

Migrating Regulated Workloads to the Cloud

With Security, Compliance and Confidence

Cloud computing has enabled organizations to drive innovation and digital transformation through enhanced agility, elastic scalability, flexible economic models and more. Despite the transformative nature of the cloud, however, many business and IT leaders have remained reluctant to migrate regulated workloads for a variety of reasons.

Migrating regulated workloads requires greater caution and concern, as these workloads typically hold the most data-sensitive information any business possesses. Stakes are high, and if something goes wrong—such as a data breach, compliance violation or successful cybersecurity attack—the impact could ripple across the entire organization.

This white paper discusses the challenges and opportunities of moving regulated workloads to the cloud, particularly for highly regulated industries such as financial services, healthcare, retail and more. We examine the benefits of using solutions designed specifically to make it more streamlined and safer to move regulated workloads to the cloud.

The paper also discusses the features and capabilities that make IBM Cloud for VMware Regulated Workloads the gold standard in enabling organizations to move regulated workloads to the hybrid cloud with security, compliance and confidence at the forefront.

The Challenges of Migrating Regulated Workloads

Meeting regulatory mandates and maintaining continuous compliance in the cloud adds risk and complexity, requiring organizations to audit cloud administration, manage IT governance and security controls, and ensure that policies for security and compliance are up to date, consistent and scalable.

IT teams are concerned about giving up control in areas such as patching and upgrades out of fear there could be gaps in security or compliance they may not be aware of, with the potential risk of unplanned downtime due to someone else managing infrastructure updates.



The idea of relinquishing the current control they have on premises to a cloud environment causes some unease for several reasons:

- IT leaders expect zero-downtime updates, with confidence that they can set the schedule for maintenance.
- IT has important investments in legacy infrastructure—in capital expenses as well as knowledge, expertise and skills.
- Migrating regulated workloads to the cloud could risk sacrificing the value of investments in on-premises infrastructure.

Many decision-makers have deemed these risks too complex to address and therefore have put innovation on the back burner to maintain control and confidence.

Attitudes are beginning to change, however. According to the 2021 State of the Cloud Report, more organizations are reconsidering whether to move sensitive data to the cloud. As noted:

More than half of respondents said they'll consider moving at least some of their sensitive consumer data or corporate financial data to the cloud, which reflects increasing confidence in the security practices of the cloud providers.¹

It's not just about comfort with security practices. There is a growing push by business and IT leaders to move more regulated workloads and business-critical applications to hybrid cloud models to future-proof their organizations and achieve and accelerate digital transformation.

At the same time, leading providers of cloud solutions and services—specifically IBM Cloud in partnership with

¹ “2021 Flexera State of the Cloud Report,” Flexera, March 9, 2021

VMware—have made migrating regulated applications to the cloud less complicated and risky. The path forward is clearer, faster and simpler than ever, bolstered by the ability to use differentiated security, compliance and business continuity capabilities.

Benefits of Cloud for Regulated Workloads

For many decision-makers, the push to cloud is accelerating. This is due to competitive pressures from agile competitors combined with changing expectations in the workplace and in customer attitudes that have been catalyzed by the global business challenges all organizations have faced since early 2020.

Forrester Research predicts that cloud migrations will spike significantly in 2021 as the cloud continues to take “center stage” in recovery from the pandemic.² As noted by Forrester, “The pandemic validated cloud’s value proposition. The ability to use on-demand scalable cloud models to achieve cost efficiency and business continuity is providing the impetus for organizations to rapidly accelerate their business transformation plans.”³

Across more and more applications and workloads, cloud continues to be an enabling and necessary technology for regulated industries, including:

In financial services, cloud helps to deliver deep customer insights, contain costs, eliminate data silos, support remote work, speed decision-making, deliver mobile services and enhance collaboration through shared platforms and tools.

In healthcare, cloud enables organizations to make better and faster decisions using Internet of Things (IoT) sensors, empower remote surgery and advances in telemedicine, and enable better outcomes through value-based care and wellness initiatives.

In retail, cloud accelerates digital supply chains and infuses them with insights and intelligence through IoT, artificial intelligence and machine learning. Cloud can transform inventory management, warehousing, distribution, field service and customer experience and empower analytics-based customer engagement.

These are just a few examples in a few highly regulated industries. In reality, all industries have been transformed by the cloud in some capacity, and every indication is that the pace of digital transformation will continue to intensify.

Mitigating Risk in Migrating Regulated Workloads

The key to moving regulated workloads to the cloud is to eliminate and mitigate the risks that might be standing in the way of progress. In regulated industries, critical risks fall into the general categories of compliance, cybersecurity, governance, business continuity and resilience.

It is a tenet of IT to avoid risk when possible. There are now solutions designed specifically to mitigate the risk of migrating regulated workloads to the cloud. Organizations can leverage the same VMware platform, tools and knowledge used on premises in the cloud.

IT organizations can exert the same level of control in their hybrid cloud environments as they do in their on-premises environments. Therefore, the concerns around issues like patching and updates are no longer a challenge to overcome.

With the right solution, IT can streamline the migration process with zero downtime, using a framework designed to make sure there are no gaps in compliance, security, governance, business continuity or visibility, or any other issue that could trip up organizations taking a do-it-yourself approach.

What to Look for in a Solution to Minimize Risk and Complexity

To reduce risk and accomplish a successful migration, the cloud framework has to have specific characteristics and features that address the unique requirements of regulated industries.

As discussed, it is important to have consistent VMware infrastructure to streamline and simplify migrations.

² “Predictions: 2021—Accelerating Out of the Crisis,” Forrester Research, October 2020

³ “10 Future Cloud Computing Trends to Watch in 2021,” CRN, Nov. 20, 2020

IT teams can use familiar tools and technologies from on premises to the cloud and don't have to make major changes in processes or policies.

In addition to migrating with VMware, it is essential to use a cloud solution that is designed specifically for regulated workloads, with built-in protections for compliance, security, governance and business continuity.

At the foundation, the solution must be offered with the option of a single-tenant dedicated infrastructure, globally available, with a management platform that enables IT organizations to manage with the same level of control as they would have if they were using an on-premises solution.

Beyond that, specific features and characteristics to look for in a framework include:

- **Security and trust** across the entire environment, with policies and controls to enable continuous compliance.
- **Flexibility to adjust quickly and easily** as regulatory requirements change across industries and geographies.
- **Complete control** of data, encryption, security, intellectual property and mission-critical systems.
- **Portability and consistency** across private and public environments, with the ability to run both classic

virtualized workloads and containerized applications side by side.

- **Support through a broad ecosystem** that includes independent software vendors (ISVs) and SaaS providers worldwide as well as add-on services for critical functions such as disaster recovery and high availability.
- **Governance and change management** driven by partners with deep industry and regulatory experience.

8 Key Benefits of IBM Cloud for VMware Regulated Workloads

To streamline the process, mitigate risk and ensure a successful and secure migration of regulated workloads to the cloud, the best-in-class solution is IBM Cloud for VMware Regulated Workloads.

It was first developed for the financial services industry in 2019 as part of the IBM Cloud for Financial Services solution set. It has been highly successful for financial services companies, and now IBM is offering the same basic framework for all regulated workloads, including in healthcare and retail.

IBM Cloud for VMware Regulated Workloads is a secure and automated reference architecture using VMware vCenter Server, with the option of deployment on a single-tenant dedicated infrastructure on IBM Cloud with client manageability.

Key benefits of IBM Cloud for VMware Regulated Workloads include:

1. **Access restrictions** for identity, role-based administration and user access.
2. **Isolation** for the SDN control plane from workload clusters and public internet, separate edge cluster, and gateway management.
3. **Enterprise-grade capabilities** for complex workloads, security infrastructure and high-speed performance needs.
4. **Management options** for customer-managed single-tenant or IBM-managed multi-tenant platforms.
5. **Backup and disaster recovery** with optional disaster recovery and high-availability clusters, data and virtual machine backup.
6. **Encryption** with bring your own key (BYOK), keep your own key (KYOK) and FIPS 140-2 Level 4, the highest commercially available security certification.
7. **Continuous compliance** with management auditing and monitoring and prevention.
8. **Unified policies** for security and network management across the management stack and workload clusters.

Customers of IBM Cloud for VMware Regulated Workloads benefit from the services of IBM and VMware, which both have a long history of delivering industry-leading solutions for security, compliance, governance and business continuity in highly regulated industries. Customers can leverage analytics and intelligence through services such as the Watson portfolio of artificial intelligence and machine learning solutions.

In addition, customers can access a broad ecosystem of ISVs and SaaS partners, such as Zerto for disaster recovery and Veeam for high availability, both of which are offered as an automated option within the solutions. Customers can take advantage of a cloud migration assessment that can map on-premises resources to right-sized IBM Cloud templates in minutes.

Taking the Next Step

Organizations across all industries have huge opportunities to accelerate digital transformation to deliver innovative, exciting customer experiences and get ahead of the curve in enabling and empowering workplace transformation.

Cloud computing is an essential element in advancing these efforts across all industries, allowing organizations to tap into cloud agility, economics, speed and scalability to take market share from competitors that are slower to adapt.

For companies in regulated industries, however, the journey to the cloud must address critical issues around security, compliance, governance and business continuity, among others. Because of these challenges, and the trust IT leaders have in their on-premises data centers, many organizations have been reluctant to migrate regulated workloads to the cloud.

In today's environment, however, such reluctance is no longer necessary. In fact, it can be counterproductive. With IBM Cloud for VMware Regulated Workloads, organizations can move forward with confidence using their familiar VMware platform from on premises to the cloud.

For more information on migrating regulated workloads to the cloud, please visit [IBM](#). For a no-cost assessment to map your on-premises resources to the IBM Cloud, please contact an [IBM Cloud specialist](#).



Are you ready to get started?

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