A Comprehensive Review of Security Measures and Implementation Challenges in Cloud Computing

Sanika Satish Lad, Sanika Rajan Shete, Disha Satyan Dahanukar, Anant Manish Singh
Department of Computer Engineering
Thakur College of Engineering and Technology, Mumbai, India
ladsanika01@gmail.com, sanika.shetee@gmail.com, dishadahanukar@gmail.com, anantsingh1302@gmail.com

Abstract*: Cloud computing has emerged as a cornerstone technology in the IT industry, transforming industries by providing flexible, scalable computing resources but the widespread adoption of cloud services has raised serious data security and privacy concerns. Cybercriminals always pose a threat by targeting sensitive information stored on cloud servers. To mitigate these risks, cloud encryption has emerged as an important safeguard, aiming to protect users data from unauthorized service providers against them and against unauthorized malicious hackers This paper examines the ongoing data security issues associated with cloud computing and analyzes the features and structures of cloud encryption. By examining complex approaches to cloud cryptography including encryption, key management and access control, this paper aims to provide insights into how these technologies can shape the security level of cloud-based systems confidentiality, integrity and availability are maintained, ensuring trust and confidence in cloud computing ecosystems.*

Keywords: Cloud computing, Data security, Privacy, Cybercriminals, Cloud cryptography, Encryption, Key management, Access control

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