Abstract

Over the last few years, cloud computing service have become more popular due to the evolving data centers and parallel computing. The cloud is defined as a pool of computer resources to provide a computing function. The cost and operating expenses of data centers increase in computing capacity. According to governmental, industrial, and academic surveys the energy utilized by computing and communication units in the data center leads to small
amount of the data center operational costs. We build a system using virtual machine environment for energy aware cloud computing data centers. Along with that the workload distribution, the virtual machine environment is designed to capture all the information of the energy consumed by data center units such as servers, switches, and links as well as packet-level communication patterns in realistic setups. The work output is consider for different tier data center architectures show the effectiveness of utilizing power management schema, such as frequency scaling, voltage scaling and dynamic shutdown (hibernation) that are applied to the computing and networking components.

References

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Index Terms

Computer Science
Networks
Keywords