Your Roadmap to the Cloud

6 Ways to Simplify Your Hybrid Cloud Journey

HITACHI
Inspire the Next
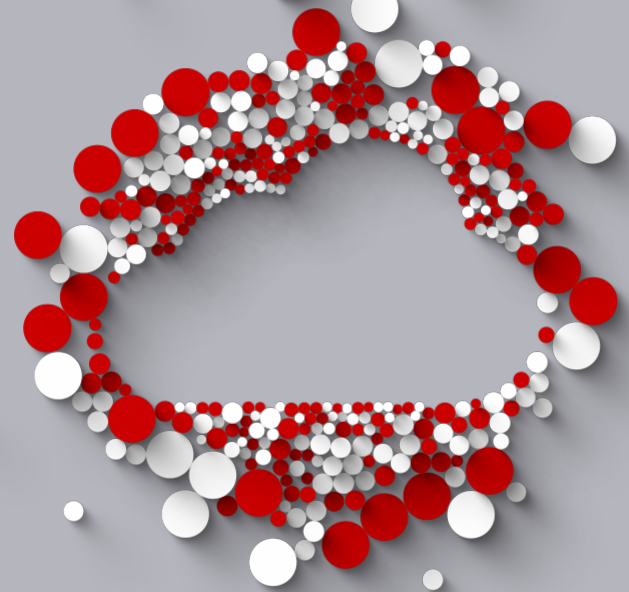
While the cloud is not for every organization or every workload, the management and operational style of the cloud is something we should all be aiming for.

Two primary outcomes you'll want to strive for when embarking on your cloud transformation are to:

1 **Gain greater velocity in delivering application services.**

2 **Achieve cloud-like operational efficiency with modernized infrastructure, resulting in as little disruption as possible.**

We regularly speak to technology executives focused on building IT roadmaps to ensure their organizations can deliver fast, agile, high-quality, and secure application services across multiple sites and providers. The top criteria include global delivery of services, business continuity, cloud-smart flexibility, and cost management.

The good news — there's no reason to transform most of your VMs into containers. For many organizations, this is accomplished through VMware hypervisor-hosted application services that continue to serve businesses well. The reality is that a combination of VMs, containers and a smattering of bare metal will probably be the norm across core and edge locations for years to come.

The key questions are: How do you want to run all of that? What's the most effective way to run your data center, cloud, edge, and hybrid workloads in a way that feels like a modern cloud? The solution for many companies will be VMware's technology stack, including Tanzu, that is reliably hosted and automated with Hitachi Vantara cloud-ready compute and storage infrastructure .

Reaching for the Clouds.

For example, it's essential to consider ways to unburden IT through self-service mechanisms that enable users and DevOps teams to consume IT services with greater self-sufficiency when provisioning resources to operate application services. At Hitachi Vantara, we've compiled some guidelines for approaching hybrid cloud to help you get things moving in the right direction. We believe these insights can help you easily transform on-premises virtualized environments into a cloud-like hybrid cloud delivery platform.

To get to a more cloud-like model, you must first understand how to operationalize cloud capabilities within your environment effectively.

01

Make a foundational start, then refine your roadmap.

Start by reimagining how to manage your applications and workloads with the most optimum resources. Then right-size those resources to maintain cost efficiencies and effectively meet new app resource demands. The outcomes won't come in one step, but such a hybrid cloud foundation will enable your organization to start rethinking the roadmap for IT services based on those experiences.

Solutions like our Hitachi UCP RS, bring these things to life. It allows for self-service IT services across VM and containers, assesses which application services are targets for migrating and seamlessly moving with no interruption, meets developer needs for Kubernetes services for new/re-architected applications, and performs elastic operations and financial operations to right-size across locations.

Start by reimagining how to manage your applications and workloads with the most optimum resources.

02

## Set operational expectations for Hybrid Cloud.

Hybrid cloud experiences run the gamut. For the sake of simplicity, one experience might be around the provisioning of a server to support a new application service. If using a hyperscaler cloud, a simple request via the provider's API would see a couple of servers ready for use within minutes.

That's the type of experience organizations should be seeking. Hitachi has advanced expertise, bringing such experiences to on-premises environments running VMware vSphere. Hitachi solutions make infrastructure more cloud-like in how they operate, used, and financed.

Our highly-integrated solutions reduce the complexity of the hybrid cloud and bring greater operational efficiency within reach. Hitachi UCP software makes it possible for hardware resources to support application services and transform bare metal servers into VM and container delivering platforms with all the required virtual services provisioned and protected.

Hitachi UCP RS leverages the VMware Cloud Foundation stack to provide a compelling platform with workload domains to support VM and container workloads supporting enterprise application services. So when an application or database administrator needs to deploy new resources or adjust what is available to existing services, this integrated platform can provide a self-service catalog and ensure these services (compute, storage, etc.) can be requested via policies in the application YAML code. This automates all the essential steps without requiring expert external support.

The net effect is to make existing applications and infrastructure management more cloud-like with automation while supporting new cloud-native application services with the Tanzu add-on.
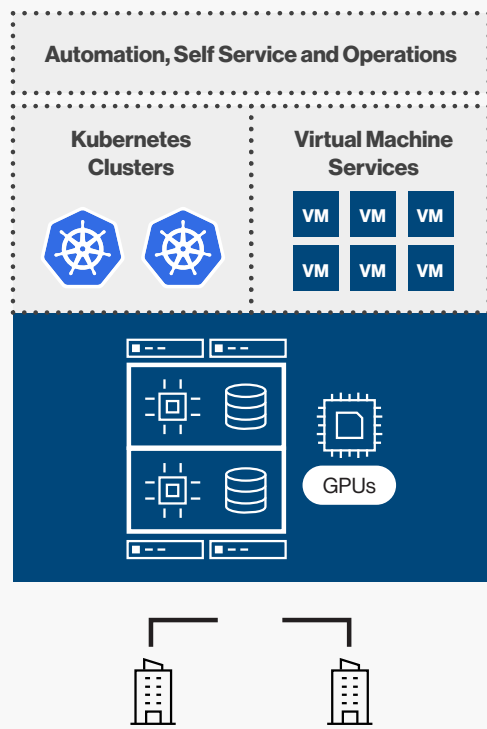
What an Ideal Hybrid Cloud Platform would Deliver

- **Deliver VMs and Kubernetes clusters** with consistent hybrid cloud operating model and self service for developers
- **Extend, burst and/or migrate into service provider clouds** for scale and efficiencies with **same operating model.**
- **Accelerate and scale application delivery operations** with robust compute storage platform options and lifecycle automation for hardware and software
- **Get Availability and Protection** for containers, clusters and VMs locally, mirrored sites and to S3 clouds
- **Meet Flexible Data SLAs for Modern Apps** with policy-based enterprise storage across block, vSAN, s3 and file

03

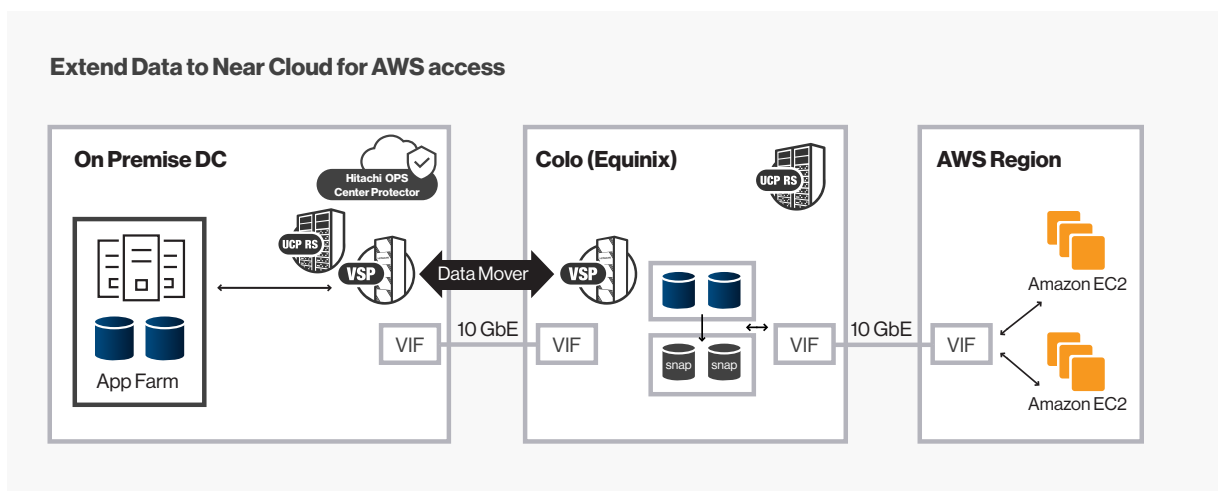## Manage and protect data with the cloud.

Every application has its own set of SLAs for recoverability and business continuity. Hyperscalers make references to availability zones and s3 clouds for good reason. But it's also important to ensure you can generate copies of production data for testing, development, and analytics. Data and infrastructure availability are keywords in the Hitachi lexicon, and they drive much of our internal thinking. Hitachi can help add cloud-level protection and recoverability to traditional data center applications hosted on local VMware virtualization environments, which can be the first step into hybrid cloud.

Hitachi infrastructure software offers various business continuity and recoverability options. It automates data availability, protection, and recoverability locally and/or remotely. In addition to on-premises, we can automate data replication across data centers, colocation sites, and near-cloud or service provider environments. Hitachi will ensure that data is synchronized active-active or active-passive across sites and can be backed up and duplicated to preferred cloud hyperscalers to meet backup SLA requirements. We rigorously test these capabilities with our technology partners, whether VMware Site Recovery Manager or your preferred backup vendor, to ensure you have the experiences you expect.

04

Make data accessible to cloud services, but maintain control.

Hitachi Cloud Connect enables your organization to extend data center operations to third-party operators like Equinix while remaining securely within your on-premise security boundaries. On-premise data hosted or virtualized by VSP storage can easily be replicated to Cloud Connect to allow it to be accessed by cloud provider services for analytics and other data processing needs.

Extend Data to Near Cloud for AWS access

On Premise DC — Hitachi OPS Center Protector — UCP RS — VSP — App Farm — VIF — 10 GbE — Data Mover

Colo (Equinix) — UCP RS — VSP — snap snap — VIF — 10 GbE

AWS Region — VIF — Amazon EC2 — Amazon EC2

Using Hitachi Cloud Connect, your organization can have the best of both worlds: governance control over the data, the performance, management, and predictive controls of VSP combined with the near-cloud, high-speed networking communication to hyperscalers that Equinix provides. Hitachi Cloud Connect makes it possible for organizations to have in the cloud—the security, reliability, and scalability of the same Hitachi VSP storage arrays trusted in data centers. The same management, monitoring, and predictive analytic capabilities extend across your on-prem and near-cloud resources, creating a seamless, high-performance environment that can support any data-driven requirement.

05

Ensure you have the flexibility to run apps on other clouds.

We mentioned that some of your cloud assessments would identify applications that need infrastructure capabilities to migrate or burst into other clouds. Some refer to this "bursting" as application spanning. The nirvana is to do this without requiring a whole new set of operational processes irrespective of where an application is running. This is required for today's hybrid VM and container-based application services.

Hitachi UCP RS utilizes VMware Cloud Foundation, which helps organizations extend or migrate workloads to VMware clouds in hyperscaler environments. VMware customers prefer VMware Cloud because it essentially looks like vCenter-managed VMware infrastructure that they can link to and consume like any other datacenter vSphere cluster. A single management portal provides a uniform view and control over resources, regardless of where the infrastructure runs. For a migration use case, it saves you from the struggle of rebuilding existing VMs using the specific custom images of each hyperscaler and helps you avoid different operational processes.

On containers—by enabling Kubernetes with vSphere and VMware Tanzu, VMware has radically simplified the delivery of Kubernetes clusters on multiple clouds, including hyperscalers—and the development of cloud-native applications. It's the same Kubernetes distribution across these environments. As a result, developers and DevOps get the freedom to run a particular set of pods in your hybrid cloud-managed infrastructure, and operations teams become experts in one set of operational processes.

Observability presents a single, unified perspective of the whole environment, from the data center to the farthest edges of the cloud.

06

Observability matters.

A pressing concern of most organizations as they adopt the cloud alongside their on-prem and near-cloud infrastructure is the concurrent increase in complexity. Maximizing the benefits of a hybrid cloud is contingent on understanding what's going on across their entire environment.

Observability presents a single, unified perspective of the whole environment, from the data center to the farthest edges of the cloud , and is the starting point for keeping everything in alignment. This unified view includes alerts that bring issues to your attention and provide actionable recommendations.

By integrating Hitachi metrics and combining them with VMware metrics into a series of vRealize dashboards as part of Hitachi UCP deployment, Hitachi provides a unified view of the entire environment to help quickly identify the specific source of any issues and opportunities for further optimization. The goal is to help organizations like yours manage performance efficiently across all infrastructure.

Making the old new again.

It is possible to carry forward your existing storage infrastructure into this new hybrid cloud delivery model. Whether it's Hitachi or non-Hitachi storage infrastructure, using Hitachi UCP, organizations can leverage those assets virtualized behind UCP or VSP without disruption to any existing application services. This eliminates the need to wait for specific storage systems to reach the end of maintenance agreements. They can be part of the hybrid cloud environment today with UCP.

Hybrid cloud can be complicated. But it can be more complicated if early infrastructure decisions are approached piecemeal. It can become difficult, if not impossible, to get the maximum benefit from the cloud if the organization is forever dealing with integration challenges or massive duplication of applications services and data to serve both cloud and on-premises workloads. By working together, Hitachi and VMware are eliminating the most-pressing hybrid cloud hurdles to let organizations focus on innovation and opportunity.

The Power of Plus: VMware + Hitachi

For over twenty years, Hitachi Vantara and VMware have partnered to build enterprise-class, software-defined infrastructure solutions to meet your current and future IT needs. We boost agility through automated operations and unified resource management. Our dynamic infrastructure scales quickly to support a rapidly changing workforce and includes private cloud attributes to become the core platform for a unified, hybrid cloud environment.

Hybrid cloud with VMware + Hitachi gives you a tightly engineered cloud solution that helps you easily manage and mobilize your data, apps, and microservices across data centers and multicloud. That means Services + Simplicity. Resilient Solutions with Solid Reliability. Getting high availability and elasticity for workloads even in demanding environments – that's the power of VMware with Hitachi. That's your power of +.

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Learn more about Hitachi and VMware integrated solutions →

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