

CLOUD COMPUTING AND ITS SOCIETAL IMPLICATIONS

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ABSTRACT

The globalization of business, widespread technological innovations, social and political changes and an increased awareness in customers are some of the factors that have forced the business world to undergo rapid changes. Any organization, to Cloud computing is changing the way computing is undertaken. Cloud computing has thus become a platform for new entrants in multiple sectors innovation. This paper presents the concept of cloud computing, the services it provides and thus give a clear overview of what it is and what it is not. It provides an overview of how cloud computing changes the way computing is carried out, and evaluates the impacts of cloud computing (including its benefits and challenges as well as its economic and environmental impacts). As more services move online, we need to take new steps to protect the rights of consumers and global citizens in the digital age.

Keywords: Cloud computing, business, consumers.

INTRODUCTION

Cloud computing as “as a service model for computing services based on a set of computing resources that can be accessed in flexible, elastic, on-demand way with low management effort.” Cloud computing is changing the way computing is undertaken. Due to their global scale and the possibility to aggregate the demand of multiple users of cloud computing, especially in ‘public clouds’. They are able to provision computing resources in a rapid and elastic way, allowing adjustment to changing requirements. Overall, cloud computing is expected to have a positive impact on economic growth and also expected to have positive environmental impacts due to its carbon abatement potential. However, the term cloud computing is currently often used as a marketing term. Furthermore, it shows that the concept covers a whole cloud service consisting of infrastructure as a service, platform as a service and software as a service, as well as multiple delivery models including private, public, hybrid and community clouds.

Cloud computing: Definitions, characteristics, service models and deployment

Cloud computing has become the IT focus of many companies, and is leading many IT companies to brand their offerings as cloud computing services. I trying to describe the definition of cloud computer and describes the main characteristics of cloud computing including an overview of cloud service and deployment models.

CHARACTERISTICS

Definitions and characteristics of cloud computing

Cloud computing does not refer to a specific technology but

rather to a concept comprising a set of combined technologies. It is a model for enabling, convenient on-demand network access to a shared pool of configurable computing resources (e.g. networks, servers, storage, applications, and services). Also, Cloud computing can be understood as a service model for computing services based on a set of computing resources that can be accessed in a flexible, elastic, on-demand way with low management effort. The following characteristics, which are generally inherent to cloud computing:

- ✓ On-demand self service: Users of clouds can “unilaterally provision computing capabilities, such as server time and network storage, as needed automatically without requiring human interaction with each service provider”.
- ✓ Availability of “infinite” computing resources: Cloud users do not have to plan the provision of their computing resources in advance as they have the potential to access computing resources on demand.
- ✓ Rapid elasticity and adaptability: Elasticity is one of the key features of cloud computing. Users can buy computing services at any time at various granularities. They are able to up- and downscale those services according to their needs.
- ✓ Elimination of up-front commitment: Users of cloud services do not have to make heavy, upfront IT investments allowing companies to start small and to successively increase hardware and software resources only when needed.
- ✓ Short-term pay for use: Users are able to pay for their use of cloud services on a short-time basis thereby only

paying for the time they use the computing resources and release them when they do not need them anymore.

- ✓ Network access: Computer services are accessed over the network and through standard mechanisms, which allow users to connect several devices to the cloud (e.g. laptops, mobilephones).
- ✓ Pooling of resources: Providers are pooled to serve multiple customers using a multitenant model, with different physical and virtual resources dynamically assigned. Users of cloud computing usually do not know and are unable to control where the provided cloud computing resources are exactly located.
- ✓ Measured service and adaptability: Cloud computing systems are able to react on-time to changes in the amount of computing resources requested and thus automatically control and leverage resources.

BENEFITS

Cloud computing allows people access to the same kinds of applications through the internet. Why are so many societies moving to the cloud? It's because cloud computing increases knowledge, efficiency, helps improve any problems and many more benefits. These benefits are:

- ✓ Flexibility: Cloud-based services are ideal and very flexible into given any services.
- ✓ Disaster recovery: It helps us to inventing any disaster recovery that is lost in flood, or burning cases.
- ✓ Automatic software updates: The beauty of cloud computing is that the suppliers take care of them for any person and roll out regular software updates – including security updates – so you don't have to worry about wasting time maintaining the system yourself.
- ✓ Capital-expenditure Free: Cloud computing cuts out the high cost of hardware. You simply pay as you go and enjoy a subscription-based model that's kind to your cash flow
- ✓ Increased collaboration: Cloud-based workflow and file sharing apps help them make updates in real time and gives them full visibility of their collaborations.
- ✓ Work from anywhere: With cloud computing, if you've got an internet connection you can be at work. And with most serious cloud services offering mobile apps, you're not restricted by which device you've got to hand.
- ✓ Document control: In business, the more employees and partners collaborate on documents, the greater the need

for watertight document control. Before the cloud, workers had to send files back and forth as email attachments to be worked on by one user at a time.

- ✓ Security: In daily life, Cloud computing gives you greater security when this happens. Because your data is stored in the cloud, you can access it no matter what happens to your machine. And you can even remotely wipe data from lost laptops so it doesn't get into the wrong hands.
- ✓ Competitiveness: Wish there was a simple step you could take to become more competitive? Moving to the cloud gives access to enterprise-class technology, for everyone. It also allows smaller businesses to act faster than big, established competitors.
- ✓ Environmentally friendly: In the environment, when your cloud needs fluctuate, your server capacity scales up and down to fit. So you only use the energy you need and you don't leave oversized carbon footprints.

HOW THE CLOUD WILL CHANGE OUR LIVES

“Cloud computing has the potential to generate a series of disruptions that will ripple out from the tech industry and ultimately transform many industries around the world. Here are some of the ways the cloud's ability to access, analyze, store and share information could change our business and personal lives:

✓ As a Gamer:

Gaming is called the “killer app” of cloud computing, and gamers have salivated over demos with complex 3-D graphics delivered to mobile devices through the cloud. While some technical wrinkles remain, players can now enjoy breathtaking gaming experiences anywhere because of the cloud's power to provide higher speed without interruption. The same gaming principles are now being extended to many other areas. “You can deliver information to a patient about using a drug in a way that is as compelling to use as any game or app,” says Lynette Ferrara, a partner at the IT consultancy CSC.

✓ Fixing stuff will be easier.

Thanks to the cloud, a cloud-based app alerts drivers of electric cars when their batteries will run out of juice, and a major medical equipment company developed a cloud-based application that feeds information to field system engineers who need to maintain health equipment, helping them head off problems. And when stuff needs to be fixed, the cloud will

make that easier, too.

✓ **Computers will become invisible.**

When people use search engines, they usually don't realize they are accessing in computer networks. As the power of the cloud spreads, one effect will be to make software and computing more invisible, means to say that your interaction with computers will be more hands free.

✓ **You'll actually find what you want in stores.**

With the cloud, inventory records will be much more visible and reliable. Connected shoppers, are beginning to exercise their leverage, such as asking the store to match a price found on a competitor's website. Retailers' brand value will be dramatically affected by how they satisfy these mobile shoppers.

✓ **Everyone will want to give you advice.**

In an age of information overload and unlimited choice, companies in all industries will want to become your trusted advisor—which is also a key way retailers will fight against commoditization. The need for guidance any type of information you will many footprints inside on the leave online. Now, for example, shopping sites might offer suggestions of movies or videos based on previous purchases.

✓ **You will be sold to differently.**

"The old mantra used to be people buy from people," he says. "But customers are moving to more online transactions, which is fundamentally a cloud phenomenon. Example: Olex. Also the idea is that a portion of customers taking advantage of free versions will eventually shift to paid versions with more features.

✓ **You'll be able to make smarter decisions.**

Having just-in-time training would not be the only way the cloud will help you make wiser choices. It means you can access processing power as needed from the cloud to analyze virtually any type of information wherever you are. Imagine, for example, that you combined live stock market data, weather projections, scanned news stories& depend on the situation and the sentiment or on the spot changes in public opinions. Put those streams of information together, feed them into an advanced simulation on your mobile phone and you could gain unique insight that leads to profitable stock choices.

✓ **Road trips will be less stressful.**

You have a group of college students to figure out how cloud computing could improve the road trip. As part of a class project, students developed a mobile app that uses cloud computing to allow a cluster of vehicles travelling together to track each other during the journey. The combination of location tracking, social media and cloud-based analytics could improve all types of transportation scenarios.

✓ **Laptop security breaches will decline.**

"To protect that information, we encrypt it. But there is a fear that many another unauthorized persons restrict the importation of encrypted laptops, so we run the risk of breaking laws and having the laptop subjected to review which might disclose that information." The cloud can eliminate those concerns by having all data securely stored on the Internet. The laptop no longer stores the data; rather, it becomes the instrument by which to access it.

✓ **"Bedside manner" will become app-infused.**

"Imagine a doctor or dentist who is able to pull up a patient's radiograph and zoom into particular areas of the radiograph with the touch of a button," and a technology research company. This would allow medical practitioners to make medical decisions almost instantaneously, regardless of their location or whether they have access to a desktop computer. It is just one example of how the cloud can overcome the processing power and data storage limitations of mobile devices.

✓ **Public/private clouds will make homes healthier.**

A recent trade show, experimental technology was showcased that uses an infrared camera mounted above the bathroom mirror to take a daily photo of a person's face. Over time, the images can be stored and analyzed for changes, alerting doctors of pre-cancerous skin cells so treatment can begin earlier.

✓ **Everyone will bootstrap.**

The cloud offers individuals exciting ways to collaborate, develop products and test ideas rapidly and cheaply, which could accelerate the rising rate of entrepreneurialism. "You see small start-ups using the cloud to do complex modelling of new product offers.

✓ **Language barriers will fade.**

"Today, cloud computing gives mobile-device users a level of speech recognition accuracy that is virtually on par with call centre-based transcription services. Imagine you were at a

client site and needed to confer with a colleague in another country who speaks only Italian. You contact him on your mobile device and both your words are instantly translated into each other's language using voice recognition and translation software.

CONCLUSION

As this overview clearly shows that an increasing number of tech-surveyany businesses, industry, leaders and any type of related persons are recognizing the many benefits of the cloud computing trend. But more than that, they are using this technology to more efficiently run their organizations, better serve their customers, and dramatically increase their overall profit margins. Cloud computing operates on a similar principle as web-based email clients, allowing users to access all of the features and files of the system without having to keep the bulk of that system on their own computers. In fact, most people already use a variety of cloud computing services without even realizing it—Gmail, Google Drive, TurboTax, and even Face book and Instagram are all cloud-based applications. For all of these services, users are sending their personal data to a cloud-hosted server that stores the information for later access. And as useful as these

applications are for personal use, they're even more valuable for businesses that need to be able to access large amounts of data over a secure, online network connection.

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