

Review: Data Privacy and Data Confidentiality in Cloud Computing

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ABSTRACT

Cloud computing is fastest growing internet based technology. This technology has many advantages including low cost, reliability, manageability, strategic structure, etc. When a new technology is discovered also some another techniques comes to destroy them. Cloud computing faces many issues like down time, limited control, vendor log-in etc. Security of data is main issue for this technology. Out of Many methods Encryption is introduced to ensure the data confidentiality and data authentication in cloud environment. Data should always be encrypted when stored and transmitted. In this paper we have reviewed different approach and challenges.

Keyword:- Security Issues, Grid computing, Encryption, Data storage, Deployment models, Service models, Security Challenges

1. INTRODUCTION

Cloud computing means storing and accessing data and programs over the internet instead of computer's hard disk. It describes a variety of computing concepts [1]. Cloud becomes the new wrapped around the technology. Cloud Computing collects all the computing resources and manages them automatically. It watch over the requirement for every user and provide Relevant resources, hardware, software and service according to the need of user [2]. Users requirement is clearly understood through the Internet, as it changes with need. Cloud computing is extend form of grid computing, distributed computing, and parallel Computing [3].

1.1 Deployment model of Cloud

There are three types of cloud. They are private cloud, public cloud and hybrid cloud. Private cloud is used by a single organization and public clouds are shared on a larger scale. Private cloud provides better control and more flexibility. Hybrid cloud is a combination of Private cloud and Public Cloud. Cloud faces many issues like Data theft, Data loss and Privacy [4].

1.2 Services model of Cloud Computing

There are three types of cloud. They are software as-a-service (SaaS), platform as-a-service (PaaS), infrastructure as-a-service (IaaS). In software as-a-service model application are hosted by a vendor or service provider and made available to customer over a network [5]. In platform as-a-service model operating system and associated application make available to the customer over the internet, which

can be used by customer without download and installation [6].Infrastructure as-a-service model involve outsourcing the equipment used to support operation including cloud data storage, hardware, servers and networking components [7].

2. REVIEW OF VARIOUS APPROACHES

2.1 “Security Issues and their Solution in Cloud Computing”[7]

Both the cloud service provider and the customer should make sure that the cloud is safe enough from all the external threats, so there will be a strong and mutual understanding between customer and service provider.

2.2 “A Review of Cloud Computing Security Issues” [8]

The amount of protection needed to secure data is directly proportional to the value of the data. Security of the Cloud relies on trusted computing and cryptography. Paper discussed about various issues of data location, data storage, security, availability and integrity.

2.3 “Data Security Challenges and Its Solutions in Cloud Computing” [9]

When multiple organizations share resources there is a risk of data misuse. Encryption is suggested as a better solution to secure information. When you store data in cloud server it is better to encrypt data. Data permission is given by data owner to a particular group member is such that the data can be easily accessed by them.

2.4 “Cloud Computing: Security Issues and Research Challenges” [10]

This paper, discussed various models of cloud computing, security issues and research challenges in cloud computing. The other security challenges including security aspects of network and virtualization.

2.5 “Improve Cloud Computing Security Using RSA Encryption with Fermat’s Little Theorem” [11]

To provide cloud security, paper uses the encryption method. In RSA key size decide the security level of the cryptosystem. Provide a good level security the keys used should be powerful. Key generation time is increased when we use the large key numbers.

2.6 “Cloud Computing Security using Encryption Technique”[12]

Data should always be encrypted when stored and transmitted. Cloud providers should not have ready access to tenant encryption keys. Data is not persistent in local system. So a Storage account is created with a cryptographic key. This storage account consists of container, Table, Queue. Container has feature called blob which is same as file in windows operating system.

2.7“Encryption Techniques for Cloud Data Confidentiality” [13]

This paper made review the different techniques used for the data confidentiality. According to the paper, encryption of data while storing on cloud is best approach for data confidentiality.

2.8 “Secure User Data in Cloud Computing Using Encryption Algorithms” [14]

In this paper they discussed about cloud computing security issues, mechanism, challenges that cloud service provider face during cloud engineering and presented the study of various security algorithms.

2.9 “Using encryption Algorithms to enhance the Data Security in Cloud Computing”[15]

In this research paper, they are trying to eliminate the concerns regarding data privacy using encryption algorithms to enhance the security in cloud as per different perspective of cloud customers. AES, DES, RSA and Blowfish algorithms are used to ensure the security of data in cloud.

2.10 “Cloud Computing Security and Encryption”[16]

This paper explained the problems in the cloud, and also proposed some solutions to the same with the help of algorithms like the DES and RAS.

Cloud computing faces many issues like down time, limited control, vendor log-in etc. Security of data is main issue for this technology. Many methods have been introduced to overcome this issue; encryption is one of them to ensure the data confidentiality and data authentication in cloud environment. Data should always be encrypted when stored and transmitted. In this paper we have reviewed different approach and challenges.

3. CONCLUSION: Cloud computing is new technology and provides simple access for high performance of data but security is the biggest threat in this field which can be prevented by using Encryption techniques of data while storing and transmission. This paper provides review of different issues and possible solution for data confidentiality and authentication of Cloud Computing.

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