A Review of Security Issue when Integrating IoT with Cloud Computing and Blockchain

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Abstract: *The integration of the Internet of Things (IoT) and cloud computing, which play essential roles in our everyday routines, is expected to emerge as a fundamental element of the forthcoming internet, realizing increased usage and acceptance. This fusion is anticipated to revolutionize various applications, offering The integration of IoT and cloud may pose challenges. Cloud computing's capacity to distribute resources and data across diverse locations, facilitating access from different industrial settings, has significantly enhanced IoT functionality. However, rapid migration to the cloud has raised security concerns, as conventional security measures for computers are not always applied effectively to cloud-based systems. Overcoming these obstacles can be achieved by integrating cloud and IoT technologies, as the vast resources available on the cloud can greatly benefit IoT, helping the cloud transcend current limitations related to physical objects in a more dynamic, distributed manner. Several discoveries from the research were made by exploring the facilitation of a smooth shift of IoT initiatives to the cloud by studying IoT and cloud computing, investigating various cloud-related challenges and resolutions derived from recent scholarly works, and analyzing the most recent advancements in attacks targeting cloud-based IoT systems. Identifying gaps in the research on IoT-based cloud infrastructure and addressing cybersecurity in cloud computing is important for future research directions, necessitating a review of the technological challenges mentioned in the literature. As such, this research explores how blockchain technology effectively addresses security concerns within this combination, emphasizing its capacity to improve data integrity and privacy and to ensure secure transactions. The exploration delves into the multifaceted implications and potential applications of blockchain, elucidating its role in reinforcing the overall security of these interconnected systems*

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