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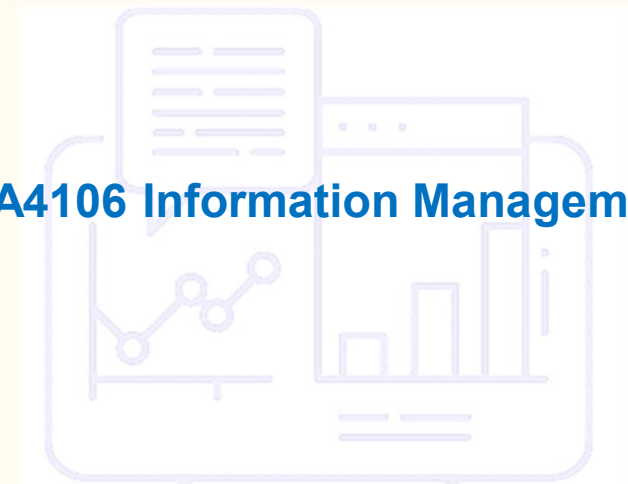


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Department of Management Studies

MBA – I Semester

BA4106 Information Management



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Professor/ECE Department

UNIT –V

New IT Initiatives

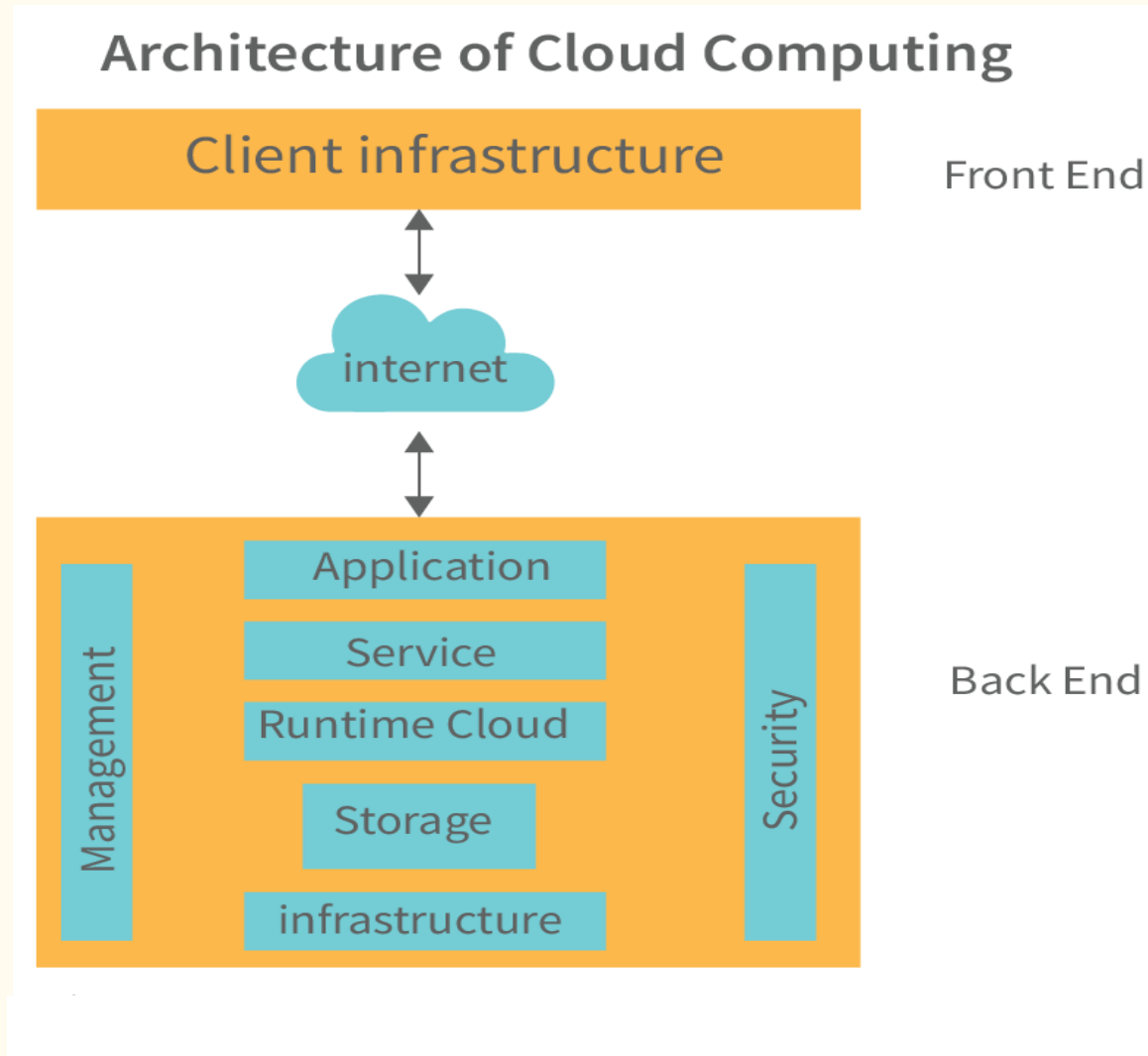
5.4. Cloud Computing

Cloud Computing

As we know, cloud computing technology is used by both small and large organizations to store the information in cloud and access it from anywhere at any time using the internet connection.

- Cloud computing architecture is a combination of service-oriented architecture and event-driven architecture.
- Cloud computing architecture is divided into the following two parts –
 - *Front End*
 - *Back End*

The below diagram shows the architecture of cloud computing -



Front End

The front end is used by the client. It contains client-side interfaces and applications that are required to access the cloud computing platforms. The front end includes web servers (including Chrome, Firefox, internet explorer, etc.), thin & fat clients, tablets, and mobile devices.

Back End

The back end is used by the service provider. It manages all the resources that are required to provide cloud computing services. It includes a huge amount of data storage, security mechanism, virtual machines, deploying models, servers, traffic control mechanisms, etc.

Components of Cloud Computing Architecture

1.Application –

Application in backend refers to a software or platform to which client accesses. Means it provides the service in backend as per the client requirement.

2.Service –

Service in backend refers to the major three types of cloud based services like [SaaS, PaaS](#) and [IaaS](#). Also manages which type of service the user accesses.

3. Runtime Cloud-

Runtime cloud in backend provides the execution and Runtime platform/environment to the Virtual machine.

4. Storage –

Storage in backend provides flexible and scalable storage service and management of stored data.

5. Infrastructure –

Cloud Infrastructure in backend refers to the hardware and software components of cloud like it includes servers, storage, network devices, virtualization software etc.

6. Management –

Management in backend refers to management of backend components like application, service, runtime cloud, storage, infrastructure, and other security mechanisms etc.

7. Security – Security in backend refers to implementation of different security mechanisms in the backend for secure cloud resources, systems, files, and infrastructure to end-users.

8. Internet – Internet connection acts as the medium or a bridge between frontend and backend and establishes the interaction and communication between frontend and backend.

9. Database– Database in backend refers to provide database for storing structured data, such as SQL and NOSQL databases. Example of Databases services include Amazon RDS, Microsoft Azure SQL database and Google CCloud SQL.

10. Networking– Networking in backend services that provide networking infrastructure for application in the cloud, such as load balancing, DNS and virtual private networks.

11. Analytics– Analytics in backend service that provides analytics capabilities for data in the cloud, such as warehousing, bussness intellegence and machine learning.

There are the following components of cloud computing architecture -

a. Client Infrastructure

Client Infrastructure is a Front end component. It provides GUI (Graphical User Interface) to interact with the cloud.

b. Application

The application may be any software or platform that a client wants to access.

c. Service

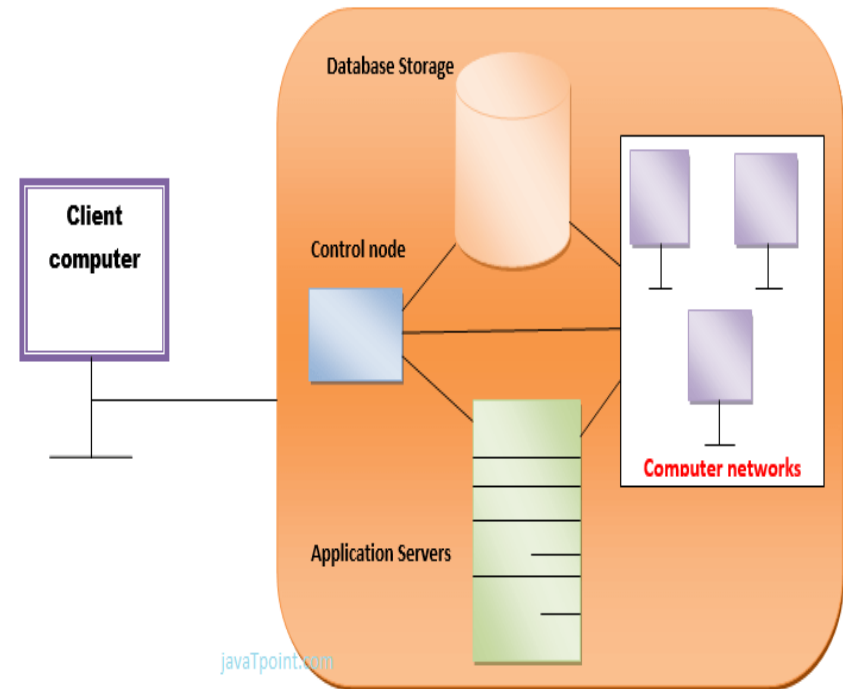
A Cloud Services manages that which type of service you access according to the client's requirement.

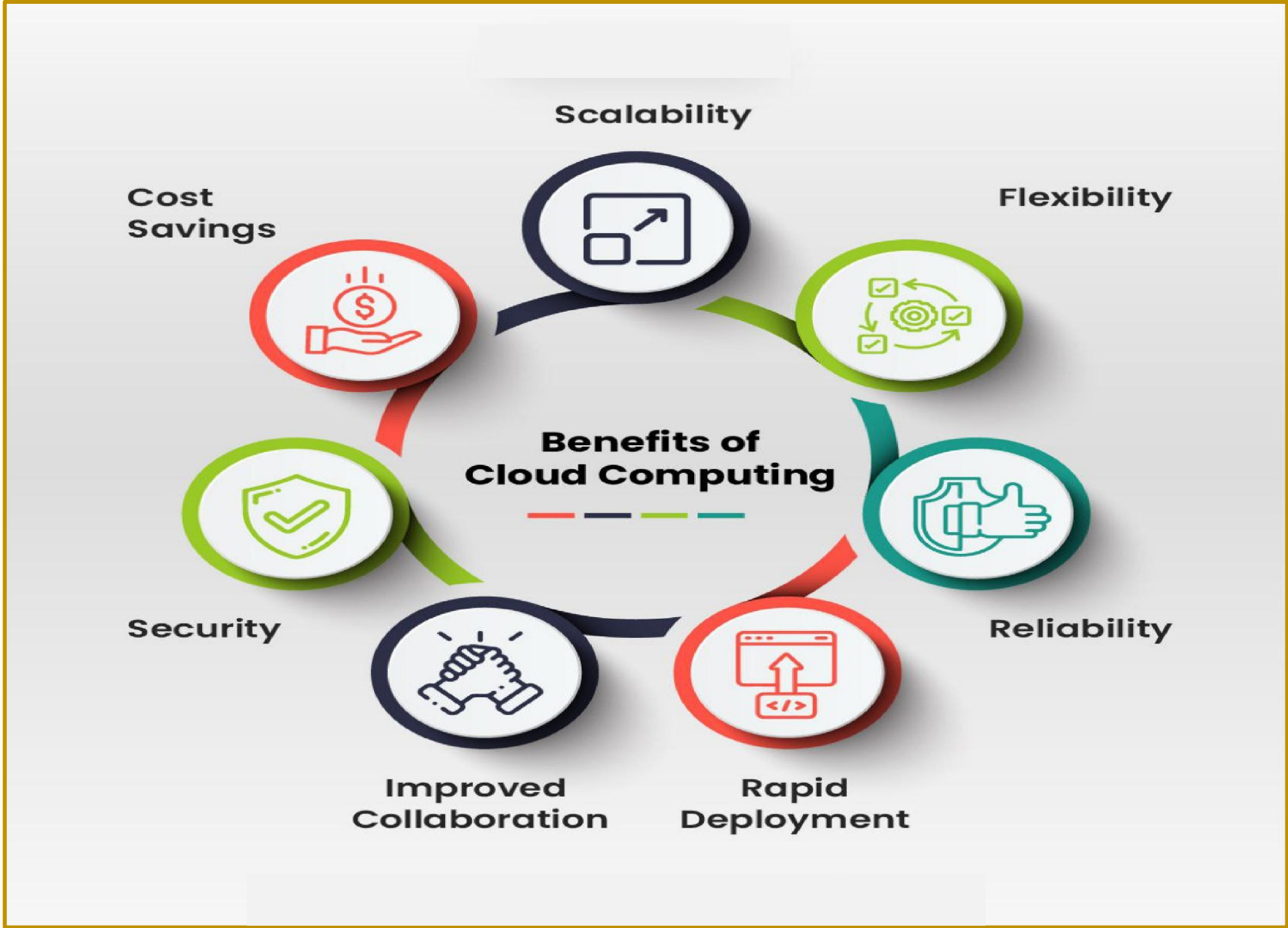
How does Cloud Computing Work?

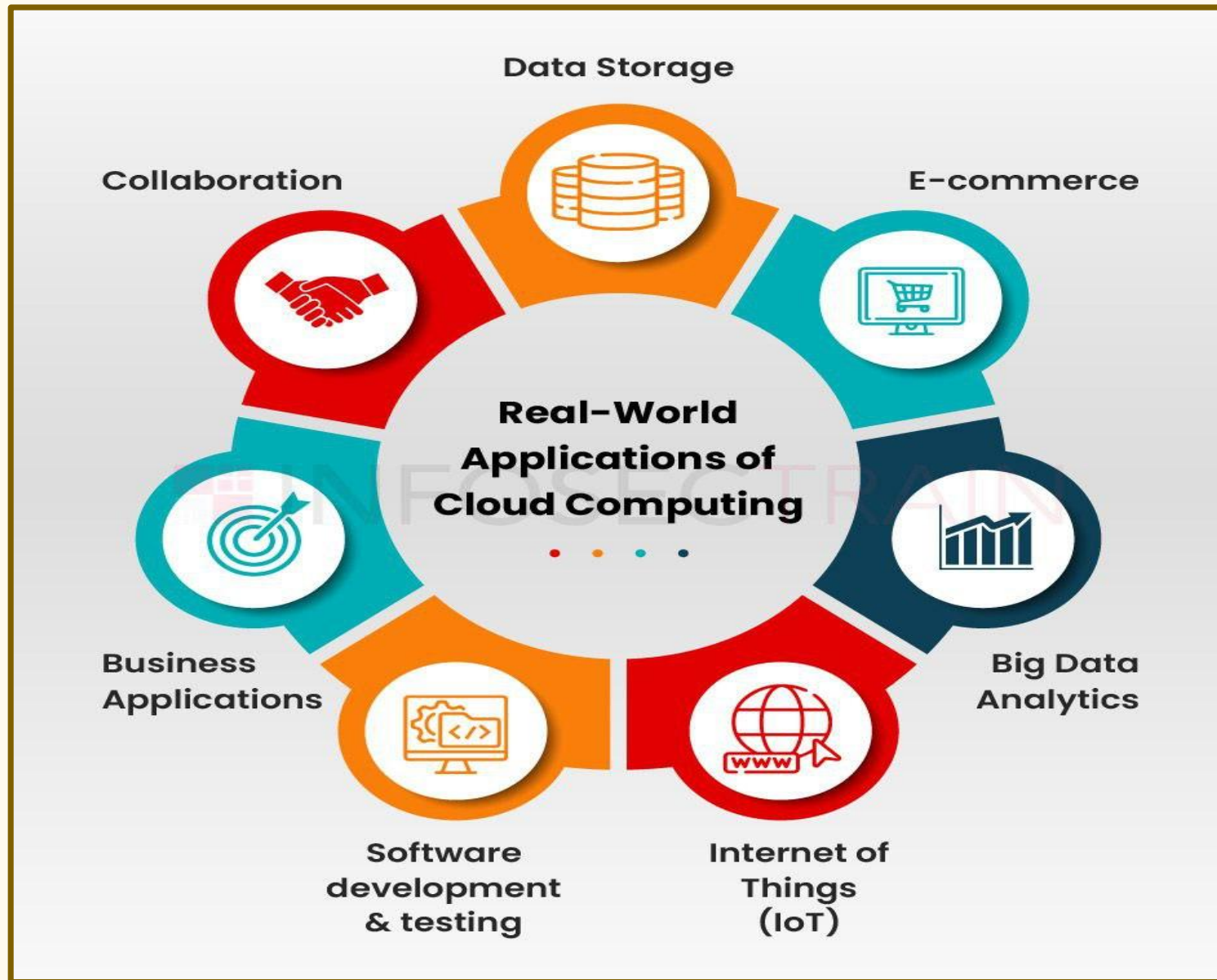
Assume that you are an executive at a very big corporation. Your particular responsibilities include to make sure that all of your employees have the right hardware and software they need to do their jobs. To buy computers for everyone is not enough. You also have to purchase software as well as software licenses and then provide these software's to your employees as they require. Whenever you hire a new employee, you need to buy more software or make sure your current software license allows another user. It is so stressful that you have to spend lots of money.

But, there may be an alternative for executives like you. So, instead of installing a suite of software for each computer, you just need to load one application. That application will allow the employees to log-in into a Web-based service which hosts all the programs for the user that is required for his/her job. Remote servers owned by another company and that will run everything from e-mail to word processing to complex data analysis programs. It is called cloud computing, and it could change the entire computer industry.

In a cloud computing system, there is a significant workload shift. Local computers have no longer to do all the heavy lifting when it comes to run applications. But cloud computing can handle that much heavy load easily and automatically. Hardware and software demands on the user's side decrease. The only thing the user's computer requires to be able to run is the cloud computing interface software of the system, which can be as simple as a Web browser and the cloud's network takes care of the rest.







THANK YOU