

Cloud Computing for Mankind

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Abstract— The emergence of cloud computing represents a new computing paradigm, focused on delivering dependable, tailored, and quality-of-service (QoS) assured dynamic computing environments to end-users. This paradigm encompasses diverse elements, including definitions, unique attributes, and the enabling technologies.

Keywords: Cloud technology, Mankind, Humanities.

I. INTRODUCTION

Cloud computing entails the on-demand access to computer system resources, particularly computing power and data storage, without requiring active management by the user. In large clouds, functions are distributed across multiple locations, each functioning as a data centers. Various services are delivered through the internet, including data storage, servers, databases, networking, and software. Accessible as long as an electronic device is connected to the web, cloud computing offers flexibility in location and device. The main service models comprise Infrastructure as a Service (IaaS), Platform as a Service (PaaS), and Software as a Service (SaaS). A significant advantage of cloud computing is robust data security. It enables easy access to applications and data globally from devices with internet connectivity. Moreover, it provides cost savings by offering scalable computing resources, thus reducing acquisition and maintenance expenses. Due to its ability to deliver services on-demand, cloud computing is witnessing a surge in demand, leading many organizations to transition to the cloud. To meet this growing demand,

a shift towards green computing is imperative to reduce electricity consumption and CO2 emissions. Cloud data centers encompass extensive computing power, including servers, networking devices, storage, and cooling systems. Cloud computing allows for the outsourcing of computing needs from one party to another, enabling access to computing resources like databases or emails over the internet. It represents a recent trend in IT, transitioning computing and data from individual devices to centralized data centers. A significant advantage of cloud computing is the elimination of infrastructure costs, installation, maintenance, and the need for dedicated personnel.

Many organizations often need to run similar software with varying starting conditions to gather insights or determine optimal solutions. This process, known as parameter sweep, can be executed in parallel over numerous computers with seemingly infinite resources available on the cloud. Software frequently used by diverse users can be offered as Software as a Service (SaaS), allowing users to interact with the cloud via an external interface, simplifying the process. Alternatively, Infrastructure as a Service (IaaS) can provide tooling for users to run their own software. Cloud computing has the potential to revolutionize disaster site management through intelligent cloud robots, reducing human losses and improving efficiency. Leveraging real-time technologies and high-performance systems, real-time applications can be developed in the cloud, contributing to various domains such as garbage

collection, CPU architecture, parallel and distributed algorithms, databases, web servers, and networking.

II. LITERATURE SURVEY

A. Comparative Analysis Of Green Cloud Computing:

Green computing involves making data centers and electronic devices more environmentally friendly. It encompasses the examination of engineering, design, manufacturing, disposal, and usage of computing peripherals to minimize their environmental impact. The term "Green Computing" gained prominence in 1992 when the Environmental Protection Agency (EPA) introduced the Energy Star program (Abdul Majid Farooqi, 2017).

B. Cloud Robotics for The Reclamation of Mankind:

Cloud computing is widely recognized as a rapidly emerging field in computer science. Within this realm, cloud robotics stands out as a fast-paced and advanced research area, enabling application programs to offload computational time and storage to the cloud. The cloud provides extensive computational power, memory, storage, and significant opportunities for collaboration (Rajesh Doriya, Kaushlendra Sharma, 2018).

C. Services:

Computer cloud is that thing which offers or provides a choice to store your data/ computerized resources at any companies' server. Robotics is the future and with computer cloud it gives a dynamic and miraculous combination of robotics and cloud which help humans (Srinivasa Rao Gundu, Charan Arur Panem, Anuradha Timmapuram, 2020)

D. Cloud Computing Applied to Improve Flood Management:

Cloud computing allows to perform many simulations at a time without bearing the expenses of buying more equipment. The results made it possible to develop different flood probability maps and flood hazard maps. The results show that combining model integration with cloud computing allows not only to overcome model limitations, but also time limitations. Therefore, it opens the possibility to

wide range of new studies like uncertainty analysis that will improve the symbiosis mankind - water (Quiroga Gomez, V. M., 2010).

E. Cloud Computing Technology in The Sports Training:

This study introduces a design concept for a sports training support system based on cloud computing principles. The paper outlines essential technologies such as body frame structure, infrastructure services, platform management, and intelligent services. The system not only enhances the effectiveness of training through widespread computer-assisted training but also addresses the imbalance in regional sports resources and unequal distribution of information (Wu Hong-jiang, Zhao Hai-yan, & Zhao Jing, 2013).

F. Sustainable Solutions For Applications In Cloud Computing:

Sustainable Solution refers or gives us the meaning where the growth development is placed or taken up with positive and long term growth of human kind and have less impact on the environment. (HO, THI THAO NGUYEN, 2017).

III. CONCLUSIONS

Cloud computing is a really cheap way for many economical and private sector companies as well as for MNC'S to Centralizing all necessary resources in one location is an efficient approach. This strategy facilitates better resource distribution and enhances accessibility from distant locations. Moreover, it holds the potential to unravel the secrets of the human genome, chart climate patterns, and contribute to predicting natural disasters.

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