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Accelerate Hybrid Cloud for Businesses with Dell Technologies and Microsoft

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Abstract: Even in a world in which distributed cloud IT has become pervasive, on-premises implementations remain common. Together, Microsoft and Dell are enabling IT organizations to leverage cloud capabilities ever-more seamlessly, while reducing the risks of adopting and integrating those innovations into the environment.

Overview

Modern application environments span everywhere, on and offsite. Within IT organizations, a near-universal pressure to accelerate operations exists, but the applications they must manage today usually reside in hybrid cloud environments. Therefore, it is necessary to deploy the best technology universally—in the cloud, on premises, and at the edge.

Dell Technologies and Microsoft have been partnering for decades on numerous customer-focused innovations in core enterprise IT. The two companies continue to deliver consistency across hybrid cloud environments. The integration of Dell's expertise in IT infrastructure, along with Intel® and the scale of the Microsoft Azure cloud, gives customers a powerful and trusted hybrid cloud solution.

The Distributed Cloud Era

Because nearly every IT organization now relies on hybrid cloud IT, ensuring consistency has become a vital task. It is consistency that helps to accelerate operations while reducing operational costs as scaling occurs. Research by TechTarget's Enterprise Strategy Group has shown that among surveyed IT decision-makers:[1]

- **87%** say that their application environment will become distributed across more locations over the next two years.
- **86%** report that they regularly migrate applications and/or data from on-premises locations to the public cloud.
- **81%** are facing challenges with application and data portability across locations including data centers, the public cloud, and the edge.

Even among organizations that deploy new applications to the public cloud by default—47% of all organizations according to the same Enterprise Strategy Group research study[2]—multiple factors still may lead those cloud-first organizations to deploy some net-new applications on premises. Developers' preference and TCO-related concerns can play roles in the app-placement decision, and data governance considerations can also greatly influence
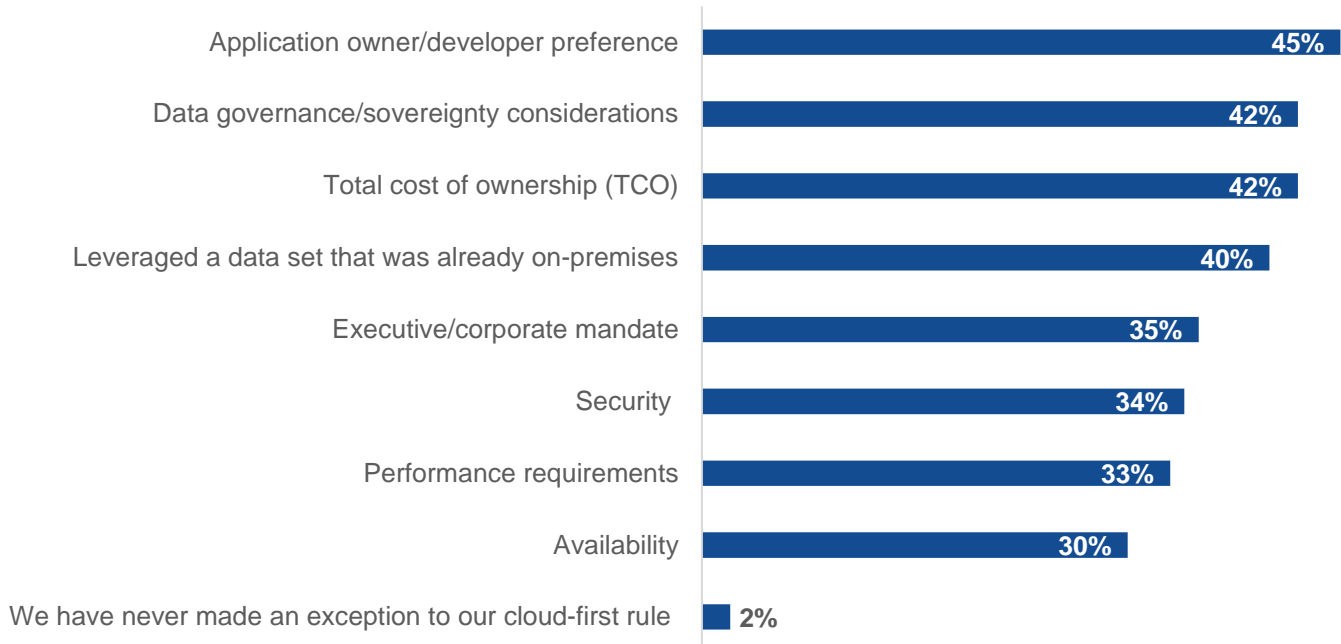
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[1] Source: Enterprise Strategy Group Complete Survey Results, *Multi-cloud Application Deployment and Decision Making*, May 2023.
[2] Ibid.

whether a particular application should be kept on premises. Notably, only a tiny percentage of respondents have never deviated from their cloud-first policy (see Figure 1).[3]

Figure 1. Top Reasons Cloud-first Organizations Deploy Applications on Premises

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 accepted)

Application owner/developer preference	45%
Data governance/sovereignty considerations	42%
Total cost of ownership (TCO)	42%
Leveraged a data set that was already on-premises	40%
Executive/corporate mandate	35%
Security	34%
Performance requirements	33%
Availability	30%
We have never made an exception to our cloud-first rule	2%

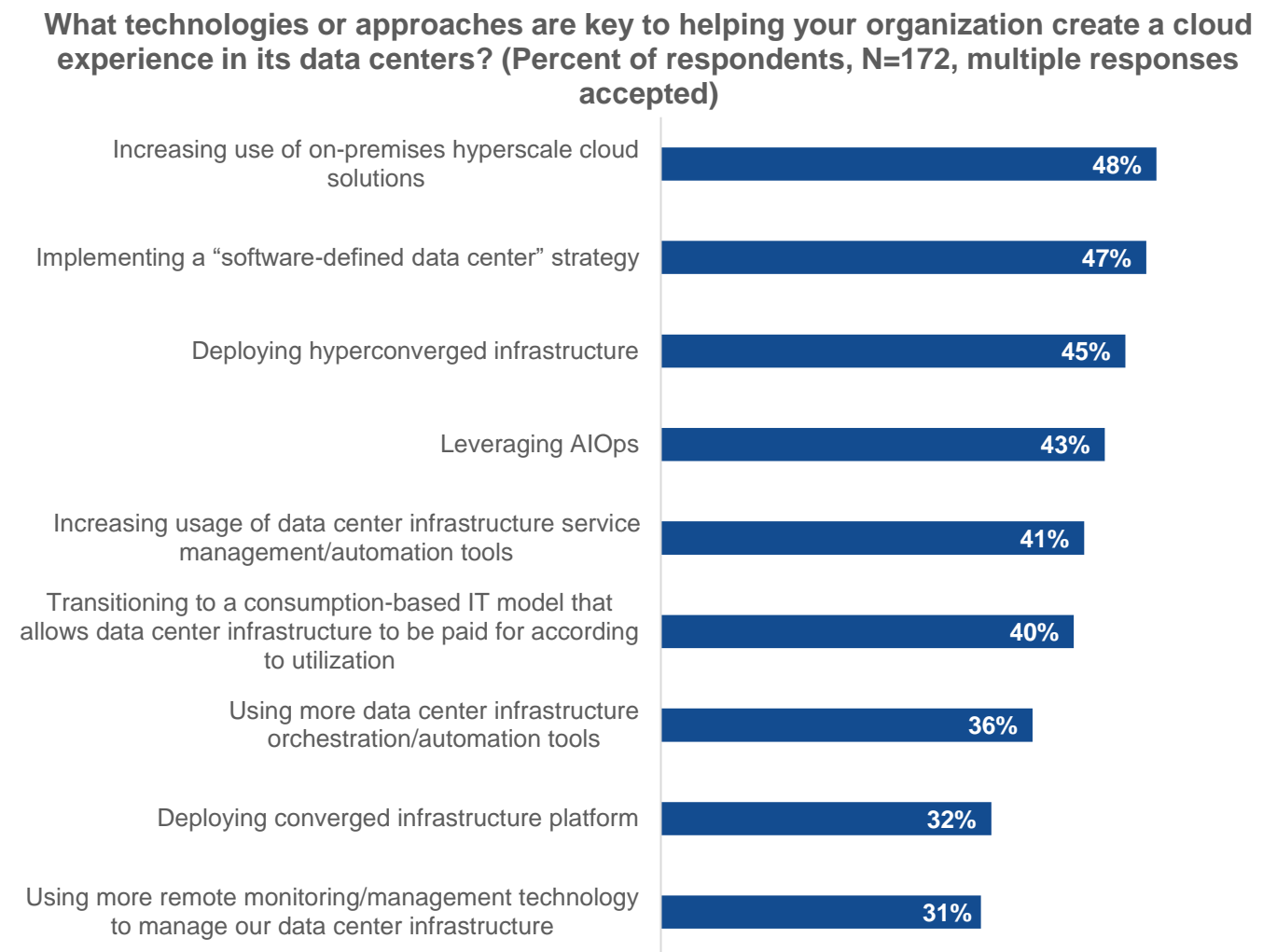*Source: Enterprise Strategy Group, a division of TechTarget, Inc.*

On-premises implementations are common. This is the case even for cloud-native applications: 44% of surveyed organizations told Enterprise Strategy Group that their cloud-native applications will be deployed in on-premises data center locations.[4] This situation points to the need to modernize on-premises environments and create a cloud experience everywhere. As Figure 2 illustrates, organizations are leveraging a variety of technologies and approaches to create that cloud experience.[5]

In general, an organization must be proactive in designing its modernization strategy, as retaining legacy infrastructure elements can present risks and even put an organization at a competitive disadvantage. Essentially, organizations must move beyond managing traditional IT silos. The infrastructure platform needs to be tightly integrated with operating environments and management/automation toolsets.

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[3] Ibid.
[4] Source: Enterprise Strategy Group Complete Survey Results, *Distributed Cloud Series: Cloud-native Applications*, May 2022.
[5] Source: Enterprise Strategy Group Research Report, *Application Infrastructure Modernization Trends Across Distributed Cloud Environments*, March 2022.

Figure 2. Top Technologies to Help Create a Cloud-like Experience on Premises

What technologies or approaches are key to helping your organization create a cloud experience in its data centers? (Percent of respondents, N=172, multiple responses accepted)

Increasing use of on-premises hyperscale cloud solutions	48%
Implementing a "software-defined data center" strategy	47%
Deploying hyperconverged infrastructure	45%
Leveraging AIOps	43%
Increasing usage of data center infrastructure service management/automation tools	41%
Transitioning to a consumption-based IT model that allows data center infrastructure to be paid for according to utilization	40%
Using more data center infrastructure orchestration/automation tools	36%
Deploying converged infrastructure platform	32%
Using more remote monitoring/management technology to manage our data center infrastructure	31%

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

IT and cloud leaders engaged in efforts to modernize everywhere should look for several solution capabilities:

- **Modernization capabilities applicable to both on- and off-premises locations**—Organizations should choose technologies that can optimize the application and developer experience with the right levels of performance, scalability, and resiliency, wherever the apps reside. Cloud-native and container technologies (such as Azure Kubernetes Service) are now integral parts of the application and developer experience.

- **Optimal infrastructure capabilities wherever the apps and data need to live**—Organizations should not have to make tradeoffs. Instead, they should look for solutions that support simplified operations, fully managed distributed cloud services, and full-stack lifecycle management. Dell infrastructure provides those automation and orchestration capabilities.

- **Consistency of experience**—Common tools and tech will help organizations reduce switching/training costs as they leverage multiple environments across a hybrid cloud. Azure Arc can enable IT organizations to run Azure data services on premises, at the edge, and in public clouds using Kubernetes and the infrastructure of their choice. It is an example of a tool that provides a secure and predictable experience in deploying and updating infrastructure, operating systems, and applications. Dell extends that experience on premises.

- **The ability to expand what is possible with the tools they already use**—Consistency is essential, but a consistent experience is far more valuable if it preserves the experience organizations are already accustomed

to. Organizations should look for solutions that can extend their existing tools to other locations (i.e., tools that give them the ability to leverage cloud tools on premises). Examples include cloud tools such as Azure Resource Center, Azure Arc, Windows Admin Center, and AKS. These cloud tools should be used on premises to simplify and accelerate operations.

- **Security**—Organizations should seek out technologies that offer a secure, predictable experience when deploying and updating infrastructure, operating systems, and applications. Dell and Microsoft have collaborated, with each incorporating the latest advanced hardware and software security features to hybrid cloud solutions.

What's Next in Hybrid Cloud from Dell and Microsoft

Dell and Microsoft are continuing to collaborate to deliver innovative capabilities that help organizations:

- Seamlessly and consistently manage their infrastructure and applications, irrespective of location. Part of this effort centers on empowering users to continue using familiar tools such as WAC and Azure Portal to comprehensively manage and operate the full technology stack.
- Simplify life cycle management and IT ops by intelligently automating processes and workflows that span technology layers.
- Simplify the governance of distributed deployments (including at the edge) by integrating Dell infrastructure into Azure management and governance services so that organizations can enforce consistent security, governance, and compliance policies across a distributed IT landscape.

Conclusion

The term "distributed cloud" describes an environment containing dispersed hybrid cloud, multicloud, and on-prem components. Although many organizations are leveraging multiple clouds now, data centers are required for many businesses in highly regulated industries and for customers with highly time-sensitive data needs. In fact, investment in data centers continues to ramp up.[6] However, managing this extensive distribution of locations creates pressure on IT operations.

Dell and Microsoft are working to simplify hybrid and multicloud IT. Dell's specialists like to use the term "ground to cloud," which means bringing Dell's 30-plus years of storage experience to hybrid cloud/multicloud environments, while enabling IT to maintain control right on premises. And in this case, Dell's storage experience is greatly enhanced by Microsoft's cloud capabilities and services.

Microsoft and Dell are bringing Azure Services to where the data resides (for example, by enabling organizations to run Azure SQL on prem or by creating integrations into Microsoft Windows Admin Center and other management consoles that administrators already know well). Dell and Microsoft have both been thought leaders in this area, collaborating daily on code sharing, testing, and security-related validations.

Delivering a cloud experience on premises, based on an organization's unique needs, is the direction in which the world is going. Dell and Microsoft are well positioned to help organizations make significant progress on that journey.

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[6] Source: Enterprise Strategy Group Complete Survey Results, *Multi-cloud Application Deployment and Decision Making*, May 2023.

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