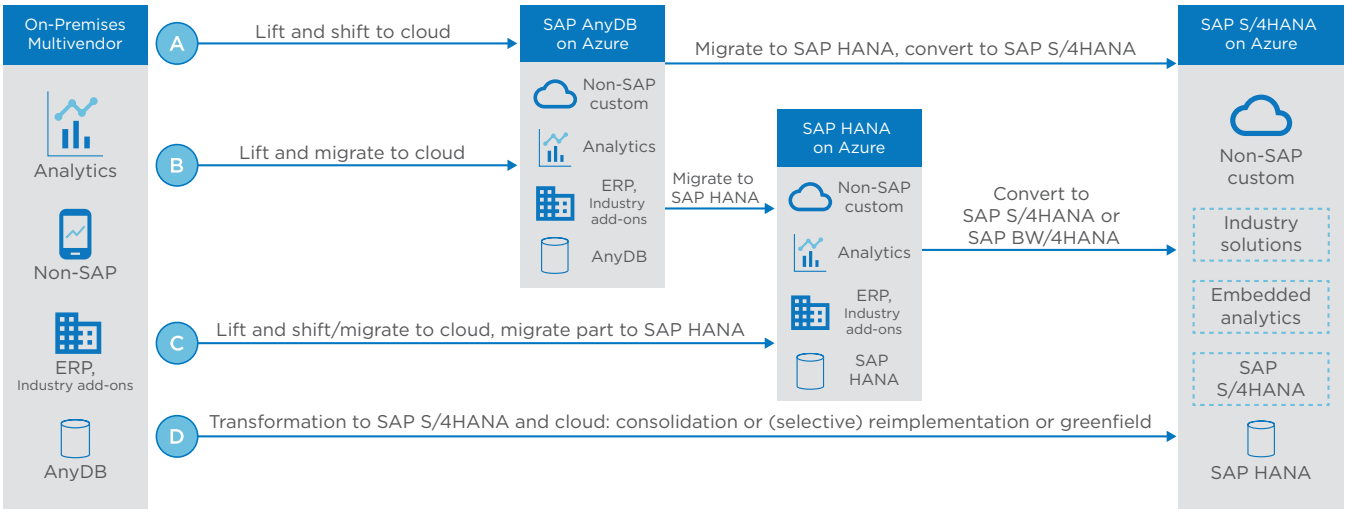


Figure 1) Four key paths to the cloud. All require file storage.

Get High Performance and Reliability for Your SAP Landscapes in the Cloud

Even with the promise of simplicity and agility, many organizations are hesitant to move their business-critical applications to the cloud. Because cloud infrastructure typically does not have enterprise data management capabilities, IT departments are concerned about performance limitations and data loss. With Azure NetApp Files, you get the benefits of the cloud with the enterprise data management features that organizations have come to expect from on-premises deployments.

Typical SAP deployments in the cloud have limited scalability and downtime protection. Built on low-latency NFSv4.1 file storage, Azure NetApp Files is the only SAP HANA production-certified storage environment in the cloud with support for SAP HANA scale-out with a standby node. You can scale seamlessly and limitlessly to meet your most demanding SAP requirements, with protection against node failure in your cloud-based SAP production environments.

Because Azure NetApp Files uses NetApp storage systems inside Azure data centers, you get high reliability and availability without having to build your own protection models. NetApp Snapshot™ technology enables you to efficiently back up your SAP data in minutes, with near-instantaneous recovery if you need it. Because it is an in-place read-only image of your data, it has no impact on performance and no additional data is added for you to pay for and to manage. You pay for only additional changes to the data as they accumulate. When you need to create secondary copies of your data to protect against site failures, NetApp enables you to quickly and efficiently move your data across regions. Encryption and access controls also help secure your data from unwanted access.

The creation of copies of your production database for development-testing (dev/test) projects can add hours (sometimes days) to the development cycle. With the built-in cloning technology of Azure NetApp Files, you can clone your largest volumes in just seconds. Because each clone is based on a NetApp Snapshot image, it does not create a new copy of the database and it adds only a small amount of space for metadata. You don't need to incur the added expense of purchasing large amounts of extra storage capacity to support each of your dev/test workspaces. You can create as many clones of your production database as you want. If a test corrupts the data, you can start again in seconds.

"Our Azure SAP HANA mandate depends on Azure NetApp Files as the underlying technology to deliver faster backup and restore capabilities. Although we have backup and recovery today, restoring larger systems within 2 hours as opposed to a full day is vital."

—Global Beverage Company

Accelerate Projects and Speed Time to Market

Initially, when it came to the cloud, many organizations had to choose between agility and performance. Cloud infrastructure didn't provide the speed that organizations needed for large landscapes. For this reason, cloud-based solutions have until now been limited to SAP project landscapes and to small-scale production landscapes.

But Azure NetApp Files is built on NetApp storage in the Azure data center with direct network access to compute nodes. So, you get the agility that you need from the Azure experience plus the ability to achieve extremely high performance with ultralow latency. With three service levels (Standard, Premium, and Ultra), you can right-size your storage needs to your SAP landscape requirements. You can also adjust performance dynamically by dialing your capacity up and down, enabling you to fine-tune your cost and data performance at any time. Performance scales with the amount of allocated capacity, up to 4.5GiBps of throughput per volume, so performance is not limited as your dataset grows.

Unlike any other storage service, Azure NetApp Files lets you change both the capacity and the service level so that you can scale cost and performance to target a specific activity. You can run as lower performance during periods of limited activity and then dial up performance to speed up for peak business times. And you can do it all with data in place, without requiring any copies.

Performance So Fast, You Will Think That You're On Premises

Azure NetApp Files offers the high performance that you need to support the most demanding workloads.

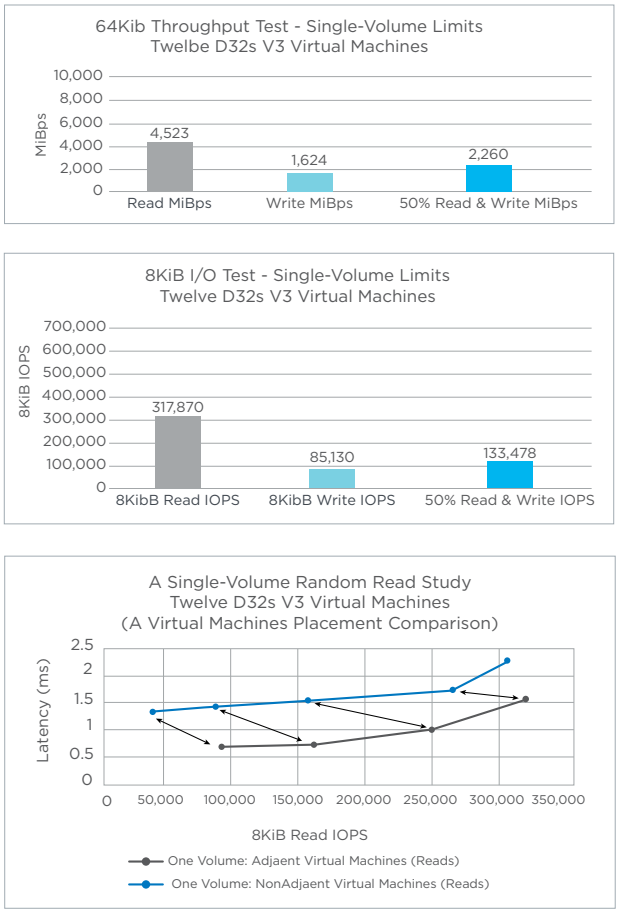
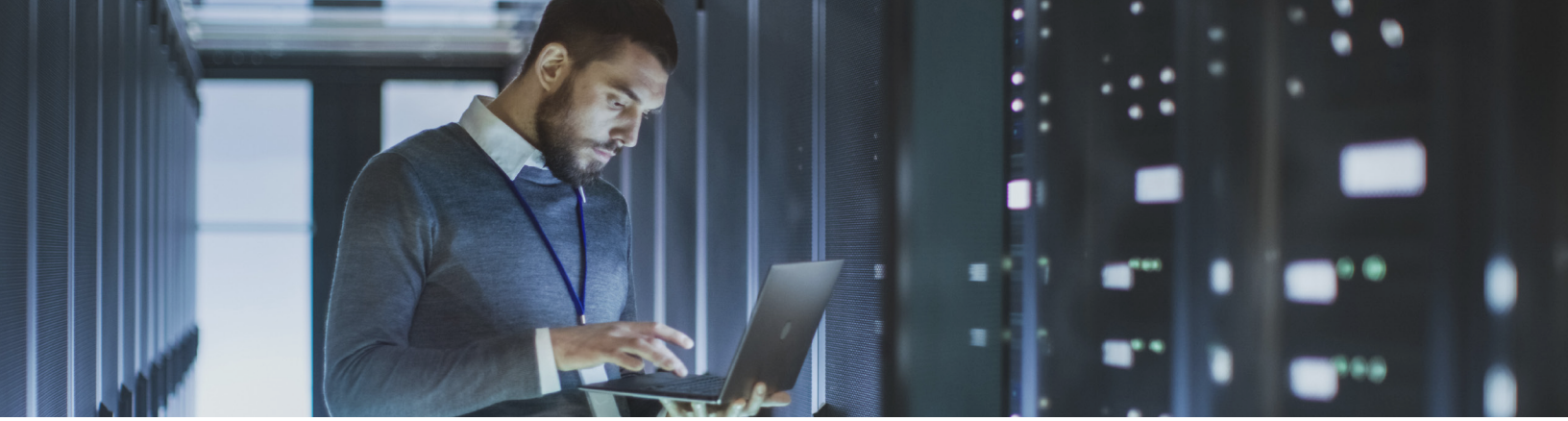


Figure 2) Azure NetApp Files Performance Results (VDBench).



Why You Should Use Azure NetApp Files for SAP Workloads

Azure NetApp Files is an SAP-certified storage service that delivers the high performance, reliability, enterprise data management features, and security that SAP landscapes require—in a fully managed file service environment. Built on NetApp enterprise-class storage, Azure NetApp Files helps you optimize SAP operations by enabling you to easily create and resize volumes. You can also adapt capacity and performance without downtime and create space-efficient Snapshot images and clones in seconds. Hosted in the Azure data center, Azure NetApp Files is directly operated and maintained by Microsoft, so you get high storage performance and ultralow latency I/O.

Learn how Azure NetApp Files can help your organization migrate your SAP landscape to the cloud—starting today!

- Azure NetApp Files solution brief
- Azure NetApp Files webpage
- Azure NetApp Files overview video
- SAP Applications on Microsoft Azure technical report
- SAP on Azure: The Best Fit for Managing Your SAP Shared Files
- NetApp portfolio of solutions for SAP
- Blog: Azure NetApp Files Eases SAP Deployment in Cloud
- Blog: Speed Up Your SAP HANA System Copies Using Azure NetApp Files
- Blog: Azure NetApp Files—SAP HANA Backup in Seconds

About NetApp

NetApp is the data authority for hybrid cloud. We provide a full range of hybrid cloud data services that simplify management of applications and data across cloud and on-premises environments to accelerate digital transformation. Together with our partners, we empower global organizations to unleash the full potential of their data to expand customer touchpoints, foster greater innovation and optimize their operations. For more information, visit **www.netapp.com**. #DataDriven