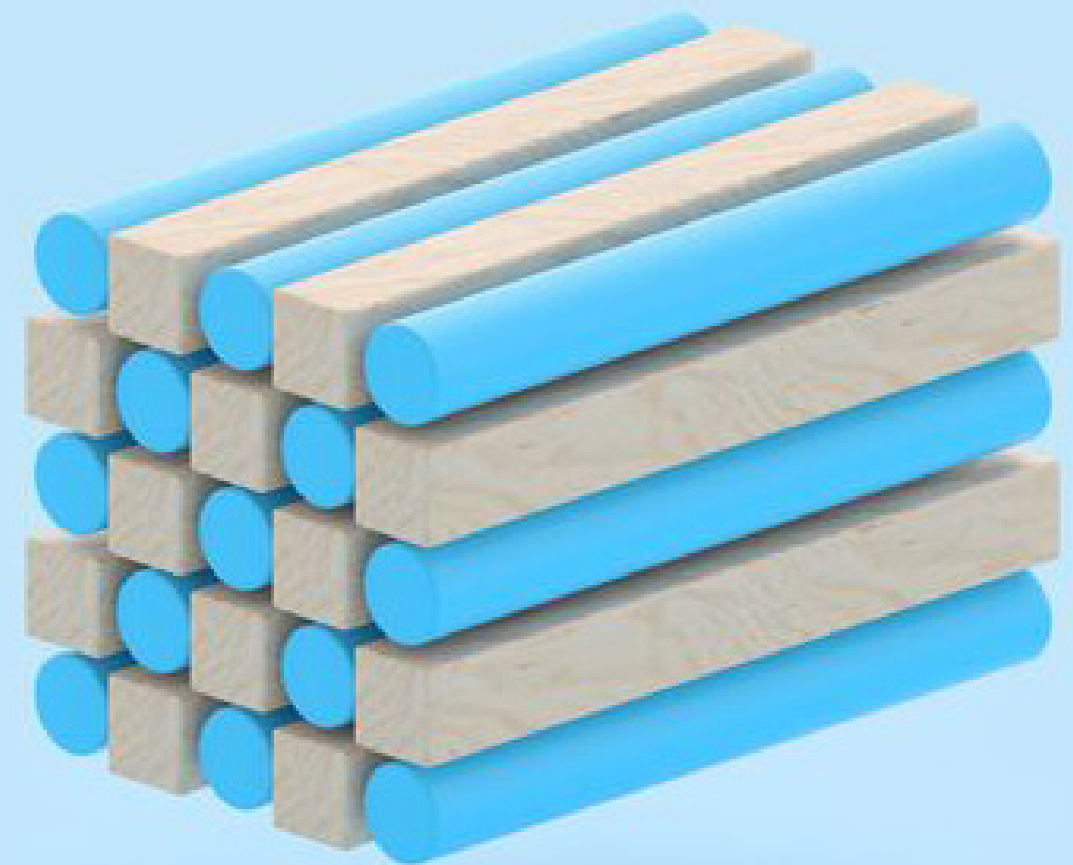


E-BOOK

Optimize SAP in the cloud

Accelerate projects, simplify operations, and move to the cloud faster with NetApp Cloud Volumes for use with SAP.



Preparing for the future of SAP

Choose the path that's right for you

Move to the cloud at your own pace

Accelerate projects and
simplify operations

Get scalability and reliability
in the cloud

Why NetApp for SAP in the cloud?

Next steps

Preparing for the future of SAP

76%
of the world's transaction
revenue touches
an SAP system.

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

But as we all know, change is inevitable. Many businesses are mandating that IT infrastructure and services must live in the cloud. On top of that, the end of service life for ECC on non-HANA databases is fast approaching. To continue receiving support from SAP, all SAP customers must migrate to HANA in the near future. For many organizations, this necessity opens the door to explore how the cloud can help make their SAP environment (and their business) more responsive.

SAP systems touch
\$22 trillion
of consumer purchases
around the world.

Migrating to SAP HANA in the cloud can increase agility, accelerate development, and speed time to market. But moving SAP to the cloud isn't always simple; it can be time consuming and risky. For many customers who do get their SAP applications into the cloud, the results are not what they expected. Poor performance and scalability leave them struggling to deliver the fast, flexible, highly available environment that SAP landscapes demand.

This e-book explores the four main paths for moving your SAP landscapes to the cloud and the options that NetApp offers for taking the risk out of migrating SAP to the cloud.

SAP customers
produce more than
79%
of the world's chocolate.

Choose the path that's right for you

Aging infrastructures and software, along with cloud mandates, mean that many IT teams are scrambling to find a way to move to the cloud and avoid business risks while retaining the enterprise protections that their operations rely on. Because many organizations have a custom infrastructure, achieving a complete cloud experience is challenging and requires a significant amount of manual building and configuration. When complexity and management overhead are introduced to your cloud deployment, the risk of downtime increases and many of the benefits of moving to the cloud are negated.

Finding the right path to the cloud can help reduce risks and simplify the migration process. There are four main paths to get your SAP landscape to the cloud:

- A. Lift and shift.** Replicate your current environment (including the old architecture) and start running it in the cloud. Then start the process of building and migrating to an S/4HANA landscape in the cloud.
- B. 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 S/4HANA landscape in the cloud.
- C. Shift and migrate.** Transition to HANA first and then convert to S/4HANA in the cloud.
- D. Go directly to the cloud.** Move to the cloud and transition to S/4HANA in the process.

Choose the path that's right for you

Move to the cloud at your own pace

Accelerate projects and simplify operations

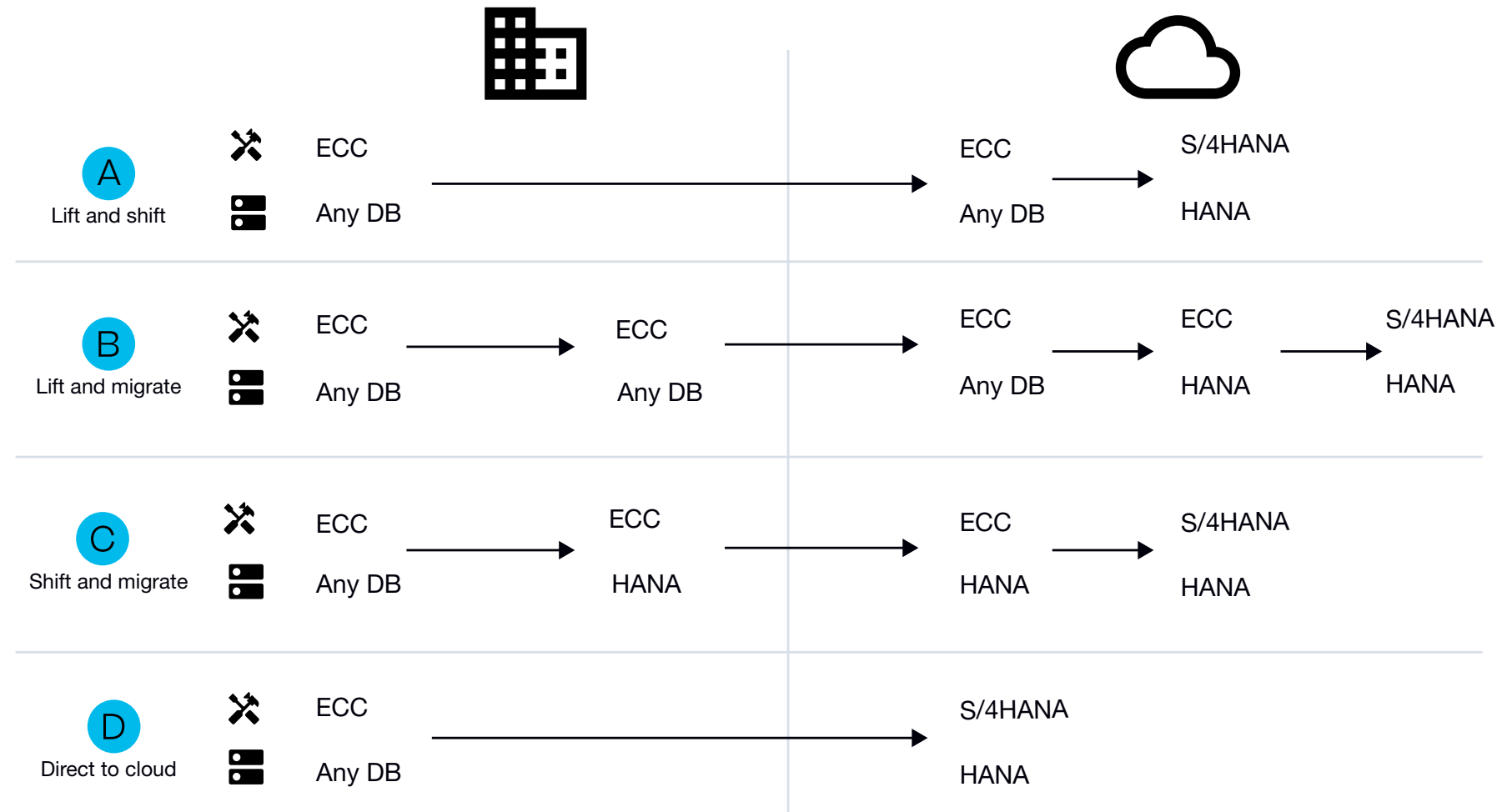
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Choose the path that's right for you (cont.)

Finding the right path for moving your SAP landscape to the cloud.



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NetApp understands that a cloud-only SAP landscape is unrealistic for most organizations. Getting to the cloud will be a measured process that starts by dipping your organizational toes in with nonproduction use cases that the cloud is ideally suited for. It will be more a matter of incorporating cloud into your on-premises landscape rather than moving your on-premises landscape to the cloud. By modernizing your on-premises infrastructure and building your own [data fabric](#), you can maintain complete control over your SAP data, while allowing easy migration to the cloud when you're ready and moving back on your premises if needed. A data fabric provides consistent capabilities, such as cloning, system copies, system refresh, and more, across on-premises and cloud resources.

Because NetApp® cloud data services are available on all the biggest clouds, not only can you choose when to move your SAP data and applications to the cloud, you can choose which cloud you want to use. If you change your mind, you can change clouds.



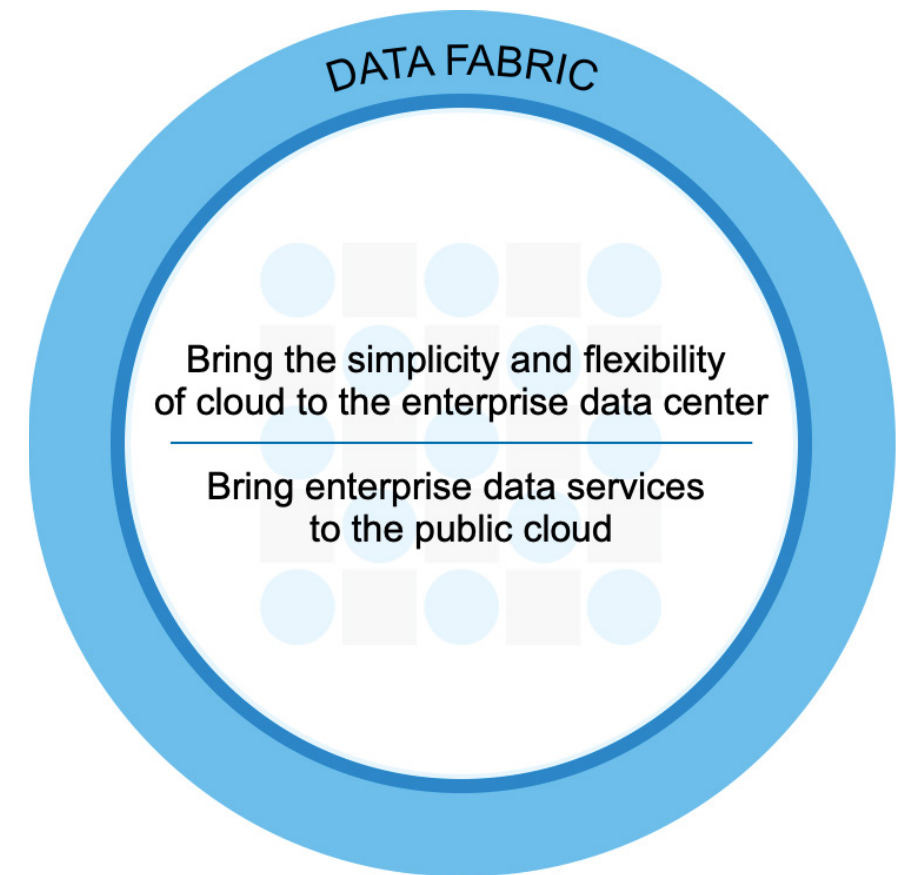
Move to the cloud at your own pace (cont.)

Why a data fabric?

With a data fabric powered by NetApp, you can accelerate the missions that are vital to your business, and:

- **Realize the promise of public cloud.** Drive flexibility, speed, cost savings, and innovation.
- **Deliver a public cloud experience on your premises.** Simplify and automate infrastructure for virtualized workloads and new application development.
- **Fuel enterprise applications.** Accelerate new projects, simplify operations, future-proof IT.
- **Develop and deploy applications faster.** Streamline software development and DevOps deployment pipelines.

A data fabric from NetApp makes it easy to manage data across multiple on-premises and public clouds.



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Accelerate projects and simplify operations

Most cloud infrastructures don't deliver the speed needed for large landscapes. For this reason, cloud-based solutions have been limited to nonproduction SAP project landscapes and small-scale production landscapes.

NetApp Cloud Volumes for use with SAP leverage NetApp flash storage to help you consistently and sustainably achieve extremely high performance with ultra-low latency. With three performance tiers, you can right-size your storage needs to your SAP landscape requirements. You can adjust performance on the fly by dialing your capacity up and down, allowing you to fine tune your cost and data performance at any time. Performance scales with the amount of allocated capacity within each tier, up to 128MBps throughput per allocated TB, so performance is not limited as your dataset grows.

Unlike other cloud storage services, Cloud Volumes lets you change both the capacity and the service level so you can scale cost and performance to target the specific activity. You can run lower-performance workloads during periods of limited activity and dial up

performance to speed up during peak business times. You can do all this with data in place, without requiring any copies. One-click provisioning and resizing make it fast and easy.

Creating system copies of your production environment for dev/test projects can add hours (sometimes days or even weeks) to the development cycle. With the built-in cloning technology, you can clone your largest volumes in just seconds. Because each clone is based on a NetApp Snapshot™ copy, it does not create a new copy of the database, it only adds a small amount of space for metadata. You don't 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 copies of your production database as you want. If a test corrupts the data, you can start again in seconds.

By integrating Cloud Volumes into your data fabric, you can easily manage your SAP landscape across on-premises and cloud resources.

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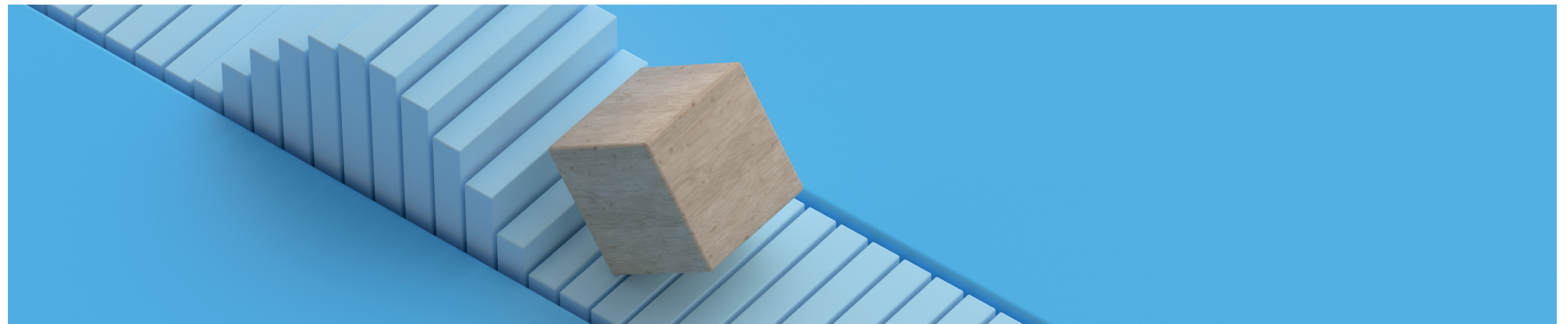
Next steps

Get scalability and reliability in the cloud

Typical SAP deployments in the cloud have limited scalability and downtime protection, because cloud infrastructure typically does not have enterprise data management capabilities. With Cloud Volumes, you get the benefits of the cloud with the enterprise data management features that organizations expect from on-premises NetApp deployments.

Azure NetApp Files and Cloud Volumes Service for Google Cloud are certified for use with SAP HANA. Both platforms run NetApp storage, enabling you to scale seamlessly and limitlessly to meet your most demanding SAP requirements, with protection against node failure in your cloud-based SAP production environments.

You get high reliability and availability without having to build your own protection models. With NetApp Snapshot technology, you can create an efficient backup of your SAP data in minutes, with near-instantaneous recovery if needed. Because it is an in-place snapshot of data, with no copy of the database required, it has no impact on performance and no additional data is added for you to pay for and manage. You pay for additional changes to the data only as they accumulate. When you need to create secondary copies of your data to protect against site failures, you can quickly and efficiently move your data across regions. NetApp encryption and access controls also help secure your data from unwanted access.



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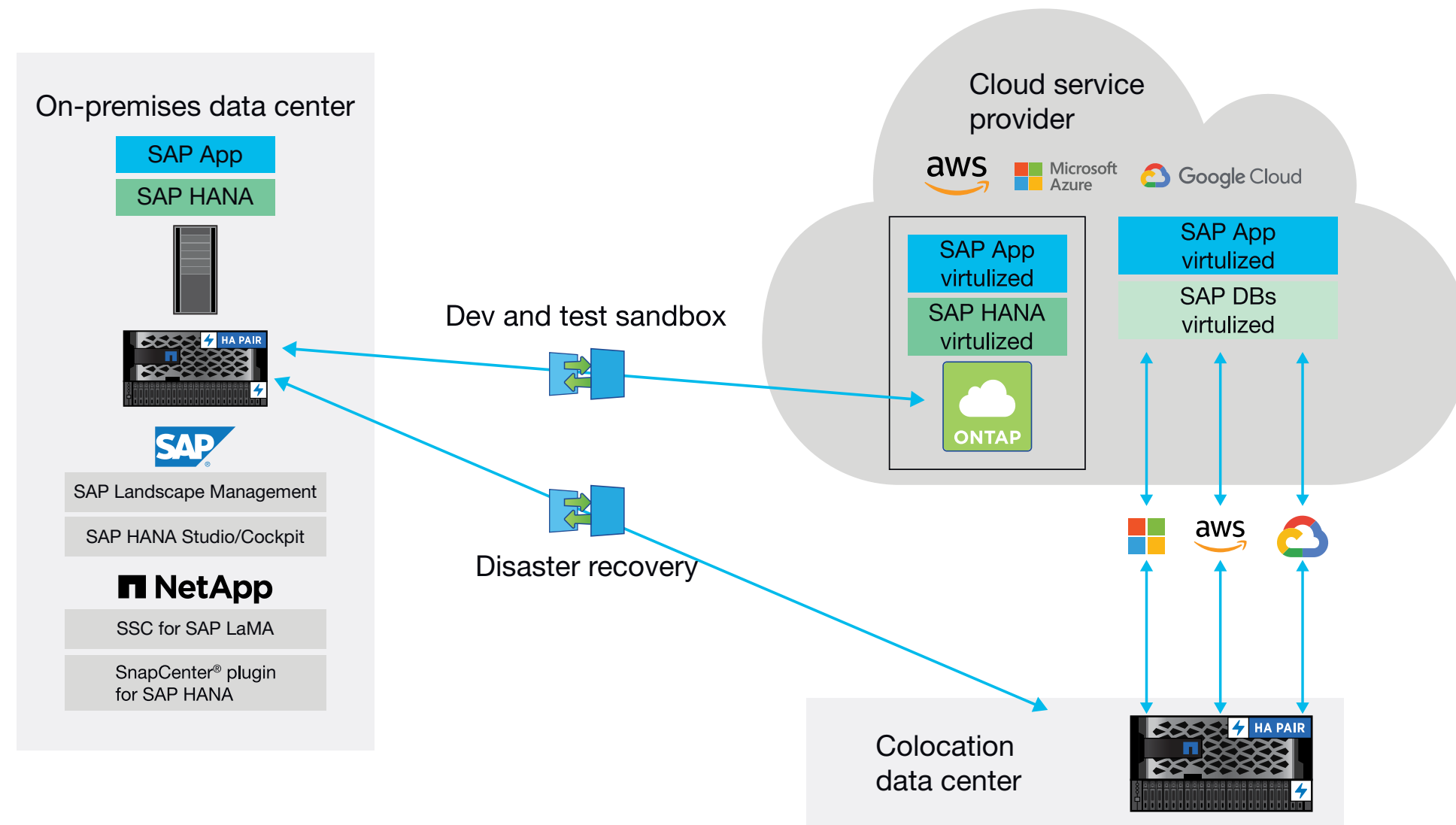
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Why NetApp for SAP in the cloud?

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Get scalability and reliability in the cloud (cont.)

Only NetApp offers true hybrid cloud design capability. NetApp is the first and only provider of enterprise-class file services certified for use with both Google Cloud and Microsoft Azure to run SAP HANA.



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Why NetApp for SAP in the cloud?

With NetApp innovative cloud solutions for SAP, you can be confident that your business will have the agility you need to keep up in a dynamic digital world. Here are the top 6 reasons to choose NetApp for your SAP cloud deployments.

1. Accelerate development and speed time to market. Provision up to a 100TB volume in 8 seconds. Use NetApp FlexClone® technology to perform development activities in parallel instead of serially.
2. Increase availability. Access your SAP data and applications whenever and wherever needed with reliability you can count on.
3. Scale without limits. Seamlessly scale across on-premises and cloud resources.
4. Maximize operational efficiency. Automate common tasks to reduce risk caused by human error and to improve operational productivity.
5. Enhance data protection. Get faster, more complete automated backups that use less bandwidth, consume less storage space, and minimize impact on production systems.
6. Maintain business continuity. Keep your SAP landscape up and running with a simple, affordable disaster recovery plan that can be easily tested.



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Next steps

Wherever you are on your journey to the cloud, NetApp can help. With a data fabric powered by NetApp, you can keep your SAP landscapes on your premises and move to the cloud at your own pace. When you're ready to move to the cloud, Azure NetApp Files and Cloud Volumes Service for Google Cloud platforms are certified for use with SAP HANA. On the premises or in the cloud, NetApp enterprise-class storage delivers the high performance, ultra-low latency, reliability, enterprise data management, and security that SAP landscapes require, in a fully managed file service environment. You can optimize your SAP operations with the ability to easily create and resize volumes, adapt capacity and performance without downtime, and create space-efficient Snapshot copies and clones in seconds.

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

- [NetApp Cloud Solutions for SAP](#)
- [SAP Solution Overview in Azure](#)
- [Cloud Volumes Service for Google Cloud](#)
- [Find out who helps SAP run SAP \(video and case study\)](#)
- [See how SAP customers are getting to market faster with Azure NetApp Files \(video and case study\)](#)

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About NetApp

In a world full of generalists, NetApp is a specialist. We're focused on one thing, helping your business get the most out of your data. NetApp brings the enterprise-grade data services you rely on into the cloud, and the simple flexibility of cloud into the data center. Our industry-leading solutions work across diverse customer environments and the world's biggest public clouds.

As a cloud-led, data-centric software company, only NetApp can help build your unique data fabric, simplify and connect your cloud, and securely deliver the right data, services, and applications to the right people—anytime, anywhere. www.netapp.com

