WHITE PAPER

Creating the Foundation for Tomorrow's Cloud and Hosting Providers

#DataDriven

NetApp®

Creating the Foundation for Tomorrow's Cloud Services

Service Providers Face Tough Challenges as Enterprise Adoption of Cloud and Hosting Services Gains Momentum

Cloud and hosting services are going to see a big increase in enterprise uptake over the next few years. A recent survey of CIOs and IT executives across a range of companies found that "the shift to the cloud is accelerating, with large enterprises becoming a major driver of growth for cloud environments." Cloud computing services of all types are dominating the headlines as enterprise IT organizations search for the cloud partner that can enable—and ideally accelerate—their corporate journey to the cloud.

Today's service providers face a series of tough decisions as they make the necessary technology investments to allow them to assemble the building blocks of a next-generation data center.

The right technology decisions today can lay the foundation for future success.

Cloud services enable unprecedented business agility. However, as enterprises place greater pressure on service providers to deliver more flexible and cost-effective infrastructure, service providers are struggling to innovate quickly enough to stay ahead of—or just stay even with—the competition.

Even the largest and most agile service providers struggle to innovate at the rate of Amazon Web Services. Many are focusing on different, sometimes more niche, market segments to achieve differentiation.

As you analyze your business to determine where you can be most successful, there are a few key considerations:

- What new services and solutions should you bring to market to drive future revenue opportunities?
- How will you win more revenue and workloads from current customers?
- What new paths to market will add value to your current service offerings?
- How can you reduce your customer churn while growing revenue?
- How can you streamline your operations to reduce operating costs and enhance your company's bottom line?
- How will you retain an edge over your competition?

As the cloud and hosting market enters a hypergrowth phase, the opportunities for service providers are significant. The right technology decisions today can lay the foundation for future success. This paper will help you understand how to address current customer challenges while architecting your systems to create a next-generation data center platform that meets rapidly changing cloud technology demands.

Reinvent Your Cloud and Hosting Strategy

The market dynamics that affect service providers are changing rapidly. Your competitors are rapidly evolving their services, and hyperscale providers are disrupting your margin models and confusing your customers. It takes constant attention to remain true to your core values and stay on course. Your ability to drive revenue, satisfy customers, and win new business depends on your ability to deliver differentiated services that appeal to existing and new customers.

There are five key elements that drive day-to-day operations for cloud and hosting providers. As you reinvent your go-to-market strategy, these five business-focused pillars will determine the underlying technology building blocks you need.

Monetize Storage

As a cloud and hosting provider, you are in business to sell technology-based services for a reasonable profit. Traditional legacy storage systems are complex to deploy and operate, especially at service provider scale. As you create your next-generation data center strategy to support the anticipated future demands of enterprise customers, legacy storage systems are simply not up to the task. Data storage systems are the lifeblood of any cloud and hosting platform. Understanding how to price, position, and productize your storage solutions to appeal to next-generation data center customers is a critical requirement in the monetization of storage platforms. The ability to build and price solutions in ways that weren't previously possible gives you a new level of go-to-market agility.

It takes constant attention to remain true to your core values and stay on course.

Win More Customers

Customer churn is an accepted part of life for service providers. Some customers leave, some go out of business, and others change cloud strategies. Offsetting that churn by winning more customers is key to maintaining or growing earnings before interest, tax, depreciation, and amortization (EBITDA) for your primary investors. Successful service providers listen closely to their customers to understand both today's and tomorrow's application needs so that they can build the right set of solutions and attract new sources of revenue. You have to continue to expand your services portfolio, accelerate service development, and deploy services on demand to attract and win more customers.

Reduce Business Risk

Risk in the cloud and hosting world comes in many forms: an unplanned storage purchase, a systemwide outage, or unexpected customer churn. Any of these risks can turn a great sales month into a disaster and create significant financial exposure. As you reinvent your cloud and hosting strategy, the ability to minimize risk and exposure is key to building a long-term and predictable revenue base.

Streamline Operations

Your operations team is often the key differentiator in a customer's onboarding experience, solving customer issues and driving up your net promoter score (NPS). These non-revenue-generating but highly valuable teams are also among the most significant costs in managed hosting and cloud provider organizations. Unfortunately, they negatively affect margin and increase the cost of services to the customer. Finding the right balance between a hands-on approach and API-driven systems automation at all levels of the infrastructure stack is critical as you build your data center strategy.

Streamlining operations and service deployment while maintaining a hands-on feeling and personal touch with customers is one of the most complicated challenges you face in designing your next-generation data center.

With NetApp as a partner, you are able to focus on the mission of your business rather than the technology on which it runs.

Improve Customer Satisfaction

Given the ubiquitous nature of cloud and hosting providers, customers can switch providers on a whim and without notice. When you architect your next-generation data center, you must provide market-relevant, industry-leading technologies at competitive prices without service interruption and delivered with a smile. Net promoter scores that measure customer satisfaction are often published online, and, because any customer can post feedback and opinions, maintaining a corporate mandate for customer satisfaction is a key consideration for cloud and hosting providers.

NetApp Helps Cloud and Hosting Providers Succeed

NetApp helps you achieve better business outcomes—both today and tomorrow—with software-defined, scale-out storage architectures that allow you to expand and contract granularly and overcome technical limitations. When you employ a NetApp® storage architecture, your data centers immediately take on next-generation qualities such as guaranteed quality of service (QoS), unprecedented scalability, support for S3 and S3 as a service, and total infrastructure automation. NetApp next-generation storage architectures can be deployed in the form of:

- NetApp HCI and SolidFire® storage systems, powered by NetApp Element® software, are optimized for the performance and capacity needs of structured data and high-performance applications
- NetApp StorageGRID® Webscale object storage, ideal for repositories of rich, unstructured content

With NetApp as a partner, you are able to focus on the mission of your business rather than the technology on which it runs. NetApp next-generation storage architectures deliver more value from your storage, better satisfy customers old and new, streamline your operations, and reduce financial risk.

This white paper digs into each of the key considerations just described, explaining how you can transform your data centers to achieve your business goals. Customer examples illustrate how leading service providers have increased their business success by building on these foundational principles.

Monetize Storage in Ways Not Possible Before

Generate New Revenue Streams from Current and Prospective Customers

Limitations of Traditional Storage

If you use a traditional storage architecture, there's a good chance that you're finding it difficult to fully monetize those investments. You'd like to earn higher margins and increase service and platform revenue, but cumbersome management, limited automation, and complicated scaling get in your way, while competitors are offering services that you can't deliver.

NetApp's next-generation storage architectures enable you to:

- Fuel new revenue streams
- Accommodate data growth
- Offer new cloud consumption models

Fuel New Revenue Streams from Your Storage

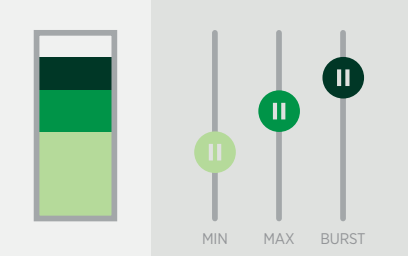
NetApp storage architectures enable you to increase market differentiation and create new revenue streams without adding to capital costs or data center complexity.

For example, with NetApp HCI and SolidFire all-flash storage architectures, you can offer storage and performance tiering without resorting to different storage architectures. You set minimum and maximum performance thresholds to create both capacity-oriented and performance-oriented tiers and move customer data from one tier to another instantly with a few clicks—no migration necessary.

Accommodate Data Growth with a Scalable Cloud Platform

Most storage architectures scale up only within modest limits. When one storage system reaches its limit, you need to add another, and then another, increasing complexity and management overhead. NetApp next-generation storage architectures eliminate these challenges, allowing you to scale out storage performance and capacity one node or appliance at a time. This approach will more closely align to your business growth plans.

If you have customers who need object storage for rich unstructured content, backups, or archives, NetApp's flexible, software-defined storage scales out to support billions of objects across diverse locations and media types. And the NetApp dynamic policy engine simplifies data management throughout its lifecycle.



Deliver new cloud consumption offerings on demand

The types of services your customers want to consume, and where and how they want to consume them, can change rapidly. Your storage infrastructure needs to be flexible enough to allow you to bring new services online quickly without having to rearchitect or deploy a lot of new hardware up front.

NetApp gives you more ways to increase the revenuegenerating potential of your storage through new revenue streams, superior scaling, and new consumption models. As the examples throughout this paper illustrate, service providers rely on NetApp's next-generation storage architectures as the foundation for diverse private, public, and hybrid cloud services.

Contegix Accelerates Private Cloud Deployment While Cutting Service Costs in Half

Contegix can linearly scale storage without up-front capital expenditures in anticipation of future customer needs. SolidFire scale-out storage expands storage clusters through the addition of nodes without the need for controller upgrades, data migration, or downtime.

"With NetApp SolidFire, we can provide our customers with an infrastructure ready to address future demands, while enabling us to monetize storage for our own business advantage."

—Don West, Manager of Business Development, Contegix

Read the full story.

ASE Deploys Successful Object Storage Service

ASE offers an always-on "mesh" storage solution based on NetApp StorageGRID Webscale, providing object-based storage at a very competitive cost per gigabyte and saving customers that move from file-based storage up to 75% on storage costs.

"We've had a strong return on investment from our NetApp investment. We've also developed a great partnership that will help us innovate and prosper in the dynamic cloud services business."

—Andrew Sjoquest, CEO, ASE

Read the full story.

Win More Customers

Expand Your Services Portfolio to Drive New Revenue Opportunities

Limitations of Traditional Storage

Traditional storage architectures have a profound effect on your ability to attract and keep customers. The limitations of legacy storage make it difficult to differentiate services in ways that are meaningful to your customers' vision of the future. This lack of differentiation makes it even harder to retain customers, leading to higher churn rates and lower net promoter scores.

Your current storage systems might not be able to meet customers' expectations when it comes to hosting performance-sensitive enterprise applications or next-generation workloads. NetApp next-generation storage architectures help you provide greater differentiation and win more customers by:

- Expanding your available services portfolio
- Accelerating the delivery of new services
- Offering services that can be consumed on demand

Expand Your Services Portfolio to Diversify Your Business and Grow Profits

NetApp storage architectures enable you to quickly expand your services portfolio to attract more customers, tailor services for particular customer types, or both. You can deliver exactly the resources needed from a performance or capacity perspective for specific workloads such as ecommerce, VDI, ERP/CRM, collaboration, and big data, creating the foundation of services tailored to particular applications. For example, NetApp HCI and SolidFire systems support the demanding performance requirements of desktop as a service (DaaS), an increasingly popular offering.

NetApp StorageGRID object storage is ideal for delivering services for customers with analytics, Internet of Things (IoT), or other applications that need large-scale object storage services spanning multiple regions. Many service providers are also deploying their own S3-as-a-service offerings, targeting development, backup, and other use cases that have unique requirements for data durability, availability, performance, scale, or locality

Get the Blueprint for Productization and Service Development

You know that adding new services is essential to help your business grow, but making the time to architect, plan, and deploy them can be challenging. By providing blueprints for productization and service development, NetApp makes this job much simpler. Why start from scratch when NetApp can get you most of the way there?

NetApp's next-generation storage architectures are designed with automation in mind, so your team can easily automate storage functions and make them accessible to your customers through self-service. In addition, our Fueled by NetApp consulting team is available to assist with the development, productization, and promotion of new solutions that you can take to market. Our experienced service provider industry advisors can help you:

- Better understand market opportunities
- Build accurate financial models
- Accelerate time to market
- Create market differentiation through messaging, positioning, and SLA creation
- Make ongoing service improvements for maximum return on investment
- Acquire customers through awareness, demand generation, and sales enablement, including market development funds (MDF)
- Help your sales team achieve higher close rates

Deploy New Services on Demand

On traditional storage architectures, deploying new services for a customer can be a slow and demanding process. For example, suppose that a customer with 50TB of data stored in a Silver service decides to change to Gold. It might take hours or days to migrate the data from Silver to Gold storage, tying up infrastructure and staff resources.

With NetApp HCI and SolidFire storage, the architecture is entirely software defined. Change the QoS settings on the customer's data, and the process is complete. The new service level takes effect immediately, with no migration required.

With NetApp object storage, any policy change takes effect immediately. Suppose that a customer has a policy that data is stored with one copy in the United States, one in Germany, and one in Japan. But then the law changes, and that data type can no longer be stored in Japan. Change the policy, and data is automatically moved as needed to achieve compliance, turning what might otherwise be a monumental data management task into a matter of a few clicks.

1&1 Delivers a Better Cloud Experience

NetApp gave 1&1 a single storage solution that better supports the performance needs of its customers, provides them with more choice, and delivers a better experience. These capabilities help 1&1 retain existing customers and attract new ones.

"1&1 can now offer its customers two million server configurations delivered in 55 seconds, which is clearly a massive improvement for us and our users. And with state-of-the-art, solid-state storage, they never need to worry about performance, availability, or reliability."

—Javier Salcedo Gadea,
Head of Product Management Cloud, 1&1

Read the full story.

Reduce Business Risk

Buy as You Grow, Reduce Overprovisioning, Align Inbound Revenue with Outbound Expenses

Limitations of Traditional Storage

Because it forces you to make significant storage capital outlays up front, the traditional storage model adds significant financial risk. Ideally, you'd like your capital expenses to closely follow your revenue curve to minimize fiscal exposure and improve your cash flow.

In addition, there's no easy way to move capacity after it's installed. No matter how carefully you plan, you're going to end up with too much capacity in some data centers and too little in others, stranding assets and adding costs.

Traditional storage also adds business risk in other ways. System renewals add to your capital costs, while disruptive and complex system upgrades and other sources of downtime reduce revenue-generating potential. Because overprovisioning has been the only way to protect against noisy neighbor issues, you must either overprovision at added capital expense or add to the risk of customer churn.

NetApp next-generation storage architectures help you provide greater differentiation and win more customers by:

- Allowing you to pay as you grow
- Eliminating stranded assets
- Simplifying updates and reducing downtime

Stop Overprovisioning: Pay as You Grow Instead

Most traditional storage architectures require heavy up-front investments and overprovisioning in an attempt to ensure that customer SLAs can be met. NetApp next-generation storage architectures are based on a scale-out model in which one node or appliance can be added at a time as needed, allowing your cost curve to more closely follow revenue generation. With the guaranteed performance of NetApp HCI and SolidFire storage, all customer performance SLAs are met without overprovisioning.

NetApp object storage accommodates different types of media, including tape, across different locations, enabling it to optimize data placement for performance or to minimize storage costs for archived data.

Eliminate Stranded Assets to Reduce the Risk of Capacity Planning

For service providers managing multiple data centers, the financial consequences of mistakes in capacity planning can be significant. NetApp next-generation storage architectures eliminate this risk through granular, node-based, scale-out

NetApp next-generation storage architectures eliminate this risk through granular, node-based, scale-out design.

design. As an example, suppose that you have too much capacity deployed in Virginia and not enough in Texas. The architecture allows you to simply remove nodes from your system in Virginia and send them to Texas, where the extra capacity can be added seamlessly and transparently. Automatic redistribution of the data remaining in Virginia is transparent to the customer and has no impact on system performance.

Simplify Updates and Eliminate Downtime

NetApp's next-generation storage architectures support nondisruptive operations, upgrades, and infrastructure refreshes, so your storage is online and earning revenue more of the time and not offline for maintenance, planned or unplanned. The architecture is also intrinsically highly available and self-healing, which further protects your operations from disruption and downtime.

Hosted Network Enhances DaaS with Pay-as-You-Grow Scaling

NetApp SolidFire storage with guaranteed performance based on flexible QoS and pay-as-you-grow scalability has become a critical element of hosted network desktop-as-a-service solutions.

"Unlike a lot of the other vendors that require us to fork out a huge amount up front, SolidFire allows us to grow node by node. We can go to market with leading storage, leading compute, and still have money left over for our marketing campaigns and things that grow our business as well."

—Ben Town, Managing Director, Hosted Network

Read the full story.

Streamline Operations

Transform Your Team from Tactical to Strategic

Limitations of Traditional Storage

Operational expenses make up a large portion of your budget. Streamlining operations and controlling expenses not only have an immediate impact on your company's profitability, but also free up your operations team to focus on more value-added and strategic tasks.

Traditional storage infrastructure creates a number of operational challenges. In particular, with most storage architectures, it's difficult or impossible to achieve the level of automation and integration needed without a huge investment in professional services.

Long, disruptive, and complex system upgrades not only have a big operational impact, but also reduce profit margins. The more infrastructure that is down for maintenance at any given time, the more infrastructure you must deploy to meet customers' needs.

Finally, the more time your team spends on troubleshooting tasks, the less attention strategic tasks receive. By enabling you to increase automation while simplifying or eliminating upgrade and troubleshooting tasks, NetApp storage not only streamlines your operations; it also enables you to manage more infrastructure and serve more customers with a smaller staff and frees up staff time to focus on tasks that build your business.

Integrate and Automate Seamlessly

NetApp next-generation storage architectures make your infrastructure and your team much more agile. Easy automation via open REST APIs simplifies provisioning, management, and other tasks and allows your team to automate storage capabilities as services available to your customers without expensive consulting engagements. NetApp next-generation storage architectures were designed with API automation in mind, making NetApp APIs simpler and easier to use relative to traditional storage, where APIs are often bolted on as an afterthought.

Multiplatform integration, including VMware, OpenStack, and Docker, streamlines integration tasks and allows traditional enterprise and cloud-native applications to share the same infrastructure, simplifying planning and further reducing infrastructure and management costs.

Transform Your Team

Because your infrastructure is complex, your team dedicates too much time to just keeping the lights on: managing compute resources, virtualization, storage provisioning across multiple storage arrays, and a seemingly never-ending stream of software and firmware patches and updates. NetApp next-generation storage architectures are designed to change all that. Using the simple, robust, and extensive REST-based APIs, many traditional manual storage tasks are eliminated.

Automation reduces the chance of user error and minimizes troubleshooting, giving you back countless hours.

If you perform a manual task five or more times per month, it should be automated. Automation reduces the chance of user error and minimizes troubleshooting, giving you back countless hours that can be put to use creating additional services and moving the business forward.

Internet Solutions Streamlines Operations with NetApp

Internet Solutions (IS) needed the ability to easily move storage between its data centers and have it up and running quickly. By choosing NetApp SolidFire, IS reduced operational overhead while delivering a better customer experience.

"We are using SolidFire to create a storage tier that can service any of our cloud platforms: IaaS, PaaS, and SaaS. This is both a real benefit to customers and a competitive advantage for us, and we couldn't do it with any other storage. If a client needs more performance, we can enable it at the click of a button. Customers don't need to wait for hours; it can be done instantly."

—Kervin Pillay, Director of Technology, Internet Solutions

Read the full story.

Improve Customer Satisfaction

Offer Predictable Performance and Guarantee SLAs

Limitations of Traditional Storage

With competition on the rise, it's more important than ever to reduce customer churn. Increasing customer satisfaction is the best way to achieve that goal. Unpredictable performance and downtime are the leading causes of customer complaints. Unfortunately, with traditional storage architectures, the only way to address these challenges is to overprovision. As you probably know all too well, the impact that overprovisioning has on your infrastructure and your team is significant. Hardware utilization goes down, your infrastructure sprawls, and capital costs go up. As the complexity of your environment rises, team productivity falls, increasing operating costs. And even with all that, the results are mixed, leaving your customers dissatisfied.

NetApp next-generation storage offers a better and easier path to customer satisfaction with:

- Guaranteed performance
- Self-service control
- Self-healing architecture

Guaranteed Performance

By delivering right-sized performance according to customer needs with guaranteed SLAs, you ensure that each customer has the best possible experience. NetApp guaranteed performance reduces the number of trouble tickets and minimizes the time spent resolving trouble tickets that do arise.

Self-Service Control

Because NetApp next-generation storage architectures are easily automated, you can extend self-service control to your customers, so they can take action when needed. For example, if a customer application is experiencing a spike in activity that exceeds the customer's performance SLA during the holiday season, that customer can take immediate action to identify the problem and raise the SLA, without needing to file a trouble ticket or customer service request to resolve the issue.

The more visibility and control your customers have, the more satisfied they will be.

Self-Healing Architecture

NetApp next-generation storage isn't just designed to be resilient and highly available; it's designed to be self-healing. When a failure occurs, there is no impact on quality of service, and the system works in the background to automatically restore full resiliency. NetApp storage can survive more serious failures than traditional storage architectures. Your storage actually becomes more resilient as it scales out.

The benefit for your customers is that their data, as well as application performance and uptime, are better protected, and even the most stringent SLAs can be met. The benefit for your operations team is that a failure is no longer an emergency requiring an immediate response. Hardware replacement becomes a task that can be scheduled and performed when it's most convenient.

DARZ Builds Hybrid Cloud Service with NetApp StorageGRID

For German IT provider DARZ, a service offering built on StorageGRID Webscale object-based storage goes where traditional storage architectures cannot follow, providing a massively scalable, globally managed, and robust object storage solution.

"With StorageGRID Webscale, we can give our customers—especially those in verticals such as banking, energy, and pharmaceuticals—an innovative hybrid cloud approach for preserving and leveraging the value of their vast data repositories and archives, especially across a global enterprise."

—Lars Göbel, Director of Sales and IT Services, DARZ

Read the full story.

Advanced UniByte Chooses NetApp for Backup and DR Services

A combination of NetApp Cloud Backup and StorageGRID Webscale enabled this service provider to offer a new cloud service that optimizes data retention, availability, and performance.

"We have been able to expand our cloud service considerably thanks to the new NetApp solution. We can now serve the entire market, regardless of whether customers use NetApp solutions or not."

—Michael Maier, Director of the AU Service Center, Advanced Unibyte

Read the full story.

The Best Partner to Help You Create Tomorrow's Cloud Services

If you're ready to create tomorrow's cloud services, NetApp is ready to help you. NetApp next-generation storage architectures will enable you to:

- Monetize your infrastructure more fully to create new revenue streams
- Win more customers through expanded service offerings
- Reduce business risk by eliminating overprovisioning
- Streamline operations with advanced automation
- Improve customer satisfaction to increase customer retention

NetApp proves every day that it has both the technology and the expertise to take your business further.

Enterprises will increase their adoption of cloud services over the next 3 to 5 years. To prepare yourself to take advantage of new opportunities, you need a business partner that can help you transform. With a diverse and rapidly growing portfolio of service providers running on NetApp next-generation storage, NetApp proves every day that it has both the technology and the expertise to take your business further. NetApp is the smart choice for you, your team, and your business.

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Refer to the Interoperability Matrix Tool (IMT) on the NetApp Support site to validate that the exact product and feature versions described in this document are supported for your specific environment. The NetApp IMT defines the product components and versions that can be used to construct configurations that are supported by NetApp. Specific results depend on each customer's installation in accordance with published specifications.

WP-7275-0918