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Enhancing Security and Privacy in Cloud Computing: Challenges and Solutions in the Digital Age
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Abstract

The development of cloud computing offers significant benefits such as reduced operational costs, increased flexibility, and enhanced accessibility to technological resources. With the growing use of data driven by technological advancements and business expansion, organizations adopting cloud computing face various security and privacy challenges due to the involvement of sensitive data. This article aims to discuss the types of cloud computing deployment and services and examine critical security and privacy issues, including governance, data availability, data loss, data breaches, access control, data control, and the trust relationship between customers and service providers. A comprehensive review of existing literature and current practices is conducted to identify these challenges. Specific solutions are proposed for each identified issue to address these challenges effectively. The findings underscore the importance of continuously updating security strategies to protect data privacy. Therefore, it is imperative for organizations utilizing cloud services to adopt these strategies to safeguard their data privacy. © 2024 IEEE.

Author Keywords

Cloud Computing; Issues; Privacy; Security

Index Keywords

Cloud platforms, Differential privacy; Cloud-computing, Data driven, Digital age, Increased flexibility, Issue, Privacy, Security, Security and privacy, Technological advancement, Technological resources; Cloud security

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