

center operators. The goal is not only to cut down energy cost in data centers, but also to meet government regulations and environment standards

8. Related Technologies

8.1. Grid Computing

Grid computing is allowing the resources of many computers in a network to a single problem at the same time, usually to a scientific or technical problem that requires a great number of computer processing cycles or access to large amounts of data. Using this network of computers, large and complex computing operations can be performed.

8.2. Virtualization

Virtualization introduces a layer between hardware and operating system. The virtualization forms the foundation of cloud technology. Using virtualization, users can access servers or storage without having any knowledge about their details. The virtualization layer will execute user request for computing resources by accessing appropriate resources. Typically server utilization in data centers can be as low as 10%. Virtualization can help in improving server utilization.

8.3. Utility Computing

Utility computing is a type of service provided on the pay-per-use basis. The service provider provides the customer only that infrastructure and computing resources that are needed by him, and the charges applied are the specific rates rather than flat rates.

8.4. Autonomic Computing

Autonomic computing is a self-managing computing model named after, the human body's autonomic nervous system. An autonomic computing system would control the functioning of computer applications and systems without input from the user. The goal of autonomic computing is to create systems that run themselves, capable of high-level functioning while keeping the system's complexity invisible to the user.

9. Conclusion

Cloud computing has become the IT buzzword for the past few years. It has been often used with synonymous terms such as software as a service (SaaS), grid computing, cluster computing, autonomic computing, and utility computing. It's a commercial infrastructure paradigm that promises to eliminate the need for maintaining computing facilities^[8]. It used to take years to grow a business to several million customers, now it only takes few months. With cloud computing, it has now become possible to access the world of internet without having any detailed knowledge. No servers are needed to be maintained because the cloud computing providers take care of everything. The hardware and software cost is reduced. But horns accompany every rose. Likewise, along with everything that Cloud Computing provides us, it also leaves us with certain disadvantages

which make us question the use of these services. For the commercial success of this new computing paradigm, the ability to deliver Quality of Services(QoS) guaranteed services is crucial^[9] and we've described about the challenges that is paradigm faces and the research areas that are still needed to be looked at in this paper.

10. Acknowledgement

My sincere thanks to my teachers of Bhilai Institute of Technology who helped me in the successful completion of this Paper. I also thank my friends for their constant support throughout.

Reference

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