

Security in the cloud

Cloud is arguably among the most powerful technology forces impacting today's businesses. Cloud is not only reshaping individual organizations — it's transforming entire industries across sectors and regions worldwide. Cloud accelerates the launch of new business models, deepens relationships with customers and partners, and enables migration away from legacy systems and the rapid deployment of flexible, scalable, and elastic IT infrastructure.

However, the path to innovation and efficiency is often slowed down by real or perceived concerns about security, regulatory compliance, and data privacy and residency. Further, the fundamentals of cloud—flexibility, elasticity, and scalability — are challenging traditional approaches to security and require new solutions to operate securely at the speed of business.

While the cloud helps address these issues in powerful new ways, a clear strategy and the right solutions are critical for success. Most companies will operate in a hybrid environment for the foreseeable future. Key security capabilities and controls, such as identity and access management, data protection, security monitoring and analytics, and secure systems development, will need to be extended and often retooled to protect both cloud and on-premise environments. Taking the time to strategically plan an approach to cloud security will help pave a smooth path forward.



Secure and govern your cloud environments



Strategy and governance:

Assign clear security roles and responsibilities between the organization and the cloud service provider. Update enterprise policies to define permissible and secure cloud consumption. Enforce policies and monitor for unsanctioned use. Develop a broad application migration strategy which considers data protection requirements.



Security operations:

You can't protect what you can't see. Extend security analytics to the cloud and develop cloud-specific use cases and detection rules. Co-develop incident response and forensics procedures with your cloud service provider. Understand your breach disclosure requirements.



Design and architecture:

Know your data and resulting regulatory and compliance, data protection and residency, enterprise, and other security requirements. Translate requirements into a reference architecture and develop cloud service provider-specific logical design and configuration patterns in support of building a secure DevOps program. Consider hybrid and multi-cloud deployment models, including identity and access management (IAM), data loss prevention (DLP), vulnerability management and other foundational enterprise capabilities.



Provisioning and automation:

Embed security in DevOps and CI/CD processes to achieve security at scale. Automate through template-based provisioning and configuration management, code security scanning and testing, and gain the ability to detect and remediate drifts and non-compliance. Secure your code repositories.

How PwC can help

PwC helps clients drive shareholder value through seamless and safe cloud adoption and operations. We help clients de-risk initiatives by identifying and addressing security, privacy, and regulatory barriers. Our cloud deployments are augmented by deep business and technical experience, proven methodologies, and a strategy through execution approach. Our assessment, transformational, and operational solutions integrate technology, the right operating models, and change management to achieve scalability and sustainability as an organization adopts and expands usage of cloud.



Design cloud security strategy and governance models for a compliant standard operating environment



Engineer continuous audit, risk, privacy and compliance outcomes for the cloud



Deliver secure migrations and automate DevOps security and compliance



Deploy security reference architectures and cloud service provider-specific design patterns



Conduct cloud health check security assessments



Extend identity and access management (IAM) governance to the cloud



Implement data protection solutions for the cloud, including data loss prevention (DLP), encryption, and key/cert management



Integrate cloud security operations and incident response into DevOps processes. Leverage log/SIEM integration and real-time threat analytics

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