NARSIMHA REDDY ENGINEERING COLLEGE

An Autonomous Institution| Affiliated to JNTUH | Approved by AICTE
Accredited by NBA & NAAC with 'A' Grade

Department of Computer Science and Engineering

Program Name : B.Tech CSE

Subject: CLOUD COMPUTING

Course Code : 23CS706

Semester & Year: I/IV

Faculty Name : G. MAHESH

UNIT-II

Four Cloud Deployment Models

- Deployment models describe the ways with which the cloud services can be deployed or made available to its customers, depending on the organizational structure and the provisioning location.

- One can understand it in this manner too: cloud (Internet)-based computing resources—that is, the locations where data and services are acquired and provisioned to its customers— can take various forms.

- Four deployment models are usually distinguished, namely, public, private, community, and hybrid cloud service usage:

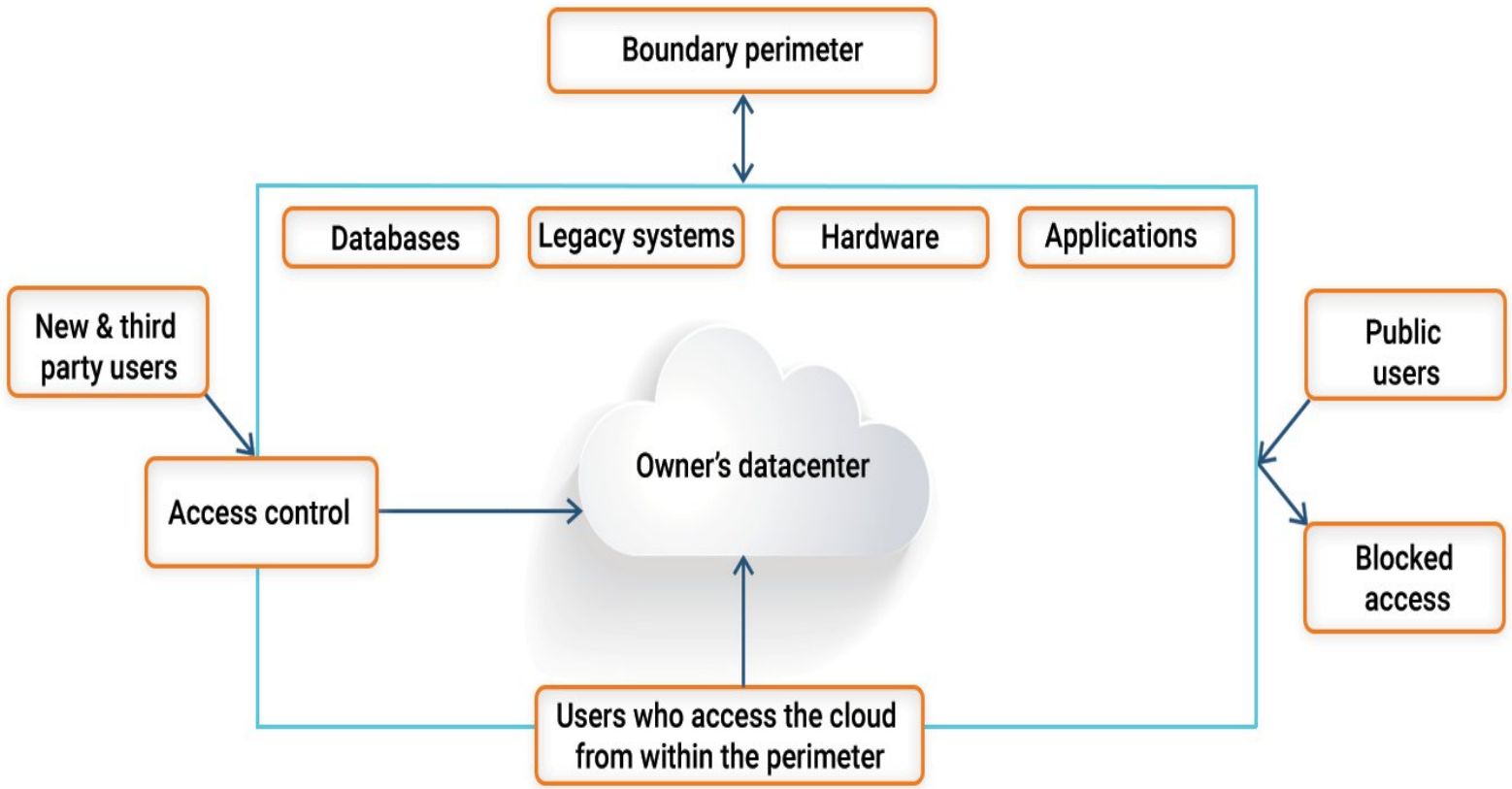
Four Cloud Deployment Models

1. Private cloud:

- A private cloud is an on-demand cloud deployment model in which the cloud computing services and infrastructure are hosted privately within a company's own intranet or data center using proprietary resources.
- Among the three types of cloud computing, private cloud is the most preferred option for organizations due to the additional security it offers.
- Eg: HP Data Centers
- In a private cloud, the cloud computing services and infrastructure are hosted privately within a company's own data center.
- These services are accessible to the personnel of a single organization.
- This type of cloud is managed by internal resources and is not accessible to those outside the organization
- Private clouds are also referred to as enterprise clouds.

PRIVATE CLOUD

TOOLBOX™



Four Cloud Deployment Models

Private cloud providers

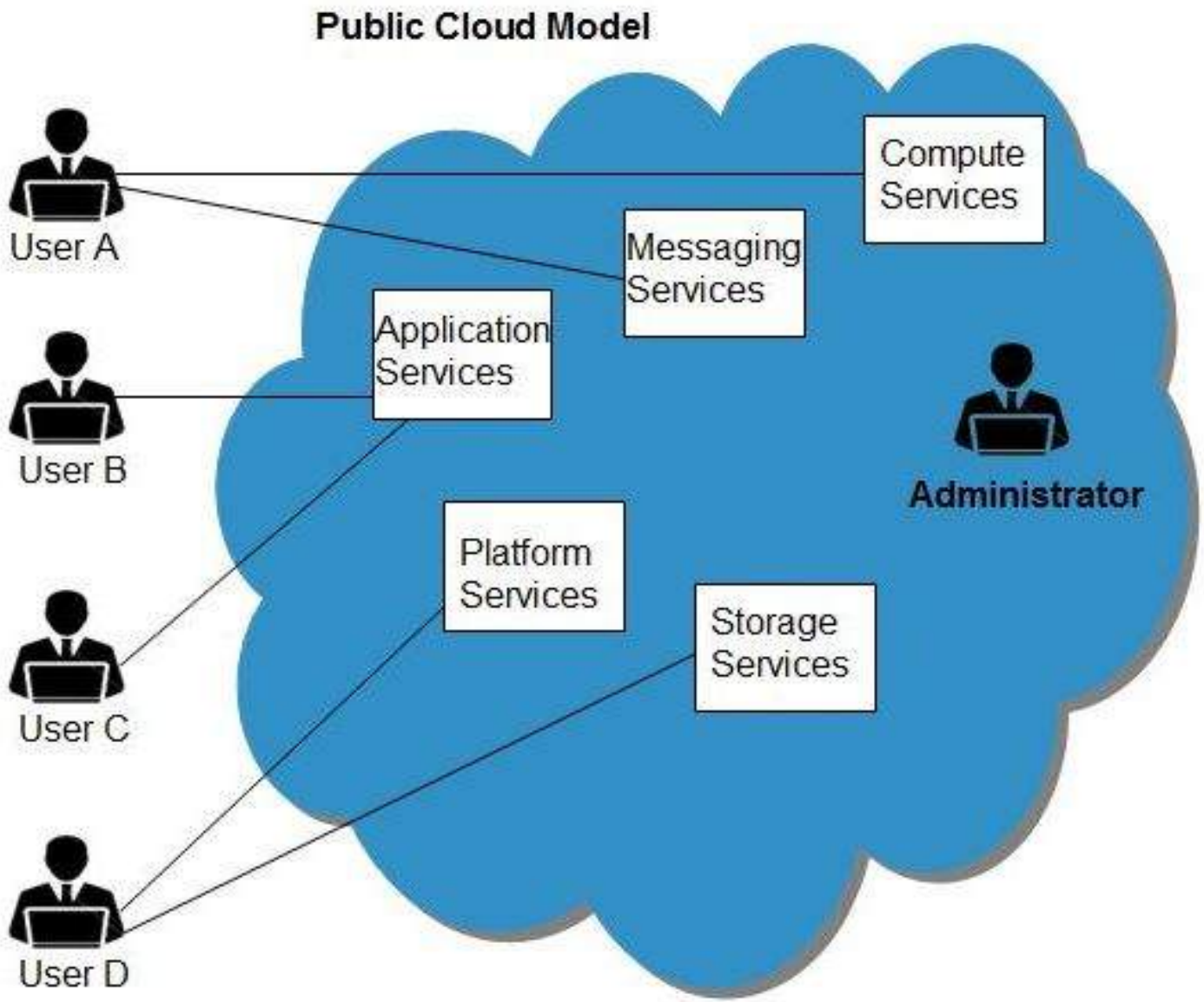
- HPE. By most estimates, Hewlett Packard Enterprise (HPE) is a key leader in the **private cloud** market. ...
- VMware. The Wikibon report said that VMware was tied with HP for first place in the true **private cloud** market for 2015 with 7 percent of the market. ...
- Dell. ...
- Oracle. ...
- IBM. ...
- Microsoft. ...
- Cisco. ...
- NetApp.

Four Cloud Deployment Models

2. Public cloud:

The cloud infrastructure is provisioned for open use by the general public.

It may be owned, managed, and operated by a business, academic, or government organization, or some combination of them. It exists on the premises of the cloud provider.


Public Cloud Model
User A
User B
User C
User D
Compute Services
Messaging Services
Application Services
Platform Services
Storage Services
Administrator

Four Cloud Deployment Models

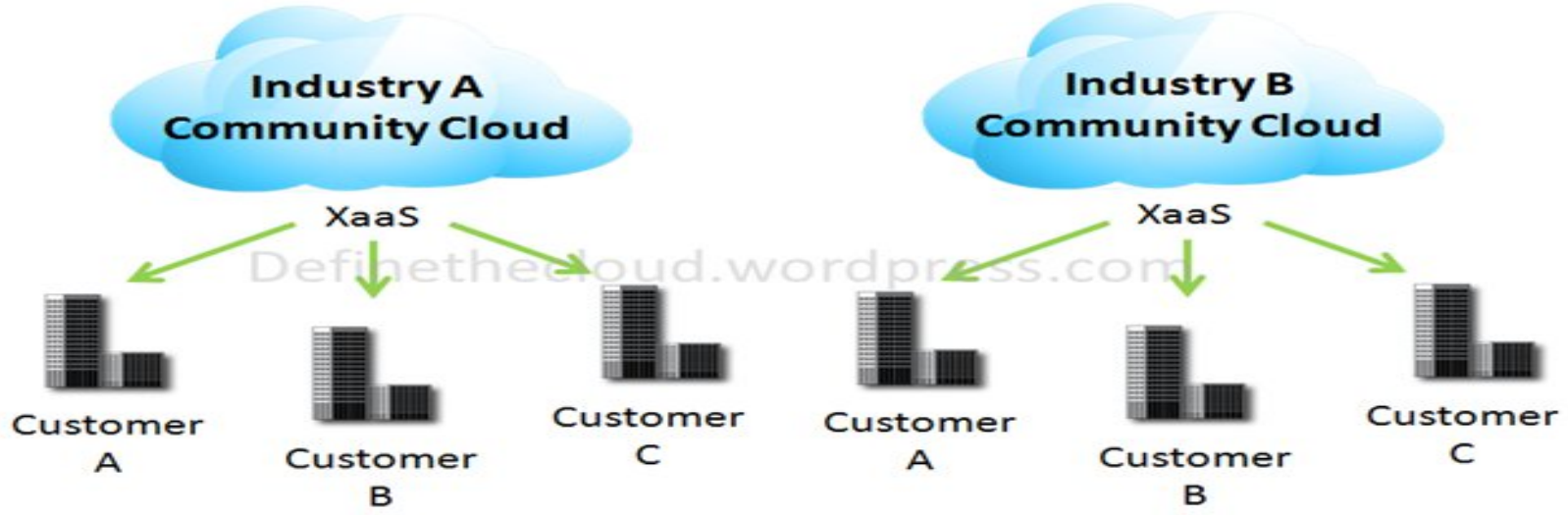
2. Public cloud

- Amazon Web Services. Amazon Web Services (AWS) is the undisputed market leader in **cloud computing**. ...
- Microsoft Azure. It's a little more difficult to figure out how much revenue Microsoft generates from **cloud computing**. ...
- Google **Cloud** Platform
- IBM **Cloud**.

Four Cloud Deployment Models

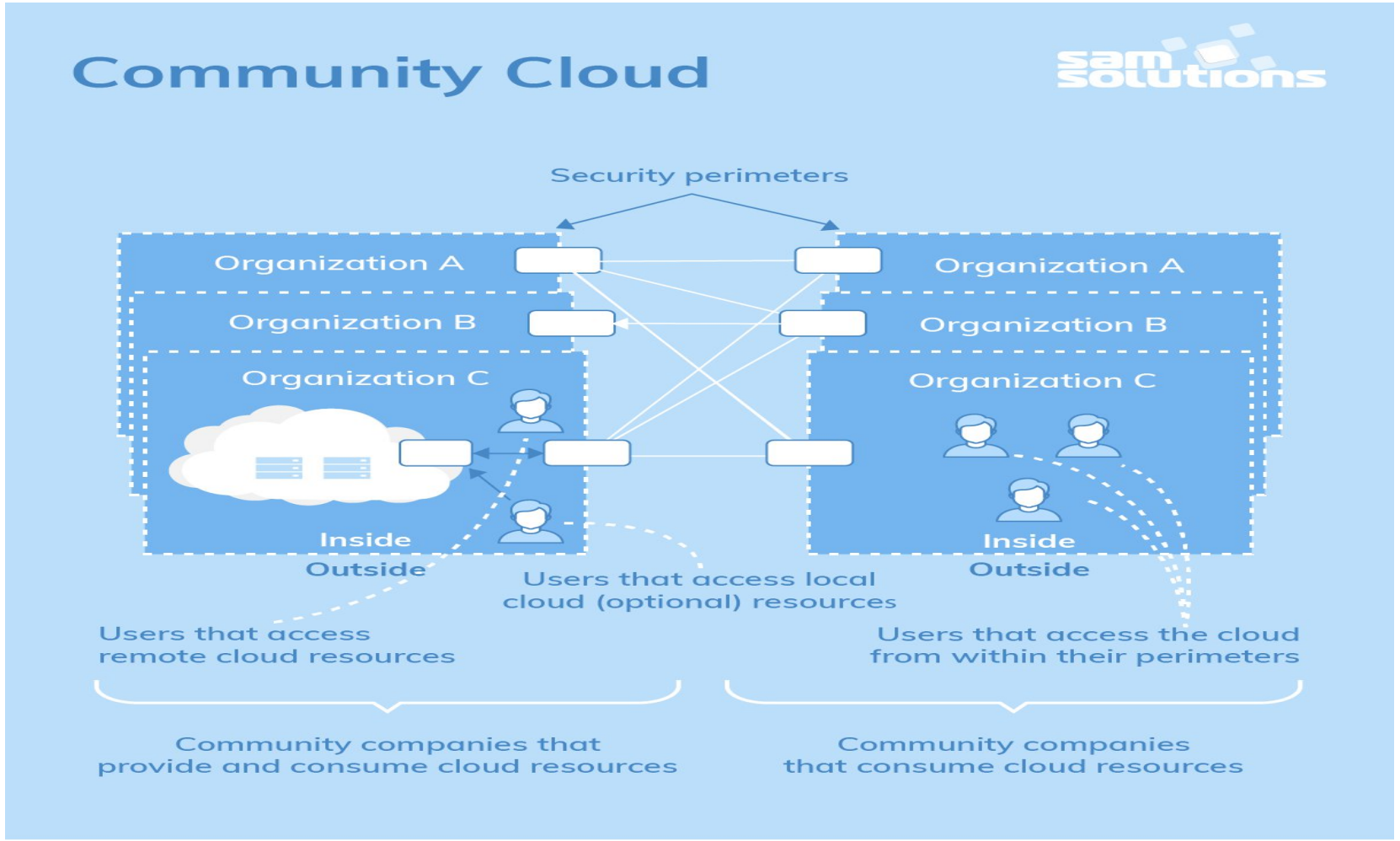
3. Community cloud

- The cloud infrastructure is shared by several organizations and supports a specific community that has shared concerns (e.g., mission, security requirements, policy, and compliance considerations).
- It may be managed by the organizations or a third party and may exist on premise or off premise.



Four Cloud Deployment Models

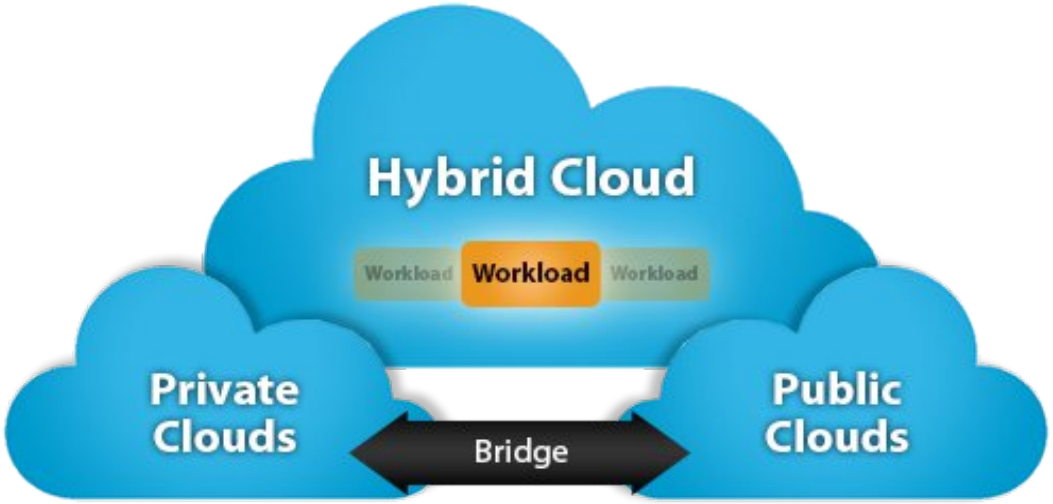
3. Community cloud:



Four Cloud Deployment Models

4.Hybrid cloud:

- The cloud infrastructure is a composition of two or more distinct cloud infrastructures (private, community, or public) that remain unique entities but are bound together by standardized or proprietary technology that enables data and application portability (e.g., cloud bursting for load balancing between clouds).



Benefits of Cloud Computing

1. **Achieve economies of scale:** We can increase the volume output or productivity with fewer systems and thereby reduce the cost per unit of a project or product.
2. **Reduce spending on technology infrastructure:** It is easy to access data and information with minimal upfront spending in a pay-as-you-go approach, in the sense that the usage and payment are similar to an electricity meter reading in the house, which is based on demand.
3. **Globalize the workforce:** People worldwide can access the cloud with Internet connection.
4. **Streamline business processes:** It is possible to get more work done in less time with less resource.
5. **Reduce capital costs:** There is no need to spend huge money on hardware, software, or licensing fees.

Benefits of Cloud Computing

6. **Pervasive accessibility:** Data and applications can be accessed anytime, anywhere, using any smart computing device, making our life so much easier.
7. **Monitor projects more effectively:** It is possible to confine within budgetary allocations and can be ahead of completion cycle times.
8. **Less personnel training is needed:** It takes fewer people to do more work on a cloud, with a minimal learning curve on hardware and software issues.
9. **Minimize maintenance and licensing software:** As there is no too much of on-premise computing resources, maintenance becomes simple and updates and renewals of software systems rely on the cloud vendor or provider.
10. **Improved flexibility:** It is possible to make fast changes in our work environment without serious issues at stake.

Drawbacks of Cloud Computing

1. The main point in this context is that if we lose our Internet connection, we have lost the link to the cloud and thereby to the data and applications.
2. There is also a concern about security as our entire working with data and applications depend on other's (cloud vendor or providers) computing power.
3. while cloud computing supports scalability (i.e., quickly scaling up and down computing resources depending on the need), it does not permit the control on these resources as these are not owned by the user or customer.
4. Depending on the cloud vendor or provider, customers may face restrictions on the availability of applications, operating systems, and infrastructure options.

Drawbacks of Cloud Computing

5. Sometimes, all development platforms may not be available in the cloud due to the fact that the cloud vendor may not aware of such solutions.
6. A major barrier to cloud computing is the interoperability of applications, which is the ability of two or more applications that are required to support a business need to work together by sharing data and other business-related resources. Normally, this does not happen in the cloud as these applications may not be available with a single cloud vendor and two different vendors having these applications do not cooperate with each other.