



The Value of Simple, Automated and Customizable Cloud Migration

One SaaS Platform to Accommodate the Full Spectrum of Your Server Workload Migration Needs

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Executive Summary

For a majority of companies, from small and medium-sized businesses to large enterprises, migrating data center workloads to the cloud is rapidly becoming a key priority. However, organizations are struggling to perform server workload migrations and cloud onboarding in a comprehensive, seamless and timely manner. They face obstacles in terms of the complexity of manual migration processes, how to migrate one workload type to another platform and the necessity to avoid cloud sprawl, to name a few.

In addition, most customers' data center infrastructures are a complex amalgamation of systems with competing resource efficiencies. Often, these environments consist of physical servers with different operating systems, distinct virtualization and private cloud platforms, and myriad network and storage complexities. Moreover, manual server workload migration and cloud onboarding is inherently difficult without the proper tools to help facilitate deployment.

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To further complicate matters, the potential for cloud sprawl represents a key obstacle that prevents organizations from truly gaining the benefits of cloud deployments. Fortunately, there's a simple and customizable Software as a Service (SaaS) platform for server workload migration and onboarding. It offers the bridge to a cloud environment, featuring secure, policy-driven provisioning with built-in resiliency and effective high availability at its core. In this white paper, we'll explore the capabilities this solution offers companies that want to reduce cloud sprawl, create an effective multivendor strategy and realize their cloud potential.

Businesses Face Migration Obstacles

Organizations must navigate a range of challenges to achieve successful server workload migrations and cloud onboarding. One such example is the potential for incompatibility between public cloud environments and the majority of today's data centers, which employ VMware vSphere as the virtualization solution of choice.

A true hybrid cloud would offer complete compatibility to the majority of on-premises virtual machines. However, in the case of some public cloud environments, such as Amazon Web Services and Microsoft Azure, the lack of one-to-one compatibility between a company's data center or private cloud and the target cloud environment requires server workloads to be re-architected for deployment. Companies then suffer lock-in due to this immobility.

These "brownfield" systems indicate incompatibility with the target cloud environment. While "greenfield" is easy, such as provisioning a new instance in a public cloud, brownfield implies the difficulties of disparate cloud environments and the organizational limitations imposed by that incompatibility. That's due to the difficulty of migrating server workloads between clouds once they've been architected and deployed within a specific environment.

Another challenge that companies face is rebuilding workloads or applications for a new cloud environment. The loss of an IT team member can make rebuilding extremely difficult. Moreover, going back to fix failures without that original team member in place takes up valuable IT time. Often it requires wholesale application replacement. Such loss of "tribal knowledge" complicates the migration process further and drives up costs.

In other instances, servers may require pre- and post-migration edits, difficult patch procedures and other high-touch server modifications, which can complicate the migration and onboarding process. Manually performing such procedures can be cumbersome. However, automated server workload and onboarding solutions solve that challenge and eliminate worries.

What Automation Has to Offer

RiverMeadow Cloud Migration SaaS automates the migration of physical, virtual and cloud-based servers into and between public, private and hybrid cloud environments. It automates the core aspects of server workload migrations and dramatically reduces the cost and complexity associated with traditional manual cloud migrations.

Eliminating the need for templates, agents or server downtime (until final cutover, if the intention is to take the source server out of production post-migration to the cloud), RiverMeadow SaaS migrates server workloads “as-is,” dramatically reducing the migration risk factor. Moreover, the RiverMeadow solution doesn’t interfere with the source machine during migration, nor does it require reboots or shutdowns.

Automated migrations via RiverMeadow SaaS rely on a bootable copy of the source server in the target cloud. Once it has auto-collected source server images and relative metadata, RiverMeadow SaaS converts the image onto the target VMware vCloud platform. The solution then deploys the converted VM image into the target cloud environment, where it can be booted up as a fully compatible VM.

Any modifications, such as patch updates, are performed on clones in the cloud while the original source servers stay in production until they are ready to move over to a new cloud instance. As a result, the source machine is never affected when installing desired upgrades. This represents a true separation between the current instantiation and the future cloud-based one.

In contrast, other migration solutions simply collect an image and look for the best target environment VM template to match it with, hoping for minimal failures when the new VM is deployed. These solutions then manually work backward to pinpoint and repair errors.

RiverMeadow SaaS automation focuses on the guest operating system and thus provides ample time for reassembly when migrating multiple application servers. This approach guarantees that an application is fully operational in the target cloud prior to shutting down the original source environment for that application.

A further breakdown of migration types extends to:

1. Automated migrations of simple workloads.
2. Semiautomated migrations of low-complexity workloads.
3. High-touch migrations of complex workloads.

However, these migration types aren’t mutually exclusive; in some instances, a single migration engagement might include all three levels of complexity:

- **Automated migration of simple workloads:** The migration of relatively low-complexity workloads can be both cost effective and high volume for an organization. Examples of this type of workload might be those that have no interdependence to run or function across multiple servers. For years, independent software vendors would demand a dedicated server to support their simple, standalone applications, such as reporting or design tools, and many of these could fall into this group. Typically, the migration strategy is straightforward, with clear priorities and direct goals. The automated customer portal can handle this type of migration, and batches of these servers can be migrated at a single time. The SaaS platform supports unlimited concurrent connections.

- **Semiautomated migration of low-complexity workloads:** Migration consultation and a customer portal help to facilitate semiautomated migrations of relatively low-complexity workloads. These types of migrations can be characterized as servers that are bundled in a tightly coupled situation for example, an application and a database that require some level of coordination, such as the need to take down the database and sequence the servers during the migration effort. The automated customer portal provides information and resources to technicians for aspects of the migration strategy that are unclear or when priorities are uncertain.
- **High-touch migrations for complex workloads:** In cases where the migration strategy for a complex workload is unclear, comprehensive migration consultation and an in-depth ROI/TCO analysis is required. Examples of workload complexity for this type of migration project include many servers that have many interdependent relationships with one another or possibly an enterprise-grade application that services many resources and runs across a broad range of servers.

Combining manual migration processes, such as templating or creating configuration updates, with automation requires multiple steps involving internal and external management. For more complex projects, such as full data center or hybrid cloud deployments, RiverMeadow SaaS provides the necessary feature set for migrating multiple servers or interdependent clusters of servers at a single time.

RiverMeadow seamlessly handles every stage of migrating server workloads and applications into and between clouds. The solution addresses the problems of cost, complexity and skill-level constraints, which prevent companies from realizing the full potential of their cloud capabilities.

The SaaS platform supports the RESTful API design model, meaning it leverages common naming standards and output formats. Since cloud computing services by nature are distributed, the use of Web-based RESTful APIs is a logical solution for the remote consumption of data processing services. RESTful APIs, used by Web services-based software architectures, are part of the foundation for Internet browsers or Web servers. With RiverMeadow SaaS, a provider or end user simply accesses a special migration portal via the Web browser, replete with the GUI to start the entire migration process.

Value of the VMware vCloud Service Provider Environment

RiverMeadow's solution with VMware expands the company's commitment to providing automated migration processes to an expanded user base. RiverMeadow's integration with the VMware vCloud API makes server workload migrations and cloud onboarding as easy, fast and cost efficient as possible for the vast network of VMware vCloud Service Providers and partners.

As one of the largest cloud infrastructure and services vendors in the industry, VMware enables an extensive service provider network. Such a global ecosystem offers a broad range of specializations to meet any organization's needs. In a community of more than 10,000 partners, customers and prospects can easily find a partner ideally suited to their cloud computing requirements.

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VMware understands the cloud-related challenges that companies face today: cloud sprawl, data security, disparate workloads and concerns about vendor lock-in. VMware wants to facilitate moving today's data centers to a cloud environment by providing the management tools and automation capabilities for server workload migrations and onboarding to be successful.

As part of that effort, the VMware Cloud Credits Purchasing Program was created. It enables customers to purchase VMware Cloud Credits from VMware Solution Providers and redeem them over time with approved VMware vCloud Service Providers as business demand dictates. VMware Cloud Credits help provide predictability in regards to cloud expenses by offering better visibility and cost control of public and hybrid cloud deployments.

VMware Cloud Credits also ensure the customer that line-of-business use of public and hybrid cloud is with an approved vCloud Service Provider running trusted VMware technology. Customers can purchase VMware Cloud Credits from VMware Solution Provider partners as a single transaction or as part of an Enterprise License Agreement.

Conclusion

Migrating today's data centers to a cloud environment requires critical configuration information, IT management tools and related software. In order for the migration to proceed smoothly, accurate information gathering related to configuration parameters and analytical data is critical. Traditionally, this complex process has been done manually.

The RiverMeadow automated solution, in partnership with VMware vCloud Service Providers, represents a fundamental shift away from the cumbersome, time-consuming and error-prone approach to manual server workload migrations and onboarding. Offering a range of capabilities, from simple deployments to high-touch migrations of complex workloads, the RiverMeadow platform represents the ideal path forward.

Using VMware Cloud Credits to facilitate the move to a VMware vCloud environment, your company can drive reductions in operating expenses, significantly reduce cloud sprawl and achieve substantial savings. It's easy to get started. Try a migration into a VMware vCloud Service Provider today.

Take advantage of a great offer from VMware and RiverMeadow: Act today and get 10 free migrations when you purchase VMware Cloud Credits.

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