



AHEAD

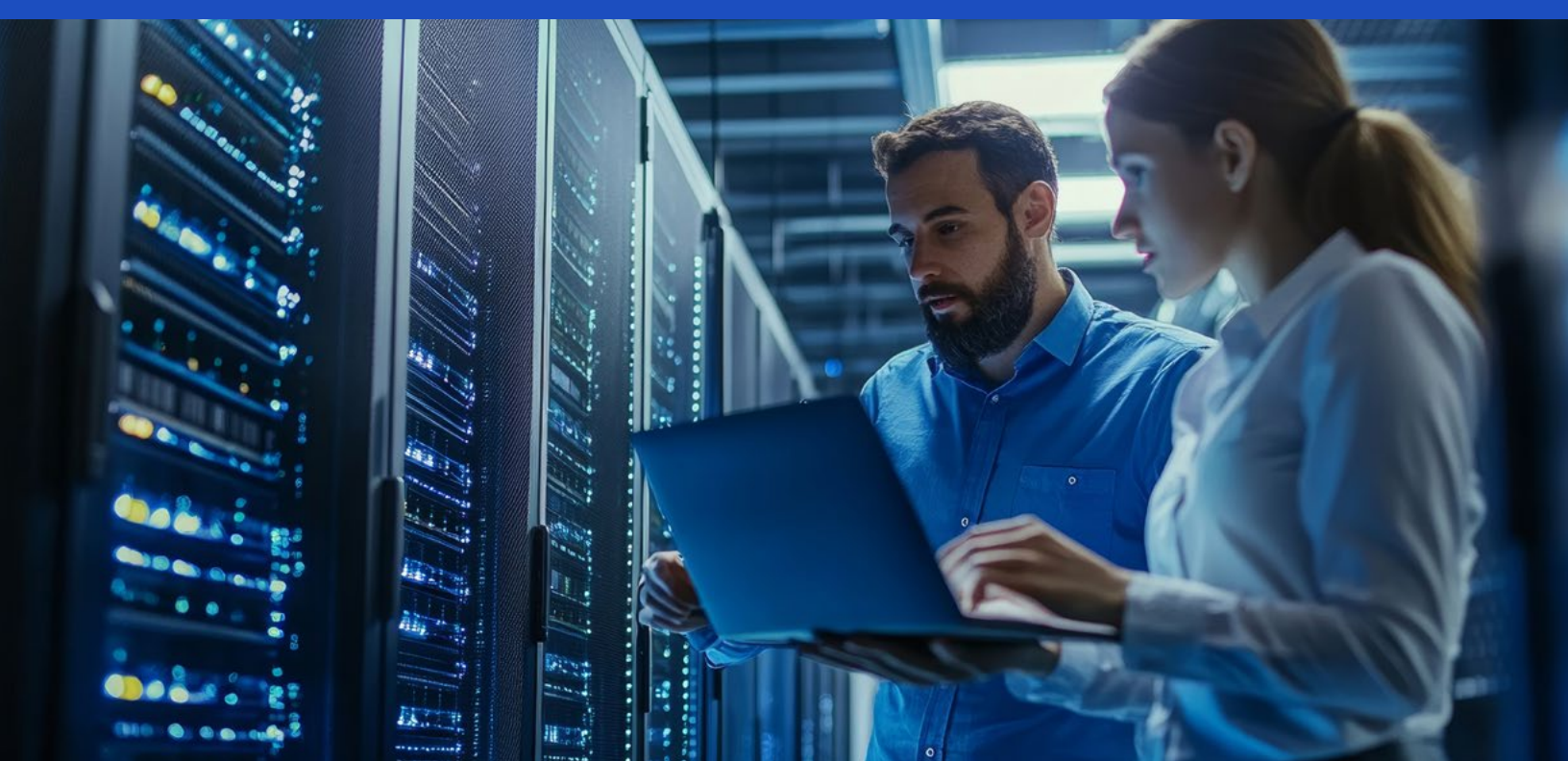
Adopting VMware Cloud Foundation with AHEAD

Although VMware vSphere has been the de facto hypervisor standard in data centers for decades, [the recent acquisition by Broadcom](#) has sparked a change in the market. VMware now offers a select few software bundles, primarily [VMware Cloud Foundation](#), which consolidates many products into a single subscription, usually at a much higher price than the previous à la carte license model.

This new operating model has compelled VMware clients to choose to either adopt the full capabilities of the VMware Cloud Foundation suite to maximize the value of the license and associated spend, or migrate to a new hypervisor or hosting model. Both paths have numerous infrastructure decisions to consider and can have a substantial business impact.

In this whitepaper, we'll discuss the benefits of VMware Cloud Foundation, why many organizations choose VMware long-term, the potential challenges of adopting a new hypervisor, and how AHEAD helps to ease the transition.





Benefits of VMware Cloud Foundation

VMware Cloud Foundation (VCF) delivers an integrated software-defined platform that modernizes data centers, simplifies IT operations, and accelerates cloud adoption. Each individual component of VCF provides distinct value, contributing to a unified and robust enterprise IT solution:

VMware vSAN

VMware vSAN delivers software-defined storage optimized for virtualized environments, offering scalable and high-performance storage solutions.

- **Simplified Management:** Seamlessly integrates with VMware vSphere, eliminating the need for separate storage management tools.
- **Cost Efficiency:** Reduces capital and operational expenses by enabling organizations to use commodity hardware while scaling storage needs dynamically.
- **Performance:** Optimized for flash storage and workloads requiring high throughput, ensuring consistent performance across environments.
- **Resiliency:** Provides enterprise-grade availability and disaster recovery capabilities for critical applications.

SDDC Manager

VMware SDDC Manager serves as the central orchestration platform for deploying, managing, and updating the entire VCF stack.

- **Lifecycle Management:** Automates deployment, patching, and upgrades for infrastructure components, reducing downtime and manual errors.
- **Operational Consistency:** Centralized control ensures uniformity across private and hybrid cloud environments.
- **Scalability:** Simplifies scaling the infrastructure to meet evolving business requirements, whether on-premises or in the cloud.
- **Time-to-Value:** Accelerates time-to-market for IT services by streamlining infrastructure deployment processes.

VMware NSX-T

VMware NSX-T provides advanced network virtualization and security capabilities to build scalable, multi-cloud environments.

- **Network Agility:** Simplifies network provisioning and reduces deployment times for workloads.
- **Enhanced Security:** Features micro-segmentation and zero-trust models to protect workloads and sensitive data.
- **Multi-Cloud Flexibility:** Extends networking and security policies seamlessly across private, public, and hybrid cloud deployments.
- **Simplified Operations:** Unifies network management, enabling rapid adaptation to changing workload requirements.

VCF Operations

VCF Operations integrates monitoring, logging, and analytics tools, providing deep insights into infrastructure performance and health.

- **Proactive Management:** Identifies potential issues before they impact operations using advanced analytics and monitoring.
- **Operational Transparency:** Consolidates performance metrics and logs into a single view for efficient troubleshooting and optimization.
- **Capacity Planning:** Provides actionable insights to forecast future resource needs and optimize resource allocation.
- **Compliance and Governance:** Ensures alignment with enterprise IT policies and regulatory requirements.

VCF Automation

VCF Automation enables streamlined workload provisioning and operational tasks through advanced automation capabilities.

- **Efficiency:** Automates repetitive tasks, reducing manual overhead and improving staff productivity.
- **Consistency:** Standardizes infrastructure provisioning and configuration across environments.
- **Developer Enablement:** Empowers DevOps teams with self-service access to resources through APIs and automation tools.
- **Accelerated Innovation:** Frees IT teams to focus on strategic initiatives by eliminating operational bottlenecks.

By integrating these components, VMware Cloud Foundation delivers a comprehensive and future-ready platform that enables organizations to modernize their infrastructure.



Why Clients Choose VMware Long-term

Clients often stay with VMware long-term because it's low risk – primarily due to the fact that most organizations currently have architectures and software designed for VMware vSphere, and employees are already skilled with operating the VMware hypervisor. There are usually one or two other VMware titles active in the client environment as well, so in many cases, leveraging that existing knowledge base and extending it is the lowest-impact solution technically and operationally.

Switching to a different hypervisor could also be complicated and cost-prohibitive for enterprises. While the shift from perpetual licensing to subscriptions may come with increased software renewal costs, organizations can derive significant value from adopting the full VCF suite. In the long run, therefore, VCF could become a more cost-effective option for new and existing VMware clients if all of the titles are operational and the benefits of those titles are realized.

The unique combination of storage, networking, automation, and management capabilities of VCF provides the agility, resilience, and scalability required to meet the demands of modern applications and workloads – making VMware technologies a strong investment choice now and into the future.



Customer Experience Insights

The process of evaluating, selecting, and migrating to a new hypervisor impacts a wide range of customer segments and user groups, including IT professionals, business decision-makers, and end-users. Each group benefits uniquely from the improved cost-efficiency, scalability, and performance of modernized virtualization environments:

	IT Infrastructure & Operations Teams	Benefit from streamlined management, reduced operational overhead, and enhanced support for hybrid or multi-cloud environments.
	CIOs & IT Decision-Makers	Gain cost-effective hypervisor solutions, better ROI on IT investments, and improved alignment between IT strategy and business goals.
	Application Owners & Developers	Experience improved application performance, reduced latency, and greater flexibility for deploying cloud-native or containerized applications.
	Financial & Compliance Teams	Enjoy transparent cost structures, reduced licensing fees, and improved compliance with industry regulations.
	End-Users (Internal & External)	Benefit from enhanced reliability, reduced downtime, and better performance of business-critical applications, leading to higher satisfaction.
	Enterprises with Diverse IT Needs	Tailored solutions meet industry-specific requirements, support emerging technologies, and reduce dependency on legacy platforms, enabling growth and innovation.

AHEAD empowers each of these groups by delivering a modernized, future-ready IT infrastructure that meets technical and business needs while driving operational and financial benefits.

Considerations When Migrating to a New Hypervisor

Transitioning to a new hypervisor involves a series of downstream impacts that must be carefully evaluated and addressed to ensure a seamless migration and sustained operational success. These considerations span multiple dimensions, including architecture, management, process, automation, security, and workforce skillsets.



Architecture: The architecture of the new hypervisor environment must integrate seamlessly with existing systems and applications while accommodating future needs. This requires evaluating application compatibility, hardware requirements, potential performance limitations, and third-party integration needs. Additionally, a new hypervisor environment will almost always require new hardware to run on. This means that for the migration period, the client will be operating dual environments, with dual physical requirements.

Management: Efficient management and orchestration are vital to ensure operational continuity and minimize administrative overhead. It's important to assess whether existing tools can manage the new environment, implement robust monitoring and alerting mechanisms, and evaluate the hypervisor's lifecycle management capabilities.

Process: Establishing well-defined processes ensures a smooth migration and reliable ongoing operations. Choosing an appropriate migration method and maintaining detailed documentation throughout the process are essential for adoption success.

Automation: Automation plays a key role in optimizing workload provisioning and reducing manual intervention. Ensuring the new hypervisor aligns with the organization's existing automation strategy and tools – and adapting existing workflows to leverage the features and efficiencies of the new platform – are crucial for a successful migration.

Security: Maintaining and enhancing security is critical during and after migration to safeguard data and systems. Key considerations include micro-segmentation policy capabilities, data encryption features, platform hardening measures, and integrations with security providers.

Skillset: Migration to a new hypervisor often requires updates to team skillsets and operational models. Providing comprehensive training programs for IT staff can help familiarize them with the new hypervisor's features, tools, and management interfaces.

Hypervisor Scorecard

In order for organizations to make informed decisions during the evaluation and selection of a hypervisor, they need a clear and objective method to compare options. A **Hypervisor Scorecard** provides a structured approach to assess potential solutions across key criteria, enabling IT leaders to weigh technical capabilities, business alignment, and cost-effectiveness systematically. This scorecard serves as a decision-making tool to identify the most suitable hypervisor for an organization's unique requirements.



Inputs for the scorecard results include:



Performance & Scalability

Workload Performance: Evaluate how each hypervisor handles diverse workload types, including CPU-intensive, memory-intensive, and I/O-heavy applications.

Scalability: Assess the ability to scale up or down in response to business needs, both on-premises and in hybrid or multi-cloud environments.

Latency and Throughput: Compare metrics such as response times and data transfer rates.



Compatibility & Ecosystem Support

Application Compatibility: Review support for existing applications and workloads.

Integration: Assess compatibility with third-party tools, monitoring platforms, and automation frameworks.

Hybrid and Multi-Cloud Support: Evaluate the ability to integrate seamlessly with cloud providers like AWS, Azure, or Google Cloud.



Cost Efficiency

Licensing Costs: Compare licensing fees for proprietary hypervisors versus free or open-source alternatives.

Operational Costs: Assess management, maintenance, and support costs.

TCO (Total Cost of Ownership): Calculate the overall financial impact, including infrastructure upgrades and migration expenses.



Security & Compliance

Security Features: Compare built-in security capabilities, such as encryption, role-based access control (RBAC), and threat detection.

Compliance: Ensure alignment with industry standards and regulations, such as GDPR, HIPAA, or SOC 2.



Ease of Management

User Interface (UI): Assess the ease of use and intuitiveness of the hypervisor's management console.

Automation: Evaluate support for automation tools and scripting for routine management tasks.

Monitoring and Troubleshooting: Compare built-in monitoring features and troubleshooting capabilities.



Vendor Stability & Support

Vendor Reputation: Evaluate the vendor's market presence, reliability, and track record.

Support Availability: Compare the availability and quality of vendor support, including response times and expertise.

Community Support: For open-source solutions, assess the activity and reliability of the user community.



Future-Readiness

Roadmap Alignment: Assess how the hypervisor aligns with future business and IT strategies.

Innovation: Consider features that support emerging technologies like containerization, edge computing, and AI/ML workloads.

Upgrade Path: Evaluate the ease of future upgrades and extensions.



AHEAD's Hypervisor Migration Solution

Adopting a modern private cloud suite like VCF is a strategic opportunity for organizations to modernize their IT infrastructure, reduce costs, and enhance scalability – all while aligning with evolving business demands.

However, migrating to a new hypervisor and ecosystem requires thoughtful planning, meticulous execution, and a comprehensive understanding of downstream impacts. By leveraging a structured methodology, robust program management, and advanced automation, organizations can ensure a seamless transition.

AHEAD's hypervisor migration solution features a comprehensive framework that begins with a detailed assessment of the current hypervisor environment. This includes evaluating workload dependencies, performance metrics, resource utilization, and alignment with business objectives.

Discovery

AHEAD will focus on collecting current state information, such as environment integrations and dependencies, through both discovery sessions and tooling.

Assessment

AHEAD will collaborate with the client to form workload placement options and downstream architectural impacts, including monitoring, automation, backup/recovery, skills, infrastructure, and networking.

Financial Analysis

AHEAD will provide financial analysis for a multi-year investment based on projected VCF spend, workload placement alternatives, and a roadmap to transform.

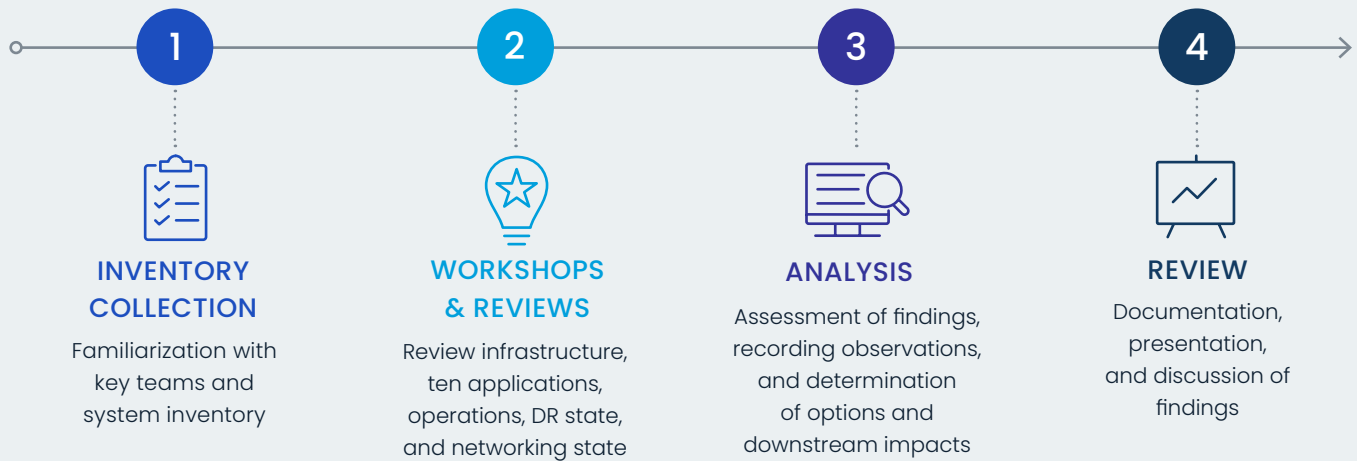
Findings

AHEAD will provide an executive-level presentation with viable options, scorecards, costs, environment dependencies, and skills needed to migrate to VMware.

Phased Migration Roadmap

AHEAD's hypervisor migration roadmap includes a structured approach to ensure a smooth transition with minimal disruption.

This roadmap is executed across four distinct phases:



Phase 1

INVENTORY COLLECTION

The journey begins with a comprehensive collection of data to establish a clear understanding of the existing environment. This phase focuses on creating a detailed inventory of all workloads, applications, and infrastructure components to provide a foundation for decision-making.

Key Activities:

- Cataloging physical and virtual resources, including servers, storage, and networks.
- Documenting application dependencies, usage patterns, and performance metrics.
- Identifying licensing models, resource allocations, and TCO of the current hypervisor estate.

Outcome: A complete and accurate inventory that captures the current state of the organization's IT infrastructure, providing critical insights for migration planning.

Phase 2

WORKSHOPS & REVIEWS

The second phase involves engaging key stakeholders through collaborative workshops and detailed reviews to align objectives, priorities, and expectations. These sessions ensure that the migration strategy is tailored to the organization's specific needs.

Key Activities:

- Conducting workshops with IT and business stakeholders to define goals, such as cost reduction, scalability, or improved performance.
- Reviewing the inventory data to identify potential risks, challenges, and opportunities.
- Establishing migration success criteria, including performance benchmarks, downtime tolerances, and compliance requirements.

Outcome: A shared understanding of the migration objectives and a prioritized list of workloads and applications for transformation.

Phase 3

ANALYSIS

The third phase focuses on in-depth analysis to design a migration plan that minimizes risks and maximizes benefits. This phase leverages insights from the inventory and workshops to develop a tailored strategy for workload transformation.

Key Activities:

- Conducting dependency mapping to identify interconnections between applications, workloads, and infrastructure.
- Performing cost-benefit analysis for workload placement options, such as private cloud, public cloud, or hybrid environments.
- Evaluating technical feasibility, including compatibility with the target hypervisor platform.
- Identifying workloads that can be retired, replaced, or re-platformed to optimize the IT environment.

Outcome: A detailed migration plan that outlines the sequence of workload transformations, risk mitigation strategies, and key milestones for execution.

Phase 4

REVIEW

The final phase involves a comprehensive review to validate the proposed migration plan and ensure alignment with organizational goals. This phase serves as a checkpoint before execution begins, ensuring all stakeholders are confident in the strategy.

Key Activities:

- Presenting the migration plan to stakeholders for feedback and approval.
- Validating the readiness of the target hypervisor platform and infrastructure.
- Addressing any gaps or concerns identified during the review process.
- Finalizing the phased migration roadmap, including wave plans and timelines.

Outcome: A validated and approved migration strategy, ready for execution, with all stakeholders aligned on goals, expectations, and responsibilities.

By executing AHEAD's Workload Transformation Roadmap across these four phases, organizations can ensure a methodical and risk-aware migration journey. This structured approach minimizes downtime, optimizes workload placement, and aligns the transformation with both business and technical priorities. The roadmap not only ensures a seamless transition to the target hypervisor, but also lays the foundation for a scalable, cost-efficient, and future-ready IT environment.

A high-angle, low-key photograph of a person in a server room. The person is wearing glasses and a dark jacket, looking down at a laptop. The room is filled with server racks, illuminated by blue light strips. The perspective is from above, looking down at the person and the racks.

Fully Leveraging VCF-Stack: Design Considerations & Challenges

Many new and existing VMware-centric organizations can use the Broadcom acquisition shake-up as an opportunity to optimize their existing functionality and adopt new capabilities from the full VCF suite and other VMware product offerings. This is the key to maximizing the value of VMware's new subscription-based operating model.

Modern compute design requires a comprehensive approach that considers various workloads, resource optimization, scalability, and the integration of cloud and virtualization technologies. The compute infrastructure in the target data center should ensure adequate capacity for the entire workload, including growth factors. Compute resources can be divided by workload or application to optimize density while maintaining operational efficiency. Identify attributes such as CPU core count—for optimal physical CPU (pCPU) to virtual CPU (vCPU) ratios—as well as total memory (RAM) capacity.

It is also important to factor in any hypervisor or containerization technology and compute clustering in this area. Hypervisor choice can have additional considerations around non-uniform memory access (NUMA) and workload performance. In general, these compute servers benefit from higher pCPU core counts, with more moderate frequencies (or clock speeds) to balance power and cooling requirements. In certain circumstances, guest operating systems may benefit from higher clock speeds, with lower core counts. This is often seen in database clusters, where licensing is based on the number of pCPU cores, or high-performance compute applications (HPC) that dominate CPU cycles.

Key Metrics for Migration Success

Key Performance Indicators (KPIs) are essential for monitoring and measuring the success of a migration program. These KPIs ensure that the project stays on track, achieves its objectives, and delivers measurable business value. Below are sample KPIs categorized by key phases of the migration program:



Evaluation & Planning KPIs

- **Hypervisor Options Assessed:** Number of hypervisor solutions evaluated against technical and business criteria.
- **Stakeholder Engagement:** Percentage of key stakeholders involved in workshops and decision-making processes.
- **Dependency Mapping Completion Rate:** Percentage of workloads and applications mapped with their dependencies.
- **Migration Plan Approval Rate:** Percentage of migration plans approved on the first review.
- **Cost-Benefit Analysis Accuracy:** Variance between estimated and actual costs identified during planning.



Execution KPIs

- **Migration Wave Completion Rate:** Percentage of workload migration waves completed on schedule.
- **Downtime Duration:** Total downtime incurred during migration compared to planned tolerances.
- **Migration Success Rate:** Percentage of workloads migrated without significant issues (e.g., data loss, performance degradation).
- **Automation Utilization:** Percentage of migration tasks executed using automation tools.



Performance & Optimization KPIs

- **Workload Performance Improvement:** Percentage improvement in application or workload performance post-migration.
- **Resource Utilization Efficiency:** Increase in CPU, memory, and storage utilization efficiency in the new hypervisor environment.
- **Compliance Adherence:** Percentage of workloads meeting security and compliance requirements after migration.
- **Support Ticket Volume:** Reduction in support tickets related to the new hypervisor platform compared to the previous environment.
- **Scalability Metrics:** Time to scale resources in the new environment compared to the old hypervisor setup.



Financial KPIs

- **Total Cost of Ownership (TCO) Reduction:** Percentage reduction in TCO for the new hypervisor environment.
- **ROI Achievement Rate:** Percentage of ROI achieved within the defined timeline post-migration.
- **Licensing Cost Savings:** Absolute savings on licensing fees compared to the previous hypervisor.
- **Budget Adherence:** Percentage of migration completed within the allocated budget.



User Experience & Satisfaction KPIs

- **End-User Satisfaction Score:** User satisfaction rating collected through surveys post-migration.
- **IT Team Satisfaction:** Feedback score from IT staff on the ease of managing the new hypervisor environment.
- **Training Completion Rate:** Percentage of IT staff who successfully complete training for the new hypervisor.
- **Post-Migration Issue Reduction:** Decrease in the volume of post-migration issues compared to pre-migration operations.



Maximize the Value of VMware with AHEAD

As one of the only [VMware partners](#) worldwide who held all eight Master Services competencies and Cloud Verified status at the time of acquisition, AHEAD can guide customers through the challenges involved with adopting and optimizing VCF, VMware vSphere Foundation (VVF), VMware Cloud on AWS, and more. We have continued our investment in our VMware technology suite after the Broadcom acquisition, and are fully capable of assisting clients with VCF adoption and consumption.

[AHEAD'S VMware Modernization Services](#) provide a comprehensive approach to addressing the multifaceted challenges organizations face when navigating VMware changes. Our VMware Strategic Assessment and VMware Investments Workshop deliver a tailored roadmap, addressing architectural complexities, financial implications, skill transformation needs, and operational alignments.

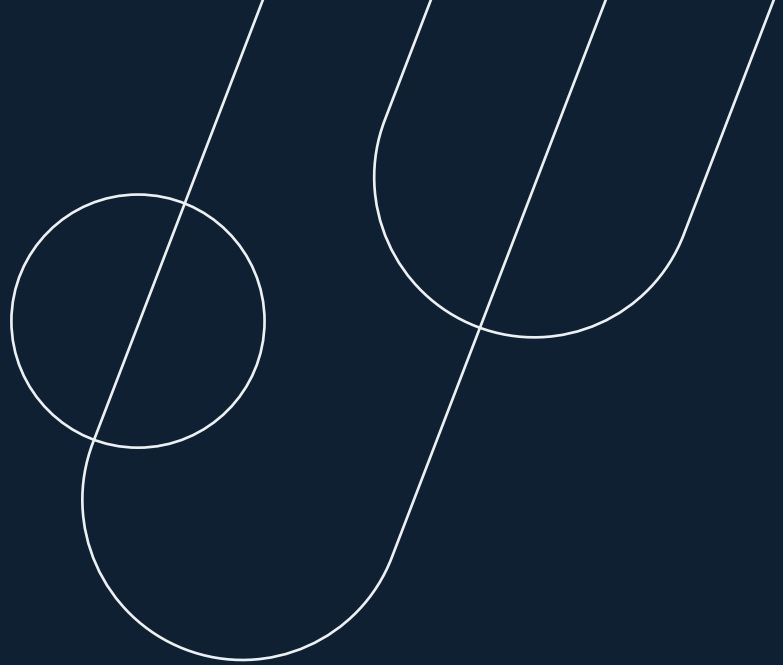
vmware[®]
by **Broadcom**

Final Thoughts

The shift to an alternate hypervisor or the full adoption of VCF is not without challenges, but with the right planning, tools, and expertise, it becomes an enabler of digital transformation and competitive advantage. AHEAD's extensive experience, skilled resources, and deep technical capabilities—augmented by strategic partnerships with leading technology providers—enable the delivery of unparalleled value at every stage of the migration journey.

[Contact AHEAD](#) to discover new ways to navigate hypervisor changes and unlock more value from VMware.





AHEAD

Combining cloud-native capabilities in software and data engineering with an unparalleled track record of modernizing infrastructure, we're uniquely positioned to help accelerate the promise of digital transformation.

Visit us at ahead.com.

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