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Cyber Security Threats and its Analysis

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Abstract: *The rapid evolution and adoption of cloud computing have revolutionized the way organizations store, manage, and access data. However, this transition has introduced a wide array of cybersecurity threats, posing significant challenges to data integrity, confidentiality, and availability. This review paper provides a comprehensive analysis of cybersecurity threats in cloud environments, with a focus on understanding their implications and exploring effective mitigation strategies.*

The study categorizes cloud security threats into several key areas, including data breaches, account hijacking, insecure interfaces, and denial of service (DoS) attacks

IEEE Xplore MDPI. It highlights how shared technology vulnerabilities and malicious insider threats exacerbate these risks, especially in multi-tenant cloud architectures IEEE Xplore. These issues are further compounded by regulatory and compliance challenges, requiring organizations to navigate complex legal landscapes while maintaining robust security protocols MDPI.

To counter these threats, various technical and organizational measures are examined. Technical solutions such as encryption, intrusion detection systems, and blockchain technologies offer promising avenues for securing data and preventing unauthorized access IEEE Xplore IEEE Xplore . Additionally, adopting zero-trust architectures and leveraging artificial intelligence for real-time threat detection are identified as emerging trends that could significantly enhance cloud security MDPI.

The paper also discusses the role of policy frameworks and regular security audits in fostering a culture of security awareness. Emphasis is placed on the need for a collaborative approach involving governments, academia, and industry stakeholders to develop innovative, scalable, and resilient security solutions.

In conclusion, while cloud computing offers unparalleled benefits in terms of scalability and efficiency, its security challenges require a multifaceted approach. This review underscores the importance of continuous innovation in cybersecurity measures to safeguard against evolving threats, ensuring that cloud environments remain a reliable and secure platform for organizations worldwide..

Keywords: Cloud Computing Security, Cybersecurity Threats, Data Breaches, Account Hijacking, Insecure APIs