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Research®

PATHFINDER REPORT

# Providing Business Resilience Through a Tiered DRaaS Portfolio

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# About this paper

A Pathfinder paper navigates decision-makers through the issues surrounding a specific technology or business case, explores the business value of adoption, and recommends the range of considerations and concrete next steps in the decision-making process.

## ABOUT THE AUTHOR



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#### CHIEF ANALYST

Eric Hanselman is the Chief Analyst at 451 Research. He has an extensive, hands-on understanding of a broad range of IT subject areas, having direct experience in the areas of networks, virtualization, security and semiconductors. He coordinates industry analysis across the broad portfolio of 451 Research disciplines. The convergence of forces across the technology landscape is creating tectonic shifts in the industry, including SDN/NFV, hyperconvergence and the Internet of Things (IoT). Eric helps 451 Research's clients navigate these turbulent waters and determine their impacts and how they can best capitalize on them. Eric is also a member of 451 Research's Center of Excellence for Quantum Technologies.

# Executive Summary

Organizations large and small have always struggled to balance the capacity and durability of their data and infrastructure with the costs involved. Cloud providers have a unique opportunity to address this critical need as they look to put cloud-hosted options to work for business continuity and disaster recovery (BC/DR) requirements. Disaster-recovery-as-a-service (DRaaS) offerings can bring a range of benefits to customers and can create strong bonds with cloud providers that are able to deliver capable offerings. This paper explores the nature of customer demand and identifies the requirements for DRaaS offerings that can satisfy it. Survey data illustrates customer perspectives, and two case studies look in detail at successful offerings and how the respective cloud providers built them.

## Key Findings

- Businesses require cloud-based DR to keep up with hybrid expansion.
- A large opportunity exists for cloud providers due to limited existing deployments.
- Complex deployment options are well suited to cloud provider delivery.
- Integration with existing IT infrastructure is critical for service success.

# Introduction

Modern businesses face a host of technology challenges. While digitization and transformation may grab the headlines, most businesses are still working hard to ensure that basic operational capabilities are keeping up with the advances in the technologies that they depend on. As their IT infrastructure has embraced virtualization and cloud, supporting capabilities like data backup and assurance have become more complicated.

At the same time, the volumes of data that are critical to businesses have expanded enormously. A 451 Research Voice of the Enterprise (VoTE) study on storage growth found that high-end users were expecting 50% or more in annualized capacity growth. More telling is the role that the increasing use of analytics is having in data expansion. Respondents in a separate VoTE study on analytics reported that their expectations for storage growth for analytics had a mean approaching 50% and a median of over 90% (43.6% and 91.2%).

Simply managing that growth creates one more imperative for busy IT teams to confront. With so many urgent tasks in hand, strategic planning activities can be pushed to the side. No business would say that it didn't take business continuity planning seriously, yet according to a recent 451 Research study, less than half of businesses surveyed (48%) said they have an up-to-date BC/DR plan in place.

This isn't because they don't want to have a plan in place. Ensuring the continuity of the business is critical in the mind of every business leader, but translating that into a plan of action presents many difficulties. The reality for most organizations is that they have had plans and procedures that were workable at one time, but technology and business processes moved on, leaving them inadequate for the current state of the business. In the same study, 35% of businesses said that they have a plan, but that it's out of date. And they face the additional challenge of taking that overarching BC plan and translating it into procedures and systems that handle disaster recovery. Effectively managing data is complicated and costly and, when internal resources are strained, it takes a back seat to activities that keep the business moving today.

Businesses realize that they have to close the gap in their BC/DR capabilities, but often are unsure how. This presents an opportunity for partners who can help them protect their businesses and do it in ways that manage costs while delivering value. Addressing the most critical part of business resilience with capable disaster recovery services can be an effective first step for these businesses. This paper considers the current state of the market and explores the opportunities available for cloud providers. Two case studies look at cloud providers that have built DR offerings, and examine their experiences and customer journeys.

# The Current Problem

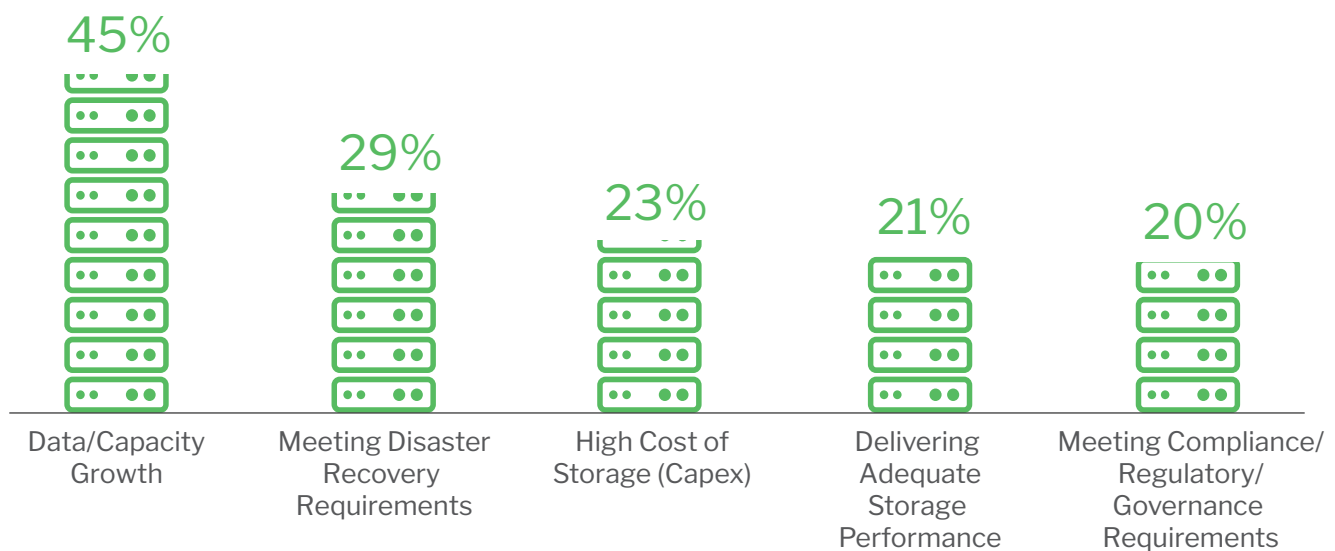
Businesses have always faced challenges in keeping up with technology transitions, but the current shift to wider use of off-premises resources is creating greater pressure and higher levels of complexity. When technology use was primarily on-premises, it was simpler for organizations to control growth. It has, historically, also constrained the skill sets required to manage it. Virtualization transformed the levels of efficiency with which a business could utilize infrastructure, but the basic operational models for server and storage maintenance didn't see radical change for most. The backup systems that were in place could exist in virtualized implementations without alteration. But that began to change as greater utilization created a boom in storage demand.

As the volumes of data under management grew, storage costs became a much greater concern. A 2018 451 Research VotE study showed that managing data capacity and growth was already being cited as the leading storage pain point – at a rate more than 50% higher than the next-biggest concern. Although that next concern was meeting disaster recovery requirements.

Figure 1: Top Storage Pain Points

Source: 451 Research's Voice of the Enterprise: Storage

Q. What are your organization's top pain points from a storage perspective?



There were a number of routes that businesses could take to address these storage challenges, and cloud-based storage options made sense for many. With increasing use of cloud-based compute resources, cloud storage was a natural choice, but being able to achieve acceptable economies relative to on-premises storage was complicated. At the same time, a significant lack of staff skilled in cloud operational capabilities made it difficult for businesses to adapt to these new models. In a 451 Research VotE Digital Pulse study from mid-2019, cloud operational skills narrowly edged out information security skills as the top skills lack for the first time.

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A combination of maturing technologies and a series of natural disasters with highly publicized outages raised DR concerns to board- and auditor-level attention. A 451 Research VotE study on organizational dynamics for storage in late 2019 showed that this combination of pressures was pushing IT teams to look at cloud-based DR options. While cloud economics were seen as attractive, levels of adoption are still low.

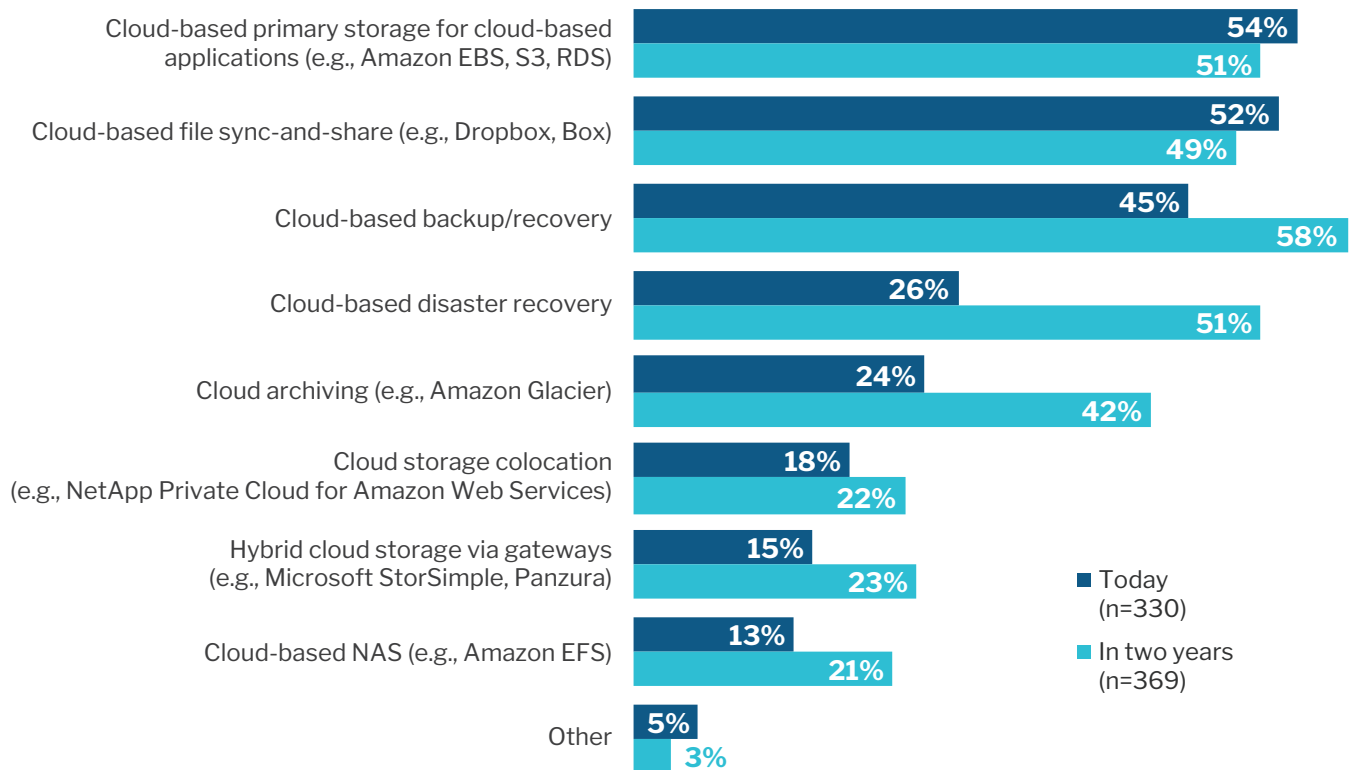
**Figure 2: Public Cloud Storage Services in Use Today and in Two Years**

Source: 451 Research's Voice of the Enterprise: Storage, Organizational Dynamics 2019

Q. Which of the following public cloud storage services and capabilities does your organization utilize today? (Please select all that apply.)

Q. Which of the following public cloud storage services and capabilities will your organization utilize in two years? (Please select all that apply.)

Respondents with public cloud in use, in pilot/proof-of-concept, or planned use within next 24 months



It's easy to speculate on the reason for this large gap between current deployment and the expected increase in use. As the earlier data shows, while there is strong desire to leverage these cloud capabilities, businesses face many hurdles in getting there.



# Benefits for Businesses

There is a growing realization among businesses that the cost and scale advantages of cloud-based storage are attractive. After years of struggling to deal with on-premises costs, the need for this shift has become clear, but the means to effectively achieve it has remained elusive. There are specialized offerings that address virtualization backup and others that handle broader DR concerns, but IT teams are looking for something that can handle both.

Digital transformation is still in its earliest stages, and many businesses don't have the expertise or human capital to successfully deploy and manage complementary cloud services. The benefits they are trying to gain include the simplicity of virtualization backup, but with more comprehensive DR functionality. At the same time, they want to balance costs with their recovery demands. Their recovery time objectives and recovery point objectives (RTO/RPOs) are often not well defined, and companies are looking for balance in terms of capability and cost.

Organizations are facing growing complexity in their IT infrastructure, and the amount of work that complexity creates is straining the capacity of their IT teams. A managed DR service can reduce complexity by having a partner deal with a capability that's not a core focus area for the business. It can not only relieve customers of the DR operational work but can also help them make sense of regulatory and compliance mandates. DR data is in scope for GDPR and CCPA privacy concerns, FCA and GLBA financial compliance, and HIPAA and CSF healthcare data mandates. Aligning on- and off-premises controls and auditing is not a simple process for customers. Providers can ensure that the necessary requirements are met, guide customers through the certification process and assist in audits.

A secondary benefit that many businesses realize later in their journey is the ability to leverage their backup functionality for migration into or out of off-premises environments. Today workloads tend to be placed in one location, without an expectation of more fluid transitions between locations. But 451 Research VotE Digital Pulse survey data has consistently shown that customers see more flexible transition capabilities as highly valuable. Cloud providers that can offer migration services essentially offer the double benefit of assuring customers that the journey to cloud doesn't have to be one-way and also acting as their guide to more flexible workload placement. This is one more area where capable services can address the skills gap that customers face.

# Opportunity for Cloud Providers

This confluence of factors presents an opportunity for cloud providers that can address this growing need for their customers. As the data shows, the use of cloud-based DR is still limited, but there is strong interest. The potential for simplicity with a well-targeted DRaaS offering holds significant promise. The offerings in the market today have challenges that a solid partner can help businesses overcome.

One of the largest challenges is a lack of understanding where potential buyers of DRaaS are fixated on achieving the lowest downtime possible – which, on the surface, appears to be the best possible option. Backing up everything in real-time, all the time, may seem like the most logical DRaaS approach, but this can lead to daunting service costs and complexity. A well-managed offering can deliver RPO and RTO targets that fit the business needs and costs. Partners can guide customers in understanding the tradeoffs in the granularity of snapshots and retention time in managing total storage volumes. Helping customers achieve this balance has huge value in partner relationships and can build strong bonds around delivered services.

Meanwhile, services that extend existing operational environments can help customers achieve their DR goals with minimal staff training. The ability to add business resilience without increasing skills gaps helps organizations overcome one of the biggest enterprise challenges in mastering new technologies. If they can use the same management systems that are already in place, the transitional burden is greatly reduced. High-end DRaaS offerings often require separate management systems and can place additional operational burdens on both provider and customer staff. That operational burden for a new service includes setting up and configuring the system and integrating it into the delivery environment. It includes changes to access networks, provisioning new customer and management accounts, and, even then, may leave the customer with a separate management and reporting environment for the new DR services. That's additional complexity that providers and customers can ill afford.

As the case studies below indicate, providers and customers benefit when DR services can be delivered with their existing management systems. The work and risk of standing up a new, parallel management system can be eliminated, and the service can be in the hands of customers more quickly. With the right service balance, cloud providers can deliver a valuable capability to their customers that can help them address an urgent need for DR.



# Case studies

To illustrate what's possible with a well-crafted DRaaS offering, two cloud providers were interviewed to present case studies on their journey in building theirs. In each case, the provider already offered backup and DR services but moved ahead with an offering that delivered the appropriate, customer-focused functionality to fit a broader market need. For both of them, they implemented a new DRaaS offering based on an offering from an existing technology partner.

## Provider A

### Background

This company started out offering voice services in 2001 and built itself into a significant North American provider of managed services. During the dot-com bust, it built capacity through the selective acquisition of distressed assets across smaller providers. The strategy allowed this company to pivot its business toward managed and hosting services and grow its infrastructure and client base. Infrastructure-as-a-service (IaaS) offerings early in the cloud era helped it establish a presence as a valuable partner for hosting services.

As a longtime provider of DRaaS, it has deep expertise in implementing DR offerings for businesses that are beginning their move toward cloud infrastructure. It sees value in a portfolio of services that aren't wrapped into infrastructure services from the major hyperscalers and are native to the source platform. The company offers traditional storage backup services in partnership with major storage vendors as well as high-end DRaaS services.

Because some of its clients have marginal cloud knowledge, it often finds itself catering to first-time cloud users. Complexity and the additional costs that are associated with moving to the cloud can be daunting for this market segment. The provider has built a defensible business by offering higher SLAs and infrastructure redundancy that offers more value to customers than they could achieve by migrating to the cloud on their own.

### Motivations for DR services

In order to remain successful in the cloud era, this provider has been expanding its tiered DRaaS offerings by targeting both its existing clientele and new customers with initial services like DR. By offering hosting on-premises and in the cloud, it can provide a breadth of DR applications so that customers can meet all of their technology infrastructure needs with a single provider. This company has seen that appropriately matching DR services can be an effective way of landing new customers and also expanding into more services from that base.

Not every business application requires minimal RTO/RPO times, so clients with less vital workloads can curb DRaaS spending by using services that best match their needs. With major expertise gaps in many IT teams, there is great value in a DRaaS partner that can create a portfolio of offerings that won't bust budgets or scale beyond their particular requirements. This provider wanted a spectrum of possibilities in its offerings to cater to clients ranging from midmarket businesses to highly regulated financial services customers. It wanted to be able to target different levels of RPO/RTO to different customer situations.

### Service requirements

In building out its service, this provider wanted to target capabilities that would suit a broad range of potential customers at reasonable cost. It was important that there be solid integration with existing IT management environments. The expectation was that it would need a cost target that was below very low RPO/RTO offerings, but was full featured enough to satisfy customers who were well on their way with hybrid deployments. Offering different levels of RPO/RTO was a major driver for this managed cloud provider.

### Service offering

Offering a one-stop-shop approach to DRaaS allows this vendor to sell to some of the most regulated industries. Assisting clients with regulatory compliance – such as HIPAA compliance documents, BAA attestations, and HITRUST and general third-party auditing – creates another beneficial differentiator, since it can ensure that its clients are running secure and compliant infrastructure. Allowing for third-party audits streamlines the testing process for clients, which lets them focus on the operational aspects of their business.

### Customer reaction

This provider cites rapid growth in its DRaaS segment and projects continued growth. By offering a tiered range of DR services with varying levels of RPO/RTO and compliance, the company is able to target many industries and potential clients.

## Provider B

### Background

From its origins in 2009 as a provider with a single multitenant datacenter that offered colocation and a network access point, our second case-study provider has expanded its services and capabilities and has grown to achieve a global footprint. Moving into the colocation-plus-cloud market and onward to full public and private cloud offerings, it sought to differentiate itself in key industry verticals. It established a specialty in enhanced security, and built backup and DRaaS as value-added services on top of its infrastructure offering.

Its customer base varies widely in terms of experience and understanding of DR and cloud services in general. Adding DR capabilities to existing IaaS capabilities gives its customers the ability to deploy DR without additional vendor engagement, allowing them to free up time and resources for advancing core business initiatives.

### Motivations for DR services

The company expected that adding DRaaS to existing infrastructure services would aid customers that are earlier on in their journey to cloud transformation. These customers have a greater tendency to run into issues in deploying DR on their own, due to limited skills. This can create complications in infrastructure management, as a lack of understanding of data storage concerns can limit the effectiveness of a DIY implementation. There can also be major cost concerns driven by overprovisioning.

This provider saw an opportunity in helping customers build on the competitive advantage of understanding what data they have, where it is and how to leverage it. The ability to offer targeted DR services through existing infrastructure would help the company better serve these customers.

### Service requirements

The primary driver for the service offering for this provider was a need to match capabilities with customer requirements. It needed to ensure that the rollout of the service minimized the impact on customer operational teams and was able to deliver capabilities that customers could put to work quickly.

### Service offering

Working across partner infrastructure also helps this provider meet its clients' immediate DR needs. A utility consumption model allows a greater focus on more specific functionality, which is a differentiator for this vendor since hyperscalers don't address these capabilities at web scale. Because these services are well integrated with their existing management systems, customers don't need to learn any new functionality and can simply turn on the service and begin replicating data.

With an understanding of what is and isn't necessary for its clients, this infrastructure provider can tailor DR to fit its clients' specific needs. If there isn't a requirement for more advanced levels of RPO/RTO, then there's no need to pay for it. Thus, the company is able to deliver cost effectiveness that can be difficult for other providers to achieve.

### Customer reaction

As DR adoption grows along with cloud use, this provider sees businesses engaged in digital transformation looking to their infrastructure providers to assist them with implementing DR. Having an offering that bolts on to customers' on-premises management environment has made service deployment simple. The provider's internal operations teams and sales teams required little transition time to deliver the new service. It is seeing good initial traction and is looking toward further engagement with its offering partner to expand service consumption. The company sees itself as being successful by making DR service implementation as seamless and cost-effective as possible.

### Summary

Both of these cloud providers saw an opportunity for a DRaaS offering that specifically targeted a business need that had been going unmet, and they feel that it has created both a service opportunity and a chance to connect in deeper and more valuable ways with their customers. A key component of each DRaaS offering was its ability to leverage existing IT management systems in order to minimize the effort required for customers to onboard it. Being able to work with an existing partner that was widely established in the IT infrastructure market minimized the effort they had to expend to establish the service in their environments.

## CASE STUDY HIGHLIGHTS

### DR SERVICES HELP ENGAGEMENT

Most businesses are in the early stages of their BC/DR journey. DR is an area where provider expertise and services are particularly valuable.

### EXTENDING EXISTING ENVIRONMENTS EASES SCALING

By extending existing management systems to add DR capabilities, rather than introducing stand-alone DR offerings, providers can speed their service availability and shorten customer deployment times.

### OPENING NEW BUSINESS OPPORTUNITIES

DR services bring providers into the core of their customers' businesses. This opens the door to additional service opportunities. Providers can become trusted guides on the journey to greater opex-focused infrastructure.

## Considerations for Cloud Providers

As cloud providers look to address the DR market, they should consider the way in which they'll deliver the service and how they expect to engage their customers. For those that don't currently offer a DRaaS capability, they'll need to determine requirements and budgets for their target customer segments. This will give them insight into customer desires, but, as the case studies above indicate, that can often skew to higher levels of RPO/RTO performance than their budgets can accommodate. It can make sense to look at cost-efficient service offerings as an initial entry into this market.

For cloud providers that already have DRaaS capability, it's worth considering what part of the market their existing services can't address. As the case studies illustrated, having an offering that integrates easily with existing on-premises management systems can unlock many opportunities.

In either situation, providers need to examine the impact on their own operations and infrastructure to ensure that they can achieve reasonable return on investment in building out the service. It can make sense to leverage services from their existing partners, where available. It's also important to consider the ecosystem that comes along with that offering. Having a rich ecosystem to support a service offering can be a significant boost in delivery and operation.

In defining service offerings, providers should consider how they'll package them. As the case studies showed, a primary concern for customers is RTO/RPO, but there is often a lack of understanding of the nuances in selection. By creating tiers of capabilities, providers can both simplify customer purchasing decisions and reduce their operational complexity.

The same is true of the other major cost variable – storage management. Tiers can help here, too, by simplifying decisions on retention times and other key criteria, such as snapshot granularity and retention. Because of the breadth of customer requirements, it's worthwhile to keep tiering for recovery and storage independent. This will allow providers the flexibility to tailor quote responses competitively. To minimize selling complexity, a small number of standard tier pairs can headline service offerings, with typical recovery and storage tiers linked together. If customers require different combinations of capabilities, they'll still be available to more specifically address their needs.

Given the early stage of this market, providers have an opportunity to become valued advisors to their customers in the journey to cloud. They can help customers find their footing through assessments and guide them to improved capabilities with onboarding services.

#### CLOUD PROVIDER CONSIDERATIONS

<b>EFFICIENT SERVICES DEPLOYMENT</b>	Providers need to evaluate plans for service operational integration and customer deployment. Primary considerations should be rollout effort and operational complexity.
<b>IMPROVED CUSTOMER ENGAGEMENT</b>	Initial DR assessments can help customers better understand their options and the value of a managed service. Onboarding services can speed deployment and increase service consumption.
<b>LONG-TERM POTENTIAL</b>	DR services can be a foundation on which additional business can be built as customers make their journey to cloud.

DR services are a critical business component with complex aspects that organizations often don't fully understand. This makes an assessment particularly useful, as it can help customers identify and prioritize IT resources and give them the tools to plan a DR implementation. An assessment can help customers understand how to manage costs with risk profiles and ensure that the delivered services don't challenge their budgets. Assessments can increase customer satisfaction by identifying realistic RTO and RPO requirements and offering guidance on managing total storage volume.

DR is also an area where onboarding services can help customers overcome staffing and skills shortages that could delay deployment. Onboarding can deliver the initial service tuning that can ensure long-term success and customer satisfaction. DR services aren't a one-time engagement with customers. They're the beginning of what can be a very valuable partnership.

## Conclusions

Successful cloud providers have mastered their mix of services to match their customers' needs and market conditions. DRaaS has great potential, given the high levels of business interest and relatively low adoption rates. The key to building a valuable service offering is working with a technology partner with a well-established base to ensure that customers require a minimum of effort to deploy, and ensuring the capabilities to match specific business requirements.

## Methodology

This research report includes data from 451 Research studies from our Voice of the Enterprise (VoE) panel, as well as independently assembled panels. The use case studies were based on interviews conducted by 451 Research with Expedient and phoenixNAP.



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## VMware vCloud Availability

VMware vCloud Availability provides a simple vSphere-based native DRaaS solution within VMware Cloud Director, for Cloud Providers to offer to their customers. Focusing core strengths on self-service from within Cloud Director and tiered capabilities, it appeals to all types of customers with a perfect balance of capability and cost.

The solution utilizes native vSphere replication, so there are no agents to configure or host changes, just simple point-and-click DRaaS coverage for on-premises-to-cloud and cloud-to-cloud DR. Available to support cold and warm migration or DR, customers can replicate their VM/vAPPs to their virtual datacenters simply and securely, removing complexity and operational cost. Further policy-enabled controls help Cloud Providers maintain operational continuity and provide customers with the necessary guardrails for their DRaaS.

Ultimately customers need choice and need the value that complexity provides them, and VMware Cloud Director, supporting vCloud Availability, is the perfect platform to deliver against customer demands and make complexity sustainable, meeting all customer needs for service portfolio richness and diversity, as well as simplicity in management and operation for Cloud Providers.

To find out more about VMware Cloud Provider solutions and VMware Cloud Director or VMware vCloud Availability, please visit <https://cloudsolutions.vmware.com/>

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