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اسم المادة / Cloud Computing

المرحلة / الرابع

القسم / هندسة تقنيات الحاسوب

الجامعة / كلية الرشيد الجامعة

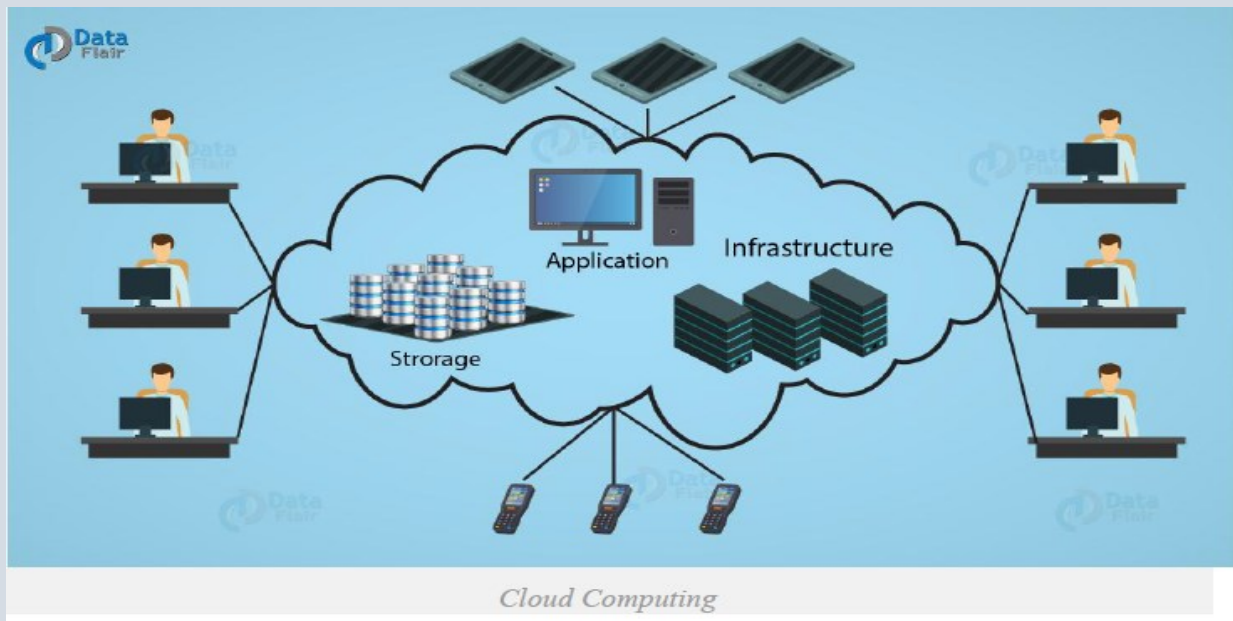
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## Cloud Computing

Cloud computing is evolution of technology overtime. Cloud computing is a service, which offers customers to work over the internet. It simply states that *cloud computing means storing and accessing the data and programs over the internet rather than the computer's hard disk*. It is a revolution in that it has changed the way the world consumes compute services by making them more cost-efficient while also making organizations more agile in responding to changes in their markets.

The user can access the data from anywhere just with the help of an internet connection. To access cloud computing, the user should register and provide with ID and password for security reasons. The speed of transfer depends on various factors such as internet speed, the capacity of the server, and many more.

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The management of Cloud Computing is done by the host itself as they come up with new modifications, which continuously improves the service. The host has an ample amount of storage and fast processing servers, through which the data gets accessed very quickly. Cloud Computing major advantage is that the user can only concentrate on the job while leaving the problems behind.

## Key consideration for Cloud Computing

Every organization's transformation journey is unique, and therefore every organization's cloud adoption strategy is also unique to them. Agility, flexibility, and competitiveness are key drivers for moving to the cloud, provided it is done without creating business disruption or issues related to security, compliance, and performance

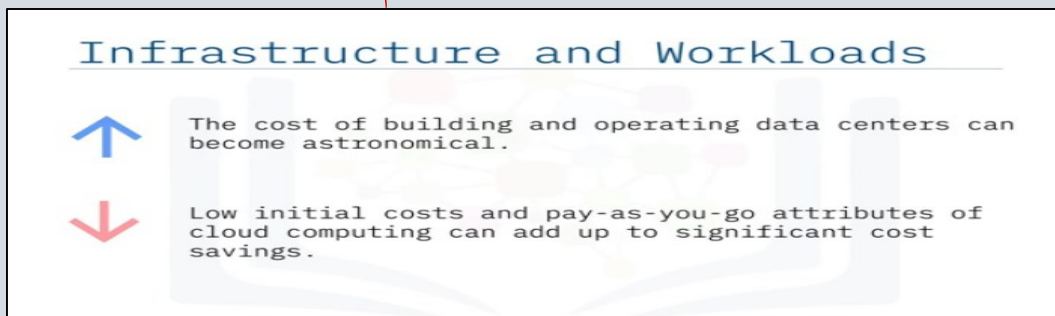


Key considerations for organizations as a guide while working through their cloud strategy.

### *1- First consideration is infrastructure and workloads.*

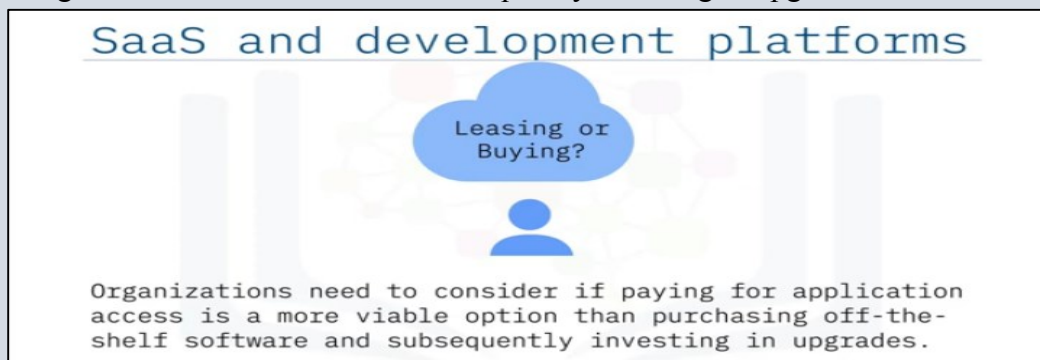
The cost of building and operating data centers can become astronomical. On the other hand, low initial costs and pay-as-you-go attributes of cloud computing can add up to significant cost savings. Also, a point to consider is that not all workloads may be ready for the cloud.

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### *2- Second consideration is around SaaS and development platforms.*

Organizations need to consider if paying for application access is a more viable option than purchasing off-the-shelf software and subsequently investing in upgrades.



Organizations also need to consider speed and productivity—what it means for them to get a new application up and running in ‘x’ hours on the cloud versus a couple of weeks, even months on traditional platforms. And the person-hour cost efficiencies they gain from using cloud dashboards, real-time statistics, and active analytics.

## Speed and Productivity



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3- Lastly, organizations need to consider the impact of making a wrong decision their risk exposure.

## Risk Exposure



Hardware and Software or  
Rent by the hour

- Organizations need to consider the impact of making a wrong decision—their risk exposure.
- Is it safer for an organization to work on a 12-month plan to build, write, test, and release the code if they’re uncertain about adoption?
- And is it better for them to “try” something new paying-as-you-go rather than making long-term decisions based on little or no trial or adoption?

Benefits of cloud adoption categorized into *Flexibility*, *Efficiency*, and *Strategic Value*.

**Cloud gives us flexibility.**

- ☞ Users can scale back or scale up services to fit their needs, customize applications, and access cloud services from anywhere with an internet connection.
- ☞ Cloud infrastructure scales on demand to support fluctuating workloads.
- ☞ Organizations can determine their level of control with as-a-service options.
- ☞ Users can select from a menu of pre-built tools and features to build a solution that fits their specific needs.

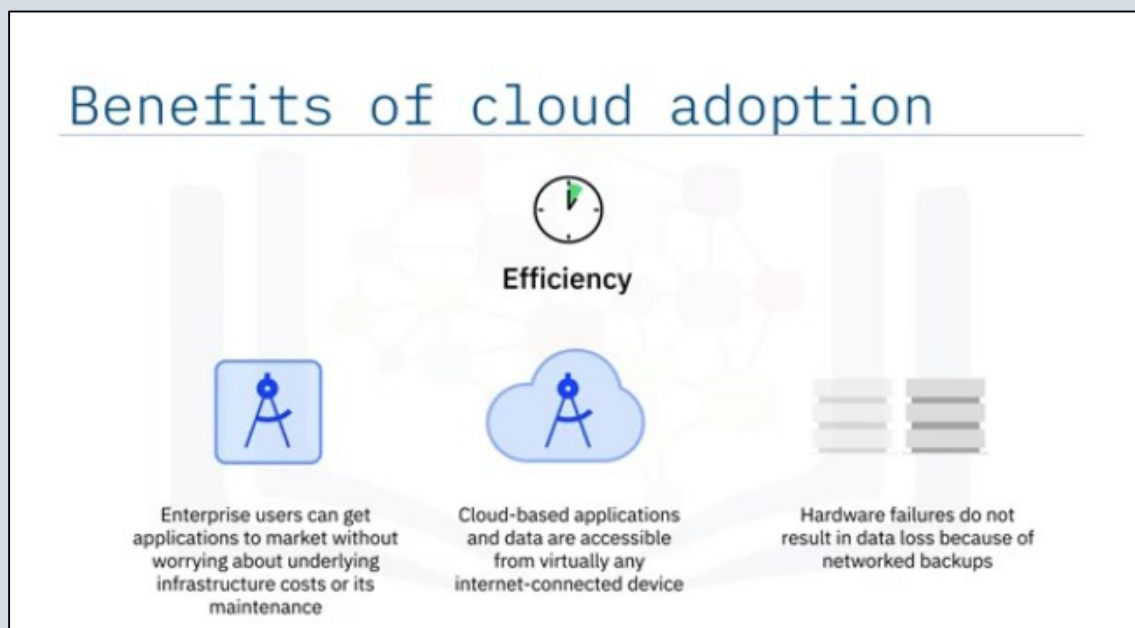


And Virtual Private Clouds, encryption, and API keys help keep data secure.



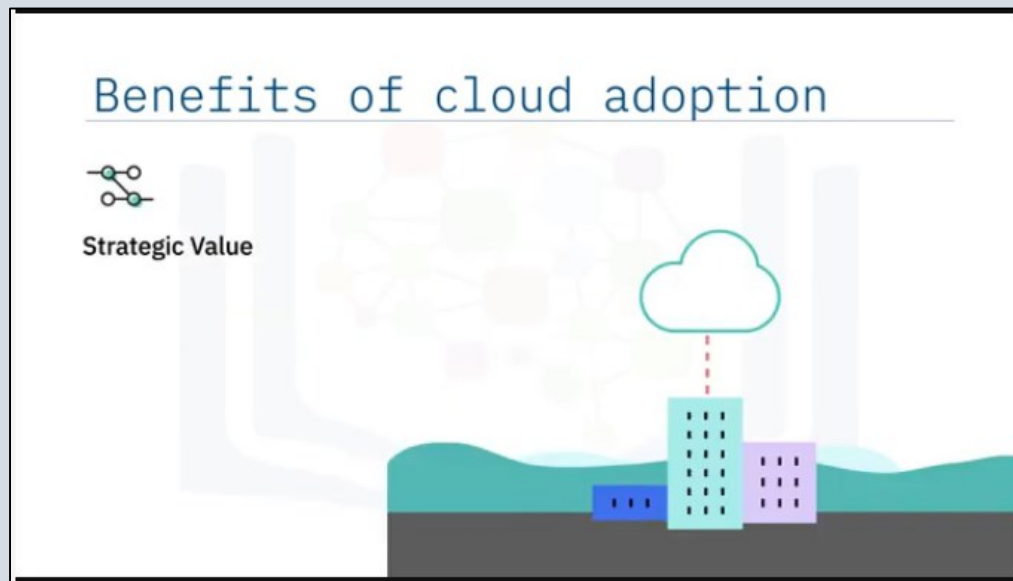
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**Cloud also brings great efficiency.**





Cloud computing uses remote resources, saving organizations the cost of servers and other equipment, and paying on use-basis. **Cloud services give enterprises a competitive advantage** by providing the most innovative technologies available while managing the underlying infrastructure, thus enabling organizations to focus on their priorities.



As we see, cloud computing is really about utilizing technology “as a service”—leveraging remote systems on-demand over the open internet, scaling up and scaling back, and paying for what you use.

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While cloud brings great opportunity, it also introduces challenges for business leaders and IT departments.

The diagram is titled "Challenges of cloud adoption" in a blue, sans-serif font. Below the title, there is a list of seven challenges, each preceded by a blue icon. The icons are: a crossed-out circle, a tree structure, a checkmark, a gear, a square with an arrow, a cloud with a red lightning bolt, and a line graph. The background is a light blue gradient with faint outlines of buildings and a network.

- Data security, associated with loss or unavailability of data causing business disruption
- Governance and sovereignty issues
- Legal, regulatory, and compliance issues
- Lack of standardization in how the constantly evolving technologies integrate and interoperate
- Choosing the right deployment and service models to serve specific needs
- Partnering with the right cloud service providers
- Concerns related to business continuity and disaster recovery

Organizations can no longer think of cloud adoption as something that is to be looked at in the future. With the right cloud adoption strategies, technologies, services, and service providers, these risks can be mitigated.