

Abstract: Privacy Aware Searching in Cloud Storage with Oblivious Index Based Data Search

Zeeshan Pervez, Asad Masood Khattak, Sungyoung Lee
Department of Computer Engineering, Kyung Hee University, Korea
{fzeeshan, asad.masood, syleeg}@oslab.khu.ac.kr

Christopher Nugent
School of Computing and Mathematics, University of Ulster, United Kingdom
cd.nugent@ulster.ac.uk

Abstract

Subscriber of a cloud storage service cannot use standard lookup queries to search outsourced data, as often encrypted data is outsourced to ensure data confidentiality within the untrusted domain of a cloud storage provider. Existing approaches define trapdoors to search encrypted data. However, these approaches do not consider access control privileges while evaluating search queries. To address the issue of authorized data search, we proposed Oblivious Index based Data Search (OiDS), enabling authorized users to define their own queries comprising of arbitrary number of selection criteria. Performance analysis of OiDS has demonstrated that search queries comprises of 2 to 14 distinct search criteria can be modeled within 0.02 to 0.17 ms and costs only 0.05 to 0.23 \$ per 1000 request to evaluate oblivious search queries.

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