Dipanjali-

**3/6/18 Uses/ Benefits of Cloud Computing-**

The potential uses of cloud computing are only beginning to be grasped. Visions are being built on as the vast possibilities of cloud computing are realized. On both individual and corporate level, cloud computing is likely to change the way we use operate.

## **For Enterprises**

For businesses, the cloud has the potential to transform operations, as well as cut costs. Offices running computer networks would no longer have to deal with software installation for each computer, as well as licenses. This alleviates a tremendous IT load. Uses of the cloud include data storage, offering remote access to any work related data.

The role of cloud computing on a corporate level can be either for the in house operations, or as a deployment tool for software or services the company develops for the public. Through the PaaS, much of the administration, maintenance and deployment of the software becomes the job of a third party, the PaaS.

## **Mobility**

One of the other most obvious uses of cloud computing is the mobility that it brings, both to the recreational user, as well as to the corporate and business user. Many of us are already familiar with some cloud computing services, like Google Docs, or even email services. With these apps we can access documents or mail that is not stored on our PCs, but is available to use because it is stored on a cloud, or remote location.

Businesses who wish to create a cloud computing platform for their operations can choose between either a private or a public cloud, depending on their need. A customized PaaS can be created for them b by companies that specialize in cloud computing, such as Apprenda.

In addition to all the uses of cloud computing, from an IT or administrational view point of view, cloud computing is fairly easy to manage. Cloud computing reduces the load on servers, and the IT team as well. It centralizes and unifies computing standards. A new implementation can quickly take on cloud behavior as soon as it is deployed on the cloud. Every user who accesses the product will have access to the same standard product.

Because of the many uses of cloud computing, both consumers and enterprises are taking advantage of it, and enlisting the help of companies that specialize in Paas and SaaS.

# **3/6/18 Top Five Challenges Of Cloud Computing**

Cloud computing challenges have always been there. Companies are increasingly aware of the business value that cloud computing brings and are taking steps towards transition to the cloud. A smooth transition entails a thorough understanding of the benefits as well as challenges involved. Like any new technology, the adoption of cloud computing is not free from issues. Some of the most important challenges are as follows.



## **1. Security and Privacy**

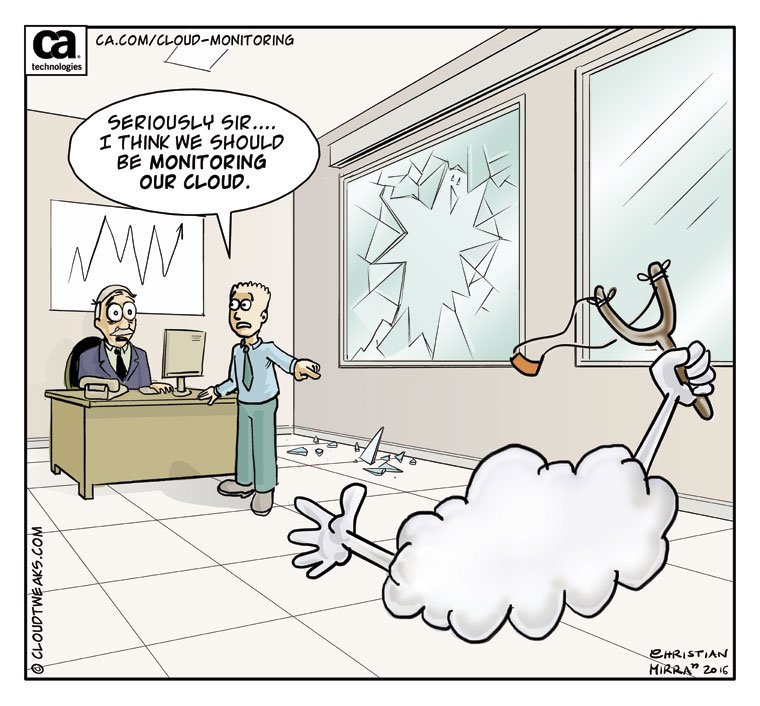
The main challenge to cloud computing is how it addresses the [security and privacy](https://cloudtweaks.com/2016/10/ddos-attack-shook-world/) concerns of businesses thinking of adopting it. The fact that the valuable enterprise data will reside outside the corporate firewall raises serious concerns. [Hacking and various attacks](https://cloudtweaks.com/2017/05/live-hacking-ransomware-tracking-maps-online/) to cloud infrastructure would affect multiple clients even if only one site is attacked. These risks can be mitigated by using security applications, encrypted file systems, data loss software, and buying security hardware to track unusual behavior across servers.

It is difficult to assess the costs involved due to the on-demand nature of the services. Budgeting and assessment of the cost will be very difficult unless the provider has some good and comparable benchmarks to offer. The [service-level agreements](https://en.wikipedia.org/wiki/Service-level_agreement) (SLAs) of the provider are not adequate to guarantee the availability and scalability. Businesses will be reluctant to switch to cloud without a strong service quality guarantee.

## **3. Interoperability and Portability**

Businesses should have the leverage of migrating in and out of the cloud and switching providers whenever they want, and there should be no lock-in period. [Cloud computing services](https://cloudtweaks.com/contact/) should have the capability to integrate smoothly with the on-premise IT.

## **4. Reliability and Availability**

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Cloud providers still lack round-the-clock service; this results in frequent outages. It is important to monitor the service being provided using internal or third-party tools. It is vital to have plans to supervise usage, SLAs, [performance](https://cloudtweaks.com/2016/06/15-cloud-performance-monitoring-companies/), robustness, and business dependency of these services.

## **5. Performance and Bandwidth Cost**

Businesses can save money on hardware but they have to spend more for the bandwidth. This can be a low cost for smaller applications but can be significantly high for the data-intensive applications. Delivering intensive and complex data over the network requires sufficient bandwidth. Because of this, many businesses are waiting for a reduced cost before switching to the cloud.

All these challenges should not be considered as road blocks in the pursuit of cloud computing. It is rather important to give serious consideration to these issues and the possible ways out before adopting the technology.

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Cloud computing is an information technology (IT) paradigm that enables ubiquitous access to shared pools of configurable system resources and higher-level services that can be rapidly provisioned with minimal management effort, often over the Internet. Cloud computing relies on sharing of resources to achieve coherence and economies of scale, similar to a public utility

Examples of cloud computing services include:

* virtual IT (Information Technology): Configure and utilize remote, third-party servers as extensions to a company's local IT network
* software: Utilize commercial software applications, or develop and remotely host custom built applications
* network storage: Backup or archive data across the Internet to a provider without needing to know the physical location of storage  
  Cloud computing systems all generally are designed to support large numbers of customers and surges in demand.  
    
  Examples of Cloud Computing Services  
  These examples illustrate the different types of cloud computing services available today:  
    
  Amazon EC2 - virtual IT  
  Google App Engine - application hosting  
  Google Apps and Microsoft Office Online - software as a service  
  Apple iCloud - network storage  
  Some providers offer cloud computing services for free while others require a paid subscription.  
    
  How Cloud Computing Works  
  A cloud computing system keeps its critical data on Internet servers rather than distributing copies of data files to individual client devices. Video-sharing cloud services like Netflix, for example, stream data across the Internet to a player application on the viewing device rather than sending customers DVD or BluRay physical discs.  
    
  Clients must be connected to the Internet in order to use cloud services. Some video games on the Xbox Live service, for example, can only be obtained online (not on physical disc) while some others also cannot be played without being connected.  
    
  Some industry observers expect cloud computing to keep increasing in popularity in coming years.  
    
  The Chromebook is one example of how all personal computers might evolve in the future under this trend - devices with minimal local storage space and few local applications besides the Web browser (through which online applications and services are reached).  
    
  Cloud Computing Pros and Cons  
  Service providers are responsible for installing and maintaining core technology within the cloud. Some business customers prefer this model because it limits their own burden of having to maintain infrastructure. Conversely, these customers give up management control over the system, relying on the provider to deliver the needed reliability and performance levels.  
    
  Likewise, home users become highly dependent on their Internet provider in the cloud computing model: Temporary outages and slower-speed broadband that are a minor nuisance today can become a critical issue in a fully cloud-based world. On the other hand - proponents of cloud technology argue - such an evolution would likely drive Internet providers to keep improving the quality of their service to stay competitive.  
    
  Cloud computing systems are normally designed to closely track all system resources. This, in turn, enables providers to charge customers fees proportional to their network, storage, and processing utilization.  
    
  Some customers prefer this metered billing approach to saving money, while others will prefer a flat-rate subscription to ensure predictable monthly or yearly costs.  
    
  Using a cloud computing environment generally, requires you to send data over the Internet and store it on a third-party system. The privacy and security risks associated with this model must be weighed against the benefits versus alternatives.