PROS AND CONS OF CLOUD COMPUTING

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WHAT IS CLOUD COMPUTING?

- According to IBM, cloud computing is the delivery of on-demand computing resources – everything from applications to data centers – over the internet on a pay-for-use basis. Amazon and Microsoft, leading cloud providers, offer a similar definition.
- This means that cloud computing uses the internet instead of your computer's hard drive to access remote servers and processors that perform intensive compute and storage tasks over the internet.

CLOUD COMPUTING BENEFITS

- **Flexibility**
- Scalability
  - Cloud infrastructure scales on demand to support fluctuating workloads.
- Storage options
  - Users can choose public, private, or hybrid offerings depending on security needs and other considerations.
- Control choices
  - Organizations can determine their level of control with as-a-service options. These include software as a service, platform as a service and infrastructure as a service.
- Tool selection
  - Users can select from a menu of prebuilt tools and features to build a solution that fits their specific needs.
- Security features
  - Virtual private cloud, encryption and API keys help keep data secure.

CLOUD COMPUTING BENEFITS

- **Efficiency**
  - Accessibility
    - Cloud-based applications and data are accessible from virtually any internet-connected device.
  - Speed to market
    - Developing in the cloud enables users to get their applications to market quickly.
  - Data security
    - Hardware failures do not result in data loss because of networked backups.
  - Savings on equipment
    - Cloud computing uses remote resources, saving organizations the cost of servers and other equipment.
  - Pay structure
    - A "utility" pay structure means users pay only for the resources they use.

CLOUD COMPUTING BENEFITS

- **Strategic value**
- Streamlined work
  - Cloud service providers manage underlying infrastructure, enabling organizations to focus on application development and other priorities.
- Regular updates
  - Service providers regularly update offerings to give users the most up-to-date technology.
- Collaboration
  - Worldwide access means teams can collaborate from widespread locations.
- Competitive edge
  - Organizations can move more nimbly than competitors who must devote IT resources to managing infrastructure.

CLOUD COMPUTING DISADVANTAGES

- **Downtime:** This may be one of the worst disadvantages of cloud computing. No cloud provider, even the very best, would claim immunity to service outages. Cloud computing systems are internet based, which means access is fully dependent on internet connection. And, like any hardware, cloud platforms themselves can fail for any one of a thousand reasons.
- **Security and privacy:** Any discussion involving data must address security and privacy, especially when it comes to managing sensitive data. We must not forget Code Space and what happened to it after its Amazon Web Services EC2 console was hacked and its data eventually deleted, forcing the company to close its doors forever. By leveraging a remote cloud-based infrastructure, a company basically outsources everything it has.

CLOUD COMPUTING DISADVANTAGES

- **Vulnerability to attack:** In cloud computing, every component is potentially accessible from the internet. Of course, nothing connected to the internet is perfectly secure, and even the best teams suffer severe attacks and security breaches. But since cloud computing is built as a public service, it's easy to run before learning to walk. No one at AWS checks administration skills before granting an account: All it takes to get started is a valid credit card.
- **Limited control and flexibility:** To varying degrees – depending on the particular service – cloud users have limited control over the function and execution of their hosting infrastructure. Cloud provider end-user license agreements and management policies might impose limits on what customers can do with their deployments. Customers are also limited to the control and management of their applications, data and services, but not the backend infrastructure. Of course, none of this will normally be a problem, but it should be taken into account.

CLOUD COMPUTING DISADVANTAGES

- **Cloud computing platform dependencies:** Implicit dependency, also known as "vendor lock-in" is another of the disadvantages of cloud computing. Deep-rooted differences between vendor systems can sometimes make it impossible to migrate from one cloud platform to another. Not only can it be complex and expensive to reconfigure applications to meet the requirements of a new host, but migration could also expose data to additional security and privacy vulnerabilities.
- **Cloud computing costs:** Cloud computing – especially on a small scale and for short-term projects – can be pricey. Though it can allow a reduction in staff and hardware costs, the overall price tag could end up higher than expected. Until users are sure of what will work best, it's a good idea for them to experiment with a variety of offerings.
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