Guaranteed Quality of Service on Profit Maximization with Cloud Service

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Abstract

As an efficacious and efficient way to provide computing resources and accommodations to customers on demand, cloud computing has become more and more popular. From cloud accommodation providers' perspective, profit is one of the most paramount considerations, and it is mainly determined by the configuration of a cloud accommodation platform under given market demand. However, a single long-term renting scheme is conventionally adopted to configure a cloud platform, which cannot guarantee the accommodation quality but leads to solemn resource waste. A double resource renting scheme is designed firstly in which short-term renting and long-term renting are coalesced aiming at the subsisting issues. This double renting scheme can efficaciously guarantee the quality of accommodation of all requests and reduce the resource waste greatly. Secondly, an accommodation system is considered as an M/M/m+D queuing model and the performance designators that affect the profit of our double renting scheme are analyzed, e.g., the average charge, the ratio of requests that need transitory servers, and so forth. Thirdly, a profit maximization quandary is formulated for the double renting scheme and the optimized configuration of a cloud platform is obtained by solving the profit maximization quandary. [1] Conclusively, a series of calculations are conducted to compare the profit of our proposed scheme with that of the single renting scheme. The results show that our scheme can not only guarantee the accommodation quality of all requests, but withal obtain more profit than the latter.

Keywords: - Cloud Customer, Business Service, Infrastructure Service Provider

1. INTRODUCTION

A Profit maximization function is defined to find an optimal coalescence of the server size and the queue capacity such that the profit is maximized. However, this strategy has further implicative insinuations other than just losing the revenue from some accommodations, because it additionally implicatively insinuates loss of reputation and ergo loss of future customers. And the quandary of optimal multiserver configuration for profit maximization was

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formulated and solved. This work is the most pertinent work to ours, but it adopts a single renting scheme to configure a multiserver system, which cannot habituate to the varying market demand and leads to low accommodation quality and great resource waste. To surmount this impotency another resource management strategy is utilized in which is cloud federation.[3][5] The providers should make an astute decision about utilization of the federation (either as a contributor or as a customer of resources) depending on different conditions that they might face which is an intricate quandary. The main objective of project is to fixate on profit maximization relative to what? Is it relative to the maximum return that anyone is receiving in any market at any time? Is it maximum relative to others in a particular industry or even country? Is there any way to "objectify" a term that by its very nature would seem to be subjective? Furthermore, the "duality" to profit maximization being cost minimization, we are left with another quandary: the subjectivity of costs. How does one efficaciously "minimize" an entity that will meet the standards of all principles involved with the firm. We are implementing these features in Cloud Computing System.[9] In a series of calculations are conducted to compare the profit of our proposed scheme with that of the single renting. Double Quality Guarantee (DQG) renting scheme can achieve more profit than Single Quality Unguaranteed (SQU) renting scheme ensuring the accommodation quality. We only consider the profit maximization quandary in a homogeneous cloud environment because the analysis of a heterogeneous environment is much more perplexed than that of a homogeneous environment. However, we will elongate over study to a heterogeneous environment in the future.

2. RELATED WORK

Existing system

Existing implementations are affected by huge computational costs to the extent that They would make impractical the execution time In Many subsisting research they only consider the potency consumption cost. As a major distinction between their models and ours, the resource rental cost is considered in this paper as well, since it is a major part which affects the profit of accommodation providers. The traditional single resource renting scheme cannot guarantee the quality of all requests but wastes a substantial amount of resources due to the skepticality of system workload. To surmount the impotency, we propose a double renting

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scheme as follows, which not only can ensure the quality of accommodation planarity but additionally can reduce the resource waste greatly.

Disadvantages of Subsisting System

The waiting time of the accommodation requests is too long. Sharp increase of the renting cost or the electricity cost. Such incremented cost may counterweight the gain from penalty reduction. In conclusion, the single renting scheme is not a good scheme for accommodation providers.

Proposed system

The proposed model is general enough to be applied to the most popular cloud database services,

We consider a tenant that is interested in estimating the cost of profit maximization porting its database to a cloud platform. This porting is a strategic decision that must evaluate confidentiality issues and the related costs over a medium-long term. For these reasons, we propose a model that includes the overhead of encryption schemes and variability of database workload and cloud prices. Such as Amazon Relational Database Service In this system, first propose the Double-Quality- Ensured (DQG) resource renting scheme which cumulates long-term renting with short-term renting. The main computing capacity is provided by the long-term rented servers due to their low price. The short-term rented servers provide the extra capacity in peak period

Advantages of Proposed System

The Double-Quality-Ensured (DQG) renting scheme can achieve more profit than the compared Single-Quality-Unguaranteed (SQU) renting scheme in the premise of assuring the accommodation quality consummately Increase in the quality of accommodation requests and maximize the profit of accommodation providers. This scheme coalesces short-term renting with long-term renting, which can reduce the resource waste greatly and acclimate to the dynamical injunctive authorization of computing capacity.

3. IMPLEMENTATION

Cloud Customer

A customer submits an accommodation request to an accommodation provider which distributes accommodations on demand.[6] The customer receives the desired result from the accommodation provider with certain accommodation-level accedence, and pays for the accommodation predicated on the amount of the accommodation and the accommodation quality.

Business Accommodation

Accommodation providers pay infrastructure providers for renting their physical resources, and charge customers for processing their accommodation requests, which engenders cost and revenue, respectively.[5] The profit is engendered from the gap between the revenue and the cost. In this module the accommodation providers considered as cloud brokers because they can play a consequential role in between cloud customers and infrastructure providers, and he can establish an indirect connection between cloud customer and infrastructure providers.

Infrastructure Accommodation Provider

In the three-tier structure, an infrastructure provider the fundamental hardware and software facilities. An accommodation provider rents resources from infrastructure providers and prepares a set of accommodations in the form of virtual machine (VM). Infrastructure providers provide two kinds of resource renting schemes, e.g., long-term renting and short-term renting. In general, the rental price of long-term renting is much more frugal than that of short-term renting.

System Architecture

System design is the process of defining the architecture, components, modules, interfaces, and data for a system to gratify designated requisites. It implicatively insinuates a systematic and rigorous approach to design, an approach authoritatively mandated by the scale and involution of many systems quandaries. The purport of System Design is to engender a technical solution that gratifies the functional requisites for the system. At this point in the project life cycle there should be a Functional Designation, indited primarily in business terminology, containing a consummate description of the operational desiderata of the sundry organizational.
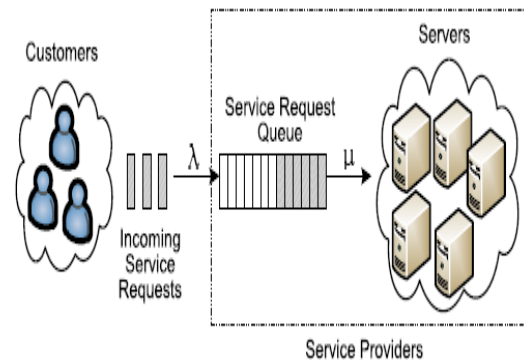

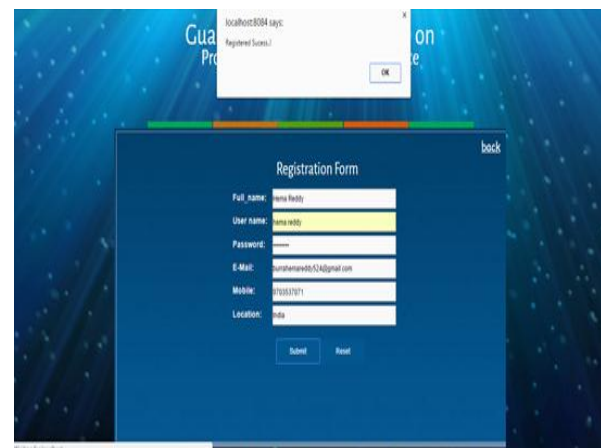**Fig 1 System Architecture**

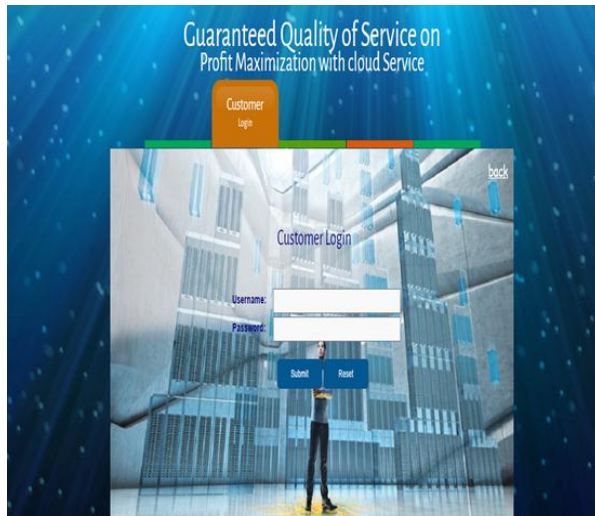## 4. EXPERIMENTAL RESULTS

Fig 2 Authorization to application
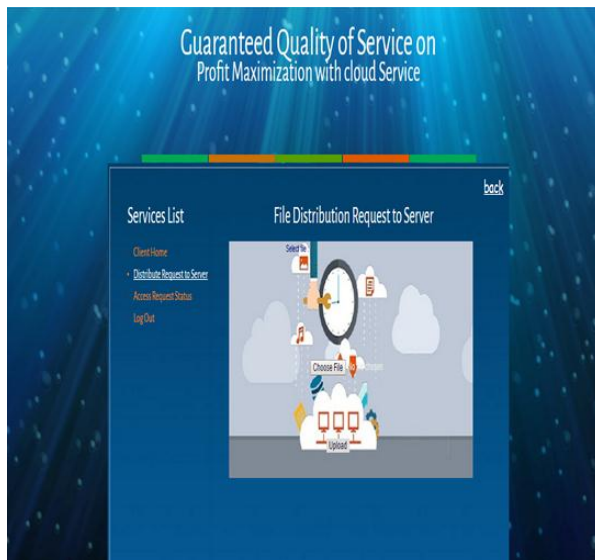

Fig 3 Authentication

Fig 4 Services of Application

Fig 5 File Access in Server

5. CONCLUSION

Maximize the profit of accommodation providers, this paper has proposed a novel Double-Quality-Assured (DQG) renting scheme for accommodation providers. This scheme cumulates short-term renting with long-term renting, which can reduce the resource waste greatly and habituate to the dynamical authoritative ordinance of computing capacity. An M/M/m+D queuing model is build for our multiserver system with varying system size. And then, an optimal configuration quandary of profit maximization is formulated in which many factors are taken into considerations, such as the market demand, the workload of requests, the server-level accedence, the rental cost of servers, the cost of energy consumption, and so forth. The optimal solutions are solved for two different situations, which are the ideal optimal solutions and the authentic optimal solutions. In integration, a series of calculations are conducted to compare the profit obtained by the DQG renting scheme with the Single-Quality-Unguaranteed (SQU) renting scheme. The results show that our scheme outperforms the SQU scheme in terms of both of accommodation quality and profit.

6. REFERENCES

[1] K. Hwang, J. Dongarra, and G. C. Fox, "Distributed and Cloud Computing" Elsevier/Morgan Kaufmann, 2012.

[2] J. Cao, K. Hwang, K. Li, and A. Y. Zomaya, "Optimal multiserver configuration for profit maximization in cloud computing," IEEE Trans. Parallel Distrib. Syst., vol. 24, no. 6,pp. 1087–1096, 2013.

[3] A. Fox, R. Griffith, A. Joseph, R. Katz, A. Konwinski, G. Lee, D. Patterson, A. Rabkin, and I. Stoica, "Above the clouds: A berkeley view of cloud computing," Dept.Electrical Eng. and Comput. Sciences, vol. 28, 2009.

[4] R. Buyya, C. S. Yeo, S. Venugopal, J. Broberg, and I. Brandic, "Cloud computing and emerging it platforms: Vision, hype, and reality for delivering computing as the 5th utility," Future Gener. Comp. Sy., vol. 25, no. 6, pp. 599–616, 2009.

[5] P. Mell and T. Grance, "The NIST definition of cloud computing, national institute of standards and technology," Information Technology Laboratory, vol. 15, p. 2009.

[6] J. Chen, C. Wang, B. B. Zhou, L. Sun, Y. C. Lee, and A. Y. Zomaya, "Tradeoffs between profit and customer satisfaction for service provisioning in the cloud," in Proc.20th Int'l Symp. High Performance Distributed Computing. ACM, 2011, pp. 229–238.

[7] J. Mei, K. Li, J. Hu, S. Yin, and E. H.-M. Sha, "Energyaware preemptive scheduling algorithm for sporadic tasks on dvs platform," MICROPROCESS MICROSY., vol. 37, no. 1, pp. 99–112, 2013.

[8] P. de Langen and B. Juurlink, "Leakage-aware multiprocessor scheduling," J. Signal Process. Sys., vol. 57, no. 1, pp. 73–88, 2009.

[9] G. P. Cachon and P. Feldman, "Dynamic versus static pricing in the presence of strategic consumers," Tech. Rep., 2010.

[10] Y. C. Lee, C. Wang, A. Y. Zomaya, and B. B. Zhou, "Profit driven scheduling for cloud services with data access awareness," J. Parallel Distr. Com., vol. 72, no. 4, pp. 591–602, 2012.

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