Simplifying IT Complexity with a Unified Hybrid Multicloud Operating Model

One Platform, Any Workload

Whether by choice or by chance, most enterprises now operate in multiple IT environments. With more datacenters, cloud providers, and edge locations being added seemingly every day, plus the continued explosion of new apps and data, these infrastructures are growing extremely complex and costly to maintain. A new operational approach is in order, one that delivers full data governance, optimizes scarce IT skillsets, and provides the agility to easily move workloads as conditions change. In short, this is the hybrid multicloud approach. By adopting a unified operating platform, modern enterprises can meet all these requirements and reduce the total cost of operating their mixed environments.

The State of Today's IT Infrastructure

Hybrid multicloud IT models have become mainstream. According to the recent Nutanix Enterprise Cloud Index (ECI) survey, more than 60% of enterprises leverage more than one IT infrastructure, though not necessarily by design. That number is expected to grow to nearly three quarters (74%) in the near future. In these complex, mixed environments, traditional approaches to managing data, applications, and infrastructure are coming up short for several reasons.

The Complexity of Change

Workload placement can be a competitive edge for business. That's because the infrastructure best able to meet an application's requirements for cost, security, governance, business continuity, performance, and other variables changes as internal and external decision factors also evolve.

If you're like most organizations, for example, you've probably adopted one or more public cloud services as a way to bring up IT resources faster, accelerate your time to market, operate in a specific geography or near data sources,

provide seasonal increases in capacity, and offload upfront IT capital investments. But while public cloud delivers these important benefits that businesses want to keep, it has also created new challenges:

- Specialized IT expertise is typically needed to use cloud platforms from different providers. Without cloud-specific skillsets, lock-in with a single provider is likely, which can inhibit your agility, purchasing power, IT capabilities, and success.
- Years of cloud experience have shown that, depending on the application at hand, it can be significantly more expensive to maintain workloads in the public cloud over time, as their behaviors become known, than in private infrastructure. Continual optimization, then, requires workload mobility between clouds. But it's typically been difficult, costly, and time-consuming to move or refactor apps built for one platform to another.

Misalignment of IT Practices with Data Trends

Traditional IT Ops practices divide IT functions into silos of expertise, data, and areas of responsibility. Given today's mix of private and public cloud infrastructure, these walled-off processes are now holding organizations back. They don't comprehensively address operations across all data and applications, which is increasingly likely to span on-premises, co-located, edge, branch, and public cloud infrastructure.

The unintended result has been limited visibility into all data and operations, reduced agility, and high levels of complexity and cost. This situation demands a new way of approaching IT operations.

New IT Ops Principles Are in Order

It goes without saying that a modern approach to IT must embrace AI-driven operations and automation to reduce repetitive tasks, capture and emulate human expertise, and enable businesses to quickly scale. But there are other recommendations, as well.

Single, Unified Operating Platform

Importantly, the new operating model should also deliver a single, unified place for running all applications and data. This means a model that enables standard, streamlined processes for running apps and data everywhere without IT having to address the technical differences of the various underlying infrastructures.

Enterprise IT departments already realize the necessity of such a platform. Nearly all IT professionals who responded to the ECI survey (94%), for example, agreed that "one place to run and manage all applications and data across clouds is ideal for my organization." Having a single interface, consistent tools, and common best-practice processes regardless of the technical underpinnings of each infrastructure helps avoid either getting "stuck" on a particular platform or requiring so much time and specialized expertise to manage different clouds or refactor apps that your organization's competitiveness is put at risk.

Visibility Across the Entire Infrastructure

The common hybrid multicloud operating platform should also deliver comprehensive visibility across the extended data and application fabric. Without visibility, enterprises can't see if any given workload and its data are running in a currently cost-optimized infrastructure service—or even account for all their various workloads that are active and, possibly, no longer needed. It's also possible for cloud instances to be created by "shadow IT" in another department, unbeknownst to the actual IT team. As such, they may not be matched to the optimal service or service tier or have the requisite security and governance policies associated with them—again, creating risk.

Develop Once, Run Anywhere

The platform should enable applications to be developed once and then run in any of the underlying private or public cloud IT environments to avoid repeated development efforts and the specialized areas of expertise required for them.

The Simplicity of Abstraction

A unifying hybrid multicloud operating platform works by abstracting away each cloud platform's unique technicalities and complexity. The platform creator assumes the burden of doing all the behind-the-scenes development and conversions among the various underlying platforms. The unified model then simply displays a common interface into the key processes the business customer uses, enabling the business to quickly and consistently perform and oversee the following functions regardless of where the data or workload may reside:

- Provisioning, configuration, patching, and lifecycle management
- Operational management, capacity planning, cost governance, and developer self-service
- Cyber security, including policy setting and enforcement
- Data protection, backup, and restore
- Application and software license movement among different cloud platforms
- Disaster recovery
- Troubleshooting unplanned downtime

Ultimately, the platform serves to simplify and accelerate hybrid multicloud deployment, management, and all related IT processes—which accordingly saves time and cost. In an era where IT skillsets are scarce, it removes the need to have multiple cloud platform experts on staff just to manage each cloud silo in use and/or to refactor applications that need to be moved for optimization.

> "Nutanix Cloud Platform enables businesses to modernize their data centers, unify all their clouds, and run any application at any scale on any infrastructure."

Nutanix: One Platform, Any Workload

The abstraction capabilities described are available today in Nutanix Cloud Platform (NCP). NCP is a full software stack with a single management plane that enables common operations on-premises, at the edge, in managed/hosted data centers, and public clouds.

The platform provides compute, storage, networking, and support for VMs or containers. It includes built-in resilience, self-healing, disaster recovery, and security. There are consolidated storage services (block, file, object) and database-as-a-service capabilities.

NCP also includes hybrid cloud management capabilities like intelligent operations, self-service, cost governance, and security. The platform has long been enabling plug-and-play hybrid multicloud operations, which includes managing Amazon Web Service (AWS) and Microsoft Azure public cloud services using the same interface as your private cloud. Using NCP and its Nutanix Cloud Clusters (NC2) capabilities for AWS and Azure, you can deploy, manage, and secure workloads in the public cloud exactly the same way you deploy, manage, and secure them in your private on-prem, co-located/hosted, and edge locations.

A common interface gives you visibility into what data resides where and whether the workload is cost-optimized based on its performance, security, and other needs and current cloud provider pricing. No application refactoring is required when moving apps and workloads between private and public or between different public clouds.

The Nutanix Advantage

Nutanix gives businesses the freedom to manage their applications, data structures, and clouds with one consistent cloud operating model. Award-winning customer support extends to facilitating seamless workload migration to the public cloud, ensuring a swift and cost-effective process.

43%	**53%**	**Up to 60%**
Lower 5-year TCO*	More Efficient IT Management*	Faster Workload Migration**

* Source: IDC White Paper: The Business Value of Nutanix Cloud Platform, October 2022

** Nutanix estimate, calculated using reported results from Nutanix customers

How We Differ

There are other companies that market hybrid management platforms. Some operate exclusively in multivendor private infrastructure. Others may offer unified private and public resource visibility and dynamic cost comparisons and recommendations based on the latest cloud pricing. Others may operate in multiple clouds but the management, licensing, and processes are unique to each. Those companies offer only a subset of what Nutanix provides, as Nutanix has thought through the hybrid multicloud challenge from start to finish, covering all aspects. In doing so, Nutanix has created a common operating model, data structure, and services for all deployment locations with choice of hypervisor, Kubernetes distribution, hardware, and clouds.

Complete Solution, Rich Data Services, Portable Licensing

Nutanix offers the completeness of the cloud consumption-based operating model coupled with a whole host of services you can run on top of our platform. Again, these services use the same management plane rather than forcing you to cobble together separate silos of capabilities from different vendors. Among the value-added services available with NCP:

- Database-as-a-Service (DBaaS)
- Unified storage services, which include file, block, and object (S3-compatible) options Disaster Recovery-as-a-Service (DRaaS)
- Kubernetes data services

Given that you may want to run your software on any infrastructure or cloud, Nutanix uniquely offers portable licensing capabilities that allow you to do just that without separate siloed purchases that lead to waste, inefficiency and lack of flexibility.

Breadth of Partnerships

Nutanix has also struck key partnerships to account for the whole breadth of infrastructure and services. For example, with AI emerging in edge and data center locations and requiring GPU hardware and associated software solution stacks, Nutanix has partnered with NVIDIA to address the complexity, scaling, and security challenges that enterprises face when adopting generative and other inferencing AI and AI/ML applications.

Similarly, Nutanix has partnered with Red Hat to deliver an integrated, open, hybrid cloud stack enabling enterprises to build, scale, and manage traditional and cloud-native applications across edge, datacenter, and cloud environments. We have partnerships with AWS, Microsoft, and Google in the public cloud; service providers and global system integrators for other cloud options; HPE, Cisco, Lenovo, Fujitsu, Dell, Intel, AMD and other vendors for hardware options; and Citrix for hybrid desktop-as-a-service (DaaS) end-user computing solutions deliver more choice and solution breadth.

Conclusion

Hybrid multicloud environments are quickly becoming an enterprise necessity for meeting the unique requirements of each business workload. To avoid the expense and time constraints of operating each distributed IT environment independently using dedicated staff, processes, and tools, enterprises need a unified management platform that lets them view and operate them all in the same way. Nutanix delivers on this promise by offering a single platform to run apps and data across on-premises, public clouds, hybrid environments, and at the edge, while simplifying operations and enabling business agility.

To test drive the Nutanix Cloud Platform across hybrid multicloud environments, visit nutanix.com/one-platform.

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