

Cloud Computing: Emphasizing Hybrid Cloud Computing on Android Computing Platform—An Overview

Prantosh, K. Paul^{1*}, S. Govindarajan² and D. Chatterjee³

¹'FBAS' Bengal Engineering and Science University Shibpur, Howrah, West Bengal, India

²Department of Computer Application, SRM University, Tamil Nadu, India

³IEM, Saltlake, West Bengal, India

Email: prantoshkpaul@gmail.com

Abstract

Cloud Computing is one of the important name in the field of Computer Engineering and Information Science (IS). It is treated as an internet service which is responsible for extensible services dynamically on the internet. Cloud Computing is actually a virtualization in which sharing of hardware and software is possible. Cloud computing practically has created a new day for IT firms, commerce and corporate house and so on. Hybrid computing is the computing concept and strategy where combination of more than one cloud platform and architecture basically taken place or integrates. It is now proven that cloud computing on Android platform gives us much flexibility and efficiency. The paper describes the whole aspects of these emerging technologies briefly.

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Keywords: Computing, cloud computing, advance computing, virtualization, android computing, operating systems, hybrid computing, hybrid cloud, multiple cloud system.

Introduction

Cloud computing is the way for virtualization of IT and computing tools. This is a kind of service or technology which is actually create the virtual machine and virtual world and that uses the web and central remote server to maintain data and applications. Cloud computing is treated as most emerging tools/ weapons after computer and internet. Cloud computing is actually allows the remote place(s) with another; that is called hybrid cloud computing. By this platform it is so much easy to get much more flexible, efficient, cost effective, value added services. Virtually cloud computing dedicated to much more efficient computing by the centralization of storage, memory, network, processing as well as band width.

Objectives

The main benefit and advantages of this research work is including:

- To know basic about information transfer cycle and its relation with cloud computing;
- To know basic about cloud computing and cloud environment;

- To learn about the main advantages of cloud computing;
- To learn about the main advantages of cloud computing;
- To learn about the hybrid computing and its relationship with cloud computing;
- To know the application of cloud computing on ‘information processing’ and ‘information mechanism’.
- To learn about the android operating systems and its application on cloud platform.

Cloud computing: overview

Cloud computing is today treated as most advance technology after grid computing. Cloud computing allows consumes and business to use utilization with out installation and also retrieve or access their personal file or data. The concept of cloud computing is actually emerged during late 1980’s and 1990’s. The term first used by telecommunication companies but today it is well know name for many purposes and fields. In cloud computing chances are there to save the recourses due to its utility computing architecture. The wide flexible connection with the user at time with the same machine are possible by the centralized system in cloud computing.

Clouds computing in simplify manners nothing but the usage of internet for all computer needs, cloud computing is a natural evolution of the widespread adoption of virtualization, service oriented architecture as well as utility computing. Cloud computing can be classified as follows:-

- SaaS:- Software as a Service
- PaaS:- ‘Platform as a Service’
- IaaS:- Infrastructure as a Service

The empowerment, reduced cost, virtualization, centralization, security, scalability are the main reason for adopting cloud computing.

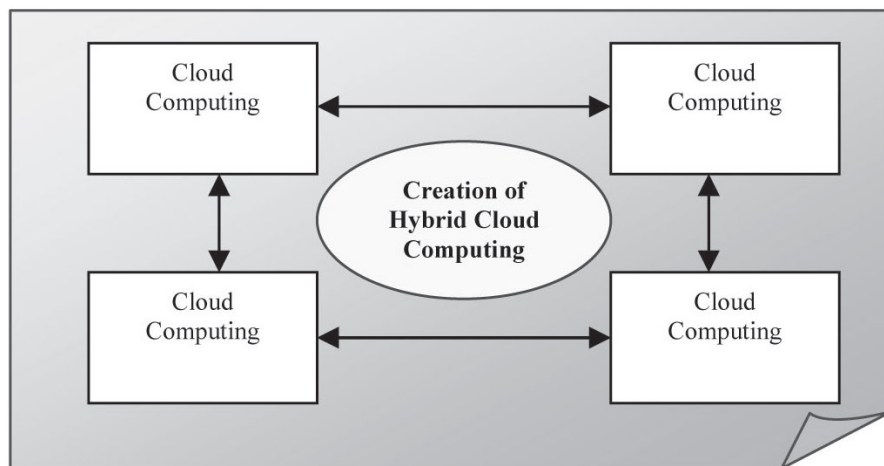


Figure: 1: Development of Hybrid Cloud Computing

Cloud Computing: Advantages

Cloud Computing provides us so many advantages and benefits like:-

- The rapid elasticity is possible with the help of cloud computing, by this consumes can increase on decrease capacity at will;
- Here renting usage of third party solution/technology is not required;
- Here chances are there for saving the resources due to its utility computing nature;
- The efficient connection with the user is possible by this;
- Here consumer are only pay the combined charges of computing power, band width usage- so it is cost effective;
- Cloud computing also allows the user much more dynamic scalability as demands fluctuate ;
- It is provide the hassle free maintenance of user and including other database;
- With the help of cloud computing user can directly access the data; so it is provide wider accessibility;
- Cloud computing doesn't need any physical IT infrastructure; so it is directly avoid expenses
- It is also create the centralized security.

Hybrid Cloud Computing: Emerging Look

Hybrid Computing is one of the important names in the field of emerging cloud computing. Hybrid cloud computing is actually nothing but the integration approach. It is the concept where two or more cloud architecture may combine for much wider flexibility and efficiency with cost effective technology solution.

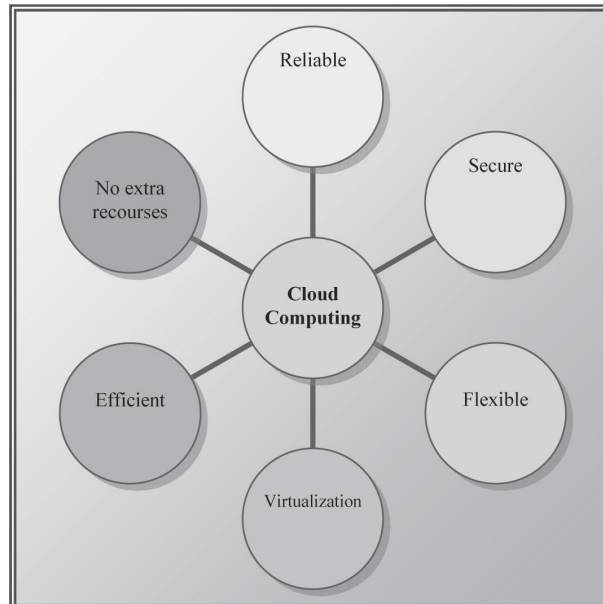


Figure: 2: The main reason/ benefit of cloud computing

As hybrid cloud computing beyond two or more hybrid cloud computing together; so that it is provide multiple deployment systems. Hybrid cloud computing has the freedom of combining cloud services ranging from private, public or community cloud services provided. For its multiple deployment models it is also called as multiple cloud system. Virtually the hybrid cloud computing provides following benefits:

- Empowerment of end user by putting the chances for their own control;
- Cost is much reduced by this;
- One machine can handle many O/S;
- Multi tenancy creates better sharing of recourses;
- It is create robust security by the huge centralized systems;
- It is provide better device and location independence;
- It is also prove wider reliability.

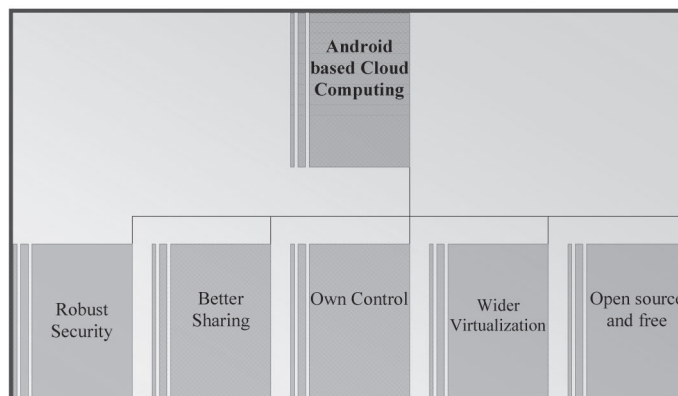


Figure 3: Utilization of Android based cloud computing

Cloud Computing on Android Platform: Take a look

Android is a kind of mobile platform which is basically open source, free and there is no chance for huge costing. Android operating system helps wider cloud computing and virtualization. The androids OS based cloud computing provides reuse and replacement of components. Other hand integrated browser give wider search option. The open architecture depended systems provides opportunity to replace even the home application grant. The following benefits basically derived by Android cloud computing:

- With the help of android platform the computing network may be much more flexible and wider. It may also be helpful to interact the large community in a particular field;
- The android applications are open source, so by using android operating systems it will provide advance and robust security systems;
- Virtually creation of different cloud for the different user cost a higher than single cloud, but android computing may be helpful for hybrid cloud computing by reducing cost and efficiency.

Advance cloud computing and its emerging challenges

Advance cloud computing has so many challenges and problems and issues in today's contemporary age:-

- Cloud Computing requires initial firewall support for its installation;
- Cloud Computing still has so many problems like security and threats;
- Still many organizations are not interested to launch cloud computing systems;
- Financial problems is still an emerging problems;
- For cloud computing we need to depend on third party but authenticity and reliability of the third party is an important issue;
- For cloud computing we need a strong and sophisticated continuing internet connection; but there are so many problems we can face for this;
- Broadband connection in all the area and locality is an important problems for developing country like India;
- Availability of qualified manpower for creation and virtualization is still problemable;
- Designing better web and information architecture is important part for the cloud environment;
- Government efforts towards launching and introduction towards cloud mechanism is very much important.

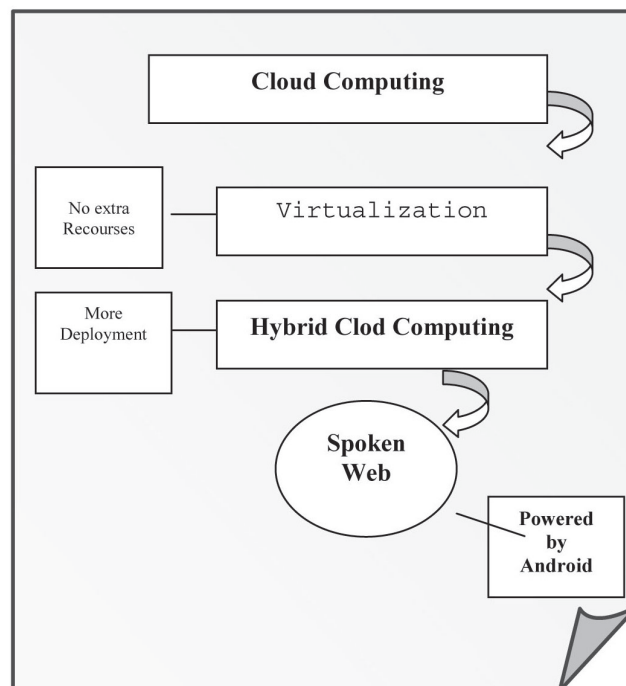


Figure 4: Hybrid cloud computing and wider possibilities

Findings

- Cloud Computing provides virtualization of IT Infrastructure;
- There are ample opportunities for data storage and retrieval;
- Hybrid cloud Computing is actually combination of so many cloud platform;
- So many digital archives, repositories, online shop is created during some year with the help of cloud computing;
- Still awareness and market also not properly open of cloud computing for all organization.

Suggestion

- With the help of cloud computing the 'spoken web' systems may be developed;
- Government should take proper initiative for advancement of cloud computing;
- The telecom ministry/ companies should take proper step for flexible broadband connection;
- The new area should be identified for implementing cloud computing; like tele medicine;
- The information infrastructure should grow with the help of cloud computing;
- The hybrid computing and cloud systems should be introduced if so many service seeker want the SaaS/PaaS/IaaS services.

Conclusion

Cloud computing is the important gift of modern computing and information technology. It creates a new day for virtualization of all type of IT product. It is the new kind of supplement, delivery mechanism and model for the large scale IT solution. Apart from hardware and software with the help of cloud computing it is possible to store, retrieve information and similar content. Finally it is also helps in building sophisticated integrated information transfer cycle chain. Cloud computing is actually is elastic in nature; so there is not at all problem for storage of the memory. So flexible of data and other resource is higher than android technology and platform as far as utilization of cloud computing is concerned. Hybrid cloud computing is helpful for the big information or industrial hub to provide service to the large number of organization and if that hybrid cloud computing use android; that will be the wider gift of higher and wider sharing and storage of data and other resources due to pre installation of the software.

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