

Cloud Computing Trends

Wayne A. Beeman

Wilkes University

Dr. Stephen Cheskiewicz

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## Cloud Computing

This research looks at the current digital trend that is influencing the way humans interact with the accessing, storing, and sharing information called, Cloud Computing. It is a ubiquitous phenomenon that harbors beneficial experiences of opportunities to engage humans throughout the entire world. This research draws upon “peer review” articles and journals. The purpose of this research is to gain an understanding of what Cloud Computing is, how it is accessed and used, what can be accessed, the challenges and opportunities, and the benefits.

### Introduction

What is it?

How is it accessed and used?

What can be accessed?

What are some Challenges and Opportunities?

Who benefit from cloud computing?

Conclusion

### **Cloud Computing**

Our world is facing exponential changes in the way we access information and by means in which we store that information. Cloud computing is a growing trend that allows access to personal and work place resources from any device that is connected to the Internet. Individuals everywhere are accessing, storing, and sharing resources at exponential rates via the Internet that is connected to an outside storage unit hosted by server services.

Fatemezhad (2016) states, "Cloud computing is a trend that has implications for the way in which people interact with digital technologies" (Faterminezhad, 2016, pp. 410-414).

Also Pan and Blevis (2011) state:

"In cloud computing, the word, "Cloud" (also phrased as "The Cloud") is used as a metaphor for the Internet, so the phrase cloud computing means a type of Internet-based computing, where different services such as servers, storage and applications which are delivered to an organization's computers and devices through the Internet" (Pan & Blevis, 2011 p.13).

In addition, Armbrust (2010) study states:

"Cloud computing, the long-held dream of computing as a utility has the potential to transform a large part of the way technology is accessed. [What seems to be of high interest] are the software and services and the way those software and services are accessed and purchased. Entities no longer require the large capital outlays in hardware to deploy their service or the human expense to operate it or access it" (p. 50).

Individuals, groups, companies and corporations are using cloud computing for multiple of reasons. Mainly, they are accessing the way of cloud computing because of resources. They are accessing resources such as virtualization, software, and computing power by means of offsite

servers that are run by an outside cloud computing service. Examples of such major companies that provide such services are, Apple, Microsoft Azure, and Amazon.

A growing trend in cloud computing is storing data. Many individuals have saved and accessed resources through their place of work or personal files at their home through some type of storage unit such as a computer containing a hard drive. Though the term cloud computing can be a confusing phrase, it encompasses a wide webbing of technological applications that allow the accessing, saving, transferring, and retrieving of resources through an external storage unit such as a server that is offsite. These data files can be access through Internet by means of any mobile device connected to the Internet. Armbrust (2010) states, “The interesting thing about cloud computing is that people have redefined cloud computing to include everything that they already do” (Amherst, 2010, p.50).

The accessing of a data storage unit such as a CPU’s hard drive to the opening and accessing and saving those files to and from that hard drive is still in effect, at least in terms of procedures. The processes are still the same, but the means by which they are applied have changed due to the technologies used. Where a physical hard drive was present in a physical environment is now only available through an outside server unit access by the Internet. This server unit is not accessed physically nor can users see it. It is only a catalyst to store and retrieve data. The cloud also offers many other resources that allow users to access.

Cloud computing offers many resources more than that of tools of sharing and saving. Many of the resources are free. Here are a few compiled by Holzberg (2009):

- Google docs (<http://docs.google.com>): A free but nevertheless robust Web-based Microsoft Office suite alternative, Google docs consists of three applications—document, spreadsheet, and presentation (think Word, Excel, and PowerPoint).

- Zoho Writer (<http://writer.zoho.com>): This Web-based WYSIWYG word processor allows users to open and edit Microsoft Word files, share documents online, and collaborate in real time.
- Scratch (<http://scratch.mit.edu>): Brought to you free from the MIT Media Lab research consortia with help from Intel and the National Science Foundation, this kid-oriented programming language has friendly tools that kids (aged 8 and up) can use to create interactive stories, animations, games, music, and art.
- First in Math ([www.firstinmath.com](http://www.firstinmath.com)): This boisterous Web-based math skills builder offers games, games, and more games to build K-8 math smarts aligned with national standards. Pre- and post-tests, along with real-time assessments, measure progress. Sending personal files and work related files to a location outside a user's control can risky (p. 20).

It is also important to note that Holzberg compiled this list (not an exhausted list) back in 2009. Much has changed! Individuals, companies, and organization have adapted to the benefits of Cloud Computing and the resources that are growing in availability via “The Cloud.” Holzberg (2009) states “Cloud computing is not the answer for every district application (e.g., music and video editing, high-end graphics editing) or mission-critical database” (Holzberg, 2009, p. 20).

In most recent trends, however, high-end graphic software applications, such as Adobe Photoshop, are now available through the cloud. Also, learning to play a musical instrument and sing can be accessed by the swipe of a finger of a downloaded application hosted by the cloud. According to Pan and Blevis (2010), “The cloud computing trend signals an important paradigm shift in how people interact with digital materials” (Pan,

2010, p.50). So It is becoming more evident that the interactivity between humans and digital resources are becoming Ubiquitous but there are concerns. Specifically, stated by Fateminezhad (2016), “There exist many problems in cloud computing today such as data security and privacy risks which have become the primary concerns for people to shift to cloud computing” (Fateminzhad, 2016, pp. 410-414).

When information is shared, sent, or even deleted, it is all saved or placed on a server storage unit out of the reach of users. Information is technically never forgotten or loss. Somewhere, someplace the information can be accessed and retrieved by an individual, individuals, or parties. This may or may not cause security issues depending on motives and means. However, Nawaz (2016) states, “The cloud service is no doubt a much facilitating service but security issues arise. When user shares his data on cloud for processing and for other purposes and also connects with the cloud by maintaining a network with his own device” (Nawaz, 2016, pp. 60-62).

Though these issues are viable concerns, individuals, companies, and organizations can take solace in the fact of credible security protocols are in place by reliable services. Pan (2011) brings hopeful words when he states, “Cloud computing has challenges, but also has brings opportunities. It brings with it the connectivity of efficiencies, energy use, marketing, revenue and enterprise models -- these notions are manifest as terms and phrases like virtualization, software as a service, hardware as a service, and others” (Pan, 2011, p.13).

What this really implies is the interactivity of people with digital materials. Through cloud computing, users can virtually access and use software technologies. These software technologies range from high sophisticated photo manipulation and graphic design paid programs like Adobe Photoshop to free multimedia online programs such as, VoiceThread. With

many available programs accessed via the Internet, many organizations are taking advantage of available resources. Schools in particular struggle with having enough funding to provide efficient resources for their students. Cloud computing provides beneficial means of resources to school districts. Through the cloud, they are able to access many free programs.

Holzberg (2009) states, “This represents a paradigm change in the way schools deliver hardware and software infrastructure. Cloud computing shifts the emphasis from locally managed server-client installations and IT- related services to externally located Web-accessible computing centers consisting of thousands of servers called clouds” (Holzberg, 2009, p. 20).

Along with the benefits of software availability via, the cloud, there are additional positives. According Vance (2014), “the cloud offers many more benefits in regards to school districts. It offers reduction of cost, provides enhancement of classroom lessons and BYODs and allows potential of instant feedback between teacher and student. Also, the conveniences of uploading of assignments provide availability and access for students from multiple devices and in environments” (Vance, 2014, p. 8). The cloud doesn’t only benefit organizations, but also individuals and companies in terms of availability of resources.

Cloud Computing is a growing trend among many users. It offers a wide variety of possibilities, but also concerns. It is the next adaptation of our development to grasp relational ties through an avenue to reach beyond differences and barriers of distance and time. As the advancement of time progresses so does the amount of resources that become available. The growing vastness of the cloud offers a worldwide collaboration of entities building a community of connectivity among learners, designers, and possibilities that seemingly are endless. This is the trend...this is The Cloud...this is Cloud Computing.

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