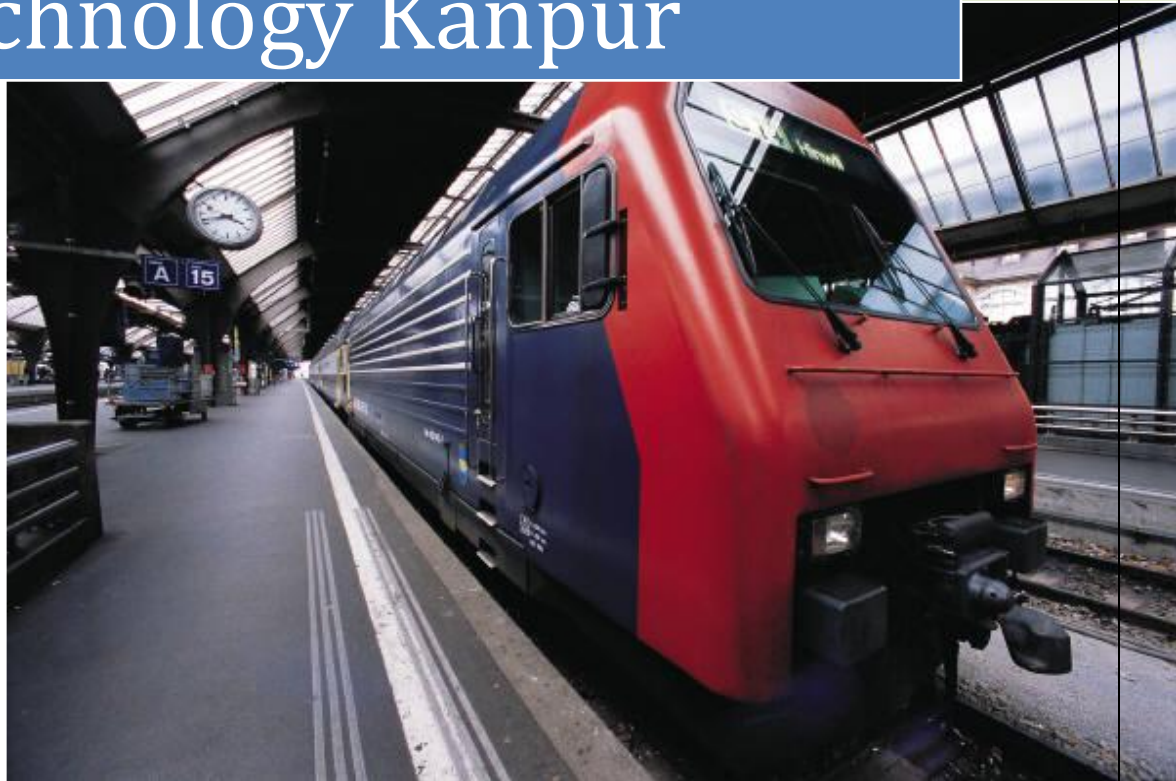Cloud Computing, KOE081

2023

Vision Institute Of Technology Kanpur

By Kaptan Yadav

HOD, Electrical &

Electronics Engineering

2/6/2023

KOE081: CLOUD COMPUTING

Unit-1

Introduction: Cloud Computing – Definition of Cloud – Evolution of Cloud Computing – Underlying Principles of Parallel and Distributed, History of Cloud Computing - Cloud Architecture **- Types of Clouds** - Business models around Clouds – Major Players in Cloud Computing, issues in Clouds - Eucalyptus - Nimbus - Open Nebula, CloudSim.

Unit-2

Types of Cloud services: Software as a Service, Platform as a Service –Infrastructure as a Service - Database as a Service - Monitoring as a Service –Communication as services. Service
providers- Google, Amazon, Microsoft Azure, IBM, Sales force.

Unit-3

Collaborating Using Cloud Services:
Email Communication over the Cloud - CRM Management – Project Management-Event Management - Task Management – Calendar - Schedules - Word Processing – Presentation – Spreadsheet - Databases – Desktop - Social Networks and Groupware.

Unit-4

Virtualization for Cloud: Need for Virtualization – Pros and cons of Virtualization – Types of Virtualization –System VM, Process VM, Virtual Machine monitor – Virtual machine properties - Interpretation
and binary translation, HLL VM - supervisors – Xen, KVM, VMware,Virtual Box, Hyper-V.

Unit-5

Security, Standards and Applications:
Security in Clouds: Cloud security challenges – Software as a Service Security, Common Standards: The Open Cloud Consortium – The Distributed management Task Force – Standards for application Developers – Standards for Messaging – Standards for Security, End user access to cloud computing, Mobile Internet devices and the cloud. Hadoop – MapReduce – Virtual Box — Google App Engine – Programming Environment for Google App Engine

Unit-3rd
Collaborating Using Cloud Services:

What is cloud collaboration?

Cloud collaboration allows peoples to work together and collaborate on documents and other file types which might be stored off-premises or outside the firewall of the company. Cloud collaboration happens when a user creates/uploads a file online and then shares access to other individuals. The idea is to enable employees to share, edit, and view documents in real-time.

All changes made are saved and synced to the cloud so all users always have access to the same, updated version of the document.

Benefits of cloud collaboration

Improved team collaboration

When documents are stored in a shared place online, it becomes easier to find and access them. Employees no longer have to constantly email their team members just for an updated version of a file.

Moreover, when team members have access to the correct file versions, it makes discussions smoother, ensures everyone is on the same page (quite literally), and remarkably improves team collaboration.

Sharing all the project details and files with the entire team also leads to improved employee engagement since all team members have an equal opportunity to offer their input.

Faster access to large files

Most email servers cannot handle documents that are bigger than 20-25 MB. To send large files to team members you would either have to share them offline through USBs and external hard disks or just upload the files on a cloud storage provider.

Support for remote employees

Cloud-based applications allow remote teams to collaborate and work together even when they are all located in different parts of the world. In fact, efficient cloud collaboration is one of the major factors behind the success of remote teams. Without dedicated cloud storage, remote employees would get stuck in an endless spiral of emails with no time to get their core work done.

Email Communication over the Cloud

Cloud Email: Cloud email provides us with powerful email tools and allows us to access them via the internet. Cloud email is provided by vendors and fundamentally serves as a backup for our files, allowing us to quickly recover our information from the cloud backup if one of your systems fails. Basically, cloud-based email means that all of our emails are kept and managed on a remote server rather than the company's on-site servers.

Along with the tools we need to receive, send, and store email messages, the vendor also offer the required security, technology, and maintenance.

Top five free cloud-based email services

1. Google Email: Gmail
2. Microsoft Outlook
3. Yahoo mail
4. Rediff mail
5. Mozila thunderbird

Top commercial cloud email services:

1. iCloud Mail: iCloud Mail is easy to use, reasonably priced with good storage limits, it can be used on any device. It also has decent spam filtering and tight integration with Apple products. The cloud storage and cloud computing service from Apple Inc. launched on October 12, 2011. As of 2020, the service had an estimated 900 million users, up from 782 million users in 2016. A 5GB mail storage account is free of charge, 50GB is 99 cents per month, 200GB is $2.99 per month, and 2TB costs $9.99 per month.

2. Workspace

Workspace (formerly G Suite) now has 2 billion users as of early 2021. Gmail is a central service. Google Workspace plans start as low as $6 per user per month for Business Starter, $12 per user per month for Business Standard, and $18 per user per month for Business Plus.

3. Office 365 Microsoft Outlook: According to Microsoft, Office 365 now has about 300 million monthly active users. Growth has remained constant at about 3 million users per month since November 2015. Users can share a Microsoft 365 Family subscription with up to five other people. Each person will use their own Microsoft account to install Office on all their devices and be signed in to five at the same time.

4. Yahoo Small Business

5. Zoho Mail

6. Rackspace

Advantages of Cloud Email

Remote Access: Owners and employees of organizations that use cloud-based email can access their emails at any time, from any place, using any digital device. This level of accessibility boosts productivity and allows employees to work from anywhere they want to.

Cost Cutting: One of the most important advantages of using cloud email is cost savings. Cloud email and hosting services help us save money on the maintenance and security of your servers. When a business uses a cloud email solution, it only pays for the resources it uses.

Also, cloud providers typically bundle web, domain, and email hosting into a single package, which can save you money over purchasing each service individually.

Customer Relationship Management (CRM

Customer Relationship Management (CRM) in cloud computing refers to the use of cloud-based technologies and services to manage customer interactions, data, and relationships. CRM enables businesses to store, organize, and analyze customer data in the cloud, and provides tools to help businesses manage and improve their customer relationships.

Cloud-based CRM solutions are typically provided as a software-as-a-service (SaaS) model, where businesses can access the CRM platform through the internet without having to install or maintain any software locally. This provides several benefits, including lower costs, greater scalability, and improved flexibility.

Cloud-based CRM platforms offer a range of features and capabilities, such as contact management, lead tracking, marketing automation, sales forecasting, customer segmentation, and analytics. These tools enable businesses to streamline their sales and marketing processes, improve customer engagement and satisfaction, and ultimately increase revenue.

Overall, cloud-based CRM is a powerful tool for businesses looking to improve their customer relationships and gain a competitive edge in the marketplace.

Work Flow Management System

Work Flow: Workflows are building blocks of business processes. A workflow is a series of tasks or actions that are performed in a sequential manner to achieve an end goal. Using a workflow system, several processes can be automated in a linear sequence according to business rules. Both machine and human-based tasks can be automated by a workflow system.

Work Flow Management System : A workflow management system may be defined as a unified platform that streamlines routine business processes for optimal operational efficiency. The most important aspect of the workflow system is the creation of a form that holds data and automates a sequential path of tasks for complete data processing.

A workflow management system is a software platform that automates processes efficiently.
Workflow management is all about managing and streamlining workflows for optimal output. Cutting out redundant tasks, ensuring resource availability for all tasks, and streamlining task sequences are the focus of workflow management.

Types Of Work Flow Management System

(1) Sequential workflows – The completion of a previous step is necessary for the execution of the next step in a sequential workflow.

(2) Parallel workflows – Multiple tasks are performed concurrently, each one operating independently in a parallel workflow.

From a business perspective, workflows may be categorized as:

- Priority workflows (Finance, HR, IT)
- Customer-facing workflows (marketing, customer service)
- Employee-centered workflows (HR)
- Primary workflows (sales and marketing, Finance, HR, IT)
- Subsidiary workflows