

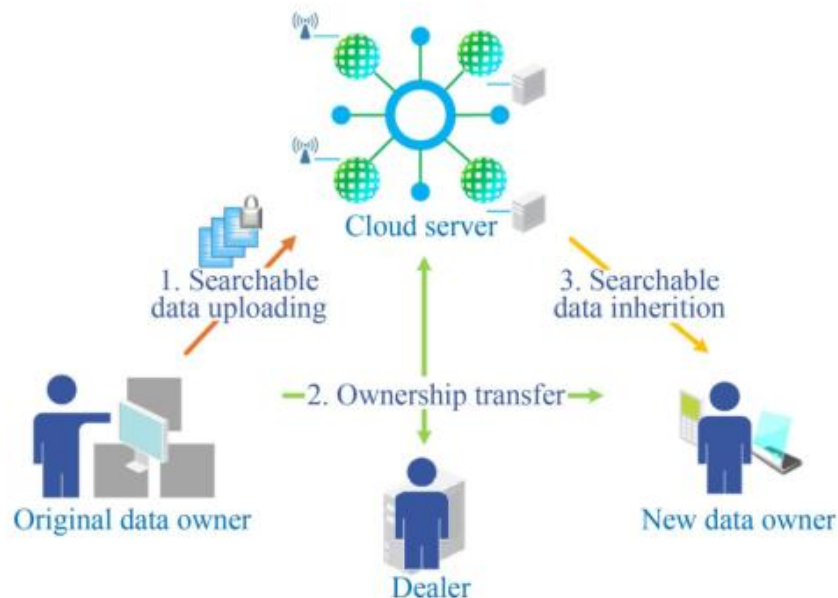
# SEOT : Secure Dynamic Searchable Encryption with Outsourced Ownership Transfer

**Jianwei LI, Xiaoming WANG, Qingqing GAN**

Frontiers of Computer Science, DOI: [10.1007/s11704-022-2017-5](https://doi.org/10.1007/s11704-022-2017-5)

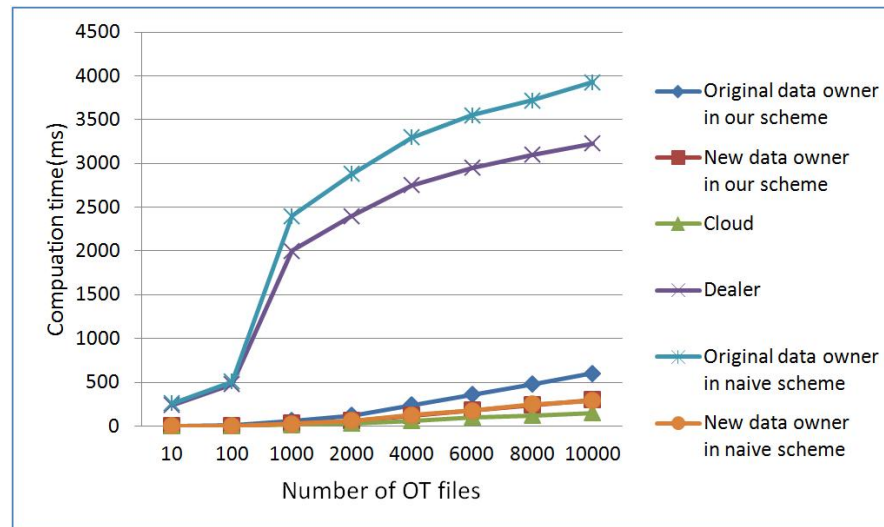
# Problems & Ideas

- Problems:
  - When one enterprise acquires another, the electronic data of the acquired enterprise will be transfer to the acquiring enterprise. In particular, if the data system of acquired enterprise contains a searchable encryption mechanism, the corresponding searchability will also be transferred.
- Ideas: For the first time, we introduce the concept of Searchable Encryption with Ownership Transfer (SEOT), and propose a secure SEOT scheme.



# Main Contributions

- Contributions:
  - We propose the concept of Searchable Encryption with Ownership Transfer (SEOT) for the first time, and put forward the definition and a secure solution, which efficiently implements the outsourced ownership transfer in the searchable encryption environment.
  - We designs a new secure structure called polling pool applied in SEOT, which not only effectively realizes searchable data transfer, but also securely resists the file-injection attack.
  - The proposed scheme is proved to be secure through the derivation, and the performance evaluation and experiments demonstrate that our scheme has high efficiency and practicability.



The experiments show that our scheme is superior to the naïve method which directly migrates the data.