



# Navigate Beyond VMware with RackN

For decades, VMware has been a linchpin in many IT organizations' virtualization strategies. However, the acquisition of VMware by Broadcom has prompted a reevaluation of reliance on this platform. This shift is driven by growing needs for greater infrastructure flexibility and control, alongside the increasing importance of reducing vendor lock-in.

This workbook is designed to facilitate the transition towards a more diversified and streamlined IT infrastructure. By providing a structured approach to assessing VMware's role within your operations and identifying viable alternatives, the goal of the workbook is to enable significant improvements in both process management and infrastructure efficiency.

## Self-Evaluation Process

The process is segmented into four critical steps designed to guide you through inventory assessment: process evaluation, exploration of alternatives, and the implementation of change. In addition, this workbook includes various worksheets that systematically break down and analyze each aspect of your dependency on VMware, facilitating a smoother transition to alternative solutions.

## Getting Process Help from RackN

Our mission at RackN is to enable enterprises to become strong, self-sufficient infrastructure managers. We are happy to provide training and workshops to accompany this workbook to help your team build these skills.

## Table of Contents

Self-Evaluation Process	1
Getting Process Help from RackN	1
Table of Contents	2
Why Decouple Infrastructure from VMware?	2
The Four Step Process	3
Step 1: Inventory Assessment	4
Step 2: Process Evaluation	5
Step 3: Evaluating Alternatives	7
Step 4: Implement Change	8
Conclusion: Finding Opportunity in the Challenge	10
Supporting Material	11
Scoring Criteria Expanded	11
Worksheets	16
VMware Alternatives	20

## Why Decouple Infrastructure from VMware?

The recent strategies employed by Broadcom, including price increases and attempts to entangle customers in limiting agreements, highlight the critical need to reassess and possibly transition away from VMware-focused setups. Their strategies have enterprise businesses wondering if there are any advantages to adopting a multi-vendor infrastructure, especially at the virtualization layer. It turns out that this strategy can facilitate significant cost reductions. It can save organizations hundreds of millions each year, and enhance operational flexibility and resilience.

However, the significant task of transitioning away from VMware's hypervisor platform can be daunting. That's because this transition isn't just about replacing a virtualization manager. At its core, this transition involves restructuring IT infrastructure to lessen dependency on specific vendors and boost flexibility.

Undertaking such a transition presents an opportunity for organizations to significantly improve their infrastructure management capabilities. RackN has assisted clients in achieving significant return on investment (ROI) by leveraging RackN Digital Rebar for their transition. Digital Rebar helps companies focus on abstraction, collaboration, and the establishment of repeatable processes within their infrastructures.

This guide summarizes the knowledge acquired by dissecting the complex migration process from VMware infrastructure into bite-sized phases for easier management.

## The Four Step Process

This four-step process is crafted to provide a clear path from the initial assessment through to the successful implementation of a new virtualization platform. For this guide, we've updated the language to focus on VMware and virtualization.

**Step 1. Inventory Assessment:** The journey begins with an inventory and scoring of your workloads. This will help you understand your organization's VMware integration depth.

**Goal:** Quickly quantify your current infrastructure usage, pinpointing the areas most reliant on VMware.

**Step 2. Process Evaluation:** Evaluating workloads must be more than just replacing VMware. It should also prioritize finding opportunities to reduce your dependencies on any vendor.

**Goal:** Identify opportunities to strengthen abstraction and collaboration while helping streamline and optimize operations.

**Step 3. Find Alternatives:** At the core of this challenge is not just removing or abstracting VMware, but identifying and implementing suitable alternatives.

**Note:** We know it is tempting to skip over Step 2 and right into alternatives! In most cases, the best VMware alternatives is not a direct replacement but to better understand which aspects of the product are required.

**Goal:** Leverage your enterprise experience to help improve vendor-neutrality and find best-fit alternatives.

**Step 4. Implement Change:** Implementing this change spans technical, process and people.

**Goal:** Build a Platform Engineering capability that facilitates the orchestration and automation of the new environment, minimizing disruptions and enhancing efficiency.

Let's explore the steps in more detail.

## Step 1: Inventory Assessment

To effectively evaluate your organization's dependence on VMware and measure the success of transitioning away from it, it's important to decompose every element of usage. This approach should reflect both the technical and operational aspects of this transition.

We've carefully designed a scoring workflow to eliminate the need for extensive data collection. You should be able to score 3 to 5 workloads during an hour if you have the right people in the meeting. The goal is to generally rank candidates for action so precision is not required.

### Collect Use Cases

Instead of looking at your organization as a monolith, decompose your infrastructure use into specific workloads. In most organizations, workloads often map to teams. However, you may find some teams are able to further decompose their infrastructure use. But it's only worth decomposing if the team agrees that it could split its use onto multiple platforms.

### Scoring Criteria

The following criteria are scored on a five point range but offset to allow for positive, neutral and negative sentiment. The scores to assign are -2 (strong no), -1 (no), 0 (neutral), +1 (yes), and +2 (strong yes). Uncertain or unknown should be scored a 0 (neutral).

### Scoring Dimensions

We've identified these ten dimensions when evaluating vendor-neutrality. It's important to have multiple evaluation criteria to help separate workload variation from your background process characteristics.

This is a condensed list, consult [the supporting material](#) for more detailed descriptions:

1. [Virtualization Fit](#) scores different workloads to target decoupling, improvements and optimizations.
2. [System Interdependence](#) scores how systems are interconnected within your environment
3. [Virtualization Skills](#) scores depth of experience to identify operational expertise that is able to customize and optimize your environment.
4. [Skills Transferability](#) scores if your current skill set can adapt to new platforms.
5. [Vendor Dependency](#) scores your team's dependency on VMware specific features.

6. [Feature-Need Alignment](#) scores the specific demands placed on your virtualization infrastructure.
7. [Elasticity Evaluation](#) scores how flexibly resources are managed and scaled in response to varying demands.
8. [Reliability and Downtime](#) scores the current system performance, focusing on its stability over time.
9. [Innovation Impact](#) scores how current practices contribute to or hinder adaptation and innovation.
10. [Compliance & Security](#) scores your level of compliance against internal and external standards.

While ten factors seems like a lot of work during scoring, remember that we're looking for high level scoring, not looking for exhaustive analysis. The goal is to quickly identify candidates. Then you will do deeper analysis only on the top candidates.

## Step 2: Process Evaluation

This phase dives deeper into the interlinked dependencies and areas where reliance on the VMware virtualization platform is pronounced. For some environments, your existing configuration management database (CMDB) or reports from vRealize or vOPS will be a great starting point.

Use the findings from the initial inventory assessment to identify any migration candidates from your current VMware environment. The low-hanging workloads for migration are characterized by their relatively loose integration with VMware-specific features. Examples include workloads that:

- Have less stringent virtualization needs
- Are managed by teams with limited VMware expertise
- Are not heavily customized within the VMware ecosystem.

A systematic documentation approach is advised.

## Documentation and Strategic Planning

For each identified workflow, create a detailed evaluation that includes following:

- The nature of the architectural integration between the workflow and VMware.
- The teams involved in managing and supporting the integration.
- The actions performed by these integrations.
- Any other existing abstraction tools being used.

Don't forget to include secondary objectives that your organization may now require. This should surface overlooked benefits and opportunities. These objectives may include:

- Improving governance
- Ensuring security compliance
- Enhancing visibility into resource utilization.

## Flag Deep VMware Integrations

It is important to pinpoint areas with deep VMware integration in this phase so that you can assess the complexity of potential migrations. Identifying workloads or processes closely linked to VMware's functions is crucial. These areas may pose challenges not only for abstraction, but they may help you decide that migration costs outweigh the benefits.

Examples of deep integration include:

- Vendor integrations such as external storage or backup solutions that are only supported by VMware.
- Automation built inside of vOps or vRealize that will have to be reconstructed.
- Scripts that call VMware APIs or use VMware CLIs directly and will have to be rewritten
- VMs that rely on process controls and drivers unique to VMware.

## Abstraction Layer Considerations

A pivotal aspect of this evaluation is to determine the extent to which workloads and teams interact with VMware, either directly or through APIs. Integrations that rely on an abstraction layer such as Terraform, Apache CloudStack, or Digital Rebar are less impacted when the underlying infrastructure vendor changes. While these layers can be simple IaC shims (like Terraform) or full featured platforms (like Digital Rebar), platforms have the advantage of providing improved operational transparency.

The absence of an abstraction layer between the team's infrastructure needs and the specific vendor technology is not inherently a shortfall. Instead, it presents an opportunity to introduce such layers. This not only stramines future migration efforts but also aids in reducing vendor lock-in.

## Identify Opportunities for Platform Engineering

Infrastructure Platform Engineering is an cross-functional organizational structure that consolidates infrastructure leadership under a centralized team to improve process control and management. A crucial takeaway from this phase is recognizing the potential for platform engineering initiatives. Identifying where abstraction layers can be added prepares your team for

more than for a migration away from VMware. It also sets the foundation for agile, scalable, and effective IT operations.

This has the potential to transform how platform engineering is tackled, making this migration strategy a driver for wider organizational evolution. Check out our [Platform Engineering blog series](#) for more resources.

## **Avoid Premature Decision-Making!**

Resist the urge to make hasty decisions in this phase! This phase focuses on discovery and understanding rather than prompt action, despite recognizing chances for abstraction and migration. Avoid making assumptions about necessary abstraction layers. Instead, focus on conducting comprehensive analysis and identifying effective strategies.

## **Review**

The process evaluation stage helps you understand your current VMware-dependent environment from a technical and operational view of the IT environment. The insights gained here will guide your migration strategy and enhance your overall approach to IT operations and platform engineering.

## **Step 3: Evaluating Alternatives**

The need for a robust multi-vendor strategy has never been more critical. This segment delves into exploring options beyond Broadcom VMware. The aim is to assist IT leaders in making well-informed choices when it comes to broadening their infrastructure supply chain.

## **Becoming Multi-Vendor**

When considering alternatives for crucial parts of an IT architecture it is essential to move beyond the traditional one-size-fits-all mindset. VMware's dominance has led to over-specialization and bespoke system implementations that, while technologically intriguing, often do not align with the broader mission of enterprise IT. The goal is to encourage a more generalized, cost-effective, and vendor-neutral infrastructure approach.

See for reference vendor list, consult the [support material](#).

## Operational Considerations

Moving to a multi-vendor strategy requires a commitment to operational adaptability. Enterprises must be prepared to manage and support heterogeneous systems. This involves embracing additional abstraction layers and diverse skill sets. While this introduces some complexity, the operational resilience and flexibility gained are invaluable, as exemplified by the current Broadcom situation.

## Vendor Selection Process

The selection process should prioritize high-level criteria without getting bogged down in checkbox comparisons of features and performance. The goal is to identify vendors that align closely with specific use cases rather than seeking a single vendor to cover all scenarios. This approach fosters vendor independence and addresses the core issue of vendor dependency.

## Implement and Test Vendor Alternatives

A crucial step in the evaluation is to test the practical implementation and management of these alternatives. Enterprises should not only demonstrate the ability to deploy and manage new products but also ensure that they can be seamlessly integrated within their existing IT processes. This testing phase is vital for validating the feasibility of vendor interchangeability and the effectiveness of the chosen abstraction layers.

## Review

Evaluation of products is more than finding a VMware alternative. It's about reimagining a more agile, vendor-neutral, and cost-effective IT infrastructure. Organizations can reduce reliance on a sole provider, boost operational efficiency, and increase agility by thoughtfully choosing and evaluating different vendors. This approach lays the groundwork for a more resilient, dynamic, and innovative IT infrastructure, driving substantial ROI and fostering organizational change in the IT landscape.

## Step 4: Implement Change

The key to successfully lessening your organization's dependence on VMware lies in balancing technical advancements with process improvements.



## **You are not Unique, so Build on Proven Processes**

Don't assume that you are captive to your custom automation and the lack of internal standardization. This is your opportunity to consolidate practices and follow proven processes to manage your infrastructure. Whenever possible, ensure that you are building on reusable and well supported automation and platforms. This is your best chance to eliminate bespoke automation from your enterprise.

## **A Phased Approach is Best**

The best way to implement this change is a phased approach. This allows your organization to progressively improve processes while managing the technical and operational complexities of transitioning from a VMware-centric environment.

## **Start Small, Refine and Adjust**

Begin with less critical workloads, enabling teams to refine migration processes and adjust strategies before progressing to more integral systems. This approach minimizes disruptions and provides valuable insights and learning opportunities at each stage. It also ensures a smoother and more effective overall transition.

## **Establish an Infrastructure Platform Engineering Team**

Discussed above in [Identify Opportunities for Platform Engineering](#), advanced organizations often combine the phased implementation with the establishment of an Infrastructure Platform Engineering team. This strategy allows your organization to build cross-functional skills in migration while also building deep process experience.

## **Review**

This phased approach ultimately leads to a more resilient, adaptable, and efficient IT environment. However, continuous monitoring, stakeholder communication, and incremental adjustments are other essential components of implementing change.

Ultimately, your organization is adding more vendors into your environment because that improves your supply chain control and power. Consequently, you will also need abstraction platforms, like Digital Rebar, that equip your organization with a framework that supports ongoing process refinement as well as technology that aligns with the evolving needs of your IT infrastructure.

## Conclusion: Finding Opportunity in the Challenge

The acquisition of VMware by Broadcom has necessitated a critical reassessment of its role in IT organizations' virtualization strategies, highlighting the need for greater infrastructure flexibility, control, and reduced vendor lock-in. This workbook has been meticulously crafted to support your journey towards a more diversified and efficient IT infrastructure.

By following the structured approach laid out in our four steps, you are well-equipped to navigate the complexities of transitioning away from VMware dependency. With the aid of the included worksheets, you can methodically analyze and address each aspect of your reliance on VMware, ensuring a smooth and effective shift to alternative solutions that better meet your evolving needs.

Transforming your infrastructure is a significant undertaking, but it should not require spinning up an army of consultants! Instead, our mission is to empower you to self-manage your processes and infrastructure. That does not mean having to figure it out yourself: leveraging the RackN team's transformation expertise encapsulated into Digital Rebar as an automation platform, this challenge becomes an opportunity. You possess the power to reshape your IT environment for the future and address the current Broadcom crisis in a pragmatic and precise manner. Our approach ensures a smoother transition, positioning your enterprise for greater agility and innovation.

We've turned our multi-vendor enablement experience into standard processes so you can lean on our expertise as you start this journey. RackN Customer Success Engineers have helped other customers build a multi-vendor environment. Contact us today for a review meeting that starts your journey to new virtual horizons.

# Supporting Material

The following sections support the workbook process.

## Scoring Criteria Expanded

### 1. Virtualization Fit

Catalog various virtualization scenarios (e.g. development, database management, virtual desktop infrastructure, Kubernetes, API services). Get a clear understanding of different virtualization scenarios within the workload and document targeted improvements and optimizations. Finally, evaluate each scenario for its degree of virtualization use (under, neutral, over-utilizing).

For scoring, apply a scoring range from -2 (underperforming) to +2 (overperforming).

Examples include a Development team, database team, virtual desktop team, Kubernetes infrastructure, API services, general infrastructure.

Benefits:

- Recognizes that you may be paying for virtualization capabilities that you don't need
- Find use-cases that are getting high value from advanced virtualization features.

### 2. System Interdependence

For this interdependence measure, determine how systems are interconnected within the virtualization environment. Identify the crucial systems that depend on the VMware platform and assess how changes to the platform could affect these interconnected systems. This approach helps you manage risks associated with vendor reliance, at the same time facilitating strategic planning for system updates or migrations.

For scoring, analyze critical systems' dependence on the VMware platform and the impact of any changes on interconnected systems.

Example: Assess if a platform such as a virtual desktop interface (VDI) requires features only provided by VMware, or if it could be run on other virtual platforms.

Benefits:

- Highlights places where the team has dependencies on other teams and pinpoints areas for addition of abstractions and circuit breakers, providing clear targets for continuous improvement.
- Guides the allocation of training and resources, ensuring that the team is well-equipped to maximize the benefits of virtualization technologies.

### 3. Team Virtualization Skill Proficiency

Evaluate your team's effectiveness with current virtualization solutions, focusing on honest identification of operational strengths and weaknesses. Assess areas of proficiency and those needing enhancement, such as the necessity for additional training or resources. This approach not only sheds light on your team's capabilities but also directs resources and training towards areas that bolster overall performance.

For scoring, gauge the team's weakness or adeptness in virtualization technology utilization, pinpointing specific areas for improvement.

Example: Analyze if the team consistently maximizes VMware's capabilities or overlooks potential efficiencies.

Benefits:

- Provides insight into the team's readiness for adopting new platforms or technologies
- Informs the strategy for future training and skill development

### 4. Skill Transferability

Evaluate the breadth of your team's virtualization skills, and the transferability of those skills to other products and processes. This assessment is crucial in determining how well your team's current VMware skill set can adapt to diverse platforms or new technologies. The goal is to understand the team's capability in virtualization as a broader discipline, not just in specific tools, to ensure they are prepared for technological shifts. This analysis directly influences your future training strategy, helping to align skill development with evolving technology trends.

For scoring, focus on the versatility and adaptability of the team's virtualization skills.

Example: Determine if the team's expertise in VMware is versatile enough to be applied to other virtualization platforms or migrated to new platforms such as supporting infrastructure in CI/CD automation.

Benefits:

- Provides a clear picture of the team's readiness
- Aids in planning training, and potentially hiring, to help fill skills gaps

## 5. Vendor Dependency

Undertake a comprehensive vendor analysis to evaluate your team's level of dependency on VMware. This evaluation should include a thorough alternatives assessment that explores viable alternatives to your current vendor setup. Additionally, a critical part of this measure is a risk evaluation, where you identify the risks associated with vendor lock-in.

This should include the impact on specific use cases (such as VDI), and strategize ways to mitigate these risks. This approach addresses current dependencies and encourages a proactive stance in considering other solutions, which enhances your operational flexibility.

For scoring, focus on the degree of vendor lock-in and the feasibility of integrating alternative solutions.

Example: Analyze the extent of reliance on VMware, particularly in scenarios like VDI, and examine the potential for adopting different vendors.

Benefits:

- Provides a clear understanding of the risks associated with vendor lock-in
- Promotes the exploration of alternative solutions

## 6. Feature-Need Alignment

In the Feature-Need Alignment measure, start with an Application Requirements analysis. This will detail the specific needs of the applications that utilize virtualization. This step is crucial for understanding the exact demands placed on your virtualization infrastructure.

Follow this by a Platform Feature Utilization analysis to assess how well VMware caters to these specific needs. It's important here to pinpoint Optimization Opportunities where the current platform might be underutilized or excessively robust for your requirements. This could involve determining vSAN capabilities are overkill for a high-performance database, or if another storage platform would suffice.

For scoring, concentrate on how well the virtualization features align with the actual application requirements.

Example: Evaluate if VMware's VSAN capabilities are a match for the needs of high-performance databases or if they exceed the performance or resilience requirements for more general infrastructure.

Benefits:

- Ensures that the features of your virtualization platform align closely with the actual needs of your applications, preventing overinvestment in underutilized capabilities.
- Uncovers opportunities for cost-saving by identifying and eliminating features that are not necessary for your specific application requirements.

## 7. Elasticity Evaluation

Use a Current Elasticity Assessment to examine the dynamic allocation and utilization of resources in your existing setup. This step involves a deep dive into how flexibly resources are managed and scaled in response to varying demands.

Next, engage in Potential Elasticity Exploration to discover opportunities for enhancing the elasticity of your system. This could involve innovative approaches or emerging technologies that offer greater flexibility. Additionally, focus on Migration Candidate Identification, singling out specific workloads or systems, like Kubernetes or VDI, that stand to gain significantly from increased elasticity.

For scoring, evaluate both the present elasticity of your workloads and their potential for improvement in this aspect.

Example: Determine the elasticity of systems like Kubernetes or VDI and explore how their resource management could be made more dynamic and responsive.

Benefits:

- Highlights which workloads could significantly benefit from increased elasticity
- Assists in identifying which parts of your infrastructure are prime candidates for migration

## 8. Reliability and Downtime

Initiate a Stability Analysis to assess the overall reliability and uptime of your virtualization system. This analysis should encompass a comprehensive review of the system's performance, focusing on its stability over time.

Next, delve into Maintenance Requirements, examining how frequently maintenance is needed and its impact on the system. This includes regular patching and updates and how they affect overall performance and uptime.

Finally, conduct an Operational Impact Assessment to gauge the repercussions of any system instability or maintenance activities on your broader operations. This step is vital in understanding the ripple effect of virtualization system issues on the entire IT environment.

When scoring, evaluate both the system's reliability and the impact of its maintenance on operations.

Example: Examine the stability, maintenance requirements, patching frequency, and performance of systems like VMware to gauge their overall reliability and operational impact.

Benefits:

- Pinpoints aspects of the virtualization system that might be undermining operational stability, allowing for targeted improvements.
- Assists in devising a strategy for system maintenance that minimizes disruption to operations, thereby maintaining a smooth and efficient IT environment.

## 9. Innovation Impact

Start with an Agility Evaluation to assess how your current virtualization strategy influences organizational flexibility and the speed of innovation. This step is crucial in understanding how virtualization practices contribute to or hinder your ability to rapidly adapt and innovate.

Follow this with a Technical Debt Assessment, where you identify areas where outdated technologies or methodologies are impeding progress. This involves scrutinizing the existing virtualization setup to see if it's causing technical debt that slows down operational efficiency or innovation.

Additionally, conduct a future-readiness analysis to gauge the readiness of your current virtualization practices in supporting upcoming technological advances. This analysis should focus on whether your current strategies are well-aligned with future IT trends and technological evolutions.

When scoring, evaluate the overall impact of your virtualization strategy on organizational innovation and agility.

Example: Investigate whether your virtualization strategy is inadvertently creating technical debt or limiting your organization's agility.

Benefits:

- Offering a clear perspective on areas needing adjustment.
- Highlights areas of technical debt, positioning for future technological challenges.

## 10. Compliance & Security Check

Start by reviewing the Current Compliance Status. Evaluate how well your VMware virtualization environment adheres to existing security and regulatory standards. This includes standards like HIPAA, GDPR, or others relevant to your industry, assessing the level of compliance in your current operations.

Next, conduct a Security Gap Analysis to pinpoint areas where your virtualization system may have security weaknesses or falls short of compliance standards. This is critical for identifying vulnerabilities and areas requiring immediate attention.

Furthermore, look ahead with a Future Compliance Needs assessment. This involves anticipating upcoming changes in regulatory requirements and evaluating your readiness to meet these new standards. It's essential to stay ahead of the curve in terms of compliance to avoid future legal and operational complications.

For scoring, assess both current and future states of security and compliance in your virtualization environment.

Example: Review VMware's alignment with important security standards like HIPAA, identifying areas of strong compliance and those needing improvement.

Benefits:

- Review compliance with current security standards and regulatory requirements
- Highlights specific areas where security enhancements are needed

## Worksheets

The following two worksheets have been created The inventory assessment worksheet is used to score workflows. The process evaluation worksheet should be used in parallel to capture notes and issues during the discussion of each workflow.



# Inventory Assessment Worksheet

<b>Workflow name</b>		
<b>Workflow owner/team</b>		
<b>Workflow description</b>		
<b>Section</b>	<b>Items to evaluate</b>	<b>Score (-2 to +2)</b>
Virtualization Fit	Development team needs, database requirements, virtual desktop tooling, Kubernetes infrastructure, API services, general infrastructure, vMotion requirement	
System Interdependence	Interconnectivity Assessment, Dependency Evaluation, Impact Analysis	
Team Efficiency Assessment	Platform Proficiency, Operational Strengths/Weaknesses, Training Needs Identification	
Skills Transferability	Skill Set Analysis, Transition Readiness, Future Training Strategy	
Vendor Dependency Review	Vendor Analysis, Alternatives Assessment, Risk Evaluation	
Feature-Need Alignment	Application Requirements, Platform Feature Utilization, Optimization Opportunities	
Elasticity Evaluation	Current Elasticity Assessment, Potential Elasticity Exploration, Migration Candidate Identification	
Reliability and Downtime	Stability Analysis, Maintenance Requirements, Operational Impact Assessment	
Innovation Impact	Agility Evaluation, Technical Debt Assessment, Future-Readiness Analysis	
Compliance & Security Check	Current Compliance Status, Security Gap Analysis, Future Compliance Needs	
	<b>Total</b>	

# Process Evaluation Worksheet

<b>Workflow name</b>	
<b>Workflow owner/team</b>	
<b>Integration management team(s)</b>	
<b>Section</b>	<b>Notes / Critical Items</b>
Virtualization Fit	<i>Are there specialized use cases?, is vRealize Automation in use? What virtualization features are needed?</i>
System Interdependence	<i>Are there external API users? Is there external Storage? What are the back systems? Is there any business automation? Are there product licenses that are interdependent or need to be extended?</i>
Team Efficiency Assessment	<i>What VMware tools/products are used? Are there VMware specialists on the teams? Do you have VMware consulting engagements?</i>
Skills Transferability	<i>What skills do your operations team have? e.g. supporting container based applications (Kubernetes/Docker), cloud skills, image creation and deployment, backup system integration and disaster recovery (DR) systems, CI/CD, DevOps.</i>
Vendor Dependency Review	<i>Do you have contracts that are dependent on each other? Are you employing consultants with specializations that are important for your operations? Do they have hard to replace knowledge? Are there location specific issues such as geographic requirements or site-specific limitations?</i>
Feature-Need Alignment	<i>What features are required? e.g. vMotion, external storage, specialized networking, security, backup.</i>

Elasticity Evaluation	<p><i>What is the most API driven workload? The least API driven workload?</i></p> <p><i>What is the current system utilization? Largest resource user? Smallest resource user?</i></p>
Reliability and Downtime	<p><i>Rate your applications (from most to least) by availability (SLA required and actual), MTBF (Mean Time Between Failures), MTTR (Mean Time to Repair).</i></p> <p>Most downtime sensitive systems?</p> <p>Least downtime sensitive systems?</p> <p>Current uptime?</p> <p>Current actual SLAs? Expected SLAs?</p> <p>Are you holding spare capacity for reserve or backup in case of failure?</p>
Innovation Impact	<p><i>What are the unmet technology delivery goals for your organization?</i></p> <p><i>What is the low hanging fruit for improvement?</i></p> <p><i>What projects will be interrupted by migration?</i></p> <p><i>Describe and quantify any technical Debt.</i></p>
Compliance & Security Check	<p><i>If you remove VMware, will it impact your compliance or security?</i></p> <p><i>Which applications are mission critical (rate in tiers)? Is compliance up to date?</i></p> <p><i>Degree behind compliance target in months? In % patched?</i></p> <p><i>What exposure is there due to compliance issues? Is there tolerance for increased exposure?</i></p>

## VMware Alternatives

Get the RackN list of VMware alternatives upon request from our Customer Success team. Our assessment covers direct VMM replacements and architectural substitutions tailored to your processes and workflow capabilities. Following the process in this workbook is important to help discover opportunities for both direct substitutes and architecture changes.

RackN has enabled customers to evaluate different virtualization platforms. Leveraging our expertise, automating platform procedures - encompassing setup, maintenance, and VM interactions - empowers enterprises to make objective platform choices.

## 1. Virtualization Focused Alternatives

- a. **VMware** remains the most comprehensive platform for many use cases if enterprises can abstract it from the surrounding systems so that it can be easily replaced.
- b. **Nutanix** is a solid general purpose virtualization platform. Its HCI roots make it easier to operate but harder to fine tune for enterprise requirements.
- c. **Scale Computing** is a specialized HCI platform designed for ease of use and maintenance.
- d. **ProxMox** is a KVM-based open source virtualization platform that delivers solid enterprise performance and controls. We've been using and integrating with ProxMox for several years.
- e. **HyperV** is the Windows-based virtualization alternative with solid capabilities and support.

## 2. Architectural Alternatives

- a. **Bare Metal** (API-driven, no hypervisor) is a realistic infrastructure option for many workloads running on platforms like Kubernetes, SLURM, Ray.io or other cluster managers.
- b. **Nomad** is a general purpose scheduler that can be applied to containers, virtual machines and general purpose actions. Its flexibility and simplicity are useful for general purpose workloads.
- c. **Kubernetes** is well known as a container platform, but the kubevirt project allows it to use the same configuration approach to manage virtual machines life-cycle.

The Digital Rebar Platform is proven at scale for these platforms. The platform can also be used to create infrastructure automation for Xen Cloud Platform, Eukalyptus, Cloud.com and OpenStack in the space. Contact RackN for a more comprehensive comparison and we can help map our field experience to your specific needs.