

YOUR PATH TO HYBRID CLOUD:

3 REAL-WORLD
MIGRATION
STRATEGIES



Hybrid cloud is here to stay, but by its very nature it takes a different form for every organization. Because hybrid means something different for each use case, there is no “one size fits all” way to implement it.

However, in our years of experience with implementing hybrid IT solutions, Lunavi has encountered some common migration strategies and business drivers for optimal hybrid cloud design. This guide takes a closer look at three real-world examples highlighting hybrid cloud architecture, migration strategies, rationale, and the positive impact delivered to the business.

Is Hybrid Right for You?



One Forrester survey from 2020 discovered **85% of IT decision-makers still include on-premises infrastructure as a critical part of their hybrid strategy.**¹ And an IDC report from March 2020 declared that, in the face of the pandemic, **more than 90% of global enterprises will rely on hybrid cloud by 2022.**²

Over time hybrid cloud has become the preferred mode for a majority of IT leaders. Today, many organizations will use various cloud services for different pieces of their IT infrastructure puzzle while still maintaining some level of on-premises hardware or collocated equipment.

As cloud deployments continue to mature, IT leaders, their I&O teams, and application owners have discovered that not every workload is an ideal fit for the cloud. Some must stay on-premises for reasons such as compliance, latency, or hardware dependencies. Some may be too difficult to modernize at this time. And with some static or steady workloads, it may be more cost effective to run locally or in a colocation facility.

Conversely, other workloads are ideal for public cloud. When developing next-generation applications, especially using DevOps tools and methods, going cloud-native is practically required. Elastic workloads that need to scale up or down are suited for cloud deployment. And of course, when re-architecting applications or upgrading end of life hardware, cloud has become the host platform of choice for countless administrators. In addition, many end-user computing applications are now delivered remotely from cloud platforms, including productivity applications like Windows Virtual Desktop and Office 365.

If you have a mix of workloads that fall into each of these categories, hybrid infrastructure is the best path forward. It allows you to maintain service levels for your users while embracing modern cloud capabilities such as automation and integrated service platforms.



HYBRID CLOUD ADOPTION: GOALS FOR SUCCESS

This eBook is intended to help IT leaders guide decision making around hybrid cloud by highlighting real-world examples from Lunavi clients, including the reasons for selecting various cloud technologies, the business drivers behind the migration, and how to assess and plan for a successful hybrid cloud project.

When setting out to adopt a hybrid paradigm, you should have concrete goals in mind. Performing a pre-migration analysis will help you answer key questions such as:

- **Why are you moving to the cloud?**
- **What are you moving to the cloud?**
- **What are you keeping on-premises?**
- **How will you manage each environment?**
- **What partners, vendors, and tools will you leverage?**

Every successful hybrid cloud project delivers on clear objectives. These often include:

- **Gaining a higher level of automation, efficiency, visibility, and performance across the entire IT infrastructure**
- **Selecting management tools that can work on-premises and in the cloud**
- **Modernizing data center workloads as much as possible to take advantage of the new cloud framework**

- **Choosing cloud providers and migration targets based on the framework**
- **Protecting sensitive data subject to compliance requirements or additional security measures**

These goals help you implement contemporary cloud practices such as Infrastructure as Code, containerization, and Platform as a Service (PaaS) integrations such as security, monitoring, and backup and recovery tools.

Using cloud just for the sake of being in the cloud is no way to succeed – a hybrid project, after all, recognizes the value on-premises or physical colocated infrastructure can bring in specific situations. Therefore, you should set out to decide what belongs in the cloud and more importantly why it belongs there.

The following case studies will illustrate how three organizations approached this process and, with help from Lunavi, determined the ideal hybrid infrastructure path for their digital transformation efforts.

92% of IT decision-makers report their IT environment relies at least in part on cloud services³. But without defined goals for your migration and modernization, you put yourself at risk of overspending and sprawl. Therefore a major portion of any hybrid cloud project is planning your workload placement. For example, migrating a data lake out of a cloud storage platform can be costly – but it might be worth the performance gains compared to storing it on-premise and accessing it from cloud applications. It all depends on your unique technology strategy and intentions.



Regional Bank Modernizes to Hybrid Cloud & Edge Computing

THE CHALLENGE

This regional community bank based in the Carolinas was facing mandatory upgrades due to aging physical infrastructure that hosted their virtual workloads, in addition to an on-premises data center that was not designed to support enterprise computing. Their IT team sought assistance with modernization, software upgrades, and migrating to cloud infrastructure.

As a financial institution, compliance and security are vital considerations for the bank. Therefore, certain components of the infrastructure design had to be implemented with physically colocated equipment, including edge equipment and network hardware in primary and secondary geographic locations. A hybrid environment was necessary to achieve the level of performance and security required.



THE IMPACT

The client now operates within a public IaaS environment that allows for greater flexibility and performance, in addition to improved information security. Should the production environment be disrupted, they can rapidly restore operations due to resilient design and robust backup systems in geographically separate facilities.

This new, modernized infrastructure is also backed by managed services for routine IT tasks including patching, monitoring, and identity and access management. With Lunavi providing crucial operational support, the bank's security posture is further bolstered.

THE SOLUTION

Because the client already used VMware virtualization, Lunavi recommended its in-house public cloud in nearby Atlanta, GA – a facility which also supports colocation.

Backup and disaster recovery were also essential components of the infrastructure design, so a secondary environment was configured in the Lunavi Cheyenne, WY facility utilizing Infrastructure as a Service (IaaS) resources and colocated equipment. By utilizing Veeam and Zerto software for backup and DR, a 4-hour recovery time was achieved for systems identified as mission-critical with 24-hours of data covered under the recovery point objective (RPO).

With many systems facing end-of-support for both hardware and software, Lunavi also helped provision new licensing and perform system upgrades during the migration to the new hybrid infrastructure, including Windows Server, SQL Server, and Remote Desktop.

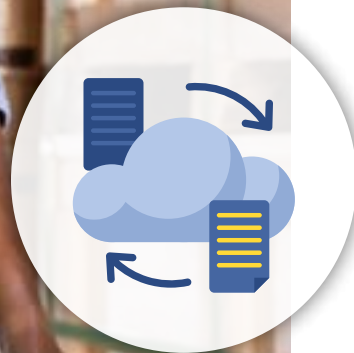
Over 15 terabytes of data were transferred and included in the backup and recovery strategy. Lunavi assisted with optimization in the target environment to ensure performance, especially in regards to large SQL datasets.

Building Supply Company Consolidates from Amazon to Custom Hybrid Design

THE CHALLENGE

A large building supply company, already a Lunavi colocation customer, also operated virtual infrastructure across Amazon Web Services (AWS) and Lunavi's hosted VMware cloud. This bifurcated approach to infrastructure was due to numerous merger and acquisition activities with separate entities having an affinity for different cloud services and offerings, in addition to specific workloads with a dependence on physical servers and related equipment in the colocation environment.

With cloud sprawl and lack of optimization, this company was spending beyond their budget on cloud resources. The company turned to Lunavi to help consolidate their infrastructure footprints into a single virtual data center hosted on VMware virtualization. Their goals included a simplified management plane as well as cost and performance optimization.

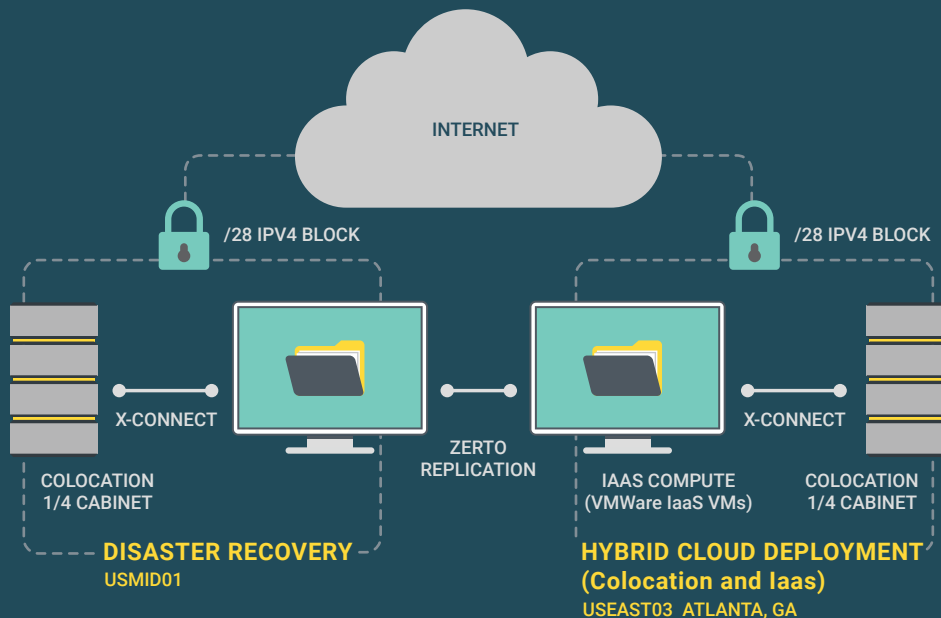


THE SOLUTION

Over 260 virtual machines spread across AWS and the Lunavi cloud were migrated prior to consolidation and optimization.

Legacy on-premises equipment and end-of-life collocated infrastructure were also targeted for virtualization and modernization. In addition to right-sizing, various operating systems including Linux distributions and Windows 2000, 2003, and 2008 were upgraded to supported versions. A small collocation footprint was maintained as part of this hybrid design to facilitate edge network services and augment the public IaaS resources with private virtualized servers.

Lunavi successfully migrated and modernized all infrastructure in a multi-phased approach to ease transition and mitigate risk. The final solution included over 70 terabytes of data and a reduction in virtual machines to approximately 30 hosts.



THE IMPACT

As a supplier with a sophisticated logistics network, the client has unique technology requirements that must support national operations across tens of thousands of customers, employees, and products. After consolidating to a new hybrid cloud with Lunavi, they achieved cost reductions and improved performance, in addition to modernized operating systems and virtual infrastructure.

Despite moving away from hyperscale public cloud Platform as a Service, they are still able to achieve similar service levels and operational capabilities. When combined with managed services from Lunavi, the consolidated footprint has enabled greater efficiency for their IT teams with improved security, streamlined management, better visibility, and fully supported software. The client also enhanced their backup and disaster recovery capabilities as part of their hybrid deployment, including geographically separated failover sites.

Non-profit Connects On-Prem to VMware & Azure Cloud

THE CHALLENGE

Our final case study examines a non-profit which operated physical assets and limited virtualized infrastructure on-premises to support their website, digital membership services, ticketing systems and more. They wished to strengthen their operational resiliency through data protection services such as disaster recovery and backup as a service, while simultaneously modernizing their infrastructure to leverage cloud capabilities and design a future-ready cloud environment that could grow over time. Secondary goals included a single platform for infrastructure services and optimized cloud resources to control costs.

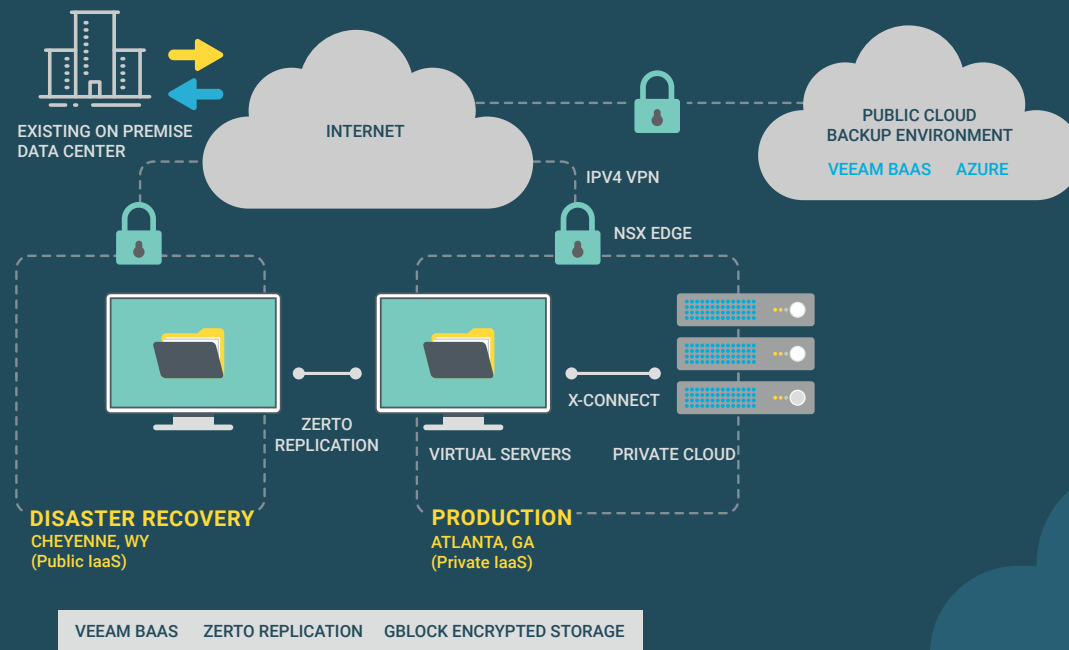


THE SOLUTION

Unlike the other two hybrid deployments described above, this client did not have any requirements for physical hardware.

Due to performance concerns, the target environment for this client included dedicated hardware for a private cloud environment connected to Azure public IaaS resources for backup and recovery.

This was determined as the ideal design due to large data storage requirements, easily accommodated with Azure cloud storage. This storage can also be rapidly adjusted as this data estate grows and changes over time. Meanwhile, public VMware IaaS in our Cheyenne facility provides a cost-effective disaster recovery target. Lunavi also provided Microsoft licensing for Windows Server and SQL, assisting in right-sizing SQL for optimal core count and cost control.



THE IMPACT

With all physical hosts migrated to virtual machines and legacy hardware decommissioned, the client's infrastructure is much more resilient and prepared for potential events affecting the production environment. Performance has also greatly improved compared to the on-premises data center. Instead of managing both physical hardware and virtual servers, the client now uses a single platform to manage their VMs, with additional IT operations supported by Lunavi.

With an established Azure footprint, the customer will also be able to implement new Platform as a Service capabilities over time. The private cloud design will also accommodate future-state growth, while hosting within an enterprise-grade data center delivers improved connectivity and security.

DETERMINING THE RIGHT HYBRID PATH

Hybrid cloud is a great fit for so many organizations because it provides scalability, cost-efficiency, and innovation while balancing specific requirements unique to each workload. Despite the advantages, hybrid can offer its own complexities when it comes to selecting and managing your cloud platforms in concert with on-prem technology.

An experienced partner such as Lunavi can help you architect, test, migrate, and operate cloud platforms from a variety of providers, each selected according to your distinctive business requirements, technology stack, and cloud policy. From discovering how your apps and data are being used today to deciding how to manage them moving forward, Lunavi will ensure you are on the right path for optimal performance, security, and governance.

There are several use cases that we commonly encounter with clients moving to a hybrid infrastructure. Some of the most common drivers include:

- **Backup, disaster recovery, and/or data storage**
- **Standard or packaged applications such as e-mail, collaboration, or CRM/ERP software**
- **Development and testing environments for application development**
- **Location-specific workloads**

Not every organization is in a position to take advantage of everything available in cloud platforms, like advanced automation, data analytics, or tools to facilitate software development and delivery. But hybrid cloud offers access to these features if and when you're ready, while meeting your technology priorities around cost, performance, reliability, and security.

To discover your ideal path to the hybrid cloud, reach out to Lunavi today.

[LEARN MORE](#)

ENDNOTES

- (1) <https://www.ibm.com/blogs/systems/forrester-study-hybrid-cloud-strategy-and-the-importance-of-on-premises-infrastructure/>
- (2) <https://www.idc.com/getdoc.jsp?containerId=prMETA46165020>
- (3) <https://www.forbes.com/sites/louiscolombus/2020/08/02/32-of-it-budgets-will-be-dedicated-to-the-cloud-by-2021/?sh=2d38cc105fe3>

About Lunavi

As a leading managed service provider and consulting firm, Lunavi is focused on helping customers advance their digital transformation goals by modernizing business applications, migrating solutions to the cloud, designing hybrid cloud solutions, and applying Agile and DevOps engineering practices to build new, innovative solutions. Our portfolio of services is designed to provide continuous improvement along each step of the IT journey to maximize business value and success. We are a Microsoft Gold Partner and Azure Expert MSP, offering deep expertise in the Microsoft ecosystem of enterprise IT software and services. Visit us at www.lunavi.com to learn more and follow us on LinkedIn, Facebook, and Twitter.

