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Cloud Computing - Cyber Security Challenges for the Financial Sector

The recent downturn in the financial sector made cost cutting an imperative for all financial institutions. In this light, Cloud Computing appears as an attractive alternative compared to the old fashioned data centers that squeeze a lot of money out of the institution's budgets.

March 4, 2016

Standards in the Cloud Area

Source: Microsoft HyperScaleCloud - Azure Compliance

Key Cloud Principles

Source: Microsoft HyperScaleCloud - Azure Compliance

Security

The confidentiality, integrity, and availability of your data is protected.

Privacy & Control

No one is able to use your data in a way that you do not approve.

Compliance

Your content is stored and managed in compliance with applicable laws, regulations, and standards.

Transparency

You have visibility into how your data is being handled and used.

What Cloud Providers Offer to FIs

Source: Microsoft HyperScaleCloud - Azure Compliance

Regulator Right to Examine. Contract terms support any regulator who requires direct examination of cloud operations and controls.

Ability to address changes in the compliance environment. If there are changes to government laws, regulations, or requirements that affect the financial services Industry, Microsoft will collaborate with your company on how to accommodate them, including adding additional products, services, or solutions.

Access to compliance artifacts and data not generally available, such as the Microsoft Information Security Policy and penetration testing reports of the cloud platform.

Direct channel into cloud's engineering teams. Engage with cloud security and compliance engineering leadership and subject matter experts.

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The Case of KBC Bank

Source: https://blogs.office.com/2013/12/20/belgian-bank-insurance-company-kbc-invests-in-office-365-for-collaboration/

Belgian bank insurance company KBC invests in Office 365 for collaboration

Back to Office 365

by Office 365 Team, on December 20, 2013

As the financial industry continues to recover from a global recession and identify ways to increase efficiency, cloud technology is a growing trend in this sector. Office 365 is helping many of these companies facilitate this transition to the cloud, and we have one such customer to announce today.

After carefully examining various solutions available on the market, KBC, a bank-insurer company in Belgium with 37,000 employees, has chosen Office 365 in order to enhance responsiveness and improve collaboration across the organization. Staff at KBC's headquarters already use Microsoft Lync for instant messaging and conferencing, and are now expanding their use of Office 365.

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What do FIs think about the Cloud?

Source: Q&A Session from the ISACA Athens Chapter Conference

Q1: What are the benefits of cloud computing for the financial sector?

- on-demand service
- faster deployment of new services
- resource pooling
- scalability
- flexibility

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Q2: Which services do you consider more likely to move to the cloud in the following 5 years?

- development / testing / training environments
- processing & analysis of big data
- collaboration tools
- on demand storage / backup

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What do FIs think about the Cloud?

Source: Q&A Session from the ISACA Athens Chapter Conference

Q3: What are the risks from cloud computing for the financial sector?

- compliance
- data privacy / leakage
- loss of governance / location of data
- data misuse
- contractual matters (e.g. exit clauses, data secure deletion, subcontracting, right to audit, security controls)

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What do FIs think about the Cloud?

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Q4: What is the role of the various stakeholders in advancing the use of Cloud Services in the Financial Sector given the benefits that such technology brings?

- close cooperation between FIs, CSPs and NFSAs
- common understanding of risks, compliance requirements & security measures
- incident handling / right to audit / forensics
- contract templates

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Source: Q&A Session from the ISACA Athens Chapter Conference

Q5: What are the necessary prior steps before a financial institution implements cloud computing?

- identity information assets (data, applications, infrastructure)
- evaluate the asset (data classification & criticality)
- identify the risks (detailed risk assessment
- define relevant security measures & requirements
- choose the appropriate Cloud model
- evaluation of the CSPs

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Cloud Opportunities for the Finance Sector

Economies of Scale

- Better ROI
- More efficient resource utilization also means cost savings

Support innovation

- Easier deployment of new services
- Faster time to market

High Resiliency

- Better back up services
- Better business continuity

Standardized solutions

- Better patch management
- Better software update management
- Portable and interoperable

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Cloud Challenges for Finance Sector

Isolation Failures

- One Cloud customer might be able to influence the resources of another (CPU, Memory)
- ..or have access to another customers' data (data breach)

Support innovation

- Provide enough evidence for taking care of data
- Prove prudent risk management practices

Loss of Governance

- Control sufficiently the resources in the Cloud
- This also affects security

Vendor Lock-in

- Always have an exit strategy
- Properly remove the data from the Cloud

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Cloud Adoption - Current Status in the EU

Source: Secure Use of Cloud Computing in the Finance Sector (ENISA)

- Existing regulations and policies focus on finance core operations and do not cover sufficiently cloud cyber security
- Challenges with data jurisdiction and data protection rules
- Unclear regulatory and policy environment makes difficult deployment of Cloud solutions for financial institutions
- Many standards in the cloud area complicate both financial institutions and regulators to deploy cloud, as none of them is widely accepted
- Ad-hoc implementations focus on clouds in non-core business; limited strategic view

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Impediments of Cloud adoption in the FS

Source: Secure Use of Cloud Computing in the Finance Sector (ENISA)

- NFSAs unanimously agree that risks related to in-house IT can be much easier controlled and operationally managed than in the Cloud
- NFSAs perceive loss of governance, lack of transparency and lack of auditing as top risks
- FIs are especially worried about data confidentiality, data breach, and compliance and legal issues

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Impediments of Cloud adoption (cont.)

Source: Secure Use of Cloud Computing in the Finance Sector (ENISA)

- Most FIs have not developed corporate risk assessment for cloud computing
- For CSPs usually data breach, integrity and availability are on top of their list
- Some FIs recognize that log collection and analysis in cloud is an issue, the CSPs appear to judge the challenge of log collection as completely irrelevant

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Recommendations

Source: Secure Use of Cloud Computing in the Finance Sector (ENISA)

Cooperation between FIs, NFSA and CSPs

- EU wide harmonization of legal and regulatory requirements
- Define good practices and de-facto standards for incident information sharing
- Create minimum security and privacy requirements for the adoption of cloud based services

Risk assessment and cloud strategy

- FI to develop a corporate risk assessment and strategy for deploying Cloud
- Mechanisms that align the classification of assets (services and information) of the customer with the classification adopted by CSPs.
- Information sharing about CSPs risk management process

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Recommendations

Source: Secure Use of Cloud Computing in the Finance Sector (ENISA)

Transparency & Assurance

- CSPs to provide proven evidence of good cyber practices (incident handling, resilience, ..) in use
- Simple, unambiguous, measurable and comparable SLAs on security and privacy controls

Awareness campaigns

- Explaining the tools, techniques, certifications, good practices and standards for safe adoption of cloud services
- Increasing the understanding of the NFSAs, other financial regulators and FIs on cloud services and their connected security risks as well as security benefits

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