## Patent Search

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Inventor

| Name | Address | Country | Nat |
|---|---|---|---|
| Dr. Kakumani K C Deepthi | Assistant Professor, Department of Computer Science and Engineering, SRM University, Neerukonda - 522240, Andhra Pradesh, India | India | Indi |
| Ms. Yarra Khyathisree | Bachelor of Technology, Computer Science and Engineering, Undergraduate Student, SRM University, Neerukonda - 522240, Andhra Pradesh, India | India | Indi |
| Dr. Prasanthi Boyapati | Assistant Professor, Department of Computer Science and Engineering, SRM University, Neerukonda - 522240, Andhra Pradesh, India | India | Indi |
| Mr. B Mohan | Assistant Professor, Department of Computer Science and Engineering (AI & ML), Institute of Aeronautical Engineering, Dundigal, Hyderabad - 500043, Telangana, India | India | Indi |
| Mr. Nampally Vijay Kumar | Assistant Professor, Department of Computer Science and Engineering, B V Raju Institute of Technology, Narsapur, Medak - 502313, Hyderabad, Telangana, India | India | Indi |

Applicant

| Name | Address | Country | Nat |
|---|---|---|---|
| Dr. Kakumani K C Deepthi | Assistant Professor, Department of Computer Science and Engineering, SRM University, Neerukonda - 522240, Andhra Pradesh, India | India | Indi |
| Ms. Yarra Khyathisree | Bachelor of Technology, Computer Science and Engineering, Undergraduate Student, SRM University, Neerukonda - 522240, Andhra Pradesh, India | India | Indi |
| Dr. Prasanthi Boyapati | Assistant Professor, Department of Computer Science and Engineering, SRM University, Neerukonda - 522240, Andhra Pradesh, India | India | Indi |
| Mr. B Mohan | Assistant Professor, Department of Computer Science and Engineering (AI & ML), Institute of Aeronautical Engineering, Dundigal, Hyderabad - 500043, Telangana, India | India | Indi |
| Mr. Nampally Vijay Kumar | Assistant Professor, Department of Computer Science and Engineering, B V Raju Institute of Technology, Narsapur, Medak - 502313, Hyderabad, Telangana, India | India | Indi |

**Abstract:**

Load balancing is crucial for the efficient operation of distributed environments, especially with the rapid growth of cloud computing and increasing customer demands fo services and positive outcomes. Cloud load balancing involves transparently sharing data and delivering services through a scalable network of nodes. Due to the open an distributed nature of cloud computing, the amount of data storage grows rapidly, making load balancing a critical issue. Managing load information in such a vast system i A major challenge in cloud computing is distributing dynamic workloads across multiple nodes to prevent any single node from becoming overwhelmed. Numerous algori have been proposed to effectively allocate customer requests to available cloud nodes. These methods aim to enhance the overall performance of the cloud and provide u with more satisfying and efficient services. This article reviews various notification algorithms to address cloud computing load balancing and job scheduling issues, compa the latest methods in the field.

Complete Specification

Description:FIELD OF INVENTION

The invention relates to cloud computing, specifically a system and method for automatic load balancing across a bank of cloud servers. It optimizes resource utilization, enhances performance, reduces latency, and ensures high availability by dynamically distributing incoming workloads based on real-time analysis and predictive algorith

BACKGROUND OF INVENTION

In the evolving landscape of cloud computing, the demand for efficient resource management and high availability of services has become paramount. Cloud servers, wh offer scalable computing power and storage solutions, often experience fluctuating workloads that can lead to resource underutilization or overloading, adversely affecti performance and user experience. Traditional load balancing techniques, while effective to an extent, often lack the adaptability to dynamically respond to the real-time changes in workload demands and resource availability. The background of this invention lies in addressing the critical need for an advanced system capable of automat load balancing within a bank of cloud servers. Traditional methods, typically based on static rules or simple round-robin algorithms, do not adequately optimize the distribution of workloads across multiple servers, particularly in environments with highly variable traffic patterns and diverse application demands. This can result in certain servers being overburdened while others remain underutilized, leading to inefficiencies and potential downtimes. The invention leverages real-time monitoring a predictive analytics to dynamically distribute workloads, ensuring optimal resource utilization and maintaining high performance. By continuously analyzing the state of each server and incoming workload characteristics, the system can make informed decisions about where to route new requests, thereby preventing bottlenecks and enhancing overall system reliability. Moreover, the automatic load balancing system is designed to be scalable and adaptive, capable of integrating with various cloud platforms and accommodating future advancements in cloud infrastructure. This innovation aims to provide a robust solution to the challenges faced by cloud service

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