

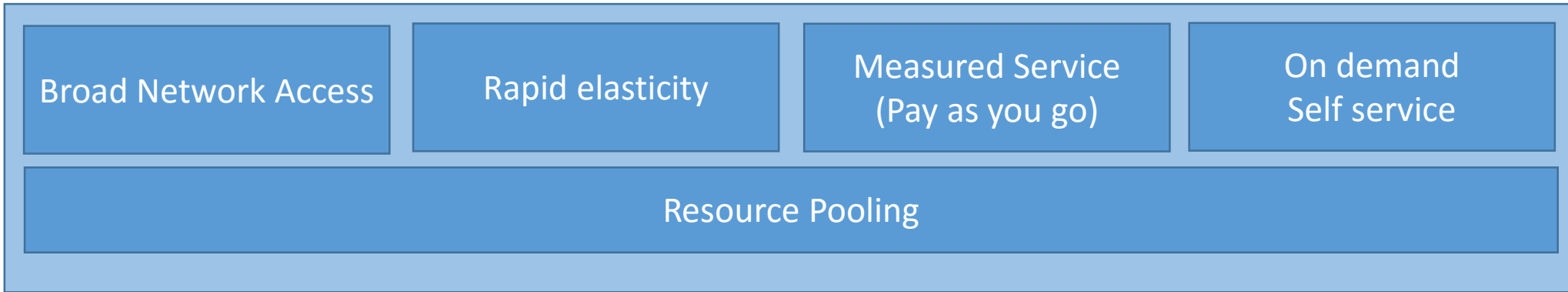
Cloud Computing

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NIST's definition of Cloud computing

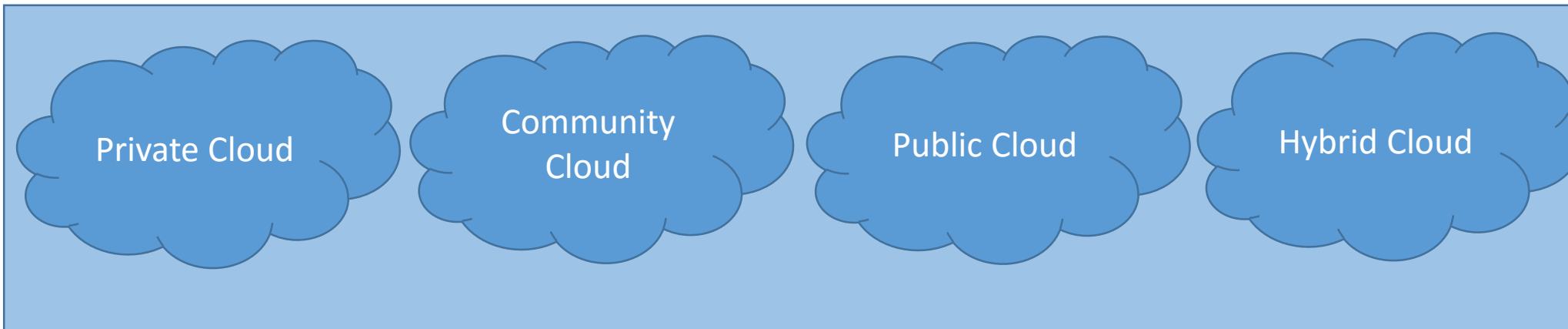
- In the cloud computing model, the primary focus is a more economic method of providing higher quality and faster services at a lower cost to the users.
- The cloud computing model enables CIOs, IT project managers and procurement officials to direct their attention to innovative service creation for the customers.



Attributes



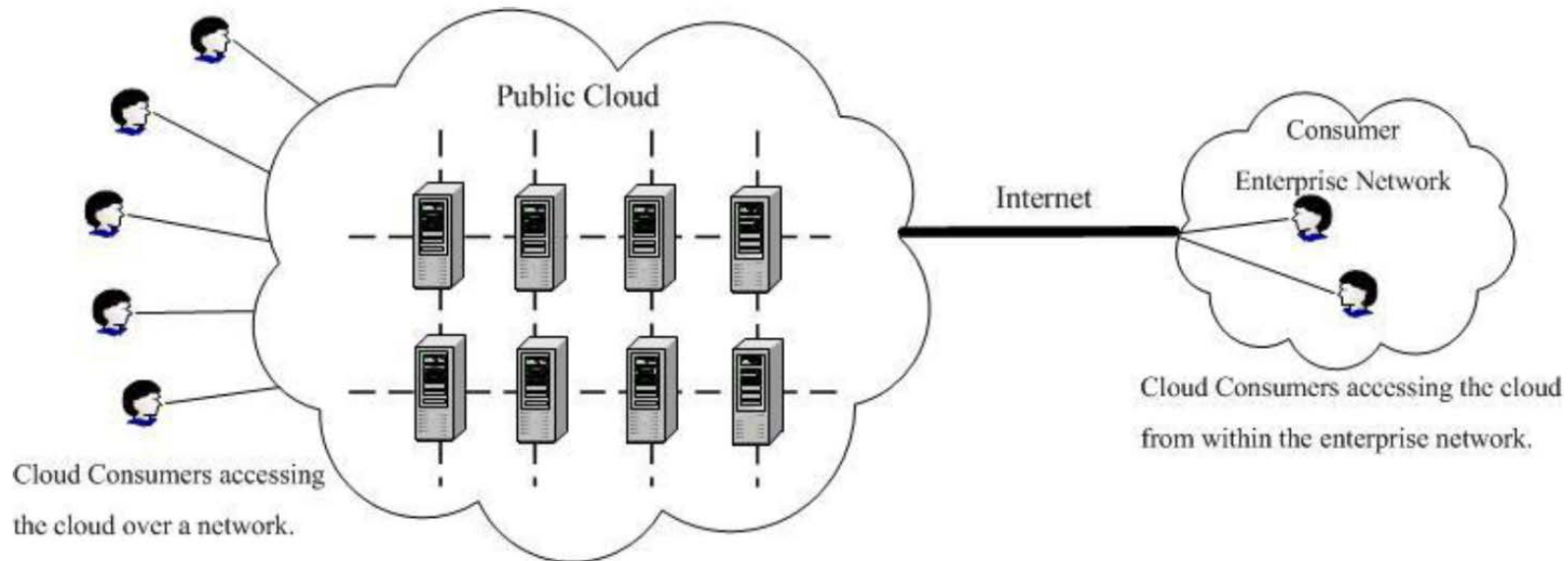
Service Model



Deployment Model

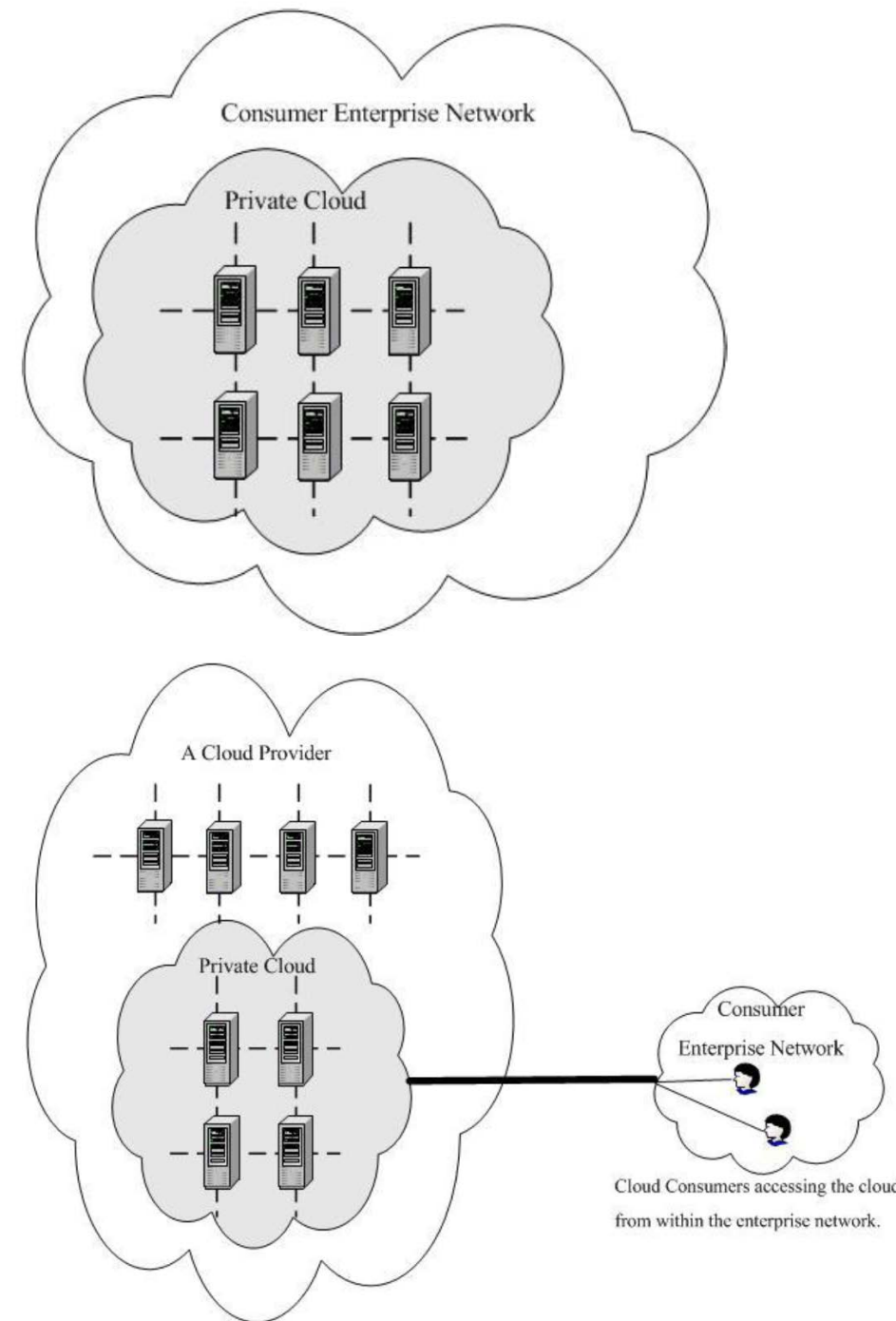
Public cloud

- Cloud infrastructure and computer resources are made available to the general public over a public network
- Owned by an organization
- Serves a diverse pool of clients



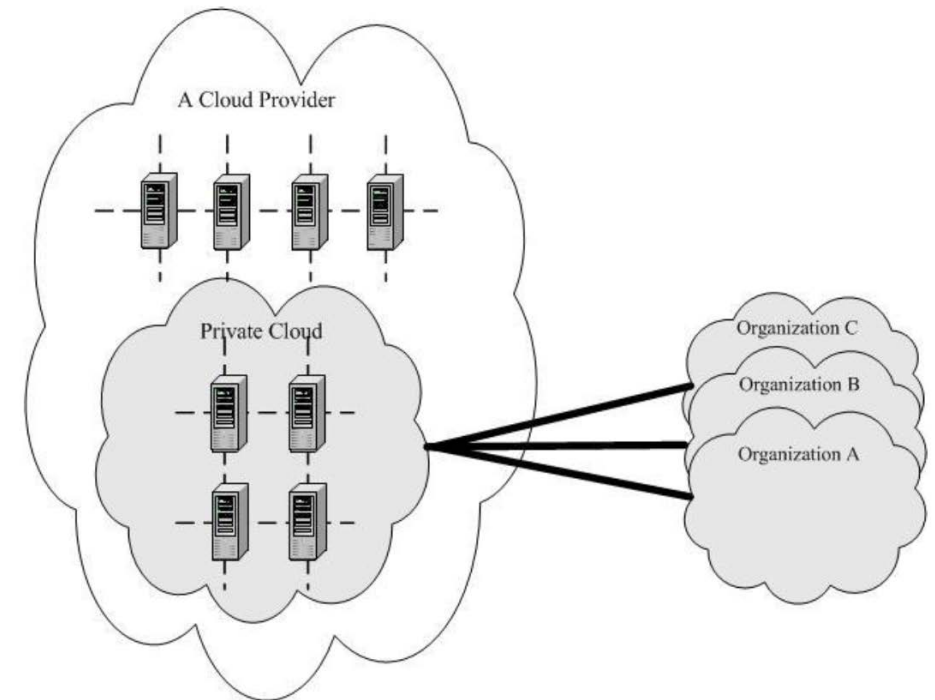
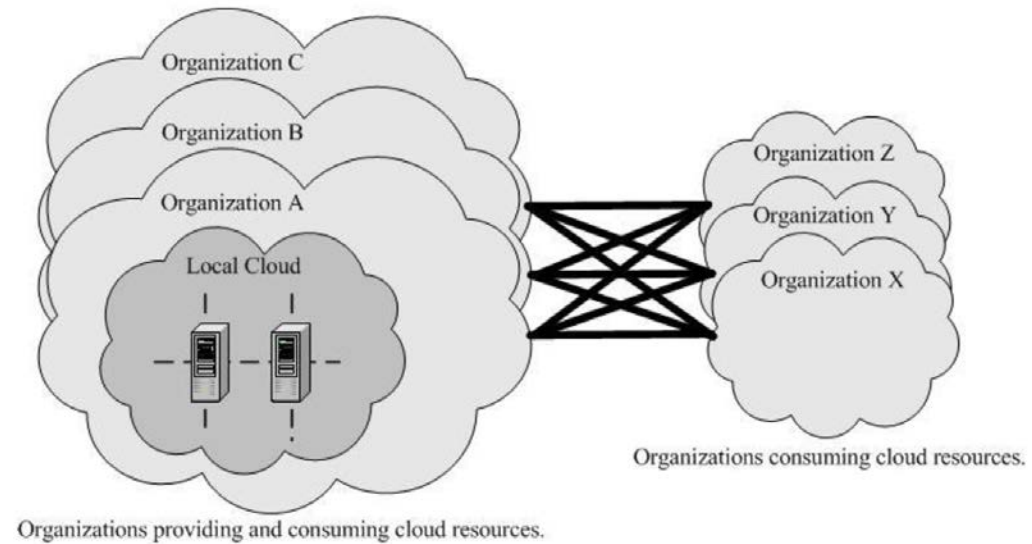
Private cloud

- Gives a single organization the exclusive access to and usage of infrastructure and computational resources
- May be managed by the cloud consumer organization or third party
- May be hosted on the organization's premises (i.e. *on-site private clouds*) or outsourced to a hosting company (i.e. *outsourced private clouds*).



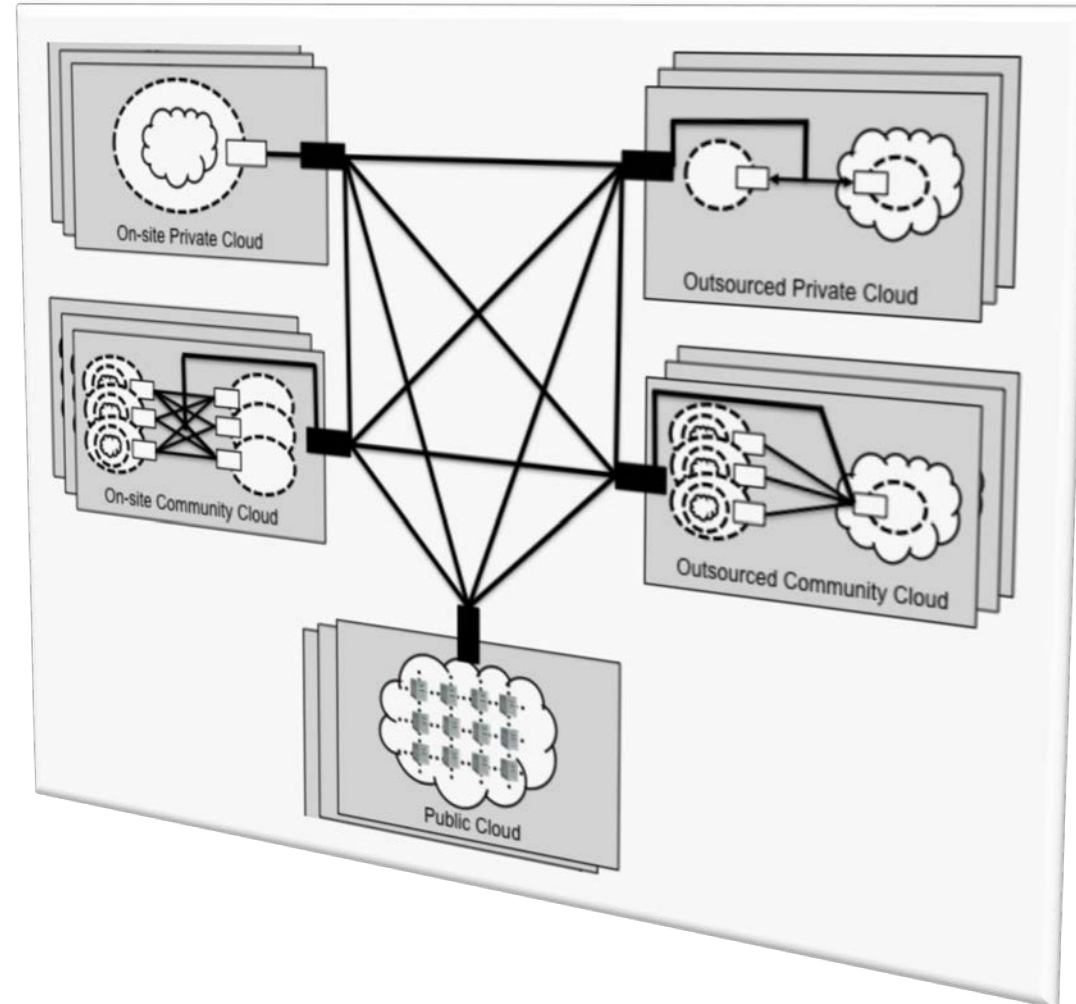
Community cloud

- A community cloud serves a group of Cloud Consumers which have shared concerns such as mission objectives, security, privacy and compliance policy, rather than serving a single organization as does a private cloud.
- May be managed by the cloud consumer organization or third party
- May be hosted on the organization's premises (i.e. *on-site private clouds*) or outsourced to a hosting company (i.e. *outsourced private clouds*).



Hybrid cloud

- A hybrid cloud is a composition of two or more clouds (on-site private, on-site community, off-site private, off-site community or public) that remain as distinct entities but are bound together by standardized or proprietary technology that enables data and application portability.

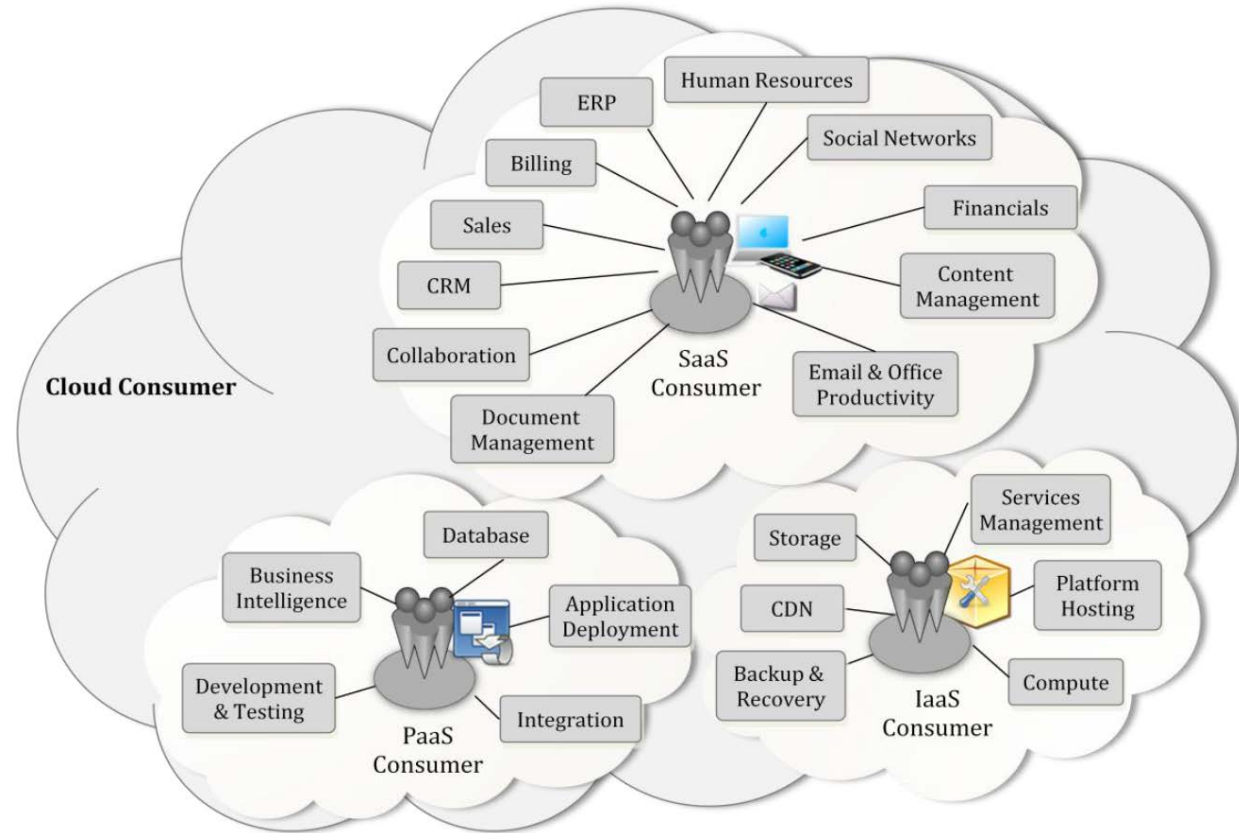


Actors in Cloud computing

Actor	Definition
Cloud Consumer	A person or organization that maintains a business relationship with, and uses service from, <i>Cloud Providers</i> .
Cloud Provider	A person, organization, or entity responsible for making a service available to interested parties.
Cloud Auditor	A party that can conduct independent assessment of cloud services, information system operations, performance and security of the cloud implementation.
Cloud Broker	An entity that manages the use, performance and delivery of cloud services, and negotiates relationships between <i>Cloud Providers</i> and <i>Cloud Consumers</i> .
Cloud Carrier	An intermediary that provides connectivity and transport of cloud services from <i>Cloud Providers</i> to <i>Cloud Consumers</i> .

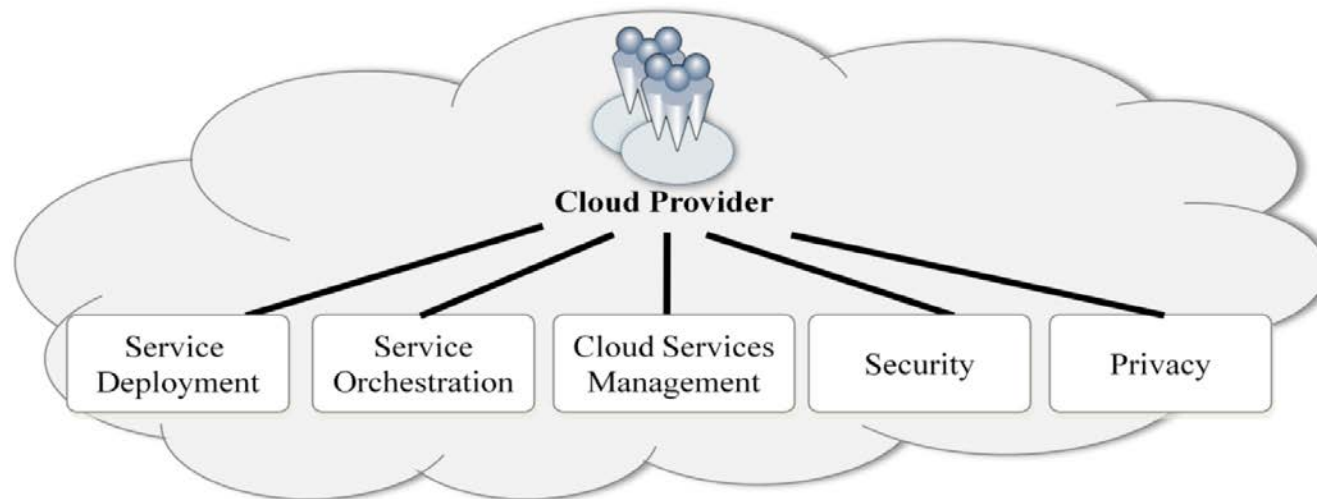
Cloud consumer

- The cloud consumer is the principal stakeholder for the cloud computing service. A cloud consumer represents a person or organization that maintains a business relationship with, and uses the service from a cloud provider. A cloud consumer browses the service catalog from a cloud provider, requests the appropriate service, sets up service contracts with the cloud provider, and uses the service.



Cloud provider

- A cloud provider is a person, an organization; it is the entity responsible for making a service available to interested parties. A Cloud Provider acquires and manages the computing infrastructure required for providing the services, runs the cloud software that provides the services, and makes arrangement to deliver the cloud services to the Cloud Consumers through network access.



Cloud Auditor

- A cloud auditor is a party that can perform an independent examination of cloud service controls with the intent to express an opinion thereon. Audits are performed to verify conformance to standards through review of objective evidence. A cloud auditor can evaluate the services provided by a cloud provider in terms of security controls, privacy impact, performance, etc.

Cloud broker

- As cloud computing evolves, the integration of cloud services can be too complex for cloud consumers to manage. A cloud consumer may request cloud services from a cloud broker, instead of contacting a cloud provider directly. A cloud broker is an entity that manages the use, performance and delivery of cloud services and negotiates relationships between cloud providers and cloud consumers.

Cloud carrier

- A cloud carrier acts as an intermediary that provides connectivity and transport of cloud services between cloud consumers and cloud providers. Cloud carriers provide access to consumers through network, telecommunication and other access devices.

Scope of Control between Provider and Consumer

