Comparative Study of Data Possession Techniques for Data Storage as a Service (DSaaS)

Volume 80 - Number 4
Year of Publication: 2013

Authors:
Parth D Shah
Amit P Ganatra

10.5120/13853-1691

Abstract

Cloud computing is a utility where software, infrastructure or storage can be purchased remotely. Users can access data from anywhere through network connectivity. In Cloud Computing resources are shared among different user so that all users can access the data from shared infrastructure via same physical hardware. However, this technique raises many concerns over the honesty of network users. Because of shared resources used in Cloud, user does not have permission to modify, delete or access of other user's data. Also users do not have control of their own data in cloud. So data integrity is one of the biggest security issues come in picture of Cloud Computing. For the Cloud service provider to provide integrity of user's data in cloud is extremely difficult task. To provide integrity of user data traditional integrity tools do not use because of dynamic nature of user data. Providing monitoring service will help data owners to ensure integrity and also provides a transparent yet cost-effective method for data owners to gain trust in the cloud. Provable Data Possession (PDP) allows data owner to periodically check their data stored in cloud storage are intact. In this method client can check without downloading the file as well does not required a local copy. Another method which could be considered as improvement over PDP is Proof of Retrievability (POR). This method detects data integrity as well as it recovers original data. Both methods are probabilistic. As a part of this paper work data integrity techniques have been surveyed and
some of the research gaps have been identified which is presented here.

References

- Trusted Cloud Computing with Secure Resources and Data Coloring by: Kai Hwang, Deyi Li IEEE Internet Computing, Vol. 14, No. 5. (September 2010), pp. 14-22, oi:10.1109/MIC.2010.86 Key: citeulike:8983216
- Difference between Cloud computing and Utility computing, Uchit Vyas, http://cloudbyuchit.blogspot.in/2012/03/difference-between-cloud-computing-and.html

Index Terms
Computer Science  Distributed Computing

Keywords
Cloud Computing  Data Storage  Security challenges  Integrity proofs  Remote Data Checking