

ECONOMIC VALIDATION

Analyzing the Economic Advantages of Dell APEX Cloud Platform for Microsoft Azure

Get the Functionality of Azure in Your On-premises Environment to Reduce Testing by 85% and Support Costs by 40%, and Increase Your Administrator Effectiveness by 50%

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Economic Validation: Key Findings Summary

Validated Benefits of Dell APEX Cloud Platform for Microsoft Azure



Reduce costs of testing by 85% and deploy updates within 4 hours of release.



Lower support costs by 40%.



Increase administrator effectiveness by 50%.

- **Improved Financials:** Dell APEX Cloud Platform for Microsoft Azure provides clarity and control over costs while substantially lowering the costs of testing, support, and administration.¹
- **Increased Business Agility:** Dell APEX Cloud Platform for Microsoft Azure provides the power and benefits of Azure in a familiar and powerful on-premises Dell environment.
- **Improved Security and Governance:** Dell APEX Cloud Platform for Microsoft Azure provides reduced complexity, the elimination of technical debt, and the introduction of best practices that reduce risk and improve governance.

¹ Based on continuous joint CI/CD testing with Microsoft. Results may vary. September 2023.

Introduction

This Economic Validation from TechTarget's Enterprise Strategy Group is focused on the quantitative and qualitative benefits organizations can expect by using Dell APEX Cloud Platform for Microsoft Azure when compared to traditional on-premises environments and those that claim to be hybrid cloud solutions.

Challenges

The allure of cloud computing is strong, with 94% of companies currently deploying production applications and server workloads on public cloud resources or planning to do so within the next two years.² As organizations move more workloads and data to the cloud, they often pick the specific cloud provider that makes the most sense at the time for that specific need. This leads to a multicloud existence, creating complexity and challenges that can put a stranglehold on business agility. Enterprise Strategy Group interviewed customers about their challenges with multicloud environments and found these areas to be consistent across them:

- **Unpredictable costs.** While overall costs were a concern, the unpredictability of multicloud costs is the factor that was reported as causing the most pain. The blend of costing models can be extremely cryptic, and the ability to understand the cause-and-effect cost impact of resource movement between cloud and on-premises resources often limits resource optimization.
- **Management complexity.** Most organizations that adopt a multicloud strategy quickly find themselves with a level of complexity in their ecosystem that stifles innovation, creates technical debt, and increases the likelihood of human error.
- **Lack of flexibility.** Customers report that they can find themselves trapped in their siloed cloud environment and are slow to respond to changing needs and opportunities.
- **Inconsistent security.** Differing security postures across clouds can lead to gaps, which can inject risk and uncertainty.
- **Skills gap.** Finding, training, and keeping employees skilled in multicloud environments is expensive and time-consuming. The risk of not being able to maintain a high level of expertise keeps many organizations from adopting new technologies.
- **Limited visibility.** Organizations that rely on multicloud environments can find themselves with silos of information. The lack of visibility that exists across these silos limits organizations' ability to effectively use those resources, creates regulatory concerns, and creates redundancies in resources and data.

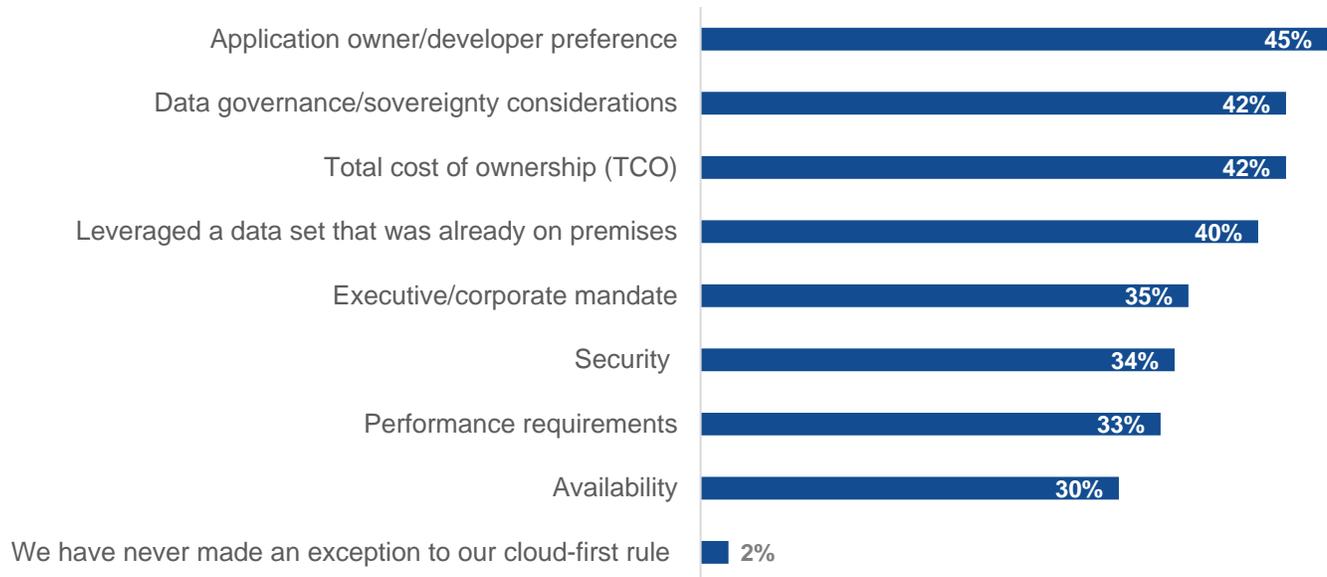
Considering these challenges, many organizations quickly find that they prefer their experience with on-premises solutions over what they are getting in the cloud. As shown in Figure 1, Enterprise Strategy Group research uncovered fundamental reasons that organizations prefer to deploy resources on premises instead of in the public cloud.³

² Source: Enterprise Strategy Group Research Report, [Cloud Entitlements and Posture Management Trends](#), April 2023.

³ Source: Enterprise Strategy Group Research Report, [Multi-cloud Application Deployment and Delivery Decision Making](#), June 2023.

Figure 1. Concerns About Moving Resources to the Public Cloud

You indicated your organization has a cloud-first application deployment strategy. Have any of the following factors created an exception that led your company to deploy a net-new application on-premises? (Percent of respondents, N=165, multiple responses)



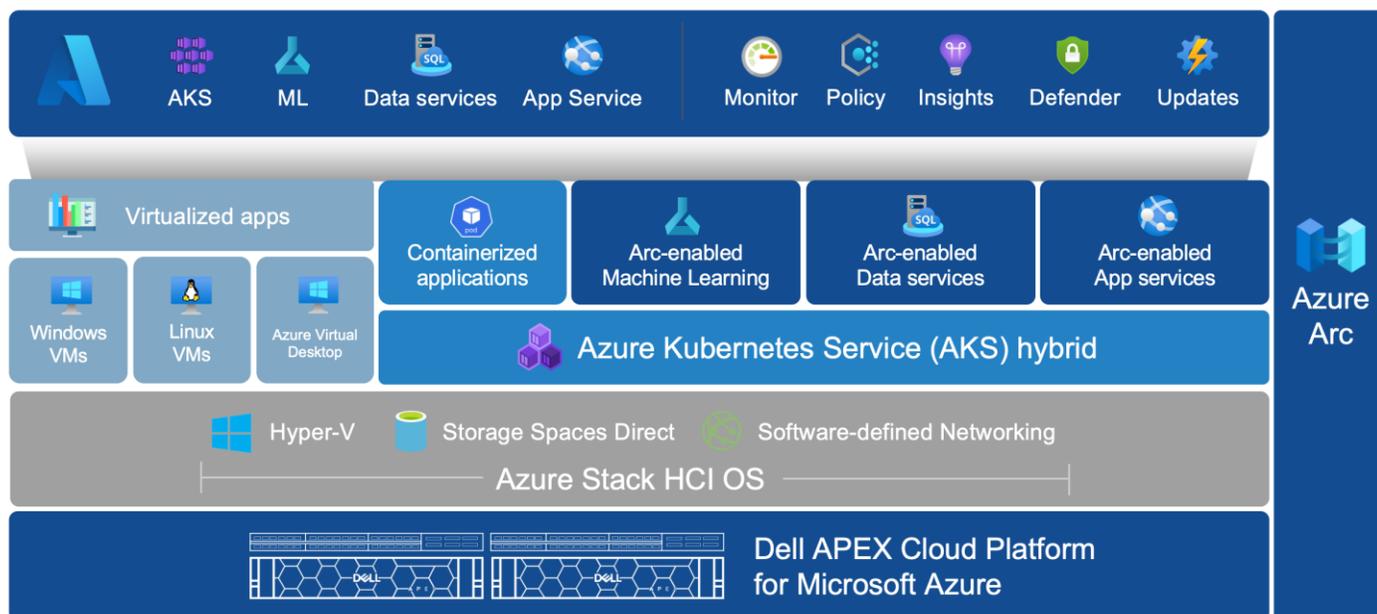
Source: Enterprise Strategy Group, a division of TechTarget, Inc.

While the benefits of the public cloud and hybrid environments are alluring, each new capability brings challenges and complexity. Companies need a solution that enables them to focus on their core business instead of consistently fighting with resources.

The Solution: Dell APEX Cloud Platform Combines the Best of Microsoft Azure and On-premises Resources

Dell APEX Cloud Platform for Microsoft Azure is a full-stack, hybrid cloud platform that optimizes and extends Microsoft Azure on premises. It utilizes Dell APEX Cloud Platform Foundation Software to automate all aspects of management and simplify cloud platform operations, and it scales workloads across on-premises, edge, and cloud resources. As shown in Figure 2, Dell APEX Cloud Platform for Microsoft Azure leverages the latest generation PowerEdge servers, the capabilities of Dell APEX Cloud Platform Foundation Software, and Dell block software-defined storage (SDS).

Figure 2. Dell APEX Cloud Platform for Microsoft Azure Overview



Source: Dell Technologies.

Dell APEX Cloud Platform Foundation Software delivers seamless management and orchestration capabilities to the Dell APEX Cloud Platform for Microsoft Azure. This software is derived from the highly successful Dell VxRail HCI System Software that over 20,000 customers have benefitted from for years. Dell APEX Cloud Platform Foundation Software provides deep, cross-layer integrations and intelligent automation that simplify initial deployments and cluster creation, in addition to performing ongoing operations across the complete technology stack through integration with Windows Admin Center. IT admins can use familiar tools such as Windows Admin Center and the Azure portal for a simple, consistent, and centralized way of operating dispersed Azure deployments.

The platform is a single-tier hyperconverged infrastructure (HCI) running Hyper-V and Storage Spaces Direct (S2D) as the primary storage. Dell is the first to extend the Azure Stack HCI storage fabric to include Dell PowerFlex software-defined storage.⁴ Using PowerFlex, customers can support mission-critical workloads with a diverse set of performance requirements—especially those that need cloud-like linear scalability. It also enables customers to scale storage resources independently from Azure Stack HCI compute and S2D resources. With a shared, universal storage layer based on Dell’s SDS across on-premises and public cloud locations, the Dell APEX Cloud Platform for Microsoft Azure simplifies workload mobility, giving organizations control over where their applications and data reside.

Dell APEX Cloud Platform for Microsoft Azure is the first Premier Solution for Microsoft Azure Stack HCI. This collaborative effort between Dell and Microsoft involves testing, design reviews/feedback, and feature enhancements by engineers from both companies to improve functionality and remediate bugs before each release, securing the reliability of every upgrade. Functional and lifecycle management testing includes the full stack, including hardware, operating system, software-defined infrastructure, Dell APEX Cloud Platform Foundation Software, and Azure Arc Resource Bridge. Dell and Microsoft collaboratively test all updates and ensure that even

⁴ Release date scheduled for first half of CY 2024.

critical, zero-day security patches are available to apply within just four hours using the full-stack lifecycle management feature in the Dell APEX Cloud Platform Foundation Software. Both organizations also thoroughly validate baseline upgrades to the platform and remediate any defects prior to each release, thus ensuring the reliability of every upgrade.

During these testing phases, each of the nearly 300 Microsoft-based test nodes are tested on Dell hardware for an average of 90 days, 18 hours per day, bringing the average test time to 486,000 node hours for each Dell APEX Cloud Platform for Microsoft Azure major release, 100,000 node hours of test time for each Dell APEX Cloud Platform for Microsoft Azure Baseline release-to-web (RTW) release, and 1,200 hours of node test time for each Dell APEX Cloud Platform for Microsoft Azure monthly patch.

Dell APEX Cloud Platform for Microsoft Azure brings simplicity to complex environments, consistency regardless of location, visibility throughout an enterprise, and a level of control that facilitates governance and compliance.

Enterprise Strategy Group Economic Validation

Enterprise Strategy Group completed a quantitative economic analysis to show how organizations can better reach their IT and business goals with Dell APEX Cloud Platform for Microsoft Azure. Our Economic Validation process is a proven method for understanding, validating, quantifying, and modeling the economic value propositions of a product or solution. The process leverages Enterprise Strategy Group's core competencies in market and industry analysis, forward-looking research, and technical/economic validation. We conducted in-depth interviews with end users to better understand and quantify how Dell APEX Cloud Platform for Microsoft Azure has impacted organizations, particularly in comparison with previously deployed and/or legacy solutions. Based on their experiences with on-premises and multiple public and private cloud solutions, customers interviewed were able to give detailed feedback on ongoing costs, as well as changes in their ability to meet service-level agreements. The qualitative and quantitative findings were used as the basis for a simple economic model comparing the expected benefits of Dell APEX Cloud Platform for Microsoft Azure with previously deployed environments.

Dell APEX Cloud Platform for Microsoft Azure

Enterprise Strategy Group's economic analysis revealed that companies that deploy Dell APEX Cloud Platform for Microsoft Azure can recognize substantial savings and benefits in areas including the following:

- **Improved financials.** The ability to understand and predict costs is imperative to business and budget planning. Dell APEX Cloud Platform for Microsoft Azure enables organizations to place data and workloads where the cost/performance ratio is optimized.
- **Increased business agility.** Dell APEX Cloud Platform for Microsoft Azure provides the ability to quickly recognize and react to changes and opportunities.
- **Improved security and governance.** Enterprise Strategy Group found that Dell APEX Cloud Platform for Microsoft Azure customers were able to improve their overall security posture as well as adopt best practices that identify and minimize risk.

Improved Financials

Costing models in poorly controlled multicloud environments can be unpredictable and cryptic. During customer interviews, Enterprise Strategy Group heard multiple examples of multicloud costs being higher than initially planned and budgets being blown because of unexpected cloud costs. As shown in the [financial model section of the paper](#), we found cost benefits of Dell APEX Cloud Platform for Microsoft Azure in areas including:

- **Reduced costs of testing.** The partnership between Microsoft and Dell results in engineers from both companies doing extensive testing and validation on all releases and updates of Dell APEX Cloud Platform for Microsoft Azure to identify and remedy issues before the platform reaches customers' hands. Customers interviewed by Enterprise Strategy Group reported that their costs of testing are 85% lower since deploying Dell APEX Cloud Platform for Microsoft Azure, saving an estimated \$1.4M each year.
- **Reduced support costs.** Customers report a high level of confidence in the testing that Microsoft and Dell do on the platform and report that it manifests in more streamlined operations for administrators and end users. Enterprise Strategy Group's financial model shows a reduction in support costs of 40%, saving \$3.0M annually. Additionally, we estimate that platform or availability issues that affect end users can be reduced by 50%, saving \$362K in annual revenue. Downtime and failover issues affecting the business as a whole were reduced by 80%, saving \$2.25M in lost revenue.
- **Improved administration.** Enterprise Strategy Group found that the elimination of complexity and overall intuitiveness of the Dell APEX Cloud Platform for Microsoft Azure enabled both IT and storage administrators to be more efficient. Our model shows a 50% improvement in administrator effectiveness through fewer and more streamlined tasks. Additionally, shifting from multicloud to on-premises resources reduced the need for expensive multicloud experts, lowering the cost per admin by approximately 15%. The result is a potential benefit of \$5.0M per year in administration savings.
- **Storage efficiency.** Interviewed customers shared that using Dell APEX Cloud Platform for Microsoft Azure reduced their overall data footprint by 8% and lowered their cost per TB by 15%. We found this benefit to be worth \$1.1M annually in our financial model.
- **Reduced complexity.** Every interviewed customer reported a substantial reduction in operational complexity when going from multicloud to Dell APEX Cloud Platform for Microsoft Azure. One customer specifically called out the similarity of the platform to VxRail and shared the benefits of having **"VxRail visibility, analytics, and capabilities across Azure."** When asked about the benefits, customers specifically talked about the reduction in complexity and human-caused errors. Enterprise Strategy Group's financial model showed that a 45% reduction in human-based errors can enable organizations to save \$596K annually.
- **Eliminated technical debt.** Technical debt, or the squandering of current IT budgets due to short-sighted decisions of the past, can sap 40% of an IT budget each year.⁵ Each customer interviewed for this analysis was asked about the ability of Dell APEX Cloud Platform for Microsoft Azure to remediate past decisions and help shift their strategy to be more forward-looking. Each interviewee agreed that approximately half of their technical debt could be eliminated, recovering \$3.6M of each year's IT budget to work on present and future initiatives. While this \$3.6M number is absorbed in other categories in this analysis, we believe this shift in thinking specifically leads to the ability to pursue new revenue-generating opportunities.

"We have a high level of trust in the testing that Microsoft and Dell do on Dell APEX Cloud Platform for Microsoft Azure. Because of the high-quality bar of every release, we have been able to shift resources from low-level testing to activities that are much more strategic."

Increased Business Agility

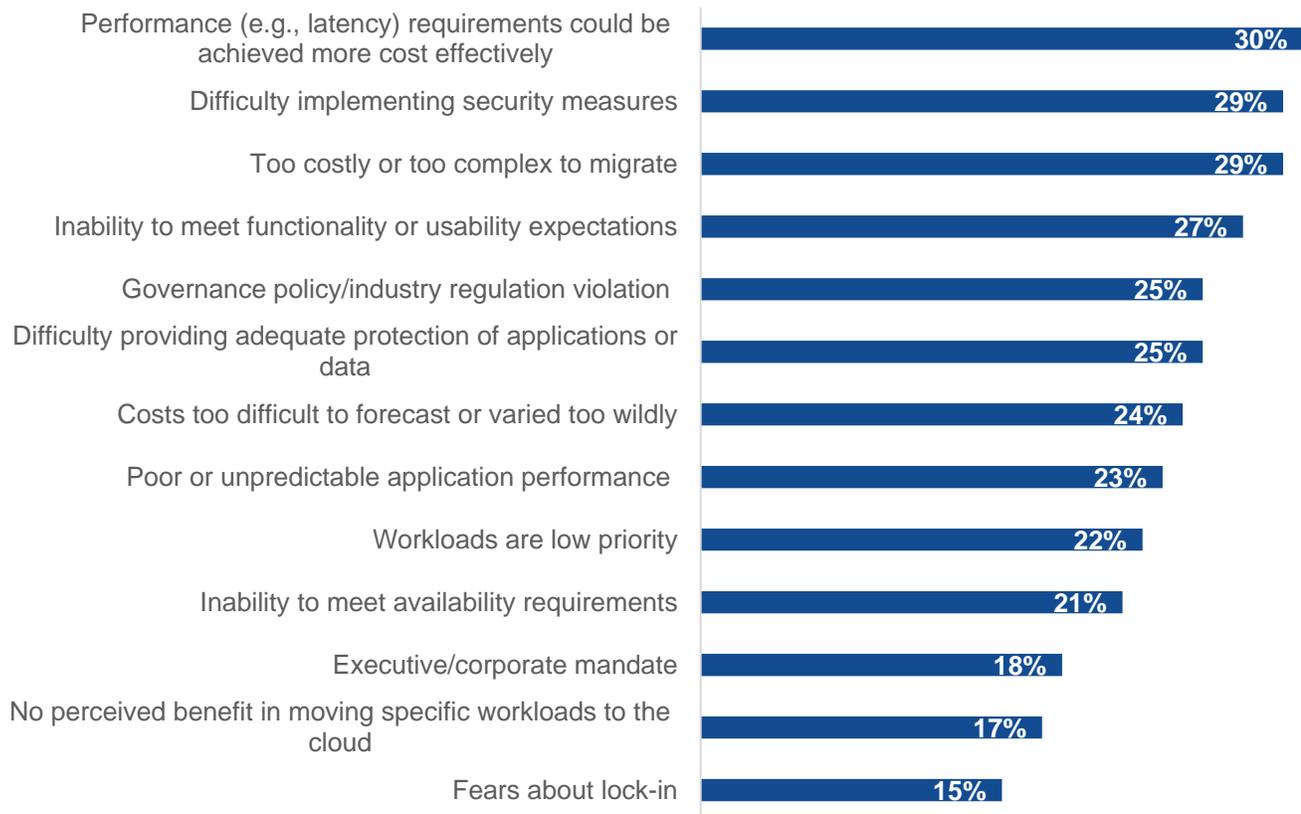
While most organizations have adopted some type of cloud strategy, there are many workloads that organizations do not consider to be candidates for cloud deployment. As shown in Figure 3, performance concerns, security, cost, and complexity lead the list of multicloud concerns.⁶

⁵ Source: Vishal Dalal, et al. "Tech debt: Reclaiming tech equity," McKinsey.com, October 2020.

⁶ Source: Enterprise Strategy Group Research Report, [Multi-cloud Application Deployment and Delivery Decision Making](#), June 2023.

Figure 3. Performance, Security, and Costs Drive Decisions Not to Migrate Applications

You indicated that some of your organization’s applications or workloads are not candidates for deployment on public cloud. Why not? (Percent of respondents, N=304, multiple responses accepted)



Source: Enterprise Strategy Group, a division of TechTarget, Inc.

In addition to workloads that are not considered candidates for cloud, Enterprise Strategy Group research shows that 54% of organizations have moved workloads back on premises from public cloud resources after initial deployment.⁷ In studying the impact of Dell APEX Cloud Platform for Microsoft Azure, we found that the platform removes many of the constraints that dictate where resources should be deployed, as well as facilitating the ability to move those resources. By extending the Azure experience across the entire ecosystem, administrators have consistency in capabilities, regardless of location. This enables them to select the optimum location for the workload while minimizing areas of concern. Customers interviewed for this analysis cited business agility as a key differentiator for the platform and gave specific examples of this, including:

- Enhanced flexibility.** Enterprise Strategy Group found that of Dell APEX Cloud Platform for Microsoft Azure eliminates much of the complexity found in multicloud environments while empowering organizations to better align IT capabilities with business needs. The platform facilitates full control over resources and locations by handling low-level tasks while enabling administrators to focus on higher-level initiatives. As shared by one interviewee, **“Dell APEX Cloud Platform for Microsoft Azure allows me focus on my business. I can trust that the partnership of Dell and Microsoft is taking care of many of the low-level tasks that used to cause me worry.”**

⁷ Source: Enterprise Strategy Group Complete Survey Results, [Distributed Cloud Series: The State of Infrastructure Modernization Across the Distributed Cloud](#), August 2023.

- **Immediate scalability.** In combining the benefits of an on-premises environment with cloud-like control, customers reported a deployment acceleration of 300% using ProDeploy for Dell APEX Cloud Platform for Microsoft Azure, as well as the ability to assign the necessary level of resources to a workload and easily change it as needed. Being able to scale resources immediately when necessary enables users to reduce planning time by two-thirds and bring resources online sooner.
- **Simplicity in costing models.** Companies locked into multicloud environments can find themselves in a cryptic maze of costing and licensing models that are expensive to manage and that create license compliance worries. Customers shared that licensing with Dell APEX Cloud Platform for Microsoft Azure simplifies license management and can eliminate multiple layers of license costs.
- **Enhanced automation.** Automation with control can increase productivity by streamlining common tasks. Additionally, automation can bring higher levels of standardization to an organization. Enterprise Strategy Group believes that the more consistent an IT organization is, the more flexible it can be when change is required.

“We have built our business using the functionality of VxRail. With Dell APEX Cloud Platform for Microsoft Azure, we get that VXRail experience in Azure. We allow the platform to remove the complexity from our operations, and we get to concentrate on what makes us successful.”

Improved Security and Governance

Multicloud environments often have different levels of security policies and enforcement because each cloud environment is somewhat siloed from others. IT staff have to learn multiple ways to achieve the same result based on the specific cloud that houses a resource. Dell APEX Cloud Platform for Microsoft Azure provides consistency across all Microsoft Azure and on-premises resources. Enterprise Strategy Group studied the impact of this consistency and found the following benefits:

- **Improved consistency and governance.** In addition to consistency across all assets, customers shared that deploying Dell APEX Cloud Platform for Microsoft Azure brought a change in mindset that improved their overall security posture. The structure that both Dell and Microsoft inject into the platform carries over into the customer environment and creates a standardized, repeatable workflow. One specific example uncovered in customer interviews was the ability of Dell APEX Cloud Platform for Microsoft Azure to control AI discoverability. One customer shared, **“The process of moving to Dell APEX Cloud Platform for Microsoft Azure helped us organize our data and helped us label it to be used correctly by AI or be shielded from AI.”**
- **Improved patching.** Because all updates are jointly validated by Dell and Microsoft using mature CI/CD pipelines, customers can deploy critical fixes faster, especially when compared with multicloud environments. One customer stated that critical fixes are now deployed within hours, as compared to weeks, before their shift to the platform.
- **Configuration accuracy.** Capabilities such as infrastructure lock can protect and secure against inadvertent configuration changes and updates to the hardware. This ensures that only intended changes are made to hardware.

“Now we have the visibility of VxRail across Azure. If I can see an asset, I can manage and protect it.”

- **Lower risk of breach.** Better visibility, control, and governance results in a lower risk of breach. Using the IBM/Ponemon Institute study for the cost of a data breach as a basis,⁸ Enterprise Strategy Group’s financial model shows that our sample company can alleviate \$858K of risk per year through the hardened security and improved governance that the Dell APEX Cloud Platform for Microsoft Azure provides.

Enterprise Strategy Group Analysis

Enterprise Strategy Group leveraged the information collected through vendor-provided material, public and industry knowledge of economics and technologies, and the results of customer interviews to create an economic model that compares the costs and benefits of Dell APEX Cloud Platform for Microsoft Azure against a traditional multicloud scenario.

For this analysis, we used a sample company, detailed in Table 1, to project costs and benefits. The model assumed a mixture of ecosystems across at least two public cloud providers as well as existing on-premises resources.

Table 1. Modeled Scenario Company Details

Item	Initial Value	Value With Dell APEX Cloud Platform	Annual Benefit
Number of employees	5,000		
Revenue per employee	\$250,000	\$253,750	1.5%
Number of VM instances	893		
Data footprint (TB)	1,500	1,380	8%
Support staff (FTEs)	74	45	40%
Administrators (IT, storage, security)	40	20	50%
Testing staff (FTEs)	15	3	85%
IT budget (annual)	\$45.2M		

Source: Enterprise Strategy Group, a division of TechTarget, Inc.

While findings in this paper are based on the sample company outlined in Table 1, each of the benefit numbers and percentages are expected to scale in a somewhat linear fashion for companies ranging from small/midsized through enterprise organizations. While results may vary, Enterprise Strategy Group believes the results described in this paper are achievable with a combination of Dell APEX Cloud Platform for Microsoft Azure and a shift in best practices to increase governance.

⁸ Source: IBM, [Cost of a Data Breach Report 2023](#).

Conclusion

Many organizations have turned to multicloud environments to solve their infrastructure, development, and storage needs. However, they soon find out that the allure of multicloud comes with a level of complexity that is expensive and requires levels of expertise that are beyond their reach. Additionally, many feel that certain workloads and data are better left on premises. This is leading many companies to rethink their multicloud strategies.⁹

Dell APEX Cloud Platform for Microsoft Azure is the result of a partnership between Dell and Microsoft that delivers a consistent Azure experience to on-premises environments. Dell APEX Cloud Platform for Microsoft Azure is a full-stack offering that simplifies application and infrastructure modernization while accelerating innovation.

Enterprise Strategy Group studied the impact that Dell APEX Cloud Platform for Microsoft Azure can have on a multicloud organization's ability to reach IT and business goals and found that companies that make the change can realize improved financials, increased business agility, and improved security and governance.

As part of this analysis, we interviewed Dell APEX Cloud Platform for Microsoft Azure customers; studied Dell-provided material on APEX and VxRail, existing Enterprise Strategy Group insights, and industry knowledge; and found the benefits described to be achievable, repeatable, and realistic for organizations looking to get more from their multicloud environment.

If your organization is incurring challenges with its multicloud environment, Enterprise Strategy Group strongly recommends that you explore how Dell APEX Cloud Platform for Microsoft Azure can help you get the benefits of Azure in your on-premises environment.

⁹ Source: Enterprise Strategy Group White Paper, [Addressing the Top Three Drivers of Multicloud Complexity](#), June 2023.

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