Two-Cloud Secure Database for Numeric-Related SQL Range Queries with Privacy Preserving

ABSTRACT

The growing industry of cloud has provide a service paradigm of storage/computation outsourcing helps to reduce users' burden of IT infrastructure maintenance, and reduce the cost for both the enterprises and individual users. However, due to the privacy concerns that the cloud service provider is assumed semi-trust (honest-butcurious.), it becomes a critical issue to put sensitive service into the cloud, so encryption or obfuscation are needed before outsourcing sensitive data - such as database system - to cloud.

EXISTING SYSTEM

Industries and individuals outsource database to realize convenient and low-cost applications and services. In order to provide sufficient functionality for SQL queries, many secure database schemes have been proposed. However, such schemes are vulnerable to privacy leakage to cloud server. The main reason is that database is hosted and processed in cloud server, which is beyond the control of data owners. For the numerical range query (">", "<", etc.), those schemes cannot provide sufficient privacy protection against practical challenges, e.g., privacy leakage of statistical properties, access pattern. Furthermore, increased number of queries will inevitably leak more information to the cloud server.

Disadvantages

- It cannot provide sufficient privacy protection against practical challenges, e.g., privacy leakage of statistical properties, access pattern.
- Increased number of queries will inevitably leak more information to the cloud server.

PROPOSED SYSTEM

In this paper, we presented a two-cloud architecture with a series of interaction protocols for outsourced database service, which ensures the privacy preservation of data contents, statistical properties and query pattern. At the same time, with the support of range queries, it not

only protects the confidentiality of static data, but also addresses potential privacy leakage in statistical properties or after large number of query processes. Security analysis shows that our scheme can meet the privacy-preservation requirements. Furthermore, performance evaluation result shows that our proposed scheme is efficient.

Advantages

- It ensures the privacy preservation of data contents, statistical properties and query pattern.
- With the support of range queries, it not only protects the confidentiality of static data, but also addresses potential privacy leakage in statistical properties or after large number of query processes.

SOFTWARE REQUIREMENTS

Front-end   :   JSP

Back-End   :   MySQL

Server   :   Tomcat Server

OS   :   WINDOWS 7/above

HARDWARE REQUIREMENTS

PROCESSOR   :   CORE i3

RAM   :   512MB-2GB

HARD DISK   :   40GB