

RISK MANAGEMENT PROCESS OF CLOUD COMPUTING IN BANKING SECTOR

¹Dr.T.Kalakumari, ²Dr.Jehan Murugadhas

¹Assistant Professor, ²Lecturer

¹Department of Business Administration, ²IT Department

¹Sur University College, Sur, Sultanate of Oman.

²Nizwa College of Technology, Nizwa, Sultanate of Oman.

Abstract: In the recent scenario, the banking sector is facing unexpected changes. Every operations and transactions are controlled by the customers instead of the banking sector. The customers are adopting new business models with innovative technology. So in Indian and other ethnical banks operate their transactions and providing services to the customer with the adoption of standardized information technology tools. Cloud based technology provides a new model for providing new and innovative customer experiences, well-organized teamwork, superior to operate the transaction in a speedy manner. Cloud computing makes the action of bringing resources into effective and secure. Majority of the private and public sector organizations are adopting cloud computing for the purpose of enhancing their events and activities. According to the 2010 IBM CIO study report shows that, “60% of CIOs plan to use Cloud—up from thirty-three percent two years ago.” Today, cloud technology is not just a tool being used in information technology, but a paradigm shift to a completely innovative trade.

Index Terms - Banking, Technology, Cloud computing, Risk management.

I. INTRODUCTION

Cloud banking services enable the customer with fast access of transaction and the bank to precede the transaction with paperless work. The cloud is proving to be a superior option to increase storage capacity to knob data, and is now given that an unexpected level of quickness, safety and scalability to banks. The banking organization can access the cloud as and when required, which means they can utilize such resources more athletically and proficiently with the help of data analytics, batch and online data processing methods and storing the data on the clouds. Majority of the private and public sector organizations are adopting cloud computing for the purpose of enhancing their events and activities. Actually, 2010 IBM CIO study report shows that 60% of Chief Information Officers were planned to use cloud based system in every product or service based organizations. Today, cloud computing based technology is not only a device in information system, but it shows a real standard change to a completely innovative trade.

II. AN OVERVIEW OF CLOUD COMPUTING SYSTEM IN BANKING SECTOR

Cloud computing system is one of the advanced technologies in the upcoming years of all the service based organizations. Generally the cloud based storage system is suitable for all the business applications and to transit the data from the business premises to cloud based services particularly in CRM that means to administer a company's dealings with present and prospective customers and ERP that means coordinated the primary business processes, in real-time and advance innovative technologies. Banks are predictable to penetrate the cloud computing field carefully, with no single cloud services delivery model being a silver bullet for best meeting their demanding business needs. Cloud computing can propose many advantages for financial markets and institutions. The advantages are: Reducing expenses, Usage-based billing, Continue the business without any distortion, Quick Business transaction, Green banking. But before entering to the cloud, the banking sector must think about issues around discretion of data, privacy of data, regulatory compliance, interoperability of standards, and quality of services.

2.1 Reasons for the adoption of Cloud Based Services in banking sector:

2.1.1 Rapid improvement

Cloud based services in banking sector have to increase the banking real time transactions by quickly, competence and efficiency. These clouds can help banks to transfer funds on a remote basis and make the operations in an innovative way and distribute the products and services in a speedy manner.

2.1.2 Risk mitigation

Risk mitigation means reducing the risk at optimum level. Many of the risk factors are associated with old outdated technology. The traditional technology has created lot of problems relates to storage capability, data lost and scalability. The cloud computing has the ability to manage the banks with low risk and control the security issues in an effective way.

2.1.2 Reduction of Expenses

The cloud based banking operations have to reduce the expenses. The cloud can allow banks to manage computing capacity more efficiently during the periods of highest point in customer demand.

III. CLOUD BASED MODEL FOR BANKING SECTORS:

For the flexible and smooth running of banking sector, the cloud based system followed four models such as BaaS, SaaS, PaaS and IaaS. All these four models benefits may vary according to the banking user have been explained below.

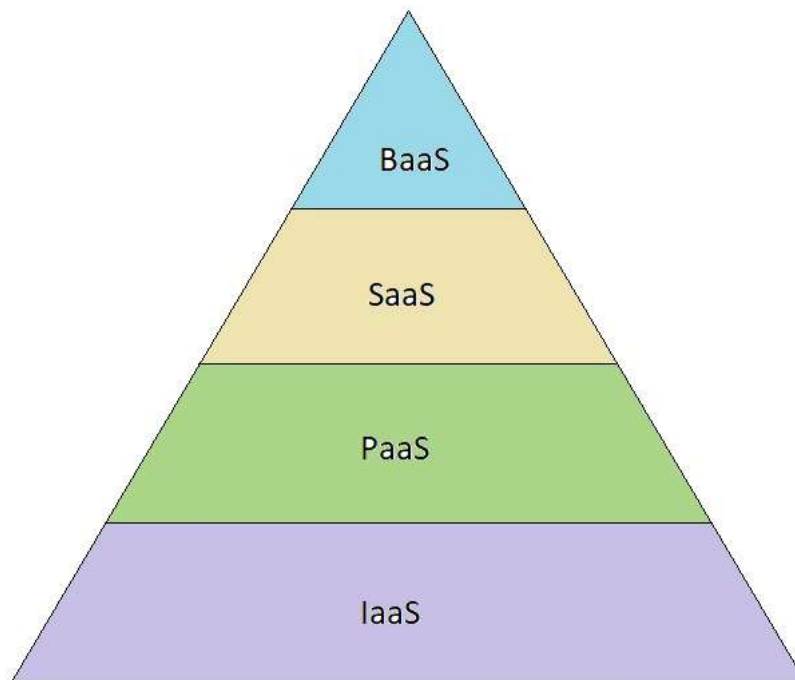


Figure 1: Cloud Service Model

3.1 Backend as a Service (BaaS)

Backend as a service (BaaS) is a cloud based computing service model that proceed as the middleware and join their network and manageable applications to cloud services through application programming interfaces (API). BaaS is something new comparing to other models and it has a limited service providers.

3.2 Software as a service (SaaS)

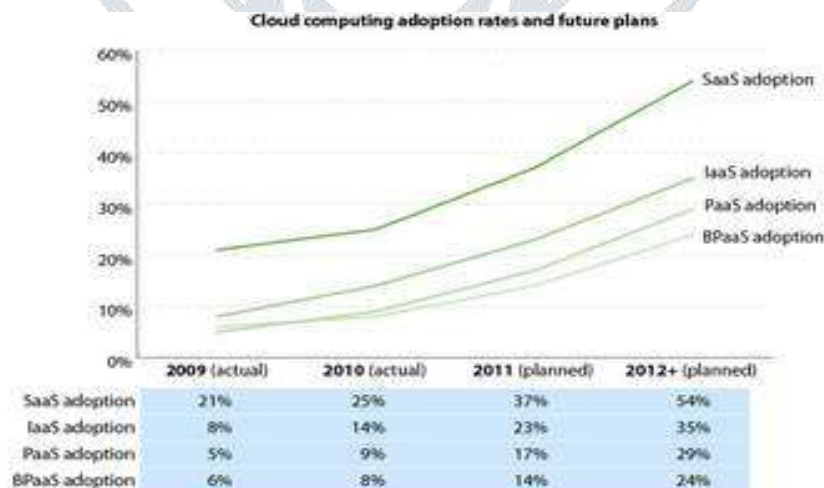
SaaS is a major component of this cloud computing model. Many clients do not know the features of this typical cloud service. It offers various services such as sending mail, communicating messages and gaming services. This is available on free-to-use or charged on agreeable terms and conditions.

3.3 Platform-as-a-Service (PaaS)

PaaS provides a complete platform for application interfaces and administrating the database, backup and testing. This type of services allows business organizations to reengineering the extension, safeguarding, reduce unnecessary costs and minimize the requirement of hardware, software, and hosting infrastructural system.

3.4 Infrastructure-as-a-Service (IaaS).

This cloud model provides services to the business organizations as an outsourcing format services instead of acquiring the software, server and other network equipment.



Base: 531 North American and European software decision-makers
 Source: Enterprise And SMB Software Survey, North America And Europe, Q4 2009; Forisights Software Survey, Q4 2010

Figure 2: Cloud computing adoption and future plans

IV. IMPLEMENTATION REQUIREMENTS OF CLOUD COMPUTING IN BANKING SECTOR

Cloud computing in banking system represents a very vibrant area with new vendors and new contributions incoming on different occasions. Large numbers of challenges are connected with cloud computing in banking sector that should be pointed carefully.

1. Necessitate to update the software periodically
2. Necessitate to adapt the legal rules and regulations
3. Issues associated with scalability
4. Issues associated with major disasters
5. Cost of making software and implementation cost
6. Maintenance of hardware, software and network
7. Mergers and acquisition problem.

V. DISASTER RECOVERY AND RISK MANAGEMENT ON CLOUD BASED BANKING SYSTEM

Sometimes banking operations may be failed due to large number of disasters and hazards. 97% of risks are produced by hardware/software failure. If your organization has a backup and data recovery methods, it is easy to manage server and critical business applications.



Source: Synametrics technologies

Figure 3: Disaster recovery in cloud computing

VI. ADAPTATION CHALLENGES OF CLOUD COMPUTING IN BANKING SECTOR

In the modern technological world, many of the banking sectors adopted a cloud based data storage systems. But in meanwhile, the banking sectors are facing lot of challenges to handle their day to day activities and events. They are listed as below.

4.1 Security

The banks cannot have enough funds to manage the risk in case of security. The privacy of data is not possible.

4.2 Regulatory observance

The customers are answerable for the safety measures and consistency of their personal information. The casual service providers are subjected to outside checking and security confirmations.

4.3 Data Collision

The data may be collision with other data during the transmission time, such as common servers or data storages. So every bank should have a thorough knowledge and promptly check the available and stored data on the cloud data bases.

VII. CONCLUSION

Generally all the private and public sector organizations are changing due to modern and innovational technologies. Presently the banking sector invests much amount on the cloud based data storage systems. Also many of the core banking transactions and events are operated from the cloud. The combined structure of both hybrid and society clouds could provide some backup power to the private cloud. A mixture of components considered for this paper, majority of the private banking sectors give emphasize to community based clouds. The cloud based banking sector needs to improve the security strategies to avoid the security issues and data collision in the cloud based storage model.

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