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A SMART DATA BACK-UP TECHNIQUE FOR CLOUD COMPUTING USING SEED BLOCK ALGORITHM STRATEGY

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ABSTRACT

In cloud computing, data generated in electronic form are larger in amount, maintaining such data efficiently, there is a necessity of data recovery services. To cater this, in this paper we proposed a smart data backup algorithm, Seed Block Algorithm (SBA). The objective of proposed algorithm is twofold, the first one is help the users to collect information from any remote location in the absence of network connectivity and the other one is to recover the files in case of the file deleted or if the cloud gets destroyed due to any reason. The time relating issues are also being solved by proposed SBA such that it will take minimum processing time for the recovery process. Proposed SBA also focuses on the security aspect for the back-up files stored at remote server. Cloud storage provides online storage where data are stored in form of virtualized pool that is usually hosted by third parties.

Keywords : Remote Repository, Central Repository, Parity Cloud Service, Seed Block

I. INTRODUCTION

The National Institute of Standard Technology defines a model for enabling convenient, on-demand network access to share pool of configurable computing service (example -networks, servers, storage, applications and services) that can be provisioned rapid and released with minimal management effort or services provider [1]. Today, Cloud Computing itself a gigantic technology which is surpassing all the previous technology of computing (like cluster, grid, distributed etc.) of this competitive and challenging IT world. The need of cloud computing is increasing day by day as it's advantages overcome the disadvantage of various early computing techniques. Cloud storage provides online storage where data are stored in form of virtualized pool that is usually hosted by third parties. The hosting company operates on large data center and according to the requirements of the customer these data center virtualized the resources are expose them as the storage pools that help user to store files or data objects. As number of user shares the storage and other resources, it is possible that other customers can access your data. Either the human error, faulty equipment's, over network connectivity, a bug or any criminal intent may put our cloud storage on the risk and danger. The changes in the cloud are also made very frequently that we can term it as data dynamics. The data dynamics is supported by various operations on insertion, deletion and block modification. Since services are not limited for archiving and taking backup of data; remote data integrity is also needed.

II. OBJECTIVE

The objective of proposed system algorithm is twofold; first it help the users to collect information from any r location in the absence of network connection and other is to recover the files in case of the file deletion or if the cloud gets destroyed due to any reason

III. PROBLEM STATEMENT

The need of cloud computing is increasing day by day as its advantages overcome the disadvantage of various early computing techniques. Cloud storage provides online storage where data stored in form of virtualized pool that is usually hosted by third parties. The hosting company operates large data on large data center and according to the requirements of the customer these data center virtualized the resources and expose them as the storage pools that help user to store les or data objects.

IV. LITERATURE SURVEY

In several literature, we study the most of the recent back-up and recovery techniques that have been developed in cloud computing domains such as HSDRT, PCS], ERGOT, Linux Box , Cold/Hot backup strategy [6] etc. Detail review shows that none of these techniques are able to provide the best performances under all uncontrolled circumstances such as cost, security, less implemented complexity, redundancy and recovery in short span of time. Among all the techniques reviewed PCS is comparatively reliable, simple, easy to use and more convenient for data recovery totally based on parity recovery service. It can recover data on high probability. For data recovery, it generates a virtual disk in user system to data backup and make parity groups across virtual disk, and store parity data of parity group in cloud. It uses XOR ( ) for creating Parity information. However, it is unable to control the implementation complexities. By the contrary, HSDRT has come out an efficient technique for the movable clients such as laptop, smart phones etc. nevertheless it fails to manage low cost for the implementation of the recovery and also unable to control the data duplication. There is an innovated on file back-up concept which makes use of an effective ultra-wide distributed data transfers mechanism and high-speed encryption technology. The HS-DRT is an innovative file back-up concept, which makes use of an effective ultra-wide distributed data transfer mechanism and a high-speed encryption technology. This proposed system follows two sequences one is Backup sequence and second is Recovery sequence. In Backup sequence, it receives the data to be back-up and in Recovery Sequence, when some disasters occurs on periodically, the Supervisory Server that is one of the components of the HSDRT It starts the recovery sequence. However there are some limitation in this model and therefore, this model is somehow not able to declare as perfect solution for back-up and recovery. Rather, in Efficient Routing Grounded on Taxonomy ie.ERGOT is completely based on the semantic analysis and unable to focus on time and implementation complexity. It is based totally on systematic System which helps for Service Discovery in cloud computing. Similarly, here we found a unique way of data retrieval. We have made a focus on this technique as it isn't a back-up technique but it provide an efficient retrieval of data which is completely based on the semantic similarity between service descriptions and service requests. the ERGOT is built upon 3 components 1) A DHT (Distributed Hash Table) protocol 2) A SON (Semantic Overlay Network), 3) A measure of semantic similarity

among service description [4]. Hence, ERGOT combines both these network Concept. By building the SON over a DHT, ERGOT proposed semantic-driven query answering in DHT-based systems. However does not go well with semantic similarity in search models. In addition, Linux Box model is having a very simple concept of data back-up and recovery with very minimum cost. However, in this model protection level is very low. It also makes the process of migration from the one cloud service provider to another very easy. It is affordable to all consumers and Small and Medium Business (SMB). This solution is to eliminate consumer's dependency on the ISP and its associated backup cost. It can do all these at little cost name such as simple Linux box which will sync up the data at block/file level from the cloud service provider of the consumer. It is incorporates an application on the Linux box that will perform backup of the cloud to the local drives. The data transmission will be secure and encrypted.

4.1 Existing System

The recent backup and recovery techniques that have been described in cloud computing domain such as HSDRT, PCS, LINUX BOX, COLD/HOT backup strategy etc. Detail view shows that none of these techniques are able to provide best performances under all uncontrolled circumstances such as cost, security, low implementation complexity, redundancy and recovery in short span of time.

4.2 Algorithm

1. First we set a random number in the main storage and unique client id for every client
2. Whenever the client id is being register in the main storage, then client id and random number is getting EXORed ( ) with each other to generate seed block for the particular client.
3. Whenever client creates the file in cloud first time, it is stored at the main storage.
4. When it is stored in main storage (**blob**), the main file of client is being EXORed with the Seed Block of the particular client.
5. It is also encrypted using key of AES
6. That output file is stored at the backup storage (**blob**) in the form of file' (pronounced as File dash).
7. During Retrieval, check if data present in main storage
8. If present then EXOR with seed block and retrieve data
9. If not present, retrieve data from backup storage
10. During Retrieval from backup storage , the key of the user will used to decrypt file'
11. The user will get the original file by XORing on decrypted file' with the seed block of the corresponding client to produce the originalfile and return the resulted file in case of crash

V. IMPLEMENTED MODULE

1. Registration Form

1) For new user registration user name is required.

2) Indentify user by using unique identity number.

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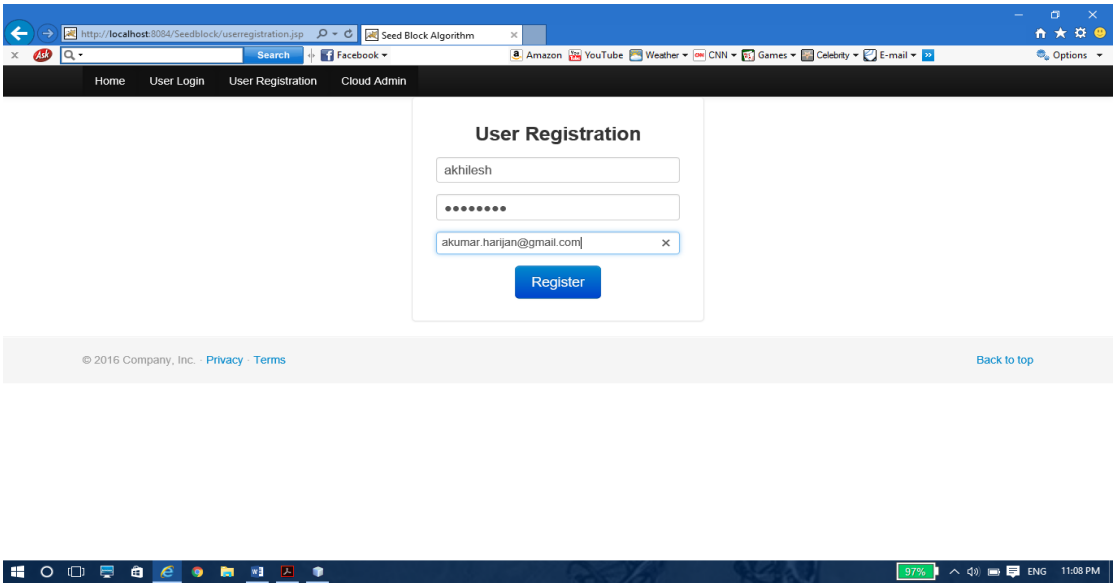

Figure 7.1: Registration Form

2. Login Form

In this form user name and password are required for login. Only three time login is valid in one session.

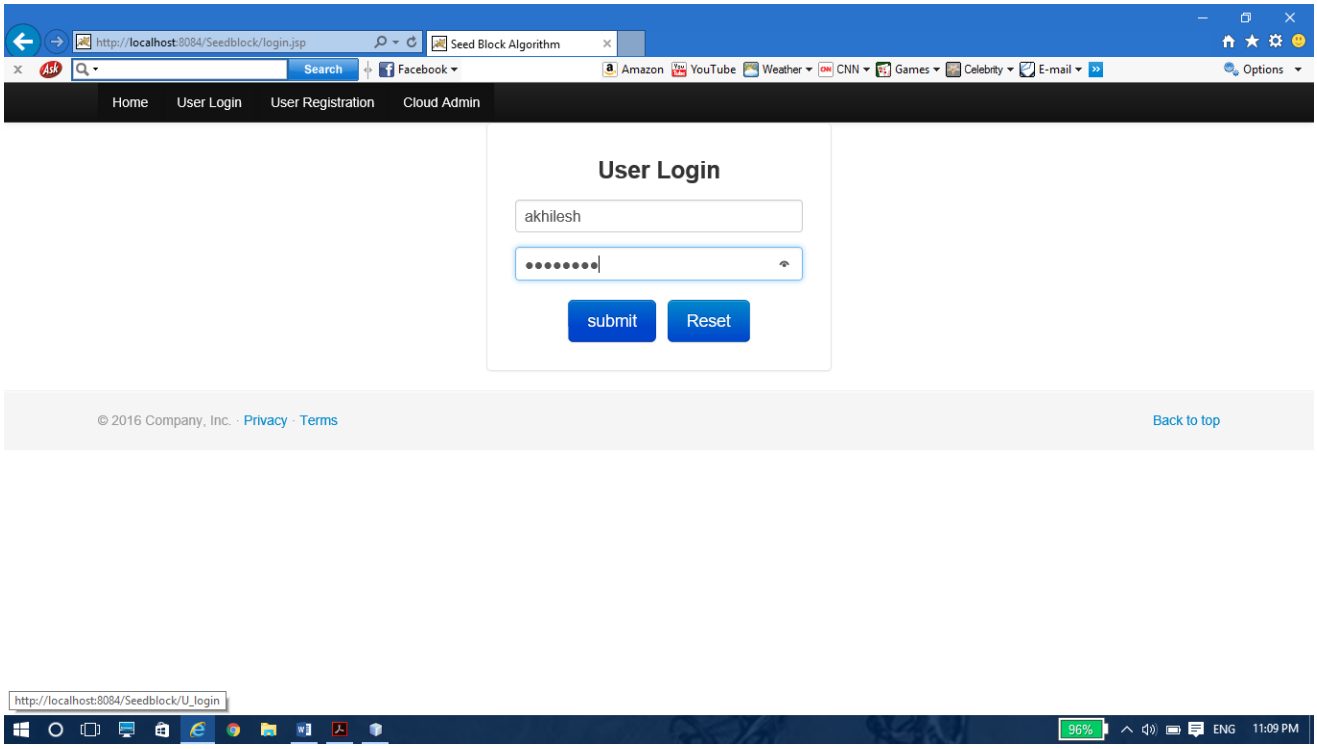

Figure 7.2: Login Form

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3. File Upload

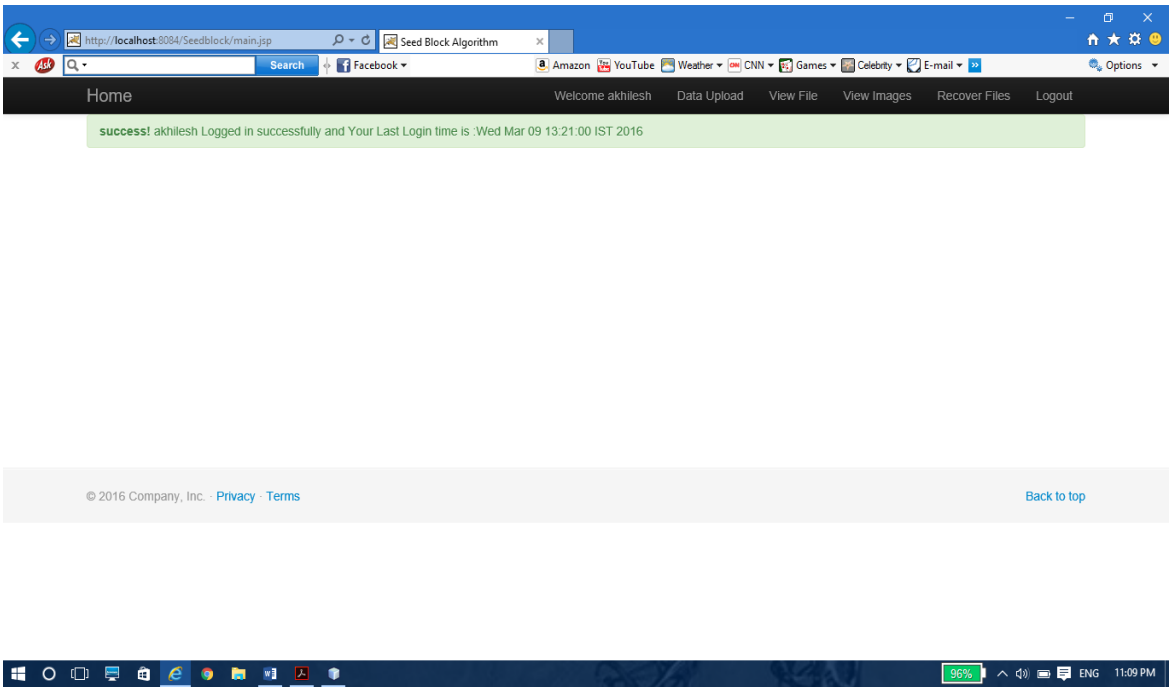

Figure 7.3: File Upload

VI. OVERALL SYSTEM WORK FLOW

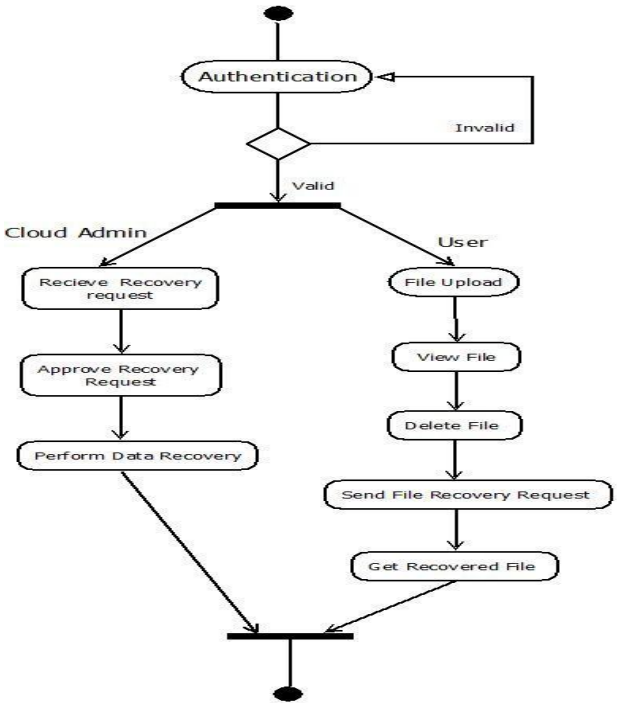

Fig.8.1 System work flow

VII. CONCLUSION

We have presented the detail implementation of SBA algorithm. SBA is robust in helping the users to collect information from any location in the absence of network connectivity and also to recover the files in case of the file deleted or if the cloud gets destroyed due to any disturbance reason. Experimentation and result analysis shows that SBA also focuses on the security concept for the data back-up files stored at remote server, without using any of the existing encryption techniques. The time related issues are also being solved by proposed SBA such that it will take minimum time for the recovery process.

VIII. ACKNOWLEDGMENT

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