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Efficient Integrity Verification of Replicated Data in Cloud Computing System

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Biographical Sketch

Jinxia Wei:

I was born in august 9th, 1987 in Hebei. After obtaining Doctor's degree from Beijing University of Posts and Telecommunications, I continue to work in Beijing University of Posts and Telecommunications. The integrity verification of cloud data storage is my major research.

Mingxu Yi:

I obtained my Doctor's degree from Beihang University. I am now working in Beihang University. My research interests include Numerical solution of fractional differential equations and Approximation of supersingular integral.

Lingwei Song:

I was born in April 6th, 1984 in Shandong. After graduating from Beijing University of Posts and Telecommunications, I continue to do research stay at school. I am a doctor on school of computer science now. The integrity verification of cloud data storage is my major research.

Thank you very much.

Highlight

- The data owner uses the FHE algorithm to generate multiple data replicas.
- The scheme supports data block dynamic operation.
- The cloud server cannot cheat the data owner.
- The scheme supports the third party public validation.
- The authorized users can access the copies from the CSPs using a single secret key.

Abstract

More and more organizations outsource their data to remote Cloud Servers (CSs). Data owners rent **Cloud Service Provider (CSP)** infrastructure to store unlimited data by paying fees metered by month or gigabyte. For important sensitive data, data owners have increased availability, scalability and durability requirements. **If the sensitive data holds these properties and can be stored correctly, the data owners will get great benefits. Thus, the data owners care about the confidentiality aspects as well.** Therefore, they may store data replicas on multiple servers across

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