



A STUDY ON GREEN CLOUD COMPUTING: APPROACHES AND STRATEGIES

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We are rapidly moving towards a world that wholly depends on technology and it is advancing each day. As an alternative to the traditional office-based computing, network-based cloud computing is rapidly growing. However, the data centers providing services to users consume huge amounts of electrical energy, contribute to high operational costs and carbon emissions to the environment. Therefore, the industries are looking for technologies with Green Cloud Computing. Green Cloud Computing is the usage of computers and their related resources in an eco-friendly manner. Green Cloud Computing is considered to be a solution for the IT companies and users to use Cloud and its perks due to the fact that it reduces the negative impact to the environment and general costs by energy efficiency, carbon footprint and e-waste reduction. These technologies pave the way for companies to practice eco-friendly systems. This paper discusses the high-level system architecture of Green Cloud Computing and its major components. The approaches which have been proposed and presented by several researchers are explained in detail in the paper. The paper includes the concept of virtualization. Also, it includes the other approaches which have been proposed by several researches in order to reduce energy consumption and carbon dioxide emissions. The important features of Green Cloud Computing are also discussed in the paper.

Keywords: Cloud Computing, Green Cloud Computing, Virtualization, Live Migration

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