

# CLOUD COMPUTING & CLOUD BANKING, BENEFITS, TYPES, ADVANTAGES & DISADVANTAGES

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**Abstract :** Cloud computing means storing and accessing data and programs over the Internet instead of your computer's hard drive. The cloud is just a metaphor for the Internet. Everything you need is physically close to you, which means accessing your data is fast and easy, for that one computer, or others on the local network. The disadvantages are the speed, efficiencies and innovations of cloud computing come risks. Cloud computing is the future of banking technology. It's just a matter of time before all financial institutions move their technology to the cloud. As banks adapt to market changes and new technology landscapes, cloud computing is playing a major role, providing alternative ways to access to core banking technology. According to the world-famous writer and public figure Nicolas Carr, today IT systems are becoming a thing of the past: the competitive importance of IT inevitably decreases, the software, like once electricity, becomes... a communal service! Just like a century ago, the creation of powerful power stations marked a new era in the life of mankind, and today we are experiencing a similar technological revolution that radically changes our lives.

**IndexTerms-** Cloud Computing, Risks, Technology.

## I. INTRODUCTION

### 1.1 Cloud computing started

Part of the debate is who should get credit for inventing the idea. The notion of network-based computing dates to the 1960s, but many believe the first use of "cloud computing" in its modern context occurred on August 9, 2006, when then Google CEO Eric Schmidt introduced the term to an industry conference. Oct 31, 2011

### 1.2 Common Cloud Examples

The local computing and cloud computing sometimes get very, very blurry. That's because the cloud is part of almost everything on our computers these days. You can easily have a local piece of software (for instance, Microsoft Office 365) that utilizes a form of cloud computing for storage (Microsoft One Drive).

Microsoft also offers a set of Web-based apps, Office Online, that are Internet-only versions of Word, Excel, PowerPoint, and OneNote accessed via your Web browser without installing anything. That makes them a version of cloud computing (Web-based=cloud).

### 1.3 Major examples of cloud computing;

Google Drive:

This is a pure cloud computing service, with all the storage found online so it can work with the cloud apps: Google Docs, Google Sheets, and Google Slides. Drive is also available on more than just desktop computers; you can use it on tablets like the iPad or on smartphones, and there are separate apps for Docs and Sheets, as well. In fact, most of Google's services could be considered cloud computing: Gmail, Google Calendar, Google Maps, and so on.

### 1.4 Apple iCloud:

Apple's cloud service is primarily used for online storage, backup, and synchronization of your mail, contacts, calendar, and more. All the data you need is available to you on your IOS, Mac OS, or Windows device (Windows users have to install the iCloud control panel). Naturally, Apple won't be outdone by rivals: it offers cloud-based versions of its word processor (Pages), spreadsheet (Numbers), and presentations (Keynote) for use by any iCloud subscriber. iCloud is also the place iPhone users go to utilize the Find My iPhone feature that's all important when the handset goes missing.

### 1.5 Amazon Cloud Drive:

Storage at the big retailer is mainly for music, preferably MP3s that you purchase from Amazon, and images—if you have Amazon Prime, you get unlimited image storage. Amazon Cloud Drive also holds anything you buy for the Kindle. It's essentially storage for anything digital you'd buy from Amazon, baked into all its products and services.

## II Future Cloud Computing: 5 Exciting Predictions to Use Cloud Services

By 2020, the popularity of the "cloud" will have grown significantly. There will be many pleasant changes, and one of them should be the complete freedom from the "no-cloud" policy. Cloud-based analogs are much better and more flexible to use. Experts believe that all "no-cloud" companies will definitely start using cloud services in their work. After all, at the end of 2015, 88% of entrepreneurs transferred their companies to clouds.

### 2.1. The software will be separated from the hardware

Even today, cloud applications are often used to automate business using CRM, ERP, PSA and HR systems stored on remote servers. All these tendencies are growing every year. So, in the future the software that we'll use will be somewhere "far beyond the horizon", and information from it will pass through several filters before starting to interact with the user's computer.

### 2.2. Modular software will be a priority

The complexity and size of individual programs are growing by leaps and bounds. As a result, cloud technologies will require new system thinking, and software development will have to be thought over from different angles. Especially when you consider the fact that in the near future applications can be stored not just in the cloud: they will consist of many modules located on servers of different cloud services. After all, the fee for using cloud services has not been canceled, and placing individual components of programs in different storages can be one way to reduce the cost of software.

### 2.3. Low-power processors will stimulate the decline in prices for services of cloud providers

Today low-power chips are available on the market. They allow to use processors with low power consumption for data processing.

### 2.4. Data security will continue to be superior

The physical security of data centers is also important, just like reliable encryption of information. In the near future, the minimum requirements for the current SSL protocol will be seriously changed: for sure we will have to forget about the current 256 bits, as we forgot about the encryption of 56- and 60-bit encryption. Due to constantly increasing security requirements, physical access to the data center will also be severely limited, and to enter the protected premises you will need not only an electronic key, but also a procedure for biometric scanning.

### 5. Clouds will make people richer

Over time, the software is becoming more standardized: leading companies are working on the compatibility of web applications. To open a PDF file, you do not need to install Acrobat, and Word 2013 is able to work with files of dozens of different types. This will allow companies to interact with each other easily. After all, cloud computing will lead to changes in the production cycle. All this will force manufacturers to produce better products at a lower price.

## III CLOUD COMPUTING CHARACTERISTICS

1. The back-end of the application (especially hardware) is completely managed by a cloud vendor.
2. A user only pays for services used (memory, processing time and bandwidth, etc.).
3. Services are scalable

Many cloud computing advancements are closely related to virtualization. The ability to pay on demand and scale quickly is largely a result of cloud computing vendors being able to pool resources that may be divided among multiple clients.

It is common to categorize cloud computing services as infrastructure as a service (IaaS), platform as a service (PaaS) or software as a service (SaaS).

### 3.1 The World of Business Cloud Computing

Businesses can employ cloud computing in different ways. Some users maintain all apps and data on the cloud, while others use a hybrid model, keeping certain apps and data on private servers and others on the cloud.

When it comes to providing services, the big players in the corporate computing sphere include:

- Google Cloud
- Amazon Web Services
- Microsoft Azure
- IBM Bluemix
- Aliyun

Amazon Web Services (AWS) is 100% public and includes a pay-as-you-go, outsourced model. Once you're on the platform you can sign up for apps and additional services. Google Cloud, which targets consumer banking and retail, is one of the latest entrants. Microsoft Azure, which recently launched U.K. data centers, allows clients to keep some data at their own sites.

### 3.2 Different Types of Cloud Computing

Cloud computing is not a single piece of technology, like a microchip or a cell phone. Rather, it's a system, primarily comprised of three services: infrastructure as a service (IaaS), software as a service (SaaS) and platform as a service (PaaS). SaaS is expected to experience the fastest growth, followed by IaaS.

#### 3.3 Software as a Service (SaaS):

SaaS involves the licensure of a software application to customers. Licenses are typically provided through a pay-as-you-go model or on-demand. This rapidly growing market could provide an excellent investment opportunity, with a Goldman Sachs report projecting that by 2018, 59% of the total cloud workloads will be SaaS.

#### 3.4 Infrastructure as a Service (IaaS):

Infrastructure as a service involves a method for delivering everything from operating systems to servers and storage through IP-based connectivity as part of an on-demand service. Clients can avoid the need to purchase software or servers, and instead procure these resources in an outsourced, on-demand service.

#### 3.5 Platform as a Service (PaaS):

The three layers of cloud-based computing, PaaS is considered the most complex. PaaS shares some similarities with SaaS, the primary difference being that instead of delivering software online, it is actually a platform for creating software that is delivered via the internet. A report by Forrester indicates that PaaS solutions are expected to generate \$44 billion in revenues by the year 2020.

#### IV ADVANTAGES OF CLOUD COMPUTING

The rise of cloud-based software has offered companies from all sectors a number of benefits, including the ability to use software from any device, either via a native app or a browser. As a result, users are able to carry over their files and settings to other devices in a completely seamless manner. Cloud computing is about far more than just accessing files on multiple devices, however. Thanks to cloud-computing services, users can check their email on any computer and even store files using services such as Dropbox and Google Drive. Cloud-computing services also make it possible for users to back up their music, files and photos, ensuring that those files are immediately available in the event of a hard drive crash.

Cloud computing offers big businesses some serious cost-saving potential. Before the cloud became a viable alternative, companies were required to purchase, construct and maintain costly information management technology and infrastructure. Now, instead of investing millions in huge server centers and intricate, global IT departments that require constant upgrades, a firm can use "lite" versions of workstations with lightning fast internet connections, and the workers will interact with the cloud online to create presentations, spreadsheets and interact with company software.

Individuals find that when they upload photos, documents, and videos to the cloud and then retrieve them at their convenience, it saves storage space on their desk tops or laptops. Additionally, the cloud-like structure allows users to upgrade software more quickly – because software companies can offer their products via the web rather than through more traditional, tangible methods involving discs or flash drives. In 2013, Adobe Systems announced all subsequent versions of Photoshop, as well as other components of its Creative Suite, would only be available through an internet-based subscription. This allows users to download new versions and fixes to their programs easily.

#### V DISADVANTAGES OF CLOUD COMPUTING COME RISKS

Security was seen as a detractor from using the cloud, especially when it came to sensitive medical records and financial information. While regulations are forcing cloud computing services to shore up their security and compliance measures, it remains an ongoing issue. Media headlines are constantly screaming about data breaches at this or that company, in which sensitive information has made its way into the hands of malicious hackers who may delete, manipulate or otherwise exploit the data (though, according to some reports, most of the data breaches have been with on-site systems, not those in the cloud). Encryption protects vital information, but if the encryption key is lost, the data disappears.

Servers maintained by cloud computing companies can fall victim to a natural disasters, internal bugs and power outages, too. And unfortunately, the geographical reach of cloud computing cuts both ways: A blackout in California could paralyze users in New York; a firm in Texas could lose its data if something causes its Maine-based provider to crash.

Ultimately, as with any new technology, there is a learning curve for employees and managers. But with many individuals accessing and manipulating information through single portal, inadvertent mistakes can transfer across an entire system.

Reasons that Cloud Computing is transforming Banking Sector

##### Indian Banking Sector “Today” – Scenario

Major transformations are creeping in, when considered the Indian Banking sector. Economic growth and overall growth in banking industry is expected to be boosted by end of 2015. Innovation and implementation of technology has created awareness in this sector and many have already been moving towards up gradation of system for technological advancements.

Banks like HDFC, ICICI, and AXIS and many others are soon launching contact-less credit card with Near Field Communication (NFC) technology, it specifies that we could now make easy transactions without insertion or swiping of cards, now that sounds cool. Well! If banking in India is making so many improvements it is not anyway behind in its step towards Digital India. I hope you have seen my previous post on Digital India.

Abandoning traditional banking methods now this sector is making a new turn, Cloud computing technology in banking sector is also on the rise. Previously it was reluctant to readily embrace innovations in India, but after the awareness and elucidation of related myths, it has been seen that Cloud is becoming favorite amongst banking industry.

#### VI KEY BENEFITS

##### 1. Reduced costs

No additional investments in management of resources required in banking for carrying data. Cloud makes it easy to invest in required resources by eliminating the cost attached with dedicated hardware and software. ENlight Cloud's Pay-as-you-go model makes out more results with less investment; it also provides shared application services on demand.

##### 2. Improved flexibility

In order to sustain in the changing market, it is must to shape technology usage according to the changes and create room in changing demands to sustain in market. Cloud provides this flexibility to survive and respond quickly with customer needs and market changes.

##### 3. Auto scalability

On demand cloud services enables the scaling of resources as per requirement. Resources can scale up and down according to the requirements. ENlight Cloud is the world's first auto-scalable smart cloud that makes out this in most efficient way to provide with maximum benefits to the customers.

##### 4. Improved operational efficiency and Business agility

Cloud enabled increased centralized management of data and reduced complexities allied with changes and increase in data. It facilitates with maximum scope for the future technological evolution in business, being flexible. ENlight cloud for

Banking provides a maximum productivity of Banking operations. Businesses can focus more on services than on IT with Cloud adoption, this will make a ground for Business agility with improved operational efficiencies.

##### **5. Efficient client service**

Cloud will ease the activities related to banking for clients, customized and efficient solutions can be provided with faster access. Clients can leverage centralized approach with cloud that would disable the loophole of technologies for banks and clients, transactions will be made smoother and risk free.

##### **6. Business Continuity**

Cloud computing services will make it possible to gain higher securities in data critical sector like BFSI, providing Disaster recovery solutions and complete fault tolerant system. It will facilitate the high level of redundancy in lower prices than it is provided with traditional dedicated Disaster Recovery services.

Cloud will make a new hype in coming years in Banking and other financial sectors. You could checkout this info graphics on BFSI vertical's evolution with cloud to know the current BFSI inclination towards Cloud.

#### **VII CONCLUSION**

The future of cloud computing is a chance for a huge technological breakthrough for the companies using this technology today. We have described only some of the trends associated with the development of cloud computing. However, in a few years we will see that the clouds will bring much more benefit to the world than one can imagine now. Owners of companies should stay up to date on the latest developments in the world of cloud technologies in order to be competitive.

Very soon, cloud technologies will allow working faster and more efficiently than it is today. In addition, together with their spread, our life will accelerate.

