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Social Cloud

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Abstract - *Social computing is an area of computer science that is concerned with the intersection of social behavior and computational systems. Social network platforms have rapidly changed the way that people communicate and interact. They have enabled the establishment of, and participation in, digital communities as well as the representation, documentation and exploration of social relationships. Social networks are used to reflect real world relationships that allow users to share information and form connections between one another.*

In recent years there has been rapid growth in cloud computing and social networking technologies. Cloud computing shifts the computing resources to a third party, eliminating the need to purchase, configure and maintain those resources. We believe that as 'apps' become more sophisticated, it will become easier for users to share their own services, resources and data via social networks. To substantiate this, we present a Social Compute Cloud where the provisioning of Cloud infrastructure occurs through "friend" relationships. In a Social Compute Cloud, resource owner's offer visualized containers on their personal computers or smart devices to their social network.

However, as users may have complex preference structures concerning with whom they do or do not wish to share their resources, we investigate, via simulation, how resources can be effectively allocated within a social community offering resources on a best effort basis. In the assessment of social resource allocation, we consider welfare, allocation fairness, and algorithmic run time.

***Key Words*: Cloud computing, Social computing, Social Network, Three tier architecture, Social Platform.**

1. INTRODUCTION

In early evolution in cloud computing new business model and cloud computing architecture is a advance trend. With the increasingly pervasive nature of social networks and cloud computing users are starting to discover new ways to communicate with developing paradigms. Social network are used to reflect real world relationship that allow users to communicate with each other easily. The structure of a social network is essentially a dynamic virtual organization with inherent trust relationship between friends. This paper presents a review of cloud computing architecture for social computing. The architecture proposes leveraging the pre-established trust formed through friend's relationship within a social media to form a virtual social cloud enabling friends to communicate and share messages within the area of a social cloud network.

Social computing describes a new computing paradigm and an Associative research and application area. It will strongly impact system and software developments in the future. We expect that social computing scope will continually increasing and its applications to expand. From both theoretical and technological view, social networking technologies will move beyond social compute information processing toward empowering social intelligence.

2. Computer-Supported online Communities

Nowadays online communities are responsible for connecting computers each other easily, there are rapidly increasing invent of social media, the main target of social communities is to connecting the world wide people to share information.

2.1 Social Environment

On social side of things there are many social companies allow sharing information among worldwide user, Different Social vendors provide different services

based on their location. In early tread of social computing people iteration is growing rapidly.

Social computing describes various applications such as social relation, influence, power, social states.As social networks and applications place on the World Wide Web, cloud computing is a platform to possible solution for these technologies.

a. Three Tier Architecture

Components of this architecture:

1. Client/Host
2. Middleware
3. Enterprise Server

In three tier architecture there is a intermediate server called middleware which process request and response between client and database server.

A client is user which requests a service to server and a server is combination of software and hardware which serve a user request. All these communication done with the help of middleware. Hence middleware plays an important role in three tier architecture.

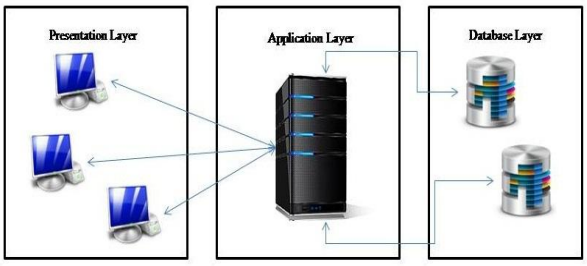

Fig. 1.1 Three Tier Architecture

3. Social Computing Platform Architecture

Like any Cloud model, a platform is required to coordinate and facilitate its basic functionality (user management, resource allocation, etc.).

Social applications can be designed as applications on top of existing social networks or as separate applications.

Fig. 1.2 shows the high level architecture for a Social Compute Cloud and is major component.

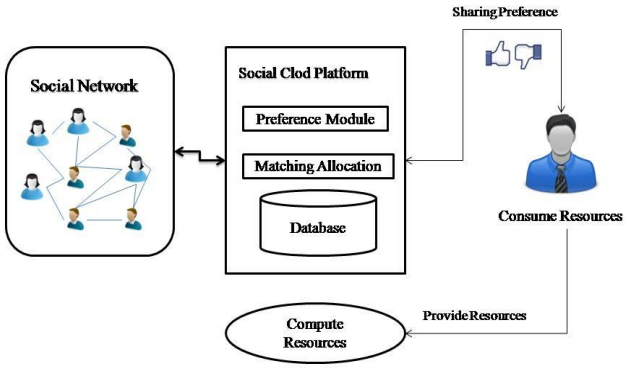

Fig. 1.2 System Architecture

4. IMPLEMENTATION

The Social Cloud prototype uses Web Services to create scalable, distributed and decentralized enviourment. All services use Web Service Resource Framework (WSRF) and Apache tomcat. Our applications are a JSP based web application. Two parallel economic markets have been implemented to trade storage; both operate independently and are designed to work concurrently. In a posted price market users select storage from a list of friends' service offers.

In market, consumers demand specific storage requirements and pass this description to the Social Cloud enviourment, stakeholder then bid to host the storage. Both markets result in the establishment of a SLA between different users.

The SLA is redeemed through the proper storage service to create the storage instance. In the market implementations participating users know the related users identity, to provide accountability between friends. In traditional Cloud environments users are not aware of the location their provision, the prototype Social Cloud could provide this transparency by eliminating user information from posted price listings, auction requests, and storage access.

5. PREFERENCE BASED MATCHING

5.1 Matching Algorithm

For the case of complete suggestion rankings without indifferences there are polynomial-time algorithms that solve the matching problem for different objective functions.

A Social Compute Cloud describes which type of preference matching is used and how it is worked. As a first step, the supply and demand, i.e., the individual requests and resource offers of users have to be covered. The Social Clearing house is a core concept in our model. The centralization means we know the all supply and demand in the market, which can gives better results than decentralized resource matching. The downside is that there may be additional issue in storing and managing the related information.

In the survey, stability is assumed important for successful matches. Stability simply define there is no couple of users who would promote to be matched over their current match. As there are different stable solutions for given matching problem the other repeatedly assumed as objectives welfare and fairness. The **Deferred-Acceptance (DA)** algorithm is the well-known paradigm for two-sided matching and has the advantages of having a short runtime and at the same time always yields a stable solution. However, it cannot provide confidentiality about welfare, and yields a particularly unfair solution, For certain preference structures, the **Welfare-Optimal (WO)** algorithm yields the stable solution with the best welfare score by using certain structures of the set of stable solutions and applying graph-based algorithms. There are two standard approaches used in the literature and are also considered in this paper i.e. DA & WO.

As soon as incomplete lists are introduced, the problem of finding accurate solutions with additional properties like welfare or fairness becomes NP-hard. DA and WO can still be used in such situation, but they can no longer confidentiality to find the best solution. In such situation, the approximation algorithm **Shift** can find a stable match, with the number of matched couple of user for certain special issues.

5.2 User Preferences

To communicate social sharing, and the building of sharing preferences, a Social Cloud requires authorization of users' on social networks. We propose by using a social adapter, rather than implementing the platform as a social cloud network, as we have viewed that user may misunderstand the separation between social networks and their applications.

The most common myths are that the social network will have permit to users' data and resources if they offer them in a Social Cloud via a social network application, which is not the case.

6. RELATED WORK

Nowadays, growing pervasiveness of social network platforms, ratification of social network structures for different things of assembly becoming more common. Network and compute enterprise sharing web sites, models to share insurance policies among a social peers and where social networks emerge due via Collaboration.

7. CONCLUSION

This paper defines the architecture and implementation of a Social Cloud platform; a fusion of Cloud Computing, Supervise computing and Social networking. In our architecture social site users can explore and trade storage services collaboration by their friends, taking advantage of pre-existing trust relationships.

8. FUTURE WORK

As future work, we can perform additional ways for users to provide their preferences, In terms of the Social Cloud platform we can further expand the sandbox to provide additional system services and social authentication control so that users can give extended/restricted access rights to groups.

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