Cloud Computing Assignment

Research Innovations In Cloud Computing

Submitted by: 2014 CSA 2005

B. Tech Sem 7
Section A

Introduction:

Cloud Computing is an essential part of many enterprises' Data Architecture; and, not just in new enterprises, but throughout multiple industries and in companies of all sizes. IT pros and business executives both like the advantages of Cloud storage. Access to data, after a disaster, came in as a plus for 63 percent of the people surveyed. Roughly 50 percent appreciated the benefits of a centralized Data Management platform, and 44 percent of the same survey group also liked the money being saved by using the Cloud. These same advantages are also available to individuals and small businesses.

Research and Innovation:

The Cloud offers a variety of services to organizations without requiring major amounts of upfront cash. (Cash flow and time are the two biggest restrictions hampering experimentation.) By tapping into these resources, as needed, businesses and individuals can stay flexible and efficient, allowing for the time needed to be creative and to think.

Because of the Cloud, people will have the freedom to do things they simply couldn't before. They will have the freedom to experiment, to assess, and to locate data and information from a variety of sources.

1. **IOT (Internet of things)**
    - The Internet of Things is a prime target for Cloud innovation. Because of its recent evolution as an Internet communications system, IoT meshes with the Cloud seamlessly, and presents a variety of opportunities for creative individuals.
    - Release automation, which accelerates the launch of innovative new services, while supporting reliability and control, can be especially useful to a new enterprise. This feature can be quite useful during a burst of IT developments, especially when launching a new line of services or products.

2. Security

- Cloud security has not evolved at the same speed as the Cloud, and, unfortunately, continues to use antiquated security frameworks. This brings up significant, realistic concerns for users about the security and privacy of the Cloud. On Oct 21, 2016, Dyn, a Cloud-based Internet Performance Management company, was hacked by way of the Internet of Things. This resulted in cutting off communications between companies such as Spotify, Paypal, and Twitter, with many of their users
- The Cloud has become one of the greatest challenges to Internet security in a decade. Traditionally, an organization's goal of getting into the Cloud requires meeting deadlines and ignoring long-term goals, such as including standards for manageability and consistency. In fast-moving companies, each team develops a Cloud environment using different platform, and using their own interpretation of Cloud security. This can make Cloud security something of a variable.

3. Data Collection

- If the data storage contract allows the information to be shared, it becomes more valuable to the Cloud provider. The sharing of information stored in Data Lakes has great potential as a Big Data resource. It is a very attractive situation, given the low-cost storage Cloud providers have available.
- Businesses already storing their data in the Cloud have an interest in sharing data stored by other customers. This would include information from the Internet of Things. I
- n spite of claims privacy is maintained through the use of a statistical model, this situation will blur the lines of privacy, and allow for greater manipulation of the overall customer base.

4. AI Bots in Cloud Computing

- IBM has been researching hybrid Cloud infrastructures. The company has focused on the "hybrid model for enterprises" for the last few years. Their model allows their customers to access connectivity tools, applications, and most importantly, their Artificial Intelligence platform, IBM Watson. IBM Watson can deal

with a customer's analytics needs. Watson has a reputation for strong cognitive capabilities, and can provide useful analytics insights, which would be otherwise invisible, even to the most gifted professionals.

- Watson can also provide Data Governance, security, and can be customized easily to match an organization's specific business needs.
- The research firm, Frost & Sullivan, gave the 'Cloud Company of the Year Award for 2016' to IBM, for its "market leadership in delivering a complete and fully integrated stack of Cloud services including IaaS, PaaS, and SaaS." We will see where IBM, Watson and the rest of Cloud Computing go into 2017 and beyond.

Summary

Cloud adoption is well past the perception of something that only startups do. Large enterprises from every conceivable industry are transitioning their entire infrastructure and data ecosystems into the Cloud. In an effort to do everything from offer better in-store customer service to fully leverage advances in manufacturing, companies from even most traditional and change-resistant sectors are seeing the writing on the wall. Cloud technology strategies cut cost and risk. That message is impossible to miss, especially as CIOs peer five years into the future, and the alternative of massive unsustainable overhead stares menacingly back