E-CONTENTS OF CLOUD COMPUTING

3.   **OVERVIEW OF SLA**

1.1 The Evolution to Cloud Computing

"Cloud computing" was popularized with Amazon.com releasing its Elastic Compute Cloud product in 2006, references to the phrase "cloud computing" appeared as early as 1996, with the first known mention in a Compaq internal document.

The cloud symbol was used to represent networks of computing equipment in the original ARPANET by as early as 1977, and the CSNET by both predecessors to the Internet itself. The word *cloud* was used as a metaphor for the Internet and a standardized cloud-like shape was used to denote a network on telephony schematics.

The term *cloud* was used to refer to platforms for distributed computing as early as 1993, when Apple spin-off General Magic and AT&T used it in describing their (paired) Telescriptand PersonaLink technologies. In *Wired's* April 1994 feature "Bill and Andy's Excellent Adventure II", Andy Hertzfeld commented on Telescript, General Magic's distributed programming language:

"The beauty of Telescript is that now, instead of just having a device to program, we now have the entire Cloud out there, where a single program can go and travel to many different sources of information and create sort of a virtual service. No one had conceived that before. The example Jim White [the designer of Telescript, X.400and ASN.1] uses now is a date-arranging service where a software agent goes to the flower store and orders flowers and then goes to the ticket shop and gets the tickets for the show, and everything is communicated to both parties."

OVERVIEW

The popular trend in today's technology driven world is 'Cloud Computing'. Cloud computing can be referred to as the storing and accessing of data over the internet rather than your computer's hard drive. This means you don't access the data from either your computer's hard drive or over a dedicated computer network (home or office network). Cloud computing means data is stored at a remote place and is synchronized with other web information.

One prominent example of cloud computing is Office 365 which allows users to store, access, edit their MS Office documents online (in browser) without installing the actual program on their device.
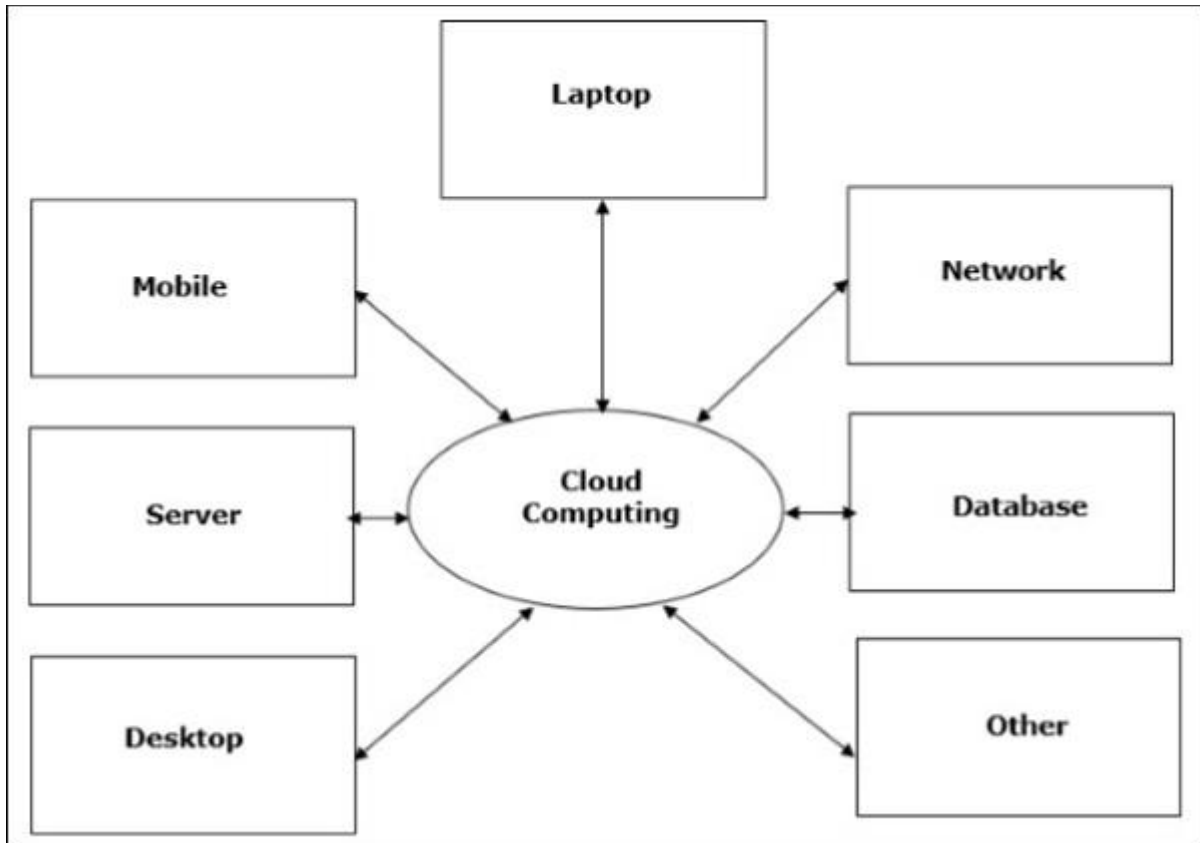
Architecture of Cloud Computing

The architecture of cloud computing comprises of the following components −

- Front-end device
- Back-end platform
- Cloud-based delivery
- Network

Front-end Devices − These are basically the devices that are used by clients to access the data or program using the browser or special applications.

Back-end Platform − There are various computers, servers, virtual machines, etc. that combine to become a back-end platform.

Characteristics of Cloud Computing

There are four key characteristics of cloud computing.
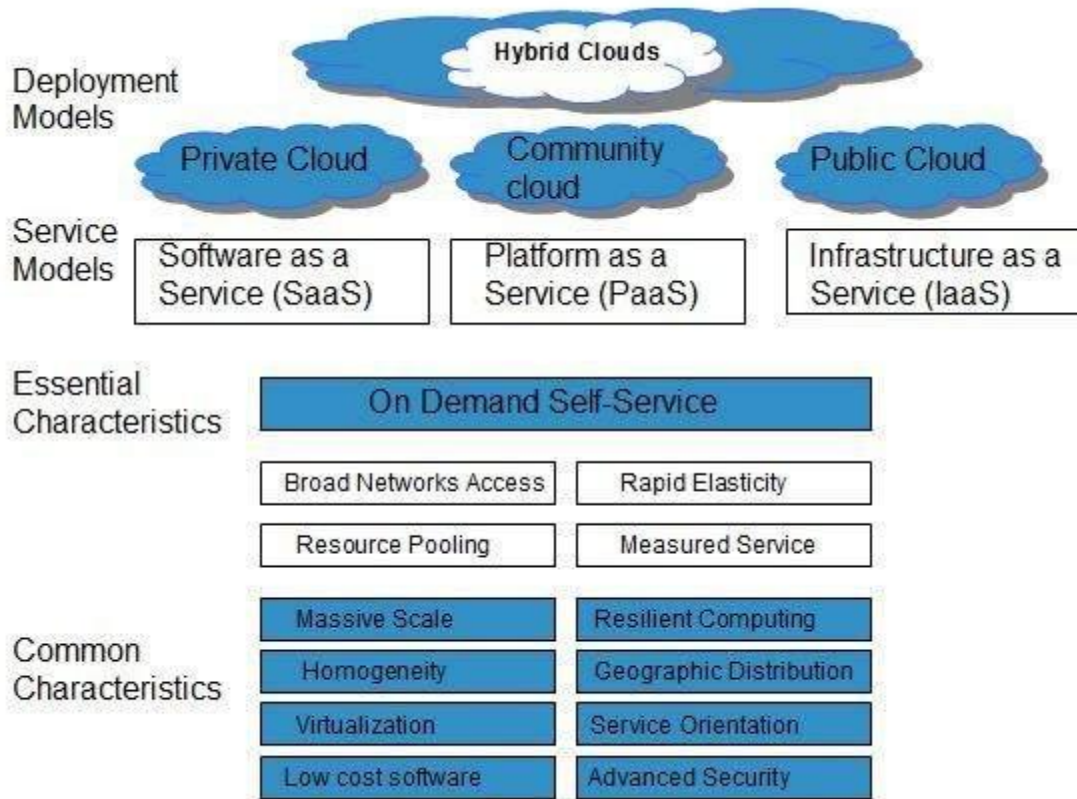
On Demand Self Service

Cloud Computing allows the users to use web services and resources on demand. One can logon to a website at any time and use them.

Broad Network Access

Since cloud computing is completely web based, it can be accessed from anywhere and at any time.

Resource Pooling

Cloud computing allows multiple tenants to share a pool of resources. One can share single physical instance of hardware, database and basic infrastructure.

Rapid Elasticity

It is very easy to scale the resources vertically or horizontally at any time. Scaling of resources means the ability of resources to deal with increasing or decreasing demand.

The resources being used by customers at any given point of time are automatically monitored.

Measured Service

In this service cloud provider controls and monitors all the aspects of cloud service. Resource optimization, billing, and capacity planning etc. depend on it.

Benefits

Cloud Computing has numerous advantages. Some of them are listed below
-

- One can access applications as utilities, over the Internet.

- One can manipulate and configure the applications online at any time.

- It does not require to install a software to access or manipulate cloud application.

- Cloud Computing offers online development and deployment tools, programming runtime environment through **PaaS model.**

- Cloud resources are available over the network in a manner that provide platform independent access to any type of clients.

- Cloud Computing offers **on-demand self-service.** The resources can be used without interaction with cloud service provider.

- Cloud Computing is highly cost effective because it operates at high efficiency with optimum utilization. It just requires an Internet connection

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- Cloud Computing offers load balancing that makes it more reliable

Challenges in Cloud Computing

Following diagram shows the major challenges in cloud computing.
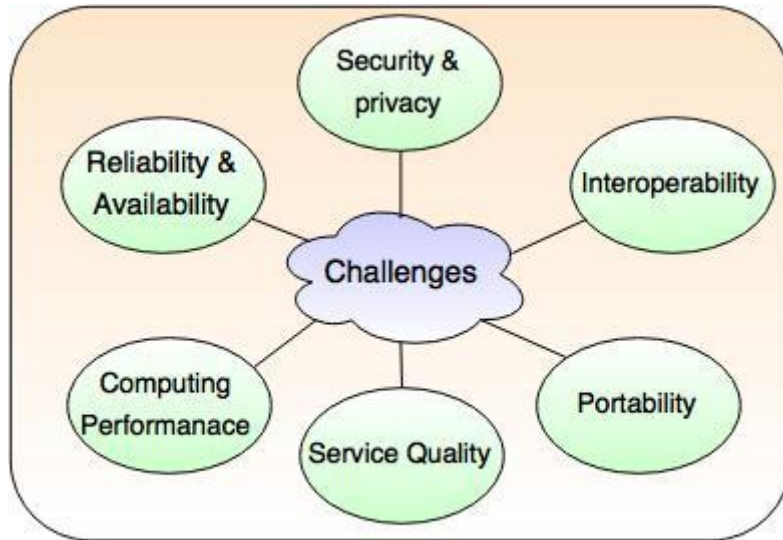
Fig. - Challenges in Cloud Computing

Security and Privacy
- Security and privacy are the main challenge in cloud computing.
- These challenges can reduced by using security applications, encrypted file systems, data loss software.

Interoperability
- The application on one platform should be able to incorporate services from the other platform. This is known as **Interoperability.**
- It is becoming possible through web services, but to develop such web services is complex.

Portability
- The applications running on one cloud platform can be moved to new cloud platform and it should operate correctly without making any changes in design, coding.
- The portability is not possible, because each of the cloud providers uses different standard languages for their platform.

Service Quality
The Service-Level Agreements (SLAs) of the providers are not enough to guarantee the availability and scalability. The businesses disinclined to switch to cloud without a strong service quality guarantee.

Computing Performance
- High network bandwidth is needed for data intensive applications on cloud, this results in high cost.
- In cloud computing, low bandwidth does not meet the desired computing performance.

2. CLOUD COMPUTING SERVICE MODELS

Cloud Computing Service Models

Cloud computing is based on Service model.

Categories of service model

The service models are categorized into three basic models:

1) Software-as-a-Service (SaaS)
2) Platform-as-a-Service (PaaS)
3) Infrastructure-as-a-Service (IaaS)

Fig. - Categories of Cloud Computing

2. What is Infrastructure as a Service (IaaS)?

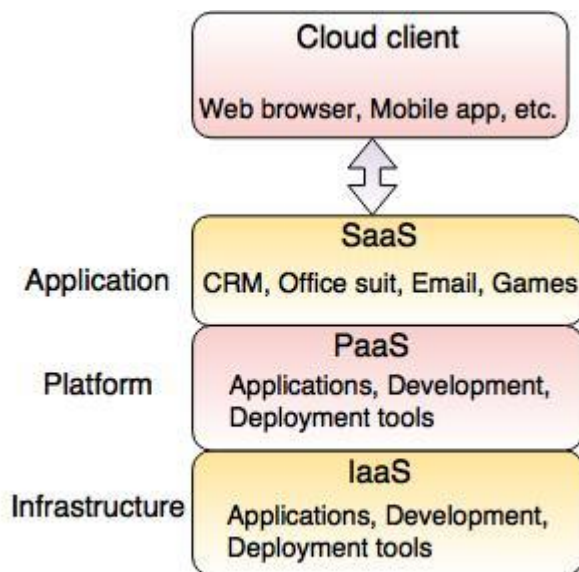Infrastructure as a Service is the instant computing infrastructure which serves, manages, and monitors over the internet. It can modify as per the demand and the customer has to pay only for what they have used. IaaS can scale up and down as per the demand so the customer doesn't pay any extra charges.

IaaS reduces the burden to manage and maintain the servers as the infrastructure provides by the company. Every resource has a separate component and the customer can rent that as per the requirement. The complete management is done by the Cloud Service provider. The installation, configuration, and management of the software are complete by the customer.

Do you know the Working of Cloud Computing?
3. Working of IaaS

This part shows the architecture of Infrastructure as a Service.

i. Service Provider Cloud

The client gives an access to the virtualized environment which can also call as an infrastructure served over the internet. They are given such components to build their own IT platforms. The Cloud is flexible as the user can access IaaS anytime and from anywhere. The only requirement is an internet connection.

ii. Hardware

The place where the data is stored which can be also known as the infrastructure or hardware. It is made reliable and secure where the data stores. It includes many offerings such as virtual server space, network connections, bandwidth, IP addresses, and load balancers.

iii. Servers

The servers are maintained by the **Cloud providers** and totally managed by them. These servers and networks distributed across numerous data centres. These data centres are secured by cloud providers.

Pros of Infrastructure as a Service (IaaS)
- Less responsibility is on you and your team because both data center infrastructure and environment are handled for you.
- You get a team of experts to manage your infrastructure for you, increasing your manpower and ensuring the success of your solution.
- You don't have to pay the initial start-up costs of purchasing and building infrastructure.
- You gain increased cost-efficiency and flexibility because you only pay for what you need when you need it.
- You enjoy improved performance and reliability thanks to a professionally designed and maintained environment.
- You receive increased physical data center security handled by your provider.

- If your provider also offers network services, you can enjoy improved performance and reliability.
- You get peace of mind with a provider that offers 24/7/365 monitoring, which is difficult to achieve with a DIY solution.
- You'll know your data is in good hands with a provider that adheres to strict industry standards.
- Your business continuity and disaster recovery (BC/DR) will improve because your data won't be in the same location as your office building.
- You can quickly scale infrastructure up and down as needed, allowing you to quickly test new products and achieve a faster time to market.
- You'll enjoy increased flexibility if your office building moves geographic locations because your infrastructure won't have to move with it.

Cons of Infrastructure as a Service (IaaS)

- If you already have a large team of experts on hand or have already invested in a lot of your own infrastructure, IaaS may not be as beneficial for you.
- You don't have fine-tuned control over the data center or any infrastructure within it, which means relinquishing some control.
- Some very large businesses will save money down the line by investing in ownership of their infrastructure rather than renting it.

Is infrastructure as a service (IaaS) the right fit for your business or is it a clear mismatch? Regardless of what solution you choose in the end, the key to successful services is choosing the right provider.

LightBound is ready to help with all of your data center needs, including IaaS and colocation services. With LightBound, you can count on a successful transition, top-notch support, and continued success with your chosen solution.

Do you have questions about IaaS in cloud computing? Want to speak with a LightBound expert about whether IaaS is the right choice for your business? Contact LightBound today to learn more!

SaaS: Software as a Service

Software as a Service, also known as cloud application services, represents the most commonly utilized option for businesses in the cloud market. SaaS utilizes the internet to deliver applications, which are managed by a third-party vendor, to it's users. A majority of SaaS applications are run directly through the web browser, and do not require any downloads or installations on the client side.

SaaS Delivery

Due to its web delivery model, SaaS eliminates the need to have IT staff download and install applications on each individual computer. With SaaS, vendors manage all of the potential technical issues, such as data, middleware, servers, and storage, allowing businesses to streamline their maintenance and support.

SaaS Advantages

SaaS provides numerous advantages to employees and companies by greatly reducing the time and money spent on tedious tasks such as installing, managing, and upgrading software. This frees up plenty of time for technical staff to spend on more pressing matters and issues within the organization.

SaaS Characteristics

There are a few ways to help you determine when SaaS is being utilized:

- Managed from a central location
- Hosted on a remote server
- Accessible over the internet

Users not responsible for hardware or software updatesPaaS Delivery

The delivery model of PaaS is similar to SaaS, except instead of delivering the software over the internet, PaaS provides a platform for software creation. This platform is delivered over the web, and gives developers the freedom to concentrate on building the software while still not having to worry about operating systems, software updates, storage, or infrastructure.

PaaS allows businesses to design and create applications that are built into the PaaS with special software components. These applications, or middleware, are scalable and highly available as they take on certain cloud characteristics.

PaaS Advantages

No matter what size your company may be, there are numerous advantages for using PaaS:

- Makes the development and deployment of apps simple and cost-effective
- Scalable
- Highly available
- Gives developers the ability to create customized apps without the headache of maintaining the software
- Greatly reduces the amount of coding
- Automates business policy
- Allows easy migration to the hybrid model

PaaS Characteristics

PaaS has many characteristics that define it as a cloud service, including:

- It is built on virtualization technology, meaning resources can easily be scaled up or down as your business changes
- Provides a variety of services to assist with the development, testing, and deployment of apps
- Numerous users can access the same development application

* Web services and databases are integrated

IaaS: Infrastructure as a Service

Cloud infrastructure services, known as Infrastructure as a Service (IaaS), are made of highly scalable and automated compute resources. IaaS is fully <u>self-service</u> for accessing and monitoring things like computers, networking, storage, and other services, and it allows businesses to purchase resources on-demand and as-needed instead of having to buy hardware outright.

IaaS Delivery

IaaS delivers Cloud Computing infrastructure, including things such as servers, network, operating systems, and storage, through virtualization technology. These cloud servers are typically provided to the organization through a dashboard or an API, and IaaS clients have complete control over the entire

Common Examples of SaaS, PaaS, & IaaS

Platform Type	Common Examples
SaaS	Google Apps, Dropbox, Salesforce, Cisco WebEx, Concur, GoToMeeting
PaaS	AWS Elastic Beanstalk, Windows Azure, Heroku, Force.com, Google App Engine, Apache Stratos, OpenShift
IaaS	DigitalOcean, Linode, Rackspace, Amazon Web Services (AWS), Cisco Metapod, Microsoft Azure, Google Compute Engine (GCE)

2.3   Platform as a Service(PaaS)

2.3.1 PaaS architecture and how it works?

Platform as a Service (PaaS)

Platform as a Service (PaaS) Discussion

Platform as a Service (PaaS) is the next step down from Software as a Service (SaaS) in the Cloud Computing Stack. Instead of ready-made applications or services, PaaS provides the platform for developing such applications and services. Here you find various development tools and such things as database management systems, enterprise service buses (ESBs), application servers, business intelligence (BI)/business analytics, and so on that could be used to support the applications and services developed.

Platform as a Service (PaaS) Advantages

Advantages Unique to Platform as a Service (PaaS)

- You or your organization are responsible for the versioning/upgrades of software developed (this is also a disadvantage).

Advantages Shared With Infrastructure as a Service (IaaS)

- The maintenance and upgrades of tools, database systems, etc. and the underlying infrastucture is the responsibility of the PaaS Cloud Provider.
- Various pricing models may allow paying only for what you use. This, for example, can allow an individual or a small organization to use sophisticated development software that they could not afford if it was installed on an internal, dedicated server.
- Some PaaS Providers provide development options for multiple platforms: mobile, browser, and so on. If you or your organization want to develop software that can be accessed from multiple platforms, this might be an easy way to make that happen.
- If you have events such as high seasonal sales activity, then the elasticity of the Cloud with PaaS might provide an opportunity.
- The PaaS Cloud Provider may provide better security than your existing software (security—or inadequate security—can also be a disadvantage). Better security may come in part because it is critical for the PaaS Cloud Provider and is part of their main business. In-house security, on the other hand, is not usually an individual's or a organization's main business and, therefore, may not be as good as that offered by the PaaS Cloud Provider.

Platform as a Service (PaaS) Disadvantages

Disadvantages Unique to Platform as a Service (PaaS)

- You or your organization are responsible for the versioning/upgrades of software developed (this is also an advantage).

Disadvantages Shared With Infrastructure as a Service (IaaS)

- When it is mandatory that the underlying hardware be of a specific type or the underlying software be modified to support the deployed application.
- There may be legal reasons that preclude the use of off-premise or out-of-counry data storage.
- Security features of the PaaS Cloud Provider may not adequate for your needs.
- If you have a need for high-speed interaction between your internal software or software in another Cloud and the PaaS Cloud Provider, relying on an Internet connection may not provide the speed that you need.

2.4   Software as a service

SaaS Advantages

SaaS provides numerous advantages to employees and companies by greatly reducing the time and money spent on tedious tasks such as installing, managing, and upgrading software. This frees up plenty of time for technical staff to spend on more pressing matters and issues within the organization.

1. **Security and confidentiality** – while working from anywhere / anytime is an important aspect of SaaS this also implies that sensitive data has to be stored online on third party servers. This can be an issue in some of the functions for example, accounting, etc.
2. **Risk of data loss** – A SaaS provider have to be chosen wisely as there is an inherent risk of losing valuable data if the vendor goes out of business
3. **Dependence on high speed internet** – A high speed internet connection is must for SaaS, while this is not a big challenge in developed nation, it can be a serious limitation in developing nations with poor infrastructure and unreliable connectivity. Thus firms should choose wisely understanding the connectivity bottleneck.
4. **Low predictability of cost** – Based on a survey by Gartner, current customers were least satisfied with the lack of predictability of cost in SaaS implementation. This primarily is because of the unpredictability in post sales support and maintenance services.
5. **Not all applications have SaaS versions yet** – Many firms need very industry specific business applications which do not have a SaaS version presently.
6. In many cases SaaS versions **may not be as powerful as non-SaaS ones** – Compare Google excel sheet with MSExcel, The MSExcel has many more advance features as compared to the SaaS version. Similarly, may more SaaS versions are stripped down versions of a powerful non-SaaS product.

2.5   Cloud deployment models

As cloud technology is providing users with so many benefits, these benefits must have to be categorized based on users requirement. Cloud deployment model represents the exact category of cloud environment based on proprietorship, size, and access and also describes the nature and purpose of the cloud. Most organizations implement cloud infrastructure to minimize capital expenditure & regulate operating costs.

Advantages of Public Cloud Model

In public clouds the resources are shared between multiple clients and all the services are controlled by services provider.

- **Simple and easy:** Public clouds are available as a service in the internet, they are easy to deploy.
- **Cost:** Initial investment is very low or nil.
- **Less time:** The IT resources and services are available immediately saving time for the company.
- **No maintenance:** The hardware and networks are maintained by the cloud services provider. Internal IT staffs have no responsibility in maintaining the infrastructure.
- **No contracts:** No long term commitment with service provider because public clouds are usually pay-as-you-go models.

Disadvantages of Public Cloud Model

Lacks proper controls: The client has no control of data or infrastructure. There are issues of data privacy and integrity. The service level policies and compliances are completely enforced by the service provider.
Performance: The performance of the network depends on the speed of the internet connectivity.
Weak on Security: Since the hardware resource is shared between multiple users, IT security issues are more profound and data is vulnerable to thefts.
Customization: Customization of resources or services is not possible.

Private Cloud

Advantages of Private Cloud Model

Private cloud infrastructure is a dedicated infrastructure provided to one single organization or client.

- **Controls:** Better controls for data, users and information assets.
- **Cost:** Initial investment for hardware is very high in case of an on-premise infrastructure.
- **Security:** The cloud belongs to a single client. Hence, the infrastructure and systems can be configured to provide high levels of security.
- **Superior Performance:** Normally private clouds are deployed inside the firewall of the organization's intranet which ensures efficiency and good network performance.
- **Easy Customization:** The hardware and other resources can be customized easily by the company.
- **Compliance:** Compliance is achieved easily in private clouds.

Disadvantages of Private Cloud Model

Cost: Costs are substantial in the case of building an on-premise private cloud. The running cost would include personnel cost and periodic hardware upgrade costs. In the case of outsourced private cloud, operating cost will include per resource usage and subject to change at the discretion of the service provider.
Under-utilization: In some instances the resources subscribed can be under-utilized. Hence, optimizing the utilization of all resources is a challenge.
Capacity ceiling: Due to physical hardware limitations with the service provider, there could be a capacity ceiling to handle only certain amount of servers or storage.
Vendor lock-in: This can be a major impediment in private cloud adoption especially when the hardware and infrastructure is outsourced. This is a service delivery technique where the client company is forced to continue with the same service provider, thus preventing the client to migrate to another vendor.

Hybrid Cloud

Hybrid cloud is a cloud computing environment that uses a mix of on-premises, private cloud and third-party, public cloud services with orchestration between the two platforms. By allowing workloads to move between private and public clouds as computing needs and costs change, hybrid cloud gives businesses greater flexibility and more data deployment options.

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Advantages of Hybrid Cloud Model

1) Transitioning to a Public Cloud

Sometimes a hybrid cloud benefits companies going through complex migrations. For example, if you've recently acquired another organization, it may take multiple phases to consolidate the two landscapes into a public cloud.

Hybrid clouds are also useful for companies transitioning gradually because of a low appetite for risk, or the need to make use of hardware investments. In all these cases, a hybrid cloud model lets you move systems over to the new host when you're ready, while gradually phasing out the old environment.

2) Maintaining a Legacy Data Silo

If you have old data you need to store but don't regularly use, migrating it to the cloud may be more trouble than it is worth — at least in the short term.

Auditing, sanitizing and consolidating old data can be a complicated process, requiring your team to track down missing or inconsistent data and fix antiquated or inconsistent formatting. Sometimes it's better to leave the silo in place until you've dealt with high-priority upgrades.

3) Low Latency

Data can move extremely quickly through the cloud, but it isn't instantaneous. It takes time for data to travel thousands of miles, and pass through multiple routers and switches. And while an extra 10 or 15 milliseconds doesn't usually matter, it can be unacceptable in certain applications, such as industrial control systems and human-machine interfaces.

A hybrid cloud combines the benefits of on-premise hardware for latency-critical applications, with the scalability and cost-effectiveness of the public cloud for other applications.

However, there may be other alternatives to a hybrid cloud model, such as moving production closer to the data center, or running a high-speed cable. Your managed services partner can help you weigh the options and pick the most effective one for your landscape.

4) Extremely Large Files

In certain applications that work with very large files, there are clear benefits to a hybrid cloud over a purely public cloud landscape.

This is often the case with media organizations, such as movie, animation and special effects studios, which may have to work with hundreds of hours of uncompressed video footage. A hybrid cloud model allows organizations to quickly access large files for current projects locally, while using the public cloud as their main data repository.

5) Hybrid Cloud Compliance

Certain compliance scenarios like data residency may be easier to satisfy using a hybrid cloud. For example, as part of a GDPR compliance strategy, a company may decide to store data from EU residents

in a particular data center in France, while storing other data in a global public cloud. A hybrid cloud model enables companies to integrate ad hoc compliance controls with a global public cloud strategy.

Disadvantages of Hybrid Cloud Model

1. Infrastructure Dependency

In case of an outage, the organization has to rely on the internal IT for any support to handle the outages in the hybrid environment. One of the ways to reduce it would be to create redundancy across its data centers. In order to mitigate the risks, the company may have to use multiple cloud services.

2. Security compliance

Ensuring that all the cloud services; both public and private, are compliant with the company's security policies and more importantly, abiding the regulations set by their respective governed bodies. The data transferred between any of the cloud services are protected against any misdeeds. Any negligence on this part could defeat the purpose of deploying the hybrid cloud model.

3. Networking

Having a network setup which ensures fluid and effortless transfer of data is the key in Hybrid model. The involvement of public and private cloud would invariably make networking in the organization quite complex, which needs to be handled in the most effective manner possible.

4. Cost

Although a business can easily setup a public cloud for a low cost, the same cannot be said for the private cloud model. Building the private cloud can increase the cost, and the cost is bound to increase in future as the business keeps growing. A clear strategy for the perfect combination of public and private clouds are required to bring this cost to the minimum.

3. OVERVIEW OF SLA

3.1.1 Benefits of SLAs

1. Definition of the agreeing parties, the goal of the agreement and the scope of agreement
2. The exact timing (days and hours in UTC) when the service will be delivered
3. The guaranteed variables (the number of users the service must support without any issues, the issue resolution time, the ticket response time, the

number and the types of issues covered by the SLA monthly, etc.) and the numerable metrics to evaluate the quality of the service provided

4. Mutual responsibilities of the customer and the IT services provider
5. The procedure of incident report creation (including the time needed to prepare the report)
6. The procedure of the service request execution (including the time needed to do this)
7. The procedure of the change request implementation (including the specification of the tasks completed and working hours spent)
8. The list of all payments and billing specifics (both lump sum and divided by categories)
9. Dispute resolution policy
10. The procedure of SLA amendment

Key components of an SLA

1. **Agreement Overview**

   The agreement overview includes details such as the individuals involved, effective/expiry date as well as a general statement on what other details the particular SLA will cover.

2. **Goals and Objectives**

   The next section that should be covered is goals and objectives. Here, the purpose of the agreement, including the ability to obtain a mutual agreement, will be outlined.

3. **Stakeholders**

   This section defines the parties involved in the agreement. For example, an IT service provider and an IT customer.

4. **Periodic Review**

   There should be mention of a periodic review, which will outline the effective/expiry date, as well as the parameters regarding review timelines of a particular SLA.

Types Of SLAS

- **Customer-based SLA**: An agreement with an individual customer group, covering all the services they use. For example, an SLA between a supplier (IT service provider) and the finance department of a large organization for the services such as finance system, payroll system, billing system, procurement/purchase system, etc.

- **Service-based SLA**: An agreement for all customers using the services being delivered by the service provider**.** For example:
  - A mobile service provider offers a routine service to all the customers and offers certain maintenance as a part of an offer with the universal charging.
  - An email system for the entire organization. There are chances of difficulties arising in this type of SLA as level of the services being offered may vary for different customers (for example, head office staff may use high-speed <u>LAN</u> connections while local offices may have to use a lower speed leased line).

- **Multilevel SLA**: The SLA is split into the different levels, each addressing different set of customers for the same services, in the same SLA.
  - **Corporate-level SLA**: Covering all the generic <u>service level management</u> (often abbreviated as SLM) issues appropriate to every customer throughout the organization. These issues are likely to be less volatile and so updates (SLA reviews) are less frequently required.
  - **Customer-level SLA**: covering all SLM issues relevant to the particular customer group, regardless of the services being used.
  - **Service-level SLA**: covering all SLM issue relevant to the specific services, in relation to this specific customer group.

SLA life cycle

A <u>Service level agreement</u> object can pass through the service level agreement lifecycle.
The following table describes the states of the service level agreement lifecycle, and, for each state, names the transition that moves a service level agreement forward to that state.

Transition	State	Description
(Initial state)	SLA identified	This state is entered as soon as a consumer, represented by a capability version, requests a dependency on a service version or other capability version that offers the service level definition (SLD) that they require.
Request SLA	SLA requested	The agreed endpoints relationship target has been selected together with details of the required SLA properties and policies. The provider of the selected SLD must approve the request, reject it or ask for it to be revised.
Approve SLA request	SLA inactive	The development team that want to consume the service can continue their development based on the consumption of this specific SLA, but they do not yet have authorization to access any endpoints.

Transition	State	Description
Revise SLA request	SLA identified	As part of the negotiation of an SLA, the service provider requests a rework of the details of the SLA by the service consumer. This is done by moving the SLA back into the identified state, ready for a resubmission.
Activate SLA	SLA active	All the approved endpoints associated with the SLD, that are online, can be invoked using the terms of the SLA. There might be situations where the SLA is deactivated, in which case the SLA enters the SLA inactive state and any further interactions are blocked until it is reactivated.
Deactivate SLA	SLA inactive	For operational issues, the SLA is temporarily suspended by moving it back to the inactive state. Once the operational issues have been removed, the SLA can be reactivated.
Terminate SLA	SLA terminated	No interactions from this SLA are permitted.

Diagram of the service level agreement lifecycle

SLACreated

SLAIdentified

ReviseSLARequest

RequestSLA

SLARejected

RejectSLARequest

SLARequested

ApproveSLARequest

SLAInActive

ActivateSLA

DeactivateSLA

SLAActive

TerminateSLA

TerminateSLA

SLATerminated