ISOL 533 - INFORMATION SECURITY AND RISK MANAGEMENT

RESEARCH PAPER: SAAS RISK MANAGEMENT PLAN

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SUBMISSION DATE: SEPTEMBER 30, 2017

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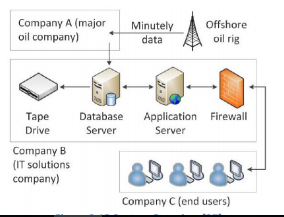
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**Abstract**

The paper include collaboration of a IT system into An Oil and Gas industry, explained with how its infrastructure effect and how software as a service based on cloud risk management. The company gone through various risks and it has some benefits too. IAAS act as a third party its services and risks explained below. Software as a service explained in detail with its characteristics and also compared in between SAAS, PAAS and IAAS.

**IT solutions for the OIL & GAS industry.**

Listing out benefits and risks by merging of an IT system with oil and gas industry. The company is divided on functional divisions as Administration, Engineering and support. The company needs a data acquisition system and its assets rely on other major oil company. Thus data comes onshore via major oil company communication links.



Company maintain database of all support calls by telephone or email either externally or internally from support engineers doing health checks. The calls were about software and then later found it was of infrastructure.

Cloud could have potentially eliminated if the system was deployed in the cloud as amazon is responsible for hardware related issues. Amazons data centers or network issues are major concerns.

**The benefits are below**

1. Opportunity to manage income & outgoings
2. Opportunity to offer new products/services
3. Improved status
4. Removal of tedious work
5. Improve satisfaction of work
6. Opportunity to develop new skills
7. Opportunity for organizational growth

**And the risks:**

1. Deterioration of customer care & service quality
2. Increased dependence on external 3rd party
3. Decrease of satisfying work
4. Departmental downsizing
5. Uncertainty with new technology
6. Lack of supporting resources
7. Lack of understanding of the cloud

The infrastructure would cost 37% less on Amazon EC2, and by using computing could have potentially eliminated 21% of the support calls. The disadvantages are risks towards customer satisfaction and over all service quality due to diffusion of control to the brokers. Due to changed nature of work decrement in the job satisfaction, cost volatility regarding cloud usage and data transfer costs.

Cloud computing is divided among three models that are, software as a service (SAAS), Infrastructure as a service (IAAS), and Platforms as a service (PAAS) (Kavis, 2014). The SAAS is where a business organization subscribes to applications it access over the network. SAAS enables the customers to use the application running on the provider’s framework cloud which means they have no control or interfere with the cloud foundations such as servers and system (Sabo, 2016). Salesforce.com, Google Apps, and Cisco WebEx are good examples of SAAS. However, PAAS is where the business organization creates their applications which will be used by all the users within the company. In this model, the customer is provided with a platform that allows them to develop, operate, and manage the applications without the complexity associated with building and maintaining it as it is in the development and launching of an application (Kavis, 2014). An example of PAAS includes the Apprenda. On the other hand, IAAS allows renting out by other companies. Basically, IAAS is a self-service model that facilitates access, monitoring, and remote management of data center infrastructures. Infrastructure as Service examples constitutes of Amazon Web Services (AWS), Google, Microsoft Azure, and Rack space (Sabo, 2016).

**Software as a Service (SaaS) Model**

SaaS is a cloud technology model which is software distributed which is availed to customers by a third party host over the internet. It eliminates the need for firms to install and run applications on their computers or data centers. The model helps organizations to utilize applications that are running on the cloud framework of the service provider. The shoppers can’t be able to control or deal with the vital cloud Foundation including system, servers, stockpiling, and working frameworks. Firms that apply SaaS do not need to acquire too many hardware or install software, and this eliminates the expenses of acquisition, provision, and maintenance of hardware. It also reduces the expense associated with software such as licensing, installation and support ("What is Software as a Service (SaaS)? - Definition from WhatIs.com", 2017). The following are the advantages associated with the application of SaaS model.

**Scalability in usage**

SaaS like most of other cloud services offers high scalability giving customers options to access more or fewer features or services depending on the organizations demand.

**New products and services generation**

Cloud computing economics, it has been possible to create new products that are less expensive and viable enough to deal with competition. It has created different windows of opportunities which firms can utilize for their competitive advantage. Every time the cloud technology is always improving and organization is of arms race to scope the opportunities availed by the technology to formulate products that are superior to other firms products in the market. Before organizations used to have ideas for better products but they are prohibited by lack of computing power. They couldn’t be implemented because of limited technology and cost issues. Now, with cloud computing innovations and implementations of ideas have been made possible since there is the availability of storage space, processing power, high-speed internet and better applications. Cloud computing also offers better development tools for the creation of a better application that will help the firm's product design and idea implementation.

**Security**

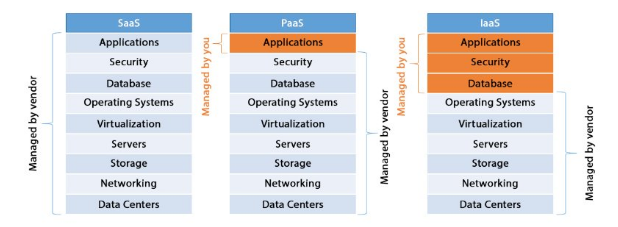
Different organizations and even individuals suffer from loss of laptops, desktops, tablets, and mobile phones every year. In most of the theft cases, it is not the device that holds value but the information stored in them. The cloud-based application helps to reduce the risk of data theft and the organizations that make use of cloud computing services will be able to avoid this risk since nothing is stored in the hardware. No one will be able to access the data even if the device is stolen. Local networks are found in the different organization are prone hacking and organization can suffer data loss. Cloud service providers have specialized in data protection and will be able to keep organizations data safe and private.

**Characteristics study of SaaS, PaaS & IaaS**

The advancement of cloud computing is one of the major developments that has happened in the past few years in the business environment. Cloud computing supports a variety of applications, activities in addition to performing different business transactions (Marston et al., 2011). A lot of researchers have agreed on the importance of cloud solutions to the business organizations. Cloud computing has always shaped organizations that use technology. According to Voorsluys et al., (2011), technology helps to improve and strengthen the operations of the business.

Again companies that use cloud solutions are the better rate which translates to increase profit. This has made a lot of companies to develop strategic marketing plans in order to expand its coverage. Whenever the business organization has gained a substantial market share, it can be able to reach a lot of potential customers during promotion and selling activities (Kuo, 2011). Furthermore, large market share translates to increased revenue and profit hence it is of great importance to the business that wishes to grow and survive the competitive pressures.

Here is the best diagram that shows the difference between SaaS, PaaS &IaaS. This paper will explain it in detail –



**SaaS Characteristics:**

* The software is always placed in a different location which is called as aremote server and the serversare accessed through a web browser with the help of internet connection.
* A central location is maintained to manage the application.
* The users of SaaS need not have to worry about the software updates, hardware issues and running the patches at different times.
* Any integration can be done easily through APIs which is athird-partyapplication.

**SaaS Suitability**

• Applications where the requests spike or lessen fundamentally – For instance: tax collection programming has to appeal amid imposing recording season; lodging reservations see a spike amid in holiday seasons

• Applications which have interest for the web and in addition versatile access – For instance: Sales administration programming, CRM frameworks

• Short term ventures which require joint effort – the compensation as-you-go demonstrate makes it helpful to rapidly setup and utilize

• Start-up organizations which need to rapidly dispatch internet business destinations without agonizing over server designs and programming refreshes

**Conclusion**

Cloud computing has become a global reality in the world of business. Over the past years, cloud computing was not used to the maximum, and only a small percentage were utilizing it. Due to globalization and increase in technology, the need for viable ways of conducting business becomes a necessity for every organization whether small or large. Cloud computing adoption in business organizations has helped a lot in improving their operations. It is associated with many advantages which have made it reliable by many business organizations. Although cloud computing has several risks with risk management measures, these risks can be managed.

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