


Chapter 12

Integrate Hybrid Cloud Computing Server With Automated Remote Monitoring for Blockchain as a Service

Rohit Sansiya

 <https://orcid.org/0000-0001-7707-0603>

Maulana Azad National Institute of Technology, India

Pushpendra Kumar

Central University of Jharkhand, India

Ramjeevan Singh Thakur

Maulana Azad National Institute of Technology, India

Abdulhai Mohammadi

Maulana Azad National Institute of Technology, India

ABSTRACT

Blockchain is also used for bitcoin transactions as a technology for accumulating data files in the cloud for key distribution and file manipulation in distributed fashion. It is a service of cloud that manages elasticity of compute cloud, storage, and technology of network security (i.e., secure solution to store and share information by offering a distributed ledger service). In distributed systems, abandoned events are much more frequent than centralized system. This concept causes a number of issues including data reliability, high economical cost, and information system security. In this chapter, the authors present a new framework in blockchain to supervise the cloud server for administration of blockchain, which is verified the transaction reliability in peer-to-peer networks for sharing of data files in centralized manner. Each transaction can be generated keys for server authentication to verify all the connected members for monitoring the web server.

DOI: 10.4018/978-1-7998-2414-5.ch012

1. INTRODUCTION

In the twentieth century, there exists a collaboration between cloud computing and service oriented structure in diverse areas such as financial sector, ICT computational environment and computational clouds. It can be successfully utilized in a blockchain network. It has recently been accessed on a distributed ledger. Distributed ledger is an individual ledger. All Nodes of distributed ledger have some level of access to that ledger and agree to a protocol and its application sometimes called achieving consensus. It determines the “true state” of the ledger at any point in time. Distributed ledger could be very useful as an industry collaboration tool. Database of a distributed ledger that exists over various areas or among various participants (Belin, O.). However, decentralized distributed ledger eradicates the demand for a centralized authority to authenticate transactions (The World Bank, 2018). Each and every file in a given time stamped of distributed ledger is a unique cryptographic signature. Every participant of the distributed ledger can observe all of the records. In spite of confound acronyms for instance DLT in financial and fintech groups i.e. Distributed Ledger Technology is reordering the business who like to affect their online transactions turning on decentralized views of blockchain as a service (BaaS) (Reiff, N., 2020). Distributed ledgers for instance blockchain are exceptionally helpful for financial transactions. They reduce the functional inefficiencies. Blockchain is a distinct type of distributed ledger. It outlines the record transactions or digital interactions and brings much-needed transparency, competency and affixed security to organizations. It means that there are no central servers for cloud file storage by providing solutions based approach. Blockchain-as-a-Service (BaaS) is the third-party modeling of cloud-based networks management for organizations in blockchain applications. Blockchain applications go far over cryptocurrency and bitcoin. With its capability to originate further transparency and fairness while also saving businesses time and money, the technology is affecting a classification of sectors in methods that area from how agreements are imposed to make government effort further profitability. There is a broad area of blockchain applications for example cryptocurrency, financial, public services, healthcare domain, risk management, and so on. Blockchain-as-a-service (BaaS) is cloud-based infrastructure management third-party services for companies establishment and working blockchain applications (Gaurav, A. B., et.al, 2020). It roles such as a web host. It runs the backend operation for an app. Blockchain-as-a-service (BaaS) may be the impulse that guides the extensive assumption of blockchain technology. Blockchain services utilize the hybrid cloud server to indurate the security of cloud service. In Blockchain as a service prevents the pieces attacks in the service of blockchain. The transactions are being validated by the cloud server when a numerical problem is solved (Singh, S., & Singh, N., 2016). The blockchain transactions process is being implemented by the blockchain network for obtaining

14 more pages are available in the full version of this document, which may be purchased using the "Add to Cart" button on the publisher's webpage: www.igi-global.com/chapter/integrate-hybrid-cloud-computing-server-with-automated-remote-monitoring-for-blockchain-as-a-service/261888

Related Content

A Multi-Agent-Based VM Migration for Dynamic Load Balancing in Cloud Computing Cloud Environment

Soumen Swarnakar, Chandan Banerjee, Joydeep Basu and Debanjana Saha (2023). *International Journal of Cloud Applications and Computing* (pp. 1-14). www.irma-international.org/article/a-multi-agent-based-vm-migration-for-dynamic-load-balancing-in-cloud-computing-cloud-environment/320479

A Based-Rule Method to Transform CIM to PIM into MDA

Yassine Rhazali, Youssef Hadi and Abdelaziz Mouloudi (2016). *International Journal of Cloud Applications and Computing* (pp. 11-24). www.irma-international.org/article/a-based-rule-method-to-transform-cim-to-pim-into-md/159848

Introduction to Cloud Computing and Cloud Services

Mani Deepak Choudhry, M. Sundarajan, M. Parimala Devi, S. Jeevanandham and Akshya Jothi (2024). *Emerging Technologies and Security in Cloud Computing* (pp. 1-18). www.irma-international.org/chapter/introduction-to-cloud-computing-and-cloud-services/339394

A Hybrid Binary Bird Swarm Optimization (BSO) and Dragonfly Algorithm (DA) for VM Allocation and Load Balancing in Cloud

Thanwamas Kassaruk and Khongdet Phasinam (2023). *International Journal of Cloud Applications and Computing* (pp. 1-21). www.irma-international.org/article/a-hybrid-binary-bird-swarm-optimization-bso-and-dragonfly-algorithm-da-for-vm-allocation-and-load-balancing-in-cloud/318698

Security and Compliance: IaaS, PaaS, and Hybrid Cloud

Heather Hinton (2017). *Handbook of Research on End-to-End Cloud Computing Architecture Design* (pp. 159-188). www.irma-international.org/chapter/security-and-compliance/168153