

UNIT-II

Cloud Computing Technologies

- ▶ • Cloud Deployment Models
- ▶ • Cloud Service Models
- ▶ • Technological Drivers for Cloud Computing

Introduction to Cloud Computing



- ▶ • Definition of Cloud Computing
- ▶ • Characteristics of Cloud
- ▶ • Importance in Modern IT

Cloud Deployment Models Overview

- ▶ • Public Cloud
- ▶ • Private Cloud
- ▶ • Hybrid Cloud
- ▶ • Community Cloud

Public Cloud

- ▶ • Definition
- ▶ • Advantages
- ▶ • Examples: AWS, Azure, Google Cloud

Private Cloud

- ▶ • Features
- ▶ • Benefits
- ▶ • Enterprise Applications

Hybrid and Community Cloud

- ▶ • Hybrid Cloud Architecture
- ▶ • Community Cloud Applications
- ▶ • Comparison

Cloud Service Models Overview



- ▶ • Infrastructure as a Service (IaaS)
- ▶ • Platform as a Service (PaaS)
- ▶ • Software as a Service (SaaS)

Infrastructure as a Service (IaaS)



- ▶ • Virtualized Computing Resources
- ▶ • Storage and Networking
- ▶ • Examples: Amazon EC2

Platform as a Service (PaaS)



- ▶ • Application Development Environment
- ▶ • Middleware Services
- ▶ • Examples: Google App Engine

Software as a Service (SaaS)



- ▶ • Web-based Software Delivery
- ▶ • Subscription Model
- ▶ • Examples: Gmail, Office 365

SOA and Cloud Computing

- ▶ • Service-Oriented Architecture (SOA)
- ▶ • Relationship with Cloud
- ▶ • Benefits of SOA

Multicore Technology

- ▶ • Concept of Multicore Processors
- ▶ • Parallel Processing
- ▶ • Importance in Cloud

Web 2.0 Technologies

- ▶ • Interactive Web Applications
- ▶ • User-generated Content
- ▶ • Social Networking

Web 3.0 Technologies



- ▶ • Semantic Web
- ▶ • Intelligent Applications
- ▶ • Decentralization

Web 2.0 vs Web 3.0

- ▶ • Key Differences
- ▶ • Evolution of Web Technologies
- ▶ • Impact on Cloud

Pervasive Computing

- ▶ • Ubiquitous Computing Concept
- ▶ • Embedded Systems
- ▶ • Context-aware Services

Operating Systems in Cloud



- ▶ • Virtualization Support
- ▶ • Resource Management
- ▶ • Examples of Cloud OS

Application Environment

- ▶ • Runtime Environments
- ▶ • Middleware Support
- ▶ • Application Deployment

Technological Drivers for Cloud Computing



- ▶ • SOA
- ▶ • Multicore Processors
- ▶ • Web Evolution
- ▶ • Pervasive Computing

Summary

- ▶ • Review of Deployment Models
- ▶ • Service Models
- ▶ • Emerging Technologies Supporting Cloud