



Distributed & Cloud Computing

Dr. Kartick Chandra Mondal
Assistant Professor
Department of Information Technology
Jadavpur University
Kolkata

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1. Definition

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2. Deployment Models

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3. Service Models

Cloud Computing

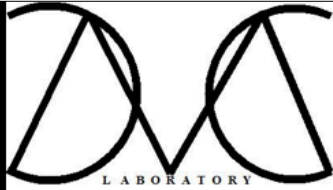
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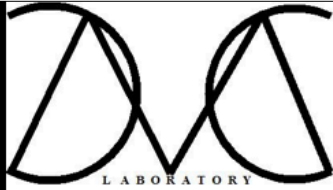
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4. Speciality
5. Advantages & Disadvantages
6. Applications



DEFINING THE CLOUD: 4 DEPLOYMENT MODELS

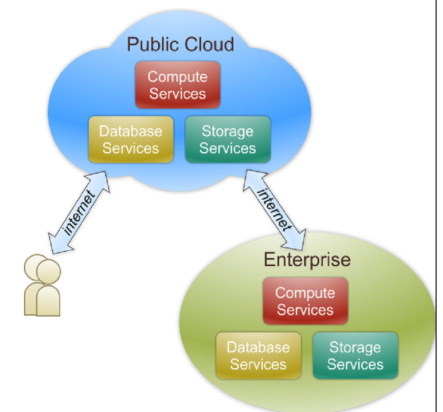
Deployment Model

- There are four primary cloud deployment models:
 - Public Cloud
 - Private Cloud
 - Community Cloud
 - Hybrid Cloud
- Each can exhibit the previously discussed characteristics
- Their differences lie primarily in the scope and access of published cloud services, as they are made available to service consumers.



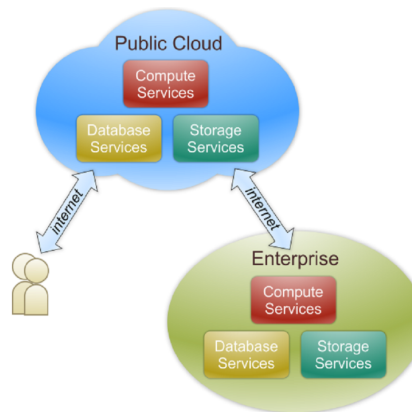
PUBLIC CLOUD

Public Cloud



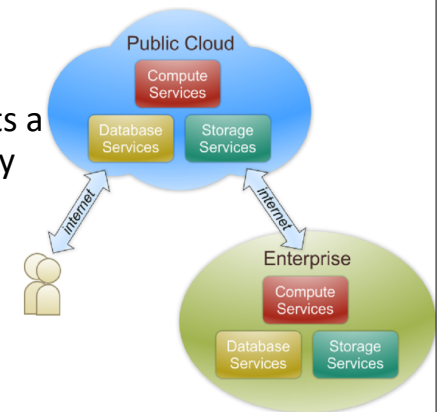
Public Cloud

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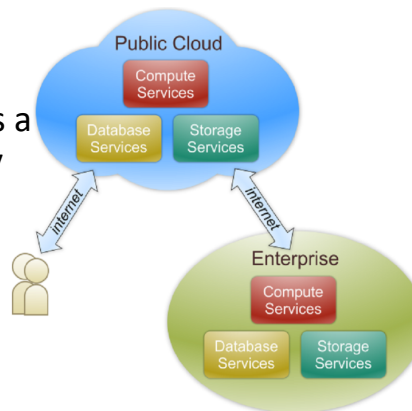
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- Also known as external cloud or multi-tenant cloud



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- Economies of scale
- Some popular examples of public clouds:
 - **Amazon Elastic Cloud Compute(EC2),**
 - Google App Engine,
 - Blue Cloud by IBM and
 - Azure services Platform by Windows

Disadvantages of Public Cloud

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- **Loss of control**

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- **High reliability**—a vast network of servers ensures against failure.



PRIVATE CLOUD

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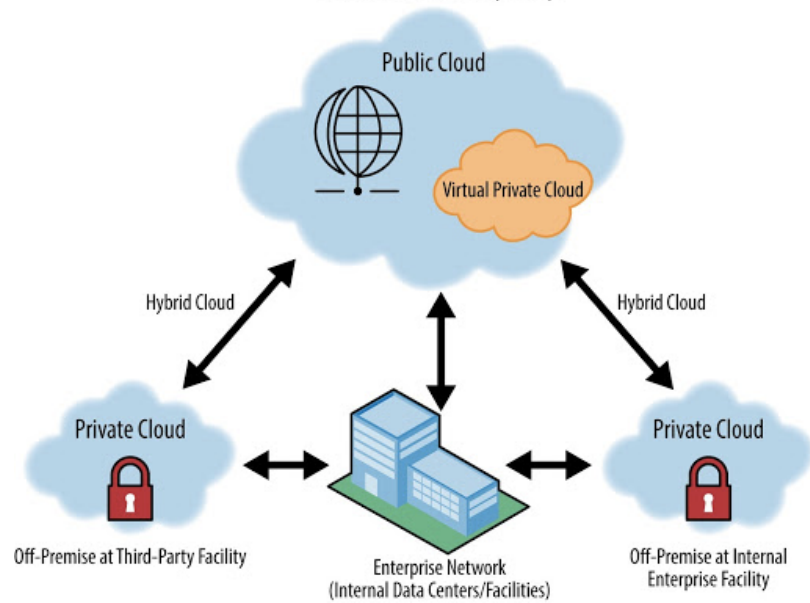
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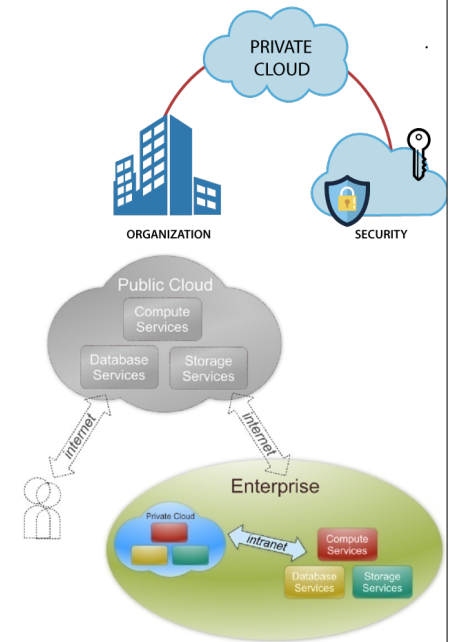
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- Also referred to as internal cloud or on-premise cloud or corporate cloud

Private Cloud

Off-Premise at Third-Party Facility

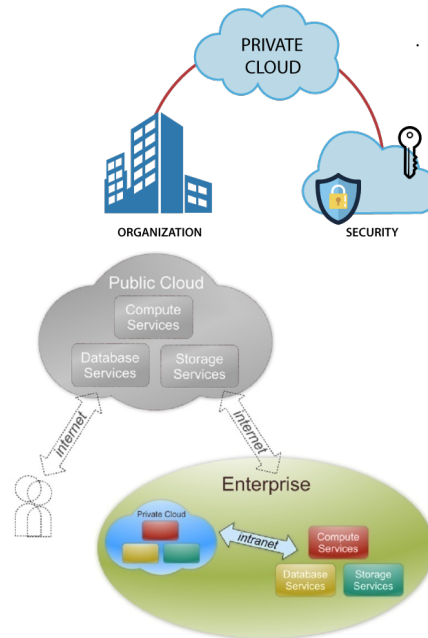


Characteristics of Private Cloud



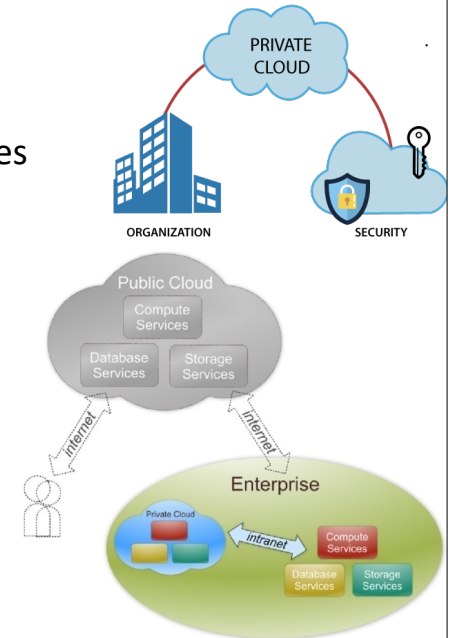
Characteristics of Private Cloud

- Heterogeneous infrastructure



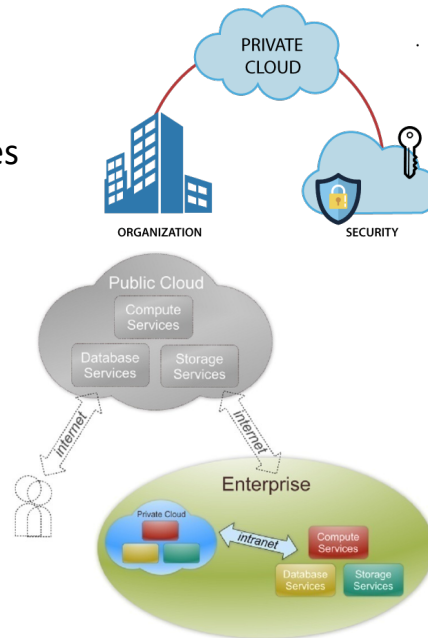
Characteristics of Private Cloud

- Heterogeneous infrastructure
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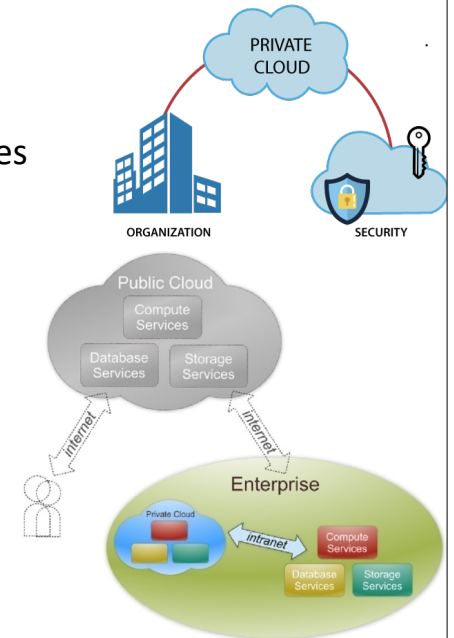
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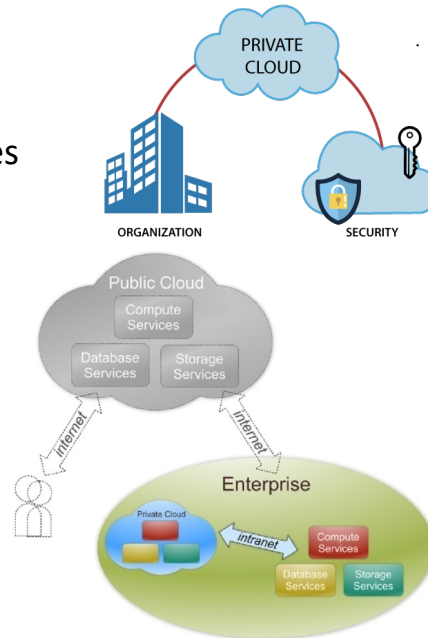
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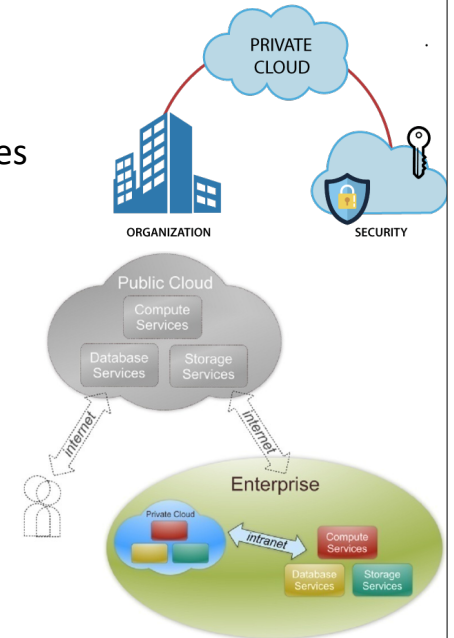


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• Some popular examples of private clouds:

- HP Data Centers
- Microsoft
- Elasta-private cloud
- Ubuntu



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- Databases.

Public vs. Private

- Comparison :

	Public Cloud	Private Cloud
Infrastructure	<i>Homogeneous</i>	<i>Heterogeneous</i>
Policy Model	<i>Common defined</i>	<i>Customized & Tailored</i>
Resource Model	<i>Shared & Multi-tenant</i>	<i>Dedicated</i>
Cost Model	<i>Operational expenditure</i>	<i>Capital expenditure</i>
Economy Model	<i>Large economy of scale</i>	<i>End-to-end control</i>

Disadvantages of Private Cloud

Disadvantages of Private Cloud

- Higher cost
- In general, **private** clouds are more expensive than public because they require both hardware and maintenance. You will need not only the hardware but also the operating system and licenses for software applications.

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- **More control**—resources are not shared with others, so higher levels of control and privacy are possible.
- **More scalability**—private clouds often offer more scalability compared to on-premises infrastructure.



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- It enables data and application portability (e.g., cloud bursting for load-balancing between clouds)

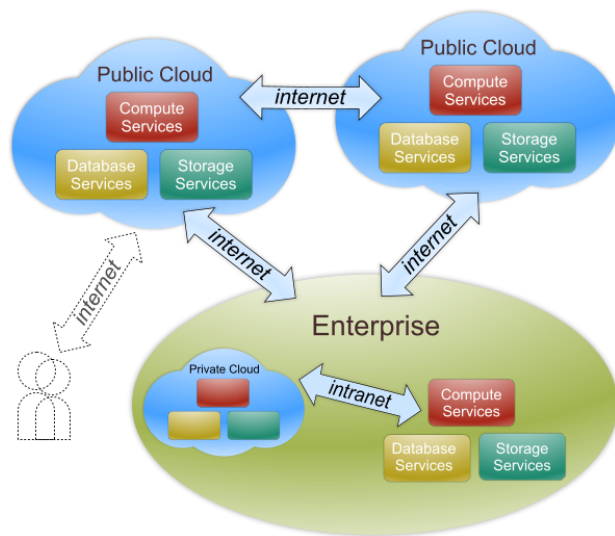
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- It enables data and application portability (e.g., cloud bursting for load-balancing between clouds)
- Sensitive data remains within the private cloud where high security standards can be maintained.
- Operations that do not make use of sensitive data are carried out in the public cloud where infrastructure can scale to meet demands and costs are reduced.

Hybrid Cloud



Advantages of Hybrid Cloud

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- **Control**—your organization can maintain a private infrastructure for sensitive assets or workloads that require low latency.

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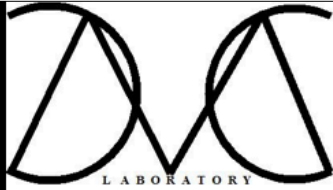
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- **Cost-effectiveness**—with the ability to scale to the public cloud, you pay for extra computing power only when needed.

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- **Flexibility**—you can take advantage of additional resources in the public cloud when you need them.
- **Cost-effectiveness**—with the ability to scale to the public cloud, you pay for extra computing power only when needed.
- **Ease**—transitioning to the cloud doesn't have to be overwhelming because you can migrate gradually—phasing in workloads over time.



COMMUNITY CLOUD

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- For example:
 - mission,
 - security requirements,
 - policy, and
 - compliance considerations

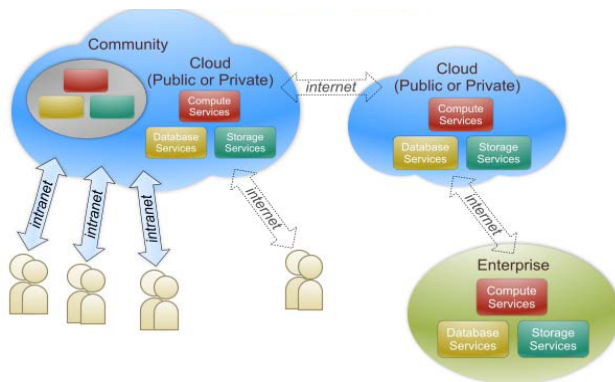
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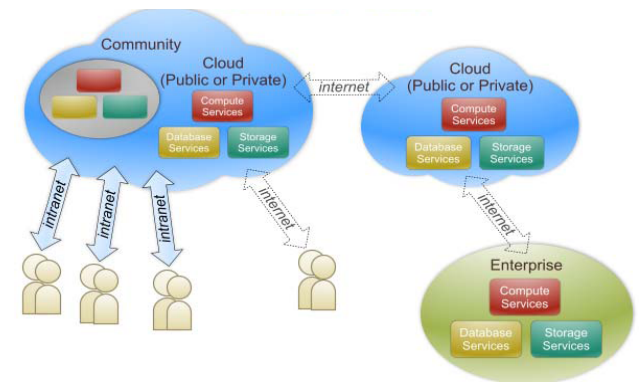
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- For example:
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- Businesses share infrastructure provided by the CSP for software and development tools that are designed to meet community needs.
- In addition, each business has its own private cloud space that is built to meet the security, privacy and compliance needs that are common in the community.

Community Cloud



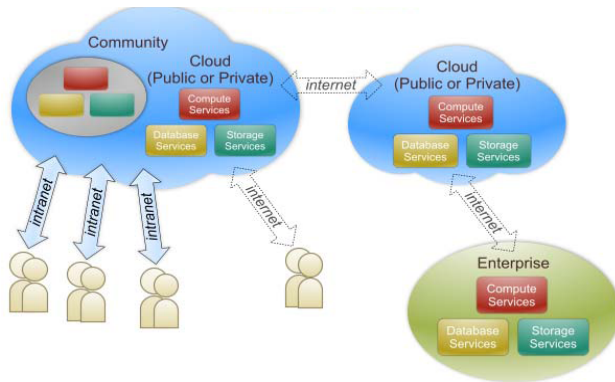
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- Community clouds are an attractive option for companies in the health, financial or legal spheres that are subject to strict regulatory compliance.

