



Guide for Seamless VMware Migration

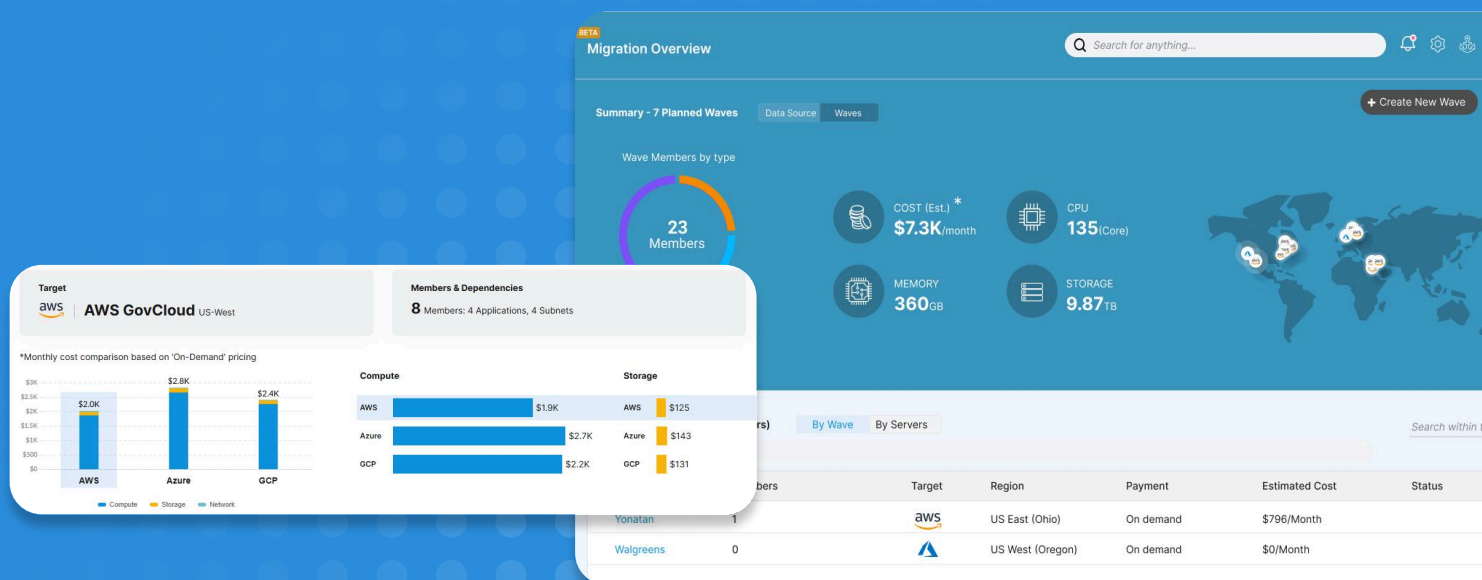
This guide provides actionable strategies for a smooth migration and tools for complete visibility into your dependencies.

A FADDOM WHITEPAPER



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Understanding VMware Migration

VMware's virtualization technology enables multiple virtual machines (VMs) to run on a single physical machine, sharing resources efficiently across various environments. As one of the most widely used virtualization platforms, VMware has been a cornerstone for IT infrastructure in countless organizations.

However, with VMware's recent acquisition by Broadcom and changes to its licensing model, many organizations are reevaluating their reliance on the platform. This shift has prompted an increased interest in migrating away from VMware to alternative solutions that better align with evolving business needs and budgets.

This whitepaper will explore key considerations for migrating away from VMware, including potential challenges, opportunities, and a step-by-step example of how to approach this type of transition.

Why Organizations Migrate VMware Workloads

The decision to migrate from VMware to alternative platforms is usually not driven by inherent shortcomings in VMware technology. VMware continues to be a mature and reliable solution for virtualizing modern applications. The primary considerations for migration often relate to cost-effectiveness, scalability, and concerns about the future development roadmap.

A significant factor influencing the current reassessment of VMware as a preferred platform is the recent acquisition of VMware by Broadcom. This development has introduced uncertainty concerning the future direction of VMware's product management. Customers have expressed concerns about potential changes in product offerings, licensing terms, and pricing models that could arise from this new ownership.

According to [Forrester](#), 20% of VMware enterprise customers are expected to migrate away from VMware. The primary reasons include historic price hikes, degrading support, and the company's policy to require subscriptions to software bundles which may not be required by all organizations, such as NSX and Aria Suite.

4 Technical Approaches for Migrating Away from VMware

Here are three approaches organizations take when migrating from VMware.

Commercial Virtualization Alternatives

The straightforward approach is to replace VMware with a similar commercial solution. Proprietary on-prem virtualization solutions, such as Microsoft Hyper-V and Citrix Hypervisor, remain popular choices for organizations not ready to move to the cloud. These platforms offer deep integration with existing IT environments and come with extensive support and security updates from established vendors.

These technologies are equipped with advanced management tools to simplify VM operation and maintenance. They also provide robust security features, including hardware-based isolation and encrypted state files, essential for enterprises handling sensitive data within their premises.

Open-Source Virtualization

Open-source virtualization technologies such as KVM (Kernel-based Virtual Machine) and Xen provide cost-effective and flexible alternatives to proprietary solutions like VMware. These platforms offer the core benefits of virtualization without the licensing costs associated with commercial software. They are backed by strong communities that continually contribute enhancements and security updates.

These technologies are highly customizable, catering to specific needs and integration requirements of businesses. They support various operating systems and hardware configurations, making them useful for companies that seek to avoid vendor lock-in and maintain control over their virtual infrastructure.

Hyperconverged Infrastructure

Hyperconverged infrastructure (HCI) consolidates compute, storage, and networking into a single, integrated system, simplifying IT operations and reducing hardware footprint. Solutions like Nutanix provide pre-configured software and hardware bundles, enabling organizations to deploy and manage virtual environments with minimal complexity.

These platforms often include advanced management features such as centralized monitoring, seamless scalability, and automation capabilities. HCI solutions are particularly beneficial for organizations seeking to modernize their infrastructure while maintaining on-premises control. They can also serve as a foundation for hybrid cloud setups.

Cloud-Based VM Hosting

Cloud-based VM hosting provides scalability, flexibility, and cost-efficiency by hosting virtual machines in the cloud. This option allows organizations to pay only for the resources they use, unlike in-house servers that require upfront capital and continual maintenance.

Leading providers like AWS, Azure, and Google Cloud offer robust VM hosting services that include automated backups, enhanced security, and global reach. Such services accommodate rapid scaling and ensure high availability and disaster recovery. The pay-as-you-go model shifts capital expenditure to operational expenditure, reducing the total cost of ownership and allowing more predictable budgeting. All cloud providers provide automated tools that make it relatively easy to import existing VMware virtual machines into their environments.

Popular VMware Alternatives



Nutanix is a hyper-converged infrastructure (HCI) platform that enables organizations to consolidate and virtualize their IT resources, providing an alternative to VMware for managing virtual environments. Nutanix simplifies the deployment and management of virtualized workloads, integrating storage, computing, and networking into a scalable software solution.

Key features include:

- **Integrated management:** Provides a unified console for managing virtualized infrastructure, reducing complexity and improving operational efficiency.
- **Hypervisor options:** Supports Nutanix AHV, VMware ESXi, and Microsoft Hyper-V, giving organizations flexibility in choosing their virtualization layer.
- **Scalability:** Enables scaling by adding nodes to the cluster without disrupting existing workloads or requiring complex configurations.
- **Built-in data protection:** Includes integrated data replication, backup, and disaster recovery features to ensure business continuity.
- **Hybrid cloud capabilities:** Supports hybrid cloud deployments, enabling data and application mobility between on-premises environments and public cloud providers.

Source: [Nutanix](#)

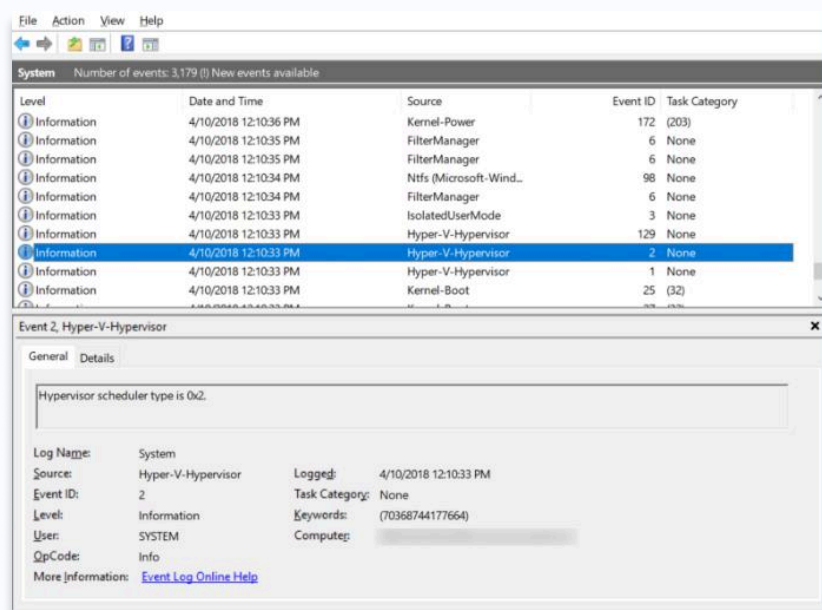


Microsoft Hyper-V is a virtualization platform that provides a reliable solution for managing virtualized workloads. It is a native hypervisor integrated into Windows Server, making it an appropriate choice for organizations already using the Microsoft ecosystem.

Key features include:

- **Windows integration:** Integrates with Windows Server and other Microsoft products, simplifying deployment and management for organizations in the Microsoft ecosystem.
- **Live migration:** Enables the transfer of virtual machines (VMs) between physical hosts without downtime, supporting high availability and flexibility.
- **Cost-effective:** Included as a feature in Windows Server, making it a budget-friendly choice for organizations with existing Microsoft licenses.
- **Disaster recovery:** Supports replication and recovery of VMs with features like Hyper-V Replica, ensuring minimal disruption during failures.
- **Security features:** Includes features such as Shielded VMs, which protect against unauthorized access and tampering.

Source: [Microsoft](#)



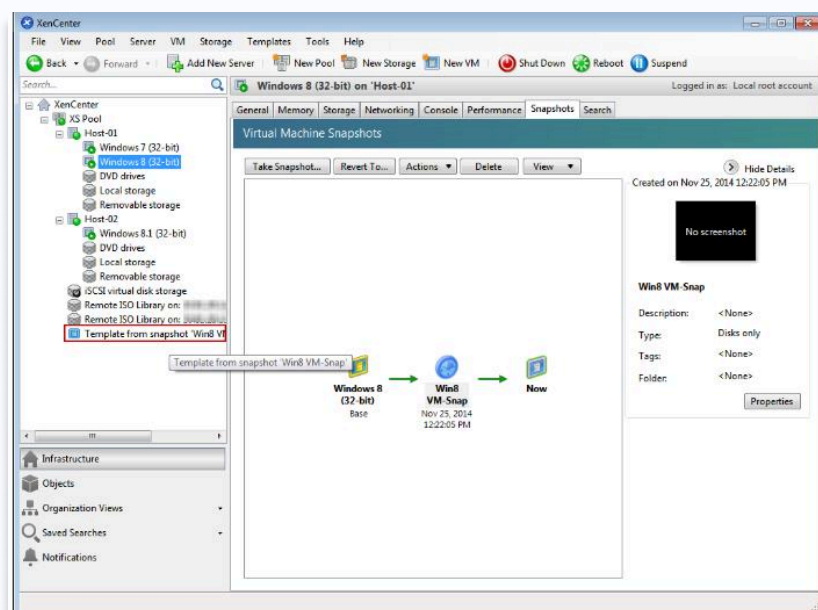


Citrix Hypervisor, formerly known as XenServer, is a virtualization platform that enables organizations to create and manage virtualized server and desktop environments. It allows multiple virtual machines (VMs) to run on a single physical server, optimizing resource utilization and simplifying IT infrastructure management.

Key features include:

- **Consolidation of virtual machines:** Enables the consolidation of multiple VMs onto a single physical server, reducing hardware requirements and improving resource utilization.
- **Live VM migration:** Supports live migration of VMs between hosts, allowing for zero-downtime maintenance and load balancing without disrupting services.
- **High availability:** Offers high availability features that automatically restart VMs on another host in case of hardware failure, ensuring business continuity.
- **Scalability:** Allows for easy integration with existing networking and storage infrastructures, enabling seamless scaling of virtual environments as organizational needs grow.
- **Security:** Provides strong security measures, including hardware-level isolation and support for secure boot, to protect virtual environments from unauthorized access.

Source: [XenServer](#)





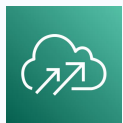
Kernel-based Virtual Machine (KVM) is an open-source virtualization technology integrated into the Linux kernel, allowing Linux-based systems to function as hypervisors. KVM enables the creation and management of virtual machines, each with its own virtualized hardware components.

Key features include:

- **Full virtualization:** KVM provides full virtualization capabilities, allowing unmodified guest operating systems, such as Linux or Windows, to run in isolated virtual environments.
- **Hardware-assisted virtualization:** Leverages hardware virtualization extensions (Intel VT or AMD-V) for efficient and secure VM execution.
- **Live migration:** Supports live migration, enabling the movement of running VMs between hosts without downtime, facilitating maintenance and load balancing.
- **Scalability:** As part of the Linux kernel, KVM inherits Linux's scalability features, allowing it to manage a large number of VMs effectively.
- **Security:** Benefits from Linux's security features, including SELinux and secure virtualization mechanisms, to provide a secure environment for VMs.

Cloud Provider VMware Migration Tools

For organizations moving to the cloud, all major cloud providers offer tools that can automate migration from legacy VMware environments. Here are the tools offered by the big three cloud providers:



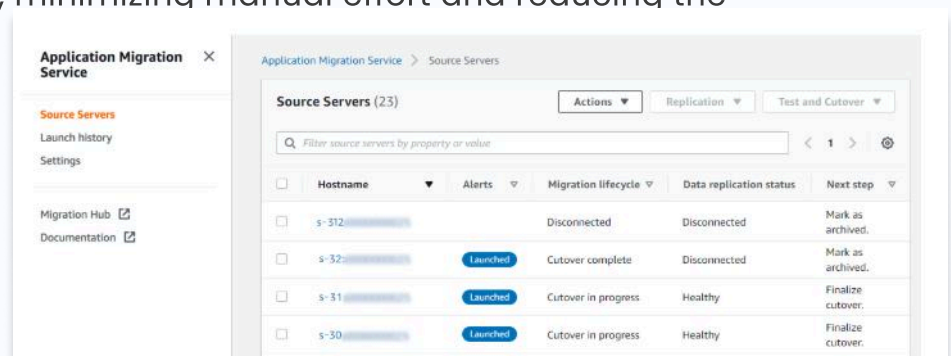
AWS Application Migration Service

AWS Application Migration Service helps organizations reduce the complexity and risks associated with application migration by automating many aspects of the migration process.

Key features include:

- **Broad compatibility:** Supports migration of applications from any source infrastructure including physical servers, VMware vSphere, Microsoft Hyper-V, and other cloud platforms.
- **Modernization options:** Offers the ability to modernize applications during migration with disaster recovery solutions, operating system upgrades, or license conversions.
- **Business continuity:** Ensures that normal business operations are maintained throughout the application replication process, minimizing downtime.
- **Cost-effectiveness:** Reduces overall migration costs by utilizing a unified tool that does not require application-specific skills or significant investments in new technology.
- **Automated migration:** Automates the conversion of source servers to run natively on AWS, minimizing manual effort and reducing the potential for errors.

Source: [Amazon](#)



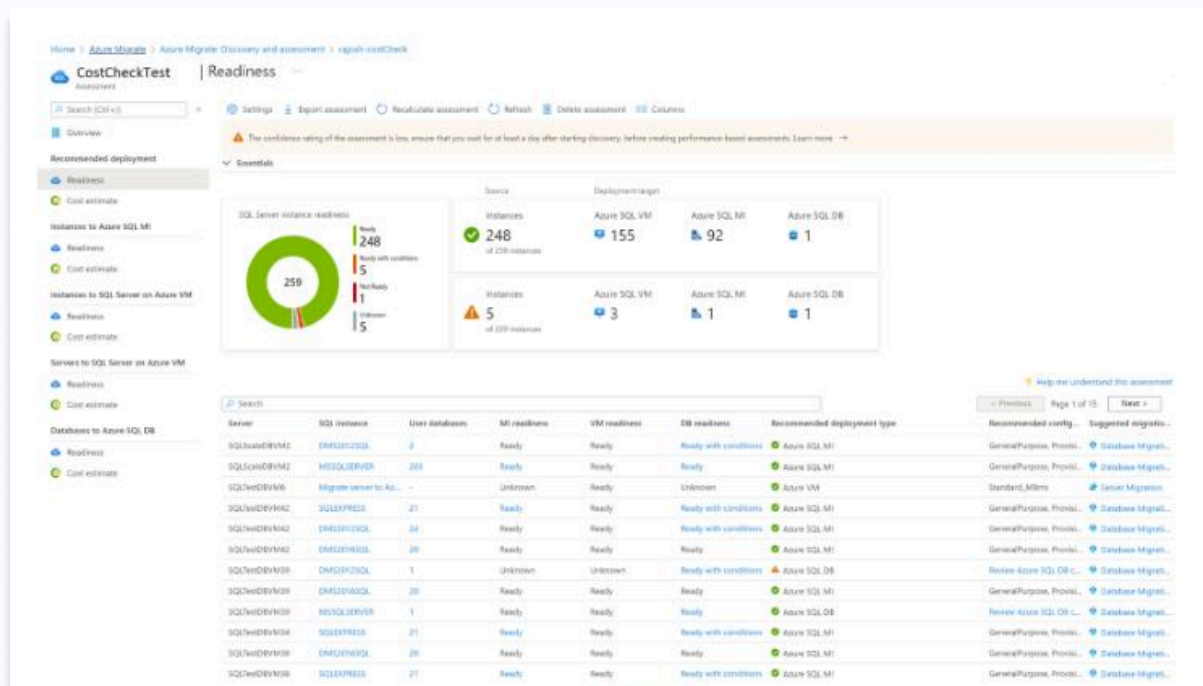


Azure Migrate is a service to simplify the migration and modernization of applications, databases, and infrastructure to Azure. It provides a unified approach to cloud migration, combining discovery, assessment, migration, and modernization tools. The platform also includes a central dashboard for tracking and managing migration activities.

Key features include:

- **Discovery and assessment:** Starts with the discovery of on-premises resources, providing detailed insights into infrastructure, databases, and applications to aid planning and decision-making.
- **Cost estimation and business planning:** Enables organizations to estimate the cost of moving to Azure and to create business proposals based on these estimates.
- **Phased migration:** Supports a phased approach to migration, allowing for a step-by-step transition that aligns with business needs and minimizes downtime.

Source: [Microsoft](#)





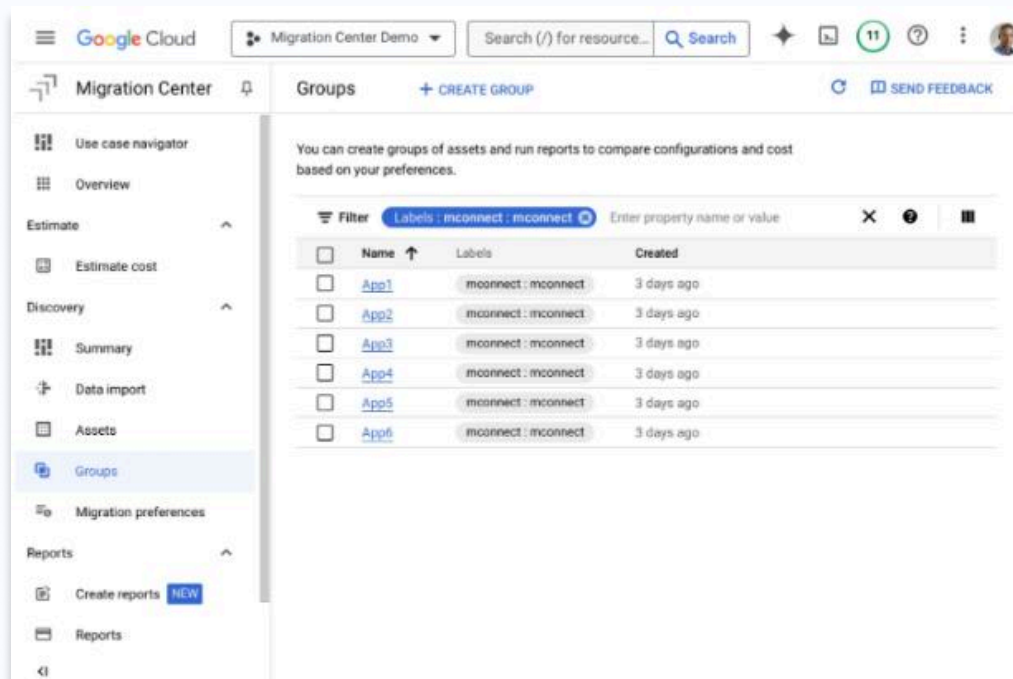
Google Migrate for Compute Engine

Google Migrate for Compute Engine provides a solution for migrating VMs to Google Cloud's Compute Engine from various source platforms, including VMware, Microsoft Azure, and Amazon EC2. It supports the transfer of a single VM to thousands of VMs across multiple data centers and cloud environments.

Key features include:

- **Rapid deployment:** VMs are made quickly available on Compute Engine by streaming data from the source during migration, which minimizes downtime.
- **Large-scale migration capability:** Enables orchestration of large-scale migrations, managing the migration of thousands of VMs in waves.
- **Migration management:** Provides tools to manage VMs on Compute Engine during and after migration, ensuring smooth transitions and continuity of operations.
- **Pre-migration testing:** Offers capabilities to test migrations before fully committing, helping to identify and address potential issues early in the process.

Source: [Google](#)



Key Phases of a Successful VMware Migration

Organizations can implement the following practices to ensure a successful migration from VMware.

1. Comprehensive Backup and Documentation

Start with a comprehensive backup of all virtual machines, including all data, applications, configurations, and network settings. Use VMware's native tools or third-party solutions like [Faddom](#), which can scan a data center and identify VMware workloads and their dependencies in minutes.

Document every aspect of the current environment, such as software versions, hardware configurations, network topology, and security settings. This detailed documentation serves as a roadmap for setting up the new environment and is important for troubleshooting post-migration issues. Ensure the backups are stored in a secure, easily accessible location and test the restoration process to confirm data integrity and functionality.

2. Choose the Right Target Platform and Setup

Selecting the right target platform for migration involves evaluating technical requirements, performance criteria, and financial implications. Consider platforms like AWS, Azure, or Google Cloud for cloud-based solutions, or alternative on-premises solutions like Microsoft Hyper-V or KVM for those needing closer control over their data. Assess the compatibility of these platforms with existing applications and workloads.

Next, begin the setup by installing the necessary virtualization software and configuring network settings, storage systems, and compute resources according to the documented specifications from the original VMware setup. Prepare the environment with adequate security measures and management tools to enable the smooth operation and maintenance of the migrated VMs.

3. Data and VM Migration

For data and VM migration, leverage automated migration tools that support live transfer capabilities, minimizing downtime. Tools such as VMware vMotion or third-party software designed for cross-platform migration can handle the complexities of live data transfer. Execute a pilot migration first, starting with less critical data or applications to validate the process.

During the migration, maintain a rigorous monitoring protocol to immediately address any issues that arise. Ensure that the migration tool aligns with the security protocols of your organization, using encryption for data in transit and conducting integrity checks to ensure that the data arrives unaltered.

4. Environment Configuration and Integration

Post-migration, configure the new environment to mirror the VMware setup as closely as possible. This involves detailed configuration of virtual networks, security settings, and storage options. Integration efforts include updating or replacing drivers and software to ensure compatibility with the new platform.

Conduct performance tuning to optimize resource allocation and efficiency. Regularly update system documentation throughout this process to reflect any new configurations and settings. Integration testing, involving end-users where possible, helps confirm that all systems operate correctly and interact seamlessly with one another.

5. Testing and Transition

In the final stages, conduct extensive testing to ensure every component of the migrated environment functions as intended. This includes load testing to assess performance under typical and peak conditions, and security testing to validate compliance with organizational standards. Address any discrepancies found during testing and document any changes made.

Once testing confirms stability and performance, begin the transition phase by gradually phasing out the VMware environment. This phased approach allows users to adapt to the new system with minimal disruption. Provide comprehensive training sessions and resources to IT staff and end-users to help them adapt to the new environment.

What Are the Main Challenges to Expect When Migrating Away from VMware?

Migrating workloads away from VMware involves several challenges that organizations must prepare to address. These challenges include:

- 1. Complexity of migration processes:** Migration often requires moving not only virtual machines but also their associated networks, storage configurations, and application dependencies. Coordinating these aspects is complex, particularly when migrating to a platform with a different architecture or virtualization model.
- 2. Downtime and business disruption:** Ensuring minimal downtime during migration is critical for maintaining business operations. Migrating workloads without causing interruptions requires careful planning, including pilot tests and phased migrations.
- 3. Application compatibility issues:** Applications and workloads optimized for VMware might require reconfiguration or redevelopment to work seamlessly on the new platform. This includes updating drivers, adapting to new APIs, or addressing differences in hypervisor capabilities.
- 4. Skill and knowledge gaps:** IT teams familiar with VMware technologies might lack expertise in the target platform. Addressing this skill gap involves investing in training or hiring specialists, which can increase costs and extend timelines.
- 5. Data integrity and security risks:** Migrating large volumes of sensitive data poses risks of corruption, loss, or unauthorized access. Ensuring data integrity involves using encryption during transit, validating successful transfers, and testing backup systems.
- 6. Performance tuning and optimization:** After migration, workloads might require extensive tuning to achieve the same level of performance as on VMware. Differences in resource allocation, storage performance, or network throughput may lead to temporary inefficiencies.
- 7. Cost management:** Transitioning to a new platform can incur substantial costs, including licensing fees, hardware upgrades, consultant services, and potential downtime losses. Organizations must balance migration expenses with long-term savings from alternative platforms.

The Role of Application Dependency Mapping in VMware Migration

The Importance of Understanding Dependencies Before Migration

Understanding application dependencies is crucial before migration, as it prevents disruptions caused by unknown interconnections. Without clear visibility, migrating workloads may lead to unexpected failures or performance issues, hampering business continuity. Dependency mapping uncovers these relationships, providing insights for strategic migration planning.

Dependency mapping tools identify and document these connections, making transitions easier. Organizations leverage this data to assess risk, define priorities, and allocate resources efficiently. A thorough understanding mitigates risks, ensuring migrations proceed smoothly without impacting service delivery.

How Dependency Mapping Helps: Identifying Critical Dependencies, Validating Post-Migration Performance, Optimizing Resources

Application dependency mapping is useful for identifying critical dependencies, validating post-migration performance, and optimizing resource allocation. By understanding dependencies, organizations prioritize key systems, ensuring migration plans address areas with the greatest impact on business operations.

Post-migration, dependency mapping validates performance by confirming that workloads function as intended. Identifying deviations allows for timely adjustments, securing operational consistency. Additionally, by visualizing resource usage, organizations optimize allocation, improving efficiency and capacity planning.

How Faddom Makes VMware Migrations Smoother and More Efficient

Faddom is an agentless application dependency mapping solution designed to provide comprehensive visibility across your IT infrastructure. It simplifies the complex task of migrating away from VMware by delivering the insights needed for effective planning and execution. Here's how Faddom can help at each stage of your migration journey:

1. Accurate Application Dependency Mapping

Before any migration, it's critical to understand how applications, servers, and services interact within your environment. Faddom automatically discovers and maps these dependencies in real-time, offering a clear, visual representation of all interconnections. This ensures that no critical relationships are missed, reducing the risk of disruptions during the migration. By identifying these dependencies upfront, Faddom supports a wave-based migration approach, allowing organizations to migrate workloads incrementally. This phased method prioritizes critical systems, ensures thorough testing, and minimizes downtime during the transition.

2. Fast and Agentless Deployment

Unlike traditional tools, Faddom doesn't require agents, making deployment quick and hassle-free. It can be fully set up in under 60 minutes, providing actionable insights without the need for extensive configurations or system downtime.

3. Risk Mitigation Through Comprehensive Visibility

Faddom identifies hidden risks by highlighting unexpected dependencies and undocumented connections within your VMware environment. This proactive approach helps prevent migration pitfalls and ensures business continuity throughout the process.

4. Validating Post-Migration Success

After migration, Faddom continues to monitor and validate the performance of your newly migrated workloads. It ensures that dependencies remain intact, applications perform as expected, and resources are optimized for the new environment.

5. Support for Hybrid and Multi-Cloud Strategies

Whether you're transitioning to cloud-based VM hosting, hyperconverged infrastructure, or open-source virtualization, Faddom provides visibility across hybrid and multi-cloud environments. It helps you plan and manage resources efficiently, optimizing costs while maintaining operational excellence.

6. Cost-Effective and Scalable Solution

Faddom offers transparent pricing and scalability, making it ideal for organizations of all sizes. It provides ongoing value by enabling continuous monitoring and documentation, ensuring your IT infrastructure remains agile and well-documented even after migration.

Why Faddom Is a Must-Have for VMware Migration

Migrating away from VMware is a complex process that requires detailed planning and execution, as even small oversights can lead to disruptions, inefficiencies, or unexpected costs. Faddom simplifies this by delivering the visibility and insights you need to minimize risks, optimize resources, and ensure a smooth transition.

With its real-time mapping capabilities, rapid deployment in under 60 minutes, and agentless design, Faddom eliminates complexities while uncovering critical dependencies. It provides the clarity needed to maintain business continuity, validate post-migration success, and support ongoing optimization, making Faddom a trusted partner in achieving seamless, successful and cost-effective migrations.

Ready to make your migration seamless?

SCHEDULE A CALL NOW

Schedule a call with our experts today and get started with a free trial!