International Journal of Academic Research and Development
ISSN: 2455-4197
Impact Factor: RJIF 5.22
www.academicsjournal.com
Volume 2; Issue 6; November 2017; Page No. 595-597

Challenges issues of cloud computing in agriculture: A review

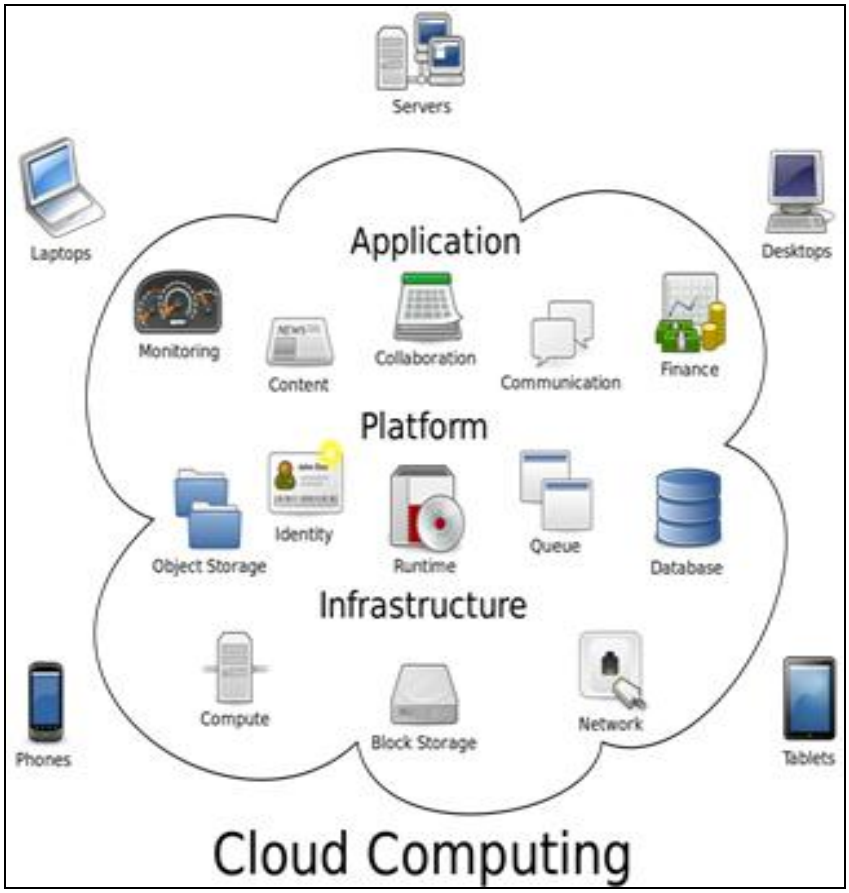
Sanjeev Kumar, Nisha Nikhanj, Anjali Dhawan
Assistant Professor, PG Department of Computer Science, Dev Samaj College for Women, Ferozepur, Punjab, India

Abstract
In this paper cloud computing challenges in agriculture are discussed. The core concept of cloud computing is, quite simply, that the vast computing resources that we need will reside somewhere out there in the cloud of computers and we'll connect to them and use them as and when needed. In India most of the peoples live hood depends on Agriculture field so Agriculture, being a backbone of Indian economy. We need excellent results of cloud computing in agriculture need a revolution, so as to increase the production and quality of product which can help in reducing unemployment and earn foreign exchange through export of agriculture commodities like grapes, sugar, turmeric, other food grains, etc. Some of challenges such as poor knowledge about weather prediction, less security, availability of computer, database for crop related information, are required for the Cloud computing in agriculture.

Keywords: cloud computing, challenges in cloud computing

1. Introduction
The Greek myths tell of creatures plucked from the surface of the planet and enshrined as constellations within the night sky. One thing similar is going on nowadays within the world of computing. knowledge and programs square measure being swept up from desktop PCs and company server rooms and put in "the reckon cloud". With its new thanks to deliver services whereas reducing possession, rising responsiveness and legality, and particularly by permitting the choice manufacturers to focus their attention on the business instead of their IT infrastructure [1], there's no organization that has not though' concerning moving to the Cloud. Cloud Computing has become one in every of the foremost talked regarding Cloud Computing claims to require enterprises search to a brand new level and permits them to any cut back prices through improved utilization, reduced administration and infrastructure price and quicker preparation cycles. Cloud Computing may be a term accustomed describe each a platform and kind of application. Technologies in recent times and possesses a lot of attention from media yet as analysts attributable to the opportunities it's giving. Cloud Computing differs from ancient computing paradigms because it is climbable is encapsulated as associate abstract entity that provides totally different level of services to the shoppers, driven by economies of scale and also the services area unit dynamically configurable. The security problems start with the cloud readying models. Counting on infrastructure possession, there are four readying models of cloud computing. [5]: This section specifies different types of services provided by cloud models like: Software system as a Service (SaaS), Platform as a Service (PaaS), and Infrastructure as a Service (IaaS) that area unit deployed as public cloud, personal cloud, and community cloudland hybrid clouds:

1) Software system as a Service (SaaS): the potential provided to the patron is to use the some applications that is running on a cloud infrastructure. The applications area unit accessible from several devices through associate interface like an online browser (e.g., web-based email). The patron doesn't management the cloud infrastructure which has network, and servers, all operative systems, and provides storages.
2) Platform as a Service (PaaS): PaaS provides all the resources that area unit needed for implementation of applications and every one services fully from the web. The potential provided to the patron is to deploy onto the cloud infrastructure .Consumer uses all the applications by victimization totally different programming languages and tools that area unit offer by the supplier. Any shopper has not any management on cloud infrastructure together with all networks, servers and operative systems, however has management over the applications that they deployed.
3) Infrastructure as a Service (IaaS): the potential provided to the shopper is to access all the process, storage, networks and different several basic computing resources. Infrastructure suppliers manage an outsized set of computing resources, that embody as storing and process capability. During this virtualization is employed to separate, assign and dynamically size these resources.



Benefits of Cloud Computing

Many of the advantages to be had once exploitation Cloud computing square measure the lower prices associated. At the infrastructure level, virtual pictures may be scaled and narrowed with complete disregard for any associated hardware prices like instrumentality procurance, storage, maintenance and use. This is often all taken care of by the service supplier and can be factored into the payment for the service: cost has been born-again into operational expenditure. Resources among the cloud may be treated as an artefact, associate degree `unlimited' medium. At each the platform and computer code level similar advantages square measure seen. Aspects like computer code installation, readying and maintenance is nearly non-existent.

2. Challenges of Computing in Agriculture

The core concept of cloud computing is, quite simply, that the vast computing resources that we need will reside somewhere out there in the cloud of computers and we'll connect to them and use them as and when needed. In India most of the peoples live hood depends on agriculture field so agriculture is the major part of economy in India. So we need excellent results of cloud computing. The lack of knowledge of internet services and awareness affects the output of the project. Some of challenges such as poor knowledge about weather prediction, less security, availability of computer, database for crop related information, are required for the Cloud computing in agriculture. There are some challenges regarding implementation of cloud in agricultural

- Computer availability
- Connectivity
- Computer Literacy
- Internet Awareness and access
- Power availability
- Climatic conditions

2.1 Computer availability

Most of the part of rural areas comes under rural area and the financial condition of these people are very poor. So to buy computer system is not affordable to the respondent. The electricity supply is also not available during 24 hours almost half the day load shedding is applicable. The rain, cyclone and adverse conditions affect the continuous power supply so we can't rely on these services

2.2 Connectivity

Due to poor network, internet access is not much available for the villagers. The villagers are not able to by the internet connections due to their economical condition the internet connectivity in the remote area of mountains and vast dry land the connectivity is not provided. Now attempts are mode to provide the internet through the mobile services but still it is not enough to reach to the common poor people.

2.3 Computer Literacy

As we all know rural areas having higher literacy ratio but in rural area in district people are aware of computer due to less number of computers are available. The use of ICT is least used in the district.

2.4 Internet awareness

Most of the people do not know the internet services. The cost of the internet services and speed is also not up the desired level.

These are some challenges which are the main barriers in implementation of Cloud Computing in agriculture. To avoid these barriers government has then the question is what kind of efforts government of India or Ministry of Agriculture should have to take –

- Government of India should have to provide computer systems in affordable price.
- They have to start training centres to avoid computer illiteracy.
- To implement cloud computing there should be better network coverage and government of India has to provide better connectivity in low price.
- As these people got network connectivity easily then they will automatically aware about use Internet.
- Supply of electricity should be 24 hours.

3. Conclusion

This paper contains the various challenges faced while implementation of the cloud application in agriculture sector. For economic point of view agriculture plays important role in India. Cloud Computing is really great technology which is having various benefits. To implement these types of technology in India is necessary because in case of ICT the respondent should have to invest his money more as compare to Cloud Computing. From the investment point of view the respondent only invest his money to buy computer system and internet connection. The expectations from the government of India are the basic requirement is 24x7 power supply, strong network connectivity. The government should provide special schemes to access these things easily, like as we access electricity, telephone connection having minimum charges for rural areas.

4. References

1. Andrei T, Jain R. Cloud computing challenges and related security issues, 2009.
2. Gao J, Bai X, Tsai W. Cloud testing-issues, challenges, needs and practice. Software Engineering: An International Journal. 2011; 1(1):9-23.
3. Ashktorab V, Taghizadeh SR. Security Threats and Countermeasures in Cloud Computing. International Journal of Application of Innovation in Engineering & Management IJAIEM. 2012; 1(2):234-245.
4. Dalvi TS, Kumbhar SR. Need of KRUSHI MITRA Cloud Model in Agriculture with Special Reference to Sangli District MS, IJRCSIT, 2014; 3(1):28-31.
5. Application of Cloud Computing in Agricultural Development of Rural India. 4(6):922-926.
6. Rountree D, Castrillo I. The Basics of Cloud Computing. The Basics of Cloud Computing, doi:10.1016/B978-0-12-405932-0.00007-4, 2014, 123-149.