

# Master Your Hybrid Cloud

Transform Your Data into a Strategic Asset



 **NetApp**<sup>®</sup>  
Data Driven

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# Data-Centric Organizations Will Thrive

Data is the lifeblood of modern business, and companies that succeed in their digital transformations can achieve a sustainable competitive advantage. A recent article in *The Economist* noted that in today's economy, "the world's most valuable resource is no longer oil, but data."<sup>1</sup> Data-centric companies operate more efficiently and outperform the competition. Enterprises that are positioned to gain the greatest insights from data will decide the future.

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**"The world's most valuable resource is no longer oil, but data."**

—The Economist<sup>1</sup>

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Becoming a data-centric organization starts with your company's culture. You need visionaries who recognize and evangelize the importance of data-driven decision-making at all levels of the organization. In addition, you need partners who can help you build a unified data infrastructure to turn your vision into reality. Success hinges on treating data as your company's primary source of value and equipping your entire organization with the tools, training, and culture to change the world with data.

Data-centric organizations seek to thrive, not just survive, in the face of digital disruption. You can start down the path to success by driving three key initiatives:

- Transform your organization to become data-centric.
- Control and secure your data in a hybrid cloud.
- Accelerate IT innovation to drive business growth.

## Transform into a Data-Centric Organization

A recent IDC survey<sup>2</sup> found that leading digital organizations have discovered that the cloud—with its power to deliver agility and flexibility—is indispensable for achieving their digital transformation business objectives. This leads most organizations to hybrid IT, in which data is generated and stored across a combination of on-premises, private cloud, and public cloud resources.

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90%

**“By 2020, over 90% of enterprises will use multiple cloud services and platforms.”**

—IDC<sup>3</sup>

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However, this approach creates numerous challenges for IT teams, such as knowing what data is where, protecting and integrating data, securing data and ensuring compliance, figuring out how to optimize data placement, and seamlessly moving data into and out of the cloud as needed. To address these data challenges, organizations must make investments in cloud services while developing new data services tailored to a hybrid cloud environment.

Deploying data services across a hybrid cloud can enable you to respond faster and stay ahead of the competition. However, all of the data in the world won't do your company any good if the people who need it can't access it. Employees at every level, not just executive teams, must be able to make data-driven decisions. This approach means making informed decisions about where to place data so that it can provide the greatest value—whether that's a corporate data center, a production facility, a public cloud, or at a cloud service provider—with the capability to move data easily as requirements change.

The key to success in the digital era is maximizing the value of data. That might mean improving the customer experience, making information more accessible to stakeholders, or identifying opportunities that lead to new markets and customers.

## Control and Secure Your Data

Becoming a data-centric company requires a rigorous approach to all aspects of your data: where and how it's stored, maintaining compliance, and making sure it's protected at all times. Attention to these details can make the difference between survival and extinction.

It's impossible to gain value from data you don't know you have. Over the last decade, keeping track of data resources across a large enterprise has become exponentially more difficult. And today, data is moving at an increasing rate to hyperscale public clouds, such as Amazon Web Services (AWS) and Microsoft Azure, to software-as-a-service (SaaS) providers and elsewhere. New challenges are emerging, based on the sheer amount of data that must be managed and the proliferation of new types, such as social data and data created by the Internet of Things.

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**“In 2017, 31% of enterprises reported an increase in monetary loss due to targeted attacks.”**

—U.S. State of Cybercrime Survey<sup>4</sup>

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Not only do you need to establish full data visibility across multiple clouds, but your governance and data protection policies must also extend beyond your data center boundaries. In its Data Protection Cloud Strategies report, Enterprise Strategy Group notes that “corporate data needs to be protected to a corporate standard, regardless of whether that data resides on servers or within cloud services.”<sup>5</sup>

IT leaders must maintain full control over enterprise data, no matter where it lives, and keep it secure against attacks, accidents, and disasters. According to the U.S. State of Cybercrime Survey, 31% of enterprises reported an increase in monetary loss due to targeted attacks in 2017.<sup>6</sup> Data protection is no longer just a question of protecting your company against lost productivity. It's now an essential element of protecting your company's brand and balance sheet.

## Accelerate Innovation

When data is siloed across functional groups such as finance, marketing, engineering, manufacturing, and other teams, it's difficult or impossible to identify deeper correlations. As eBay CIO Dan Morales notes, "Data is becoming more and more disparate every day. You have on-premises systems; you have cloud systems. So, now it becomes important to be able to pull those all together so that you can get insights."<sup>7</sup>

By transforming into a data-centric company, you're strategically positioned to harness your data and grow your business. After you identify and map your data assets—both on-premises and in the cloud—and make them accessible, your employees can discover new ways of looking at data to improve operations, gain new business insights, and spot new opportunities. Your company can move quickly to advance new ideas from concept to production while reacting faster to market changes.

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# 60%

**"By 2020, 60% of CIOs will implement an IT business model and culture that shifts focus from IT projects to digitally oriented products."**

—IDC<sup>8</sup>

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As your business evolves, your approach to IT purchasing must also evolve to take advantage of cloud economics. Otherwise, you risk leaving your business dangerously over- or underprovisioned. Smart IT teams complement their on-premises infrastructure with cloud services so they are never caught flatfooted in the face of unexpected infrastructure demands.

## INDUSTRY LEADER ACCELERATES INNOVATION WITH HYBRID CLOUD

One of the largest property and casualty insurance companies in the United States was seeking to innovate and launch new digital revenue streams. To meet those business goals, the IT team needed to provide the company's data scientists with on-demand access to powerful analytics tools. The analytics workloads are compute-intensive but highly variable, which made a cloud-based solution financially attractive. However, as a regulated industry, it was also critical to maintain control of data security and privacy.

The IT team selected a hybrid solution that enables the company data to be stored in a secure colocation facility with high-speed access to multiple cloud services. The solution enables the data scientists to use powerful and elastic compute services and analytics programs from a variety of hyperscale cloud providers while the data itself remains under tight control.

The following benefits have been documented during the first year of operation:

- Data is now analyzed in days instead weeks.
- A \$1 million cost has been avoided by buying cloud compute resources on demand instead of purchasing new infrastructure.
- An ability to connect to multiple cloud services has reduced the risk of lock-in.
- Productivity for data scientists has increased.

# Master Your Hybrid Cloud Strategy

It is rapidly becoming a multi-cloud world. As IDC notes, “The proliferation of application deployment models and data formats across hybrid IT has resulted in organizational data being widely and unpredictably spread across multiple repositories.”<sup>9</sup> To become a data-centric company in this hybrid cloud world, you need to completely rethink your cloud strategy and your approach to data services.

# 50%

**“By 2020, over 50% of all corporate data will reside outside of the corporate data center.”**

—Gartner<sup>10</sup>

Your cloud environment is likely the result of organic growth and stopgap efforts to respond to changing business demands, and your hybrid cloud “strategy” at this point might be more tactical than strategic. Different lines of business within your organization are likely using whatever tools they need to get their jobs done. It’s time to assess all of the elements that make up your hybrid cloud: Decide what to keep, what to add, and what to discontinue, and start formulating a data services plan that encompasses everything.

The starting point is establishing data insight and control. This approach means finding out not only where all of your data is stored but also how much performance, capacity, and availability it requires and what your storage costs are. Then you can begin to integrate cloud data services that extend your capabilities, such as backup and recovery, disaster recovery, DevOps, production workloads, cloud-based analytics, machine learning, and AI.

## Deliver Data Insight and Control

Data visibility and insight go hand in hand. Without visibility into your organization’s data, there’s no way to make sure service levels are being met or that your hybrid cloud environment is operating at peak efficiency.

You must see not only where all of your data is located across multiple clouds but also how it’s being stored and managed, how much it is costing your company, and whether or not it’s meeting service-level requirements.

In data-centric companies, data bottlenecks and lack of access must be eliminated.

A recent IDC Executive Brief<sup>11</sup> offers a prescription for effective data services in a hybrid cloud. In particular, IDC emphasized the importance of:

- In-depth monitoring and analytics
- A single data management tier

These capabilities must encompass both on-premises and cloud environments, allowing you to assess the performance and availability of all of the services within your portfolio to make more intelligent decisions about data placement. Today, infrastructure analytics and machine learning can be used across hybrid cloud environments to understand the performance, capacity, and availability of each dataset. With better insight into your infrastructure, your team can:

- Decrease troubleshooting time by up to 90%
- Optimize resources and reduce capex and opex by 30%
- Manage costs and implement showback and chargeback reporting

## INFRASTRUCTURE ANALYTICS OPTIMIZE CLOUD RESOURCES

Pharmaceutical giant AstraZeneca faced three major cloud data management challenges:

- Determining where to run workloads, based on cost and performance
- Providing a unified view of data across clouds to ensure compliance and protection
- Accelerating research and improving time to market

The visibility into cloud usage provided by NetApp® OnCommand Insight has helped AstraZeneca understand workload dynamics and control its cloud costs. With infrastructure analytics, the company can identify the optimal location for its workloads and data across multiple clouds while meeting stringent compliance requirements.

## Integrate Cloud Data Services

Hybrid cloud data services act as your toolkit for mastering your data management objectives, retaining full control over your data, and getting the most business value and velocity from the resources and data at your disposal.

### Data Protection and Security

Data protection and security are essential to the success of data-driven organizations. Many IT teams struggle to meet recovery time and recovery point objectives. Traditional backup and restore methods are not designed for hybrid cloud and might not meet the stringent service-level objectives your business demands.

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**“DR is often the first step that organizations take when going to the cloud.”**

—IDC<sup>12</sup>

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New cloud data services are emerging to help you better address all of your backup and recovery and disaster recovery needs, whether that means protecting on-premises data in the cloud to reduce complexity and cut costs or protecting data that’s already in the cloud.

NetApp offers several services and solutions to address data protection and security needs, including:

- Backup and restore services for SaaS data
- Cloud-integrated backup for on-premises data
- End-to-end protection services for hybrid clouds

## ENGINEERING FIRM SIMPLIFIES DATA PROTECTION WITH HYBRID CLOUD

Wright-Pierce is a fast-growing engineering firm. Because of the company’s rapidly increasing data volumes, its on-premises backup solution had become expensive and unreliable. Wright-Pierce opted for a hybrid cloud solution to manage its data growth challenges and reduce costs.

**“If you do your homework, you’re going to get a higher level of security in the cloud than what you can provide at your own facilities.”**

—Director of IT, Wright-Pierce<sup>13</sup>

## DevOps

Embracing digital transformation means accelerating the delivery of new data-driven applications and services to increase customer engagement and satisfy the needs of employees and business partners.

## DEVOPS ACROSS A HYBRID CLOUD ACCELERATES NEW PROJECTS

Wirestorm is a service provider that builds custom applications for a wide range of clients. It selected a NetApp hybrid cloud solution to achieve consistent data management, higher levels of automation, and faster customer deployments.

**“When I look at a platform that allows me to do an end-to-end solution all the way up to Amazon Web Services, deploying applications in under a minute, that’s a very powerful platform.”**

—CEO, Wirestorm<sup>14</sup>

Many enterprises are turning to DevOps as the best way to deliver new software features, services, and applications more quickly and with higher quality. By bringing developer and operations teams together, DevOps can reduce friction and put your company on a path to continuous integration and continuous delivery.

According to the 2017 State of DevOps Report,<sup>15</sup> published by DevOps Research and Assessment, organizations that effectively utilize DevOps principles can achieve massive benefits, such as:

- 46× more frequent software deployments
- 96× faster recovery from failures

By simplifying data services with features such as space-efficient cloning, NetApp hybrid cloud solutions can facilitate DevOps practices both on-premises and in the cloud.

NetApp ONTAP® Cloud services enable your developers and IT operators to utilize the same capabilities in the cloud as on-premises, allowing DevOps to more easily span multiple environments.

## Cloud Analytics

A variety of data analytics services are now available in the public cloud. Public cloud providers offer these services as a way to differentiate themselves and attract customers.

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**60%** of enterprises are relying on hybrid and public clouds as the platforms to enable big data analytics.

—The State of Cloud Analytics, 2016<sup>16</sup>

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Many enterprises want to apply cloud-based analytics services to their existing datasets. However, moving large volumes of data into the cloud can be time-consuming and costly. After data has been moved, it can rapidly get out of sync with the parent copy.

NetApp offers many services that simplify use of cloud analytics:

- Cloud Sync lets you safely and efficiently move datasets to the cloud while making sure the cloud versions remain in sync with the original.
- NetApp Private Storage lets you place data near the cloud with high-speed access to multiple hyperscale cloud providers. This approach eliminates the risk that your data will be locked in and facilitates use of multiple analytics services.
- NetApp ONTAP Cloud streamlines the process of moving data to and from AWS and Azure.

### SYNCING ON-PREMISES BIG DATA TO THE CLOUD

The IT team at an online real estate listing service was under pressure to use the cloud to increase agility and reduce costs. To meet the cloud mandate, they needed to quickly move nearly two billion files—over 85 terabytes of data—from on-premises systems to AWS S3 storage.

By using NetApp Cloud Sync, the company was able to transfer the data without impacting its customer-facing services, and within the time constraints of the cloud project.

## Industry-First Cloud Data Services

NetApp is committed to connecting companies to more clouds in more ways to achieve their transformation goals. This commitment includes helping companies move on-premises applications that rely on files services to hybrid cloud and cloud-only models. Working with industry-leading hyperscale cloud providers, we have pioneered the delivery of enterprise Network File System (NFS) services in the cloud.

Initially available through Microsoft Azure and the AWS Marketplace, these new services offer high levels of performance and availability to speed enterprise applications including analytics, DevOps, backup, and disaster recovery. Cloud architects and storage administrators can provision, automate, and scale Cloud Volumes using RESTful APIs. Support for NFSv3, NFSv4 and fully featured snapshots enables integration with on-premises systems and seamless data migration and synchronization between on-premises systems and the cloud.

Cloud Volumes offerings can:

- Support hybrid cloud and cloud-only environments
- Integrate with on-premises systems for seamless data migration and synchronization
- Integrate with cloud-based analytics, databases and other cloud-native services

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**“Working together, we will deliver new solutions that give customers using NetApp and Microsoft Azure even more freedom to build and deploy applications however they want.”**

—Scott Guthrie, executive vice president, Cloud and Enterprise Group, Microsoft Corp.<sup>17</sup>

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# Unleash the Power of Your Hybrid Cloud

## NetApp Strategic Partnerships

At NetApp, we recognized the power and potential of the cloud from its inception. We have worked tirelessly to forge partnerships that provide greater insight and reach, enabling us to create hybrid cloud data services to meet demanding customer needs both on-premises and in the cloud.

Our growing portfolio of partners includes cloud industry leaders: AWS, Microsoft Azure, Google, IBM, Equinix, and Alibaba.

In addition, the NetApp Cloud First Partner Initiative supports cloud services partners that help implement architectures in public cloud environments. Cloud First includes both consulting and technology partnerships, with NetApp working behind the scenes to ensure your success.

## The NetApp Data Fabric

NetApp Data Fabric-enabled solutions empower organizations to use data to make intelligent decisions about how to optimize their business and get the most out of their IT infrastructure. They provide essential data visibility and insight, data access and control, and data protection and security. With Data Fabric, you can simplify the deployment of data services across cloud and on-premises environments to accelerate digital transformation and gain a competitive advantage.

NetApp hybrid cloud data services enable you to put your data-centric vision into practice so you can respond faster to market changes and rapidly advance new ideas from concept to production. We can help you transform your data into a strategic asset so you can advance your business and change the world with data.

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Learn more about NetApp hybrid cloud data services  
and how they can help your business at:

[netapp.com/hybridcloud](https://netapp.com/hybridcloud)

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# Endnotes

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- <sup>2</sup> IDC White Paper, sponsored by NetApp, "Become a Data Thriver: Realize Data-Driven Digital Transformation (DX)", November 2017
- <sup>3</sup> IDC FutureScape, "Worldwide Cloud 2018 Predictions," Doc # US41863916, November 2017
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- <sup>17</sup> NetApp press release, "[NetApp Expands Collaboration with Microsoft in Hybrid Cloud Data Services](#)," June 2017