

# Achieving Cloud Security using Third Party Auditor and Preserving Privacy for Shared Data Over Public Cloud

Chakresh Kumar<sup>1</sup> and Dr. Annamalai Giri A. A<sup>2</sup>

Research Scholar, Faculty of Computer Science, Department of Science, Arunodaya University, India<sup>1</sup>

Research Guide, Faculty of Computer Science, Department of Science, Arunodaya University, India<sup>2</sup>

**Abstract:** *Cloud computing is an emerging technology that will receive more attention in the future from industry and academia. The cost of this technology is more attractive when it is compared to building the infrastructure. However, there are many security issues coming with this technology as happens when every technology matures. In this research paper data security, data integrity and access control in the public cloud is achieved with significant results. In this process, Third Party Auditor (TPA) and user separation are used successfully. The TPA has a hybrid algorithm for signature generation called MD5withRSA. The access control is used for separate users from data owners and only those users can have access to the owner's data who have granted access by data owners. Data is compressed without affecting the quality of data to reduce the storage cost. The compressed data is then stored in chunks to provide security. The proposed system can be further extended to improve the TPA performance of different types of data on cloud environment.*

**Keywords:** Cloud computing, TPA, Public Cloud, Data Owner

## REFERENCES

- [1]. Boyang Wang (2014), Oruta: Privacy-Preserving Public Auditing for Shared Data in the Cloud, IEEE Transactions On Cloud Computing, Vol. 2, No. 1, January-March 2014, pp. 43-56.
- [2]. Shini.S.G(2012), Cloud Based Medical Image Exchange-Security Challenges, Procedia Engineering 38 (2012) pp. 3454 – 3461.
- [3]. KaipingXue(2018), Combining Data Owner-side and Cloud-side Access Control for Encrypted Cloud Storage, IEEE Transactions on Information Forensics and Security.
- [4]. CONG WANG(2013), Privacy-Assured Outsourcing of Image Reconstruction Service in Cloud, IEEE Transactions On Emerging Topics In Computing, Volume 1, No. 1, June 2013, pp. 166-177.
- [5]. Zhongbo Shi(2014), Photo Album Compression for Cloud Storage Using Local Features, IEEE Journal On Emerging And Selected Topics In Circuits And Systems, Vol. 4, No. 1, March 2014.
- [6]. RajkumarBuyya(2013), Introduction to the IEEE Transactions on Cloud Computing, IEEE Transactions On Cloud Computing, Vol. 1, No. 1, January-June 2013 2168-7161/13.
- [7]. Israna Hossain Arka(2014), Collaborative Compressed I-Cloud Medical Image Storage with Decompress Viewer, International Conference on Robot PRIDE 2013-2014 - Medical and Rehabilitation Robotics and Instrumentation, Conf. PRIDE 2013-2014, Procedia Computer Science 42 ( 2014 ) pp. 114 – 121.
- [8]. Sajida Karim(2020), The evaluation video quality in social clouds, Entertainment Computing 35 (2020) 100370.
- [9]. H. B. Kekre(2016), Color Image Compression using Vector Quantization and Hybrid Wavelet Transform, Twelfth International Multi-Conference on Information Processing-2016 (IMCIP-2016), Procedia Computer Science 89 ( 2016 ) pp. 778 – 784.
- [10]. Fouad KheliP(2018), Secure and Privacy-preserving Data Sharing in the Cloud based on Lossless Image Coding, Preprint submitted to Signal Processing February 13, 2018.

- [11]. Ranjeet Kumar(2019), An efficient technique for image compression and quality retrieval using matrix completion, Journal of King Saud University – Computer and Information Sciences.
- [12]. MamtaMeena(2016), Hybrid Wavelet Based CBIR System using Software as a Service (SaaS) Model on public Cloud, 7th International Conference on Communication, Computing and Virtualization 2016, Procedia Computer Science 79 (2016) pp. 278 – 286.
- [13]. B. Nivedha(2017), Lossless Image Compression In Cloud Computing, 2017 International Conference on Technical Advancements in Computers and Communications, 978-1-5090-4797-0/17.
- [14]. J. Smith(2012)15, Progressive encoding and compression of surfaces generated from point cloud data, Computers & Graphics 36 (2012) pp. 341–348.
- [15]. Man-Wen Tian (2019), Research on image recognition method of bank financing bill based on binary tree decision, J. Vis. Commun. Image R. 60 (2019) pp. 123–128.
- [16]. A.M. Vengadapurvaja (2017), An Efficient Homomorphic Medical Image Encryption Algorithm For Cloud Storage Security, 7th International Conference on Advances in Computing & Communications, ICACC-2017, 22- 24 August 2017, Cochin, India Procedia Computer Science 115 (2017) pp. 643–650.
- [17]. Chi Yang(2013), A spatiotemporal compression based approach for efficient big data processing on cloud, Journal of Computer and System Sciences.
- [18]. ChaoweiYang(2016), Utilizing Cloud Computing to address big geospatial data challenges, Computers, Environment and Urban Systems.
- [19]. Farhan IsrakYen(2019), Efficient Image Compression for Cloud System, 2019 International Conference on Sustainable Technologies for Industry 4.0 (STI), 24-25 December, 978-1-7281-6099-3/19.
- [20]. XingyueChen(2017), A Remote Data Integrity Checking Scheme for Big Data Storage, 2017 IEEE Second International Conference on Data Science in Cyberspace.