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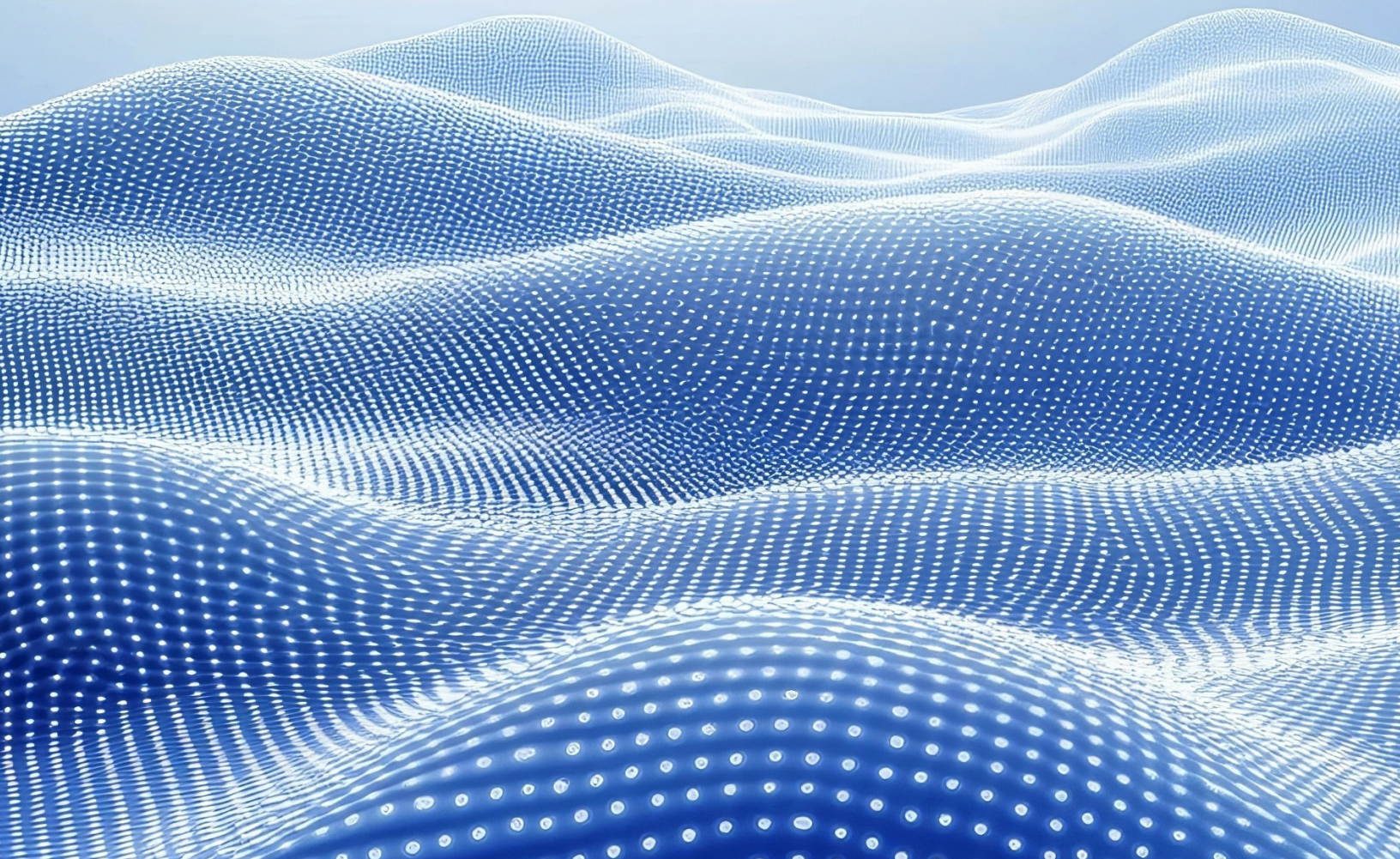
Whitepaper

Rise of alternative virtualization: Solutions for modernization through cost-effective hybrid cloud



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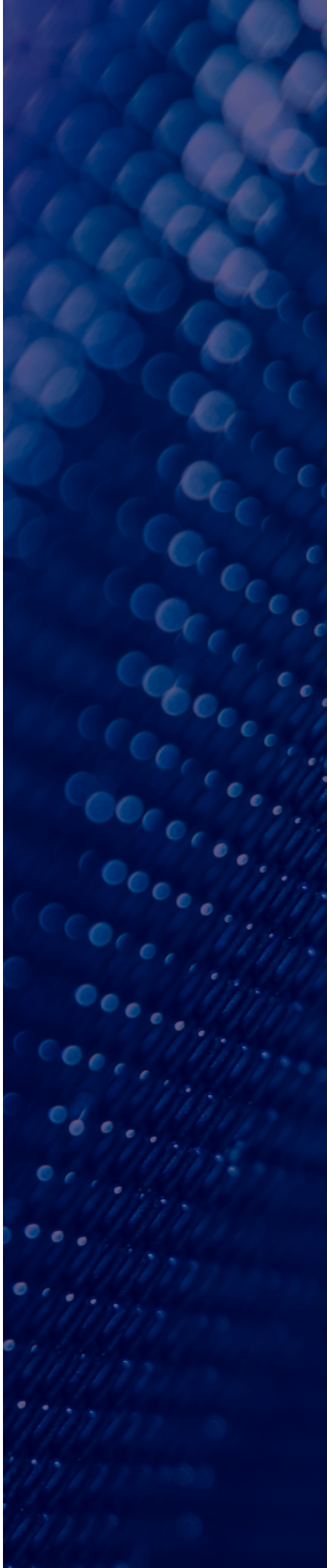


Exploring alternative hypervisor solutions

In today's dynamic IT environment, the hybrid cloud model has emerged as a strategic imperative for organizations. While VMware has historically dominated this domain, recent licensing adjustments and escalating costs are prompting enterprises to explore alternative hypervisor solutions. This whitepaper provides a comprehensive framework for evaluating and implementing strategies to reduce VMware dependency and transition to alternative hybrid and public cloud solutions.

The evolving virtualization landscape: Navigating post-VMware realities

VMware has long been a cornerstone of enterprise virtualization. However, its recent acquisition by Broadcom has introduced significant changes to licensing models and led to increased costs, making enterprises rethink strategies. As a result, businesses are now actively exploring alternatives to maintain cost efficiency, enhance flexibility and secure robust features for their hybrid cloud strategies. This includes accelerating transitions to native public cloud environments and evaluating alternative hypervisor solutions.

The recent shifts by Broadcom and the move from per-CPU socket to per-CPU core licensing, coupled with product discontinuations and changes to the partnership model, have led many to anticipate future price hikes in subscriptions and support. This widespread concern is actively driving clients to explore alternatives and reduce their reliance on VMware.

Acknowledging this sentiment, Broadcom has introduced additional enterprise-grade licensing stock keeping units. These offerings, designed to address various use cases, include:

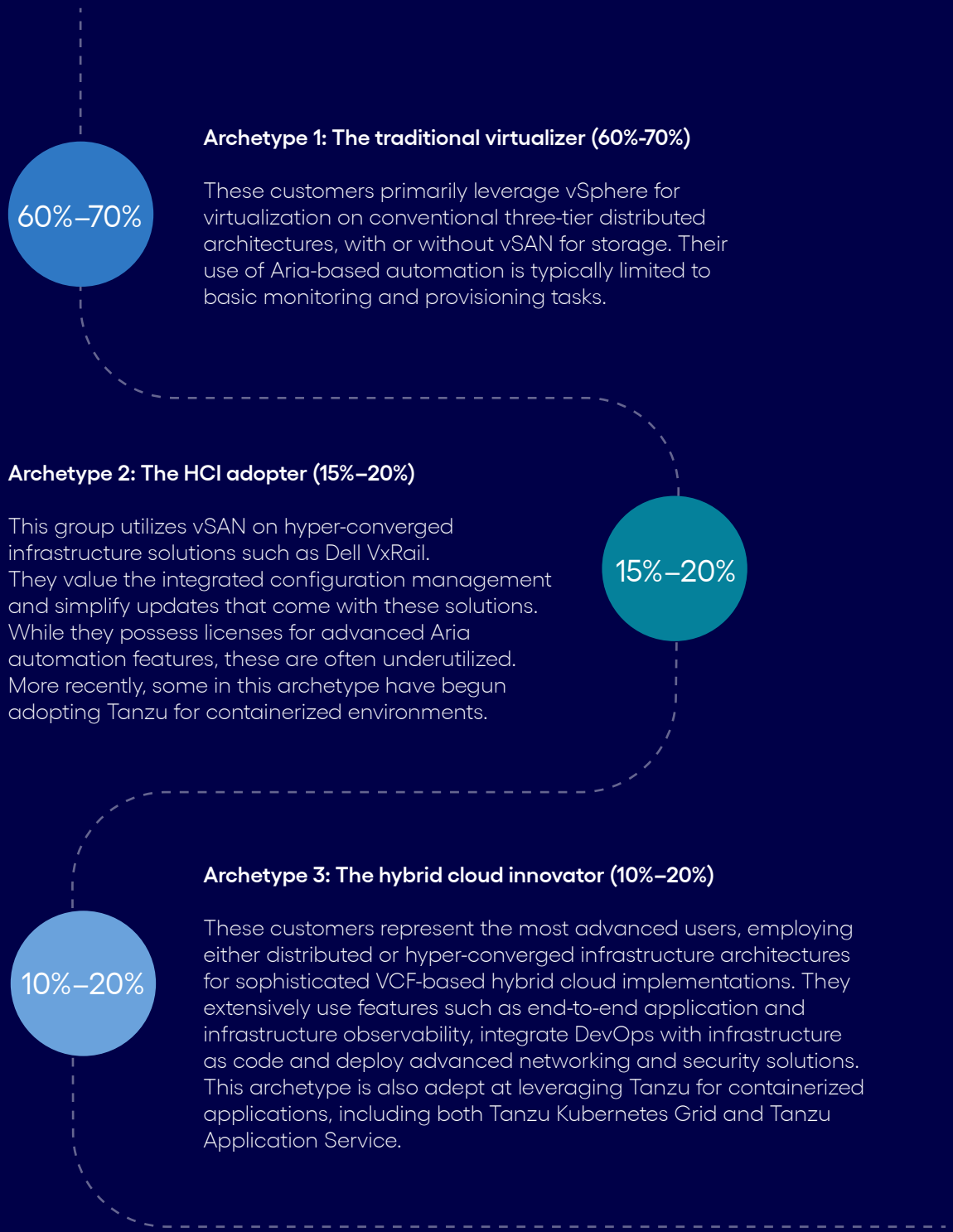
- VMware vSphere Foundation, a foundational suite, and VMware Cloud Foundation (VCF), a more comprehensive suite
- VMware vSphere Enterprise Plus, tailored for customers requiring extensive private cloud virtualization features without the need for Aria-based automation or vSAN
- VMware Cloud Foundation Edge, specifically designed for edge computing environments
- VMware Cloud Foundation for virtual desktop infrastructure
- VMware Private AI Foundation with NVIDIA, a specialized offering for AI workloads

Broadcom's strategy is to streamline licensing for the subscription economy and incentivizing customers to leverage advanced VMware Cloud Foundation features. The goal is to encourage the modernization of VMware architectures into highly automated private and hybrid clouds, fostering deeper engagement. A key aspect of this approach is license portability with major hyperscalers, including Microsoft Azure VMware Solution (AVS), Google Cloud VMware Engine (GCVE) and Amazon Elastic VMware Service (Amazon EVS). Similar portability options extend to Oracle and IBM, facilitating true hybrid cloud architectures with seamless workload mobility across diverse cloud environments.

For many organizations aiming to leverage advanced hybrid cloud capabilities, VMware licensing costs have become a significant concern. This surge in expenses is prompting a reevaluation of on-premises workloads, particularly those previously deemed economically viable, for potential migration to the cloud. This shift is further incentivized by the attractive migration programs offered by leading hyperscalers.

Customer archetypes

Based on our experience, VMware's customer base generally falls into three primary archetypes:



Critical considerations and value of an expert partner for a successful migration

Completely migrating from a VMware environment is a complex undertaking that demands careful planning. Organizations need reliable partners capable of providing impartial assessments of VMware alternative strategies and offering comprehensive support throughout the migration. These partners must possess deep technical proficiency in both alternative solutions and VMware itself. This dual expertise enables them to deliver an unbiased cost-benefit analysis for either a full migration or a coexistence strategy across cloud, edge and on-premises environments. The goal for the final architecture should be to achieve as much homogeneity as possible. This approach helps avoid a fragmented mix of solutions, which despite meeting functional requirements could prove more difficult and costly to manage than a unified VCF-based environment.

> "We expect that most enterprise-scale Gartner clients would take between 18 and 48 months for a large-scale migration from VMware's server virtualization platform."
>
> Quick Answer: Estimating a Large-Scale VMware Migration | Gartner article published January 7, 2025; ID G00824090
>
> Analysts: Michael Warrilow, Philip Dawson, Tony Harvey, Chris Saunderson and Julia Palmer

Before finalizing their long-term strategy with or without VMware, organizations should carefully consider three pivotal factors:

- Application dependency on VMware VCF features: It's crucial to first evaluate how deeply your applications are tied to VMware VCF features, particularly networking, security and Aria-based automation. This assessment is vital for understanding the true cost and effort involved in migrating those applications to an alternative platform versus remaining within the VMware ecosystem.
- Time horizon before license renewal: Consider the time remaining before your existing perpetual licenses with Broadcom are due for renewal. An ideal timeframe of 18 months or more allows ample opportunity to develop and implement an alternative solution strategy. This period is also critical for mitigating risks associated with incomplete or overly complex migrations, helping you avoid problematic situations.
- Long-term cloud adoption strategy: Finally, contemplate your overall long-term cloud adoption strategy for business applications. This means making informed decisions about the proportion of applications to host in the cloud versus on-premises. Ideally, this percentage should emerge from a comprehensive cloud suitability analysis of your entire application landscape, factoring in aspects such as network latency, security and regulatory compliance and the need for and ability to leverage cloud elasticity and automation.

The table below summarizes the strategies customers can adopt based on these three key considerations:

Time horizon before Broadcom renewal	Estate size	Compliance/ regulatory restrictions for public cloud adoption	Migration and Broadcom license renewal strategy	
			Renewal duration with Broadcom	Path to migration
Short horizon to renew (less than 6–8 months)	Medium to large (>1000 VMs)	No	Yearly, 3 years or 5 years (depending on business priority)	Assessment → shortlisting hybrid cloud solution (with or without VMware) → migration
Short horizon to renew (less than 6–8 months)	Small (<1000 VMs)		Renew for 1 year	Assessment → moving to preferable cloud → finding hybrid solution with VMware cloud services for outliers
Longer horizon to renew (more than 8 months)	Small (<1000 VMs)		May not be necessary to renew with Broadcom	Assessment → moving to preferable cloud → finding hybrid solution with VMware cloud services for outliers
Longer horizon to renew (more than 8 months)	Medium to large (>1000 VMs)			Assessment → shortlisting hybrid cloud solution (with or without VMware) → migration
Longer horizon to renew (more than 8 months)	Small (<1000 VMs)			Assessment → moving to preferable cloud → finding hybrid solution with VMware cloud service
Short horizon to renew (less than 6-8 months	Medium to large (>1000 VMs)	Yes	Yearly, 3 years or 5 years (depending on business priority)	Assessment → shortlisting private cloud solution → migration
Longer horizon to renew (more than 8 months)	Small (<1000 VMs)		May not be necessary to renew with Broadcom	Assessment → shortlisting private cloud solution → migration

Strategic pathways and execution

Based on the aforementioned considerations, organizations can pursue several strategic pathways:

Short-term renewal and optimization (timeline < 6–8 months)
For customers with an immediate Broadcom renewal deadline, renewing existing subscription licenses is often the most pragmatic approach to ensure business continuity. Requesting an extension from Broadcom can provide additional time to optimize the current VMware landscape. Longer-term commitments (for example, 3+ years) frequently come with more favorable commercial terms compared to annual renewals. This decision should align with immediate business priorities and the appetite for exploring alternative solutions. Leveraging VMware cloud services such as AVS, GCVE and Amazon EVS can also maintain a highly functional and agile hybrid cloud, buying crucial time to formulate and execute a long-term strategy for reduced VMware dependency, as detailed in the following approaches.

Comprehensive landscape assessment (longer timeline or post-renewal)
Customers with a longer timeframe before renewal, or those who have already renewed, should initiate a focused, time-bound assessment (typically 12–16 weeks) of their entire application and infrastructure landscape. This crucial step identifies viable alternative solution options. The assessment should map business priorities to future technical approaches, define security and compliance requirements, consider existing infrastructure investments (hardware, software and tools) and detailed application functional requirements. Following this assessment, applications can be strategically categorized:

Lift-and-shift candidates: Applications readily transferable to an alternate hybrid or private cloud solution

Cloud-native candidates: Applications suitable for migration to native public cloud services (IaaS, PaaS or SaaS).

VMware-dependent workloads: Applications with specific VMware dependencies (for example, COTS apps not certified on other hypervisors) or those requiring extensive testing before transitioning off-platform. These can be migrated using a lift-and-shift approach to VMware cloud services (AVS, GCVE and EVS) as an interim step, moving them out of the on-premises VMware environment.

On-premises retainers: Any outlier applications that necessitate continued on-premises hosting can coexist on the vSphere ESXi hypervisor alongside alternative solutions such as Nutanix. Subsequent to this categorization and solution selection, conduct a thorough cost-benefit analysis, integrating assessment findings with your cloud roadmap and estimated migration time and effort. As we detail various alternative solutions later in this document, begin application migration using a factory-based model in collaboration with a trusted services partner.

Public cloud-first for smaller landscapes (<1000 VMs) with extended timeline
For customers managing smaller environments (under 1000 VMs) and with more than 6–8 months before their Broadcom renewal, it is advisable to have the primary focus on public cloud solutions. A detailed application assessment can be rapidly completed (4–6 weeks) with the right partner and automated tools. If the majority of applications are suitable for the public cloud, prioritize migrating lift-and-shift candidates and applications that can be re-platformed quickly. Migration timelines will depend significantly on data volume. Applications requiring more extensive cloud transformation can first move to VMware cloud services and then transition to native public cloud solutions.

Addressing complex migration challenges from advanced VMware environments

Migrating from comprehensive VCF stacks or advanced vSphere environments with extensive Aria automation and software-defined networking via NSX presents significant challenges. This is particularly true for large enterprises with substantial investments and intricate infrastructures. It's crucial for enterprises to thoroughly evaluate the technical migration complexities when considering a departure from VCF or advanced VMware vSphere environments. Key dependencies that introduce these complexities include:

Migrating VCF's direct integration of Kubernetes for seamless VM and container management often requires substantial reconfiguration and adaptation on a new platform

Replicating NSX-T's sophisticated features such as micro-segmentation, distributed firewalls and load balancing on an alternative platform can be intricate, demanding different tools and configurations

Migrating data from vSAN (that tightly integrates storage into the hypervisor) to a different storage system is challenging due to architectural and data management differences

Recreating vRealize Suite's extensive management capabilities (automation, operations and log management) and integrating on another platform is both time-consuming and challenging

Moving Hybrid Cloud Extension-managed workloads to a non-VMware environment, which is exceptionally difficult with tight integration for migration, rebalancing and disaster recovery across VMware environments

Replicating deployment, configuration and lifecycle management of the entire VCF stack, which is automated by VMware Cloud Foundation SDDC Manager, on a new platform is complex and resource intensive

So, migration to a different platform is a substantial undertaking that requires meticulous planning and execution.

Exploring alternative solutions to de-risk your cloud strategy

Beyond VMware's traditional private cloud capabilities, several other technology solutions offer comparable features and integrated architectures. These alternatives can address specific business needs, whether that's protecting existing investments in hardware and tools, optimizing licensing costs, or creating a seamless roadmap for coexistence with either a VMware-based private cloud or a specific hyperscaler.

Here are some key technology solution options to consider:

VMware-based Private Cloud with Hyperscaler Services: Leverage VMware Cloud services like Azure VMware Solution (AVS), Google Cloud VMware Engine (GCVE), and AWS Elastic VMware Service (EVS).

Microsoft-based Architectures: Explore solutions built on Hyper-V, Azure Stack HCI, and the broader Azure cloud ecosystem.

Nutanix-based Architectures: Consider Nutanix Cloud Infrastructure (NCI), NCI-Edge, Nutanix Cloud Clusters (NC2), and Nutanix Cloud Manager (NCM) for hyper-converged solutions.

Red Hat® OpenShift®-based Hybrid Cloud: Utilize OpenShift for containerization and hybrid cloud management.

IBM or Canonical OpenStack-based Private Cloud: Opt for open-source private cloud solutions powered by OpenStack.

Native Cloud IaaS and PaaS Platforms: Directly use Azure, Google Cloud, and AWS IaaS/PaaS services, integrated with their respective hybrid cloud technologies like Azure Arc, Google Anthos, and AWS Outposts.

Choose the right partner to plan and migrate with minimal disruption

Migrating from a large VMware environment is a complex undertaking—not a singular or simple path. It is entirely achievable but requires meticulous consideration of various interconnected dependencies. These range from application functionality and compatibility to cloud adoption roadmaps, skill availability and cost-benefit analysis. Most strategies aimed at reducing VMware dependency will likely result in a multi-technology landscape, often including VMware itself, either on-premises or within cloud services. Ultimately, enterprises will need an experienced and trusted partner to successfully navigate this transition. Such a partner can precisely identify these intricate dependencies, present an unbiased long-term solution roadmap and execute the migration to the chosen combination of solutions with minimal business disruption.

Ready to explore the optimal path for your organization? Contact us today to begin a comprehensive assessment of your unique hybrid cloud journey and chart a course for modernized cost-effective IT infrastructure

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Sriram Kumaresan leads the global cloud, infrastructure and security practice at Cognizant, overseeing approximately 35,000 professionals. With over 25 years of experience, he excels in building and scaling businesses from strategy to execution. Sriram is responsible for driving market share (strategy, GTM and growth) and mindshare (offering, partner strategy and market positioning) through strategic approaches, customer centricity and deep technical expertise in Cognizant's cloud, infrastructure and security business. Beyond his professional achievements, he is also a mentor and advocate for diversity in tech, aiming to inspire future IT leaders.

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Siddhaarth leads the hybrid cloud practice and offering development at Cognizant. He has over 23 years of experience in the IT industry in various roles, ranging from offering / product management to pre-sales, solutions, sales and service delivery. Prior to Cognizant, he worked for Infosys, Microsoft, Tata Communications, NaviSite and Wipro.

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