



Community Cloud Computing with association of cloud computing paradigm: A study

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Abstract: *In this paper it presenting the actual meaning of cloud computing and how it is using in community. For this reason it is called community cloud computing. By knowing these two things like cloud computing and community cloud computing. From this papers readers can understand what is the real things which are used in the current technological trends in this revolutionary development era.*

Keywords : *Cloud computing, Community cloud computing*

I. INTRODUCTION

This paper first elaborate the meaning of cloud computing. Lets we take the introduction about the cloud computing by taking the real world example. First we see the meaning of the words “Cloud” and “Computing”. The word cloud means “ A visible mass of condensed water vapor floating in the atmosphere, typically high above the ground [By Wikipedia]” As per our knowledge we can say the clouds are seen in the sky and clouds are seen by everyone and clouds are generated by the water which is evaporated from the earth to sky in the form of clouds and that water again coming down to earth by means of rain in the rainy season. In somewhat this technical clouds are works they store the data. Like natural cloud stores the water. From anywhere in the world users can store their data and from anywhere in the world users can download their data. Both technical cloud and natural cloud seems to be same in general but in the form of technical they are quite different. Now we can move for second word called “Computing”. This means “The process of utilizing computer technology to complete a task. Computing may involve computer hardware and/or software, but mut involve in some form of a computer system”^[1]. Now looking forward for community cloud computing. A community cloud is a multi-tenant infrastructure that is shared among several organizations from a specific group with common computing concerns. Such concerns might be related to regulatory compliance, such as audit requirements, or may be related to performance requirements, such as hosting applications that require a quick response time, for example. The goal of a community cloud is to have participating organizations realize the benefits of a public cloud -- such as multi-tenancy and a pay-as-you-go billing structure -- but with the added level of privacy, security and policy compliance usually associated with a private cloud. The community cloud can be either on-premises or off-premises, and can be governed by the participating organizations or by a third-party managed service provider (MSP)^[2].

II. BENEFITS AND DRAWBACKS OF COMMUNITY CLOUD COMPUTING

Public sector organisations can reap several benefits from working together through a community cloud strategy, according to industry experts, but several concerns are slowing the adoption rate.

The National Institute of Standards and Technology (NIST) [describes the community cloud](#) as a cloud infrastructure that is shared by several organisations and supports a specific community, such as healthcare, that has shared concerns around mission, policy and compliance considerations^[3].

Community clouds are a subset of public clouds customized to a specific vertical industry, such as healthcare or finance and federal agencies that all offer a variety of services including Software as a Service (SaaS), Business as a Service (BaaS) or Platform as a Service (PaaS).

Community Clouds are directly tied to the core tenants of the cloud that share the infrastructure and reusable SaaS application. They can be managed by the organizations themselves or by a third party, on premise or off premise.

Vertical business models in the community cloud describe approaches of merging ideas and businesses strategies to create innovative shared services or to optimize business ideas. There are consortium partnerships coming together to leverage common resources and purchasing power. Other models are internally shared IT organizations providing services to different business units or companies within their overall internal organization.

For example, recently, a federal community cloud was launched, designed for federal organizations to respond more quickly to technology requirements while providing secure and comprehensive certified computing capabilities to federal government clients. Healthcare community clouds have specific identity access provisioning and security features that allow users to ensure HIPAA compliance of their data storage needs resulting in well-aligned sets of infrastructure requirements for different healthcare organizations^[4]. The below figure 1 shows the community clouds.



Fig 1: Community Clouds

Benefits of a community cloud include:

- Secure, private multi-tenant cloud computing that satisfies demanding requirements of the organizations
- Flexible solutions to differing market needs
- Matching market fluctuations in demand
- High scalability
- Cost reduction by eliminating owned infrastructure and software licenses needs
- Faster implementation, shorter development time and easy access to test environments
- Application, hosting, storage and backup
- Access to distributed information and advanced analytics solutions

Biggest disadvantages for the community cloud are trust and security concerns between the tenants and potential intruders that may damage the system.

While the community cloud model will likely not reach the same scale of use as the public cloud, it will be a key success factor for many global industries that somewhere, sometimes are likely affected by natural disasters and other events like war. This emphasizes the need of community clouds for disaster recovery and business continuity concerns.

III. CONCLUSION

From this paper readers may get the idea about cloud computing and community cloud computing and this paper also explains how cloud and community cloud computing are beneficial for the society. And in next paper I will further discuss about the areas where community cloud computing is used with functioning of the community cloud computing.

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