

A Survey on Social Cloud Views

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Abstract— Social network platforms have rapidly changed the way that people communicate & interact. A Social Cloud is a resource and service sharing framework utilizing relationships established in members of social network. To facilitate social sharing, and the construction of sharing preferences, a Social Cloud requires access to user's social networks. Various kinds of distributed resource sharing setups have been proposed by taking social relationships into consideration. In Social Cloud, owners of the computing resources are willing to share their computing resources for their friends circle.

Keywords— Social cloud; Resource sharing; Social network; Cloud computing; Security

I. INTRODUCTION

A Social network is a set of actors and a set of some relationship among the actors. Actors in a Social network (people, organizations or other social entities) are connected by a set of relationships, such as friendship, affiliation, colleagues, trading relations or co-workers. Facebook, Google+, LinkedIn are some examples of Social networking site as web-based services which allow users to create their profile and articulate a list of other users with whom they share a connection. Users share their information, thoughts, ideas, photos and videos from their personal desktop or laptop to friends in online Social network community.

Social Cloud aims to provide mechanism for resource sharing. Social Cloud model allows users to fulfil computational need of an individual by availing underutilized resources of other users in Social network environment. Social Cloud is defined as a resources and service sharing framework utilizing relationships established between members of a Social network. Social Cloud is a novel concept which considers computational resource sharing standing on the layer of online Social network framework.

A social network is a structure of entities interconnected through a variety of relations. These entities are typically referred to as “users”. The relationship between these users have a number of different names across different social networks such as friends, or followers. Through these relationships users share messages and media amongst themselves. A Social Cloud can be considered as a cloud platform where resource and service sharing framework utilizing relationships established between members of an existing digital community is followed. A Social Cloud is a platform for sharing resources within a social network. The main feature of a Social Cloud is that it enables sharing, not selling of resources.

The rest of the paper is organized as follows: Section 2 presents the related work. Section 3 describes different views of social cloud, section 4 represents acknowledgment and last section, section 5 represents the conclusion.

II. RELATED WORKS

McMahon and Milenkovic [1] proposed Social Volunteer Computing, an extension of traditional Volunteer Computing, where consumers of resources have underlying social relationships with providers. Bilateral exchange is not possible in this type.

Ali et al. [2] proposed the application of a Social Cloud model to enable users in developing countries to share access to virtual machines through platforms like Amazon EC2. Existing allocations is subdivided to reduce instance cost over a wider group of users. Using a cloud bartering model, the system enables resource sharing using social networks without the exchange of money and relying on a notion of trust to avoid free riding. It uses a virtual container to provide virtualization within the existing virtual machine instance.

Gracia-Tinedo et al [3] proposed a Friend-to-Friend Cloud storage solution like F2Box. It retains a reliable service while using the best effort provisioning of storage resources from friends. Since a pure friend-to-friend system cannot compare in terms of quality of service with traditional storage services. So a hybrid approach where reliability and availability can be improved using services like Amazon's S3 provides a valuable consideration in the realisation of a Social Cloud

III. DIFFERENT VIEWS ABOUT SOCIAL CLOUD

This section explains different social cloud views.

3.1. A view of Cloud Computing

Cloud computing [4] includes both the applications delivered as services over the Internet and the hardware and software in the data centers that provide those services. The services themselves have long been referred to as Software as a Service (SaaS). The data center hardware and software is called as a cloud. When a cloud is made available in a pay-as-you-go manner to the general public, it is termed as a public cloud; the service being sold is utility computing. The term private cloud to refer to internal data centers of a business or other organization, not made available to the general public. Thus, cloud computing is the sum of SaaS and utility computing. People can be users or providers of SaaS, or users or providers of utility computing.

3.2. Cloud Computing in Social network

Social Network now has become an important part of many people's life. It provides a platform for sharing and communication between users. The structure of a Social Network is a dynamic virtual organization that uses the trust relationship established between friends. Social networks are used to reflect real world relationships that allow users to share information and form connections between one another, essentially creating dynamic Virtual Organizations. This pre-established trust formed through friend relationships within a Social network to form a dynamic Social Cloud enabling friends to share resources within the context of a Social network [5].

3.3. Social cloud computing as Community Cloud

Digital relationships established between individuals are becoming an important part. For many people social networks provide a primary means of communication between friends, family and co-workers. The increasing presence of social network platforms has proved their fast and ongoing growth. For instance, Facebook has over 500 million active users of which 50 log on every day. Users are more likely to trust information from a "friend" if the digital relationship between the

two is based on a real world relationship. The relationships are used to form a dynamic Social Cloud, thereby enabling users to share heterogeneous resources within the context of a social network. It is important that people connected with each other on any social network also know each other in real world with some reference and they must have some level of trust among them depending their relationship either friends, family or colleague etc. Each group providing different level of security, authentications and sharing policies. Thus Social cloud as community cloud allow users share resources among friends within the social network [6].

3.4. Social Cloud As Volunteer Cloud in public e Research

The Social Cloud for Public e-Research aims to provide researchers with a platform to exploit social networks to reach out to users who would otherwise be unlikely to donate computational time for scientific and other research oriented projects. This will explore the motivations of users to contribute computational time and examines the various ways these motivations can be catered to through established social networks. E-Research describes it as the use of information and communication technologies to enhance new and existing forms of research across disciplines. The Social Cloud for Public e-Research can be a privately hosted application designed to work with BOINC and Facebook. Public e-Research Social Cloud tries to leverage huge amount of computational power to perform computationally intensive tasks in a cost effective way. This can be achieved by integrating Facebook and BOINC [7].

3.5. Social Cloud As Grid Computing

A tie between two users signifies that the users involved in a relationship desire to perform computational task for each other. Users coordinate each other by performing a computational task for each other. Here a user acting as a task outsourcer is the one whose task has to be performed. A worker is the one who carries out a task of an outsourcer. A task outsourcer, outsources a task only to its neighboring friends but not friends of friends and so on. All users share their idle storage resources with only neighbors and perform task for each other without any incentive. Thus here a friend outsources a task to its friends. Then the friends performs computational task on behalf of the friend [8].

3.6. Social Cloud As Social Networking Services

Social networking services (SNS) support users to build their profiles, discover other users, and make it possible for direct and indirect communication between users, share information with each other and make users aware about other users of common interest. Wooten et al. [9] presents Health-care Social Cloud (HHSC). HHSC is a Cloud assisted social health care network where various types of users, for example, patients, physicians and those who would like to know medical issues, can interact through special typed blogs. Users shares their blogs with each other on Internet. In HHSC users have blogs and they can create posts and comments. Each user takes decision independently to whom allow to view its blog contents results in cooperation. The vision of HHSC is to build health care environment and to assist a user to develop secure relations with other users. A health care environment is one where some users discuss their health related issues, while other users (e.g., physicians) help them in managing their own care. Thus here various kinds of users (for example, patients, physicians) share their blogs among each other to improve health care environment.

Security Issues in Social Cloud

A social network, is a network of individuals created for social communication. It is a massive platform where people interact with anyone anywhere in the world online based on some

relationship. The relationship can be friendship, family membership or others with some shared interests. One can share anything like profiles, photos, videos etc., with friends. To make communication more effective, content sharing has been widely adapted. There has been an increased use of content sharing through social networks [10]. With more and more contents getting shared, the security and rights of shared content are getting compromised. There exists several issues with content sharing such as upload limitations, unsupported tracking model and copyright violations. Cloud computing allows the distribution of services such as storage and processing. A social network can be blended with a cloud network. Such a social cloud provides the functionalities of both cloud computing and social networking.

IV. CONCLUSION

A Social Cloud is a platform that enables the sharing of resources between friends via social relationships. In social cloud users can discover and trade services contributed by their friends, taking advantage of pre-existing trust and relationships between them. This methodology used by users to communicate with each other and interact with the resources of their friends. A strong debate going on is, whether Social Cloud is an alternative to other distributed computing such as Cloud, Volunteer and Grid computing.

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