

Cloud Computing

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Abstract:- Studies about the information in technical research paper will present the information related to Cloud Computing and its components. The information provided in all sections of research paper. It has six sections. Each section will provide the information related to the heading. The study provides the information about the title and its components.

INTRODUCTION (*Cloud Computing*)

It is a virtual machine which is able to work like a physical computer. It is used to operate high end softwares on a low-end physical machine. It is done by using cloud computing. In this, we gain access to a virtual machine which is more powerful than our physical machine. It is able to do things which our machine cannot support. It is used for storage also. It provides that much amount of storage which our physical machine does not support. Softwares like Liquidsky are used to play high end games on a low-end machine. It is operated using different servers which are located at different locations. It connects our machine with the nearest server from our location. We have to pay according to the services provided by the server. Different companies provide different services and charge according to it. Charge are according to the speed of the server, storage used by the customer etc. It is very helpful for us as it cost less as compared to buying a new machine. It is easy to understand and easy to use too. We don't have to go into the deep knowledge about it to access it. It is widely used by big companies to store their huge data which they cannot store on a physical machine. It has some issues like privacy and server speeds and availability of network also. Data leakage problems are there as the company which provides cloud services can access the whole data and misuse it. They can sell the data to other companies for money. So, choose the service wisely.

EASE OF USE

A. *Selecting a Template (Cloud computing)*

B. *Deployment Models*

1. *Private Cloud*

It is operated for a single organization. It can be managed by the server company or by a third party. It virtualise business environment and requires organization to reevaluate decisions regarding existing resources.

2. *Public Cloud*

A cloud which provides services on a network open for public use. These services may be free. There may be security issues as it may be free, and it is available for public.

3. *Hybrid Cloud*

It is a combination of two or more clouds. Its services crosses isolation and provider boundaries. It has the capability colocation and services with the cloud

Characteristics

- .It allows machine independence.
- Maintenance of cloud servers are easy.
- The performances of the servers are monitored continuously by the IT experts.
- Pooling is used to have multi users on a single server.
- The main thing is security which should be given priority.

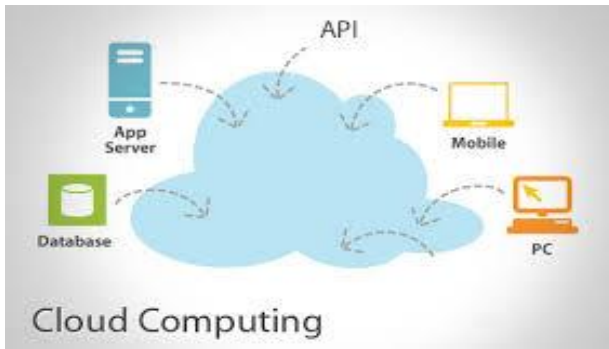
Service Models

1. *Infrastructure as a service (IaaS)*

It means online services which gives application programming interface(APIs) used to get low level details of the infrastructure of the network. Pools within the cloud supports various virtual machines used as guests.

2. *Platform as a service (PaaS)*

It means ability provided to the consumer to access cloud infrastructure by applications given for the consumer using programming languages.



3. Software as a Service (SaaS)

It means ability provided to the consumer to use provider's applications running on cloud. These services are accessible from different client devices.

4. Mobile Backend as a service (MBAas)

It means web and mobile applications developers are given a way to link their applications to the cloud and cloud computing services with the help of Application Programming Interfaces (APIs).

5. Serverless Computing

It is a code model in which the provider manages the virtual machines to serve requests. It does not run the code actually.

6. Function as a service (FaaS)

It is a service procedure call that uses serverless computing to enable individual functions in cloud.

C. Disadvantages

Privacy is the biggest disadvantage or security concern in the cloud computing. It can result in temporary business suspension too.

D. Architecture

It involves in delivery of cloud computing. It consists of many cloud components communicating with one another. Cloud engineering involves applications of engineering in cloud computing.

E. Security

The service providers can access all the data stored in the cloud. The provider can share the data stored in the cloud with the third party. The users can encrypt their data stored in the cloud.

F. Uses of Cloud Computing

1. Create new applications and services.
2. Store, back up and recover data.
3. Host websites and blogs.
4. Stream audio and video.
5. Deliver software on demand.
6. Analyze data for patterns and make predictions.

G. Benefits of Cloud Computing

1. Cost

It eliminates the expense of buying hardware and software.

2. Speed

It is flexible and taking off the pressure off with capacity planning.

3. Global Scale

It has the ability to scale elastically.

4. Productivity

It removes the need of hardware and software setup.

5. Performance

The cloud computing services run on a worldwide network of secure data centers.

6. Reliability

Its data can be mirrored at multiple redundant sites on the cloud's provider network.

H. Cloud Providers

1. TATA CONSULTANCY SERVICES (TCS)
2. INFOSYS LIMITED
3. WIPRO LIMITED
4. CIPHER CLOUD
5. CTRLS DATACENTRE LIMITED
6. ZENITH INFOTECH LIMITED
7. INSTACOMPUTE-TATA COMMUNICATION
8. CIRROLOGIX PRIVATE LIMITED
9. CLOGENY TECHNOLOGIES PRIVATE LIMITED
10. APP POINT

I. Driving Growth

One of the biggest impediments to cloud computing are: We needed the internet to be a fastest and rushing river and moving as fast wirelessly as it can in the wired home or office. We are finally getting with widespread adoptions and with the 3G and 4G wireless technology. We have also had to wait for the internet security standards and protocols to get solid enough to make CEOs feel safe while exporting the huge data clusters out of their buildings and give it into someone else's hands.

But now they have realized the savings potential associated with its ability to outsource the software and hardware needed for technical services so the pace at which the businesses embrace and utilize internet systems has got fastened. The investments in key strategic areas such as the Big Data Analytics, Enterprise Mobile, Security and Cloud Technology was expected to increase up to more than \$40 million till 2018.

J. The World of Business Cloud Computing

Businesses can employ the cloud computing in various different ways. Some users maintain all apps and data on the cloud while the others use a Hybrid model keeping certain Applications and Data on the private servers and others on the cloud.

The service providers in the corporate computing sphere include:

- Google Cloud
- Amazon Web Services
- Microsoft Azure
- IBM Bluemix
- Aliyun

K. CONCLUSION

Cloud computing is a new technical development that has the potential to have a great impact on world. It has many advantages which it provides to the users and businesses. For example, some benefits which it provides to businesses is that

it reduces the operating budget by spending less on maintenance and its upgrades and focus more on businesses itself. But there are many challenges which the cloud computing should overcome. People are very worried about their data whether it is secure and private. There are no standards and regulations worldwide. Europe has data protection laws but the US after being the most technological advanced nation does not have any data protection laws. Users are also worried about disclosing their data and have ownership of their data.

L. REFERENCES

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