



Strengthen Security and Compliance with IBM Cloud Secure Virtualization*

Gain a competitive edge while enhancing regulatory compliance with a fully provisioned, turnkey managed private cloud infrastructure and configuration management solution

This solution brief describes how to solve business challenges through investment in innovative technologies.

If you are responsible for...

- **Business strategy:**
You will better understand how an IBM managed private cloud solution will enable you to successfully meet your business outcomes.
- **Technology decisions:**
You will learn how an IBM managed private cloud solution works to deliver IT and business value.

Executive Summary

With the increasingly rapid pace of innovation today, it is difficult for organizations to maintain a competitive advantage while hindered by legacy infrastructure, vendor lock-in, and the exploding volume of stored data. IT leaders, tasked to provide new services that meet the changing needs of business, find themselves grappling with a growing gap in skills essential to achieving innovation. The cloud offers solutions and tools that help keep a focus on security—including location-based data and server management. But not all cloud providers are focused on providing advanced security measures and helping businesses comply with regulatory requirements. To increase security and reduce expenses, as well as achieve or exceed service levels, organizations are turning to IBM Cloud Secure Virtualization*, a fully managed cloud service based on HyTrust* software.

IBM Cloud Secure Virtualization is the first fully managed and automated solution designed to incorporate security-rich software, such as Intel® Trusted Execution Technology (Intel® TXT). IBM's unique turnkey solution includes built-in controls that help protect workloads from compromised hardware and software, reduce the risk of administrator errors, track data locations, and allow deployment and decryption only where authorized. IBM Cloud Secure Virtualization provides businesses with the tools to help achieve regulatory compliance, and the monthly subscription does not require long-term commitment, making it especially well-suited to discovery and pilot projects.

IBM Cloud



Security and Compliance Automation



Server Platform Integrity



Privileged User Controls



Data Decryption by Location



Deployment Control by Location

Figure 1. IBM Cloud Secure Virtualization*, built on Intel® technology, is a fully managed, private cloud solution that simplifies regulatory compliance and policy management.

Solution Benefits

IBM Cloud Secure Virtualization* is a fully managed solution that provides continuous monitoring and reporting of controls that support regulatory and industry compliance. The benefits include:

- Trusted hardware and software environment for virtualized workloads
- Granular control over user access, based on customizable role-based user-privilege policies
- Ability to control where data and virtual servers reside, to help meet regional regulations and privacy laws
- Easy-to-use but powerful Infrastructure-as-a-Service (IaaS) solution with around-the-clock customer support

Business Challenge

Developing and maintaining a competitive advantage requires agility in a constantly changing, technology-focused landscape. To achieve this, businesses need rapid IT responsiveness, but many are slowed by outdated infrastructure, overburdened resources, or a lack of necessary experience. Businesses with regulatory compliance concerns, such as healthcare and finance firms, face additional hurdles. To compete in today's global market, businesses are seeking to:

- **Reduce costs.** Legacy, purpose-built infrastructure is costly to purchase and maintain. It also locks organizations into specific vendors.
- **Increase scalability.** The scope of innovation and technology advances often outpace the capacity of existing systems.
- **Increase flexibility.** New solutions and interoperability can be out of reach for businesses with proprietary and incompatible infrastructure, especially where stringent compliance regulations apply.

- **Maintain compliance.** Adopting cloud solutions requires businesses to maintain tight control of data governance, protect data from compromised hardware and software, and maintain proof of compliance for auditors.

IT organizations in all industries—as well as government—understand the challenges of meeting today's business needs. Security and compliance are critical factors that must be considered when identifying solutions. To achieve service levels, reduce expenses, and grow the overall enterprise, businesses are increasingly turning to hosted private cloud solutions. IBM Cloud Secure Virtualization* provides increased control of data location, encryption, and policies using security-focused Intel® technology.

Regulatory Compliance Requires Security-Rich Clouds

Whether organizations are in the healthcare, financial services, gaming, government, or other industries, complying with regulations is often a critical requirement. In May 2018, the General Data Protection Regulation (GDPR) will go into effect, protecting the personal information of European citizens. The penalty for failing to comply with the GDPR is four percent of a business's global revenue.

Achieving regulatory compliance requires maintaining a high degree of data sovereignty. IBM Cloud Secure Virtualization uses HyTrust CloudControl*, DataControl*, and BoundaryControl* software to define logical geographic, regulatory, department, or other boundaries; assign tags to assets; and set policies and security controls for automatic enforcement (see Figure 2). Enhancing data sovereignty includes the following:

- **Security-as-a-Service (SaaS).** Security capabilities help industries with a variety of requirements, such as the Federal Risk and Authorization Management Program (FedRAMP), improve security while remaining compliant.
- **Data encryption.** Workload encryption and key management help prevent server data from being decrypted in unauthorized locations.

Data Sovereignty with User-Defined Boundaries

Define and create boundaries by geography, regulatory standard, or department



Assign tags to assets



Set policies and security controls for automated boundary enforcement



Figure 2. IBM Cloud Secure Virtualization* provides data sovereignty controls such as encryption, audit and compliance readiness, and operational risk management.

- **Audit and compliance readiness.** Continuous monitoring, real-time reporting, audit-quality logging, and automated compliance templates help reduce audit risks and enhance compliance readiness.
- **Operational risk management.** With advanced role-based access controls and secondary workflow approval, the risk of administrative error and unauthorized access is significantly reduced.

IBM Cloud Secure Virtualization helps organizations maintain environmental control and manage data access. It helps protect workloads from being deployed on compromised infrastructure and provides proof of regulatory compliance for auditors.

With new GDPR going into effect in 2018, IBM has partnered with Intel and HyTrust to bring a comprehensive solution that helps organizations meet these new requirements.

Solution Value: IaaS Designed for Simplicity, Security, and Compliance

IBM configures, deploys, manages, and optimizes the infrastructure to help meet business's unique workload demands and compliance needs. IBM's ongoing support helps customers avoid problems and achieve success. The hassle-free approach to Infrastructure-as-a-Service (IaaS) was developed with regulatory compliance in mind.

IBM Cloud Secure Virtualization offers the following benefits:

- **Platform integrity.** Virtual workloads run in a hardware and software environment designed to prevent tampering.
- **Privileged user controls.** IBM Cloud Secure Virtualization helps reduce the risk of administrative errors by using advanced role-based access controls and secondary approval workflows.

- **Location-based data security.** IBM Cloud Secure Virtualization only allows virtual server data to be decrypted in authorized locations, improving compliance and security.
- **Location-based virtual servers.** IBM Cloud Secure Virtualization helps virtual servers that run on hardware in authorized locations to comply with location-based regulations.

IBM Cloud Services* scale globally with over 50 interconnected data centers worldwide. With IBM Cloud for VMware*, organizations gain the convenience of simple, automated deployment through the self-service user portal. And IBM Cloud Managed Services* help meet integration, management, and ongoing managed service needs.

Solution Architecture: Strong Security, High Performance

IBM Cloud Secure Virtualization, powered by Intel technology, helps improve compliance, performance, and a focus on security, while increasing availability. IBM Cloud Secure Virtualization helps enforce location-based data and virtualization policies, resulting in enhanced security and compliance.

Intel's approach to software and hardware design brings the following benefits to cloud solutions:

- **Security.** Intel® Trusted Execution Technology (Intel® TXT) improves automated security and compliance monitoring for cloud operators. Intel® Cloud Integrity Technology (Intel® CIT) provides visibility into the cloud data center, establishing trust at all levels, including the hardware and hypervisor layers, as well as asset tag compliance management (see Figure 3).
- **Performance.** The Intel® Xeon® processor family, Intel® Solid State Drives (Intel® SSDs), and Intel® Ethernet Gigabit Server Adapters are designed to deliver reliable,

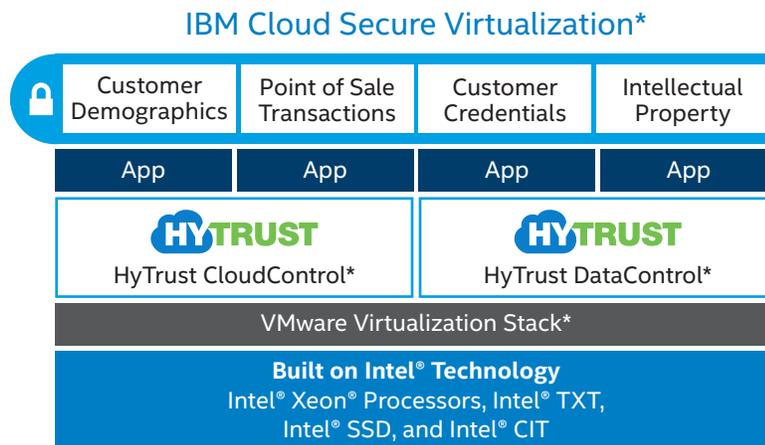


Figure 3. Fully managed IBM Cloud Secure Virtualization* delivers a turnkey solution that helps companies achieve stringent compliance regulations.

high-performance network, compute, and storage capabilities for virtualized environments.

- **Scalability.** Intel SSDs deliver stable, reliable scalability for data storage. The next-generation Elastic Network Adapter* (ENA) networking interface is optimized to deliver high packet-per-second (PPS) performance, low inter-instance latencies, and very low network jitter.

IBM Cloud Secure Virtualization eases the burden of deployment and management for enterprises that want to focus on innovation and product development.

Conclusion

Improving or maintaining a business's marketplace position is often reliant on its IT organization's ability to rapidly innovate and deploy solutions. But legacy systems and a lack of interoperability compound the challenges many companies face due to the dizzying pace of technology changes, the exploding volume of stored data, and the increasing shortage of skilled IT personnel. Regulatory compliance for specific industries exacerbates the problem, and is increasing across multiple industries.

IBM Cloud Secure Virtualization is a fully managed solution built on Intel technology that offers organizations the scalability and flexibility to remain on a competitive path of innovation. At the same time, IBM's platform helps cloud customers achieve regulatory compliance worldwide. Intel's security-focused, high-performance technologies provide the foundation for IBM Cloud*, which enables IT organizations to focus on improving service levels and meeting business needs while reducing operational costs.

Find the solution that is right for your organization. Contact your Intel representative or visit intel.com/cloud.

Focus on IBM*

International Business Machines* (IBM*) is a publicly traded company founded in 1911. IBM Cloud Services* are designed for the enterprise. IBM Cloud Secure Virtualization* is particularly well-suited for the hybrid cloud era, which is expected to serve nearly one-half of all large enterprises by the end of 2017. IBM Cloud Secure Virtualization seamlessly connects systems of record with new and emerging systems of engagement, helping organizations benefit in numerous ways: mine data while protecting privacy and security; quickly integrate existing and new services and data for innovation; and easily control, manage, and enhance security where data and applications reside.

Learn More

You may also find the following resources useful:

- [IBM Cloud Secure Virtualization](#)
- [HyTrust Website](#)
- Cloud Solutions Deliver Flexible Choices for Improving Innovation and Capabilities brief (ask your Intel representative)

Solution Provided By:

IBM Cloud



All information provided here is subject to change without notice. Contact your Intel representative to obtain the latest Intel product specifications and roadmaps.

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