SNS COLLEGE OF TECHNOLOGY

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Department of Computer Science and Engineering

19CSE403-Green Cloud computing

GOALS OF GREEN COMPUTING

The goals of green computing, also known as sustainable or eco-friendly computing, are to reduce the environmental impact of information technology while maximizing energy efficiency and promoting sustainability. These goals are driven by the recognition of the significant energy consumption, electronic waste generation, and carbon emissions associated with IT operations. The key objectives of green computing include:

1. **Energy Efficiency**: The primary goal of green computing is to improve the energy efficiency of IT equipment and operations. This includes reducing the energy consumption of servers, data centers, and personal computing devices.
2. **Carbon Footprint Reduction**: Green computing aims to lower the carbon footprint of IT by using renewable energy sources, optimizing energy use, and reducing greenhouse gas emissions associated with data centers and computing activities.
3. **Resource Conservation**: Green computing seeks to reduce the consumption of finite resources, such as fossil fuels and rare minerals, in the production and operation of IT hardware.
4. **Electronic Waste Minimization**: The responsible disposal and recycling of electronic waste are essential goals. Green computing aims to extend the lifespan of IT equipment, refurbish or recycle old hardware, and reduce electronic waste generation.
5. **Sustainable Design**: Promoting the development of sustainable and eco-friendly IT hardware and software is a key objective. This includes using environmentally friendly materials, efficient designs, and sustainable manufacturing processes.
6. **Renewable Energy Use**: Incorporating renewable energy sources, such as solar, wind, hydro, and geothermal power, into the IT infrastructure is a goal to reduce dependence on non-renewable energy sources.
7. **Energy-Efficient Software**: Optimizing software applications to reduce energy consumption is a goal. This includes writing efficient code, minimizing unnecessary background processes, and developing energy-efficient algorithms.
8. **Data Center Efficiency**: Green computing strives to enhance the efficiency of data centers by improving cooling systems, enhancing server utilization, and reducing wasted power.

9. **Telecommuting and Remote Work**: Encouraging telecommuting and remote work to reduce the need for physical office space and commute-related energy consumption.
10. **Sustainability Awareness**: Promoting sustainability awareness among IT professionals and end-users to encourage energy-saving practices and responsible usage.
11. **Regulatory Compliance**: Complying with environmental regulations and standards related to energy efficiency, electronic waste management, and emissions.
12. **Corporate Social Responsibility (CSR)**: Aligning IT operations with an organization's CSR initiatives and demonstrating a commitment to environmental responsibility.
13. **Cost Savings**: Achieving cost savings through reduced energy consumption, longer equipment lifespans, and optimized resource utilization.

Green computing seeks to balance the ever-increasing demand for computing and data processing with the imperative to mitigate the environmental and sustainability challenges that arise from the IT industry. These goals are critical in contributing to a more environmentally responsible and energy-efficient IT landscape while addressing global concerns such as climate change and resource conservation