Improvement Outlay for Public User's on Spread Clouds

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Abstract: **Geo-distributed clouds provide an intriguing platform to deploy online social network (OSN) services. To leverage the potential of clouds, a major concern of OSN providers is optimizing the monetary cost spent in using cloud resources while considering other important requirements, including providing satisfactory quality of service (QoS) and data availability to OSN users. In this paper, we study the problem of cost optimization for the dynamic OSN on multiple geo-distributed clouds over consecutive time periods while meeting predefined QoS and data availability requirements. We model the cost, the QoS, as well as the data availability of the OSN, formulate the problem, and design an algorithm named. We carry out extensive experiments with a large-scale real-world Twitter trace over10 geo-distributed clouds all across the US. Our results show that, while always ensuring the QoS and the data availability as required, can reduce much more one-time cost than the state-of-the-art methods, and it can also significantly reduce the accumulative cost when continuously evaluated over 48 months,with OSN dynamics comparable to real-world cases.**

I. INTRODUCTION

INTERNET benefits today are encountering two astounding changes. One is the extraordinary notoriety of online social systems (OSNs), where clients construct social connections and make and offer substance with each other. The other is the ascent of mists. Frequently traversing different geographic locationsclouds give an imperative stage to conveying circulated online administrations. Strikingly, these two changes have a tendency to be joined. While OSN benefits regularly have a huge client base what's more, need to scale to meet requests of clients around the world, geo distributed mists that give Infrastructure-as-a-Service can coordinate this need consistently and give huge asset what's more, taken a toll effectiveness points of interest. Boundless on-request cloud assets can oblige the surges of client demands; adaptable pay-as-you-go charging plans can spare the ventures of specialist organizations; and cloud foundations additionally free administration suppliers from building and working one's own server farms. For sure, various OSN administrations are progressively sent on clouds Migrating OSN administrations toward geologically disseminated mists must accommodate the necessities from a few unique perspectives. To begin with, OSN suppliers need to streamline the fiscal cost spent in utilizing cloud assets. For example, they may wish to limit the capacity cost while imitating clients' information at more than one cloud, or limit the intercloud correspondence cost when clients at one cloud need to ask for the information of others that are facilitated at an alternate cloud. In addition, OSN suppliers want to give OSN clients attractive nature of administration (QoS). To this end, they may need a client's information and those of her companions to be open from the cloud nearest to the client, for instance. To wrap things up, OSN suppliers may likewise be worried about information accessibility, e.g., guaranteeing the quantity of clients' information reproductions to be no less than a predetermined edge crosswise over mists. Tending to every single such need of cost, QoS, and information accessibility is additionally convoluted by the way that an OSN ceaselessly encounters elements, e.g., new clients join, old clients leave, and the social relations additionally differ.

II. EXISTING SYSTEM

Existing work on OSN service provisioning either pursues least cost in a single site without the QoS concern as in the geo-distribution case or aims for least inter-data-center traffic in the case of multiple data centers without considering other dimensions of the service, e.g.,data availability. More importantly, the models in all such work do not capture the monetary cost of resource usage and thus cannot fit the cloud scenario. There are some works on cloud-based social video, focusing on leveraging online social relationships to improve video distribution, which is only one of the many facets of OSN services; most optimization research on multi cloud and multi-data-center services is not for OSN. SPAR minimizes the total number of slave replicas while maintaining social locality for every user; S-CLONE maximizes the number of users whose social locality can be maintained, given a fixed number of replicas per user. For OSN across multiple sites, some propose selective replication of data across data centers to reduce the total inter-data-center traffic, and others propose a framework that captures and optimizes multiple dimensions of the OSN system objectives

simultaneously PNUTS proposes selective replication at a per record granularity to minimize replication overhead and forwarding bandwidth while respecting policy constraints.

DISADVANTAGES OF EXISTING SYSTEM:

- They fail to capture the OSN features such as social relationships and user interactions, and thus their models are not applicable to OSN services.

- The cost models in all the aforementioned existing work, do not capture the monetary expense and cannot fit the cloud scenario, and do not explore social locality to optimize the multi-data-center OSN service.

- OSN is unique in data access patterns (i.e., social locality), making this group of existing work inapplicable to our scenario.

III. PROPOSED SYSTEM

In this paper, we study the problem of optimizing the monetary cost of the dynamic, multi-cloud-based OSN while ensuring its QoS and data availability. We first model the cost, the QoS, and the data availability ofthe OSN service upon clouds. Our cost model identifies different types of costs associated with multi cloud OSN while capturing social locality, an important feature of the OSN service that most activities of a user occur between herself and her neighbors. Guided by existing research on OSN growth and our analysis of real-world OSN dynamics, our model approximates the total cost of OSN over consecutive time periods when the OSN is large in user population but moderate in growth, enabling us to achieve the optimization of the total cost by independently optimizing the cost of each period. Our QoS model links the QoS with OSN users' data locations among clouds .For every user, all clouds available are sorted in terms of a certain quality metric (e.g., access latency); therefore, every user can have the most preferred cloud, the second most preferred cloud, etc. The QoS of the OSN service is better if more users have their data hosted on clouds of a higher preference. Our data availability model relates with the minimum number of replicas maintained by each OSN user. We then formulate the cost optimization problem that considers QoS and data availability requirements. This problem is NP-hard. We propose a heuristic algorithm named based on our observations that *swapping the roles* (i.e., master or slave) of a user's data replicas on different clouds can not only lead to possible cost reduction, but also serve as an elegant approach to ensuring QoS and maintaining data availability.

IV. SYSTEM ARCHITECTURE
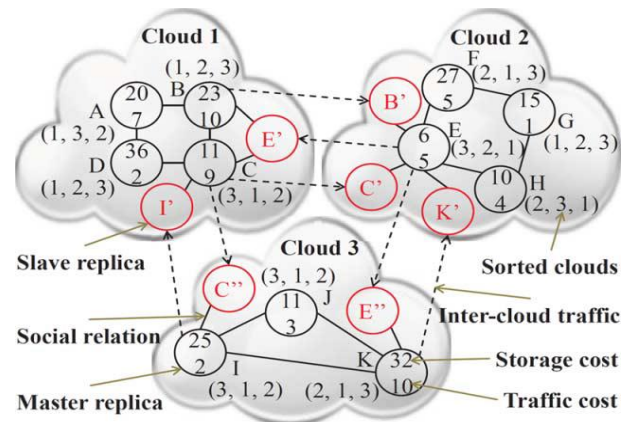
MODULES:

1. OSN System Construction Module

2. Modeling the Storage and the Inter cloud Traffic Cost

3. Modeling the Redistribution Cost

4. Approximating the Total Cost

MODULES DESCSRIPTION:

OSN System Construction Module

- ❖ In the first module, we develop the Online Social Networking (OSN) system module. We build up the system with the feature of Online Social Networking. Where, this module is used for new user registrations and after registrations the users can login with their authentication.

- ❖ Where after the existing users can send messages to privately and publicly, options are built. Users can also share post with others. The user can able to search the other user profiles and public posts. In this module users can also accept and send friend requests.

- ❖ With all the basic feature of Online Social Networking System modules is build up in the initial module, to prove and evaluate our system features.

- ❖ Clouds and OSN users are all geographically distributed. Without loss of generality, we consider thesingle-master–multi-slave paradigm.

Modeling the Storage and the Inter cloud Traffic Cost

- ❖ In this module, we develop modeling the Storage and inter cloud Traffic Cost of OSN, which is commonly abstracted as a

social graph, where eachvertex represents a user and each edge represents a social relation between two users.

❖ In this module we calculate the Storage Cost. A user has a *storage cost*, which is the monetary cost forstoring one replica of her data (e.g., profile, statuses) in the cloud for one billing period.

❖ Similarly, a user has a *traffic cost*, which is the monetary cost during a billing period because of the inter cloud traffic. As mentioned earlier, due to social locality, in our settings the inter cloud traffic only involves writes (e.g.,posting tweets, leaving comments). We do not consider *intra* cloud traffic, no matter read or write, as it is free of charge.

❖ A user has a sorted list of clouds for the purpose of QoS.

Modeling the Redistribution Cost

❖ An important part of our cost model is the cost incurred by the optimization mechanism itself, which we call the *redistribution* cost.

❖ We generally envisage that an optimization mechanism is devised to optimize the cost by moving data across clouds to optimum locations, thus incurring such cost.

❖ The redistribution cost is essentially the inter cloud traffic cost, but in this paper we use the term inter cloud traffic to specifically refer to the inter cloud write traffic for maintaining replica consistency, and treatthe redistribution cost separately.

Approximating the Total Cost

❖ Consider the social graph in a billing period. As it may vary within the period, we denote the final steady snapshot of the social graph in this period, and the initial snapshot of the social graph at the beginning of this period.

❖ The storage cost in is for storing users' data replicas, including the data replicas of existing users and of those who just join the service in this period.

❖ The inter cloud traffic cost in is for propagating all users' writes to maintain replica consistency.

❖ The redistribution cost is the cost of moving data across clouds for optimization; it is only incurred at the beginning of a period. There is also some underlying cost for maintenance.

SYSTEM REQUIREMENTS:

HARDWARE REQUIREMENTS:

➢ System   : Pentium Dual Core.

➢ Hard Disk   : 120 GB.

➢ Monitor   : 15''LED

➢ Input Devices : Keyboard, Mouse

➢ Ram   : 1GB.

SOFTWARE REQUIREMENTS:

➢ Operating system : Windows 7.

➢ Coding Language : ASP.NET,C#.NET

➢ Tool   : Visual Studio 2008

➢ Database   : SQL SERVER 2005

V. REFERENCES

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