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cloud services
ASSURANCE

How standards can help you select and manage cloud
service partners

Cloud services assurance

The acceleration of high-speed wireless internet connection, coupled with advances in processing technology, has led to the proliferation of data across all sectors — and for organizations of all sizes.

At the same time increases in cyber risk, and rising uncertainties around information security, has meant that the way data is managed and stored has become a board-level issue. This unprecedented growth in data volumes has redefined how business is run, with cloud computing transforming the way organizations store data.

Although many initially felt cautious about transferring critical information and functionality to the cloud, it has now become commonplace and offers significant access and cost-saving advantages.

Adopting cloud technologies

At a time where investments and the ongoing resource that is being dedicated to data protection, it's unsurprising to see businesses and governments alike adopting cloud-based technologies, in the understanding that a well-chosen service is the most secure option available. Plus, with the right controls in place, cloud storage can reduce both vulnerability to human error and deliberate insider sabotage, making it an even more attractive proposition.

Where there is still hesitation or uncertainty on cloud adoption, standards can help organizations to make the right choices when selecting cloud service providers, as well as govern their ongoing storage arrangements and assist with associated regulatory compliance.

Managing cloud service relationships

When it comes to managing ongoing relationships, establishing clear roles and responsibilities is important. Generally, the cloud services provider handles the hardware, operating system, platform and application security.

This third-party company will ensure that the customer's data is stored confidentially and can't be changed, while maintaining the correct availability to those who need to access it. Businesses using this service remain responsible for assigning employees to the right roles and controlling access and permissions.

How you categorize cloud service data also requires collaboration between parties. From what the user of cloud services submits or creates to the data the cloud storage provider needs to run the service effectively. Plus, how is derived data — things that the provider can observe from the customer's use of the cloud service — defined? And what about data relating to the working relationship?

All these questions need consideration and standards like ISO/IEC 19944 (data flow, data categories and data use in the cloud) can help. The standard also provides a structure for making statements about how data will be used by the provider. This can be used in legal service agreements, and to ensure transparency between the two parties. Seeking out the right quality and process assurances from potential service providers is critical.
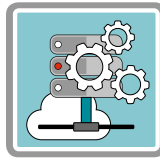
Key Cloud Services Standards

PROTECTING COMPANY INFORMATION

ISO/IEC 27000
Information technology — Security techniques — Information security management systems — Overview and vocabulary

ISO/IEC 27001
Information technology — Security techniques — Information security management systems — Requirements

ISO/IEC 27002
Information technology — Security techniques — Code of practice for information security controls

ISO/IEC 27003
Information technology — Security techniques — Information security management system implementation guidance

ISO/IEC 27005
Information technology — Security techniques — Information security risk management

BS 7799-3
Information security management systems — Guidelines for information security risk management

PROTECTION AGAINST CYBERASSAULTS

ISO/IEC 27032
Information technology – Security techniques – Guidelines for cybersecurity

DATA MANAGEMENT AND CLOUD STORAGE

ISO/IEC 27017
Information technology – Security techniques – Code of practice for information security controls based on ISO/IEC 27002 for cloud services

ISO/IEC 27018
Information technology – Security techniques – Code of practice for protection of personally identifiable information (PII) in public clouds acting as PII processors

ISO/IEC 27701
Privacy Information Management – Security techniques. Extension to ISO/IEC 27001 and ISO/IEC 27002. Requirements.

BS ISO/IEC 19944
Information technology – Cloud computing – Cloud services and devices Data flow, data categories and data use

Using standards to deliver cloud assurance

To enhance the way the customer organization works with the cloud provider, ISO/IEC 27017 specifies information security controls for cloud services, including clarification on both parties' roles and responsibilities to help make cloud services safe and secure. This is just one of a family of standards dedicated to giving assurance around information and data security.

ISO/IEC 27018 provides a code of conduct for handling personally identifiable information – particularly helpful in light of stringent privacy regulations such as the general data protection regulation (GDPR), and similar international legislation. Standards development in this area is also very active — ISO/IEC 27701 delivers an extension to the ISO/IEC 27000 series focusing on privacy information management.

All these standards come from the ISO/IEC 27000 family focused on information security, cybersecurity and privacy management. The series provides an overview and introduces important terminology for an information security management system (ISMS), while ISO/IEC 27001 defines key requirements. ISO/IEC 27002 outlines codes of practice and specific controls (including cloud services) and ISO/IEC 27003 helps organizations implement their ISMS.

In addition to all this, BS 7799-3 provides further implementation support and guidance. Other relevant standards include ISO/IEC 27032 which gives guidance on cybersecurity management, and ISO/IEC 27005 which outlines techniques for information security risk management. Both support organizations in protecting themselves against accidental or deliberate incidents.

All these standards provide best practice knowledge and can help build organizational resilience, reducing the likelihood of data breaches, as well as the resulting impact if they do occur.

Summary

Given that data is one of the most important business assets, now most commonly stored in the cloud, international standards relating to information security and privacy management play a key role in governance.

They help companies optimize all related decisions and planning to maximize this asset in a secure, compliant way. With the right standards in place, businesses can provide greater reassurance to customers and stakeholders that this data is well protected, enhancing brand reputation and optimizing efficiency ●

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