Cloud computing has revolutionized the way large data is stored and handled by the virtualization of servers and data centers to make them more efficient. However, these IT resources consume huge amounts of power and energy, ultimately becoming a vital source of CO2 emission. This has brought upon the need for Green Cloud Computing to make IT resources both energy efficient and operating at a low cost. In order to reach optimal solutions for green cloud computing, the power efficiency of the Cloud needs to be thoroughly analyzed. The aim of this review is to underscore some of the most effective ways to achieve green cloud computing such as scheduling, clustering, virtualization, proportional computing, and other energy conserving methods. Although the environmental impact is high for green cloud computing, it still faces challenges with regards to security and connectivity.

Index Terms

Computer Science Distributed Computing

Keywords
Approaches, Advantages, Disadvantages