

How to easily  
migrate and manage  
your data with NetApp  
and Google Cloud

 NetApp |  Google Cloud



## Why move to the cloud

Moving to the cloud is critical in today's fast-paced and competitive marketplace. It helps businesses reduce costs, streamline operations, expand resources, and innovate. Organizations that embark on their cloud journey often follow the same path with a core set of reasons to migrate. We'll explore the four most common motivators for cloud migration.

### Business agility

"I need to scale up and down on-demand to support changing business demands."

For many companies, the transformation starts with customers looking to drive business agility. They want to develop new apps fast and scale them globally or look for ways to introduce new AI and data capabilities to their business.



### Modern workforce

"I've got to move 2,000 employees to a virtual workplace by end of the month."

As they embrace new cloud services, organizations start to rethink how they operate. They're open to new tools and capabilities that allow employees to work and collaborate from anywhere.



### Digital transformation

"What about my soon-to-be unsupported app? How do I modernize with the lowest TCO?"

Businesses reevaluating their core technology often realize that their traditional architecture slows down their organizational change. They shift their focus to automating and transforming their core services and reducing IT costs.



### Data protection

"We're experiencing outages weekly, I've got to improve my backup and recovery solution."

As they continue their digital transformation path, companies are keenly aware that they need the same level of data protection and availability of services that they had in the data center. Companies focus on strategies that ensure that their data is safe, available, and can be recovered fast in the case of an outage.



# How to move to the cloud

The benefits of cloud computing can only be realized through successful migration. When planning your migration strategy to Google Cloud, we recommend following these five steps.



The cloud

5

Optimize

4

Move applications

3

Move data

2

Pilot

1

Access

## 1 Assess

- Evaluate applications and workloads' suitability to Google Cloud. Primary considerations include:
  - Hardware and performance
  - Number of users and licensing issues
  - Compliance
  - Dependencies between applications
- Decide on your application migration strategy:
  - Re-hosting ("lift and shift") allows you to move your existing applications into the cloud without making any changes.
  - Re-platforming ("lift, tinker, and shift") includes a moderate amount of "tinkering" or cloud optimization, without changing the core architecture of your application.
  - Re-architecting enables modernization of outdated legacy applications not suited to a cloud environment.

## 2 Pilot

- Identify one or two applications, preferably from the "lift and shift" bucket, and migrate them. [NetApp BlueXP™ classification](#) can help identify which data should move to the cloud.
- Pilot application in production and measure performance.
- Understand the licensing requirements if you scale up your Google Cloud workloads or add more applications.
- Plan for a rollback to on premises or to another cloud in case migration fails.

## 3 Move data

- Move all your data to the cloud first, then move the rest of your applications.
- Consider the storage tiers offered by Google Cloud Storage, NetApp® Cloud Volumes, solid-state drives (SSDs) versus regular hard disks, and database services like Google Cloud SQL, Datastore, and Bigtable.
- Plan how you'll physically move the data (data transfer, sending an offline disk to the Google data center, streaming to persistent disks, etc.).

## 4 Move applications

- Perform a direct "lift and shift" of your applications to Google Cloud.
- If a "lift and shift" option is not possible, consider rebuilding applications in the cloud with a combination of custom VMs and [NetApp BlueXP](#) infrastructure services.

## 5 Optimize

- Now that applications are running in the cloud, consider ways to make them better:
  - Make your apps redundant across Google Cloud availability zones.
  - Plan for disaster recovery using [NetApp BlueXP backup and recovery](#).
  - Set up elasticity with autoscaling groups.
  - Set up monitoring for your workloads with [NetApp Cloud Insights](#).
  - Move static assets to cold storage.
  - Use [the BlueXP unified control plane](#) to launch and scale new instances.

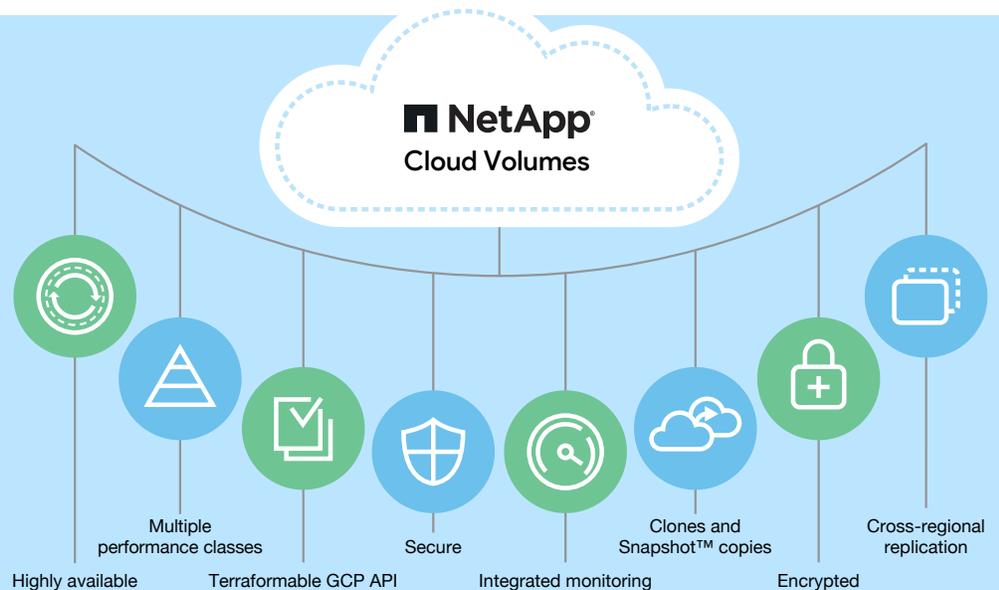
# The benefits of NetApp and Google Cloud

NetApp and Google Cloud can simplify your migration to the cloud and enable you to get the most value from your data by optimizing IT costs. With NetApp and Google Cloud, you get the performance you need to move, deploy, and manage business-critical data and applications in the cloud.

**1** Simple data management

**2** Data survival and preservation

**3** Performance on-demand



- **Fast data assessment and clarification.** When you need to evaluate applications and workloads' suitability to move to Google Cloud and determine what data you need to move, you can use [NetApp BlueXP classification](#). Data governance is first and foremost about knowing what data you own and where every little piece is. Then you need to classify it by importance. BlueXP classification allows you to automate discovery and categorization of your data for a smooth migration.
- **Secure data transfer.** When migrating your applications to the cloud you will have to move a lot of data. [NetApp BlueXP copy and sync](#) is an easy-to-use cloud replication and synchronization service for transferring NAS data between on-premises and cloud object stores. Get secure, fast, automated data synchronization with BlueXP copy and sync.
- **Hybrid cloud solutions:** Many organizations choose to build a hybrid cloud that spans on-premises and cloud infrastructure to enable portability across environments. The advantage of this approach is that it lets you continue using existing data center tools and skillsets as you start working on Google Cloud. You can extend NetApp on-premises ONTAP systems to Google Cloud by using Cloud Volumes, which lets you do seamless mirroring, cloning, caching, and migration of data between on-premises environments and Google Cloud.
- **Robust data management and analytics.** As you consider moving workloads or deploying new enterprise applications to the cloud, you need a storage environment that delivers high data availability, rapid backup and recovery, multi-protocol support, and more. With fully managed [NetApp Cloud Volumes Service](#) or self-managed [NetApp Cloud Volumes ONTAP](#), you get the most comprehensive set of storage management capabilities for enterprise applications available on Google Cloud.
  - Multiprotocol support (SMB and NFS)
  - High availability
  - Automated, rapid backup and recovery
  - Zero Trust data protection
  - Automated controls for data privacy compliance
  - Optimized data movement and tiering
  - Hybrid cloud infrastructure analytics
  - Global VDI and RDS orchestration
  - Real-time global file sharing
- **Container-native solutions.** With NetApp Cloud Volumes Service and Google Kubernetes Engine, you can build, deploy, manage, and run containerized applications. Cloud Volumes Service provides fast, reliable, and persistent storage for your stateful applications that run on Kubernetes. And Cloud Volumes ONTAP provides Kubernetes multi-cloud management for persistent storage requirements of containerized workloads.

## Get started

NetApp and Google Cloud work hard to enable companies to adapt to change, capitalize on uncertainty, and shape business opportunities.

When you combine the robust infrastructure and rich analytics of Google Cloud with enterprise-class data management services from NetApp, you get co-engineered, advanced services that fulfill the promise of cloud for even the most complex enterprise apps.

NetApp and Google Cloud can help you simplify your digital transformation journey and get the most value out of your data. We've built an impressive foundation that will help you adapt and shift to market conditions, migrate and modernize apps, and reduce costs.

Learn more about our solutions at:

[netapp.com/google-cloud](https://netapp.com/google-cloud)

Start a risk-free trial of one of our data management tools today:

[NetApp Cloud Volumes Service free trial](#)

[NetApp Cloud Volumes ONTAP free trial](#)



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### About NetApp

NetApp is a global cloud-led, data-centric software company that empowers organizations to lead with data in the age of accelerated digital transformation. The company provides systems, software, and cloud services that enable them to run their applications optimally from data center to cloud, whether they are developing in the cloud, moving to the cloud, or creating their own cloudlike experiences on premises.