A Buyer's Guide to Modern **Virtualization**

Navigating changes at VMware by Broadcom to create stability amidst disruption.

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Guide Overview

Uncertain about how changes at VMware and Broadcom will affect your virtualized infrastructure? This guide will help you explore your options as you evaluate if your infrastructure is ready for the future. Learn how to navigate the situation at VMware, what other hypervisors are available, whether you should consider cloud-managed VMware solutions, and more.

A Virtualization Strategy for the Future

If you're uncertain about the future of your organization's virtualization strategy you're not alone.

"Through 2028, disruptions in the server virtualization market will result in more than 60% of enterprises accelerating their public cloud migrations and exploring revirtualization of virtual workloads" (Gartner® Inc, Predicts 2024: Mind the Gap Between Infrastructure and Infrastructure Platforms, 17 October 2023). This disruption comes at a time when businesses are under increasing pressure to protect profits amidst global economic turbulence. The price increases, industry accelerated shift from perpetual licensing, and restructuring of contracts make balancing the budget even more challenging for IT.

Beyond this, IT leaders face the challenge of meeting modern workload needs. Innovation driven by generative AI is pushing the boundaries of current infrastructure deployments. AI-based applications and workloads require new and more flexible architecture paradigms including public cloud and containers.

Forward-thinking IT leaders are asking not simply how to meet the demands of this moment, but how to build infrastructure that can scale with the demands of technology yet to be invented—not just for the next year, but the next five years and beyond.

Control What You Can Control

But let's not get ahead of ourselves. Though these challenges may seem overwhelming, seasoned IT professionals are used to the ever-increasing demands of technology and the need to adapt and change. They have made careers of bringing stability and certainty to tame innovation and harness its wild energy to yield business results.

Their secret is this: Learn to control what you can control.

Should I Stay or Should I Go?

Let's approach this conversation as IT leaders—thoughtfully balancing the needs of innovation with the need to ensure stability and security at scale.

Though this situation reminds us of the risk of placing all your investments with a single vendor, it's important to remember that VMware has been a solid partner to IT for the last 26 years. The breakthrough of virtual machines transformed the way we develop applications and led to incredible advancements in technology. Even after the invention of Kubernetes and introduction of containers, many IT teams chose to stay on VMware because of its well established track record supporting mission critical business applications at scale.

Many IT leaders are asking themselves "Should I stay on VMware?", but this is actually the wrong question entirely. Most VMware alternatives share the same risk of lock-in and inflexibility. Instead, IT leaders should ask "How do I build a flexible architecture that can adapt as my application strategy evolves?" And the answer to that may surprise you.

Why Storage Matters

It's not enough to simply ask "how should I architect my applications?" IT leaders must also ask "how can I build a foundation for my data that is secure, stable, and built for the future?"

Storage is much more than an IT commodity these days. Taking storage for granted can hold companies back and even introduce major risks.

One of the best ways to optimize your VMware environment is to pair it with the right storage platform. Disaggregating storage from a full-stack or hyperconverged solution and consolidating on the right storage platform can help you stabilize your environment, create budget predictability, and ultimately increase your options for the future.

Four Ways Storage Can Modernize Your Infrastructure

Explore potential pathways you can take and discuss why storage may be the key to unlocking your VMware environment.

1 Optimize Existing VMware On-Premises Environments

2 Enable a Seamless Hybrid Cloud Experience

3 Give You Choice in Hypervisors

4 Accelerate Containerization

Our conversation then comes back to how to deal with the changes at VMware in the short term. Our advice is to make incremental changes that will allow you to build infrastructure ready for future flexibility and scale. Rather than jump straight to containers or switch to another hypervisor, we recommend first taking stock of your VMware environment—streamlining and optimizing—so that you can build more options for the future.

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Unlocking your
VMware Environment

Let's talk about how storage can help.

On-premises

One way to insulate your infrastructure from disruption is to diversify layers of your stack. VMware deployments with vSAN (VMware's storage virtualization software) are often deployed alongside external storage. vSAN is typically included as part of a bundled offer when purchasing a VMware subscription—usually in the range of 100 GiB to 1 TiB per core. Scaling up additional capacity requires the purchase of additional storage. While the license itself may be cost-effective, it does not include the hardware required for the additional storage. If you need to scale capacity beyond what's included, you may consider adding an external storage partner. You'll not only diversify your stack, but with the right provider you'll gain more efficient, secure storage suited to a wide range of use cases including disaster recovery and data protection. VMware by Broadcom has maintained an open stack to continue to support select external storage solutions.

Considerations

Generally, this approach should be minimally disruptive and have low switching costs. It's likely you may have other storage hardware in your data center and can increase the footprint with minimal switching costs.

To ensure minimal business disruption and optimal TCO, make sure your storage provider takes a cost-effective subscription-first approach to pricing with flexible options that evolve with your business, and that there are options to migrate data non-disruptively from your VMware stack. Ask your storage provider what their options are for migration to the cloud from on-premises arrays, along with integrations with alternative hypervisors and KubeVirt.

Benefits

- Decreased reliance on a single provider
- Certainty and predictability in budget
- Better efficiency and cost optimization

Overall, if you partner with a VMware integrated storage provider that provides certainty and predictability in both pricing and upgrades, this approach can help insulate you from some of the impact from future pricing, packaging and overall business model changes from VMware. **And it is an incremental step giving you more flexibility in where and how you deploy your virtualized workloads—making it easier to explore other pathways towards modern virtualization as we'll discuss next.**

In the Cloud

Organizations interested in migrating workloads to the public cloud can take advantage of managed VMware offered as a service in the cloud. Options like Azure VMware Solution (AVS), Google Cloud VMware Engine (GCVE), and Oracle Cloud VMware Solution (OCVS) all offer the benefit of using the same familiar VMware tools in the cloud, fully managed, which means less IT overhead on infrastructure and no need to purchase or maintain hardware. Most offer lift-and-shift options that do not require refactoring of applications.

Considerations

TCO will not necessarily be reduced from an on-premises VMware deployment to a managed cloud service. Typically, managed services are more expensive than on-premises because they offload the overhead of deploying and managing infrastructure. In some cases, this reduction in overhead may improve TCO.

Migration costs should be considered as part of the TCO. Though most VMware cloud services are intended to provide a lift-and-shift experience, there are always exceptions. Certain on-premises architectures may require some refactoring.

Benefits

Not all cloud storage is created equal, but the right storage can help optimize VMware workloads in the public cloud. The right storage platform provides:

- Parity across hybrid environments with a seamless management experience
- Storage purpose-built for VMs
- Integration with VMware systems and tools
- Scale storage resources independent of compute
- Simplify migration and minimize disruption

Whether migrating your VMware environment to the cloud or optimizing with purpose-built storage, choosing the right storage is another incremental step towards future-proof infrastructure.

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More Options
in the Future

Once you've taken this first step towards building a future-proof infrastructure with storage as your foundation, you will have more options available.

What are Some Options?

1   Cloud Possibilities

If you're using VMware in the cloud with storage decoupled from compute, you are ready to take advantage of the benefits of the cloud. The cloud offers services to support innovation in AI and the latest in technological advancements. Once workloads are in the cloud, it can be much simpler to refactor to cloud native VMs or container-based architecture than from moving directly from on-premises alone.

2   Other Virtualization Paradigms

While VMware is the industry standard for VMs, there are other options out there like Hyper-V, Azure Stack HCI, Nutanix AHV, and OpenStack. Some of these options offer integrations to external storage providers while some are full-stack options. Evaluate these options with care. Full stack or hyper-converged infrastructure solutions can put you back where you started and switching virtualization platforms may come with a high risk of disruption and switching costs.

This approach offers some protection from future lock-in and potential disruption depending on the path chosen. However, migrating to a full-stack virtualization alternative may just be trading one problem for another.

3   KubeVirt and Kubernetes

While cloud-native development continues to grow, many enterprises still rely on a number of virtual machine or VM-based applications or on databases that must live on top of VMs. Today, these companies are having to spend significant money to maintain both their virtual machine infrastructure alongside their Kubernetes infrastructure.

Red Hat OpenShift Virtualization (OSV), based on the KubeVirt project, addresses this challenge by providing VM infrastructure within Kubernetes clusters. This means that organizations can easily run applications in VMs alongside applications in containers, taking advantage of a common user experience and allowing enterprises to rehost, refactor, redeploy or rebuild applications if and when they are ready as part of their app modernization efforts.

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The Power of a Unified Storage Platform

If data is the catalyst to innovation, customer experience, and digital transformation, then a modern storage platform is critical. Simply put, your choice of storage platform matters.

Your Modern Data Storage Platform Should Be

Flexible Platform

Allows for simple, 100% non-disruptive upgrades and no data migration risk.

Easily Shareable

Accelerates value creation across departments and platforms.

Secure and Accessible

Ensures that services are available when you need them and always guarded from external threats.

Software-defined and Multicloud-enabled

Allows for a common set of data services and is built for modern applications across any hardware and any cloud.

Consumed as a service

Enables business leaders to build and migrate workloads where it serves them best, with no technical debt to worry about.

Common Architectures

Promote better "data hygiene": Eliminates the data silos that typically get in the way of insights.

Treat Storage as the Foundation of Your Application Strategy

By building on a stable, predictable storage platform, you can minimize disruption and unlock innovation while building infrastructure that's ready for the future.

Self-evaluation Checklist

Assess which modernization pathway is right for your workloads.

Ask Yourself	If Yes...
Are you interested in evaluating alternatives to your current virtualization architecture?	Consider both your short-term and long-term application workload needs, and evaluate the fit of options across the hybrid architecture spectrum.
Do you have workloads that are required to stay on-premises?	Explore options to optimize and diversify your VMware stack with external storage solutions.
Does your infrastructure strategy include moving more workloads to the cloud?	Now is the perfect time to take stock of which workloads are suited to cloud deployment. Make sure the migration option you choose can truly lift-and-shift from your on-premises VMware deployment without refactoring.
Does your architecture strategy include moving to more container-based applications?	If you're making changes to your VMware stack, and want to expand your architecture to include container-based applications, now may be an ideal moment to choose a few workloads to refactor and move to a hybrid-VM/container solution.
Are business disruptions and switching costs a key concern?	Consider incremental approaches that minimize disruption with storage that can provide non-disruptive migration or a true lift-and-shift cloud migration.
Does innovation take precedence over risk at your organization?	Innovation first organizations that can tolerate more potential disruption risk can consider taking more aggressive steps with Kubernetes to support bleeding edge technologies.

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