

Blockchain Solutions for Enhancing Cloud Security

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Abstract. With the proliferation of cloud computing, security concerns have become increasingly paramount. This paper examines the role of blockchain technology in bolstering cloud security frameworks. By utilizing blockchain's decentralized nature and cryptographic protocols, we propose a robust security architecture that mitigates common cloud vulnerabilities. Our research highlights the effectiveness of blockchain-based solutions in ensuring data integrity, transparency, and access control. The proposed model offers a scalable and secure approach to managing cloud environments, addressing critical security issues faced by enterprises worldwide.

Keywords: blockchain, cloud, security, technology, solutions

Introduction: As cloud computing continues to transform the IT landscape, ensuring robust security measures is more critical than ever. Traditional security architectures often fall short in addressing the complex and evolving threats faced by cloud environments. Blockchain technology, with its inherent transparency and decentralization, presents a compelling alternative for enhancing cloud security. This paper investigates the integration of blockchain solutions in cloud security infrastructures, exploring how they can effectively tackle issues such as data breaches and unauthorized access. By developing a comprehensive blockchain-based security model, we aim to provide a scalable and reliable framework for protecting cloud assets.

References

1. Kumar, N., & Kataria, V. (2023). Enhanced Sentiment Classification using a Multi-layered Stacked Ensemble Architecture. *International Journal of Intelligent Systems and Applications in Engineering*, 11(4s), 304–311.