WIND RIVER CLOUD PLATFORM
VMware Workload Migration Overview

INTRODUCTION

With costs rising for cloud and virtualization infrastructure—given licensing, operational costs, and the inherent cost of vendor lock-in—frustrated enterprise companies are looking for alternative, open source solutions provided by commercial vendors and supported with highly responsive service-level agreements.

This overview describes the process of migrating virtual machines (VMs) and containers from VMware vSphere to Wind River® Cloud Platform, leveraging OpenStack and Kubernetes to host both VMs and containers from a single integrated platform. The migration process is designed to ensure minimal disruption and time to value while leveraging the advanced capabilities of Cloud Platform. It supports both "cold" and "warm" migration methodologies—that is, migrating VMs during maintenance windows in a cold migration or while VMs remain active in a warm migration—enabling flexibility based on customer requirements.

Wind River has helped companies migrate VM and container workloads in some of the most complex and demanding cloud networks in the world. Cloud Platform streamlines these processes, leveraging unique automation capabilities to provide a smooth transition of workloads from VMware.

MIGRATION OVERVIEW

Cloud Platform facilitates a smooth migration process with the following features:

Centralized management: Operators get a single, comprehensive view into migrating VMs and containers from VMware to Cloud Platform.

Dedicated management cluster: Cloud Platform can coexist alongside VMware and other types of clusters to ensure smooth transitions.

Customer-operated migration: Cloud Platform makes workload migrations easier and more automated and offers support, migration services, and training to accelerate the process.
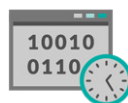
Bulk migration support: Migrations can be triggered manually or on a predefined schedule.

Blueprint-based management: Using predefined blueprints, the platform automates and standardizes the deployment and management of resources and facilitates rapid scaling.

Operations and lifecycle management: Wind River ensures continuity of management functions: backup/restore, provisioning/deprovisioning, change management, workflow automation, scaling, patching, and upgrading before and after migration.

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MIGRATION METHODOLOGIES

The Wind River Professional Services team helps customers through complex migration projects by providing an end-to-end migration plan to ensure an efficient and successful infrastructure rollout, migration, and day 2 operations. While no two migration scenarios are identical, there are typically common phases in the migration process. Cloud Platform tools, support, and services assist the migration team at each phase of the process, ensuring achievement of the migration goals.

MIGRATION PROCESS

A typical plan to migrate workloads from VMware vSphere to Cloud Platform would follow these steps:

| **Phase 1** Discovery | **Phase 2** Proof of Value | **Phase 3** Migration Proposal | **Phase 4** Planning and Design | **Phase 5** Implementation and Deployment |

Phase 1: Discovery

Customer stakeholders and Wind River collaborate to assess the customer's VMware environment in detail and identify issues to address in the migration process.

Key elements of the Discovery phase:

- Inventory the current VMware environment and prioritize workloads for migration.
- Assess and map VM dependencies and critical services.
- Identify key customer workflows, tooling assets, and artifacts, including blueprints, scripts, and policies.

Phase 2: Proof of Value

Based on learnings from the Discovery phase, Wind River works with the customer to evaluate the costs and benefits of migrating VMs from VMware to Cloud Platform and to determine the economic value of the migration.

Key elements of the Proof of Value phase:

- Define the schedule for migration, time to operationalize, maintenance windows, and any key performance indicators pre- and post-migration.
- Define how Cloud Platform's unique capabilities, including Wind River Conductor, will be used to simplify, accelerate, and automate the migration process.
- Create an economic value assessment showing return on investment (ROI), total cost of ownership (TCO), and time-to-value (TtV) for migration.
- Identify potential risks and risk mitigation to ensure business continuity and lowest possible TtV for the customer.

Phase 3: Migration Proposal

Once the proof of value is accepted, Wind River will create a formal proposal for the migration.

Key elements of the Migration Proposal phase:

- Develop the migration plan and strategy, defining the deployment and migration process.
- Define the products, services, tools, and training that Wind River will deliver.
- Create a project timeline and schedule, with target service level agreements (SLAs) and customer acceptance criteria.

Phase 4: Planning and Design 4

Once the migration proposal is accepted, the plan is put into action. It starts with the creation of a high-level technical design, formal project and test planning, and knowledge transfer.

Key elements of the Planning and Design phase:

- Develop a detailed project plan and timeline.
- Define roles, responsibilities, and governance for both the customer and Wind River.
- Complete final high-level design, architecture, and test plans.
- Provide customer training.

Phase 5: Implementation and Deployment 5

The migration from VMware to Cloud Platform is executed, first on a small scale for validation with a subset of users, and then at full scale with automation that can migrate hundreds of nodes during a single session.

Key elements of the Implementation and Deployment phase:

- Achieve deployment and operational readiness with target Cloud Platform.
- Conduct small-scale pilot migration with noncritical VMs to validate the migration process and prove in production environment with a subset of users.
- Create automated workflows from these early migration results to accelerate the process for a large volume of subsequent workloads.
- Execute full-scale deployment, validate, and complete the migration.
- Conduct ongoing support, troubleshooting, and maintenance based on agreed SLAs.
- Decommission VMware resources.

At the end of this phase, the customer is live in production on Cloud Platform.

CLOUD PLATFORM MIGRATION SUPPORT

- **Simplified workload migration:** Migrate workloads from on-premises data centers to cloud, from cloud to edge, or between different cloud environments without significant downtime or disruption.
- **Multi-cloud and hybrid cloud support:** Take advantage of a wide range of cloud providers and hybrid cloud environments, with flexibility to move workloads across multiple infrastructures.
- **Scalability and flexibility:** Handle a variety of workload migrations, from small single-site installations to large, distributed cloud environments—all while maintaining control and visibility over your entire operations.
- **Reduced risk and complexity:** Simplify workload migrations, reducing risks associated with downtime, data loss, and performance degradation.

BENEFITS OF WORKLOAD MIGRATION

- **Cost savings:** Benefit from flexible licensing, over-provisioning, and lower pricing when migrating from VMware to alternative solutions.
- **Escape vendor lock-in:** Avoid vendor lock-in by adopting alternatives based on common open source technologies, such as OpenStack, that are supported by multiple vendors.
- **Reduce technical debt:** By modernizing your enterprise infrastructure, you can reduce security risks, performance issues, deployment difficulties, and upgrade challenges.

WHY WIND RIVER

- Decades of experience delivering mission-critical software solutions
- Proven cloud solution in some of the world's most demanding environments
- Proven large-scale VMware migrations
- Open-source leader and contributor
- Award-winning customer support and services organization

CONCLUSION

For organizations looking to migrate VMware workloads efficiently to a lower-cost and highly reliable environment, Wind River Cloud Platform provides the necessary tools and support to ensure a smooth, secure, and scalable transition while optimizing the performance and capabilities of workloads in their new environment. By following this process, customers can ensure a successful transition while minimizing risks and downtime.

For more information visit https://www.windriver.com/studio/operator.

For additional support or customized services, contact our cloud migration experts at Wind River.

WIND RIVER AT A GLANCE

1981
Founded

~1,600
Global Employees

~1,700
Global Customers

20
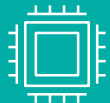International Presence

2B+
Deployed Edge Devices

10+
Years ranked as a top workplace

250+
Ecosystem partners

#1
Market share in edge compute OS platforms

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