



A Guide to Modernizing Virtualization for Business Value

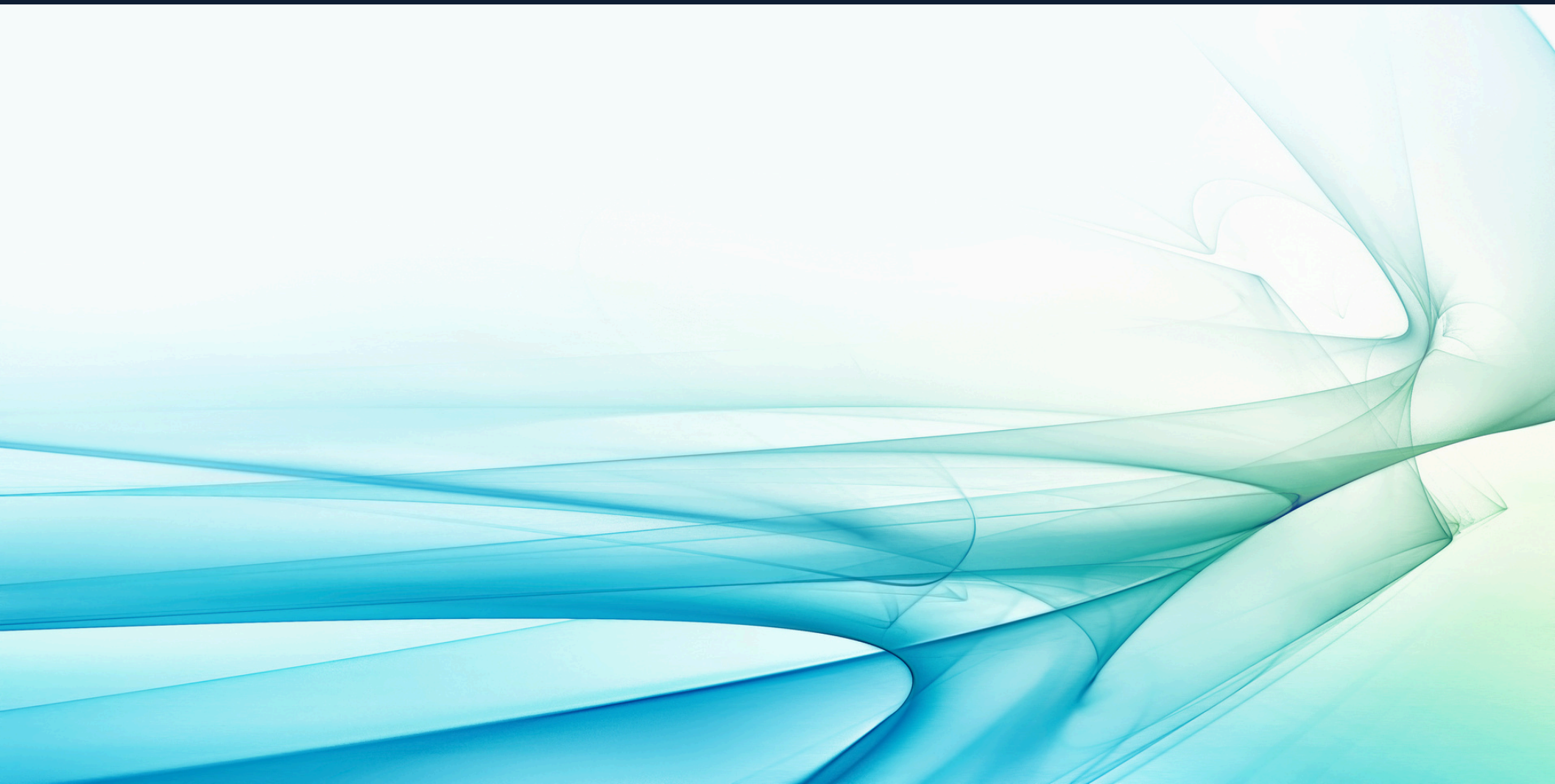


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• Rethinking the • Role of Virtualization



Virtualization has long been considered a settled decision. VMware became the default. Infrastructure decisions were incremental, and renewal cycles were routine.

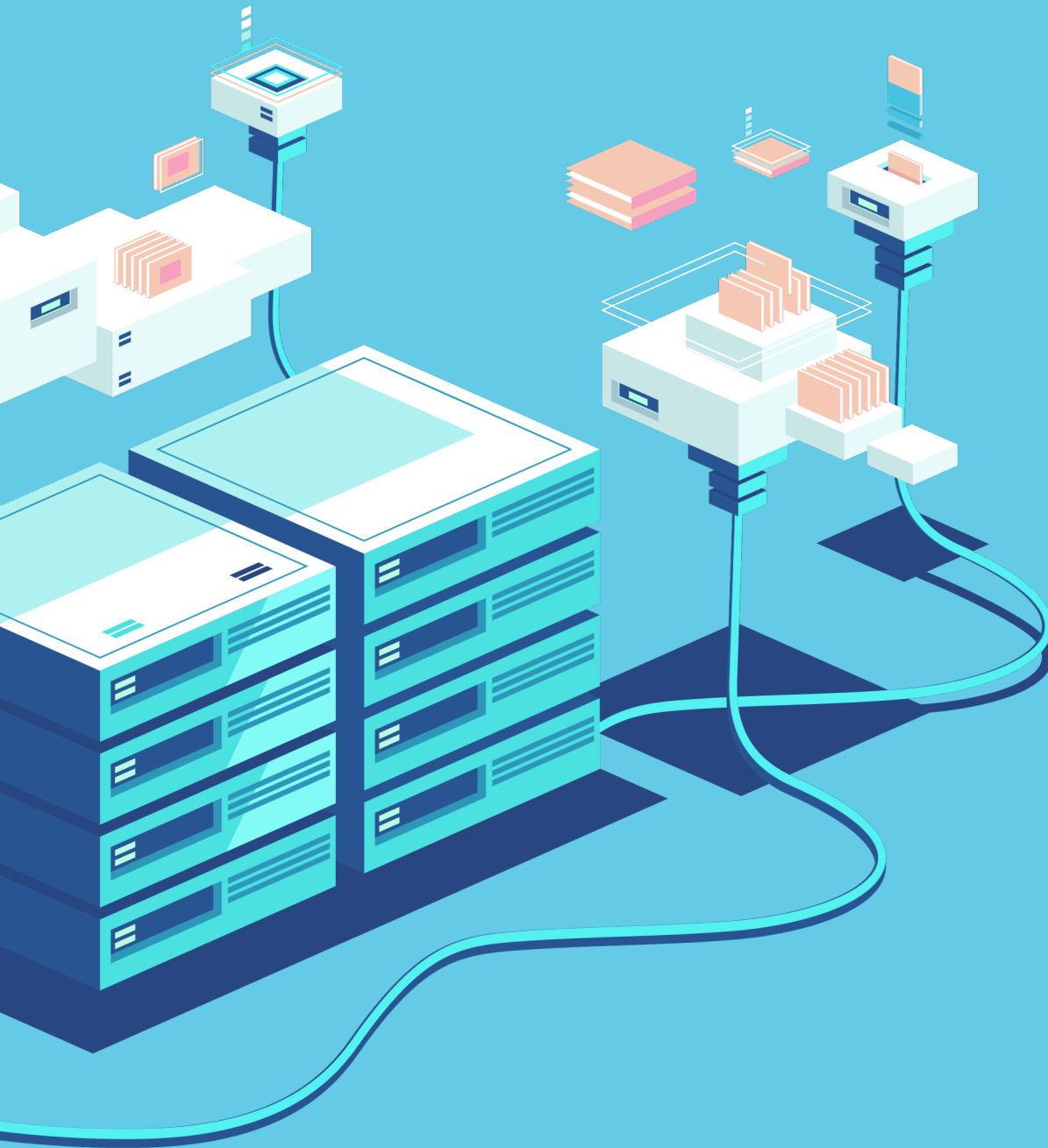
That routine has been disrupted.

Recent changes in licensing and packaging have prompted many organizations to reassess their virtualization strategy. But the conversation quickly expands beyond licensing. Organizations are being forced to reconsider the foundation of their operating model. The discussion is no longer limited to replacing one hypervisor with another. It often involves evaluating a broader range of infrastructure platforms and architectural approaches. The real question is how to define the right infrastructure model for the next phase of operations.

For many organizations, that evaluation will eventually lead to change. Some will migrate platforms. Others will rethink how virtualization fits into a broader hybrid or cloud strategy. But few environments will remain exactly as they are today. In most cases, that transition requires careful planning and a clear understanding of how applications, infrastructure, and operations will evolve.

New application demands, including container-based and AI workloads, are reshaping infrastructure requirements. Environments must be more flexible, more automated, and more consistent across on-premises and cloud platforms. In many cases, maintaining the status quo now involves as much transformation as moving to something new.

Virtual machines remain important. The real question is how they fit into a modern operating model — and whether your current strategy supports where the business is headed.



Why We Virtualize

Virtualization has been around long enough that it's easy to forget what problem it originally solved. At its core, virtualization delivered efficiency. It allowed organizations to run multiple workloads on a single server instead of dedicating hardware to each application. That consolidation reduced capital costs and improved resource utilization and availability.

Separating software from hardware also introduced flexibility. Teams could run legacy applications on legacy operating systems, isolate test environments, and improve workload resilience without constantly re-architecting infrastructure. Virtualization isn't going away. But the role it plays in modern infrastructure is evolving.

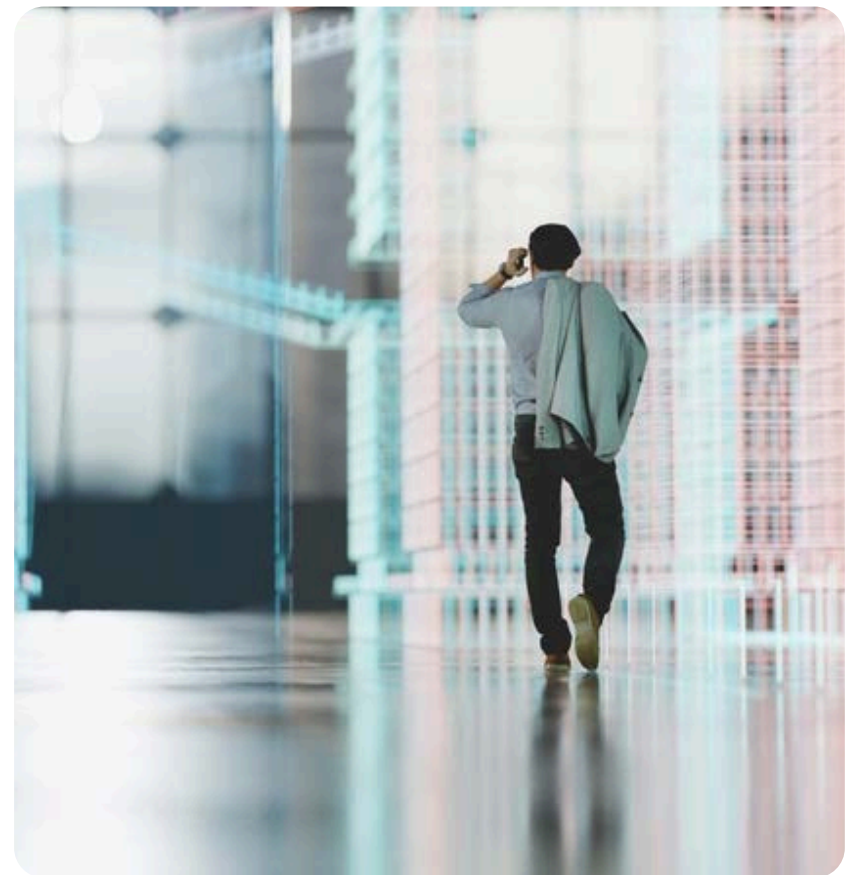
How Virtualization Supports Modern Operations

Modern operations is about building a resilient, high-performance hybrid environment that's straightforward to administer and aligned with how applications are developed and deployed today.

It assumes automation by default. It favors consistency across environments. It reduces manual processes and limits operational silos between infrastructure and application teams.

In that context, administrative consistency becomes critical. Hybrid environments only work if teams can apply the same governance, security policies, observability standards, and performance management practices across on-premises and cloud platforms.

Virtualization must support that consistency. If it requires separate tools, disconnected processes, or different operational models across environments, it increases friction. If it aligns with a unified approach to management and automation, it reinforces the goals of modern operations. Increasingly, that operational model must support both traditional virtual machine environments and container platforms such as Kubernetes.



Reframing Virtualization Decisions

When an organization starts to reconsider its virtualization strategy, the conversation often begins with licensing. But the real question is bigger: does the current platform still support how the business needs to operate? Virtualization decisions influence more than the hypervisor. They affect how consistently environments are managed across on-premises and cloud platforms, how quickly applications can evolve, and how easily operations teams administer infrastructure at scale.

The goal isn't simply to replace one hypervisor with another. It's to determine whether your virtualization strategy supports the operating model your organization will need over the years ahead.

Business Considerations

Align Virtualization with Your Application Portfolio

Before comparing platforms, step back and look at your applications. Not every workload delivers equal value to the organization. Some applications directly differentiate the business. Others support day-to-day operations. Still others may be nearing the end of their lifecycle.

Those differences matter when evaluating virtualization platforms and deciding where workloads should run.

Stable applications that rarely change may not justify major architectural shifts. In many cases, the most practical approach is to keep those systems running reliably while controlling costs and operational complexity.

But applications that drive new products, digital services, or customer experiences often have different requirements. They benefit from infrastructure that supports automation, portability, and faster deployment cycles.

A virtualization strategy should support both stable legacy workloads and newer applications that require more flexible infrastructure. Organizations should make deliberate choices about where workloads run rather than letting legacy infrastructure or operating models dictate future architecture.

Focus on What Differentiates Your Business

The applications that differentiate your organization need infrastructure that won't limit future initiatives.

Many organizations are planning for more data-intensive workloads, advanced analytics, or AI-driven capabilities. Those initiatives demand a platform that scales, automates easily, and integrates across environments.

Those requirements are particularly visible in emerging AI workloads.

AI Workloads Are Changing Infrastructure Requirements

AI workloads are deployed in containers, allowing them to scale dynamically, spin up quickly for training or inference, and shut down when resources are no longer needed. Kubernetes has become the standard platform for orchestrating containerized AI workloads across environments.

That doesn't mean virtual machines are disappearing. Most enterprise applications will continue to run on VMs for years. Organizations increasingly need infrastructure that supports both models at the same time: stable virtual machine

environments for existing applications and container platforms for newer, more dynamic workloads.

This is one reason virtualization strategy has become a broader architectural and operational conversation. Decisions made today will influence how easily infrastructure can support container platforms, hybrid environments, and emerging workloads such as AI.

The goal is to ensure that virtualization platforms can coexist with the container-based operating model that AI applications require.



Evaluating Virtualization Alternatives

Many organizations are now evaluating alternatives to VMware. The growing number of options can make the decision appear straightforward: simply replace one hypervisor with another. In practice, the situation is rarely that simple.

Virtualization platforms differ in architecture, operational tooling, ecosystem support, and how they integrate with existing infrastructure. Some platforms favor hyperconverged architectures, while others align more closely with traditional three-tier environments. Some organizations are prioritizing cloud alignment or container platforms as part of broader modernization efforts.

For that reason, evaluating alternatives should focus less on feature comparisons and more on how each platform supports the organization's long-term operating model.

The alternatives fall into several broad categories. Some organizations may decide to stay within the VMware ecosystem by adopting **VMware Cloud Foundation**. Others are evaluating enterprise virtualization platforms such as **Nutanix AHV** or **Microsoft Hyper-V**. In some cases, organizations are looking beyond traditional hypervisors altogether, exploring container platforms such as Kubernetes and solutions like **Red Hat Open Shift** as part of a longer-term modernization strategy. Each option has its own advantages and tradeoffs in terms of architecture, operational tooling, ecosystem maturity, and migration complexity.





Consider Long-Term Platform Direction

Choosing the lowest-cost short-term alternative can feel like a win. Until the next modernization project arrives and the platform becomes the constraint, creating technical debt that's expensive to unwind later.

Your virtualization strategy should support where the business is going, not just where the infrastructure has been.

While cost pressures often trigger the virtualization conversation, focusing only on short-term costs can obscure larger strategic questions, such as how easily you can run hybrid environments, automate operations, and scale new workloads.

For that reason, virtualization decisions should balance immediate cost considerations with long-term flexibility.

Some organizations may decide to remain within the VMware ecosystem by moving to VMware Cloud Foundation. Even in those cases, the shift often involves architectural and operational changes that should be evaluated carefully.

Architecture Considerations

A new virtualization platform may impact system architecture, which will affect the total cost and timeline for a migration. These architectural implications should be evaluated carefully before committing to a new platform.

Design a Consistent Operational Model

Modern operations increasingly depends on automation. But many traditional virtualization environments rely heavily on manual configuration through management consoles. Modern environments define infrastructure through code and automation pipelines rather than point-and-click administration.

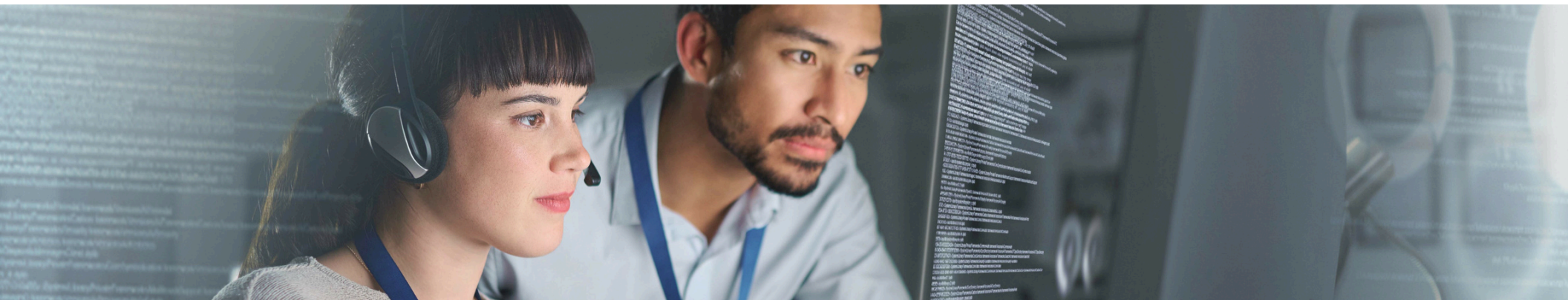
Many enterprise applications will continue to run on virtual machines for years. At the same time, container platforms such as Kubernetes are becoming the operational layer for many new applications. As a result, most organizations will run both models side by side, which makes operational consistency across environments even more important.

These changes aren't purely technical. Automation and infrastructure as code often require teams to rethink how platforms are managed. Responsibilities that were once isolated within infrastructure teams may expand to include platform engineering or closer collaboration with application teams.

Converged vs. Hyperconverged

Many organizations are considering a move to a hyperconverged architecture that mimics cloud functionality and service models, compared to a traditional three-tier architecture. While both can support a DevOps environment and containerized workloads, they differ in how infrastructure is deployed and supported, including which hypervisors are best suited to the underlying hardware and operating model.

Hypervisors such as Red Hat Virtualization and Microsoft Hyper-V support the three-tier structure. Others such as Nutanix AHV and **Azure Stack** support hyperconverged infrastructure. If you're gravitating to the latter, you may be looking at a complete hardware replacement. A potential shift from three-tier to hyperconverged consolidates compute, storage, and memory into a unified platform. That shift often involves new hardware and is best aligned with a planned refresh cycle. It also changes how infrastructure is managed, with implications for both budgeting and operations.



Storage Infrastructure

Most storage vendors support VMware's three-tier infrastructure very well. But storage such as Fibre Channel, iSCSI, or NFS Storage work differently in a hyperconverged environment and not every storage vendor has the same level of support for containerized workloads as they do for VMware. This is a layer of complexity that needs to be addressed early in the decision-making process.

Technical Considerations

Security, Resilience, and Protection

Moving to a new platform, or expanding into hybrid or cloud environments, doesn't reduce the need for strong protection strategies. In many cases, it increases the need for consistent security policies across environments. Organizations running workloads across multiple environments must ensure that policies, identity controls, and protection mechanisms work the same way across data center and cloud platforms. Automation and custom tooling often become necessary to enforce those policies consistently.

Support for DR, Backup, and Replication

One common mistake is assuming that existing backup, recovery, disaster recovery, and replication tools will work the same way on a new platform. Organizations considering a platform change should confirm that their existing protection tools support the new platform or be prepared to implement alternatives.





Backup, replication, and disaster recovery workflows may need to be redesigned as part of the migration.

Understanding those dependencies ahead of time helps avoid unpleasant surprises during deployment or recovery testing.

Evaluate Operational Ecosystem and Features

A virtualization platform is more than a hypervisor. Much of VMware's long-standing value came from the ecosystem surrounding it, including its monitoring tools, networking capabilities, automation frameworks, and operational management platforms. Over time, organizations built operational processes around those capabilities.

That ecosystem can also make platform changes more complicated than they initially appear. Monitoring tools, networking configurations, automation scripts, and operational workflows often depend on VMware-specific integrations.

When evaluating alternatives, organizations should look beyond the hypervisor itself and consider whether equivalent capabilities exist for:

- Automation and orchestration
- Monitoring and alerting
- Networking and infrastructure services
- Operational consistency across environments

In hybrid environments, consistent operational tooling becomes even more important. Teams need visibility and control across both data center and cloud platforms, ideally without introducing additional layers of operational complexity.

Understanding how these tools and processes translate to a new platform helps organizations avoid surprises later in the migration process.

People Considerations

Virtualization platforms are typically administered by a server team. But containerized environments are often managed by platform or DevOps teams. These teams often have different skills and technical histories. It is a good idea to sort out ahead of time who will administer what.

Administrators also need to be skilled up for a new hypervisor. The learning curve is not necessarily steep, but you need to factor in training time.

This is where a consistent administration model across environments becomes extremely important. Otherwise, administrators could be overwhelmed by using different processes and tools for each platform. For example, you can use an API abstraction layer or API gateway to simplify some of the complexity and provide a more consistent experience across the infrastructure. Without automation, administrators will need to develop an elevated level of technical acumen for each infrastructure platform.



• Planning • the Migration

Migrating to a new virtualization platform will often require servers and storage dedicated to the transition. You will need to stage workloads in the new environment before switching them over from the existing platform.

Understand the Cost of Migration

Replacing a virtualization platform is rarely just a licensing decision. Migrating from VMware or another platform can involve application dependencies, infrastructure changes, operational adjustments, and staff retraining. In many environments, the cost and complexity of migration may outweigh short-term licensing savings.

Organizations should carefully evaluate the total cost of change, including the effort required to redesign architecture, migrate workloads, and update operational processes.

Plan Migration Carefully

Organizations should approach virtualization changes as structured migrations rather than simple platform swaps. There is rarely an easy button for moving a large virtualized environment to a new platform. Migration tools can assist with some workloads, but complex environments often require detailed planning and phased transitions.

In large environments, planning and executing a migration can take 18 to 30 months.

Applications may have dependencies that are not immediately visible. Infrastructure changes may affect performance. Operations teams may need time to adapt to new tooling and workflows. Backup and disaster recovery systems should be validated early in the process.

The organizations that handle this well treat migration as a program, not a project: pilot environments, staged transitions, and time for operations teams to adapt.



Modernizing Virtualization Without Disrupting Operations

Moving from one virtualization platform to another is rarely a simple technical swap. It requires a clear understanding of application dependencies, operational processes, and infrastructure architecture.

Document Your Roadmap

Start by developing six-month, 12-18-month, and three-year architecture roadmaps for how your technology will evolve. The roadmap should clarify how virtualization will support workloads in the cloud and on-premises, while tying back to business capability requirements.

Follow the Data

The roadmap should be built around where the data lives and what is accessing that data. With a documented roadmap, you can work your way backwards to determine which hypervisor will support applications and the data they use.

If you are moving to containerized workloads or buying or upgrading commercial software that is delivered in containers,

you need to consider how a new hypervisor may impact the performance of the databases these applications use.

If you have a few decentralized databases on VMs, the complexity is low. If it is a centralized database environment, it gets more complex. For example, if your databases are on Microsoft SQL Server or Oracle, and you have no plans to change that, changing the hypervisor could severely affect performance if it is not planned out properly.

Compatibility Concerns

Customers should take compatibility issues seriously because the likelihood of running into a challenge is very high. One of the larger challenges centers around the fact that many applications come prepackaged as an Open Virtualized Appliance (OVA) for a specific hypervisor and may need to be validated if it is supported on the new hypervisor.

In order to gather a comprehensive view of what is relying on VMware today, we recommend that customers detail all their applications and application dependencies, some of which may not be obvious.



Migrate in Chunks

Since nearly every workload runs on a virtual machine, you'll want to ensure that you have a way to identify which workloads will be migrated, and in what order. This will give you a basis to estimate the cost of a new hypervisor and compare it with your estimated costs for VMware.

Start with the low-hanging fruit. Don't move the primary application first. Select chunks that will have a minimal impact if something does not perform well or does not work as expected. The idea is to get comfortable with the new virtualization platform and begin to master its intricacies. It is helpful to also have a backout or rollback plan in case the migration does not go well.

The migration plan should include thorough testing in a proof-of-concept environment before making a final commitment. Plan to do much of the migration manually. Vendors often include tools to help, but do not expect automation to handle the bulk of the migration.

In addition, you will need to plan for a hard cutover that will result in some level of downtime.

Timeline Will Vary

Organizations that are serious about making a change should start planning now. If your migration goal is centered on reducing licensing fees, and your virtualization provider only gives you a couple of months of notice for a price increase, migrating to a new platform will take much longer than that. It is best to assume that a hypervisor migration will take longer than you think.

• Hypervisor • Migration Checklist

Business Planning

Evaluate your application portfolio strategy and identify workloads that differentiate the business

Develop a roadmap for infrastructure that supports the goals of the business

Research hypervisor options that support your future direction

Consider whether your infrastructure will support emerging workloads such as AI and advanced analytics.

Technical Research

Verify that a new hypervisor will support reporting and monitoring requirements

Verify that VMware-ready workloads will work with a new hypervisor

Verify that core applications will work with the new hypervisor

Verify that your backup, replication, disaster recovery, and data protection processes will work with a new hypervisor

Think through how VMs will be secured

Verify requirements for features and functionality, including automation

Verify support for storage

Document application dependencies to verify database performance

Ensure compatibility with existing resources

Migration Planning

Estimate the cost and time of standing up a new virtualization environment

Determine who needs training and when

Develop a detailed plan for how to migrate from the old hypervisor to the new

Migrate in chunks: identify low-risk workloads to get familiar with the new platform

Migrate the most critical applications last

How Evolving Solutions Can Help

For some organizations, the need to change may be immediate. For others, it may emerge over time as platforms evolve and operational requirements expand. In either case, organizations that approach these decisions deliberately, rather than reacting under time pressure, will be better positioned for the next phase of infrastructure modernization.

Evolving Solutions works with organizations navigating these transitions, helping infrastructure leaders evaluate options, plan migrations, and build operational models that support both existing workloads and future innovation.

We can help you:

- Evaluate your infrastructure and workloads to help select a virtualization platform that meets your business and technical needs.
- Help you evaluate the trade-offs between which applications go where and how to get the best results from virtualization on-premises and in the cloud.
- Plan and implement a cost-effective migration that supports your technical and business plans.
- Replicate the same or better resilience, backup, security, and scalability in your new virtualization platform as the one that you are replacing.

If a new virtualization platform is not the best option for your organization, Evolving Solutions can help you optimize your current virtualization environment to minimize cost and maximize value.

Uncommon Experience and Empathy

Our team members are among the most experienced in the industry. Many have decades of experience working their way up to senior positions in the real world of systems administration, architecture, security, and operations, which gives us a unique empathy for our clients' challenges and opportunities.

Let us help you get started down the right path.

LET'S GET TO WORK!

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