8 essential questions to ask before a virtual machine migration

Challenges, strategies, and real-world insights

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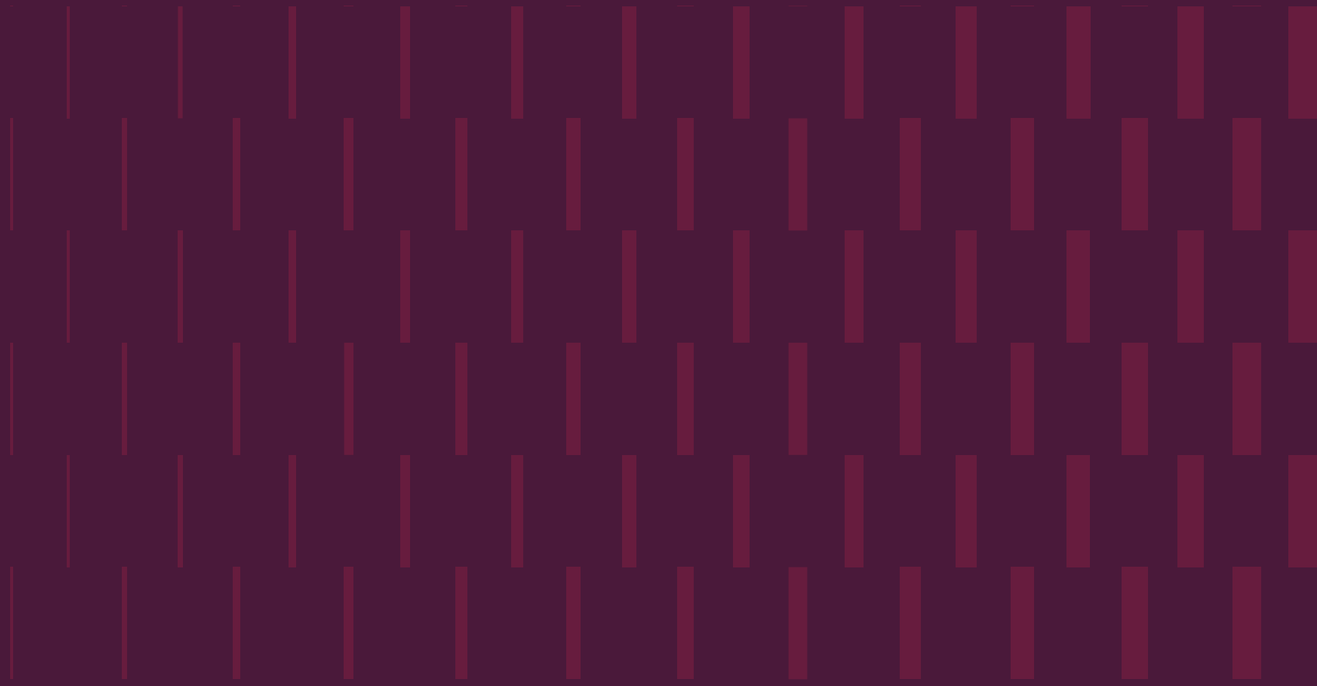
As the virtualization space evolves, many organizations are updating their strategies to avoid the rising costs of managing legacy systems and the inability to scale to meet business demands.

Before you move forward with your strategy, you'll need a well-planned roadmap to migrate your virtual machines quickly and safely. This may seem like a daunting and complex task, however, the cost of staying behind may be even bigger—limiting your potential to innovate and grow.

In this ebook, we'll explore nine questions for VM migration. When you have clear answers to these, you'll have a solid start for a smooth migration and a successful transformation for your organization.

Day Zero

Plan and design for
a strong foundation



What is my workload complexity and timeline for migration?

Your very first task should be to understand your workloads as a whole.

How many resources are they using? Are they meeting performance benchmarks? What applications and service dependencies do you have? How many VMs are you managing? What does maintenance look like? Does your environment easily scale to meet your business needs? Ideally, how quickly would you like to migrate? Are there any business-critical events that drive your deadline?

Managing multiple platforms for containers and virtual machines can lead to:

Increased complexity

Resource fragmentation

Operational overhead

Seek a unified platform that streamlines infrastructure deployment, management, and monitoring across both virtual machines and containers.

The right platform can help you optimize resource use, eliminate duplicate efforts, and quickly adapt to diverse workloads.

What enablement will my team need?

As you plan your migration, it's essential to keep your team's needs in mind.

Remember, your team may have spent years – or even decades – honing their skills on a particular technology, but that doesn't mean they can't learn a new one. They'll need training on your new platform, as well as encouragement to take on a significant new challenge.

Adopting a new virtualization platform is more than a technical challenge and requires executives who champion both the move and the team and can prioritize efforts across the organization.

With a supportive, open-minded culture, you'll:

Foster innovation

Encourage learning

Reduce resistance to adopting new technologies

Day One

Focus on deployment, migrate to your target environment, cease deployments from your previous platform, and initiate deployments from your new one

How do I prioritize workloads for migration?

After completing a Virtualization Migration Assessment of your current platform and workload complexity, you'll want to select the first group of workloads to prioritize for the migration.

- Start by conducting confidence testing of **easy**, **medium**, and **hard** workloads to validate your assumptions about migration complexity.
- Focus on targeting the **lowest-risk workloads** and minimizing the overall footprint
of your legacy platform.
- Define and track **key consumption indicators** to hone your approach and achieve value faster.

This kind of prioritization can help keep your migration manageable and speed

How should I integrate my storage and backup integration?

Another important architectural decision is selecting the proper storage back end for your cluster.

- Can the solution support different operating systems, databases, and applications at scale and adapt to different environments (on-premise, cloud, hybrid)? Will there be an impact on the system performance, backup speed, and storage efficiency?
- Does the vendor offer robust encryption methods for data at rest and in transit, and comply with relevant security standards, such as GDPR or HIPAA?
- Does the vendor offer comprehensive recovery capabilities, including point-in-time recovery, fast restores, and disaster recovery options? How easily can the solution restore data in case of a system failure?
- How is the quality of customer support, response times, and availability? Some vendors offer 24/7 support and personalized assistance, which is critical during emergencies.

How will teams provision and deploy virtual machines on the new platform?

ClickOps This traditional method provides a user-friendly, straightforward way to create virtual machines without requiring extensive scripting or programming knowledge. But, while it's easy to use, ClickOps isn't really appropriate for larger, more complex jobs.

Automation For those looking for a more scalable method, consider an option that will allow you to provision and manage virtual machines through reusable playbooks. This approach is ideal for teams that want to streamline deployments and enforce consistent configurations across environments or even implement an automated event-driven, self-service model for provisioning standard virtual machines. If you have an existing landscape of virtual machines and have already developed automated provisioning, it's essential to ensure that automation is refactored to work with your new platform's APIs.

Consider ensuring that your team uses GitOps to bring a version-controlled, declarative approach to the lifecycle management of virtual machines. With GitOps, configurations and desired states are stored in a Git repository and updates to virtual machines are triggered directly from code commits. These configurations can also be called as part of an automation playbook. This way, the operator can easily manage virtual machine configurations across multiple clusters, trace changes, and enhance security through code reviews, making the provisioning and management of virtual machines both agile and security-focused.

How quickly can I migrate to the new platform?

While migrating virtual machines, it's essential to ensure a smooth and efficient process by thinking through factors such as:

Bandwidth between virtualization environments

Type of migration (cold vs. warm)

Remember that automation can help address pre- and post-processing needs, while replacing repetitive, manual, and time-consuming tasks with automated workflows (such as inventorying existing hardware, networks, and cluster deployments). Teams can take advantage of automated processes for migrating virtual machines at scale. These automated processes provide comprehensive tools to move applications and data with minimal disruption, paving the way for self-service capabilities and a smoother transition to a modern environment.

How will teams maintain, scale, and automate the virtual machine platform throughout its lifecycle?

When you're thinking through your next virtualization solution, why not make things easier on your team?

If you have large and complex cluster deployments, seek out a platform that enables your team to efficiently control clusters and applications from a single console—deploying applications, managing multiple clusters, and enforcing policies consistently at scale.

Choose a solution that makes it easier for your team to:

Build and configure hub clusters

Define and build governance policies

Manage infrastructure

That single pane of glass for your operations team will improve efficiency and speed of operations.

Day Two

Post-migration focus on
maintenance and optimization

How will teams monitor the health and performance of the platform and manage their virtual machine Day 2 operations?

Finally, it's time to think through one of your most important considerations: ongoing maintenance and optimization.

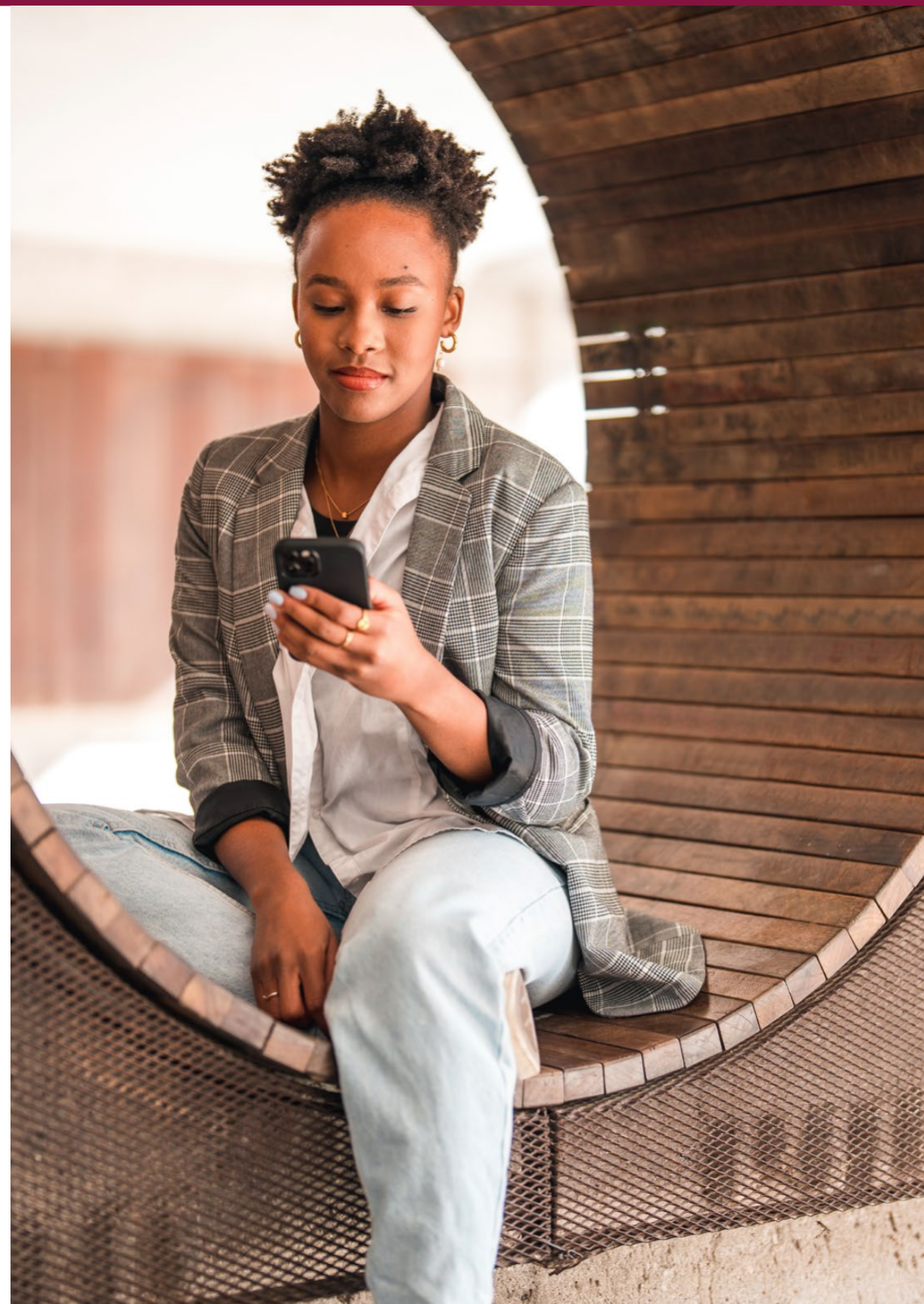
Make sure you're thinking ahead. Set up alerts to identify:

- **pod failures** (including virtual machines)
- **node problems**
- **network disruptions**

before they affect your applications.

For Day 2 operations of migrated workloads, it's crucial to ensure ongoing management and optimization, including:

- **monitoring performance metrics**
- **validating workload stability**
- **overall lifecycle management of the virtual machines**
- **fine-tuning resource allocations to create and maintain efficiency**



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You've considered the questions, evaluated your existing environment, and are committed to finding a solution that is robust, scalable, flexible, and efficient.

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Dell Private Cloud – Red Hat OpenShift lets you start small and grow at your own pace as you build the infrastructure that works for you with confidence and intent. Instead of price lock, you get flexibility and long-term value.

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