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HANDLING MISSING DATA TO IMPROVE GENERALIZATION PERFORMANCE USING CLOUD COMPUTING

Haswath R Imbresh kanna M Syed Mohamed Zahid S
Department of Information Technology, Aalim Muhammed Salegh College of Engineering, Chennai-600055, Tamil Nadu, India.

ABSTRACT

Recent years witness the development of cloud computing technology. With the explosive growth of unstructured data, cloud storage technology gets more attention and better development. However, in current storage schema, user's data is totally stored in cloud servers. In other words, users lose their right of control on data and face privacy leakage risk. Traditional privacy protection schemes are usually based on encryption technology, but these kinds of methods cannot effectively resist attack from the inside of cloud server. In order to solve this problem, we propose a three-protocol storage framework based on fog computing.

The proposed framework can both take full advantage of cloud storage and protect the privacy of data. Besides, Hash-Solomon code algorithm is designed to divide data into different parts. Then, we can put a small part of data in local machine and fog protocol in order to protect the privacy. Moreover, based on computational intelligence, this algorithm can compute the distribution proportion stored in cloud, fog, and local machine, respectively. Through the theoretical safety analysis and experimental evaluation, the feasibility of our scheme has been validated, which is really a powerful supplement to existing cloud storage scheme.

INTRODUCTION

In Computer science, cloud computing describes a type of outsourcing of computer services, similar to the way in which electricity supply is outsourced. Users can simply use it. They do not need to worry where the electricity is from, how it is made, or transported. Every month, they pay for what they consumed.

The idea behind cloud computing is similar: The user can simply use storage, computing power, or specially crafted development environments, without having to worry how these work internally. Cloud computing is usually Internet-based computing. The cloud is a metaphor for the Internet based on how the internet is described in computer network diagrams; which means it is an abstraction hiding the complex infrastructure of the internet. It is a style of computing in which related capabilities are provided “as a service”, allowing users to access technology-enabled services from the Internet ("in the cloud") without knowledge of, or control over the technologies behind these servers.

Fog computing can be perceived both in large cloud systems and big data structures, making reference to the growing difficulties in accessing information objectively. This results in a lack of quality of the obtained content. The effects of fog computing on cloud computing and big data systems may vary. However, a common aspect that can be extracted is a limitation in accurate content distribution, an issue that has been tackled with the creation of metrics that attempt to improve accuracy.

Fog networking consists of a control plane and a data plane. For example, on the data plane, fog computing enables computing services to reside at the edge of the network as opposed to servers in a data-center. Compared to cloud computing, fog computing emphasizes proximity to end-users and client objectives, dense geographical distribution and local resource pooling, latency reduction and backbone bandwidth savings to achieve better quality of service (QoS) and edge analytics/stream mining, resulting in superior user-experience and redundancy in case of failure while it is also able to be used in AAL scenarios.

MODULES

- Login
- Registration
- Storage scheme
- Recover scheme

1.1 LOGIN

In this module, user can login to the website by registered login id and a valid password. Only the authenticated user can login and use the website.

1.2 REGISTRATION

This module is used for the user to register their login id by providing the minimal information. So that they can login to the website.

1.3 STORAGE SCHEME

This module, user can store their files into three different storage server namely: cloud storage, fog storage, local machine.

1.4 RECOVERY SCHEME

In this module, if any of the data stored in the local machine is deleted accidentally in both local machine and recycle bin, the deleted data will be stored in an separate storage system and can be recoverd by using the Bucket Algorithm.

2.ALGORITHM :

2.1 BUCKET ALGORITHM

The bucket access controls resource represents the Access Control Lists (ACLs) for buckets within Google Cloud Storage. ACLs let you specify who has access to your data and to what extent. The Three Layer Cloud storage stores into the three different parts of data parts. If the one data part is missing we lost the data information. In this proposed framework using the Bucket concept based algorithms.

2.2 BCH CODE ALGORITHMS

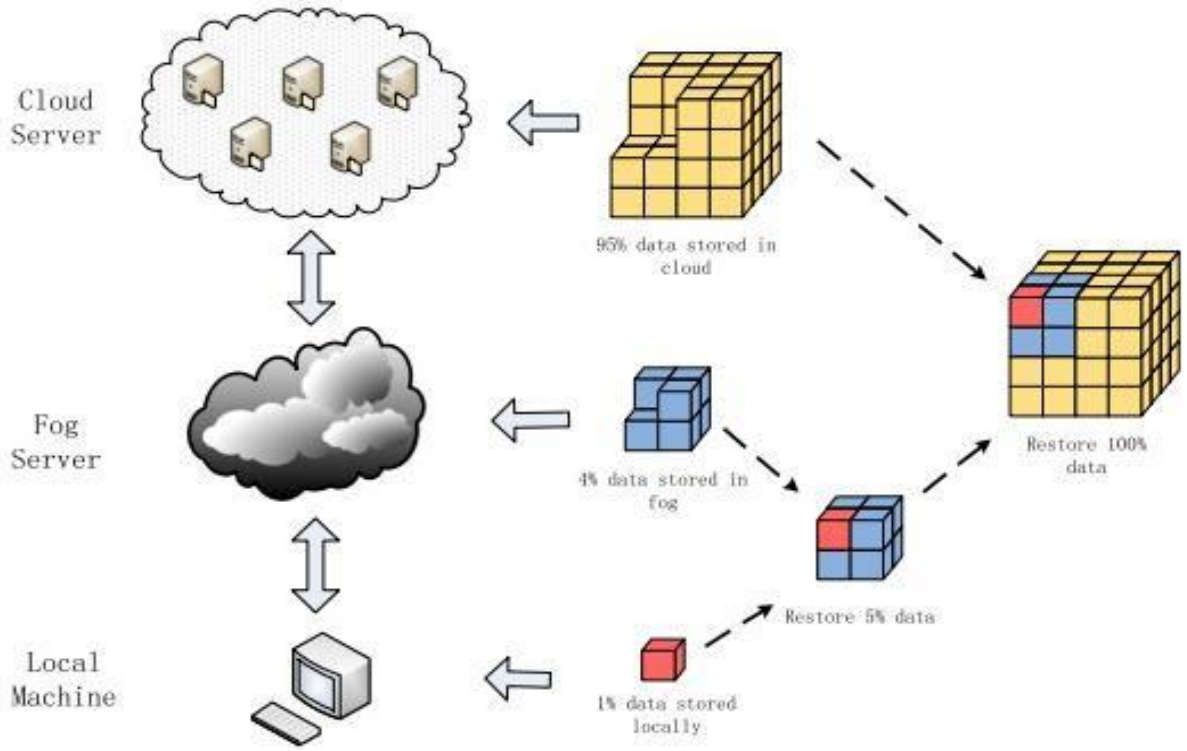
The Bose, Chaudhuri, and Hocquenghem (BCH) codes form a large scale of powerful random error-correcting cyclic codes. This class of codes is a remarkable

generalization of the Hamming code for multiple-error correction. We only consider binary BCH codes in the lecture note. Non-binary BCH codes such as Reed-Solomon codes will be discussed in next lecturenote.

3. METHODOLOGY

Recent years witness the development of cloud computing technology. With the explosive growth of unstructured data, cloud storage technology gets more attention and better development. . Traditional privacy protection schemes are usually based on encryption technology , but these kinds of methods cannot effectively resist. we propose a Three- Protocol storage framework based on cloud computing, fog computing, local machine.,,Hash-Solomon algorithm is designed to divide data into different parts. Then, we put a small part of data in local machine and fog protocol in order to protect the privacy. The Bose, Chaudhuri, and Hocquenghem (BCH) codes form a large scale of powerful random error-correcting cyclic codes. The stored data are transformed into encrypted text and secured using TLS (Transport Layer Security). In this module, if any of the data stored in the local machine is deleted accidentally in both local machine and recycle bin, the deleted data will be stored in Bucket access resource. The Access Control Lists (ACLs) for buckets within Google Cloud Storage. ACLs let you specify who has access to your data and to what extent. In this proposed framework using the Bucket concept based algorithms.

SYSTEM ARCHITECTURE



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