

PRIVACY AND REDUCED TIME CONSUMPTION IN CROSS CLOUD SERVICE COMPOSITION

¹K.Subha, ²E.Saraswathi, ³K.Gurusamy, ⁴A.Gangatharan

¹Assistant Professor, ²Assistant Professor, ³Student, ⁴Student

Department of Computer Science and Engineering

^{1,2}SRM Institute of science and Technology, Ramapuram

^{3,4}Chenndu College of Engineering and Technology

ABSTRACT

Cross cloud computing is the piece of software that is portable and can run on multiple platforms without human intervention. Cross cloud service composition provides a concrete approach that is capable for large scale big data processing. We propose a privacy-aware cross-cloud service composition method, named Hire Some-II (History record-based Service optimization method) based on its previous basic version Hire Some-I. In this method, to enhance the credibility of a composition plan, the evaluation of a service is promoted by some of its Qos history records. Using Hiresome-II technique time consumption for searching of data can be reduced. Cloud computing is an internet based computing, which shares resources, software and information are provided to computers and other devices on demand, in this security is the major concern.

Keywords- Cloud, Cross Cloud, Hire some-II, Indexed Based Searching, Service Composition

I.INTRODUCTION

Cloud Computing is a technology that uses the internet and central remote servers to maintain data and applications. [2] Cloud computing allows consumers and businesses to use applications without installation and access their personal files at any computer with internet access. This technology allows for much more efficient computing by centralizing data storage, processing and bandwidth. Cloud computing and big data still in constant evolution, they provide a cost effective and scalable infrastructure to provide big data and business analytics. The rise of cloud computing and cloud data stores have been a precursor and facilitator to the emergence of big data. Cloud computing is the commodification of computing time and data storage by means of standardized technologies. Cloud computing has become a highly demanded service or utility due to the advantages of high computing power, cheap cost of services, high performance, scalability, accessibility as well as availability. Some cloud vendors are experiencing growth rates of 50% per annum, but due to being in a stage of infancy, it still has pitfalls that need proper attention to make cloud computing services more reliable and user friendly.

Cloud computing poses privacy concerns because the service provider can access the data that is in the cloud at any time. It could accidentally or deliberately alter or even delete information. Many cloud providers can share information with third parties if necessary for purposes of law and order even without a warrant. That is permitted in their privacy policies, which users must agree to before they start using cloud services. Solutions to privacy include policy and legislation as well as end user's choices for how data is stored. Users can encrypt data that is processed or stored within the cloud to prevent unauthorized access.

Cloud computing also leverages concepts from utility computing to provide metrics for the services used. Such metrics are at the core of the public cloud pay-per-use models. In addition, measured services are an essential part of the feedback loop in autonomic computing, allowing services to scale on-demand and to perform automatic failure recovery. Cloud computing has evolved by addressing the QoS (quality of service) and reliability problems. Cloud computing provides the tools and technologies to build data/compute intensive parallel applications with much more affordable prices compared to traditional parallel computing techniques.

II.SYSTEM ANALYSIS

A. Problem Definition

Assume that if a user needs to access a particular data from the cross cloud service composition, the major problem is managing the massive amounts of data that increases the risk and magnitude of a potential data breach. Sensitive, personal data and confidential data can be exposed and violate compliance and data-security regulations. And also because of storing large amount of data, it takes time to search required data

B. Objective

To ensure protection of data between the users by providing the keys to users for the authorized access. Security is a very dangerous point in accessing confidential data hence attack can easily be done. Prevent this, authentication is required for sharing the contents securely. In order to send the contents securely a concept known as providing key is implemented hence allows only the authorized users to access the confidential data. To increase the high search performance indexed based searching is used.

C. Existing System

Current service optimization approaches often assume that the quality delivered by service providers does not change over time. However, this assumption is often spoilt by the dynamic network environment. Therefore, a service provider may fail to deliver their services with promised quality. It often causes some fluctuations in service performance, and the evaluation of a service will be suspicion, if the evaluation is scored by the QoS values promised in advance. History Record-Based Service Composition Evaluation k-means algorithm is used as data filtering tool to select representative history records. As the latest computing paradigm, cloud is characterized by delivering hardware and software resources as virtualized services by which users are free from the burden of acquiring the low level system administration details.

Drawbacks

- In existing system, it is a challenge to tradeoff the privacy and the time cost in cross cloud service composition.
- Cloud service and its bandwidth probably fails to match to the cloud.
- It often causes some fluctuation in the service performance.

D. Proposed System

In the proposed system presents a tree structure is recruited to specify the service composition context. Concretely, a Task-Service tree is defined, to incorporate a task and a group of candidate services into an integrated application context. Here, the candidate services are the qualified services that can fulfil the task execution's specification in functional and non-functional property. In addition index based searching is introduced for searching efficiency.

The history and indexed based records associated with a service's quality. As the index based searching is the purpose of storing an index is to optimize speed and performance in finding relevant documents for a search query. For example, while an index based searching can search 10,000 documents can be queried within milliseconds, a sequential scan of every word in 10,000 large documents could take hours. The additional computer storage required to store the index based searching hence the time saved during information retrieval.

Advantages

- It protects the privacy of cloud for cross cloud service composition but also greatly speeds up that calculating process for selecting a optimal service composition plan with higher optimality and precision.
- It is suitable for developing a cross cloud service composition plan over big data of history records with privacy consideration.
- The tree mechanism is initiated by a Task Service tree which is a multiple fork tree and is more compatible for real life systems.

III. SYSTEM DESIGN

A. Methodology

Initially a key management system is provided in which Public-key algorithms uses a public key and a private key. The public key is made available to everyone. A sender encrypts data with the public key, only the holder of the private key can decrypt this data. It also uses Hiresome-II along with the index based searching which hires tree structure which increases high search performance.

B. System Architecture

Cloud is an online storage and it can store large amount of data. While searching a data in a cloud from another cloud due to huge number of data the time taken to retrieve the data will take time. By using Index based searching these required data can be retrieved in less time. And also in a cloud security is very important. The administrator should know whether the data requestor have the authority to access the loud or not. This is done by providing keys to the users during first registration

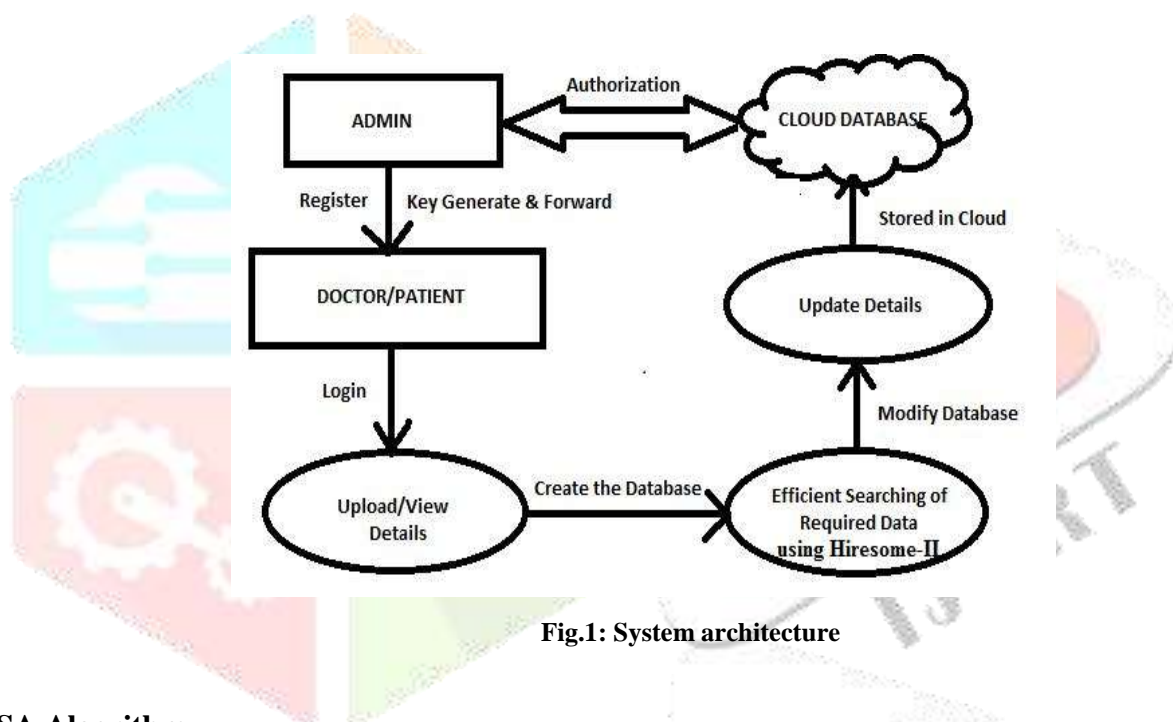


Fig.1: System architecture

C. RSA Algorithm

The proposed system defines about privacy concern in cross cloud service composition. Providing privacy is the major concern. The privacy can be provided by generating keys which uses RSA Algorithm. RSA Algorithm is used to encrypt and decrypt data. It is an asymmetric cryptographic algorithm. In addition index based searching is introduced for searching efficiency. The index based searching collects, parses and stores data to facilitate fast and accurate information retrieval.

IV. MODULE DESCRIPTION

Module 1: User Authentication

Module 2: Patient Details Uploading

Module 3: Admin Key Generation

Module 4: User Verification

Module 5: Updating Patient Details

Module 6: Increasing Searching Efficiency

A. Module 1: User Authentication

Authentication is the process of verifying the identity of user to a computer system and can be accomplished by using login passwords. The user need to enter exact username and password which is given in the registration, if login success means it will take up to main page else it will remain in the login page itself. If it is a new user then it will move to the registration page.

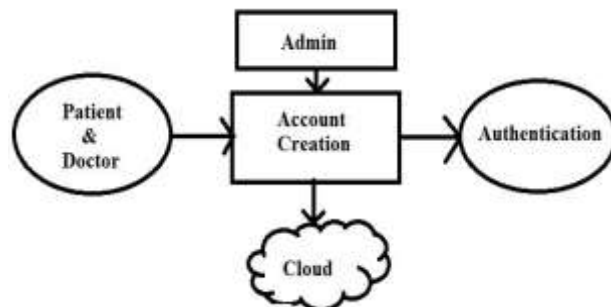


Fig.2: User Authentication

INPUT : Username & Password of the Users

OUTPUT : Authentication to their account

B. Module 2: Patient Details Uploading

After succeed the login, patient uploading the medical details to doctor and then verifying the patient details.



Fig.3 Patient Details Uploading

INPUT : Personal Details of the Users

OUTPUT : Medical Database in Cloud

C. Module 3: Admin Key Generation

In this module, admin can generate key to requested user for secured transfer of data. The key generation uses RSA Algorithm in which it uses public key and private keys. Messages encrypted using public key and decrypted with the private key. In this algorithm user creates key based on large prime number along with auxiliary values in which prime numbers are kept secret.

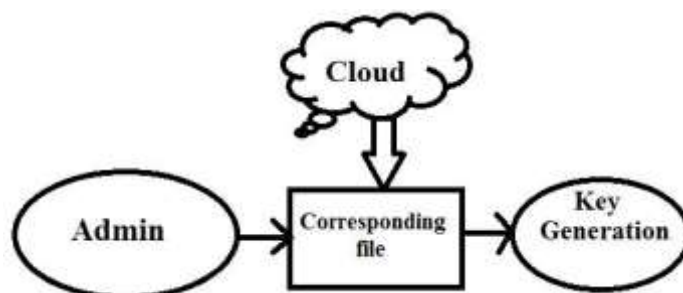


Fig.4 Admin Key Generation

INPUT : Corresponding file to be shared

OUTPUT : Key Generation

D. Module 4: User Verification

The admin will view the user file system information. In this phase admin will see the full information that includes file length file extension and processed time.

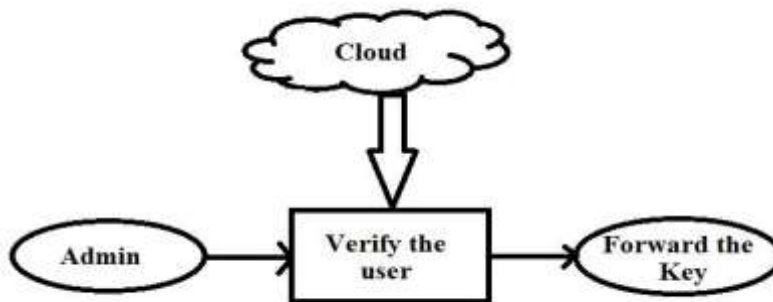


Fig.5 User Verification

INPUT : User Request for the File Access

OUTPUT : Generated Key Forwarded to the User

E. Module 5: Updating Patient Details

Doctor checking the patient details from patient cloud database with patient permission and update the patient details.

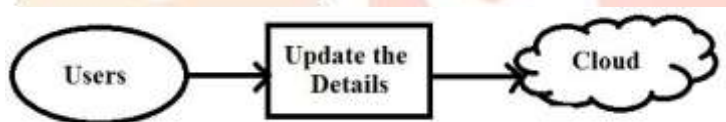


Fig.6 Uploading Patient Details

INPUT : Updated Details about the Users

OUTPUT : Updated Medical Database in Cloud

F. Module 6: Increasing Searching Efficiency The index based searching collects, parses and stores data to facilitate fast and accurate information retrieval. The history and indexed based records associated with a service’s quality. As the index based searching is the purpose of storing an index is to optimize speed and performance in finding relevant documents for a search query.

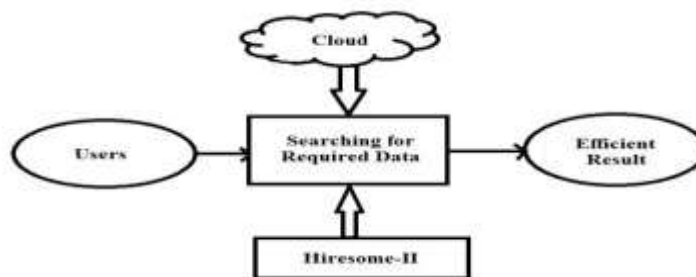


Fig.7 Increasing Searching Efficiency

INPUT : Required Data for Searching

OUTPUT : Efficient Result for Searching using Hiresome-II

IV. PERFORMANCE ANALYSIS

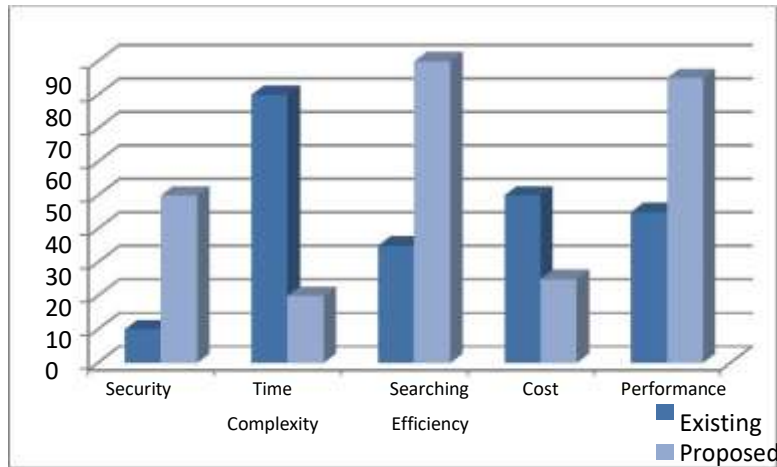


Fig.8 Performance Analysis

In this system whenever an user gets sign in, the admin will provide keys and also during the log in of every users the admin will check the database whether the user is the authorized one or not. During Searching the required data can obtain in quick time.

VI. CONCLUSION AND FUTURE ENHANCEMENTS

A. Conclusion

In this proposed scheme we are ensuring the protection of data between the users by providing the keys to users for the authorized access. In order to send the contents securely a concept known as providing key privacy is implemented hence allows only the authorized users to access the confidential data and also the high search performance is increased using the history and index based searching. Hence the time consumption is also reduced.

B. Future Enhancement

Plan to apply our method to some specific cloud systems for processing big data applications. Besides, as the privacy preservation for big data analysis, share and mining is a challenging research issue due to increasingly larger volume of datasets in cloud, we also plan to investigate the scalability of privacy preservation in big data applications with cloud service access. For future work, we plan to apply our method to some specific cloud systems for processing big data applications.

VII. REFERENCES

- [1] S. Tai, J. Nimis, A. Lenk, and M.Klems, "Cloud Service Engineering," in Proc.32ndACM/IEEE ICSE, May 2010, vol. 2, pp. 475-476.
- [2] V. Nallur and R. Bahsoon, "A Decentralized Self-Adaptation Mechanism for Service-Based Applications in the Cloud," IEEE Trans. Software. Eng., vol.39, no. 5, pp. 591-612, May 2013.
- [3] H.Y. Lin and W.G. Tzeng, "A Secure Erasure Code-Based Cloud Storage System with SecureData Forwarding," IEEE Trans. Parallel Distributed Syst., vol. 23, no. 6, pp. 995-1003, June 2012.
- [4] A. Gambi and G. Toffetti, "Modeling Cloud Performance with Kriging," in Proc. 34th ICSE, June 2012, pp. 1439-1440.
- [5] R. Buyya, C.S. Yeo, S. Venugopal, J. Broberg, and I. Brandic, "Cloud Computing and Emerging IT Platforms: Vision, Hype, and Reality for Delivering Computing vol. 25, no. 6, pp. 599-616, June 2009.
- [6] J. Cao, K. Hwang, K. Li, and A.Y. Zomaya, "Optimal Multiserver Configuration for Profit Maximization in Cloud Computing," IEEE Trans. Parallel Distributed Syst., vol. 24, no. 6, pp. 1087-1096, June 2013.