

Comprehensive Study Effort in Cloud Computing : Fog Computing Approach

Azhar L. Inamdar
Dept.of Information Technology
BVDUCOEP
Pune, India
azharinamdar99@gmail.com

Prof.Pramod Jadhav
Dept.of Information Technology
BVDUCOEP
Pune, India
Pramodjadhav1408@gmail.com

Abstract— Comprehensive Research work is Integration one more than one technique in securing cloud Environment. Comprehensive methodology is future generation of approach in any software development or security approach in safeguarding private confidential stats on cloud platform. Cloud safety is key challenging issue with numerous methods with pros and cons with no perfect methodology so a fusion approach is been selected. Fog computing initiates a decisive computing mechanism which helps the safekeeping of private documents on cloud server and a counterattack methodology is been proposed which in a divergent way attacks on attacker. The system integrates SHA1 algorithm with cloud DeDup technique which keeps a unique copy of every file with better encryption applied other security Mechanics like OTP generation and sms alert have been provided with set of ten security questions which safe guard the security birch. The proposed system works for Audio video and document kind of files which is comprehensive plus extended research in base research scholar paper.

Keywords—cloud Environment, Fog Computing, Decoy method

I. INTRODUCTION

Cloud computing is next level of platform technology where in software and application would be placed on www and used by numerous user. Cloud provides distributed computing environment .the upload applications can be used as service or even computing platforms or as an integrated Infrastructure that is ISAS PAS & SAS. Today safety of information is prime objective and goals of any software system. Cloud numerous approaches and key technologies exists that provide a fight back to particular security issues only .one technique for one issue. So we need a technique that is methodology that can act and provide security against a complete set of security threats and in all achieve better security measures.

Fog is standard that spreads Cloud work out and facilities to brink of web. Comparable Fog delivers statistics, work out, stowage, and solicitation facilities to end-clients. this section sumptuous incentive and compensations of Fog and analyses its solicitations in sequence of actual situations, That as Clever Network, clever transportation lights in transportation systems and software demarcated systems. This section elaborates the technology termed “fog” Which is under similar canopy of cloud environment. Safety and discretion subjects are additional revealed rendering to existing Fog standard. As an instance, we education a characteristic bout, human-in-central bout, for conversation of safety in Fog. We explore furtive topographies of bout by exploratory the environment.

II. NECESSITY OF FOG

In previous few decades, Cloud has delivered numerous Occasions for originalities by subscription their clientele a variety of work out facilities. Present “reimbursement-as-you-

drive” Cloud classical develops an effectual substitute to possessing and handling secluded statistics centers for clients facing Web requests and collection dispensation. Cloud frees Initiatives and their end clients from requirement of numerous particulars that as storing capitals, totaling restraint and network announcement price. Though, this ecstasy develops a problematic for dormancy-subtle submissions, that necessitate bulges in neighborhood to happen their interruption necessities [5]. When practices and plans of IoT are receiving additional complex in consumers’s life, existing Cloud pattern can barely content their necessities of flexibility provision, place consciousness and little dormancy. Fog is planned to discourse overhead delinquent [5]. As Fog is applied at superiority of Set-up, it delivers low dormancy, position consciousness, and Advances excellence-of-services (QoS) for gushing and existent Period submissions.

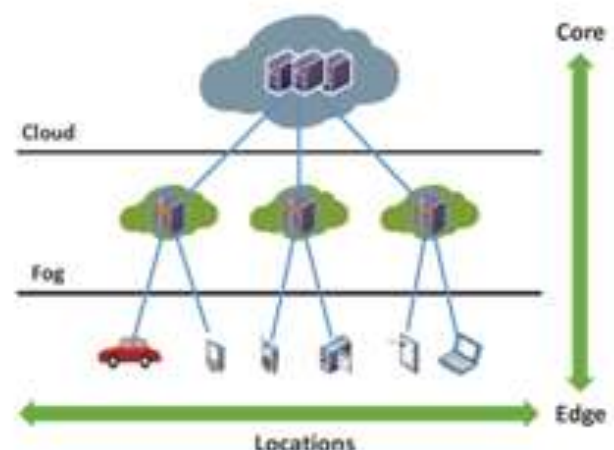


FIG 1 : FOG AND ITS APPLICATION

III. LITERATURE SURVEY

Survey has been document in tabular format to study and scrutinize the system and find scope and further research space in domain. Keystone articles from which we form problem definition are as following.

Paper Title	Advantages	Techniques
Software Decoy for Insider Threat	Discussed a Technique that confines insider and also used obfuscation which helps to secure data by hiding it and making bogus information for insider	Developed a technique that was a software decoy for securing cloud data using software
Reliability in the utility computing Era: towards reliable Fog Computing	Provided the concept of fog in real life applications	Three tier Application for Fog Computing is Discussed.
Improving Website performance using Edge servers in fog Computing Architecture	Concept of Fog Computing Architecture is used in <i>away</i> that various methods are combined with unique knowledge to improve the performance of web pages	Minimizing HTTP Requests reducing the size of web objects and reorganizing web pages.
Fog computing mitigating Insider data theft attack in cloud	Monitor data and provide data security from malicious intruders and also help in confusing the attacker about real information	User Behavior Profiling Decoy information

Fig 2: literature table

IV. PROPOSED SYSTEM: IMPLEMENTATION



Fig 3: Generalized Fog Computing architecture

Proposed system encompasses numerous techniques in safekeeping cloud environment the base model implementation has been research work of year 2012 and of research scholar “Salvatore J. Stolfo” .the cloud environment we implement a replication strategy that in holds best for loose of data in cloud environment against insider attack the research article of author Pasquale Puzio [7] has been integrated in implementation. The SHA1 algorithm implementation has been compared in MD5 to implement better encryption. This proposed work is Fusion “F” where $F = \{\text{integration of all best Techniques at dynamic}\}$ to provide in best security measures to cloud environment. The implementation sis been divide in seven modules where the base implementation module starts from development of Virtual machine environment the user registration and file upload are base module to be developed ,next module

security questions have been added as security measure next module sms and OTP generation is security measure been integrated. User monitoring module with decoy methodology is next modular development where the system supports in working for development of text files only. the further module is SHA1 and MD5 integration with cloud DEDUP methodology integration from research scholar “Pasquale Puzio” article which built better stowage system.

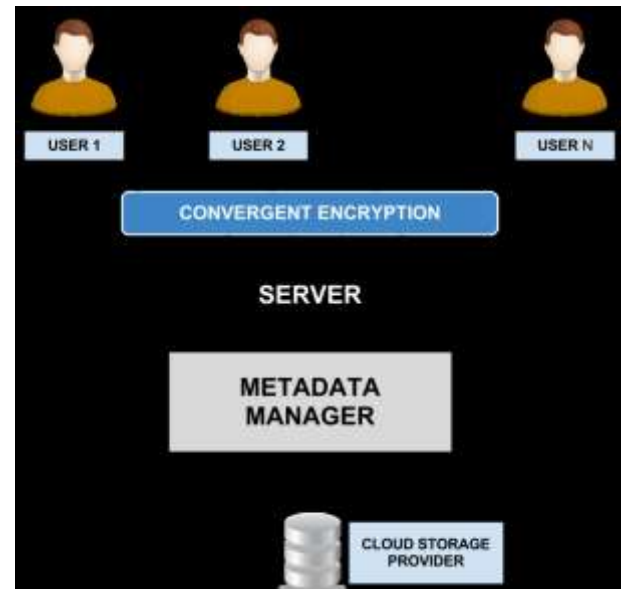


Fig 4: Better Cloud Stowage scheme

V. RESULTS AND CONCLUSION



Fig3 Login screen1

The concluding remark stands that current system which we have developed is better in so far but we need some comparative parameters for assessment of system which would tell us how better is system in terms of what factors and what is scope of next or changes in same scheme. The system is been developed in incremental lifecycle with flexibility and

scalability in software scheme which makes the system platform compatible and not dependent on any specific hardware or software require which is the most important keystone we achieve after this research work.



Fig 4: registration window



Fig 5 File upload

Acknowledgment

Special thanks to my guide prof P.A.Jadhav and utterly thanks to prof.Y.C.kulkarni for kind cooperation and help ultimately its been light of path shown by head of department prof.S.Z.Gawali and ultimately Prof.Ananad Balearo thanks to all of them and by friends and family and all mighty God

References

- [1] M. Van Dijk and A. Juels, "On the impossibility of cryptography alone for privacy-preserving cloud computing," in Proceedings of the 5th USENIX conference on Hot topics in security, ser. HotSec'10. Berkeley, CA, USA: USENIX Association, 2010, pp. 1–8
- [2] P. Allen, "Obama's Twitter password revealed after french hacker arrested for breaking into U.S. president's account," March 2010.
- [3] IM. Ben-Salem and S. J. Stolfo, "Modeling user search-behavior for masquerade detection," in Proceedings of the 14th International Symposium on Recent Advances in Intrusion Detection. Heidelberg: Springer, September 2011, pp. 1–20..
- [4] Cloud Security Alliance, "Top Threat to Cloud Computing V1.0," March 2010. Available: <https://cloudsecurityalliance.org/to threats/csathreats.v1.0.pdf>
- [5] Sheng Wen Fog Computing Paradigm: Scenarios and Security Issues Proceedings of the Federated Conference on Computer Science and Information Systems 2014.
- [6] Salvatore J. Stolfo, Malek Ben Salem, Angelos D. Keromytis "Fog Computing: Mitigating Insider Data Theft Attacks in the Cloud, IEEE SYMPOSIUM ON SECURITY AND PRIVACY WORKSHOP (SPW) YEAR 2012.
- [7] ClouDedup: Secure Deduplication with Encryption by Refik Molva IEEE 2013.