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Review on Collaboration of Multi Clouds

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ABSTRACT: Multi cloud Concept is the current research area where many clouds are combined to serve the requirements of the user without standardization and the user need to pay for the best option available. Security is a major issue on this but many works are going on. This Paper reviews the works done on collaboration of multiple cloud to meet user requirements there by meeting the security issues. The security issues here are a bit tough to solve as the system has to care for multiple clouds

KEYWORDS: Multiple Cloud, Collaboration, Cloud Broker

I.INTRODUCTION

These are many challenges in cloud computing of which major ones are Data Lock-In standardized API's are used for Data confidentiality encryption has been used for Availability of services multiple cloud providers has been used For Data transfer bottlenecks :Data backup and Archival techniques are implemented for Performance unpredictability and scalable storage :Improved virtual machine•Software licensing :-Pay-per-use licenses[1]. The privacy issues pertaining to both data and identity. Privacy protection methods (other
than encryption) fall broadly into two categories [6], i.e., Data perturbation (also known as input perturbation), which adds some form of noise to the data itself, and Output perturbation, which adds noise to the otherwise accurate query answers. In Cloud computing storing and sharing of data is been done via trusted third party. Data integrity refers to maintaining consistency of the data all over the cycle. Data integrity contains protocols for data retention specifying the length of data that can be retained.[8]The Meta cloud can help mitigate vendor lock-in and promises transparent use of cloud computing services. Most of the basic technologies necessary to realize the Meta cloud already exist, yet lack integration [9]t Another aspect is moving workloads for which first, the targeted applications need to be identified and "segregated" from the other applications running on that same server. Then an image of that application, its underlying Operating System and infrastructure management agents need to be created and added to the cloud catalogue.[10] In cloud computing, Virtual machine migration is a useful tool for migrating operating System instances across multiple physical machines. It is used to load balancing, fault management, low level system maintenance and reduce energy consumption.[11] In order to guarantee the interoperability among different cloud computing platforms, it is essential to work out standards to describe the cloud itself, the interface to communicate, and the data format.

II.MOTIVATION

As the cloud technology is a growing field and we have reached the world that everything cloud be made easy with cloud storage. So for more advanced features the cloud need to be developed so came the concept of multi cloud. Security is always a major area of concern in single cloud .the load balancing the resource sharing and VM migrations were also a issues in single cloud. Now all these areas have been covered in multi cloud also.

III.METHODOLOGY

After going through a number of publications major areas of concern in the multi cloud are

a. Cloud standardization
b. Cloud interoperability
c. Cloud Security

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IV.LITERATURE REVIEW

To facilitate dynamic collaboration between clouds, a framework was proposed that uses proxy to act as mediators between applications in multiple clouds that must share data to overcome several restrictions in the current cloud computing model. It helps in choosing cloud without prior agreement and standards. Future work includes refining the proxy deployment scenarios. There are different proxies [2]

A. Cloud hosted proxy
B. Proxy as a Service
C. Peer –to –peer Proxy
D. On Premise proxy
E. Hybrid Proxy

Partition of application data into fragments allows distributing fine grained fragments of the data to distinct clouds. None of the involved cloud providers gains access to all the data, which safeguards the data's confidentiality. Future research lies in combining the approaches presented here. For instance, using the n clouds approach in combination with sound data encryption [1].The lack of an efficient service allocation and SLA management approach that maximizes SaaS providers' benefits in a Multi-Cloud environment, as a delivery model of multiple Clouds, impedes this evolutionary process. To tackle these barriers, a Multi-Cloud service allocation framework which contains three main phases SLA Construction, Service Selection and SLA Monitoring and Violation Detection was proposed.[3]The cloud broker which is an intermediate between service descriptor and cloud service provider has to perform two major tasks i.e. placement of virtual resources and management of these resources. [4]A unified infrastructure is based on Open Service Model and Configurable Federated model. The multi cloud environment can end the vendor locking of the consumer which is a trait in the single cloud. The significant zone of concern in this field is the understanding between the cloud service providers for collaboration of their services in multi-cloud. To issue integrity traditional algorithms of network security has been used.[5]Another work has been done to secure data on multi cloud proposes a secure cloud computing model based on separating the storage service from authentication, encryption/ decryption and auditing services In future, this model will be incorporated with biometric authentication with password authentication to provide a strong and better security [6] Integrity verification using the HE-RSA algorithm provides more security for the data stored by the client in multi cloud storage. The HE-RSA algorithm provides the security through three exponents and by performing encryption twice, and then decryption. As the future enhancement the technology of CRAM bit slicing can be used to provide more security for the client's data by distributing the data into different clouds. We can also use the CPDP instead of using the provable data possession. By using the CPDP the index hash hierarchy we can improve the security [.7]

V.FINDINGS

After going through the literature review it is found that few works has been done on multi cloud standardization. All the works that has been done were mainly using proxies which need to be redefined .All the work is just a starting point in bringing standardization. Security, integration and interoperability is still in its grown.

VI.CONCLUSION

There is a need to standardize the multi cloud taking care of the integrity interoperability and security for a better cloud usage. The best standardization policy is still an open area for the researchers

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BIOGRAPHY

Ms.Smitha Krishnan is a research scholar in Bharathiar University. Completed MCA from AIMIT Bangalore and currently working as assistant professor in dept of computer science in SB college

Dr.B.G.Prasanthi is the second rank holder in M.Sc., (comp),fifth rank in M.Tech and was district topper in M.Phil and is having her Phd in faculty of Engineering currently working as head for MCA in AIMIT Bangalore. She trained many research scholars, post graduate students of Bangalore and different universities in computer science and technology. She is a reviewer for three IEEE journals and many international and national journals, keynote speaker for many conferences and published 35 research papers in reviewed national and international journals.