ANALYST CONNECTION

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Disruption and uncertainty in the virtualization landscape have led many organizations to rethink infrastructure deployment choices. Building a performant, scalable, and flexible foundation for next-generation applications reduces risk and supports agility and growth.

Infrastructure Platform Choices Can Help Combat Virtualization Uncertainty

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Questions posed by: Nutanix

Answers by: Dave Pearson, Research Vice President, Storage and Converged Systems, Worldwide Infrastructure Research

Q. How should enterprise IT leaders plan to reduce risk and control costs amid disruption and uncertainty in the virtualization landscape?

A. Infrastructure choices and deployment decisions inform many of the risks to businesses in the digital era and determine both the magnitude and types of costs they will incur. Standardizing on hybrid multicloud technology stacks, especially those that provide a consistent management plane and user experience in core, cloud, and edge deployments can provide benefits in many areas including:

- **Flexibility and scale.** By enabling application mobility and providing appropriate performance characteristics for workloads across the enterprise, organizations can avoid existential risks such as application failure or lack of availability. Providing a platform that supports what the organization needs now as well as potential future demands in core, edge, and cloud is critical to maintain this flexibility, with enterprisewide management capabilities that support a variety of virtualized and containerized deployments.
- **Visibility.** An enterprisewide infrastructure approach provides increased visibility and management capabilities for data and applications wherever they sit. This can increase access to critical data for day-to-day work as well as for emerging data-intensive workloads such as AI and generative AI (GenAI) initiatives. At the same time, it can provide actionable insight for privacy, compliance, and governance teams.
- **Threat surface.** Consolidating infrastructure creates fewer points of failure and reduced ingress for both data protection and cybersecurity needs. The ability to burst to the cloud also positively impacts data protection and business continuity requirements.
- **Efficiency.** This is a multidimensional benefit. Operational efficiency is increased by the ability to easily shift data and workloads to the most appropriate infrastructure when needed, rather than over-provisioning for demand that never comes, or running into the limits of what the infrastructure can manage. A consistent experience in deploying and managing workloads can reduce the number of skill sets needed by enterprises and increase administrator efficiency, allowing employees to do value-added work. In addition, power, cooling, and water

efficiency can support sustainability goals for organizations that have the ability to continually measure, manage, and rightsize their infrastructure.

Q. What key considerations can enable enterprises to remain nimble so they can quickly capitalize on growth opportunities?

A. The past two years have demonstrated how quickly organizations may need to pivot to capture value from new opportunities. The explosion of interest in AI, GenAI, machine learning, and high-performance computing has created a divide between organizations able to quickly shift their IT priorities to address such change and those that cannot. The hybrid cloud approach enables companies to take advantage of scale, external expertise, and performance in the form of GPU-intensive infrastructure while continuing to protect and manage their most critical data within the safety of their own data infrastructure.

Rapid changes and multiple pivots can lead to the creation of silos within data infrastructure, stranding valuable data and expensive equipment or leading to cloud overspending as resources are spun up but never properly leveraged. Frictionless application mobility is critical to capitalize on growth, as is a cross-enterprise view of data resources, automation, and orchestration capabilities to help optimize utilization and capacity.

Vendor lock-in is another issue that prevents companies from quickly pivoting in their digital and AI transformation journeys. Changes outside of IT's control can create a situation in which the line of business and IT are dictated by an outside organization. This can prevent new initiatives, make existing operations less efficient or more costly, or decrease customer experience, leading to headwinds on adaptability, growth, and profitability.

Q. Which deployment model should enterprise IT leaders focus on for the future?

A. Hybrid deployments will continue to be the dominant modality for enterprises for at least the next half decade. IDC's *Infrastructure for Storage and Data Management Survey* indicated that 84% of enterprises preferred hybrid cloud or hybrid multicloud for their data storage infrastructure. Every workload has its own performance and capacity demands, as well as security, data protection, compliance, and governance requirements that make either on-premises or cloud deployments appropriate. The ability to rapidly scale resources for AI, GenAI, and other data-intensive workloads is essential for organizations to reduce time to insight, mitigate operational risks, and manage costs.

IT leaders need to assess their application portfolio to ensure they have the right data in the right place at the right time. They also need to understand that these deployment decisions change over time. An infrastructure stack that enables frictionless workload migration is key to ensuring the best operational conditions as well as the best user experience.

Developers and administrators can benefit from a flexible, consistent, cloud-native model across multiple deployment locations. The same study indicated that developers require block, file, and object data access in nearly equal distributions, and that over half of their workloads are running in containers, which their organizations prefer to run on hybrid infrastructure. At the same time, administrators are demanding unified hybrid multicloud management: 70% of

survey respondents indicated they have or soon will deploy such a system to increase visibility and manageability of their data infrastructure.

Q. What priority do total cost of ownership and return on investment play for enterprises focused on scalability and future proofing their IT infrastructure?

A. These two metrics are ever present in infrastructure deployment considerations but never more so than now. The cost of capital, uncertain demand for goods and services, turbulent markets, and a shortage of skilled resources mean that every purchasing decision goes under the microscope for almost every enterprise.

Whether in the cloud or on premises, flexible consumption models appeal to organizations with uncertain future outlooks for products and services. However, complexity- and demand-based pricing surprises have shocked many enterprises, leading to repatriation of some workloads that are better served by traditional procurement models.

This is an area in which seamless application mobility can help optimize infrastructure costs by tying them to demand as a part of the cost of goods sold. Note the word "optimize" — the lowest-cost solution is not always the best choice. The lifetime cost and value of infrastructure can also be properly tuned by a hybrid multicloud approach, as operational costs in a datacenter's footprint, power and cooling, and management can be reduced while supporting sustainability goals.

Return on investment and time to insight or time to value are critical metrics for moving to a data-centric future. Next-gen data-intensive workloads, especially GenAI, require multiple kinds of data infrastructure to manage the data pipeline at varying maturity stages. Most organizations don't have the ability to invest in expensive GPU-accelerated compute for model development, but they all want to deploy these models, perform inference, or utilize retrieval-augmented generation. To do this will require data infrastructure that delivers value on premises, at the edge, and in the cloud.

Q. How should enterprise IT leaders plan their investments to prepare for a future with multiple clouds, vast amounts of data across various endpoints, and a plethora of AI and cloud-native applications?

A. Innovation and growth require a never-ending cycle of measurement, management, and action for organizations that seek to leverage technologies supporting the newest workloads — there are no "one and done" deployments. In detail:

- Assess the application portfolio to determine workload requirements across the enterprise. Consider the business requirements and outcomes, potential for consolidation, performance, and scale.
- Develop a robust multicloud strategy that lowers dependencies on a single vendor or an ecosystem partner. Avoid lock-in while leveraging the unique capabilities of key partner vendors, ensuring that scale, performance, interoperability, and mobility are table stakes. Adopt cloud-native architectures and development strategies to enhance developer productivity and reduce rewrites and refactoring of key outputs.

- Measure what needs to be managed. Analytics from a unified cloud management and governance framework can optimize costs and utilization, simplify management, and ensure data protection and security requirements are met. They can also improve administrator efficiency and support sustainability initiatives.
- As markets continue to evolve, so should investments in infrastructure. A focus on continuous learning to manage talent and capabilities can support this. As new data-intensive workloads, services, and infrastructure become critical to the business, each of these decisions must be revisited to create value without increasing risk.

About the Analyst

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